

**GW - 032**

**GENERAL  
CORRESPONDENCE**

**YEAR(S):  
4/2007 - Present**

## Chavez, Carl J, EMNRD

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**From:** Chavez, Carl J, EMNRD  
**Sent:** Friday, September 24, 2010 9:54 AM  
**To:** Hill, Larry, EMNRD; Dade, Randy, EMNRD; Perrin, Charlie, EMNRD  
**Cc:** VonGonten, Glenn, EMNRD  
**Subject:** Refinery Meetings in Santa Fe October 6, 2010

Hey guys.

Just wanted to let you know OCD- SF is meeting with Navajo Refining Company (NRC) and Western Refining SW, Inc. (Western) on the above subject date in case you would like to participate by telephone conference. OCD- SF will go over the discharge permit with operators to make sure we are moving forward to address the permit. OCD- SF is under travel restriction; thus, meetings to discuss facility issues makes sense at this time.

The meetings are as follows:

- 1) NRC from 10 to Noon: Lovington or Lea Refinery- GW-014 (particularly interested in the environmental site investigation and GW quality information from the recently installed series of MWs) at the facility within Lovington's Well Head Protection Area.

An agenda item for the NRC- Artesia Refinery (GW-028) is included in this meeting, but another meeting to discuss the permit in more detail will likely be scheduled at a later date. Some current issues are: free-product recovery system is down and a work plan will be submitted by 11/2010 to construct a functional system for product recovery. Issues with the effluent line east of the facility, across Pecos River and to their 3 UIC Class I (NH) disposal wells. Randy Dade will be inspecting the line, recent releases with repair, hydrostatic testing requirements, and requesting a work plan for complete replacement of the effluent line by March of 2011. The Artesia refinery was assessed a fine by NM OSHA for over \$700K for the March 2010 tank explosion that resulted in loss of life of 2 workers from TX.

- 2) Western from 1 to 3 p.m.: Gallup Refinery- GW-028 (particularly interested in the tank construction, waste water pond construction and any permit deadlines). Facility-Wide GW Monitoring Plan will replace the GW sampling portion of the permit in the upcoming renewal of the discharge permit. The refinery is installing a new waste water treatment system for the refinery under an EPA CAFO.

A request for a meeting on Western's Bloomfield Refinery- GW-001 was made today. There is a UIC Class I (NH) Well within the facility (UICI-009) where a hearing request was received on the discharge permit renewal and the Director is currently assessing the hearing request. Bloomfield was allowed to idle or shut-in operations under a recently issued discharge permit renewal. The bulk storage and transportation units are in operation and the UIC Class I well is used for disposal of recovered product behind the remediation barrier wall and the river. The voluntary biovent remediation project at the river terrace is still in progress with ground water and surface quality monitoring.

Let me know if you want to listen in and participate or if you have any issues that OCD-SF needs to discuss during the meetings that would work too. Please contact me if you have questions or wish to discuss any issues you may have before the meeting.

Thank you.

Carl J. Chavez, CHMM  
New Mexico Energy, Minerals & Natural Resources Dept.  
Oil Conservation Division, Environmental Bureau  
1220 South St. Francis Dr., Santa Fe, New Mexico 87505  
Office: (505) 476-3490  
Fax: (505) 476-3462  
E-mail: [CarlJ.Chavez@state.nm.us](mailto:CarlJ.Chavez@state.nm.us)  
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>  
(Pollution Prevention Guidance is under "Publications")

## Chavez, Carl J, EMNRD

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**From:** Johnson, Cheryl [Cheryl.Johnson@wnr.com]  
**Sent:** Friday, June 04, 2010 9:51 AM  
**To:** Van Horn, Kristen, NMENV; Chavez, Carl J, EMNRD  
**Cc:** Riege, Ed; Lieb, Jim  
**Subject:** 2nd Quarter Well Inspection Findings

Good Morning:

As required by the OCD discharge permit to report any presence of water, the following wells indicated the presence of water during quarterly inspections conducted on 6/3/10.

GWM-3 – gauged on 6/3/10 at 1400 hours: DTW = 17.17 ft. DTB = 18.05. Total water level = 0.88 feet. Well is located on the northwest corner of Evaporation Pond 1 (EP1).

GWM-2 – gauged on 6/3/10 at 1409 hours: DTW = 17.57 ft. DTB = 19.07. Total water level = 1.5 feet. Well is located on the northwest corner of Aeration Lagoon 2 (between AL2 and EP1)

First Quarter 2010 inspections conducted on 3/3/10 indicated these wells as dry.

Currently there is not enough water in each of the wells to sample for all of the requirements (BTEX, MTBE, GRO/DRO & GEN CHEM). We may be able to sample for BTEX and GRO/DRO on GWM 3 and possibly have enough water in GWM 2 to gather the full sweep. Please advise what course of action you would like us to take concerning these wells. If you have any questions please call or e-mail me.

Thanks, cj

Cheryl Johnson  
Environmental Specialist

Western Refining - Gallup Refinery  
Route 3 Box 7  
Gallup, NM 87301  
505 722 0231 Direct  
505 722 0210 Fax  
505 722 3833 Main  
[cheryl.johnson@wnr.com](mailto:cheryl.johnson@wnr.com)

Safety starts with "S", but always begins with "You"



BILL RICHARDSON  
Governor

DIANE DENISH  
Lieutenant Governor

NEW MEXICO  
ENVIRONMENT DEPARTMENT

*Hazardous Waste Bureau*

2905 Rodeo Park Drive East, Building 1

Santa Fe, New Mexico 87505-6303

Phone (505) 476-6000 Fax (505) 476-6030

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RON CURRY  
Secretary

JON GOLDSTEIN  
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

September 25, 2008

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

**RE: NMED RESPONSE TO GALLUP REFINERY  
GROUNDWATER CONFIRMATION MONITORING REPORT  
WESTERN REFINING SOUTHWEST INC., GALLUP REFINERY  
EPA ID # NMD000333211  
HWB-GRCC**

Dear Mr. Riege:

The New Mexico Environment Department (NMED) has completed its review of the *Gallup Refinery Groundwater Confirmation Monitoring Report* (the Report), dated May 12, 2008, submitted on behalf of Western Refining Southwest Inc., Gallup Refinery (the Permittee).

There is no Water Quality Control Commission (WQCC) numerical standard for methyl tert-butyl ether (MTBE). The Permittee must apply the EPA Region 6 Human Health Medium-Specific Screening Levels, residential tap water standard for MTBE of 11 µg/L.



Ed Riege  
Gallup Refinery  
September 25, 2008  
Page 2

NMED concurs with the recommendations provided on page 5 that states "GWF recommends quarterly monitoring in OW-13, OW-14, OW-30, and OW-29 to monitor the contaminant plume and evaluate the need for abatement of the MTBE. Therefore, the Permittee must conduct the following:

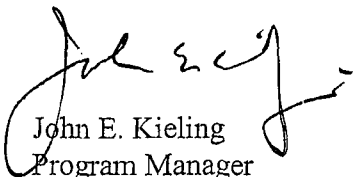
- a. Conduct quarterly monitoring in monitoring wells OW-13, OW-14, OW-30, and OW-29.
- b. The groundwater samples must be analyzed for benzene, toluene, ethylbenzene, totally xylenes (BTEX) and MTBE using EPA Method 8021B plus MTBE.
- c. The first quarter monitoring occurred in August 2008. Quarterly sampling must be conducted in November 2008, February 2009, and May 2009 and continue quarterly until notified otherwise by NMED.
- d. The analytical results must be submitted to NMED and the Oil Conservation Division no later than 15 days after receipt of the final laboratory reports.
- e. This information must also be presented in the Annual Groundwater Monitoring Report.

The Permittee must adhere to all requirements established in this letter.

Ed Riege  
Gallup Refinery  
September 25, 2008  
Page 3

If you have questions regarding this letter please contact Hope Monzeglio of my staff at 505-476-6045.

Sincerely,



John E. Kieling  
Program Manager  
Permits Management Program  
Hazardous Waste Bureau

cc: D. Cobrain NMED HWB  
H. Monzeglio NMED HWB  
W. Price OCD  
C. Chavez OCD  
G. Rajen GRCC  
File: Reading File and GRCC 2008 File  
HWB-GRCC

**Chavez, Carl J, EMNRD**

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**From:** Cobrain, Dave, NMENV  
**Sent:** Friday, May 23, 2008 10:45 AM  
**To:** Ed Riege; Chavez, Carl J, EMNRD  
**Subject:** FW: GRCC-08-002 5-23-2008 Approval w-Dir Drilling Sampling Activities.pdf - Adobe Acrobat Professional  
**Attachments:** GRCC-08-002 5-23-2008 Approval w-Dir Drilling Sampling Activities.pdf

This letter was sent out in today's mail.

Main HWB Phone: 505-476-6000  
Direct Office Phone: 505-476-6055  
Fax: 505-476-6030 or 505-476-6060

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**From:** Kieling, John, NMENV  
**Sent:** Friday, May 23, 2008 9:49 AM  
**To:** Cobrain, Dave, NMENV; Frischkorn, Cheryl, NMENV; Monzeglio, Hope, NMENV; Price, Wayne, EMNRD  
**Subject:** GRCC-08-002 5-23-2008 Approval w-Dir Drilling Sampling Activities.pdf - Adobe Acrobat Professional

6/27/2008



BILL RICHARDSON  
Governor

DIANE DENISH  
Lieutenant Governor

NEW MEXICO  
ENVIRONMENT DEPARTMENT

*Hazardous Waste Bureau*

2905 Rodeo Park Drive East, Building 1

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[www.nmenv.state.nm.us](http://www.nmenv.state.nm.us)



RON CURRY  
Secretary

JON GOLDSTEIN  
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

May 23, 2008

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

**RE: APPROVAL WITH DIRECTION  
SUMMARY OF DRILLING AND SAMPLING ACTIVITIES  
WESTERN REFINING SOUTHWEST, INC., GALLUP REFINERY  
NMED ID # NMD000333211  
HWB-GRCC-08-002**

Dear Mr. Riege:

The New Mexico Environment Department (NMED) has received Western Refining Southwest, Inc., Gallup Refinery's (Permittee) *Summary of Drilling and Sampling Activities* (Report) dated April 14, 2008. The Report describes the installation of the replacement monitoring wells in the vicinity of the New API separator (NAPIS). NMED hereby issues this Approval with Direction and provides the following comments.

**Comment 1**

The Permittee states on the cover page and on page 2 that the well installation and sampling was performed in accordance with NMED's December 20, 2007 approval letter.

The December 20, 2007 letter was an approval of the Permittee's extension request to install the monitoring wells at a later date and not an approval of the installation and sampling activities. The well installation and sampling requirements were established in NMED's letter dated October 15, 2007. No revision is necessary.

**Comment 2**

The Permittee states on page 4, bullet three that "[a] composite soil sample was collected from the cuttings from existing monitoring wells KA-2 and KA-3, as well as from replacement monitoring wells KA-1R, KA-2R, and KA-3R, following installation. The sample was collected for classification in order to dispose of the cuttings in Western's on-site landfarm. Cuttings from the existing monitoring well KA-1 could not be sampled due to damage to the drum. The composite sample was analyzed for anions per EPA Method 9056A, mercury per EPA Method 7471, and for total metals per EPA Method 6010B. The sample was also to be analyzed for free liquid, ignitability, corrosivity, and reactivity; and..."

NMED has the following comments:

- a. The Permittee must explain why a discrete sample was not collected and analyzed for volatile organic compounds (VOCs) using EPA Method 8260, since VOCs are present in the groundwater in this area.
- b. The Permittee must explain how the drum containing cuttings from KA-1 was managed since it was not sampled.
- c. The Permittee must obtain permission from the Oil Conservation Division (OCD) to dispose of the cuttings at the on-site landfarm and test the soils as required by OCD.

**Comment 3**

The Permittee states on page 5 (Groundwater Analytical Results) that "[m]ethyl tert-butyl ether was detected at 260 µg/L, which is above the NMWQCC standard of 100 µg/L."

There is no Water Quality Control Commission (WQCC) numerical standard for methyl tert-butyl ether (MTBE). In the future, the Permittee must apply the EPA Region 6 Human Health Medium-Specific Screening Levels, residential water standard for MTBE, which is currently 11 µg/L.

**Comment 4**

The Permittee provides a summary of fluid level measurements in Table 1. The depth to water (DTW) measurements for KA-3 were 12.50 feet below ground surface (bgs) on 6/12/07, 8.50 feet bgs on 6/21/07, and 8.61 feet bgs on 3/20/08.

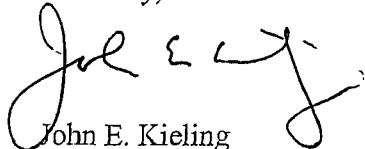
There appears to be a significant difference between the DTW measurement collected on June 12, 2007 and the measurements collected on June 21, 2007 and the March 20, 2008. The Permittee must explain this significant difference in the water level measurements.

Ed Riege  
Giant Gallup Refinery  
May 23, 2008  
Page 3

The Permittee must submit a response to this Approval with Direction addressing all comments requiring a response to NMED on or before July 7, 2008.

If you have any questions regarding this letter please call Hope Monzeglio of my staff at (505) 476-6045.

Sincerely,

A handwritten signature in black ink, appearing to read "John E. Kielling", with a stylized flourish at the end.

John E. Kielling  
Program Manager  
Permits Management Program  
Hazardous Waste Bureau

cc: D. Cobrain, NMED HWB  
C. Frischkorn, NMED HWB  
H. Monzeglio, NMED HWB  
W. Price, OCD  
C. Chavez, OCD  
B. Powell, OCD Aztec Office  
G. Ragen, Western Gallup  
File: Reading and GRCC 2008  
HWB-GRCC-08-002

**Chavez, Carl J, EMNRD**

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**From:** Chavez, Carl J, EMNRD  
**Sent:** Wednesday, February 27, 2008 8:32 AM  
**To:** Monzeglio, Hope, NMENV  
**Subject:** Kleinfelder Notification of MW installation at Gallup Refinery (GW-32)

Hope:

FYI, I received the notification letter dated February 21, 2008, from Fred Schelby (Kleinfelder) regarding the monitor well installation and disposition of contaminated soils at the refinery landfarm. I called to inform him that the facility landfarm provisions are in the OCD Discharge Plan and that the OCD also needs to receive and review the analytical data for our records. Please contact me if you have questions. Thanks.

Carl J. Chavez, CHMM  
New Mexico Energy, Minerals & Natural Resources Dept.  
Oil Conservation Division, Environmental Bureau  
1220 South St. Francis Dr., Santa Fe, New Mexico 87505  
Office: (505) 476-3491  
Fax: (505) 476-3462  
E-mail: [CarlJ.Chavez@state.nm.us](mailto:CarlJ.Chavez@state.nm.us)  
Website: <http://www.emnrd.state.nm.us/oed/index.htm>  
(Pollution Prevention Guidance is under "Publications")

2/27/2008



**KLEINFELDER**

*An employee owned company*

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2008 FEB 26 PM 2 16

February 21, 2008

File No 84679.4-ALB08LT001

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

Ms Hope Monzeglio  
New Mexico Environment Department  
Hazardous Waste Bureau  
2905 Rodeo Park Drive East, Building 1  
Santa Fe, NM 87505

**Subject: Notification of Drilling Activities  
Western Refining Company, Gallup Refinery  
Gallup, New Mexico  
NMED ID # NMD000333211  
HWB-GRCC-07-001**

Dear Ms Monzeglio,

Kleinfelder West, Inc. (Kleinfelder), on behalf of Western Refining Company (Western), is submitting this notification that monitor wells KA-1R, KA-2R and KA-3R will be installed at the above referenced site between March 13-15, 2008. Monitor wells KA-1 and KA-2 will be abandoned and the groundwater in wells KA-1R and KA-2R will be sampled during this time.

The well installation and sampling will be in accordance with Kleinfelder's December 12, 2007 letter and the New Mexico Environment Department-Hazardous Waste Bureau's (NMED-HWB) December 20, 2007 approval letter.

Drill cuttings will be temporarily stored in drums on site. A composite sample from the soil cuttings from the March 2008 well installation will be sampled during the March 2008 event and analyzed for Hazardous Waste classification (reactivity, corrosivity, ignitability/flashpoint, total metals), paint filter test, and chlorides. Pending laboratory results and approval from the NMED, the soil will be disposed in Western's Gallup Oil Conservation District (OCD)-permitted land farm. Monitor well development and purge water will be disposed in the Western Refining's new oil water separator, located on site at the Gallup Refinery.

If you have any questions or need additional information, please call me at (505) 344-7373.

Respectfully submitted,  
**KLEINFELDER WEST, INC.**

Eileen L. Shannon, P.G.  
Project Manager

**Reviewed by:**

Fred T. Schelby, P.E.  
Area Manager

cc: Jim Lieb, Western Refining Company  
Ed Reige, Western Refining Company  
D. Cobrain, NMED-HWB  
C. Frischkorn, NMED-HWB  
C. Chavez, NMOCD  
W. Price, NMOCD  
B. Powell, NMOCD Aztec Office



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2008 FEB 25 AM 10:30

February 22, 2008

Carl Chavez  
Environmental Engineer  
Oil Conservation Division  
1220 S. Saint Francis Street  
Santa Fe, NM 87505

Hope Monzeglio  
Environmental Specialist  
New Mexico Environment Department  
Hazardous Waste Bureau  
2905 Rodeo Park Drive East, BLDG 1  
Santa Fe, NM 87505

**RE: Revised Schedules for OCD Discharge Permit GW-032**

Dear Carl and Hope:

During our meeting on February 11<sup>th</sup>, Wayne Price mentioned that the Western Refining Gallup Refinery would be allowed more time for meeting conditions in the OCD Discharge permit and that the changed-schedules could be adopted as a minor permit modification. Western presents a revised schedule. These schedule changes will allow Western sufficient time to evaluate cost effective alternatives and complete the permit requirements in a timely manner. For some requirements, Western respectfully requests additional time beyond the 120 days change provided in your February 19<sup>th</sup> email to Western. Western's reasons for the additional time are presented in the following sections.

**Condition 9 Above Ground Tanks Impermeable Secondary Containment Requirement**

As discussed in the meeting on February 11, as an alternative to lining secondary containments, Western proposes to implement an automatic tank gauging system in all of its large liquid storage tanks in the tank farm. We will install the gauges after final engineering design of the system is completed and the necessary capital funding from Corporate has been approved. The automatic tank gauges will be installed initially in our highest priority liquid storage tanks

(tanks with the highest volumetric turnover rates) such as our Marketing tanks. Western will install radar assembly bells on two Marketing tanks in 2008; the console for monitoring the signals from these two gauges will be installed at a later time. Some tanks have the 6- or 8-inch diameter thief vents on their roofs so that the radar bells could be installed without needing to take the tanks out of service for installation. Western will conduct an inventory of each of our tank farm tanks to determine the tanks with the existing thief vents where the gauges can be installed. Radar gauges could be installed fairly quickly in the tanks with existing thief vents over the course of a few years. Tanks without existing thief vents will be modified when the tanks are taken out of service according to Western's API 653 inspection schedule. This would allow for as many as 7 or 8 tanks per year to be fitted with radar gauges. According to this schedule, each of the liquid storage tanks in the tank farm should be equipped with the automatic gauges within a fifteen year period beginning in 2008, many much sooner.

Western will line the containments of smaller sized storage tanks where the containments are currently diked clay. Most of the Gallup Refinery's smaller tanks, such as our additive tanks, are already equipped with concrete secondary containments.

As we discussed during the meeting, Western is installing secondary bottoms on tanks that fail inspection during the API 653 inspections. In the system that Western uses at the Gallup Refinery, a thick HDPE or FRP liner is laid over the steel tank bottom and fusion lined along the side of the tank. Three to five inches of sand is spread and compacted over the liner. Next, a leak detection network of perforated piping, arranged in a radial starfish pattern, is constructed on the sand. Additional sand from a freshwater beach is mounded on the leak detection piping and compacted into a convex form. A new steel floor is then installed on top of the sand.

#### **Condition 16.B. Repair New API Separator**

Western expects the work to repair the New API separator to be completed by March 15, 2008.

#### **Condition 16. C. Activated Sludge Wastewater Treatment Study and Design and Condition 16. D Aeration Lagoons Replacement Engineering Design/Construction Plan and Schedule**

Western is requesting a change on the deadline for submitting the activated sludge waste water treatment study, design and the aeration lagoons

replacement plan and schedule. Changing the deadline for these items to March 1, 2009 will provide Western with the time it will need to obtain results from piloting alternative wastewater treatment systems including a membrane bio-reactor (MBR) in conjunction with an activated sludge process and to evaluate other technologies and options. This change is based on the fact that the suggested period by the vendor for a thorough MBR pilot study is at least three months. The availability of the MBR pilot is pretty tight so it may take at least a month to acquire and several weeks to get it up and running (need to first get the activated sludge process running smoothly). Then it may take up to month for the pilot plant data to be analyzed by the consultant and presented to Western. Western will need time to evaluate the report and select the best alternative to implement. The activated sludge process or equivalent treatment system will be a large and complex project requiring significant engineering and design effort requiring time and funding. Hence, Western requests March 1, 2009 as the deadline for submittal of the treatment study and the engineering design of the tank based activated sludge treatment process or equivalent. This time schedule will also coincide with the Section 16.C.2. requirement for monthly grab samples at EP-1 through December 2008 allowing time for analysis of the December 2008 data.

As noted, Western is considering replacing the existing aeration lagoons with a tank based activated sludge treatment process or alternative equivalent systems. Western is also evaluating whether lining the lagoons is feasible. Hence the activated sludge treatment engineering design or alternatives will serve also as the aeration lagoons replacement engineering design/construction plan.

Western will also provide by March 1, 2009, the schedule for the implementation of the activated sludge or alternative treatment process and tentative closure of the aeration lagoons. Between now and December 31, 2008, Western will sample the sludge in the lagoons to determine the proper handling and disposition of the sediments that will be removed from the lagoons prior to their closure unless Western decides to line the aeration lagoons.

#### **Condition 16. E. Evaporation Ponds - Engineering Design/Construction Plan to Single Line the Evaporation Pond EP-1 or Alternative Plan**

The design of the activated sludge treatment or alternative process will have a bearing on the decision as to whether single lining or an alternative will be needed in EP-1. Hence Western proposes to move this deadline for a plan also to March 1, 2009.

**Condition 24.A. and 24.B. Installation of Dual Separation Device and  
Emergency Holding Tank for Pilot Travel Center Waste Water**

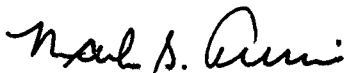
Western proposes to change the deadline for construction of the dual separation device and the emergency 48-hours storage to March 1, 2009. Western expects the engineering and design will be completed by April 2008. Requests for proposal will be sent by June 2008. The change will provide Western with the time to negotiate a new contract with the Pilot Travel Center (Pilot) to share the capital costs for the Pilot wastewater treatment and storage equipment.

**Condition 24.E. Biohazard O&M Plan for WW Treatment Facility**

Western proposes to change the due date for the biohazard O&M plan also to March 1, 2009 to be consistent with the other requirements for the waste water treatment study and design.

Attached is a schedule with Western's proposed deadlines as presented in this letter. The requested changes are shaded. Your consideration in approval of Western's proposed schedule and plan is greatly appreciated. If you have any questions regarding the plan presented in this letter, please feel free to contact Ed Riege at (505) 722-0217 or Jim Lieb at (505) 722-0227.

Sincerely,



Mark B. Turri  
General Manager, Gallup Refinery

\Cc: Ed Riege  
Don Riley  
Jim Lieb  
Ann Allen  
Allen Hains  
Ed Cote - HRC  
Wayne Price - OCD  
Dave Cobrain - NMED

**OCD Discharge Permit (GW-032)**

**Minor Permit Modification**

February 22, 2008

**Schedule**

**Western Refining Southwest - Gallup Refinery**

Section No.	Requirement	Conditions Deadline	Proposed Deadline	Reason for the Change
<b>Cover Letter</b>	Signed Discharge Permit Approval Conditions GW-032 and \$8,400.00 Fee	9/27/2007	<b>Completed</b>	
2	OCD Discharge Permit Renewal	4/1/2011	Same	
9	Above Ground Tanks Impermeable Secondary Containment Requirement - Retrofit all tanks by 8/1/11 or <b>propose alternate plan or schedule</b> by 2/15/08.	2/15/2008	<b>6/15/2008</b>	Alternative Plan and Schedule development requires: 1. Data Collection and evaluation 2. Engineering 3. Design 4. Funding
11. A.	Underground Sumps - <b>Retrofit</b> with secondary containment and leak detection.	8/1/2011	Same	
16.A.	Old API Separator - Storm Water Engineering <b>Plan</b> to decommission and Replace	12/31/2007	<b>Completed</b>	
16.B.	Repair new API Separator	12/31/2007	<b>3/15/2008</b>	The study is an extensive undertaking requiring:
16. C.	Activated Sludge Wastewater Treatment <b>Study and Design</b> (including installation of Flow meters and analysis of Phenol, BOD, COD into AL1, AL2 & EP1)	6/6/2008	<b>3/1/2009</b>	1. Modification of equipment such as tanks, piping, valves and controls. 2. Data collection and evaluation 3. Engineering 4. Design
16.C.2.	Grab samples for VOC, BOD, COD, Chlorides, DRO,GRO, MTBE, pH & Phenol. Monitoring monthly at EP1 for 12 months or by 12/31/08	12/31/2008	Same	This study should coincide with the Section 16.D schedule
16.D.	Aeration Lagoons Replacement Engineering Design/Construction <b>Plan and Schedule</b>	6/6/2008	<b>3/1/2009</b>	
16.E.	Evaporation Ponds - <b>Engineering Design/Construction Plan</b> to single-line the evaporation pond EP-1 or alternative plan.	6/6/2008	<b>3/1/2009</b>	
16.F.	Temporary Landfarms - Closure <b>Plan</b>	12/31/2007	3/17/2008	None of Western's landfarms are temporary.
20. A.	Annual Ground Water Report	Annually due by 9/1	Same	

**OCD Discharge Permit (GW-032)**

**Minor Permit Modification**

February 22, 2008

**Schedule**

**Western Refining Southwest - Gallup Refinery**

Section No.	Requirement	Conditions Deadline	Proposed Deadline	Reason for the Change
21. A.	If decide not to landfill, submit a closure plan within 3 months of permit issuance	NA	NA	
24. A.	Pilot by-pass be disconnected and plugged.  <b>Installation</b> of Dual Primary Separation Device with secondary containment and leak detection	7/16/2008	<b>3/1/2009</b>	Pilot bypass will be locked closed and would only be opened in event of an emergency until the 48 hours storage can be installed. Installation requires: 1. Data Collection and evaluation 2. Engineering 3. Design 4. Funding 5. Delivery and/or Construction/Installation
24. B.	<b>Installation</b> of emergency tank holding system for Pilot waste water (48 hours accumulation)	7/16/2008	<b>3/1/2009</b>	
24. D.	Maintain a sampling and metering station on incoming Pilot waste water line	Permit Issuance Date	<b>Completed</b>	
24. E.	Biohazard O&M <b>Plan</b> for WW treatment facility	6/30/2008	<b>3/1/2009</b>	
27	Closure Plan and Financial Assurance cost estimate for unlined waste water and/or evaporation ponds	12/31/2007	<b>Completed</b>	



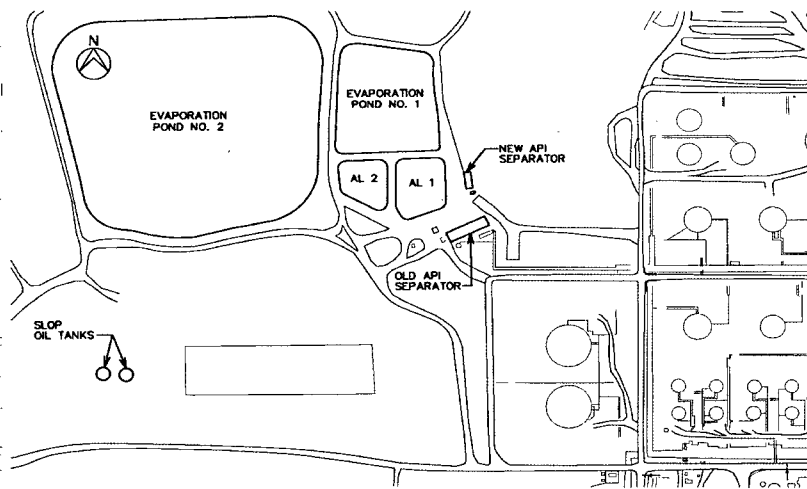
# Environmental Action Update

Presentation to:  
The New Mexico  
Oil Conservation Division and  
The New Mexico  
Environment Department

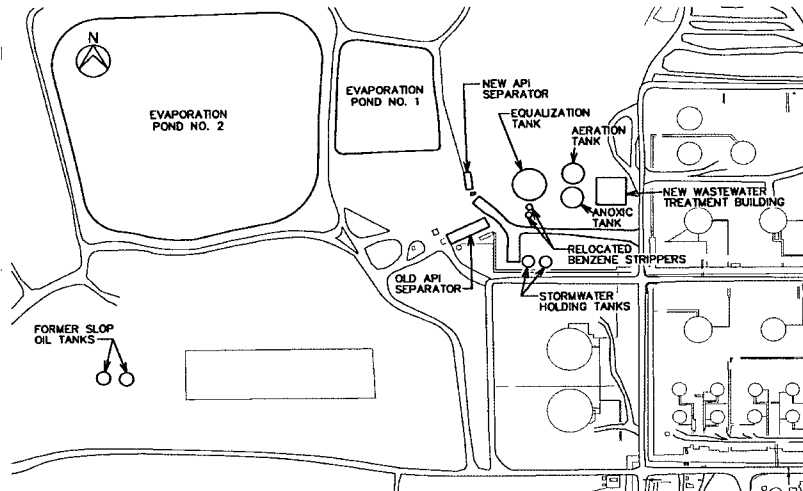
Western Refining  
Gallup Refinery  
February 11, 2008



## Gallup Refinery Existing Site Plan



## Gallup Refinery Proposed Site Plan (Preliminary)



## Environmental Action Items:

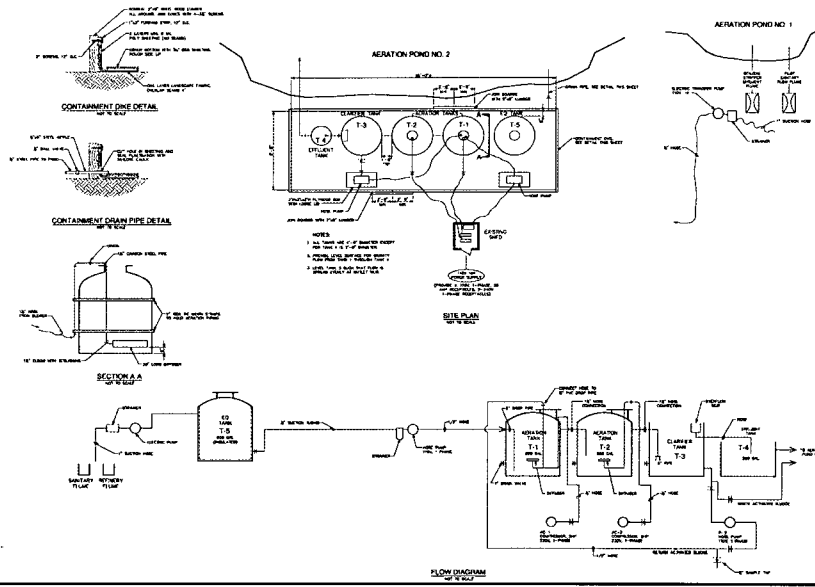
1. New Wastewater Treatment Plant Design Development
2. Sanitary Wastewater Dual-Phase Separation System
3. Status of Repairs to New API Separator (Siemens SS Liner)
4. Stormwater Engineering Plan to Replace Old API Separator
5. Alternative Plan and Schedule for Storage Tanks
6. Ponds Closure Plan (if time permits)



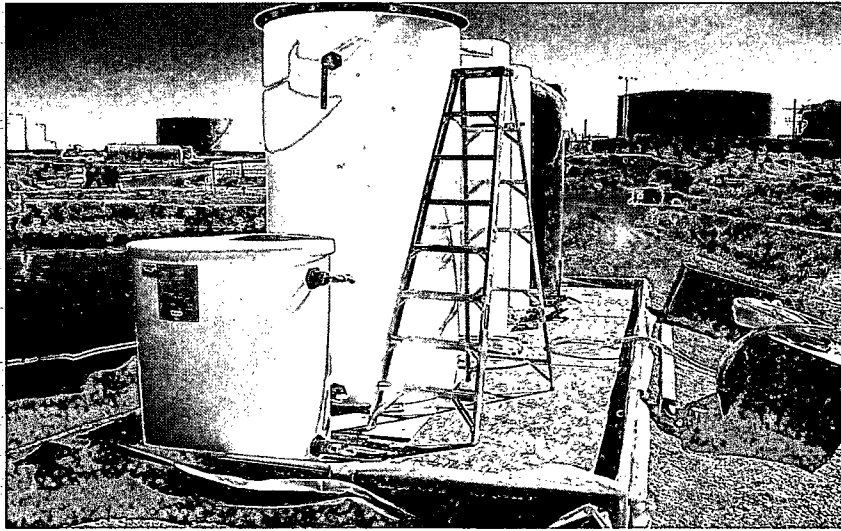
# 1. New Wastewater Treatment Plant Design Development

- a. Activated Sludge Pilot Plant Completed
- b. Currently Evaluating Membrane Bioreactor Technology

## Activated Sludge Pilot Plant - Design



## Activated Sludge Pilot Plant



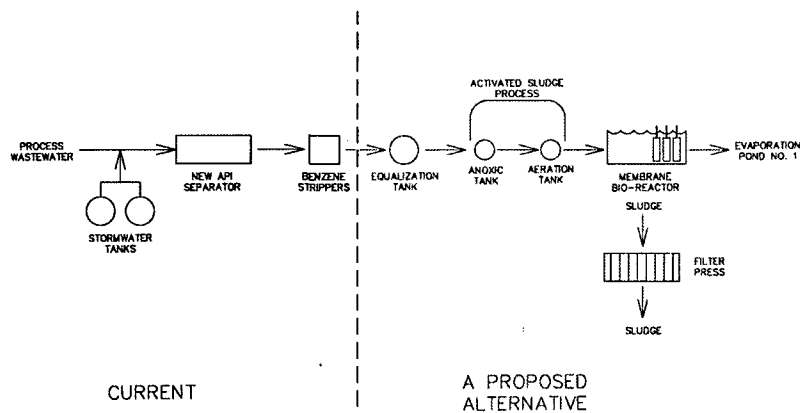
## Activated Sludge Process Pilot Plant Preliminary Results:

Parameter	Influent (mg/l)	Effluent AB-2 (mg/l)	Percent Removal
BOD	740	110	85.1%
COD	1,890	520	70.4%
Phenol	42,000	450	98.9%
Oil & Grease	220	10	95.5%

## Activated Sludge Pilot Plant Results:

- Highly biodegradable wastewater which sustained biological activity.
- Membrane testing during final two weeks showed promise. Oil and grease was reduced from 80 mg/l to 2 mg/l by membrane.

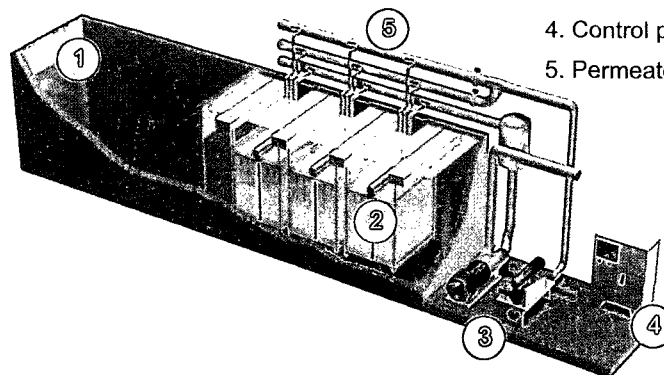
## Gallup Refinery Proposed (Preliminary) Process Wastewater Flow Diagram



## Membrane Bioreactor Evaluation (Preliminary)

- Membrane bioreactors (MBR's) are high rate activated sludge systems that use ultrafiltration membranes to replace the clarifier and sand filter.
- The benefits of an MBR are as follows:
  1. Suspended solids and emulsified oil are nearly completely rejected.
  2. Less operator attention and less chance for error than operating a clarifier.
  3. MBR's operate with very high mixed liquor concentrations making them very robust.
  4. MBR's produce a fraction of the waste sludge of an activated sludge system because of long sludge age.

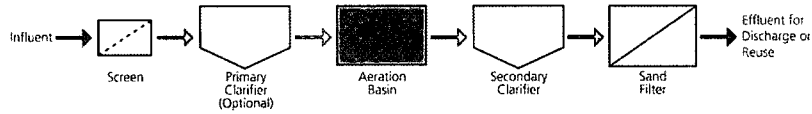
## A Basic MBR Production Train (Preliminary)



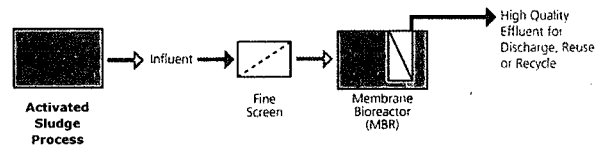
1. Biological reactor
2. ZeeWeed® Membranes
3. Permeate pump & air blower
4. Control panel
5. Permeate & air piping

## What is an MBR? (Preliminary)

Conventional Multi-Step Tertiary Treatment Process



ZeeWeed® MBR Simplified Treatment Process



Combines membrane technology with biological treatment replacing conventional clarification and filtration with a single step.



imagination at work

## Refinery / Petrochemical Sites - WW

Location	Startup	Size (gpd)	Application
Syndial – Porto Marghera, Italy	2005	12,550,000	ZW MBR (P)
Yanshan Petrochemical, China	2004	6,815,640	ZW tertiary + RO (P)
Borsodchem, Hungary	2004	158,500	ZW MBR + RO (P)
Syndial Manfredonia, Italy	2004	760,000	ZW tertiary (P)
Marathon Oil, KY, USA	2003	50,000	ZW MBR (R)
MOL Rt., Zalai Finomítóban (ZAFI) Plant, Hungary	2003	126,720	ZW MBR (R)
ExxonMobil Chemical, China	2002	12,700	ZW MBR (P)
PEMEX, Minatitlan, Mexico	2001	5,700,000 ADF 6,912,000 MDF	ZW tertiary + RO (R)
ExxonMobil Chemical, LA, USA	1996	40,000	Tubular MBR (P)

R = refinery; P = petrochemical

## 2. Sanitary Wastewater Dual-Phase Separation System Design

- a. Figure 1 and 2 shows the proposed dual-phase separation and lift station building with an internal-steel tank with secondary containment.
- b. Western Refining has solicited quotations for the 120,000 gallon storage for the Pilot Travel Center (48-hour Emergency) Sanitary Wastewater expected to be ordered in February.
- c. Lift station and dual-phase separation system components are expected to be ordered in February once final design is complete.

Figure 1: Pilot Travel Center Dual-Phase Separation and Lift Station Building

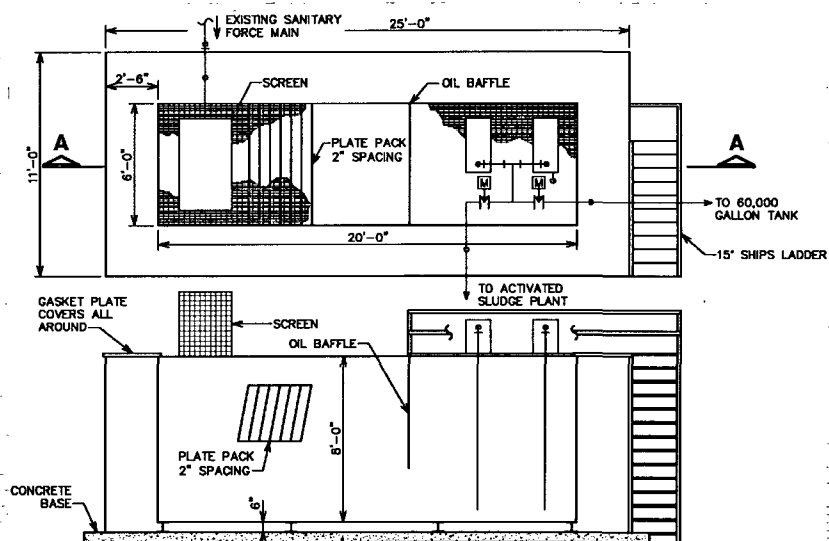
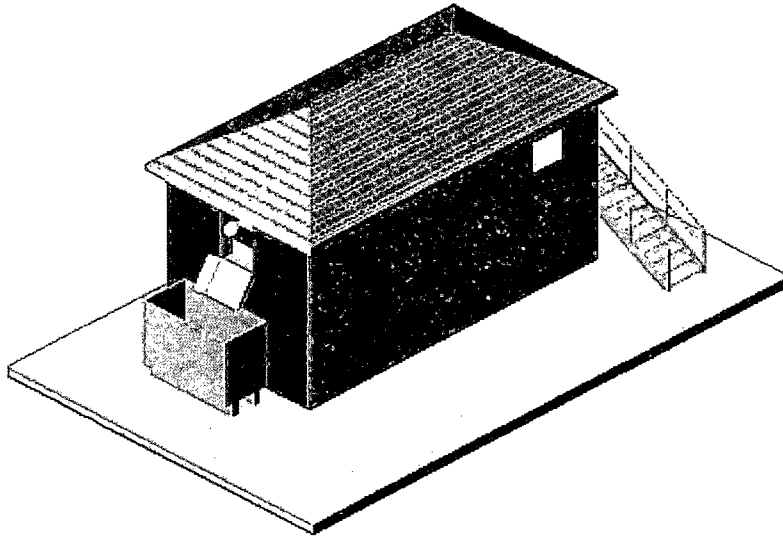
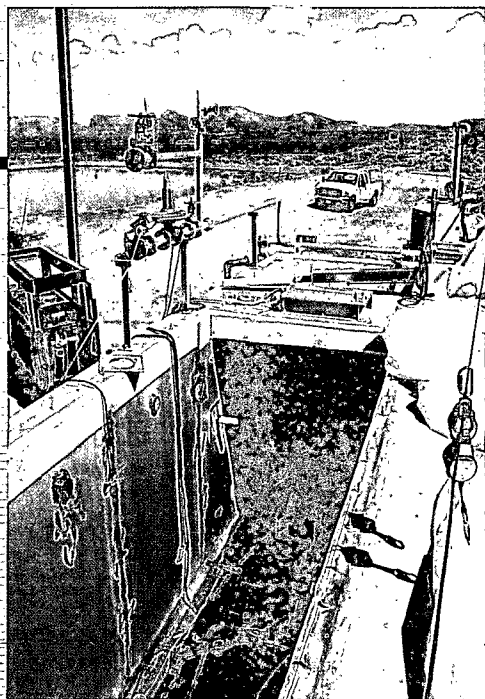


Figure 2: Pilot Travel Center Dual-Phase Separation and Lift Station Building



### 3. Status of Repairs to New API Separator (Siemens SS Liner)



## 4. Plan to Replace Old API Separator

---

- a. Western Refining is planning to abandon the Old API Separator.
- b. The new tank system has the capacity to collect and store a 100 year, 1 hour storm. The stored water will then be pumped to the New API Separator at a controlled rate.
- c. Western Refining is currently evaluating moving the recently cleaned, former slop oil tanks, to an area east of the lagoons.

## 5. Alternatives for Spill Prevention for Storage Tanks

---

### **Mechanical Failures:**

- Tank Bottom Improvements - Western Refining has begun the scheduling and engineering of improvements to the tank bottoms (see footnote 1).
- Strictly follow API 653 Code for regular tank inspections to prevent leaks.

### **Human Failures:**

- Advanced Tank Gauging System - Western Refining proposes as the preferred alternative to lining the tank containments (good business practice). The tank gauging system will be continuously monitored around the clock for 365 days per year.

**Follow up** any spills with an aggressive spill response for all spills regardless of the size. Immediate spill response with effective spill remediation.

- (1) Western will install secondary tank bottoms in tanks that are determined to have defective bottoms as part of the refinery's regular tank inspection program (API 653).



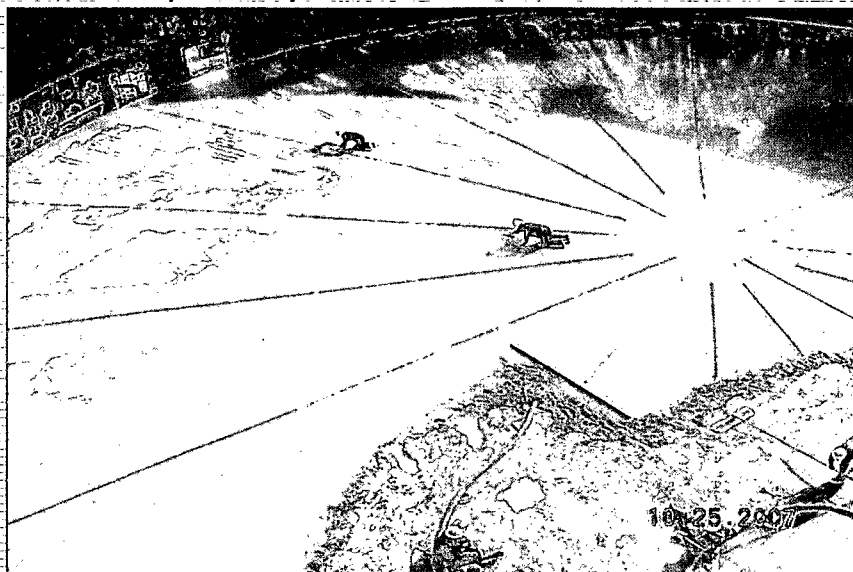


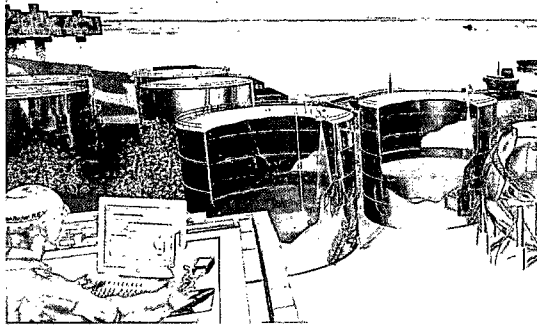
## Western Refining Tank Inspection Program (API 653)

- Fifteen tanks are scheduled for inspection in 2008.
- Visual inspection is conducted every day by pumper gaugers.
- Round the clock security perimeter searches and fencing.
- An API 653 External Inspection is conducted every 5 years or less depending on the service of the tank.
- An API 653 Internal Inspection is conducted every 10 years or less depending on the service of the tank.
- A hydro test on fire water and foam piping is conducted every 5 years for mechanical integrity.
- All pressure vacuum breather vents are serviced and tested every outage.
- The tanks are strapped and hydro-tested for mechanical integrity every outage.
- All API 653 inspections are conducted according to the API 653 Code.



## Floor Repair System





### Tank Intelligence solutions: The Rosemount TankRadar Rex system

**The Rosemount TankRadar Rex system is as flexible as it is robust.** Depending on your setup, you may benefit most from a single stand-alone radar gauge with a local readout or from a complete system solution handling hundreds of tanks and distributing data on a global level via the internet.

#### Level and volume

A single Rosemount TankRadar Rex gauge mounted on top of an oil tank will deliver measured liquid level values as well as calculated content values such as Total Observed Volume (TOV). In stand-alone applications, the module typically comprises a Remote Display Unit on the tank top or on the ground.



#### Temperature and water interface

Complement the Rex gauge with a Multispot Thermometer and an Integrated Water Level Sensor. Now the Rex system will not only deliver measured liquid level and volume, but also calculated average temperature and water interface level. With such temperature data available, level values are corrected for any thermal expansion of the tank walls. Using the TankMaster software, you get Gross Observed Volume (GOV), Gross Standard Volume (GSV), and Net Standard Volume (NSV).

#### Hydrostatics and vapor pressure

Now add two Digital Pressure Transmitters. One at the bottom of the tank, in the liquid, and one



## Advanced Tank Gauging System

**Spills are BAD BUSINESS whether  
or not the dikes are lined!**

- Spilled product becomes a costly waste with oil at \$100 per barrel.
- Cleanup and disposal of oil-impacted soil is costly.
- Spill contractors will damage the liner system.
- Tank overfills have potential for the greatest spill volumes.
- Containments will need to be equipped with storm sewer system.
- Western Refining believes that the spill should not occur in the first place. Secondary containment is a band aid, rather than a solution.
- Western Refining proposes to install an Automatic Tank Gauging System to address the root cause of the spill issue.

RAID  
1/22/08  
csc

January 22, 2008

Carl Chavez, Environmental Engr.  
Oil Conservation Division  
1220 S. Saint Francis  
Santa Fe, NM 87505

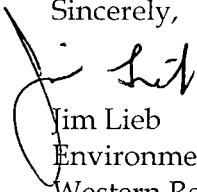
Hope Monzeglio  
Environmental Engineer  
New Mexico Environment Department  
Hazardous Waste Bureau  
2905 Rodeo Park Drive East, BLDG 1  
Santa Fe NM 87505

Dear Mr. Chavez and Ms. Monzeglio:

Enclosed is the closure plan and financial assurance cost estimate report for the evaporation ponds at the Gallup Refinery. The report is being submitted as required by Condition 27 in the discharge permit (GW-32). The report was prepared for Western Refining by the environmental engineering firm Gannett Fleming West, Inc. in Albuquerque.

If you have any questions regarding the report please contact Mr. Ed Riege at (505) 722-0217.

Sincerely,



Jim Lieb  
Environmental Engineer  
Western Refining, Gallup Refinery

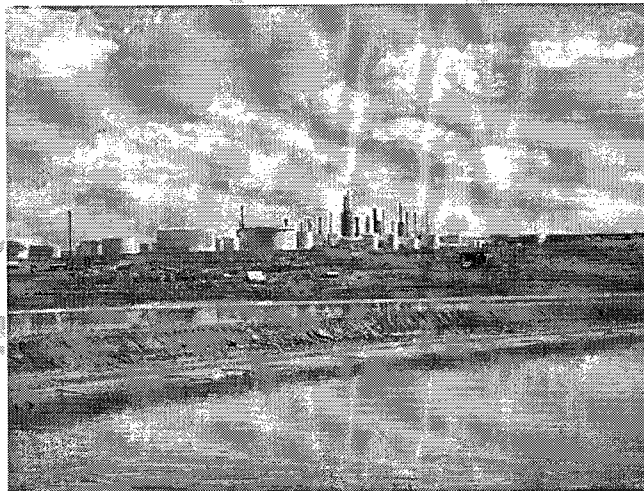
Cc: Ed Riege

# EVAPORATION POND CLOSURE PLAN

## Giant Ciniza Refinery

November, 2007

Prepared for



Prepared By:



***Gannett Fleming West, Inc.***

2155 Louisiana Blvd NE, Suite 7000

Albuquerque, New Mexico 87110

Office (505) 265-8468

Fax (505) 881-2513

# **EVAPORATION POND CLOSURE PLAN**

## **Giant Ciniza Refinery**

November, 2007

DRAFT

I, Mike Brazie, being a registered Professional Engineer in the state of New Mexico (NMPE #9376) certify that this closure plan was prepared by me or under my direct supervision.

---

Mike Brazie

Date

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## APPENDICES

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## SITE LOCATION AND DESCRIPTION

This closure plan has been prepared for the evaporation ponds at the Giant Ciniza Refinery. The refinery is located on the north side of Interstate 40, approximately 17 miles east of Gallup, New Mexico. Within the refinery, the evaporation ponds are located on a flat plain to the west of the process unit and tank farm, in the NW¼, Sec. 33, T. 15 N., R. 15 W, McKinley County, New Mexico. **Figure 1** is a location map for the refinery. The ponds are part of the refinery's wastewater treatment system, with effluent from the aeration basins directed to the ponds and allowed to evaporate. Process water from the refinery goes through the API separator for ~~primary treatment~~ and then to the aeration basins for secondary treatment, and finally to the evaporation ponds for final disposition of the water.

*How to  
be sure it's right*

*oil/water separation*

There are 11 ponds of various sizes with a total surface area of approximately 120 acres. All are man-made earthen basins with bermed sidewalls. The initial ponds were constructed in the late 1950's, with additional ponds constructed at various times after that. The construction involved clearing and grubbing, followed by leveling of the pond bottoms and construction of the berms to form the ponds. The ponds have been in continuous operation since construction. Elevation of the ponds ranges from 6875.8 feet to 6889.2 feet (water elevation in the ponds), and the berms range from about 1 foot to 4 feet in height.

The refinery operates under a RCRA Hazardous Waste Facility Permit, No. NMD000333211-1. The evaporation ponds were identified as a Solid Waste Management Unit (SWMU No. 2) under this permit. The recommendation in the RCRA Facility Investigation (RFI) was for No Further Action (NFA) at this SWMU No. 2, so no site remediation has been required for these evaporation ponds.

## SITE SOILS

The native soils in the area of the evaporation ponds are Rehobeth silty clay loam, which has formed in flood plains and on valley floors. It is naturally saline, with salinity up to about 8 mmhos/cm and organic matter content up to about 1 percent. Soil pH ranges from 8 to 9. According to the 2001 NFA Report, the soil at the site is bentonite clay and silt with a hydraulic conductivity of less than  $10^{-7}$  cm/sec.

The evaporation ponds were investigated in the early 1990's. The investigation included collection and analysis of several soil and groundwater samples in the pond areas. No organic contaminants were detected in any of the groundwater samples, indicating no contaminants were migrating to the groundwater from the ponds. Soil samples collected from the perimeter and beneath the ponds (angle drill holes) detected no volatile organic compounds (VOCs) or semi-volatile organic compounds (SVOCs), except trace amounts of toluene (5 µg/l maximum), in 8 of the 56 soil samples. Based on these results, EPA concurred with the NFA finding for these evaporation ponds.

## **SITE GEOLOGY**

Bedrock at the site is the late Triassic Chinle Formation, which consists primarily of interbedded claystone and siltstone with minor amounts of sandstone and limestone. The Chinle Formation has a total thickness of about 1,600 feet in this area, and is generally not water-bearing, although water has been encountered in some of the minor inter-bedded sandstone lenses. Generally, the Chinle Formation acts as an aquitard.

## **SURFACE AND GROUNDWATER HYDROLOGY**

The site is located within the Rio Puerco valley, north of the Zuni Uplift. Surface water flow off the site is generally northwest by overland flow to the tributaries of the Rio Puerco north of the site. The Rio Puerco is a principal tributary of the Rio Grande, which is east of the site.

Based on information on record at the Office of the State Engineer (OSE), groundwater in the area of the site ranges in depth up to 117 feet, with the average depth to groundwater of 45 feet, based on records for 13 wells within Section 33. Groundwater at the site is obtained from multiple depths between 580 and 1070 feet below ground surface.

The refinery has been sampling groundwater near the evaporation ponds on an annual basis, in compliance with the requirements of the RCRA permit. The latest results (November 2006), detected no VOCs or SVOCs in the groundwater beneath the evaporation ponds.

## **POST CLOSURE LAND USE**

After closure of the ponds, it is anticipated the land will be returned to natural rangeland, as before construction of the refinery. The aircraft landing strip, an unpaved runway approximately 3000 feet long will remain. This landing airstrip is designated as an emergency landing airstrip on Federal Aviation Administration (FAA) maps.

## **CLOSURE PLAN COMPONENTS**

At closure, the water remaining in the ponds will be allowed to evaporate, the ponds will be regraded, and revegetated. This section describes these operations.

## **POTENTIAL FOR SITE REMEDIATION**

Based on historic sampling results and a risk-based assessment performed using the API model VADSAT, the need for remediation of the evaporation ponds is not anticipated. Sampling is performed at 7 groundwater monitoring wells in the area of the ponds, soil sampling has been conducted around the ponds, and the water within the ponds has been sampled. The ponds were also identified as Solid Waste Management Unit (SWMU #2) in the RFI, which concluded no further action was required at the ponds.

Recent sampling results for benzene, toluene, ethylbenzene, and xylenes (BTEX) and chloride are summarized on **Table 1**. These results indicate no contaminants have



migrated from the evaporation ponds. In addition, the VADSAT model indicated no salt migration below the ponds. Details of the modeling and the modeling results are in **Appendix A**. See Figure 2 for the locations of the monitoring wells.

**Table 1.** 2007 Groundwater Sampling Results (BTEX in µg/l, chloride in mg/l)

WELL	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES	CHLORIDE
BW-1C	ND	ND	ND	ND	36
BW-2A	ND	ND	ND	ND	39
BW-2B	ND	ND	ND	ND	31
BW-2C	ND	ND	ND	ND	42
BW-3B	ND	ND	ND	ND	33
BW-3C	ND	ND	ND	ND	38

Based on these groundwater monitoring results and the results of the VADSAT modeling, no over-excavation of the ponds is planned for closure. However, after the ponds have dried and before they are filled, soil samples will be collected to verify that no remediation of the pond bottoms is required at that time. The sampling results will be submitted to OCD to document that the ponds meet closure criteria before filling and grading the ponds.

## WATER EVAPORATION

As part of the evaporation pond closure plan, treated wastewater will cease to be discharged to the evaporation ponds. The water remaining in the ponds will then be allowed to evaporate, with enhanced evaporation provided by the spray evaporators. Once the water has evaporated and the ponds are dry, the pond bottoms will be sampled to determine if excavation of the soil beneath the ponds must be treated or removed due to the presence of contaminants above New Mexico Environment Department (NMED) Soil Screening Levels (SSLs). Based on historic sampling and modeling discussed above, no site remediation is anticipated for closure of the ponds. However, should the closure samples indicate contaminants exceed the NMED SSLs, appropriate remedial measures will be implemented at that time.

The recovered pond sites are not expected to function as an agricultural area. If remediation is required, it will mostly likely be to treat chlorides. Increased chloride levels may adversely impact vegetation growth. Such contamination may not be a significant issue except for the post-closure revegetation program. Note that an excess of fill material will be available, and this clean soil may be added or blended into the pond areas where chloride levels do not support plant roots. The treated soil at these locations should support plant growth and a root system.

## SITE GRADING

Once the water in the ponds has evaporated, the ponds will be graded. A plan of the existing ponds is shown on **Figure 2** and the final grade on **Figure 3**. The grading has been designed to restore the area of the ponds approximately back to the natural contours prior to construction of the ponds. The material volumes are presented on page 6 of this

closure plan. Final grade will be attained by grading the bermed soils into the pond areas, supplementing the material requirements by grading soils from the areas immediately adjacent to the ponds, if needed. Because all of the property is owned by the refinery, there will be no need to import soils for the closure grading. Based on the models generated from existing site topography and proposed grading, there is an excess of approximately 2326 cubic yards (CY) of material within the berms themselves. This excess material will be used to fill any areas that have been regraded after the survey of the pond area. Excess topsoil material from cut areas will be stockpiled and used for final cover, and the grubbed materials will be disposed of on site or at a local landfill. Elevation at final grade will range from 6870 feet to 6890 feet, with a slope of approximately 0.7 percent to the west.

## **ROAD RECLAMATION**

Most of the roads in the pond area are unpaved surfaces on the berms or between the ponds. These areas will be re-contoured along with the ponds. No paved roadways are present in the area of the ponds. However, the unpaved emergency runway will remain after closure of the ponds.

## **SITE DRAINAGE**

No drainage structures will be required at closure. The final grade will provide a general slope of about 0.7 percent to the west, consistent with the natural contours and drainage patterns of the area. Post-closure site drainage will be by natural sheet flow to the west edge of the refinery property, and then will follow the existing drainage to the west of the property. Because of the low grade and the revegetation at closure, no erosion protection other than site vegetation is necessary or planned.

## **REVEGETATION**

Areas impacted by grading and other disturbances during closure operations will be revegetated. The revegetation is intended to reduce impacts to surface water by establishing a self-sustaining native plant community which will provide protection against soil erosion and enhance the natural aesthetics of the closed site. The need for soil amendments will be determined based on site-specific evaluations at the time of closure. Inorganic fertilizer will be added to increase nitrogen, phosphate, and potassium available to plants, as required by analytical results of the soils. Mulch will be applied after seeding to conserve soil moisture and protect against soil erosion until the plants have taken root. Planting will be performed between May and September.

Amended areas will be seeded with a mixture of native grasses and forbs that will not depend on external application of water or fertilizer. The plant species native to the area, as listed in the NRCS *Soil Survey of McKinley Area, New Mexico*, are shown on **Table 2**. Specific species, composition percentages, and seeding rates will be determined during a vegetation survey conducted as part of the closure operations.

**Table 2. Native Plant Species**

Alkalai Sacaton	Fourwing Saltbush	Blue Grama	Inland Saltgrass	Rabbitbrush
Western Wheatgrass	Black Greasewood	Bottlebrush Squirrealtail	Mat Muhly	

## **REGULATORY COMPLIANCE**

A stormwater discharge permit (NPDES) will be required for construction activities during site closure, and must be obtained prior to implementing the closure operations. Temporary erosion control measures, such as silt fence, will be placed around the construction zone during construction, but will be removed upon completion of the site closure. **Figure 3** shows the location of the silt fence for temporary erosion and sediment control. Dust will be controlled periodically during earthmoving operations by watering haul roads and other dust-generating areas, as necessary.

## **CLOSURE OPERATIONS AND SCHEDULE**

Although a specific schedule of operations will be prepared by the construction contractor selected to perform the closure, a general schedule follows.

### **Week 1:**

- Notify OCD that closure operations will commence
- Notify EPA that the evaporation ponds (SWMU No. 2) will be permanently closed
- Stop wastewater delivery to the evaporation ponds
- Prepare Storm Water Pollution Prevention Plan (SWPPP)

### **Weeks 1 – 4:**

- Evaporate water from ponds
- Analyze bottom soil by SW-846
- Mobilize construction equipment
- Install sediment controls

### **Weeks 5 – 7:**

- Regrade ponds
- Perform vegetation survey and soil analysis for amendments and seed mix
- Final contour area

### **Week 8:**

- Revegetate

## CLOSURE COST ESTIMATE

The closure costs were estimated by calculating material volumes and using estimated unit bid prices. Material volumes for each pond were calculated based on pond size versus total cut, and are summarized on **Table 3**. Costs per pond were calculated based on pond area versus total cost and are summarized on **Table 4**.

**Table 3. Pond Volumes**

Pond Number	Pond Area (ac)	Pond Volume (CY)
2	7.5	9712
3	4.2	5439
4	2.4	3108
5	6.3	8158
6	14.2	18388
7	20.8	26935
8	9.3	12043
9	22.8	29525
10	1.7	2201
11	20.5	26546
12	12.7	16446
Total	122.4	158500

**Table 4. Pond Costs**

Pond Number	Pond Area (ac)	Pond Cost (\$)
2	7.5	\$81,199
3	4.2	\$45,471
4	2.4	\$25,984
5	6.3	\$68,207
6	14.2	\$153,737
7	20.8	\$225,191
8	9.3	\$100,687
9	22.8	\$246,845
10	1.7	\$18,405
11	20.5	\$221,944
12	12.7	\$137,497
Total	122.4	\$1,325,165

A more detailed breakdown of the cost estimate is included in Appendix B.

## MATERIAL ESTIMATES

Earthwork quantities were estimated from the existing contour map of the refinery, including the evaporation ponds, and the final grading plan developed as part of this closure plan. Because the existing contour map showed water surface elevations in the ponds and not the elevation of the bottom of the ponds, the bottom elevations were assumed from the elevations just outside each pond. Because the ponds were built up by constructing berms at grade, the assumed elevations should be adequate for the purposes of the closure cost estimate for this closure plan. The final contours were then designed integrally with the existing grades around the ponds, with the final contours of the closed ponds tied to those surrounding elevations and contours, with adequate slope to provide drainage by sheet flow into the natural drainage areas to the west of the ponds.

The cut and fill requirements were then determined by comparing the existing model to the proposed model generated by the proposed grading plan. This resulted in an excess of 2,326 CY of material, which is available from the berms surrounding the ponds. This excess represents the amount of material that will be available for additional fill or soil blending. The overall volumes are as follows:

Total Volume of Cut	158,352 CY
Total Volume of Fill	156,026 CY
Net	2,326 CY (Excess)

Silt fence requirements are shown on **Figure 3**. Silt fence will be placed along the lower gradient of the construction zone. A total of 5800 linear feet (LF) of silt fence will be required.

Revegetation acreage was determined from the grading plan, based on the area of disturbance. This includes the area scraped to meet the fill requirements. The acreage of each pond is summarized on Table 3. The total acreage to be revegetated is 182 AC.

The following items were considered incidental, and not separated out in the estimate:

1. Water for dust control, incidental to grading and shaping (Bid Item 5)
2. Silt fence management, incidental to SWPPP (Bid Item 2)
3. Soil analysis, incidental to revegetation (Bid Item 6)
4. Over-seeding, soil amendment, or blending, incidental to revegetation (Bid Item 6)
5. Notifications, permits and clearances, incidental to mobilization (Bid Item 1)

## **COST ESTIMATE**

Closure costs for the total site were estimated using the material volumes determined as described above, and applying average unit bid (AUBs) and an independent estimate of construction unit costs. The earthwork unit costs developed for this estimate are included in **Appendix B**. AUBs were estimated based on the latest bid prices for New Mexico Department of Transportation (NMDOT) construction projects, adjusted for McKinley County, project size, and construction season using Estimator® estimating software. An independent estimate of unit costs, developed as part of an earlier assignment on the project, were also used in adjusting the NMDOT AUBs, as shown in Appendix B. These estimates are presented in 2007 dollars and based on construction bid prices and commodity prices as of November 2007.

The earthwork costs are based on the earthwork material volumes required to close the entire pond site. The revegetation costs are based on the acreages of the ponds and additional area of disturbance. The cost for silt fence is based on the placement shown on **Figure 3**. Mobilization and SWPPP costs were estimated as lump sum for the entire project, assuming the entire closure will be performed in a single mobilization. Engineering and construction services (E&C) were assumed to be 10% of construction costs, and New Mexico Gross Receipts Tax (NMGRT) was applied at the current (November 2007) McKinley County rate of 6.625 percent.

Because no post-closure care or monitoring is anticipated, no costs for those items are included in the estimate. Based on VADSAT modeling and historic site monitoring results, no over-excavation of soil was estimated. If contamination is found above SSLs at the time of closure, it is expected to be chlorides, which could impact plant growth. However, research has indicated that a soil cover of 5 feet above salt-contaminated soil in New Mexico can be sufficient to prevent wicking of salt to the plant root zone, and so if chlorides become a problem at closure, additional soil cover will most likely be the

appropriate remediation approach for these ponds. Other options may include gypsum treatment or application of other salt-inhibiting materials.

Based on these assumptions and the cost estimating method described, the total estimated closure cost for the evaporation ponds is **\$1,325,165**. See Appendix B for a complete breakdown of costs.

## **REFERENCES**

Giant Ciniza Refining Co., RFI Phase I Supplemental Report, August 21, 1991

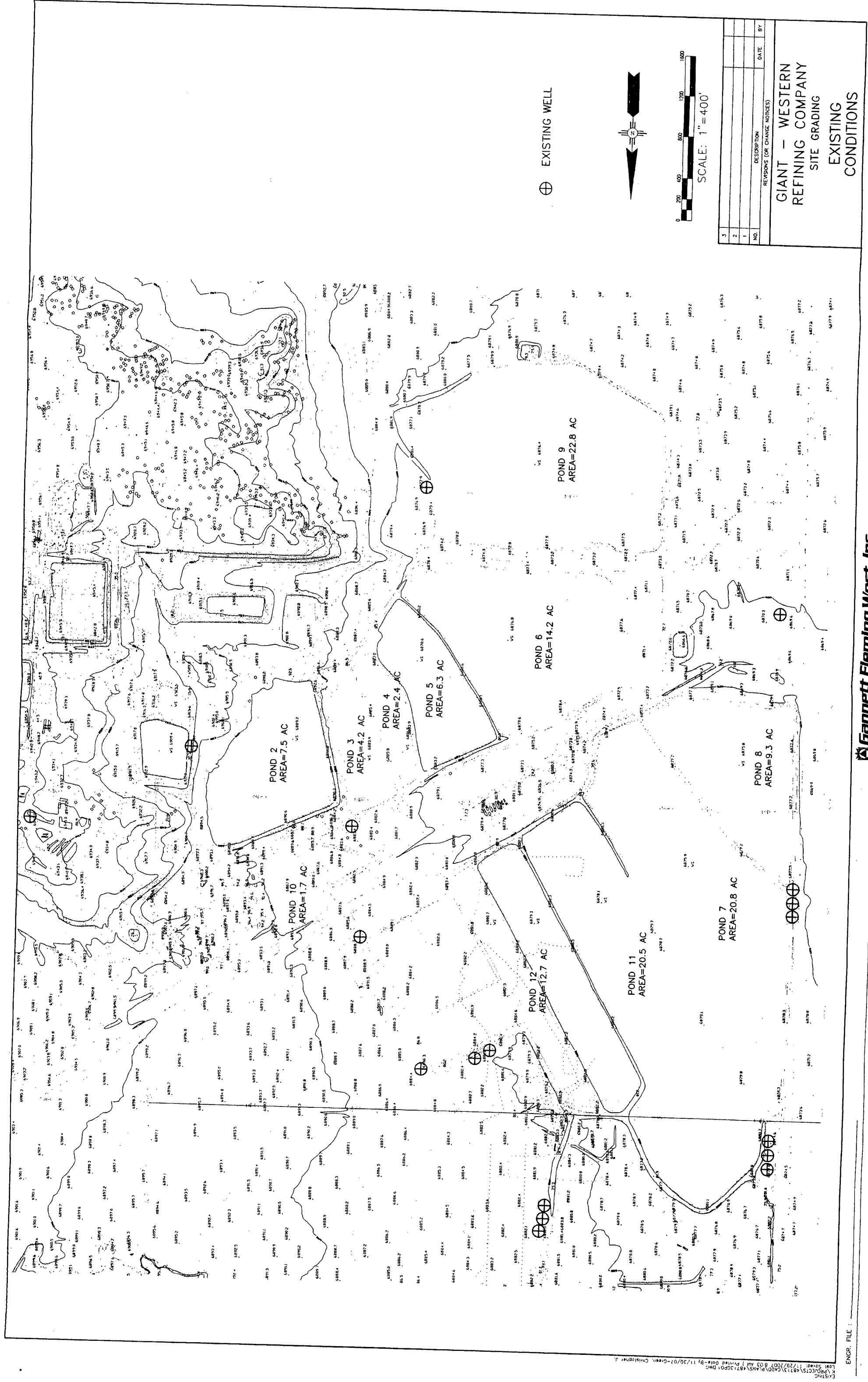
Giant Ciniza Refining Co., RFI Phase II Report, October 21, 1991

Giant Ciniza Refining Co., Post Closure Care Permit, Aug. 2000

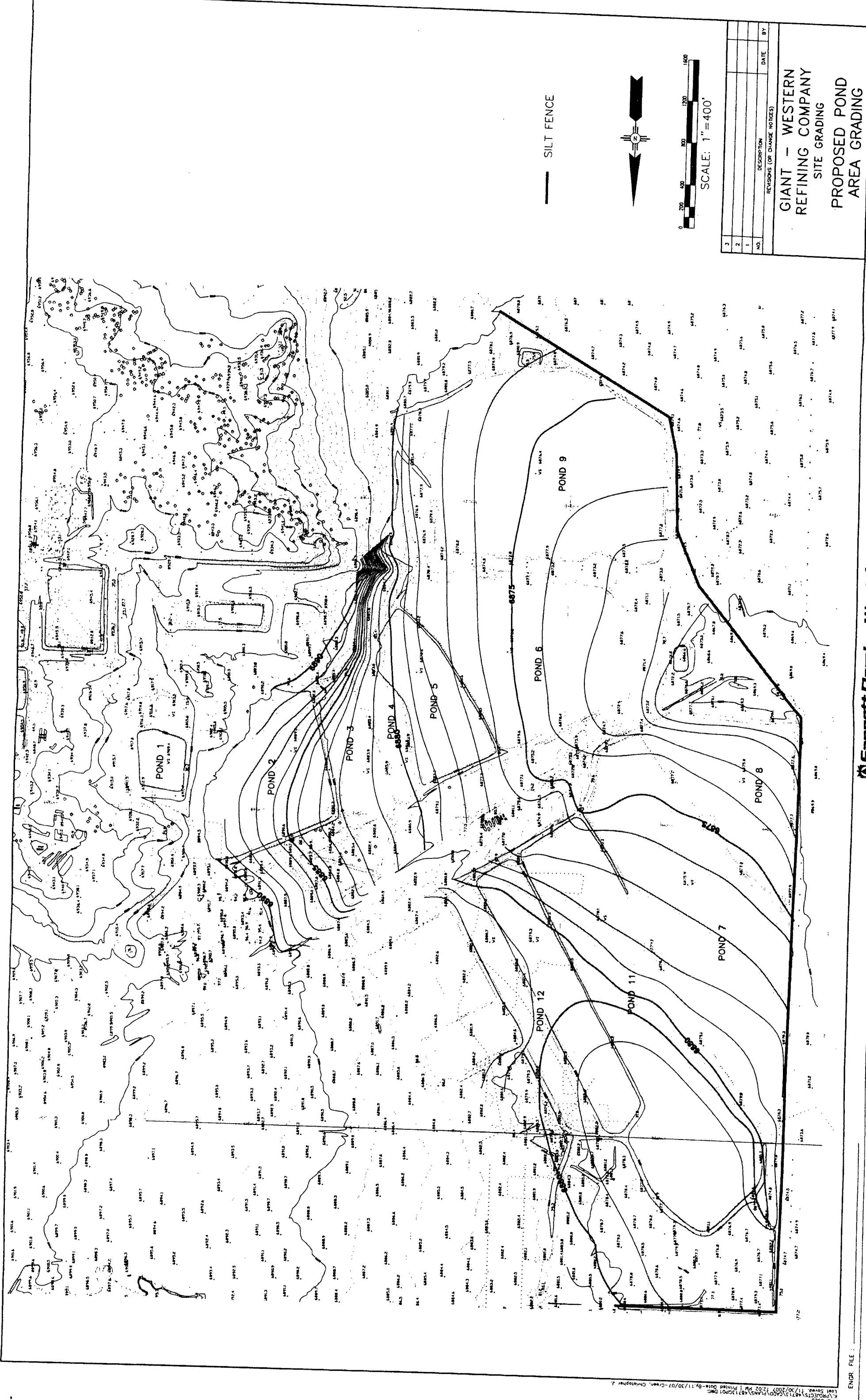
Giant Ciniza Refining Co., OCD Draft Discharge Permit, July 9, 2007

Natural Resources Conservation Service, Soil Survey of McKinley Area, New Mexico, 2004

## ***FIGURES***







REVISIONS (OR CHANGE NOTES)		DATE	BY
3			
2			
1			
NO.	DESCRIPTION		

GIANT - WESTERN  
REFINING COMPANY

PROPOSED POND  
AREA GRADING

## SUMMARY OF VADSAT MODELING

API's VADSAT Model was used to estimate the potential for chloride migration from each of the ponds. Although the model is a groundwater protection risk assessment model, and therefore has limitations to estimating salt concentrations that will remain after the evaporation ponds are dried, it can be used to predict how far the salt might travel through the underlying soils. BTEX compounds were not modeled, since no BTEX was detected in any of the analytical results available for the site.

Each pond was modeled using the site-specific data for the pond (e.g., source area, depth, L/W ratio, etc.). This information was taken from the AutoCAD site drawings. VADSAT default parameters were used for hydrogeological properties, and adjusted where site-specific data was available. Soil data was obtained from the NRCS *Soil Survey of McKinley Area, New Mexico*. Groundwater data was obtained from the online WATERS data base, available on the OSE website. The maximum salt concentration within the evaporation ponds is 79,000 mg/l, based on analysis of water sampled from the ponds, and that value was used as the maximum aqueous salt concentration for the model for all ponds. Receptor coordinates were assigned depths of 1, 2, and 3, meters directly beneath the pond, and the modeling period was 15 years.

**Chavez, Carl J, EMNRD**

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**From:** Chavez, Carl J, EMNRD  
**Sent:** Wednesday, January 02, 2008 5:24 PM  
**To:** 'Jim Lieb'; Monzeglio, Hope, NMENV; Powell, Brandon, EMNRD  
**Cc:** Price, Wayne, EMNRD; Cobrain, Dave, NMENV; Ed Rios; Ed Riege; Bryon Holbrook; Cheryl Johnson; Loretta Morgan; Joel Quinones; Butch Turpen; Ann Allen  
**Subject:** RE: Ethanol Spill at Western (Giant) Refining Gallup

Jim:

In addition to NMED's requirements below:

Jim

I received your message about the ethanol spill.

For disposal purposes any excavated soil should be analyzed for ethanol, diesel range organics (DRO) extended and gasoline range organics (GRO). If GRO is greater than 40 ppm then the sample must also be analyzed for EPA Method 8260. Flash point should also be run. The disposal facility may require additional analyses.

For confirmation sampling, a representative amount of confirmation samples must be collected and analyzed for ethanol, DRO extended, and GRO, if GRO is greater than 40 ppm then the sample should also be analyzed for EPA Method 8260.

Let me know if you have any questions.

Hope

Hope Monzeglio  
Environmental Specialist  
New Mexico Environment Department  
Hazardous Waste Bureau  
2905 Rodeo Park Drive East, BLDG 1  
Santa Fe NM 87505  
Phone: (505) 476-6045; Main No.: (505)-476-6000  
Fax: (505)-476-6060  
[hope.monzeglio@state.nm.us](mailto:hope.monzeglio@state.nm.us)

**Websites:**

**New Mexico Environment Department**  
**Hazardous Waste Bureau**

Please confirm the CAS# of the ethanol in the release. I found some info. on response to an ethanol release at <http://www.nafaa.org/ethanol.pdf> (see sections 5 - 13) that Giant should already be aware of. Ethanol displays a wine like odor and the hazardous characteristic of ignitability; consequently, solids and liquids recovered from the release should be contained in air tight drums or containers and kept away from heat or ignition sources, etc.. Hazardous waste disposal requirements appear to apply.

Washing the soils contaminated with ethanol with water would not have been recommended in higher permeability soils due to ethanol's miscibility and potential for ignitability; however, based on the semi-impermeable clayey and localized nature of the release and recovery of fluids at the refinery, it appears to have assisted Giant with vacuum truck recovery of fluids. Giant increased the volume of solids and fluids impacted by washing down soils with water and should assess whether this was the proper procedure for potential future releases of ethanol at its refinery. Giant should work to remove soils impacted by ethanol, containerize and

1/2/2008

dispose of the waste as a hazardous waste.

Giant should determine if it should report the release to the USEPA if the release exceeded the reportable quantity (RQ). Please review 40 CFR 302 (see <http://homer.ornl.gov/rq/302.pdf>) to determine Giant's Federal reporting obligation(s).

Please provide a written report on the cleanup to the OCD in accordance with Rule 116. While the vapor pressure is high and volatility would be expected, ambient air temperatures are low and Giant must strive to remove impacted soils and free standing liquids. The OCD needs to know the final volume of solids and fluids with manifest to ensure the waste is transported and disposed correctly. Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM  
New Mexico Energy, Minerals & Natural Resources Dept.  
Oil Conservation Division, Environmental Bureau  
1220 South St. Francis Dr., Santa Fe, New Mexico 87505  
Office: (505) 476-3491  
Fax: (505) 476-3462  
E-mail: [CarlJ.Chavez@state.nm.us](mailto:CarlJ.Chavez@state.nm.us)  
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>  
(Pollution Prevention Guidance is under "Publications")

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**From:** Jim Lieb [mailto:Jim.Lieb@wnr.com]  
**Sent:** Wednesday, January 02, 2008 3:46 PM  
**To:** Chavez, Carl J, EMNRD; Monzeglio, Hope, NMENV; Powell, Brandon, EMNRD  
**Cc:** Price, Wayne, EMNRD; Cobrain, Dave, NMENV; Ed Rios; Ed Riege; Bryon Holbrook; Cheryl Johnson; Loretta Morgan; Joel Quinones; Butch Turpen; Ann Allen  
**Subject:** Ethanol Spill at Western (Giant) Refining`Gallup  
**Importance:** High

Carl, Hope, and Brandon:

The Western (Giant) Refining Refinery near Gallup experienced a release of ethanol in the early morning of December 31, 2007. I have prepared the OCD's C-141 Form for the release and attached it to this email. The release occurred as a result of a gauge that came loose on the Marketing Tank Number 5 ethanol pump (not the #6 marketing tank as in my oral report). The quantity released was 32 barrels (1,344 gallons). Most of the ethanol spilled into the diked area surrounding the #5 Marketing Tank but some sprayed into the vapor recovery unit area adjacent to the tanker truck loading. We washed down the impacted area with water to dilute the ethanol to prevent fire. A vac truck was dispatched to recover the ethanol. We estimate that approximately half of the ethanol has been recovered so far. We put the recovered ethanol into a frac tank. We will recover more after a second frac tank arrives that we can transfer the ethanol into. Some ethanol has evaporated due to its relatively high vapor pressure. We anticipate that the ethanol will evaporate from the soil in the diked area of Tank #5 after the recovery efforts have ended.

If you have any questions, please contact me.

Regards,

Jim Lieb  
Environmental Engineer  
Western Refining, Inc.  
Gallup Refinery  
I-40, Exit 39  
Jamestown, NM 87347  
(505) 722-0227  
fax (505) 722-0210

1/2/2008

[jim.lieb@wnr.com](mailto:jim.lieb@wnr.com)

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1/2/2008

**Chavez, Carl J, EMNRD**

---

**From:** Jim Lieb [Jim.Lieb@wnr.com]  
**Sent:** Wednesday, January 02, 2008 3:46 PM  
**To:** Chavez, Carl J, EMNRD; Monzeglio, Hope, NMENV; Powell, Brandon, EMNRD  
**Cc:** Price, Wayne, EMNRD; Cobrain, Dave, NMENV; Ed Rios; Ed Riege; Bryon Holbrook; Cheryl Johnson; Loretta Morgan; Joel Quinones; Butch Turpen; Ann Allen  
**Subject:** Ethanol Spill at Western (Giant) Refining Gallup  
**Importance:** High  
**Attachments:** EthanolRelease 12-31-07.pdf

Carl, Hope, and Brandon:

The Western (Giant) Refining Refinery near Gallup experienced a release of ethanol in the early morning of December 31, 2007. I have prepared the OCD's C-141 Form for the release and attached it to this email. The release occurred as a result of a gauge that came loose on the Marketing Tank Number 5 ethanol pump (not the #6 marketing tank as in my oral report). The quantity released was 32 barrels (1,344 gallons). Most of the ethanol spilled into the diked area surrounding the #5 Marketing Tank but some sprayed into the vapor recovery unit area adjacent to the tanker truck loading. We washed down the impacted area with water to dilute the ethanol to prevent fire. A vac truck was dispatched to recover the ethanol. We estimate that approximately half of the ethanol has been recovered so far. We put the recovered ethanol into a frac tank. We will recover more after a second frac tank arrives that we can transfer the ethanol into. Some ethanol has evaporated due to its relatively high vapor pressure. We anticipate that the ethanol will evaporate from the soil in the diked area of Tank #5 after the recovery efforts have ended.

If you have any questions, please contact me.

Regards,

Jim Lieb  
Environmental Engineer  
Western Refining, Inc.  
Gallup Refinery  
I-40, Exit 39  
Jamestown, NM 87347  
(505) 722-0227  
fax (505) 722-0210  
[jim.lieb@wnr.com](mailto:jim.lieb@wnr.com)

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1/2/2008

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-141  
Revised October 10, 2003

Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

### Release Notification and Corrective Action

#### OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	Western (Giant) Refining: Gallup Refinery	Contact	Jim Lieb
Address	I-40, Exit 39, Jamestown NM 87347	Telephone No.	505-722-0227
Facility Name:	Gallup Refinery	Facility Type	Oil refinery

Surface Owner:	Giant Industries, Inc.	Mineral Owner:	Giant Industries, Inc.	Lease No.	
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#### LOCATION OF RELEASE

Unit Letter	Section 23 & 33	Township 15N	Range 15W	Feet from the	North/South Line	Feet from the	East/West Line	County McKinley
-------------	--------------------	-----------------	--------------	---------------	------------------	---------------	----------------	--------------------

Latitude 35°29'30" Longitude -108°24'40"

#### NATURE OF RELEASE

Type of Release:	Ethanol (ethyl alcohol)	Volume of Release:	32 barrels 1,344 gallons	Volume Recovered:	16 barrels
Source of Release:	Marketing Tank #56	Date and Hour of Occurrence:	12/31/07 @ 12:30 AM (estimate)	Date and Hour of Discovery:	12/31/07 @ 12:50 AM
Was Immediate Notice Given?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?			
By Whom?	Date and Hour				
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.			

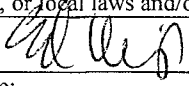
If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\*

A pressure gauge on the ethanol pump at Marketing Tank #57 (ethanol storage tank) came loose. Ethanol leaked from the gauge onto the surrounding ground and flowed into the diked area surrounding Marketing Tank #57. Some ethanol sprayed into the nearby VRU area. We sprayed down the area with water to dilute the ethanol. A vac truck was dispatched to vacuum up the ethanol/water mixture. We estimate that approximately 16 barrels of ethanol has been vacuumed up so far. The recovered ethanol was transferred into a frac tank. Some of the spilled ethanol has evaporated. We are bringing in a second frac tank for recovery of the remaining ethanol.

Describe Area Affected and Cleanup Action Taken.\* The released ethanol is within the dike surrounding the Marketing Tank #57. None of the release got off Giant property. We anticipate that any ethanol remaining after recovery will evaporate from the soil.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature:				<b>OIL CONSERVATION DIVISION</b>	
Printed Name:	ED RIOS			Approved by District Supervisor:	
Title:	General Manager			Approval Date:	Expiration Date:
E-mail Address:	erios@giant.com			Conditions of Approval:	Attached <input type="checkbox"/>
Date:	January 2, 2008			Phone:	(505) 722-0202

\* Attach Additional Sheets If Necessary

TABLE 302.4—LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued  
 [Note: All Comments/Notes Are Located at the End of This Table]

Hazardous substance	CASRN	Regulatory synonyms	Statutory		Final RQ		
			RQ	Code †		RCRA waste Number	Cat-egory
Ethanimidthioici acid, 2-(dimethylamino-N-hydroxy-2-oxo-, methyl ester (A2213).	30558431	.....	1*	4	U394		##
Ethanimidthioic acid, 2-(dimethylamino)-N-[[[(methylamino)carbonyl]oxy]-2-oxo-, methyl ester (Oxamyl).	23135220	.....	1*	4	P194		##
Ethanimidthioic acid, N-[[[(methyl- amino)carbonyl]oxy]-, methyl ester	16752775	Methomyl	1*	4	P066	B	100 (45.4)
Ethanimidthioic acid, N,N'- [thiobis[(methylimino)carbonyl]oxy]]bis- dimethyl ester (Thiodicarb).	59669260	.....	1*	4	U410		##
Ethanol, 2-ethoxy-	110805	Ethylene glycol monoethyl ether	1*	4	U359	C	1000 (454)
Ethanol, 2,2'-(nitrosoimino)bis-	1116547	N-Nitrosodiethanolamine	1*	4	U173	X	1 (0.454)
Ethanol, 2,2'-oxybis-, dicarbamate (Diethylene glycol, dicarbamate)	5952261	.....	1*	4	U395		##
Ethanone, 1-phenyl-	98862	Acetophenone	1*	3,4	U004	D	5000(2270)
Ethene, chloro-	75014	Vinyl chloride	1*	2,3,4	U043	X	1 (0.454)
Ethene, 2-chloroethoxy-	110758	2-Chloroethyl vinyl ether	1*	2,4	U042	C	1000 (454)
Ethene, 1,1-dichloro-	75354	1,1-Dichloroethylene	5000	1,2,3,4	U078	B	100(45.4)
Ethene, 1,2-dichloro- (E)	156605	Vinylidene chloride	1*	2,4	U079	C	1000 (454)
Ethene, tetrachloro-	127184	1,2-Dichloroethylene	1*	2,3,4	U210	B	100(45.4)
Ethene, trichloro-	79016	Tetrachloroethene	1000	1,2,3,4	U228	B	100(45.4)
Ethion	563122	Trichloroethylene	10	1		A	10 (4.54)
Ethyl acetate	141786	Acetic acid, ethyl ester	1*	4	U112	D	5000 (2270)
Ethyl acrylate	140885	2-Propenoic acid, ethyl ester	1*	3,4	U113	C	1000(454)
Ethylbenzene	100414	.....	1000	1,2,3		C	1000(454)
Ethyl carbamate	51796	Carbamic acid, ethyl ester	1*	3,4	U238	B	100(45.4)
Ethyl chloride	75003	Urethane	1*	2,3		B	100(45.4)
Ethyl cyanide	107120	Chloroethane	1*	4	P101	A	10 (4.54)
Ethylenebis(dithiocarbamic acid, salts & esters	111546	Propanenitrile	1*	4	U114	D	5000 (2270)
Ethylenediamine	107153	Carbamodithioic acid, 1,2-ethanediyibis, salts & esters.	1000	1		D	5000 (2270)
Ethylenediamine-tetraacetic acid (EDTA)	60004	.....	5000	1		D	5000 (2270)
Ethylene dibromide	106934	Dibromoethane	1000	1,3,4	U067	X	1(0.454)
Ethylene dichloride	107062	Ethane, 1,2-dibromo- 1,2-Dichloroethane	5000	1,2,3,4	U077	B	100(45.4)
Ethylene glycol	107211	Ethane, 1,2-dichloro-					
Ethylene glycol monoethyl ether	110805	Ethanol, 2-ethoxy-	1*	3	U359	D	5000 (2270)
Ethylenimine	151564	Aziridine	1*	3,4	P054	C	1000 (454)
Ethylene oxide	75218	Oxirane	1*	3,4	U115	X	1(0.454)
						A	10(4.54)



TABLE 302.4—LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued  
[Note: All Comments/Notes Are Located at the End of This Table]

Hazardous substance	CASRN	Regulatory synonyms	Statutory		RCRA waste Number	Category	Final RQ
			RQ	Code †			
p-Nitrophenol	100027	4-Nitrophenol	1000	1,2,3,4	U170	B	100 (45.4)
o-Nitrophenol	88755	Phenol, 4-nitro-	1000	1,2		B	100 (45.4)
p-Nitrophenol	100027	Phenol, 4-nitro-	1000	1,2,4	U170	B	100 (45.4)
2-Nitrophenol	88755	4-Nitrophenol	1000	1,2		B	100 (45.4)
4-Nitrophenol	100027	o-Nitrophenol	1000	1,2,3,4	U170	B	100 (45.4)
		Phenol, 4-nitro-					
NITROPHENOLS	N.A.	Propane, 2-nitro	1*	2		A	10 (4.54)
2-Nitropropane	79469		1*	3,4	U171	A	10 (4.54)
NITROSAMINES	N.A.		1*	2			
N-Nitrosodi-n-butylamine	924163	1-Butanamine, N-butyl-N-nitroso-	1*	4	U172	A	10 (4.54)
N-Nitrosodimethanamine	1116547	Ethanol, 2,2-(nitrosomino)bis-	1*	4	U173	X	1 (0.454)
N-Nitrosodimethylamine	55185	Ethanamine, N-ethyl-N-nitroso-	1*	4	U174	X	1 (0.454)
N-Nitrosodiphenylamine	62759	Methanamine, N-methyl-N-nitroso-	1*	2,3,4	P082	A	10 (4.54)
N-Nitrosodiphenylamine	86306		1*	2		B	100 (45.4)
N-Nitroso-N-ethylurea	759739	Urea, N-ethyl-N-nitroso-	1*	4	U176	X	1 (0.454)
N-Nitroso-N-methylurea	664935	Urea, N-methyl-N-nitroso	1*	3,4	U177	X	1 (0.454)
N-Nitroso-N-methylurethane	615532	Carbamic acid, methylnitroso-, ethyl ester	1*	4	U178	X	1 (0.454)
N-Nitrosomethylvinylamine	4549400	Vinylamine, N-methyl-N-nitroso-	1*	4	P084	A	10 (4.54)
N-Nitrosomorpholine	59892		1*	3		X	1 (0.454)
N-Nitrosopiperidine	100754	Piperidine, 1-nitroso-	1*	4	U179	A	10 (4.54)
N-Nitrosopyrrolidine	930552	Pyrolidine, 1-nitroso-	1*	4	U180	X	1 (0.454)
Nitrotoluene	1321126		1000	1		C	1000 (454)
m-Nitrotoluene	99081						
o-Nitrotoluene	88722						
p-Nitrotoluene	99990						
5-Nitro-o-toluidine	99558	Benzenamine, 2-methyl-5-nitro-	1*	4	U181	B	100 (45.4)
Octamethylpyrophosphoramide	152169	Diphosphoramide, octamethyl-	1*	4	P085	B	100 (45.4)
Osmium oxide OsO <sub>4</sub> (1-4)	20816120	Osmium tetroxide	1*	4	P087	C	1000 (454)
Osmium tetroxide	20816120	Osmium oxide OsO <sub>4</sub> (1-4)	1*	4	P087	C	1000 (454)
7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid	145733	Endothall	1*	4	P088	C	1000 (454)
1,2-Oxathiolane, 2,2-dioxide	1120714	1,3-Propane sultone	1*	3,4	U193	A	10 (4.54)
2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-2-oxide	50180	Cyclophosphamide	1*	4	U058	A	10 (4.54)
Oxirane	75218	Ethylene oxide	1*	3,4	U115	A	10 (4.54)
Oxranecarboxaldehyde	765344	Glycidyaldehyde	1*	4	U126	A	10 (4.54)
Oxirane, (chloromethyl)-	106898	1-Chloro-2,3-epoxypropane	1000	1,3,4	U041	B	100 (45.4)
Paraformaldehyde	30525894	Epichlorohydrin	1000	1		C	1000 (454)
Paraldehyde	123637	1,3,5-Trioxane, 2,4,6-trimethyl-	1*	4	U182	C	1000 (454)

64-17-5

Environmental Protection Agency, EPA

§ 302.4

APPENDIX A TO §302.4—SEQUENTIAL CAS  
REGISTRY NUMBER LIST OF CERCLA HAZ-  
ARDOUS SUBSTANCES—Continued

CASRN	Hazardous substance
	Phenol, 4-nitro-
	4-Nitrophenol.
100254	p-Dinitrobenzene.
100414	Ethylbenzene.
100425	Styrene.
100447	Benzene, chloromethyl-
	Benzyl chloride.
100470	Benzonitrile.
100754	N-Nitrosopiperidine.
	Piperidine, 1-nitroso-
101144	Benzenamine, 4,4'-methylenebis(2-chloro-
	4,4'-Methylenebis(2-chloroaniline).
101279	Carbamic acid, (3-chlorophenyl)-, 4-chloro-2-
	butynyl ester (Barban).
101553	Benzene, 1-bromo-4-phenoxy-
	4-Bromophenyl phenyl ether.
103855	Phenylthiourea.
	Thiourea, phenyl-
105464	sec-Butyl acetate.
105679	Phenol, 2,4-dimethyl-
	2,4-Dimethylphenol.
106423	p-Benzene, dimethyl.
	p-Xylene.
106445	p-Cresol.
	p-Cresylic acid.
106467	Benzene, 1,4-dichloro-
	p-Dichlorobenzene.
	1,4-Dichlorobenzene.
106478	Benzenamine, 4-chloro-
	p-Chloroaniline.
106490	Benzenamine, 4-methyl-
	p-Toluidine.
106503	Phenylenediamine (para-isomer).
106514	p-Benzoquinone.
	2,5-Cyclohexadiene-1,4-dione.
	Quinone.
106898	1-Chloro-2,3-epoxypropane.
	Epichlorohydrin.
	Oxirane, (chloromethyl)-.
106934	Dibromomethane.
	Ethane, 1,2-dibromo-
	Ethylene, dibromide.
107028	Acrolein.
	2-Propenal.
107051	Allyl chloride.
107062	Ethane, 1,2-dichloro-
	Ethylene dichloride.
	1,2-Dichloroethane.
107108	n-Propylamine.
	1-Propanamine.
107120	Ethyl cyanide.
	Propanenitrile.
107131	Acrylonitrile.
	2-Propenenitrile.
107153	Ethylenediamine.
107186	Allyl alcohol.
	2-Propen-1-ol.
107197	Propargyl alcohol.
	2-Propyn-1-ol.
107200	Acetaldehyde, chloro-
	Chloroacetaldehyde.
107302	Chloromethyl methyl ether.
	Methane, chloromethoxy-
107493	Diphosphoric acid, tetraethyl ester.
	Tetraethyl pyrophosphate.
107926	Butyric acid.
108054	Vinyl acetate.
	Vinyl acetate monomer.
108101	Methyl isobutyl ketone.
	4-Methyl-2-pentanone.

APPENDIX A TO §302.4—SEQUENTIAL CAS  
REGISTRY NUMBER LIST OF CERCLA HAZ-  
ARDOUS SUBSTANCES—Continued

CASRN	Hazardous substance
108247	Acetic anhydride.
108316	Maleic anhydride.
	2,5-Furandione.
108383	m-Benzene, dimethyl.
	m-Xylene.
108394	m-Cresol.
	m-Cresylic acid.
108463	Resorcinol.
	1,3-Benzenediol.
108601	Dichloroisopropyl ether.
	Propane, 2,2'-oxybis[2-chloro-
108883	Benzene, methyl-
	Toluene.
108907	Benzene, chloro-
	Chlorobenzene.
108941	Cyclohexanone.
108952	Benzene, hydroxy-
	Phenol.
108985	Benzenethiol.
	Thiophenol.
109068	Pyridine, 2-methyl-
	2-Picoline.
109739	Butylamine.
109773	Malononitrile.
	Propanedinitrile.
109897	Diethylamine.
109999	Furan, tetrahydro-
	Tetrahydrofuran.
110009	Furan.
	Furfuran.
110167	Maleic acid.
110178	Fumaric acid.
110190	iso-Butyl acetate.
110758	Ethene, 2-chloroethoxy-
	2-Chloroethyl vinyl ether.
110805	Ethanol, 2-ethoxy-
	Ethylene glycol monoethyl ether.
110827	Benzene, hexahydro-
	Cyclohexane.
110861	Pyridine.
111444	Bis (2-chloroethyl) ether.
	Dichloroethyl ether.
	Ethane, 1,1'-oxybis[2-chloro-
111546	Carbamodithioic acid, 1,2-ethanediybis, salts & esters.
	Ethylenebisdithiocarbamic acid, salts & esters.
111911	Bis(2-chloroethoxy) methane.
	Dichloromethoxy ethane.
	Ethane, 1,1'-[methylenebis(oxy)]bis(2-chloro-
115026	Azaserine.
	L-Serine, diazoacetate (ester).
115297	Endosulfan.
	6,9-Methano-2,4,3-benzodioxathiepin,
	6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-
	hexahydro-, 3-oxide.
115322	Dicofol.
116063	Aldicarb.
	Propanal, 2-methyl-2-(methylthio)-, 0-
	[(methylamino)carbonyl]oxime.
117806	Dichlone.
117817	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester.
	Bis(2-ethylhexyl)phthalate.
	DEHP.
	Diethylhexyl phthalate.
117840	Di-n-octyl phthalate.
	1,2-Benzenedicarboxylic acid, dioctyl ester.
118741	Benzene, hexachloro-
	Hexachlorobenzene.
118796	2,4,6-Tribromophenol

## § 302.4

APPENDIX A TO § 302.4—SEQUENTIAL CAS  
REGISTRY NUMBER LIST OF CERCLA HAZ-  
ARDOUS SUBSTANCES—Continued

CASRN	Hazardous substance
815827	Oxiranecarboxyaldehyde.
823405	Cupric tartrate. Benzenediamine, ar-methyl- Toluenediamine. 2,4-Toluene diamine.
924163	N-Nitrosodi-n-butylamine. 1-Butanamine, N-butyl-N-nitroso-.
930552	N-Nitrosopyrrolidine. Pyrrolidine, 1-nitroso-.
933755	2,3,6-Trichlorophenol.
933788	2,3,5-Trichlorophenol.
959988	alpha-Endosulfan.
1024573	Heptachlor epoxide.
1031078	Endosulfan sulfate.
1066304	Chromic acetate.
1066337	Ammonium bicarbonate.
1072351	Lead stearate.
1111780	Ammonium carbamate.
1116547	Ethanol, 2,2'-(nitrosoimino)bis- N-Nitrosodiethanolamine.
1120714	1,2-Oxathiolane, 2,2-dioxide. 1,3-Propane sultone.
1129415	Carbamic acid, methyl-, 3-methylphenyl ester (Metolcarb).
1185575	Ferric ammonium citrate.
1194656	Dichlobenil.
1300716	Xylenol.
1303282	Arsenic oxide As <sub>2</sub> O <sub>5</sub> . Arsenic pentoxide.
1303328	Arsenic disulfide.
1303339	Arsenic trisulfide.
1309644	Antimony trioxide.
1310583	Potassium hydroxide.
1310732	Sodium hydroxide.
1314325	Thallic oxide. Thallium oxide Tl <sub>2</sub> O <sub>3</sub> .
1314621	Vanadium oxide V <sub>2</sub> O <sub>5</sub> . Vanadium pentoxide.
1314803	Phosphorus pentasulfide. Phosphorus sulfide. Sulfur phosphide.
1314847	Zinc phosphide. Zinc phosphide Zn <sub>3</sub> P <sub>2</sub> , when present at con- centrations greater than 10%.
1314870	Lead sulfide.
1319728	2,4,5-T amines.
1319773	Cresol(s). Cresylic acid. Phenol, methyl-.
1320189	2,4-D Ester.
1321126	Nitrotoluene.
1327522	Arsenic acid. Arsenic acid H <sub>3</sub> AsO <sub>4</sub> .
1327533	Arsenic oxide As <sub>2</sub> O <sub>3</sub> . Arsenic trioxide.
1330207	Benzene, dimethyl. Xylene (mixed).
1332076	Zinc borate.
1332214	Asbestos.
1333831	Sodium bifluoride.
1335326	Lead subacetate.
1336216	Lead, bis(acetato-O)tetrahydroxytri.
1336216	Ammonium hydroxide.
1336363	Aroclors. PCBs. POLYCHLORINATED BIPHENYLS.
1338234	Methyl ethyl ketone peroxide. 2-Butanone peroxide.
1338245	Naphthenic acid.
1341497	Ammonium bifluoride.

## 40 CFR Ch. I (7–1–99 Edition)

APPENDIX A TO § 302.4—SEQUENTIAL CAS  
REGISTRY NUMBER LIST OF CERCLA HAZ-  
ARDOUS SUBSTANCES—Continued

CASRN	Hazardous substance
1464535	1,2:3,4-Diepoxybutane. 2,2'-Bioxirane.
1563388	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl- (Carbofuran phenol).
1563662	Carbofuran.
1615801	Hydrazine, 1,2-diethyl- N,N'-Diethylhydrazine.
1646884	Propanal, 2-methyl-2-(methylsulfonyl)-, O- [(methylamino)carbonyl] oxime (Aldicarb sulfone).
1746016	TCDD. 2,3,7,8-Tetrachlorodibenzo-p-dioxin.
1762954	Ammonium thiocyanate.
1863634	Ammonium benzoate.
1888717	Hexachloropropene. 1-Propene, 1,1,2,3,3,3-hexachloro-.
1918009	Dicamba.
1928387	2,4-D Ester.
1928478	2,4,5-T esters.
1928616	2,4-D Ester.
1929733	2,4-D Ester.
2008460	2,4,5-T amines.
2032657	Mercaptodimethur.
2303164	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro-2-propenyl) ester. Diallate.
2303175	Carbamothioic acid, bis(1-methylethyl)-, S- (2,3,3-trichloro-2-propenyl) ester (Triallate).
2312358	Propargite.
2545597	2,4,5-T esters.
2631370	Phenol, 3-methyl-5-(1-methylethyl)-, methyl car- bamate (Promecarb).
2763964	Muscimol. 3(2H)-Isoxazalone, 5-(aminomethyl)-. 5-(Aminomethyl)-3-isoxazolol.
2764729	Diquat
2921882	Chlorpyrifos.
2944674	Ferric ammonium oxalate.
2971382	2,4-D Ester.
3012655	Ammonium citrate, dibasic.
3164292	Ammonium tartrate.
3165933	Benzenamine, 4-chloro-2-methyl-, hydrochloride. 4-Chloro-o-toluidine, hydrochloride.
3251238	Cupric nitrate.
3288582	O,O-Diethyl S-methyl dithiophosphate. Phosphorodithioic acid, O,O-diethyl S-methyl ester.
3486359	Zinc carbonate.
3689245	Tetraethyldithiopyrophosphate. Thiodiphosphoric acid, tetraethyl ester.
3813147	2,4,5-T amines.
4170303	Crotonaldehyde. 2-Butenal.
4549400	N-Nitrosomethylvinylamine. Vinylamine, N-methyl-N-nitroso-.
5344821	Thiourea, (2-chlorophenyl)-. 1-(o-Chlorophenyl)thiourea.
5893663	Cupric oxalate.
5952261	Ethanol, 2,2'-oxybis-, dicarbamate (Diethylene glycol, dicarbamate).
5972736	Ammonium oxalate.
6009707	Ammonium oxalate.
6369966	2,4,5-T amines.
6369977	2,4,5-T amines.
6533739	Carbonic acid, dithallium(1+) salt. Thallium(I) carbonate.
7005723	4-Chlorophenyl phenyl ether.
7421934	Endrin aldehyde.
7428480	Lead stearate.

**Chavez, Carl J, EMNRD**

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**From:** Chavez, Carl J, EMNRD  
**Sent:** Wednesday, January 16, 2008 2:40 PM  
**To:** 'Jim Lieb'; Ed Riege  
**Cc:** Monzeglio, Hope, NMENV; Cobrain, Dave, NMENV; Frischkorn, Cheryl, NMENV; Price, Wayne, EMNRD; Powell, Brandon, EMNRD  
**Subject:** Giant Ciniza Refinery (GW-32) Conceptual Design Report Storm Drain System Extension Report (October 2007)

Mr. Lieb:

The New Mexico Oil Conservation Division (OCD) and New Mexico Environment Department have review the above subject report. It appears that the maximum treatment capacity of the NAPIS is 300 gpm. The estimated storage tank and operational flow volumes appear to be accurate and the design appears to be feasible. The agencies presume that the recently installed flow meters will be monitored to account for total flow volumes over time across the process areas and overall treatment system. The agency comments, questions, and recommendations based on the report are provided below.

Agency comments, questions, and recommendations based on the report are:

- 1) There is no mention or schematic of a pipeline cleanout system especially for the smaller diameter return line to the NAPIS from the storage tanks. We cannot assume that Giant will be capable of achieving maximum flow efficiency over time with hardness, scaling problems, blockage, etc. that may occur within the pipeline over time. Giant shall design the pipeline(s) to allow for cleanout to ensure maximum flow rates can be maintained for the treatment system. A pipeline cleanout schedule should be incorporated into the Refinery's O&M Plan. Please confirm that the pipeline will allow for cleanout as necessary to maintain flow rates.
- 2) There is no mention of insulation for the pipelines to ensure they will not freeze up and disrupt flow during the Winter. Please confirm that this will be addressed.
- 3) It would appear that most if not all flow (spills, leaks & any storm water) in the process areas will be routed to the NAPIS through process drains. Since Giant will place cups around the storm water drains to eliminate or minimize flow to the storage tanks, how much flow does Giant expect will flow to the storage tanks during normal operations? How tall are the cups? It would appear that storm water drain flow to the storage tanks would occur only during high precipitation events, emergencies, and when max. NAPIS flow rates are exceeded?
- 4) Page 14, Figure 3: There appear to be some locations that are not contributing to flow within the process areas. Does Figure 3 account for all man-made drainage within the process areas? If not, please explain why they are not accounted for in the flow estimations table. The agencies want to make sure all drainage is addressed within the process areas.
- 5) Do we need anymore flow meters to monitor individual or total flow volume(s) from the process area(s)?
- 6) How will liquids be discharged from the storage tanks when they are at capacity? The agencies observe that fluids from the process areas will be mixed with refinery chemicals that will flow into the storm water drains located within the process areas. Consequently, the agencies regard liquids stored in the storage tanks to be process water unless fluids within the storage tanks are tested and shown to meet WQCC WQSs before discharge into ponds, etc. Giant needs to address how fluids will be discharged from the storage tanks in the event of an emergency, over fill, etc. A contingency plan for discharging liquids into any ponds from the storage tanks seems in order; and
- 7) Since the agencies consider the liquids in the storage tanks to be process water, how will giant construct the secondary containment system (berms, liner, containment volume of one and one-third the volume of the largest tank volume or total volume of interconnected tanks) around and under the storage tanks?

Please respond to the above comments and contact me if you have questions or wish to arrange for a telephone conference call to discuss the above items. Thank you.

1/16/2008

Carl J. Chavez, CHMM  
New Mexico Energy, Minerals & Natural Resources Dept.  
Oil Conservation Division, Environmental Bureau  
1220 South St. Francis Dr., Santa Fe, New Mexico 87505  
Office: (505) 476-3491  
Fax: (505) 476-3462  
E-mail: [CarlJ.Chavez@state.nm.us](mailto:CarlJ.Chavez@state.nm.us)  
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>  
(Pollution Prevention Guidance is under "Publications")

**Chavez, Carl J, EMNRD**

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**From:** Jim Lieb [Jim.Lieb@wnr.com]  
**Sent:** Thursday, December 20, 2007 3:01 PM  
**To:** Monzeglio, Hope, NMENV  
**Cc:** Price, Wayne, EMNRD; Cobrain, Dave, NMENV; Ed Rios; Ed Riege; Chavez, Carl J, EMNRD  
**Subject:** RE: Update  
**Attachments:** 200712\_TK101\_102 Ivest\_LTR.pdf; Update On Environmental Projects at Giant Refining Gallup Refinery.doc; ProposedProcess.doc

Hope:  
Updates are attached. Any questions please contact me.  
Jim

---

**From:** Monzeglio, Hope, NMENV [mailto:hope.monzeglio@state.nm.us]  
**Sent:** Thursday, December 20, 2007 11:51 AM  
**To:** Jim Lieb; Ed Riege  
**Cc:** Cobrain, Dave, NMENV; Frischkorn, Cheryl, NMENV  
**Subject:** Update

Jim

Per our phone call on 11/27/07, please provide me with an update on the lining of the NAPIS and Tank 101 and 102 investigation.

Thanks  
Hope

Hope Monzeglio  
Environmental Specialist  
New Mexico Environment Department  
Hazardous Waste Bureau  
2905 Rodeo Park Drive East, BLDG 1  
Santa Fe NM 87505  
Phone: (505) 476-6045; Main No.: (505)-476-6000  
Fax: (505)-476-6060  
[hope.monzeglio@state.nm.us](mailto:hope.monzeglio@state.nm.us)

**Websites:**  
**New Mexico Environment Department**  
**Hazardous Waste Bureau**

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12/21/2007

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12/21/2007

**Update On Environmental Projects at Giant Refining Gallup Refinery**  
**Prepared for NMED and OCD**  
**By Jim Lieb, Environmental Engineer**  
**December 18, 2007**

**New API – Leakage Stopped**

Giant has repaired one bay (the west bay) of the new API separator (NAPIS). The repairs in the west bay were completed on November 16, 2007. The repairs include the coating of the interior of the west bay of the NAPIS with an impervious coating that serves as the secondary containment and the fabrication of a stainless steel liner inside the concrete bay. So, essentially, now the west bay of the NAPIS is a tank within a tank. Leak detection is provided by a standpipe that was installed outside the NAPIS. The standpipe connects to the interstitial space between the concrete wall and the stainless steel liner.

We had expected to have both bays completed by now but technical issues and contractor issues with Siemens Water Technologies (SWT) that cropped up caused nearly insurmountable delays that made completion by this date not possible. Giant worked diligently in working with the contractor to resolve the issues. Insight and the experience gained in solving issues during work on the west bay should facilitate progress on the work in the east bay and the ORS.

On November 27, 2007, the second bay (east bay) and the oil recovery sump (ORS) of the NAPIS were emptied. We are now operating using the west bay. Cleaning of the east bay and ORS has been completed and SWT will come out to Giant to remove the internal equipment in the east bay. The east bay and ORS will then be coated with the flexible impervious coating that was also used in the west bay. After the bay has been coated with the liner, SWT will come out to Giant for the fabrication of the SS liner in the east bay and ORS. SWT expects that work to remove internals from the east bay may commence during the week of January 7, 2008.



**Giant considers that the leakage from the NAPIS has been eliminated as of November 27, 2007 because the west bay has been repaired and the east bay and ORS were emptied and cleaned, hence there is no longer the hydraulic head needed to push waste water into the ground.**

Giant expects the repairs to the east bay and ORS can be completed by May 2008.

### **New Monitoring Wells at NAPIS**

Kleinfelder will put in new wells to replace the wells they had placed there this spring. We anticipate the wells can be installed by mid March. The wells placement will need to be carefully coordinated so as not to interfere with the work on the east bay and ORS. On behalf of Giant, Kleinfelder has prepared an extension request letter that was submitted to NMED and OCD by Kleinfelder on December 12, 2007.

### **Stormwater Engineering Design Plan**

Tetrattech (formerly Vector Arizona) has prepared an engineering design for the stormwater management system that Giant will implement to replace the Old API Separator (OAPIS). The stormwater design involves the use of the two large tanks located by the 90-day storage pad. Stormwater from the process area will be piped down to the two tanks for temporary storage. The accumulated stormwater will be pumped from the tanks at a controlled rate over to the NAPIS for separation and thence to the benzene strippers for removal of benzene. The piping has been designed such that untreated process waste water can be diverted to the two large tanks for temporary storage in the event of NAPIS malfunction. The two tanks are already provided with secondary containment a high berm. The berm was reinforced and heightened in the summer of 2007.

The Tetrattech design will be provided by Giant to NMED and OCD prior to the December 31, 2007 deadline. Giant expects that the construction can commence in mid 2008.

## **Treatment System Study and Design**

Giant is conducting a pilot plant to evaluate the effectiveness of the *activated sludge* treatment process as an alternative to the aeration lagoons. Activated sludge is a commonly used treatment method for refinery waste water in refineries worldwide. It is one of the aggressive biological treatment methods listed in 40 CFR 261.31 as not contributing to the formation of F037 and F038 listed classifications of sludges. In the activated sludge method, bacteria and higher microbial life forms are cultivated in waste water in tanks. Multiple tanks are used in which the sludge is recycled. Microbial growth in the sludge increases as the sludge is recycled. The recycling of the sludge increases the retention time and availability for the bacteria to degrade toxic organic molecules. Through bacterial action in the sludge, complex organic molecules are degraded and broken down into smaller, less toxic, molecules. Ring type molecules such as naphthalenes and phenols which are typically highly resistant to degradation are amenable to degradation in the activated sludge process due to the greater retention time afforded by the recycling of the sludge. As an enhancement to the activated sludge process, Giant is evaluating the PAC process in which activated carbon or zeolite is added to the tanks. The carbon can absorb organics but the main benefit is the huge surface area the carbon and zeolite particles provide for growth of bacterial colonies and other microbes.

The sanitary waste water from the Pilot Travel Center will be treated along with the refinery process waste water in the activated sludge process. The PTC waste water will provide the nutrients (phosphates, potassium, nitrogen, minerals and salts) that the microbes need for growth.

A membrane based bio-reactor ultrafiltration unit will also be evaluated as a tail end treatment as an alternative to a conventional clarifier. If the bio-reactor ultrafiltration unit proves to be effective in the piloting, Giant will strongly consider its use in a full scale system as it will virtually eliminate the carryover passage of any oil into the first evaporation pond.

Pilot plant data will be used in the design of a full scale activated sludge process that will replace the two aeration lagoons. Results of the activated sludge waste water pilot plant treatment study and the final WWTP design will be provided to NMED and OCD by the June 6, 2008 deadline.

The Giant Gallup Refinery's waste water consultant, Hubble, Roth & Clark, Inc. has prepared a short letter describing the activated sludge process. It is attached to this email for your review.

### **Fuel Oil Loading Rack Secondary Containment Enhancement**

Giant has completed installation of concrete secondary containment on one side of the fuel oil loading rack. Construction diagrams of the fuel oil loading rack secondary containment design were provided to OCD and NMED during the meeting at OCD last July 30. A recovery sump was constructed provided with secondary containment and a leak detection stand pipe. The sump including the secondary containment and leak detection pipe is entirely fabricated from stainless steel. Pictures are provided of the work completed to date. Giant expects the other side of the rack will be completed before the end of the year.

### **RR Rack Fan-out and Trench (SWMU 8)**

Trihydro is conducting additional investigation in this area during the week of December 17, 2007. A status report was submitted to NMED and OCD last month.

### **Crude Oil Tanks 101 and 102 Investigation**

Trihydro conducted a ground conductivity study (EM-31) of the Tank 101 and Tank 102 area during the summer of 2007. Trihydro is preparing a status report on the results of the EM-31 study. Trihydro expects the report will be ready for submittal to NMED and OCD before the end of 2007.

GW-32

**Chavez, Carl J, EMNRD**

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**From:** Bryon Holbrook [Bryon.Holbrook@wnr.com]  
**Sent:** Tuesday, December 18, 2007 7:29 AM  
**To:** Monzeglio, Hope, NMENV; Chavez, Carl J, EMNRD; Jim Lieb; Powell, Brandon, EMNRD  
**Cc:** Price, Wayne, EMNRD; Cobrain, Dave, NMENV; Ed Rios; Stan Fisher; Ed Riege; Joel Quinones; Don Riley; Ann Allen; Cheryl Johnson; Cobrain, Dave, NMENV; Frischkorn, Cheryl, NMENV; martin; Bill Robertson  
**Subject:** RE: C-141 Form for the Gasoline Spill at the Giant Gallup Refinery Loading Rack on December 4, 2007

All,

The contaminated soils sample was delivered on 12-14-07 to Hall Labs for a full waste determination. Results should be delivered by mid week to make an appropriate waste determination. Due to the inclement weather, the remaining areas of concern (three small areas previously excavated) will be removed this week and clean closure results can be acquired.

Bryon Holbrook  
Gallup Refinery

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**From:** Monzeglio, Hope, NMENV [mailto:hope.monzeglio@state.nm.us]  
**Sent:** Monday, December 17, 2007 4:23 PM  
**To:** Chavez, Carl J, EMNRD; Jim Lieb; Powell, Brandon, EMNRD  
**Cc:** Price, Wayne, EMNRD; Cobrain, Dave, NMENV; Ed Rios; Stan Fisher; Ed Riege; Joel Quinones; Don Riley; Bryon Holbrook; Ann Allen; Cheryl Johnson; Cobrain, Dave, NMENV; Frischkorn, Cheryl, NMENV  
**Subject:** RE: C-141 Form for the Gasoline Spill at the Giant Gallup Refinery Loading Rack on December 4, 2007

NMED required the confirmation samples to be analyzed for 8260, RCRA 8 metals, MTBE, TPH (GRO and DRO). The soil that was excavated for disposal purposes must be profiled for disposal. Refer to the requirements found in of 40 CFR 261 (Characteristics of Hazardous Waste).

Hope

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**From:** Chavez, Carl J, EMNRD  
**Sent:** Monday, December 17, 2007 4:10 PM  
**To:** Jim Lieb; Monzeglio, Hope, NMENV; Powell, Brandon, EMNRD  
**Cc:** Price, Wayne, EMNRD; Cobrain, Dave, NMENV; Ed Rios; Stan Fisher; Ed Riege; Joel Quinones; Don Riley; Bryon Holbrook; Ann Allen; Cheryl Johnson  
**Subject:** RE: C-141 Form for the Gasoline Spill at the Giant Gallup Refinery Loading Rack on December 4, 2007

Jim, et al:

The OCD received a call from the consultant who was involved in the cleanup of contaminated soils and was requesting to know the type of testing and locations to sample. After speaking to him I directed him to NMED to discuss OCD recommendations.

He said that there was sheet flow over an area and then narrows to about a 4 inch wide flow down slope toward the leading edge of the release. The OCD typically views the release as an excavation with a base and sidewalls. However, the consultant indicated that the sheet flow was not very deep and the narrow flow release was also not anticipated to be very deep.

12/18/2007

Could you please characterize the dimensions of the release and run the type of analytical testing and locations for sampling by the OCD & NMED to verify that soil remediation is complete? I know the 8260 for VOCs, TPH, possibly MTBE, and RCRA Metals at a minimum may be acceptable to the OCD, I presume you're using olfactory senses, soil staining and hand held PIDs to help guide the final sampling? Thank you.

Carl J. Chavez, CHMM  
New Mexico Energy, Minerals & Natural Resources Dept.  
Oil Conservation Division, Environmental Bureau  
1220 South St. Francis Dr., Santa Fe, New Mexico 87505  
Office: (505) 476-3491  
Fax: (505) 476-3462  
E-mail: [CarlJ.Chavez@state.nm.us](mailto:CarlJ.Chavez@state.nm.us)  
Website: <http://www.emnrd.state.nm.us/oed/index.htm>  
(Pollution Prevention Guidance is under "Publications")

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**From:** Jim Lieb [mailto:[Jim.Lieb@wnr.com](mailto:Jim.Lieb@wnr.com)]  
**Sent:** Monday, December 17, 2007 1:51 PM  
**To:** Monzeglio, Hope, NMENV; Chavez, Carl J, EMNRD; Powell, Brandon, EMNRD  
**Cc:** Price, Wayne, EMNRD; Cobrain, Dave, NMENV; Ed Rios; Stan Fisher; Ed Riege; Joel Quinones; Don Riley; Bryon Holbrook; Ann Allen; Cheryl Johnson  
**Subject:** C-141 Form for the Gasoline Spill at the Giant Gallup Refinery Loading Rack on December 4, 2007

Hope, Carl, Brandon:

As you know from the messages I left on your phones, we experienced a large spill of gasoline product here at the refinery on December 4, 2007. A tanker driver was opening a valve on a tanker allowing 6,800 gallons of gasoline to leak onto the loading rack pad. We immediately shut down the loading rack and foamed the area to prevent fire. We immediately dispatched a vac truck to vacuum up as much gasoline as possible - approximately 5,000 gallons was vacuumed up. Some of the gasoline made its way to drains in the loading rack area leading to the new API separator. About 300 gallons made its way onto adjoining soil. We washed down the pad with water which was vacuumed up. After the pad cleanup was finished and it was determined it was safe to do so, the rack was put back into service late in the afternoon.

A crew was immediately put to work diking the area where the gasoline leaked onto the soil. We have excavated impacted soil and placed it into either roll off boxes or on plastic liner material. We are currently making arrangements on a facility to accept the soil.

We will take confirmatory soil samples once we have excavated all the impacted soil. We will provide the sampling results to NMED and OCD. Once we receive approval we will back fill the area with clean soil.

We are conducting an incident evaluation on the spill to determine exactly why the spill occurred and how we can prevent a reoccurrence from ever happening again.

If you have any questions, please contact me at (505) 722-0227.

Regards,

Jim Lieb

Environmental Engineer  
Giant Industries, Inc.  
Gallup Refinery  
I-40, Exit 39  
Jamestown, NM 87347  
(505) 722-0227  
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[jl Lieb@giant.com](mailto:jl Lieb@giant.com)

12/18/2007

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**Chavez, Carl J, EMNRD**

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**From:** Chavez, Carl J, EMNRD  
**Sent:** Monday, December 17, 2007 4:10 PM  
**To:** 'Jim Lieb'; Monzeglio, Hope, NMENV; Powell, Brandon, EMNRD  
**Cc:** Price, Wayne, EMNRD; Cobrain, Dave, NMENV; Ed Rios; Stan Fisher; Ed Riege; Joel Quinones; Don Riley; Bryon Holbrook; Ann Allen; Cheryl Johnson  
**Subject:** RE: C-141 Form for the Gasoline Spill at the Giant Gallup Refinery Loading Rack on December 4, 2007

Jim, et al:

The OCD received a call from the consultant who was involved in the cleanup of contaminated soils and was requesting to know the type of testing and locations to sample. After speaking to him I directed him to NMED to discuss OCD recommendations.

He said that there was sheet flow over an area and then narrows to about a 4 inch wide flow down slope toward the leading edge of the release. The OCD typically views the release as an excavation with a base and sidewalls. However, the consultant indicated that the sheet flow was not very deep and the narrow flow release was also not anticipated to be very deep.

Could you please characterize the dimensions of the release and run the type of analytical testing and locations for sampling by the OCD & NMED to verify that soil remediation is complete? I know the 8260 for VOCs, TPH, possibly MTBE, and RCRA Metals at a minimum may be acceptable to the OCD, I presume you're using olefactory senses, soil staining and hand held PIDs to help guide the final sampling? Thank you.

Carl J. Chavez, CHMM  
 New Mexico Energy, Minerals & Natural Resources Dept.  
 Oil Conservation Division, Environmental Bureau  
 1220 South St. Francis Dr., Santa Fe, New Mexico 87505  
 Office: (505) 476-3491  
 Fax: (505) 476-3462  
 E-mail: [CarlJ.Chavez@state.nm.us](mailto:CarlJ.Chavez@state.nm.us)  
 Website: <http://www.emnrd.state.nm.us/ocd/index.htm>  
 (Pollution Prevention Guidance is under "Publications")

---

**From:** Jim Lieb [<mailto:Jim.Lieb@wnr.com>]  
**Sent:** Monday, December 17, 2007 1:51 PM  
**To:** Monzeglio, Hope, NMENV; Chavez, Carl J, EMNRD; Powell, Brandon, EMNRD  
**Cc:** Price, Wayne, EMNRD; Cobrain, Dave, NMENV; Ed Rios; Stan Fisher; Ed Riege; Joel Quinones; Don Riley; Bryon Holbrook; Ann Allen; Cheryl Johnson  
**Subject:** C-141 Form for the Gasoline Spill at the Giant Gallup Refinery Loading Rack on December 4, 2007

Hope, Carl, Brandon:

As you know from the messages I left on your phones, we experienced a large spill of gasoline product here at the refinery on December 4, 2007. A tanker driver was opening a valve on a tanker allowing 6,800 gallons of gasoline to leak onto the loading rack pad. We immediately shut down the loading rack and foamed the area to prevent fire. We immediately dispatched a vac truck to vacuum up as much gasoline as possible - approximately 5,000 gallons was vacuumed up. Some of the gasoline made its way to drains in the loading rack area leading to the new API separator. About 300 gallons made its way onto adjoining soil. We washed down the pad with water which was vacuumed up. After the pad cleanup was finished and it was determined it was safe to do so, the rack was put back into service late in the afternoon.

A crew was immediately put to work diking the area where the gasoline leaked onto the soil. We have excavated

12/17/2007

impacted soil and placed it into either roll off boxes or on plastic liner material. We are currently making arrangements on a facility to accept the soil.

We will take confirmatory soil samples once we have excavated all the impacted soil. We will provide the sampling results to NMED and OCD. Once we receive approval we will back fill the area with clean soil.

We are conducting an incident evaluation on the spill to determine exactly why the spill occurred and how we can prevent a reoccurrence from ever happening again.

If you have any questions, please contact me at (505) 722-0227.

Regards,

Jim Lieb

Environmental Engineer  
Giant Industries, Inc.  
Gallup Refinery  
I-40, Exit 39  
Jamestown, NM 87347  
(505) 722-0227  
fax (505) 722-0210  
[jl Lieb@giant.com](mailto:jl Lieb@giant.com)

---

This inbound email has been scanned by the MessageLabs Email Security System.

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12/17/2007



**Chavez, Carl J, EMNRD**

---

**From:** Jim Lieb [Jim.Lieb@wnr.com]  
**Sent:** Monday, December 17, 2007 1:51 PM  
**To:** Monzeglio, Hope, NMENV; Chavez, Carl J, EMNRD; Powell, Brandon, EMNRD  
**Cc:** Price, Wayne, EMNRD; Cobrain, Dave, NMENV; Ed Rios; Stan Fisher; Ed Riege; Joel Quinones; Don Riley; Bryon Holbrook; Ann Allen; Cheryl Johnson  
**Subject:** C-141 Form for the Gasoline Spill at the Giant Gallup Refinery Loading Rack on December 4, 2007  
**Attachments:** LoadRack12-4-07.pdf

Hope, Carl, Brandon:

As you know from the messages I left on your phones, we experienced a large spill of gasoline product here at the refinery on December 4, 2007. A tanker driver was opening a valve on a tanker allowing 6,800 gallons of gasoline to leak onto the loading rack pad. We immediately shut down the loading rack and foamed the area to prevent fire. We immediately dispatched a vac truck to vacuum up as much gasoline as possible - approximately 5,000 gallons was vacuumed up. Some of the gasoline made its way to drains in the loading rack area leading to the new API separator. About 300 gallons made its way onto adjoining soil. We washed down the pad with water which was vacuumed up. After the pad cleanup was finished and it was determined it was safe to do so, the rack was put back into service late in the afternoon.

A crew was immediately put to work diking the area where the gasoline leaked onto the soil. We have excavated impacted soil and placed it into either roll off boxes or on plastic liner material. We are currently making arrangements on a facility to accept the soil.

We will take confirmatory soil samples once we have excavated all the impacted soil. We will provide the sampling results to NMED and OCD. Once we receive approval we will back fill the area with clean soil.

We are conducting an incident evaluation on the spill to determine exactly why the spill occurred and how we can prevent a reoccurrence from ever happening again.

If you have any questions, please contact me at (505) 722-0227.

Regards,

Jim Lieb

Environmental Engineer  
Giant Industries, Inc.  
Gallup Refinery  
I-40, Exit 39  
Jamestown, NM 87347  
(505) 722-0227  
fax (505) 722-0210  
[jlieb@giant.com](mailto:jlieb@giant.com)

---

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12/17/2007

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources

Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-141  
Revised October 10, 2003

Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

### Release Notification and Corrective Action

#### OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Western (Giant) Refining: Gallup Refinery	Contact Jim Lieb
Address I-40, Exit 39, Jamestown NM 87347	Telephone No. 505-722-0227
Facility Name: Gallup Refinery	Facility Type Oil refinery

Surface Owner: Giant Industries, Inc.	Mineral Owner: Giant Industries, Inc.	Lease No.
---------------------------------------	---------------------------------------	-----------

#### LOCATION OF RELEASE

Unit Letter	Section 23 & 33	Township 15N	Range 15W	Feet from the	North/South Line	Feet from the	East/West Line	County McKinley
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Latitude 35°29'30" Longitude -108°24'40"

#### NATURE OF RELEASE

Type of Release: Gasoline Product	Volume of Release: 6,800 gallons	Volume Recovered: 5,000 gallons
Source of Release: Tanker Loading Rack	Date and Hour of Occurrence: 12/4/07 @ 1230 hours	Date and Hour of Discovery: 12/4/07 @ 1230 hours
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? OCD - Carl Chavez NMED - Hope Monzeglio	
By Whom? Jim Lieb	Date and Hour 12/4/07 at 1426 hours	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

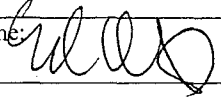
If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\*

A truck driver inadvertently opened a valve on a tanker and gasoline poured out onto the loading dock pad. Most of the gasoline was contained on the pad and some entered the process sewer that goes to the new API separator (NAPIS). Some of the gasoline spilled over the pad onto adjacent soil. We immediately shut down the loading dock and foamed the pad to prevent fire. A vac truck was immediately dispatched to recover spilled gasoline product. The area was also flushed with water spray to reduce likelihood of fire and to assist recovery of gasoline by the vac truck. A crew of 8 workers was put to work to dig up the impacted soil. The crew also built a low dike of soil around the impacted area.

Describe Area Affected and Cleanup Action Taken.\* The release is restricted to the loading dock area. None of the release got off Giant property. The pad was washed down to help prevent fire and assist with vac truck recovery. A vac truck was able to recover approximately 5,000 gallons of gasoline product which was directed into the New API. We estimate that approximately 300 gallons of gasoline was released to the soil. The balance evaporated. The impacted soil was removed and placed either directly into roll-off boxes or on plastic liner until additional boxes can be obtained. We will sample the excavated area to ensure all the gasoline contamination has been removed. Upon OCD and NMED approval, the excavation will be back-filled with fresh soil after confirmatory sampling is conducted.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature:	<b>OIL CONSERVATION DIVISION</b>		
Printed Name:  ED RIOS	Approved by District Supervisor:		
Title: General Manager	Approval Date:	Expiration Date:	
E-mail Address: erios@giant.com	Conditions of Approval:		Attached <input type="checkbox"/>
Date: December 7, 2007 Phone: (505) 722-0202			

\* Attach Additional Sheets If Necessary



December 11, 2007

Mr. Jim Lieb  
Environmental Engineer  
Giant Refining  
Route 3 Box 7  
Gallup, NM 87301

RE: Project Status Report, Tank 101 and 102 Soil Investigation, Giant Refining – Gallup Refinery

Dear Mr. Lieb:

This correspondence has been prepared to provide a brief summary of field activities associated with the Tank 101 and 102 Soil Investigation. The investigation of this area was conducted in response to a request by the Giant Refining Company, Gallup Refinery (Gallup). Gallup requested Trihydro to identify the source of two water seeps located down gradient of Tank 102 and to delineate the soil contamination associated with these seeps. The New Mexico Environmental Department (NMED) was verbally contacted by Gallup personnel as part of the project preparation activities and is aware of the seeps/soil contamination near Tanks 101 and 102. As a result NMED requested that a work plan be approved before field work commenced. A work plan, in letter format, was submitted to NMED on August 16, 2007 (Work Plan).

## **FIELD ACTIVITIES**

Trihydro personnel were on-site during the week of August 20, 2007. Field activities associated with the Tank 101 and 102 Soil Investigation consisted of a site walk-through, an EM31-MK2 survey, surface water sampling, and soil sampling. These activities are described below.

### **Site Walk-Through**

A site walk-through was conducted with Gallup personnel prior to commencing the EM31-MK2 survey. During this walk through the seeps were located and a plan was developed to conduct the EM31-MK2 survey. As a health and safety issue, Gallup and Trihydro personnel decided that the sage brush needed to be removed before the EM31-MK2 survey could commence (i.e. reducing the danger of rattlesnake bites). In accordance with the work plan the area was staked out in 15 feet intervals to assist the EM31-MK2 survey coverage. As the brush was being cleared the area was staked out using wooden 3 foot stakes. After the majority of the sage brush had been cleared a second site walk-through was conducted to look for any surface contamination. Some residuum was observed in and along the drainage ditch. These locations were logged with a global positioning system (GPS) and are included on Figure 1. Other features that had the potential interest to the EM31-MK2 survey were also logged (e.g. test pits, rebar, fence, roadways, and tank berms).



Mr. Jim Lieb  
December 11, 2007  
Page 2

### **EM31-MK2 Survey**

An electromagnetic survey was performed on an area west of Tanks 101 and 102 which encompassed both seeps. The area was approximately 440 feet (north-south) by 625 feet (east-west) and is illustrated on Figure 1. The survey was performed with a Geonics EM31-MK2 ground conductivity meter.

The EM31-MK2 ground conductivity meter creates an electromagnetic induction field into the ground and measures two components of the return electromagnetic field which vary with changes in geology or other subsurface features. The two components are a quadrature-phase component and an in-phase component. The quadrature-phase component is a direct conductivity reading of subsurface geology measured in millisiemens per meter (mS/m). Since moisture content can affect conductivity of the subsurface geology, this phase may be useful in delineating soil contamination associated with the seeps. The in-phase component is a measurement of the magnetic susceptibility of subsurface features and is a good indicator of high-conductivity features such as metal objects and is measured as the ratio of the secondary to primary magnetic field in parts per thousand (ppt). This phase may be helpful in identifying metallic subsurface utilities. The effective depth of response is up to 9 ft bgs. Calibration of the EM31-MK2 ground conductivity meter was performed per the manufacturer's instruction.

Continuous measurement and recording of ground conductivity and metallic response was performed in conjunction with GPS navigation. The survey was completed on foot by Trihydro personnel with the EM31-MK2 and GPS units. The survey area was divided into a bi-directional grid with a grid spacing of approximately 15 feet. The boundaries of the survey area and the boundary/grid line intersects were staked prior to conducting the survey.

The EM31-MK2 data was plotted and mapped using Geosoft's OasisMontaj software. A color grid was generated using the "minimum curvature" algorithm within the program. The color grid was overlain on an existing contour map of the refinery to assist in analyzing the image. This is illustrated on Figure 1.

### **Surface Water Sampling**

Surface water samples were collected from Seep 1 and Seep 2 and analyzed for Volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs), Diesel Range Organics (DRO), Gasoline Range Organics (GRO), Motor Oil Range Organics (MRO), and Resource Conservation and Recovery Act (RCRA) metals. Surface water samples were not collected from the West Ditch test pit because surface water was not present. Results are summarized in Table 1 and discussed below.

### **Soil Sampling**

The subsurface soil investigation of the area began the week of August 20, 2007. Three test pits were installed directly up-gradient of Tanks 101 and 102 inside the tank berm, three test pits were installed direction down-gradient of Tanks 101 and 102 inside the tank berm, one test pit was installed at Seep 1 (Seep 1 Test Pit), one test pit was installed in between Seep 1 and Seep 2 (Seep 2 Test Pit), and one test



Mr. Jim Lieb  
December 11, 2007  
Page 3

pit was installed west of the drainage ditch located directly west of Seep 2 (West Ditch Test Pit). The test pit sampling and logging procedures were followed in accordance with the Work Plan and locations are shown on Figure 1.

The three test pits installed directly up-gradient of Tanks 101 and 102 were installed at the request of NMED to assist in determining if the source of the seeps was a result of these up-gradient tanks. The test pits are identified as TK 102\_SE, TK Center, and TK 101\_NE on Figure 1. These test pits were sampled at 2 and 8 feet below ground surface (ft bgs), 2 and 6 ft bgs, and 2 and 8 ft bgs respectively and analyzed for DRO and GRO. The samples were also field-screened using a photo-ionization detector (PID) as outlined in the Work Plan. The results were logged on field forms that will be included in the final report. No elevated PID readings were identified and soil samples were collected at each location in accordance with the Work Plan. As shown in Table 1, analytical results from each discrete interval were reported as non-detect.

The three test pits installed directly down-gradient of Tanks 101 and 102 were installed to determine any potential connection to the seeps with contamination within the tank berms. These are identified as TK 101\_W, TK 102\_W, and Tank 102\_SW on Figure 1. These test pits were sampled at 2 and 5.5 ft bgs, 2 and 6 ft bgs, and 2 and 6 ft bgs respectively and analyzed for DRO and GRO. The samples were also field-screened using a PID. The results were logged on field forms that will be included in the final report. As with the previous set of test pits, no elevated PID readings were identified.

Seep 1, Seep 2, and West Ditch test pits were excavated to a water-bearing sand lens layer. Seep 1 test pit was located against an embankment and was excavated to a total depth of 3 ft bgs. During the excavation a black seam was encountered. Soil samples were collected from above and below the black seam, directly from the black seam, and from the water-bearing sand lens layer. The water-bearing sand lens layer is located at approximately 1.5 to 2 ft bgs. Seep 2 test pit was excavated to a depth of 7 ft bgs and sampled at 2 and 6 ft bgs. A water-bearing sand lens layer was encountered at 7 ft bgs. The test pit became unstable at 7 ft bgs due to the high moisture content making it impossible to collect a sample below the water-bearing sand lens layer. The West Ditch test pit was excavated to a depth of 9 ft bgs and sampled at 4, 8, and 9 ft bgs. A water-bearing sand lens layer was encountered at 8 ft bgs. As with the Seep 1 test pit, this test pit became unstable at this depth due to the high moisture content; therefore a sample was not collected below the water-bearing sand lens layer.

#### **Photo Documentation**

Field work was documented and recorded in Trihydro personnel's field log book in accordance with the Work Plan. Photos were taken at the test pits, residuum locations, and seeps. These photos will be included as part of the final report.



Mr. Jim Lieb  
December 11, 2007  
Page 4

## **ANALYTICAL DATA**

Samples were shipped to Hall Environmental located in Albuquerque, New Mexico for analysis. The surface water samples collected from the seeps were analyzed for VOCs by method 8260, SVOCs by 8270, DRO, GRO, MRO, and RCRA metals. The soil samples collected from the test pits were analyzed for DRO, GRO, MRO, and VOCs. The analytical detections reported for soil and surface water are illustrated on Figure 2 and summarized in Table 1. A detailed summary of the analytical data will be presented in the final report.

## **PATH FORWARD**

In order to further determine if the seeps are related to the Tank 101 and 102 bermed area, Trihydro proposes to collect additional soil and/or water samples. The samples would be collected from the area of the test pits, TK 102 W, and TK 102 SW at deeper depths in order to try to connect the water-bearing sand lens layer to the seeps.

Additionally, the area north of Seep 1 and Seep 2 and the area west of Seep 1 would be soil sampled. These locations would be sampled in order to confirm the EM31-MK2 signals (i.e. contamination, water, or other).

The samples will be collected using the hollow stem auger drill rig procedures as described in the Work Plan. The analyses would consist of a PIANO analysis and/or an Isotope analysis, as well as, DRO and GRO. The PIANO analysis should provide a footprint of the hydrocarbon at each of the areas and Isotope analysis should give an age of the hydrocarbon.

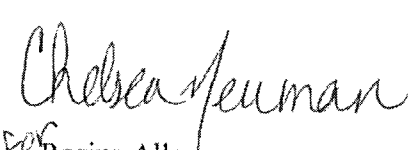
If you have any questions, please feel free to contact us at (307) 745-7474.

Sincerely,  
Trihydro Corporation

*for*   
Eric Worden  
Business Unit Manager-Petrochemical Services

697-007-001

cc: Ed Riege, Giant Refining

  
*for* Regina Allen  
Project Manager



**HUBBELL, ROTH & CLARK, INC**  
**Consulting Engineers**

**Principals**  
George E. Hubbell  
Thomas E. Biehl  
Walter H. Alix  
Peter T. Roth  
Michael D. Waring  
Keith D. McCormack  
Curt A. Christeson  
Thomas M. Doran

**Senior Associates**  
Frederick C. Navarre  
Gary J. Tressel  
Lawrence R. Ancypa  
Kenneth A. Melchior  
Dennis M. Monsere  
Randal L. Ford  
David P. Wilcox  
Timothy H. Sullivan

**Chief Financial Officer**  
J. Bruce McFarland

**Associates**  
Thomas G. Maxwell  
Nancy M.D. Faught  
Jonathan E. Booth  
Michael C. MacDonald  
Marvin A. Olane  
James C. Hanson  
Richard F. Beaubien  
William R. Davis  
James J. Aiello  
Daniel W. Mitchell  
Jesse B. VanDeCreek  
Robert F. DeFrain  
Marshall J. Grazioli  
Thomas D. LaCross

**Privileged and Confidential**  
**Prepared at the Request of Counsel**

November 21, 2007

Giant Refining, Inc.  
Gallup Refinery  
I-40, Exit 39  
Jamestown, New Mexico 87347

Attention: Mr. James Lieb

Re: Pilot Plant Process Description

HRC Job No. 20070465.45

Dear Mr. Lieb:

Hubbell, Roth & Clark, Inc. (HRC) has commenced the operation of a pilot-scale biological wastewater treatment system at Giant's Ciniza Refinery. The purpose of this letter is to outline the benefits of the wastewater treatment process that we are pilot testing as requested by the Oil Conservation Division (OCD) and the New Mexico Environment Department (NMED).

**Background**

Giant's wastewater treatment system receives a mixture of refinery wastewater and sanitary wastewater from the Pilot Travel Center. The current Giant wastewater treatment system consists of two aerated lagoons followed by a series of evaporation lagoons. Previous dissolved oxygen uptake testing by HRC and a review of Giant's analytical data indicate that the wastewater is highly biodegradable. The current lagoon-based system generally removes approximately 50 percent of the BOD with approximately 4 days of retention time.

**Review of Alternate Technologies**

Wastewater treatment lagoons, such as Giant's without a final clarifier and return activated sludge system, cannot sustain enough biomass to afford complete treatment without many days of retention time. A high rate biological treatment system was determined to be needed to replace the lagoon-based system.

HRC identified the following wastewater treatment technologies to evaluate during pilot testing:

- Traditional activated sludge
- Activated sludge with submerged, fixed film media
- Activated sludge with powdered activated carbon (ASPAC) and/or powdered zeolite addition.
- Trickling filters and rotating biological contactors
- Membrane biological reactors

**Privileged and Confidential  
Prepared at the Request of Counsel**

Each of these treatment systems is commonly used to treat municipal and industrial wastewaters. HRC's process engineers evaluated the various technologies in consultation with the wastewater equipment suppliers and selected the activated sludge process with PAC and/or zeolite addition for the following reasons:

1. The ASPAC process is commonly used to treat refinery and chemical plant wastewater and it is much more resistant to upsets than the traditional activated sludge process with only a modest cost for PAC addition. Zeolite addition is in widespread use in Eastern Europe and is considerably less expensive than PAC as it is mined in New Mexico.
2. Activated sludge with submerged, fixed film media systems are generally more expensive to build than ASPAC systems. HRC believes that the level of treatment from an ASPAC system will also be superior.
3. Trickling filters and rotating biological contactors are considerably less tolerant of changing wastewater conditions, such as pH excursions.
4. The ASPAC system will produce a waste activated sludge that requires less chemical addition for dewatering. Activated sludges generally require 5 to 20 percent chemical additions as a "body feed" to a filter press. The PAC and zeolite addition will serve double-duty by improving the activated sludge process and by improving the sludge's dewatering characteristics.
5. HRC is currently evaluating the benefits of the membrane bioreactor process with PAC addition. Membranes replace the traditional clarifier and sand filter with a compact, easy to operate system. The drawback with all membrane systems is the potential to prematurely foul the membranes which are very costly to replace. Plans are underway to install a small ultrafiltration module to evaluate the fouling potential from Giant's wastewater and therefore evaluate the economics.

**Proposed System**

There are several challenges to treating Giant's wastewater. First, large molecular weight hydrocarbons, such as polynuclear aromatic hydrocarbons, degrade very slowly in wastewater. Research shows that these compounds may require several weeks to fully mineralize. Secondly, wastewater characteristics will vary at a refinery based upon scheduled maintenance activities and refining upsets.

The proposed system consists of the use of powdered activated carbon (PAC) as described in the attached brochure and technical paper from U.S. Filter. The process was developed in the 1960's by Zimpro, Inc. and is in widespread use worldwide for refineries, chemical plants, and other difficult to treat wastes. U.S. Filter's attached literature highlights the benefits over the other available processes. PAC is added to the aeration tank where it adsorbs contaminants and provides a surface for microbes to attach. The combined PAC/microbe particle settles in the clarifier and is returned to the aeration tank for further adsorption and biological treatment. An ASPAC system is often operated with a sludge age of 15 days meaning that the average PAC/microbe particle is retained within the system for 15 days. This retention time allows time for slowly degrading, large molecules to degrade.

ASPAC systems have also been shown to degrade organic compounds that are not considered biodegradable. HRC recommends that Giant also consider the use of powdered zeolite in addition to PAC. HRC has had success with the addition of powdered zeolite which is described in the attached MS PowerPoint presentation that we presented in 2004. Zeolite is a porous mineral mined in New Mexico and provides a large surface area for microbial attachment, similar to PAC. Zeolite is much less expensive and is also much denser which results in better settling than conventional activated sludge systems as well as PAC system. Zeolite also has been proven to improve sludge dewatering characteristics and decrease or eliminate chemical dewatering aids.





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Prepared at the Request of Counsel**

HRC is currently reviewing the solids separation processes for use with the proposed PAC system. The most viable options are traditional clarifiers and membrane processes. These technologies will be studied and tested during the ongoing wastewater pilot plant project.

We look forward to continuing working with you on this interesting project. Please feel free to contact Ed Cote at (248) 454-6387 if you need further information.

Very truly yours,

HUBBELL, ROTH & CLARK, INC.

A handwritten signature in black ink, appearing to read 'Edward L. Cote'.

Edward L. Cote, P.E.  
Industrial Facilities Design Department Head

A handwritten signature in black ink, appearing to read 'Curt A. Christeson'.

Curt A. Christeson, P.E.  
Principal/Vice President

ELC, pc: HRC; File

## Chavez, Carl J, EMNRD

---

**From:** Jim Lieb [jlieb@giant.com]  
**Sent:** Thursday, October 04, 2007 9:42 AM  
**To:** Chavez, Carl J, EMNRD; Monzeglio, Hope, NMENV; Powell, Brandon, EMNRD  
**Cc:** Ed Rios; Ed Riege; Frank Deller; Stan Fisher; Steve Morris; Cheryl Johnson; Bryon Holbrook; Ann Allen  
**Subject:** C-141 Form for FCCU Reversal Event on 10-2-07 at Giant Refining - Gallup  
**Attachments:** FCCUreversal-10-2-07.pdf

Carl, Hope, Brandon:

I prepared the OCD's C-141 form for the FCCU reversal event that occurred on the morning of 10-2-07. I notified Carl of this by phone Tuesday morning and NMED AQB was notified. It was all very exciting and there was quite a bit of smoke and catalyst blown out and dispersed by the winds out but no oil was released to the ground. There never was any actual outside fire as all damage was confined to inside the CO Boiler. No one was hurt during the event. We expect to have the CO Boiler back up and running on Saturday.

If you have any questions, please contact me.

Jim Lieb

Environmental Engineer  
Giant Industries, Inc.  
Ciniza Refinery  
I-40, Exit 39  
Jamestown, NM 87347  
(505) 722-0227  
fax (505) 722-0210  
[jlieb@giant.com](mailto:jlieb@giant.com)

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10/4/2007

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources

Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-141  
Revised October 10, 2003

Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

## Release Notification and Corrective Action

### OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	Giant Refining – Gallup Refinery	Contact	Jim Lieb
Address	I-40, Exit 39, Jamestown NM 87347	Telephone No.	505-722-0227
Facility Name	Gallup Refinery	Facility Type	Petroleum Refinery
Surface Owner	Giant Industries, Inc.	Mineral Owner	Giant Industries, Inc.
		Lease No.	

### LOCATION OF RELEASE

Unit Letter	Section 23 & 33	Township 15N	Range 15W	Feet from the	North/South Line	Feet from the	East/West Line	County McKinley
-------------	--------------------	-----------------	--------------	---------------	------------------	---------------	----------------	--------------------

Latitude 35°29'22"

Longitude 108°25'24"

### NATURE OF RELEASE

Type of Release	Smoke, gas oil mist, catalyst - all to the air, none to ground	Volume of Release	There was no spill to ground	Volume Recovered	Not applicable
Source of Release	CO Boiler	Date and Hour of Occurrence	10/2/07 0834 hours	Date and Hour of Discovery	10/2/07 0834 hours
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Carl Chavez			
By Whom?	Jim Lieb	Date and Hour 10/2/07 at approx. 9 AM			
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.			
If a Watercourse was Impacted, Describe Fully.* not applicable					

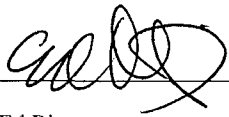
#### Describe Cause of Problem and Remedial Action Taken.\*

A reversal occurred in the FCCU due to a power outage. This caused back flow and overpressure into CO Boiler damaging the inside of the CO Boiler. The Unit was put off line and blocked in. Other units isolated. No external fire occurred.

#### Describe Area Affected and Cleanup Action Taken.\*

Incident isolated to FCCU and CO Boiler. No cleanup was necessary because no oil was spilled. Catalyst, smoke, and gas-oil mist dissipated in the air by winds.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: 	OIL CONSERVATION DIVISION		
Printed Name: Ed Rios	Approved by District Supervisor:		
Title: General Manager	Approval Date:	Expiration Date:	
E-mail Address: erios@giant.com	Conditions of Approval:		Attached <input type="checkbox"/>
Date: October 4, 2007 Phone: 505-722-0202			

Attach Additional Sheets If Necessary

**Chavez, Carl J, EMNRD**

---

**From:** Monzeglio, Hope, NMENV  
**Sent:** Wednesday, October 03, 2007 11:27 AM  
**To:** Jim Lieb; Cobrain, Dave, NMENV  
**Cc:** Chavez, Carl J, EMNRD; Regina Allen; Grant Price; Ed Riege; Ann Allen; Steve Morris; Bryon Holbrook; Cheryl Johnson; Frischkorn, Cheryl, NMENV  
**Subject:** RE: Giant Refining - RR Rack Fan-Out Investigation Progress Report

Jim

Please let NMED know within one week of completing all investigation activities at the Railroad Rack Lagoon Fan Out Area and keep me updated as to when the field work will be occurring.

Thanks  
Hope

---

**From:** Jim Lieb [mailto:[jlieb@giant.com](mailto:jlieb@giant.com)]  
**Sent:** Tuesday, October 02, 2007 10:29 AM  
**To:** Monzeglio, Hope, NMENV; Cobrain, Dave, NMENV  
**Cc:** Chavez, Carl J, EMNRD; Regina Allen; Grant Price; Ed Riege; Ann Allen; Steve Morris; Bryon Holbrook; Cheryl Johnson  
**Subject:** Giant Refining - RR Rack Fan-Out Investigation Progress Report

Hope and Dave:

Attached is the Trihydro progress report on the subsurface investigation at the Fan-Out portion of the RR Rack Lagoon (SWMU No. 8).

If you have any questions concerning the report please contact me.

Regards,  
Jim Lieb  
Environmental Engineer  
Giant Industries, Inc.  
Ciniza Refinery  
I-40, Exit 39  
Jamestown, NM 87347  
(505) 722-0227  
fax (505) 722-0210  
[jlieb@giant.com](mailto:jlieb@giant.com)

---

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10/4/2007

**Chavez, Carl J, EMNRD**

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**From:** Jim Lieb [jlieb@giant.com]  
**Sent:** Tuesday, October 02, 2007 10:29 AM  
**To:** Monzeglio, Hope, NMENV; Cobrain, Dave, NMENV  
**Cc:** Chavez, Carl J, EMNRD; Regina Allen; Grant Price; Ed Riege; Ann Allen; Steve Morris; Bryon Holbrook; Cheryl Johnson  
**Subject:** Giant Refining - RR Rack Fan-Out Investigation Progress Report  
**Attachments:** Project Status Report.pdf

Hope and Dave:

Attached is the Trihydro progress report on the subsurface investigation at the Fan-Out portion of the RR Rack Lagoon (SWMU No. 8).

If you have any questions concerning the report please contact me.

Regards,  
Jim Lieb  
Environmental Engineer  
Giant Industries, Inc.  
Ciniza Refinery  
I-40, Exit 39  
Jamestown, NM 87347  
(505) 722-0227  
fax (505) 722-0210  
[jlieb@giant.com](mailto:jlieb@giant.com)

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10/2/2007



October 2, 2007

Mr. Jim Lieb  
Environmental Engineer  
Giant Refining  
I-40 Exit 39  
Jamestown, NM 87347

RE: Project Status Report, Railroad Rack Lagoon Overflow Ditch and Fan-Out Area Subsurface Investigation, Giant Refining – Gallup Refinery

Dear Mr. Lieb:

This correspondence has been prepared to provide a summary of field activities associated with the Railroad Rack Lagoon Overflow Ditch and Fan-out Area. The investigation of this area was conducted in response to a letter, dated June 29, 2006, from the New Mexico Environmental Department (NMED) requesting that the Gallup Refinery investigate the Railroad Rack Lagoon Overflow Ditch and Fan-out Area for any potential contamination. In this correspondence, comment # 26 requested information regarding the presence of residual contamination at the Overflow Ditch and Fan-out Area locations. A soil sampling work plan was submitted to the NMED on August 29, 2006.

#### **OCTOBER 2006 ACTIVITIES**

The subsurface soil investigation of the area began the week of October 16, 2006. During the initial investigation, samples were collected at 2 and 5 feet below ground surface (ft bgs) at 10 locations. The 2 ft bgs samples were collected using a hand auger. Test pits were then installed at the locations to a depth of 4 ft bgs. A hand auger was then used to bore the remaining 1 ft to collect the samples at 5 ft bgs. Each sample location was logged and field screened for total organic vapors (TOVs). The test pits were backfilled after sample collection. The collected samples were then shipped to Hall Environmental located in Albuquerque, New Mexico for analysis. The soil samples were analyzed for Diesel Range Organics (DRO), Semi volatile Organic Compounds (SVOCs), Volatile Organic Compounds (VOCs), Resource Conservation and Recovery Act (RCRA) metals, mercury, and cyanide. A detailed report titled *Railroad Rack Lagoon Overflow Ditch and Fan-Out Area, SWMU #8, Subsurface Investigation, Giant Refining Company, Ciniza Refinery, Gallup, New Mexico* summarizing the initial investigation was submitted to NMED on February 8, 2007.

As stated in the February 8 report, DRO was the only constituent detected at any of the sample locations that exceeded NMED's clean up levels. DRO was detected in 6 of the 2 ft bgs samples (B-1, B-5, B-7, B-8, B-9, and B-10) and one of the 5 ft bgs samples (B-8). Concentrations ranged from 43 to 15,000 mg/kg. The NMED-approved cleanup standard at that time for DRO was 200 mg/kg (from "Unknown oil" on



Table 2a of NMED's TPH Screening Guidelines for Potable Groundwater (GW-1)). Four 2 ft bgs sample results (B-1, B-7, B-8, and B-9) exceeded this standard. Samples B-8 and B-9 are located in the northern most portion of the overflow ditch. Sample B-7 is located in close proximity to where the overflow ditch enters the fan-out area, and sample B-1 is located in the northeast portion of the fan-out area.

## **MAY 2007 ACTIVITIES**

In March 2007, an agreement was reached between NMED and Giant to change the DRO clean up level from the "unknown oil" clean up level of 200 mg/kg to the "industrial fuel oil" clean up level of 890 mg/kg. Therefore, two soil samples from the initial investigation exceed the new clean up level of 890 mg/kg. They are the 2 ft bgs samples collected from B-8 and B-9.

Additional excavating and sampling was conducted during the week of May 21, 2007 to address the DRO exceedances at B-8 and B-9. Excavations measuring approximately 6 feet (North-South) and 4 feet (East-West) were installed to a depth of 3 ft bgs at B-8 and B-9. The excavated soil was stock piled on plastic sheeting. Samples were collected with a clean spade from the bottom of each of the two excavations (3 ft bgs) at all four corners and the center. These samples were submitted to Hall Environmental Laboratories and analyzed for DRO. Samples were also collected from a depth of 5 ft bgs with a hand auger where necessary.

At B-9, the center sample of the excavation at the 3 ft bgs interval exceeded the 890 mg/kg clean up level. The four corner samples were below the clean up level, effectively delineating the horizontal extent of contamination at this location. A hand auger was used to collect an additional sample from the center of the B-9 excavation at a depth of 5 ft bgs. Analytical results showed that the DRO concentration was below the clean up level effectively delineating the vertical extent of contamination at B-9. The depth of the B-9 excavation was increased to 5 ft bgs. The excavated soil remains stock piled on the plastic sheeting and will be transported to the land farm pending NMED approval. The excavation will be backfilled with native soil upon completion of the investigation. It is Trihydro's understanding that no additional sampling is required at B-9.

At B-8, the center and northeast samples exceeded the DRO clean up level of 890 mg/kg. As a result, the excavation was extended to the north and to the east. Additional samples were collected at depths of 3 and 5 ft bgs using a hand auger. The new samples had DRO concentrations below the clean up level of 890 mg/kg with the exception of the southeastern portion of the new sample locations. Because the remaining corners of the original excavation showed no exceedances at 3 or 5 ft bgs and the center of the original excavation showed no exceedance at 5 ft bgs, the entire excavation, including the expansion, was increased to 5 ft bgs. The soil is stocked piled on plastic sheeting and will be transported to the land farm pending NMED approval. Additional B-8 "step out" samples were collected with a hand auger at 3 feet and 7 feet east of the expansion in an attempt to pre-delineate the horizontal extent of contamination. Complete laboratory results showing that additional sampling would be required to delineate the vertical extent of contamination were not received prior to the completion of the May field activities. The 3 and 5 ft bgs samples at the 3 foot step out and the 3 ft bgs sample at 7 foot step out exceeded the 890 mg/kg DRO cleanup level.



## AUGUST 2007 ACTIVITIES

In an attempt to delineate the above mentioned B-8 exceedances, additional sampling was conducted during the week of August 20, 2007. Twenty-eight soil samples were collected from depths ranging from 3 ft bgs to 9 ft bgs in a radial pattern extending east of the expanded excavation with a radius of approximately 15 feet. These samples were collected with a hand auger; no additional soil was excavated. The intent of this soil sampling was to pre-delineate the horizontal and vertical extent of contamination. Several of the samples collected during the week of August 20, 2007 exceeded the DRO clean up level. Therefore, the extent of DRO contamination was not completely delineated with the information collected during the August sampling event.

## CONCLUSIONS AND REPORTING


Based on the results of the completed field activities, it is evident that additional sampling will be required to meet the objectives of the project. Trihydro proposes to step out and collect additional samples in order to delineate the DRO contamination. Future field activities are tentatively scheduled to occur during December 2007.

As requested by NMED, field activities to address the DRO exceedances discovered during the October 2006 investigation began within 90 days of Giant's receipt of a letter from NMED titled "*Approval With Direction, Railroad Rack Lagoon Overflow Ditch and Fan-Out Area, SWMU #8, Subsurface Investigation*" dated March 14, 2007. In that letter, NMED also requested the submittal of an investigation report within 90 days of the completion of the excavation. Because the extent of contamination associated with the B-8 sample location has not been delineated, the excavation has not been completed; therefore, an investigation report has not been submitted.

Trihydro will continue to verbally update Giant as field activities continue. A detailed investigation report summarizing all information obtained since the submittal of the *Railroad Rack Lagoon Overflow Ditch and Fan-Out Area, SWMU #8, Subsurface Investigation* will be submitted to NMED within 90 days of delineating the horizontal and vertical extent of the contamination associated with B-8.

If you have any questions, please feel free to contact us at (307) 745-7474.

Sincerely,  
Trihydro Corporation



Calvin Niss  
Vice President



Regina Allen  
Project Manager

697-007-001

cc: Ed Riege, Giant Refining



**Chavez, Carl J, EMNRD**

---

**From:** Monzeglio, Hope, NMENV  
**Sent:** Monday, October 01, 2007 3:06 PM  
**To:** Chavez, Carl J, EMNRD  
**Subject:** RE: NMED comments to Ciniza MW install at the NAPI

Thanks, typo.

---

**From:** Chavez, Carl J, EMNRD  
**Sent:** Monday, October 01, 2007 2:59 PM  
**To:** Monzeglio, Hope, NMENV  
**Cc:** Price, Wayne, EMNRD  
**Subject:** RE: NMED comments to Ciniza MW install at the NAPI

I think you mean land farm. Thnx.

Carl J. Chavez, CHMM  
New Mexico Energy, Minerals & Natural Resources Dept.  
Oil Conservation Division, Environmental Bureau  
1220 South St. Francis Dr., Santa Fe, New Mexico 87505  
Office: (505) 476-3491  
Fax: (505) 476-3462  
E-mail: [CarlJ.Chavez@state.nm.us](mailto:CarlJ.Chavez@state.nm.us)  
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>  
(Pollution Prevention Guidance is under "Publications")

---

**From:** Monzeglio, Hope, NMENV  
**Sent:** Monday, October 01, 2007 2:49 PM  
**To:** Chavez, Carl J, EMNRD  
**Cc:** Price, Wayne, EMNRD; Cobrain, Dave, NMENV; Frischkorn, Cheryl, NMENV  
**Subject:** RE: NMED comments to Ciniza MW install at the NAPI

Carl

Thanks, we will notify Giant that the drill cuttings can be placed in the OCD landfill.

Hope

---

**From:** Chavez, Carl J, EMNRD  
**Sent:** Monday, October 01, 2007 2:19 PM  
**To:** Monzeglio, Hope, NMENV  
**Cc:** Price, Wayne, EMNRD  
**Subject:** RE: NMED comments to Ciniza MW install at the NAPI

Hope:

Re:

**Comment 3**

In Section 2.3 (Site Survey), the Permittee discusses "Investigation Derived Waste Management" for

10/1/2007

soil but does not identify what laboratory analyses were conducted for the soil samples, nor does it address disposal of water.

The Oil Conservation Division (OCD) must approve disposal of soil in an OCD approved landfill. All wastewater generated during monitoring well installation and sampling activities must be placed in the refinery wastewater treatment system, upgradient of the NAPIS. In addition, the Permittee must also identify what analytical methods were performed on soils to determine disposal options.

Investigation-Derived Waste Management described in Appendix A of the *Work Plan for Monitoring Well Installation* states “[s]oil borings identified through field-screening procedures as containing 100 ppm or greater volatile organic compounds (VOCs) will be placed in 55-gallon drums and disposed of at a regulated disposal facility.” The use of a photo ionization detector to determine which soils are to be placed in a 55-gallon drum for disposal is not appropriate and also does not account for soils containing heavy end contaminants such as diesel range organics (DRO). In the future, field screening cannot be the only method for determining how soils will be disposed.

#### **Comment 6**

Based on the information provided in this Report, it appears the NAPIS is leaking. Shallow groundwater generally flows in a west-northwest direction at this location. The groundwater chemical analytical results obtained from monitoring well KA-1 located on the upgradient side (east) of the NAPIS, did not indicate the presence of contamination. However, the groundwater chemical analytical results from monitoring wells KA-2 and KA-3 located on the downgradient side (west) of the NAPIS indicated the presence of benzene, toluene, ethylbenzene, xylenes (BTEX), DRO and gasoline range organics (GRO). Based on the information provided in the Report and upon the installation of the replacement monitoring wells, the Permittee must implement the following:

- a. Monitor and collect groundwater samples from replacement monitoring wells for KA-1 and KA-2 within two weeks, one month, three months, and quarterly thereafter from the date of completion of well development.
- b. The initial sampling event must include laboratory analyses of groundwater samples collected from KA-1 and KA-2 replacement wells for VOCs using EPA Method 8260, semi-volatile organic compounds (SVOCs) using EPA Method 8310, GRO, DRO extended, and RCRA metals. The following sampling events must include chemical analyses of water samples for BTEX plus methyl tertbutyl ether (MTBE) using EPA Method 8021B, GRO, DRO extended, and general chemistry in accordance with item 19 of OCD's Discharge Plan. The sampling suite may be modified by NMED and in concurrence with OCD upon review of the laboratory reports.
- c. The Permittee must submit the laboratory results from each sampling event to NMED and OCD within seven business days upon receipt of the final laboratory report.
- d. According to the Permittee, the liner for the NAPIS should be installed between mid November and December 31, 2007. The Permittee must notify NMED and OCD within one week of the completion of all repair work and installation of liners at the NAPIS.

The Permittee must submit a letter confirming their intent to complete all monitoring well installation requirements. All well installation activities must be documented and may be reported in either letter or report format to include a summary of the field activities, the installation process, and well logs. This information must be submitted to NMED and OCD on or before January 31, 2008.

It would seem that NMED is welcome to handle this under RCRA if the KA wells are associated with a SWMU and

OCD would not have to be referenced. If this isn't a SWMU, or if NMED feels it should be handled under the OCD DP, OCD comments are as follows:

Comment 3:

The OCD assumes that MWs installed in locations of natural soils and sediment would not display readings of 100 ppm VOCs. Since the OCD accepts field PID readings if they follow OCD field headspace methods with calibration of instruments, etc., and the volume of soil/sediment removed is not considered to be significant, the OCD would prefer not to require full characterization of the soils/sediments from the 3 monitor wells. If drilled soils or sediments are above 100 ppm, they may simply leave soils on-site and treat them in their land farm. The volume of soil/sediment from the 3 MWs is not considered to be significant. The requirement to redirect water encountered during drilling to the treatment system is a good one if NMED feels the volume is significant to warrant it. From an OCD perspective, formation fluids from the shallow MWs, if not significant, may be poured back down the borehole or contained and redirected to the treatment system.

The OCD will concur with NMED if NMED believes that the substrate drilled during the installation of the MWs to be highly contaminated, discovery of another point source of contamination to be investigated, etc. Otherwise, OCD assumes drilling soil/sediment to be near natural soil/sediment conditions and should not undergo burdensome waste characterization testing beyond the above paragraph.

Comment 6:

It appears that some wells may need to be plugged and abandoned or screens repositioned to meet the original expectations or expectations of the OCD DP. To simplify additional requirements, you may want to simply give them the option or opportunity of resetting screen positions and/or re-drilling and installing new monitor wells to check for fluids. When complete, if fluids are encountered, they must follow the sampling guidelines of the OCD DP as stated in the OCD DP. Also, unless you feel they need to analyze soils/sediments during installation, the OCD would prefer to have them install the screens to detect ground water and not focus on sampling drilling soils/sediments on the way down.

Please contact me to discuss. Thanks.

Carl J. Chavez, CHMM  
New Mexico Energy, Minerals & Natural Resources Dept.  
Oil Conservation Division, Environmental Bureau  
1220 South St. Francis Dr., Santa Fe, New Mexico 87505  
Office: (505) 476-3491  
Fax: (505) 476-3462  
E-mail: [CarlJ.Chavez@state.nm.us](mailto:CarlJ.Chavez@state.nm.us)  
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>  
(Pollution Prevention Guidance is under "Publications")

---

**From:** Monzeglio, Hope, NMENV  
**Sent:** Thursday, September 27, 2007 9:24 AM  
**To:** Price, Wayne, EMNRD; Chavez, Carl J, EMNRD  
**Cc:** Cobrain, Dave, NMENV; Chavez, Carl J, EMNRD  
**Subject:** NMED comments to Ciniza MW install at the NAPI

Wayne and Carl

I am attaching NMED's DRAFT comments to Ciniza for their Monitoring Well Installation Report. Please review and let me know if OCD is ok with this or has any additional comments. NMED is requiring Giant to redrill all three wells, our explanation is presented in the letter. I make reference to OCD in Comment 3 and the OCD discharge plan in comment 6. I hope to have this letter out within the first two week of October. NMED will be setting up a conference call with Ed to inform him of our comments, would OCD like to be in on this call?

Thanks  
Hope

10/1/2007

Hope Monzeglio  
Environmental Specialist  
New Mexico Environment Department  
Hazardous Waste Bureau  
2905 Rodeo Park Drive East, BLDG 1  
Santa Fe NM 87505  
Phone: (505) 476-6045  
Main No.: (505)-476-6000  
Fax: (505)-476-6060  
[hope.monzeglio@state.nm.us](mailto:hope.monzeglio@state.nm.us)

**Websites:**  
**New Mexico Environment Department**  
**Hazardous Waste Bureau**

**Chavez, Carl J, EMNRD**

---

**From:** Jim Lieb [jlieb@giant.com]  
**Sent:** Friday, September 21, 2007 4:20 PM  
**To:** Chavez, Carl J, EMNRD; Price, Wayne, EMNRD; Monzeglio, Hope, NMENV; Cobrain, Dave, NMENV  
**Cc:** Ann Allen; Ed Rios; Ed Riege; Steve Morris; Bryon Holbrook; Cheryl Johnson; Joel Quinones  
**Subject:** Completed C-141 Form for Tank 701 Overfill Event on 9-16-07  
**Attachments:** FCCFeedTANK701.pdf; \_0921161805\_001.pdf

All:

Tank 701 in Giant's hot oil tank farm was mistakenly overfilled with FCC feed oil on Sunday September 16, 2007. The overfill became apparent to operating personnel at approximately 10:00 AM on September 16. The total amount estimated to have been spilled was 200 barrels (42 gallons/barrel). Because the dike drain had been left open some oil made its way outside the dike at the southwest corner of the dike. The amount estimated to have escaped the dike is 10 barrels and was contained in a depression near the dike so it did not get very far.

Giant's vac truck was immediately dispatched to commence recovery of the spilled oil from outside and then from inside the dike. The oil that escaped outside the dike was vacuumed up first. A Riley Industrial Services vac truck was also called in to recover spilled oil. Removal of the oil impacted soil began on September 17. Cleanup continues with soil being removed and placed in plastic lined containment pads in our soil staging area. We will sample the soil and decide how to handle it when results are obtained. The FCC Feed is heavy oil from which light ends have been boiled off so the soil should be essentially nil in BTEX.

We will sample the soil after all the spill impacted soil has been removed and take pictures to show all the contamination was removed satisfactorily.

I have attached the OCD Form C-141 for this release event and a diagram showing the location of the tank 701. If you have any questions, please contact Steve Morris as I will be out until Thursday next week.

Regards,

Jim Lieb  
Environmental Engineer  
Giant Industries, Inc.  
Ciniza Refinery  
I-40, Exit 39  
Jamestown, NM 87347  
(505) 722-0227  
fax (505) 722-0210  
[jlieb@giant.com](mailto:jlieb@giant.com)

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9/21/2007

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources

Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-141  
Revised October 10, 2003

Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

**Release Notification and Corrective Action**

**OPERATOR**

☒ Initial Report ☐ Final Report

Name of Company	Giant Refining – Gallup Refinery	Contact	Jim Lieb
Address	I-40, Exit 39, Jamestown NM 87347	Telephone No.	505-722-0227
Facility Name	Gallup Refinery	Facility Type	Petroleum Refinery
Surface Owner	Giant Industries, Inc.	Mineral Owner	Giant Industries, Inc.
		Lease No.	

**LOCATION OF RELEASE**

Unit Letter	Section 23 & 33	Township 15N	Range 15W	Feet from the	North/South Line	Feet from the	East/West Line	County McKinley
-------------	--------------------	-----------------	--------------	---------------	------------------	---------------	----------------	--------------------

Latitude 35°29'22" Longitude -108°25'24"

**NATURE OF RELEASE**

Type of Release	FCC Feed Oil	Volume of Release	200 barrels	Volume Recovered	190 barrels
Source of Release	Tank 701 in the Hot Oil Tank Farm	Date and Hour of Occurrence	9/16/07 at 8:00 hours	Date and Hour of Discovery	9/16/07 At 10:00 hours
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required				
By Whom?	Steve Morris	If YES, To Whom? Carl Chavez and Hope Monzeglio			
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
If YES, Volume Impacting the Watercourse.					

If a Watercourse was Impacted, Describe Fully.\* not applicable

**Describe Cause of Problem and Remedial Action Taken.\***

FCC feed was mistakenly pumped to Tank 701 despite that it was gauged as full the previous night. Hence the cause can be attributed to operator error. As soon as it was noted that the tank was overflowing, the pump feed to the tank was shut off and the Giant vac truck was dispatched to vacuum up the spilled feed. The drain valve in the containment dike surrounding Tank 701 was open but it was shut off as soon as it became apparent that oil was escaping the dike. Some feed oil escaped outside the dike before the valve was closed. The amount estimated to have escaped the dike is 10 barrels (42 gals/bbl) but contained in a depression near the dike so it did not get very far. The oil outside the dike was given immediate attention for cleanup.

**Describe Area Affected and Cleanup Action Taken.\***

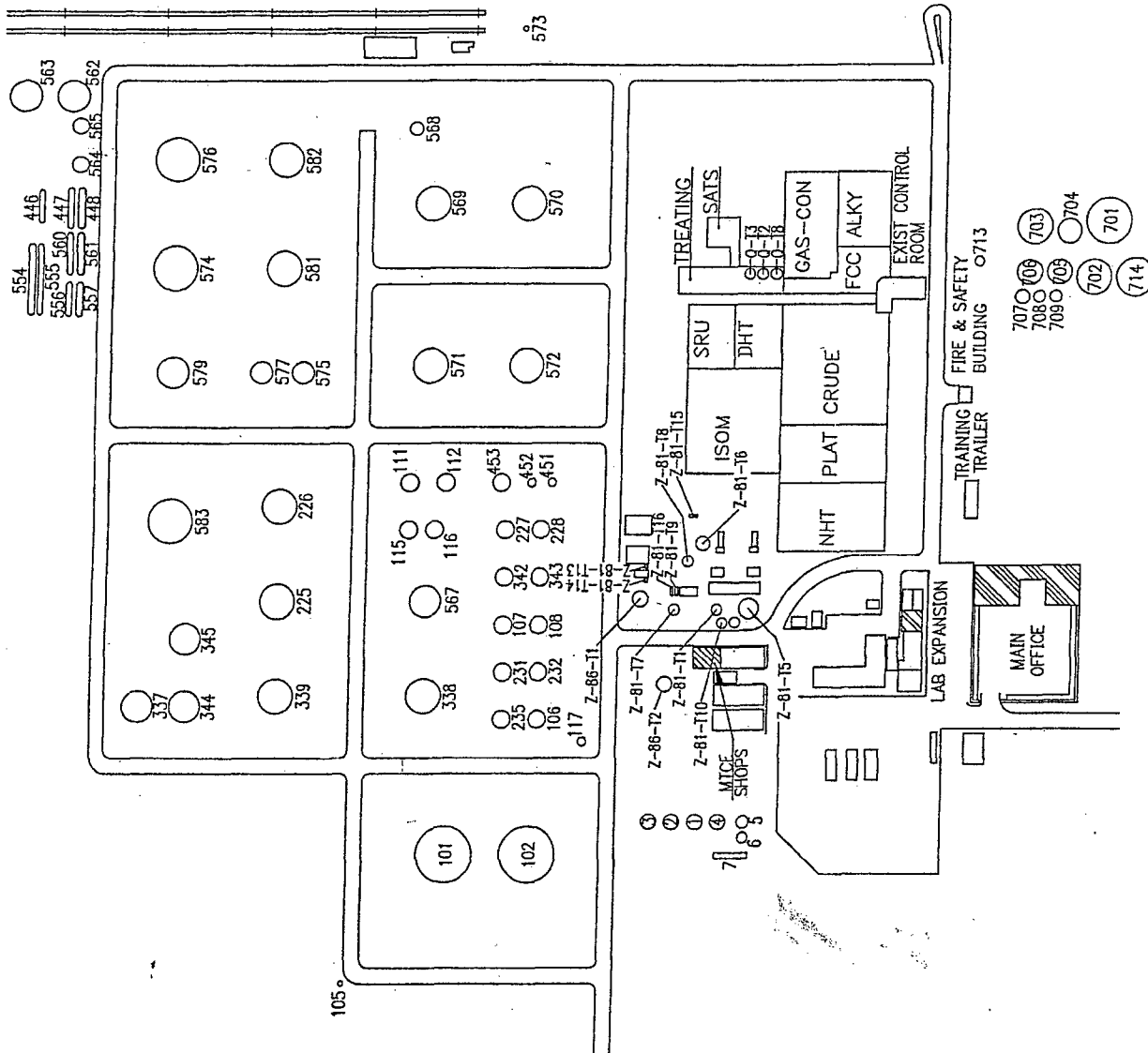
The area inside the dike surrounding Tank 701 and immediately outside the dike on the southwest side of the dike. Giant's vac truck was dispatched to begin vacuuming the spilled feed oil as soon as it became apparent the spill occurred to operating personnel. A Riley Industrial Services vac truck also began vacuuming the spilled feed oil. Oil cleanup using water rinsing of impacted areas began the next day. The recovered oil/water mixture was put in a frac tank for metering into the NAPIS for recovery of oil. Removal of the oil impacted soil from outside and inside the dike began the morning of 9-17-07. The oil impacted soil has been placed in plastic lined bermed pads in the soil staging area. Approximately 500 barrels of oily water mixture resulted from the cleanup.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

**OIL CONSERVATION DIVISION**

Signature:	Approved by District Supervisor:		
Printed Name: Ed Rios			
Title: General Manager	Approval Date:	Expiration Date:	
E-mail Address: erios@giant.com	Conditions of Approval:		Attached <input type="checkbox"/>
Date: September 19, 2007 Phone: 505-722-0202			

\* Attach Additional Sheets If Necessary



CONTRACTOR:

ONZA  
REFINERY

**GIANT**  
REFINING CO.  
A DIVISION OF GIANT INDUSTRIES

GALLUP  
NEW MEXICO

GIANT REFINERY  
TANK FARM PLAN

DRN. BY: CLM	DATE: 10/03/02	REV. NO.:
CHKD. BY: --	DATE: --	SCALE: NTS
APPD. BY: --	DATE: --	DO REF.:
WELD. SPEC.:	DATE: --	PAINT: --
GRADING NO.		

REV  
0

Z-01-100

## Chavez, Carl J, EMNRD

---

**From:** Jim Lieb [jlieb@giant.com]  
**Sent:** Monday, September 17, 2007 11:59 AM  
**To:** Monzeglio, Hope, NMENV  
**Cc:** Chavez, Carl J, EMNRD; Powell, Brandon, EMNRD; Cobrain, Dave, NMENV; Ed Riege; Ed Rios; Ann Allen; Stan Fisher; Frank Deller; Steve Morris; Bryon Holbrook; Cheryl Johnson  
**Subject:** RE: Completed OCD Form C-141 for Giant Refining Gallup Refinery Fire on 9-12-07

Hope

The dates in the "date and Hour of Occurrence", "Date and Hour of Discovery" and "If YES to Whom?" should be 9/12/07.

Jim

---

**From:** Monzeglio, Hope, NMENV [mailto:hope.monzeglio@state.nm.us]  
**Sent:** Monday, September 17, 2007 8:56 AM  
**To:** Jim Lieb; Chavez, Carl J, EMNRD; Powell, Brandon, EMNRD; Cobrain, Dave, NMENV  
**Cc:** Ed Rios; Ed Riege; Ann Allen; Stan Fisher; Frank Deller; Steve Morris; Bryon Holbrook; Cheryl Johnson  
**Subject:** RE: Completed OCD Form C-141 for Giant Refining Gallup Refinery Fire on 9-12-07

Jim

Is the date of occurrence and discovery correct on the C-141 form?

Hope

---

**From:** Jim Lieb [mailto:jlieb@giant.com]  
**Sent:** Friday, September 14, 2007 12:56 PM  
**To:** Chavez, Carl J, EMNRD; Monzeglio, Hope, NMENV; Powell, Brandon, EMNRD; Cobrain, Dave, NMENV  
**Cc:** Ed Rios; Ed Riege; Ann Allen; Stan Fisher; Frank Deller; Steve Morris; Bryon Holbrook; Cheryl Johnson  
**Subject:** Completed OCD Form C-141 for Giant Refining Gallup Refinery Fire on 9-12-07

All:

On Wednesday September 12, 2007 at 5:27 PM, the Gallup Refinery experienced a fire in the FFC (Catalytic cracking) Unit. The fire was a result of a hole that opened up in the riser section of the unit. Steve Morris made a verbal report by telephone to OCD that same night. The fire lasted for approximately 5 minutes. The fire was extinguished using water from the water monitor near the unit. Well water was used (no pond water) to extinguish the fire. The amount of water used to extinguish the fire was approximately 7,000 gallons. The water entered the refinery's process and storm sewers and was captured by the API separators. No oil was spilled as a result of the fire. Some water overspray hit the soil outside the unit and was absorbed by the ground. No one was injured during the event.

If you have any questions, please let me know.

Regards,  
Jim Lieb

Environmental Engineer

9/18/2007



Wetern Refining, Inc.  
Gallup Refinery  
I-40, Exit 39  
Jamestown, NM 87347  
(505) 722-0227  
fax (505) 722-0210  
[jlieb@giant.com](mailto:jlieb@giant.com)

---

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9/18/2007

## Chavez, Carl J, EMNRD

---

**From:** Monzeglio, Hope, NMENV  
**Sent:** Monday, September 17, 2007 8:56 AM  
**To:** Jim Lieb; Chavez, Carl J, EMNRD; Powell, Brandon, EMNRD; Cobrain, Dave, NMENV  
**Cc:** Ed Rios; Ed Riege; Ann Allen; Stan Fisher; Frank Deller; Steve Morris; Bryon Holbrook; Cheryl Johnson  
**Subject:** RE: Completed OCD Form C-141 for Giant Refining Gallup Refinery Fire on 9-12-07

Jim

Is the date of occurrence and discovery correct on the C-141 form?

Hope

---

**From:** Jim Lieb [mailto:[jlieb@giant.com](mailto:jlieb@giant.com)]  
**Sent:** Friday, September 14, 2007 12:56 PM  
**To:** Chavez, Carl J, EMNRD; Monzeglio, Hope, NMENV; Powell, Brandon, EMNRD; Cobrain, Dave, NMENV  
**Cc:** Ed Rios; Ed Riege; Ann Allen; Stan Fisher; Frank Deller; Steve Morris; Bryon Holbrook; Cheryl Johnson  
**Subject:** Completed OCD Form C-141 for Giant Refining Gallup Refinery Fire on 9-12-07

All:

On Wednesday September 12, 2007 at 5:27 PM, the Gallup Refinery experienced a fire in the FFC (Catalytic cracking) Unit. The fire was a result of a hole that opened up in the riser section of the unit. Steve Morris made a verbal report by telephone to OCD that same night. The fire lasted for approximately 5 minutes. The fire was extinguished using water from the water monitor near the unit. Well water was used (no pond water) to extinguish the fire. The amount of water used to extinguish the fire was approximately 7,000 gallons. The water entered the refinery's process and storm sewers and was captured by the API separators. No oil was spilled as a result of the fire. Some water overspray hit the soil outside the unit and was absorbed by the ground. No one was injured during the event.

If you have any questions, please let me know.

Regards,  
Jim Lieb

Environmental Engineer  
Western Refining, Inc.  
Gallup Refinery  
I-40, Exit 39  
Jamestown, NM 87347  
(505) 722-0227  
fax (505) 722-0210  
[jlieb@giant.com](mailto:jlieb@giant.com)

---

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9/18/2007

**Chavez, Carl J, EMNRD**


---

**From:** Ed Rios [erios@giant.com]  
**Sent:** Friday, September 14, 2007 2:31 PM  
**To:** Chavez, Carl J, EMNRD; Jim Lieb; Monzeglio, Hope, NMENV; Powell, Brandon, EMNRD; Cobrain, Dave, NMENV  
**Cc:** Ed Riege; Ann Allen; Stan Fisher; Frank Deller; Steve Morris; Bryon Holbrook; Cheryl Johnson  
**Subject:** RE: Completed OCD Form C-141 for Giant Refining Gallup Refinery Fire on 9-12-07

Carl,

There were no injuries, first aids, or illnesses as a result of the response to the fire.

---

**From:** Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]  
**Sent:** Friday, September 14, 2007 2:24 PM  
**To:** Jim Lieb; Monzeglio, Hope, NMENV; Powell, Brandon, EMNRD; Cobrain, Dave, NMENV  
**Cc:** Ed Rios; Ed Riege; Ann Allen; Stan Fisher; Frank Deller; Steve Morris; Bryon Holbrook; Cheryl Johnson  
**Subject:** RE: Completed OCD Form C-141 for Giant Refining Gallup Refinery Fire on 9-12-07

Jim:

Hi. Was anyone injured by the fire? Thanks.

Carl J. Chavez, CHMM  
 New Mexico Energy, Minerals & Natural Resources Dept.  
 Oil Conservation Division, Environmental Bureau  
 1220 South St. Francis Dr., Santa Fe, New Mexico 87505  
 Office: (505) 476-3491  
 Fax: (505) 476-3462  
 E-mail: [CarlJ.Chavez@state.nm.us](mailto:CarlJ.Chavez@state.nm.us)  
 Website: <http://www.emnrd.state.nm.us/ocd/index.htm>  
 (Pollution Prevention Guidance is under "Publications")

---

**From:** Jim Lieb [mailto:jlieb@giant.com]  
**Sent:** Friday, September 14, 2007 12:56 PM  
**To:** Chavez, Carl J, EMNRD; Monzeglio, Hope, NMENV; Powell, Brandon, EMNRD; Cobrain, Dave, NMENV  
**Cc:** Ed Rios; Ed Riege; Ann Allen; Stan Fisher; Frank Deller; Steve Morris; Bryon Holbrook; Cheryl Johnson  
**Subject:** Completed OCD Form C-141 for Giant Refining Gallup Refinery Fire on 9-12-07

All:

On Wednesday September 12, 2007 at 5:27 PM, the Gallup Refinery experienced a fire in the FFC (Catalytic cracking) Unit. The fire was a result of a hole that opened up in the riser section of the unit. Steve Morris made a verbal report by telephone to OCD that same night. The fire lasted for approximately 5 minutes. The fire was extinguished using water from the water monitor near the unit. Well water was used (no pond water) to extinguish the fire. The amount of water used to extinguish the fire was approximately 7,000 gallons. The water entered the refinery's process and storm sewers and was captured by the API separators. No oil was spilled as a result of the fire. Some water overspray hit the soil outside the unit and was absorbed by the ground. No one was injured during the event.

If you have any questions, please let me know.

9/14/2007

Regards,  
Jim Lieb

Environmental Engineer  
Western Refining, Inc.  
Gallup Refinery  
I-40, Exit 39  
Jamestown, NM 87347  
(505) 722-0227  
fax (505) 722-0210  
[jl Lieb@giant.com](mailto:jl Lieb@giant.com)

---

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9/14/2007

## Chavez, Carl J, EMNRD

---

**From:** Jim Lieb [jlieb@giant.com]  
**Sent:** Friday, September 14, 2007 12:56 PM  
**To:** Chavez, Carl J, EMNRD; Monzeglio, Hope, NMENV; Powell, Brandon, EMNRD; Cobrain, Dave, NMENV  
**Cc:** Ed Rios; Ed Riege; Ann Allen; Stan Fisher; Frank Deller; Steve Morris; Bryon Holbrook; Cheryl Johnson  
**Subject:** Completed OCD Form C-141 for Giant Refining Gallup Refinery Fire on 9-12-07  
**Attachments:** FCCU Fire9-12-07SIGNED.pdf

All:

On Wednesday September 12, 2007 at 5:27 PM, the Gallup Refinery experienced a fire in the FFC (Catalytic cracking) Unit. The fire was a result of a hole that opened up in the riser section of the unit. Steve Morris made a verbal report by telephone to OCD that same night. The fire lasted for approximately 5 minutes. The fire was extinguished using water from the water monitor near the unit. Well water was used (no pond water) to extinguish the fire. The amount of water used to extinguish the fire was approximately 7,000 gallons. The water entered the refinery's process and storm sewers and was captured by the API separators. No oil was spilled as a result of the fire. Some water overspray hit the soil outside the unit and was absorbed by the ground. No one was injured during the event.

If you have any questions, please let me know.

Regards,  
Jim Lieb

Environmental Engineer  
Western Refining, Inc.  
Gallup Refinery  
I-40, Exit 39  
Jamestown, NM 87347  
(505) 722-0227  
fax (505) 722-0210  
[jlieb@giant.com](mailto:jlieb@giant.com)

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9/14/2007

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources

Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-141  
Revised October 10, 2003

Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

**Release Notification and Corrective Action**

**OPERATOR**

☒ Initial Report ☐ Final Report

Name of Company	Giant Refining – Gallup Refinery	Contact	Jim Lieb
Address I-40, Exit 39, Jamestown NM 87347		Telephone No.	505-722-0227
Facility Name	Gallup Refinery	Facility Type	Petroleum Refinery
Surface Owner	Giant Industries, Inc.	Mineral Owner	Giant Industries, Inc.
		Lease No.	

**LOCATION OF RELEASE**

Unit Letter	Section 23 & 33	Township 15N	Range 15W	Feet from the	North/South Line	Feet from the	East/West Line	County McKinley
-------------	--------------------	-----------------	--------------	---------------	------------------	---------------	----------------	--------------------

Latitude 35°29'22" Longitude 108°25'24"

**NATURE OF RELEASE**

Type of Release	smoke from fire, fire monitor water, catalyst	Volume of Release	7,000 gallons fire monitor water (estimated based on 700 gpm for 10 minutes)	Volume Recovered	most water entered sewers and went to the APIs -- 100 gallons soaked into ground
Source of Release	Riser of the FCCU	Date and Hour of Occurrence	7/12/07 17:27 hours	Date and Hour of Discovery	7/12/07 17:27 hours
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Carl Chavez at 6:42 PM on 7-12-07			
By Whom?	Steve Morris	Date and Hour			
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.\* not applicable

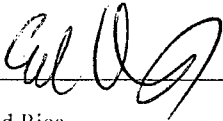
**Describe Cause of Problem and Remedial Action Taken.\***

A hole developed in the riser of the FCCU at 17:27 hours. Visible emission consisting of catalyst coming from the leak for approximately 56 minutes. A fire developed at the leak and lasted for approximately 5 minutes. Fire monitor water was used to extinguish the riser fire. Unit was shut down and isolated.

**Describe Area Affected and Cleanup Action Taken.\***

Fire affected only the riser of the FCCU. No cleanup was necessary because no oil was spilled. Catalyst dissipated in the air by winds.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: 	<b>OIL CONSERVATION DIVISION</b>		
Printed Name: Ed Rios	Approved by District Supervisor:		
Title: General Manager	Approval Date:	Expiration Date:	
E-mail Address: erios@giant.com	Conditions of Approval:		Attached <input type="checkbox"/>
Date: September 12, 2007 Phone: 505-722-0202			

Attach Additional Sheets If Necessary

## Chavez, Carl J, EMNRD

---

**From:** Monzeglio, Hope, NMENV  
**Sent:** Thursday, September 13, 2007 4:44 PM  
**To:** Chavez, Carl J, EMNRD; Price, Wayne, EMNRD  
**Cc:** Cobrain, Dave, NMENV; Frischkorn, Cheryl, NMENV  
**Subject:** FW: depth to water measurements needed

Wayne and Carl

Below is my email sent to Giant earlier in the week. This should help explain the email you were just cc on. I will have my comments on the "Monitoring Well Installation Report" to you soon, to make sure you concur. That should make things more clear. Let me know if you have any questions.

Hope

---

**From:** Monzeglio, Hope, NMENV  
**Sent:** Tuesday, September 11, 2007 8:05 AM  
**To:** 'Ed Riege'  
**Cc:** Cobrain, Dave, NMENV  
**Subject:** depth to water measurements needed

Ed

This week, could you collect depth to water measurements in the NAPIS wells 1, 2, 3 (in the MW installation report labeled as KA-1, 2 and 3) and in GWM-1. Then email me the measurements for each well?

Thanks

Hope

Hope Monzeglio  
Environmental Specialist  
New Mexico Environment Department  
Hazardous Waste Bureau  
2905 Rodeo Park Drive East, BLDG 1  
Santa Fe NM 87505  
Phone: (505) 476-6045  
Main No.: (505)-476-6000  
Fax: (505)-476-6030  
[hope.monzeglio@state.nm.us](mailto:hope.monzeglio@state.nm.us)

**Websites:**  
**New Mexico Environment Department**  
**Hazardous Waste Bureau**

Please note the new phone numbers

9/14/2007

**Chavez, Carl J, EMNRD**

---

**From:** Monzeglio, Hope, NMENV  
**Sent:** Thursday, September 13, 2007 4:36 PM  
**To:** Jim Lieb; Cheryl Johnson  
**Cc:** Ed Riege; Steve Morris; Bryon Holbrook; Cobrain, Dave, NMENV; Frischkorn, Cheryl, NMENV; Chavez, Carl J, EMNRD; Price, Wayne, EMNRD  
**Subject:** RE: 3 new wells at NAPIS

Jim

When you do your quarterly sampling, if water is still present in the wells Giant will need to sample according to footnote 9 of number 19 in the OCD Discharge Plan, so yes on a quarterly basis. OCD and NMED will discuss upon review of the results if this can be modified at a later point in time. As of now follow what is in the discharge plan. We all now know that water is present. NMED was expecting water in the two shallow wells but not in the deep well. Let me know if you have questions.

Hope

---

**From:** Jim Lieb [mailto:jl Lieb@giant.com]  
**Sent:** Thursday, September 13, 2007 3:19 PM  
**To:** Cheryl Johnson  
**Cc:** Monzeglio, Hope, NMENV; Ed Riege; Steve Morris; Bryon Holbrook  
**Subject:** RE: 3 new wells at NAPIS

Cheryl-The new OCD permit requires quarterly monitoring for presence of water. As of now it just requires monitoring for water presence but since it looks as though water will be found in these wells from here on in we may also need to do analysis also. We'll need to hear from NMED what their preference is.

Hope: Do you want us to include analysis (BTEX, MTBE, GRO DRO extended and general chemistry) each quarter or less frequency for these 3 new wells at the NAPIS?

Jl Lieb

---

**From:** Cheryl Johnson  
**Sent:** Thursday, September 13, 2007 1:58 PM  
**To:** Jim Lieb  
**Subject:** 3 new wells at NAPIS

Jim, do you the depth of the wells on these? An actual drawing would be nice. Also am I suppose to be checking these on a weekly, monthly, quarterly basis? cj

---

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9/14/2007



## Chavez, Carl J, EMNRD

---

**From:** Chavez, Carl J, EMNRD  
**Sent:** Friday, August 31, 2007 9:03 AM  
**To:** Monzeglio, Hope, NMENV; Price, Wayne, EMNRD  
**Cc:** Cobrain, Dave, NMENV; Frischkorn, Cheryl, NMENV  
**Subject:** RE: Ciniza

Ok. Thanks.

Carl J. Chavez, CHMM  
New Mexico Energy, Minerals & Natural Resources Dept.  
Oil Conservation Division, Environmental Bureau  
1220 South St. Francis Dr., Santa Fe, New Mexico 87505  
Office: (505) 476-3491  
Fax: (505) 476-3462  
E-mail: [CarlJ.Chavez@state.nm.us](mailto:CarlJ.Chavez@state.nm.us)  
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>  
(Pollution Prevention Guidance is under "Publications")

---

**From:** Monzeglio, Hope, NMENV  
**Sent:** Friday, August 31, 2007 9:04 AM  
**To:** Chavez, Carl J, EMNRD; Price, Wayne, EMNRD  
**Cc:** Cobrain, Dave, NMENV; Frischkorn, Cheryl, NMENV  
**Subject:** Ciniza

Wayne and Carl

I have looked over the *Monitoring Well Installation Report* at Ciniza for the wells at the NAPIS. It appears the NAPIS is leaking and they have not installed a well correctly. I am drafting up comments and will pass them onto you for review before they go out. I called Jim to double check when the liners would be going in, this is still on schedule for mid November, Dec 31 at the latest. Let me know if you have any questions.

Hope

Hope Monzeglio  
Environmental Specialist  
New Mexico Environment Department  
Hazardous Waste Bureau  
2905 Rodeo Park Drive East, BLDG 1  
Santa Fe NM 87505  
Phone: (505) 476-6045  
Main No.: (505)-476-6000  
Fax: (505)-476-6030  
[hope.monzeglio@state.nm.us](mailto:hope.monzeglio@state.nm.us)

**Websites:**  
**New Mexico Environment Department**  
**Hazardous Waste Bureau**

Please note the new phone numbers

8/31/2007

**Chavez, Carl J, EMNRD**

---

**From:** Jim Lieb [jlieb@giant.com]  
**Sent:** Thursday, August 23, 2007 10:19 AM  
**To:** Chavez, Carl J, EMNRD  
**Cc:** Monzeglio, Hope, NMENV; Powell, Brandon, EMNRD; Cobrain, Dave, NMENV; Ed Rios; Ed Riege; Mickey D'Souza; Steve Morris; Cheryl Johnson; Don Riley; William Chojnacky; Joel Quinones; Loren Pritzel; Ann Allen  
**Subject:** RE: Diesel oil Release at Tank 583 on 8-21-07, email followup to verbal notification  
**Importance:** High

Carl:

We will obtain discrete samples in the area of release. We do not believe that the oil release extends under Tank 583 because the tank is equipped with a primary plastic liner which was installed under the tank floor in 1997.

The tank was recently taken out of service for a routine API 653 internal and external inspection. On completion of our visual and intensive non-destructive testing methods that included: settlement of tank, ultrasonic thickness survey of shell, roof, floor and all nozzles, 100% vacuum box testing of all floor welds, wet florescent magnetic particle testing on all vertical weld seams and nozzle connection welds and 18" on all three sides of 'T' junctions of the first course shell, MFE testing of the floor plates, diesel-overnight testing of corner/chime weld. All weld repairs were performed by qualified welders/specification and procedures meeting and exceeding API-653 requirements.

The cause of the failure of the floor is unknown at this time. We have emptied the tank; thereafter we will open, gas free, prepare for entry for confined space, clean the entire floor and investigate the leak visually/ with the help of various non destructive testing methods. Once the source of the leak is detected a root cause failure analysis will be performed by a third party metallurgical laboratory. All repairs will then be performed to API-653 and Good Engineering Standards used by the Industry.

I may have misstated in my previous email that the tank was reconstructed because in discussing the tank with our Inspection Department no major repairs were performed on Tank 583. We did however remove the internal floating roof from this tank, but that would in no way effect the mechanical integrity. We visually saw the leaks from the concrete ring wall below the tank and situated above the liner and noticed that the diesel was clean with no signs of soil/sand contamination. A sample of the product will be sent to an independent fuels laboratory in Albuquerque for purity analysis which we believe will show no contact with soils beneath the tank. This should show that the primary liner under the tank is in good condition and has prevented soil impacts beneath the tank.

We will take pictures of excavated areas and analyze soil samples for BTEX, DRO extended and GRO. We will also provide you with the reason for the tank failure after we have completed the root cause analysis.

If you have any questions, please contact me.

Regards,  
Jim Lieb  
Environmental Engineer  
Western (Giant) Refining, Inc.  
Gallup Refinery  
I-40, Exit 39  
Jamestown, NM 87347  
(505) 722-0227  
fax (505) 722-0210

8/23/2007

[jlieb@giant.com](mailto:jlieb@giant.com)

---

**From:** Chavez, Carl J, EMNRD [<mailto:CarlJ.Chavez@state.nm.us>]  
**Sent:** Tuesday, August 21, 2007 4:13 PM  
**To:** Jim Lieb; Monzeglio, Hope, NMENV; Powell, Brandon, EMNRD; Cobrain, Dave, NMENV; Price, Wayne, EMNRD  
**Cc:** Ed Rios; Ed Riege; Steve Morris; Cheryl Johnson; Don Riley; William Chojnacky; Joel Quinones; Mickey D'Souza; Loren Pritzel; Ann Allen  
**Subject:** RE: Diesel oil Release at Tank 583 on 8-21-07, email followup to verbal notification

Jim:

The OCD requires discrete sampling to verify that diesel fuel impacted soils were cleaned up at depth below the reconstructed tank and within the bermed area. See OCD spill cleanup guidelines at [http://www.emnrd.state.nm.us/oed/documents/7C\\_spill1.pdf](http://www.emnrd.state.nm.us/oed/documents/7C_spill1.pdf).

Provide photos of the base of the excavation and confirmation samples from the base of the excavation analyzing for BTEX, DRO extended and GRO. A description of the Tank 583 reconstruction, the problem with the reconstructed tank resulting in the release and what Giant will do to fix the tank problem would be appreciated. Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM  
New Mexico Energy, Minerals & Natural Resources Dept.  
Oil Conservation Division, Environmental Bureau  
1220 South St. Francis Dr., Santa Fe, New Mexico 87505  
Office: (505) 476-3491  
Fax: (505) 476-3462  
E-mail: [CarlJ.Chavez@state.nm.us](mailto:CarlJ.Chavez@state.nm.us)  
Website: <http://www.emnrd.state.nm.us/oed/index.htm>  
(Pollution Prevention Guidance is under "Publications")

---

**From:** Jim Lieb [<mailto:jlieb@giant.com>]  
**Sent:** Tuesday, August 21, 2007 3:03 PM  
**To:** Monzeglio, Hope, NMENV; Chavez, Carl J, EMNRD; Powell, Brandon, EMNRD; Cobrain, Dave, NMENV  
**Cc:** Ed Rios; Ed Riege; Steve Morris; Cheryl Johnson; Don Riley; William Chojnacky; Joel Quinones; Mickey D'Souza; Loren Pritzel; Ann Allen  
**Subject:** Diesel oil Release at Tank 583 on 8-21-07, email followup to verbal notification

Carl, Hope, and Brandon:

We experienced a release of diesel oil from Tank 583 early this morning (2 AM). Tank 583 was reconstructed and was being put back into service when the release occurred. The tank was being filled with the diesel oil when it was observed that diesel oil was leaking from the base of the tank. The filling operation was immediately stopped. The tank has been filled partially with water to float remaining oil above the bottom.

We estimate that 450 gallons of diesel oil was released. It was all contained inside the dike/berm surrounding the tank with no release to outside property or sensitive environmental areas. A vacuum truck was dispatched to the tank to vac up the free liquid. We estimate that as of this morning 220 gallons were recovered and an additional 100 gallons this afternoon. I just got back from the tank - the vac truck was still down there vacuuming up the remaining liquid.

There is some soil impact inside the berm near the tank. We will remove the soil and take it over to our soil staging area. It will be placed on plastic sheeting in a bermed area set up for it. We will sample it for analysis and decide how to handle it when results are obtained.

8/23/2007

I have attached the OCD Form C-141 for this release. If you have any questions, please contact me at below.

Regards,  
Jim Lieb  
Environmental Engineer  
Western (Giant) Refining, Inc.  
Gallup Refinery  
I-40, Exit 39  
Jamestown, NM 87347  
(505) 722-0227  
fax (505) 722-0210  
[jl Lieb@giant.com](mailto:jl Lieb@giant.com)

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8/23/2007

**Chavez, Carl J, EMNRD**

---

**From:** Chavez, Carl J, EMNRD  
**Sent:** Tuesday, August 21, 2007 4:13 PM  
**To:** 'Jim Lieb'; Monzeglio, Hope, NMENV; Powell, Brandon, EMNRD; Cobrain, Dave, NMENV; Price, Wayne, EMNRD  
**Cc:** Ed Rios; Ed Riege; Steve Morris; Cheryl Johnson; Don Riley; William Chojnacky; Joel Quinones; Mickey D'Souza; Loren Pritzel; Ann Allen  
**Subject:** RE: Diesel oil Release at Tank 583 on 8-21-07, email followup to verbal notification

Jim:

The OCD requires discrete sampling to verify that diesel fuel impacted soils were cleaned up at depth below the reconstructed tank and within the bermed area. See OCD spill cleanup guidelines at [http://www.emnrd.state.nm.us/oed/documents/7C\\_spill1.pdf](http://www.emnrd.state.nm.us/oed/documents/7C_spill1.pdf).

Provide photos of the base of the excavation and confirmation samples from the base of the excavation analyzing for BTEX, DRO extended and GRO. A description of the Tank 583 reconstruction, the problem with the reconstructed tank resulting in the release and what Giant will do to fix the tank problem would be appreciated. Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM  
 New Mexico Energy, Minerals & Natural Resources Dept.  
 Oil Conservation Division, Environmental Bureau  
 1220 South St. Francis Dr., Santa Fe, New Mexico 87505  
 Office: (505) 476-3491  
 Fax: (505) 476-3462  
 E-mail: [CarlJ.Chavez@state.nm.us](mailto:CarlJ.Chavez@state.nm.us)  
 Website: <http://www.emnrd.state.nm.us/oed/index.htm>  
 (Pollution Prevention Guidance is under "Publications")

---

**From:** Jim Lieb [<mailto:jlieb@giant.com>]  
**Sent:** Tuesday, August 21, 2007 3:03 PM  
**To:** Monzeglio, Hope, NMENV; Chavez, Carl J, EMNRD; Powell, Brandon, EMNRD; Cobrain, Dave, NMENV  
**Cc:** Ed Rios; Ed Riege; Steve Morris; Cheryl Johnson; Don Riley; William Chojnacky; Joel Quinones; Mickey D'Souza; Loren Pritzel; Ann Allen  
**Subject:** Diesel oil Release at Tank 583 on 8-21-07, email followup to verbal notification

Carl, Hope, and Brandon:

We experienced a release of diesel oil from Tank 583 early this morning (2 AM). Tank 583 was reconstructed and was being put back into service when the release occurred. The tank was being filled with the diesel oil when it was observed that diesel oil was leaking from the base of the tank. The filling operation was immediately stopped. The tank has been filled partially with water to float remaining oil above the bottom.

We estimate that 450 gallons of diesel oil was released. It was all contained inside the dike/berm surrounding the tank with no release to outside property or sensitive environmental areas. A vacuum truck was dispatched to the tank to vac up the free liquid. We estimate that as of this morning 220 gallons were recovered and an additional 100 gallons this afternoon. I just got back from the tank - the vac truck was still down there vacuuming up the remaining liquid.

There is some soil impact inside the berm near the tank. We will remove the soil and take it over to our soil staging area. It will be placed on plastic sheeting in a bermed area set up for it. We will sample it for analysis

8/21/2007

and decide how to handle it when results are obtained.

I have attached the OCD Form C-141 for this release. If you have any questions, please contact me at below.

Regards,  
Jim Lieb  
Environmental Engineer  
Western (Giant) Refining, Inc.  
Gallup Refinery  
I-40, Exit 39  
Jamestown, NM 87347  
(505) 722-0227  
fax (505) 722-0210  
[jl Lieb@giant.com](mailto:jl Lieb@giant.com)

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8/21/2007

**Chavez, Carl J, EMNRD**

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**From:** Jim Lieb [jlieb@giant.com]  
**Sent:** Tuesday, August 21, 2007 3:03 PM  
**To:** Monzeglio, Hope, NMENV; Chavez, Carl J, EMNRD; Powell, Brandon, EMNRD; Cobrain, Dave, NMENV  
**Cc:** Ed Rios; Ed Riege; Steve Morris; Cheryl Johnson; Don Riley; William Chojnacky; Joel Quinones; Mickey D'Souza; Loren Pritzel; Ann Allen  
**Subject:** Diesel oil Release at Tank 583 on 8-21-07, email followup to verbal notification  
**Attachments:** Tank583DieselSpill8-21-07.pdf

Carl, Hope, and Brandon:

We experienced a release of diesel oil from Tank 583 early this morning (2 AM). Tank 583 was reconstructed and was being put back into service when the release occurred. The tank was being filled with the diesel oil when it was observed that diesel oil was leaking from the base of the tank. The filling operation was immediately stopped. The tank has been filled partially with water to float remaining oil above the bottom.

We estimate that 450 gallons of diesel oil was released. It was all contained inside the dike/berm surrounding the tank with no release to outside property or sensitive environmental areas. A vacuum truck was dispatched to the tank to vac up the free liquid. We estimate that as of this morning 220 gallons were recovered and an additional 100 gallons this afternoon. I just got back from the tank - the vac truck was still down there vacuuming up the remaining liquid.

There is some soil impact inside the berm near the tank. We will remove the soil and take it over to our soil staging area. It will be placed on plastic sheeting in a bermed area set up for it. We will sample it for analysis and decide how to handle it when results are obtained.

I have attached the OCD Form C-141 for this release. If you have any questions, please contact me at below.

Regards,  
Jim Lieb  
Environmental Engineer  
Western (Giant) Refining, Inc.  
Gallup Refinery  
I-40, Exit 39  
Jamestown, NM 87347  
(505) 722-0227  
fax (505) 722-0210  
[jlieb@giant.com](mailto:jlieb@giant.com)

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8/21/2007

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources

Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-141  
Revised October 10, 2003

Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

**Release Notification and Corrective Action**

**OPERATOR**

☒ Initial Report ☐ Final Report

Name of Company Western (Giant) Refining: Gallup Refinery	Contact Jim Lieb
Address I-40, Exit 39, Jamestown NM 87347	Telephone No. 505-722-0227
Facility Name: Gallup Refinery	Facility Type Oil refinery

Surface Owner Giant Industries, Inc.	Mineral Owner Giant Industries, Inc.	Lease No.
--------------------------------------	--------------------------------------	-----------

**LOCATION OF RELEASE**

Unit Letter	Section 23 & 33	Township 15N	Range 15W	Feet from the	North/South Line	Feet from the	East/West Line	County McKinley
-------------	--------------------	-----------------	--------------	---------------	------------------	---------------	----------------	--------------------

Latitude 35°29'30" Longitude -108°24'40"

**NATURE OF RELEASE**

Type of Release Diesel oil	Volume of Release 450 gallons	Volume Recovered 220 gallons + 100 gallons
Source of Release Storage Tank 583	Date and Hour of Occurrence 8/21/07 0200 hours	Date and Hour of Discovery 8/21/07 0200 hours
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? OCD- Carl Chavez NMED - Hope Monzeglio	
By Whom? Jim Lieb, within 24 hours of spill	Date and Hour 8/21/07 at 1420 hours	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	
If a Watercourse was Impacted, Describe Fully.*		

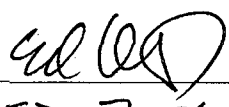
**Describe Cause of Problem and Remedial Action Taken.\***

Tank 583 was reconstructed and being put back into service. The tank was being filled with diesel oil when it was observed to be leaking from the bottom. The filling was immediately stopped when the oil was observed leaking onto the ground.

**Describe Area Affected and Cleanup Action Taken.\***

The release is contained inside the berm around Tank 583. None of the spill impacted surface waters. The spilled material is being vacuumed up into a vac truck and the spilled material is being put back into refinery process system. Oil impacted soils will be removed and placed on plastic in a bermed area in the soil staging area for disposition.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: 		<b>OIL CONSERVATION DIVISION</b>	
Printed Name: ED Brios		Approved by District Supervisor:	
Title: General Manager		Approval Date:	Expiration Date:
E-mail Address: erios@giant.com		Conditions of Approval:	Attached <input type="checkbox"/>
Date: August 21, 2007 Phone: (505) 722-0202			

Attach Additional Sheets If Necessary



## Chavez, Carl J, EMNRD

---

**From:** Monzeglio, Hope, NMENV  
**Sent:** Monday, August 20, 2007 12:33 PM  
**To:** Chavez, Carl J, EMNRD  
**Cc:** Price, Wayne, EMNRD; Frischkorn, Cheryl, NMENV; Cobrain, Dave, NMENV  
**Subject:** RE: Ciniza Draft DP

Carl

16) Page 6, the table first row, column 2 under "Sampling Frequency" you have a superscript 2 by quarterly. What is the 2 representing?

16 E) You will want to reference RCRA 264.221(b)

19) In the Table for OW-11, you can remove the analysis for BTEX as they are sampling for VOCs.  
Please add "DRO extended" for the analysis by "Effluent from Pilot Gas Station to the Aeration Lagoon" and "Effluent from the new API separator"

Let me know if you have any questions.

Hope

---

**From:** Chavez, Carl J, EMNRD  
**Sent:** Friday, August 17, 2007 3:56 PM  
**To:** Monzeglio, Hope, NMENV; Cobrain, Dave, NMENV  
**Cc:** Price, Wayne, EMNRD  
**Subject:** Ciniza Draft DP

Hope and Dave:

Could you please review the draft DP. Wayne and I are still working on the pond sampling requirements and will hopefully finalize the Item 19 table on Tuesday when we return to the office. Hopefully, we'll have your final comments so we may send it to Giant Ciniza and give them a day to reply. Thereafter, the OCD will issue the final DP permit. Thanks in advance for all your hard work! ☺

Carl J. Chavez, CHMM  
New Mexico Energy, Minerals & Natural Resources Dept.  
Oil Conservation Division, Environmental Bureau  
1220 South St. Francis Dr., Santa Fe, New Mexico 87505  
Office: (505) 476-3491  
Fax: (505) 476-3462  
E-mail: [CarlJ.Chavez@state.nm.us](mailto:CarlJ.Chavez@state.nm.us)  
Website: <http://www.emnrd.state.nm.us/oed/index.htm>  
(Pollution Prevention Guidance is under "Publications")

8/21/2007

**Chavez, Carl J, EMNRD**

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**From:** Chavez, Carl J, EMNRD  
**Sent:** Friday, August 10, 2007 7:34 AM  
**To:** 'Jim Lieb'; Monzeglio, Hope, NMENV  
**Cc:** Ed Riege; Steve Morris; Regina Allen  
**Subject:** RE: WorkPlan for Tank 102 Subsurafce Investigation at Giant Refining Gallup

Jim:

Please keep the OCD in the loop on the investigation and reports. Thanks.

Carl J. Chavez, CHMM  
New Mexico Energy, Minerals & Natural Resources Dept.  
Oil Conservation Division, Environmental Bureau  
1220 South St. Francis Dr., Santa Fe, New Mexico 87505  
Office: (505) 476-3491  
Fax: (505) 476-3462  
E-mail: [CarlJ.Chavez@state.nm.us](mailto:CarlJ.Chavez@state.nm.us)  
Website: <http://www.emnrd.state.nm.us/oed/index.htm>  
(Pollution Prevention Guidance is under "Publications")

---

**From:** Jim Lieb [<mailto:jlieb@giant.com>]  
**Sent:** Tuesday, August 07, 2007 3:03 PM  
**To:** Monzeglio, Hope, NMENV; Chavez, Carl J, EMNRD  
**Cc:** Ed Riege; Steve Morris; Regina Allen  
**Subject:** WorkPlan for Tank 102 Subsurafce Investigation at Giant Refining Gallup

Hope and Carl:

Attached is the workplan for the Tanks 101 and 102 subsurface investigation. Trihydro will be on-site on August 20 for the work.

Regards,  
Jim Lieb  
Environmental Engineer  
Giant Industries, Inc.  
Ciniza Refinery  
I-40, Exit 39  
Jamestown, NM 87347  
(505) 722-0227  
fax (505) 722-0210  
[jlieb@giant.com](mailto:jlieb@giant.com)

---

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8/10/2007

**Chavez, Carl J, EMNRD**

---

**From:** Jim Lieb [jlieb@giant.com]  
**Sent:** Tuesday, August 07, 2007 3:03 PM  
**To:** Monzeglio, Hope, NMENV; Chavez, Carl J, EMNRD  
**Cc:** Ed Riege; Steve Morris; Regina Allen  
**Subject:** WorkPlan for Tank 102 Subsurafce Investigation at Giant Refining Gallup  
**Attachments:** 200707\_Soil Sampling\_Tank102\_LTR.pdf

Hope and Carl:

Attached is the workplan for the Tanks 101 and 102 subsurface investigation. Trihydro will be on-site on August 20 for the work.

Regards,  
Jim Lieb  
Environmental Engineer  
Giant Industries, Inc.  
Ciniza Refinery  
I-40, Exit 39  
Jamestown, NM 87347  
(505) 722-0227  
fax (505) 722-0210  
[jlieb@giant.com](mailto:jlieb@giant.com)

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8/7/2007



July 27, 2007

Mr. Ed Riege  
Environmental Superintendent  
Western Refining–Ciniza Refinery  
I-40 Exit 39  
Gallup, NM 87347

RE: Scope of Work and Cost Estimate for Subsurface Investigation near Tanks 101 and 102, Western Refining–Ciniza Refinery

Dear Mr. Riege:

Trihydro Corporation (Trihydro) appreciates the opportunity to submit this proposal and cost estimate to assist Western Refining–Ciniza Refinery (Ciniza) with its environmental needs. Ciniza has requested assistance with determining the source of the two seeps located near Tanks 101 and 102 and delineating soil contamination associated with the seeps.

This proposal and cost estimate is based on the conversations with Ciniza personnel that defined the best approach for this project. Further, the New Mexico Environmental Department (NMED) has been verbally contacted (by Ciniza personnel) as part of the project preparation activities and is aware of the soil contamination/seeps near Tanks 101 and 102. As a result, NMED requested a work plan. Therefore, the preparation activities include preparing a work plan to conduct this subsurface investigation. The following outlines our scope of work and approach.

### **Scope of Work and Approach**

Trihydro has divided the Scope of work into three activities: field preparation, field activities, and reporting activities. Field preparation will consist of the following tasks:

- Coordinate and prepare for field activities associated with the subsurface investigation near Tank 101 and 102
- Work with Ciniza personnel to obtain necessary background information
- Prepare Work Plan for NMED
- Coordinate activities with driller and analytical laboratory



Mr. Ed Riege  
July 27, 2007  
Page 2

- Determine appropriate field screening methods, sampling methods, and laboratory analysis
- Obtain all necessary field equipment

Field activities have been divided into two phases. Phases I and II are Site Reconnaissance/Evaluation and Drilling and Sampling Activities, respectively. The objective of Phase I is to increase the understanding of current site conditions which will allow Phase II activities to be focused and efficient. Phase I will consist of the following tasks:

- Site walk with Ciniza
- Marking known utilities in the area
- Conducting an EM-31 Survey
- Characterizing fluids at the seeps, the fire water line, and the tank draw line
- Characterizing contaminated soil
- Completing COCs and shipping samples to a Ciniza-approved laboratory for analysis
- Interview Ciniza personnel to collect any relevant background information regarding the seeps and the conditions of the fire water and tank draw lines
- Review Ciniza's operating record of replacement, inspection, and installation of suspect lines

It is possible that the data collected during Phase I will sufficiently meet the objectives of the subsurface investigation (determining the source of the two seeps located near Tanks 101 and 102 and delineating soil contamination associated with the seeps) and potentially reduce the need for Phase II. If Phase I does not meet the overall objectives of the subsurface investigation, the data obtained during Phase I will assist in determining the necessity and location of boreholes to be installed during Phase II. Should Phase II be necessary, it will include the following tasks:

- Continuous coring of proposed borehole locations to a depth determined to be clean by the field geologist or until groundwater is encountered
- Field Screening of continuous cores using a photo-ionization detector (PID)
- Logging lithologies and documenting field activities
- Collecting groundwater/LNAPL/soil samples as deemed necessary by the field geologist



Mr. Ed Riege  
July 27, 2007  
Page 3

- Completing COCs and shipping samples to a Ciniza-approved laboratory for analysis
- Discussing results with Ciniza and Trihydro to determine if and where the installation of additional boreholes is required
- Repeating the above steps as necessary to meet project objectives
- Completing field documentation as necessary

Activity 3, reporting activities, will begin once project objectives have been met. Activity 3 will consist of the following tasks:

- Summarizing the field activities
- Describing the results of the subsurface investigation

The report submitted to Ciniza and NMED will:

- Include a updated map of borehole locations, sample locations, and the extent of contamination
- Include an EM survey map
- Include a summary of all laboratory analysis
- Include results and conclusions of the subsurface investigation and a determination of the source of the seeps
- Be similar in format to the *Railroad Rack Lagoon Overflow Ditch and Fan-out Area, SWMU #8 Subsurface Investigation Report*

### **Assumptions**

It is assumed that the boreholes, if needed, will be no deeper than 20 feet below ground surface (ft-bgs) and the drillers will be able to complete ten boreholes to 20 ft-bgs per day. Ciniza personnel will be responsible for locating all subsurface utilities that were not defined by the EM-31 survey. Ciniza will provide a decontamination station for the drill rig (if necessary) and a fluid level probe (if necessary). All investigation derived waste will be disposed of by Ciniza. Trihydro will coordinate field activities with the drillers, coordinate rental equipment (PID, GPS, and EM-31), and obtain the necessary supplies for collecting samples.

**ATTACHMENT A**  
**COST ESTIMATE**

Table 1. Cost Estimate, Subsurface Investigation near Tanks 101 and 102, Western Refining, Ciniza Refinery

Activity		Schedule of Charges	Hourly Rate or Charge(1)	Hours or Unit Estimate	Subtotal
1.	Field Preparation	Personnel			
	- Project Preparation and Management	Principal Level	\$160.00	0	\$0
	- Coordinate with Ciniza to obtain all necessary background information	Professional Level 2	\$110.00	7	\$770
	- Determine appropriate field screening methods, sampling methods, and laboratory analysis	Professional Level 3	\$90.00	2	\$180
	- Prepare field memo, work plan, and any necessary figures	Professional Level 4	\$72.00	32	\$2,304
	- Submit work plan to Ciniza and NMED for approval, modify as necessary	Professional Level 5	\$62.00	45	\$2,790
	- Coordinate with Ciniza for utility locate	CAD (Level T3)	\$52.00	10	\$520
	- Coordinate with driller and analytical laboratory	Clerical	\$44.00	5	\$220
	- Order/rent equipment/supplies	Expenses			
	- Test field equipment	Comm/Admin Fee(2)	2.5% labor	1	\$170
	- Provide updates to site Health and Safety Plan as necessary	Shipping	Cost	1	\$100
	- Set up contract with local driller	Tele/Web Conference	Cost	0	\$0
		Consumable Supplies	Cost	0	\$0
		Rental Equipment	Cost	0	\$0
		Purchased Equipment	Cost +10%	0	\$0
	Assumptions:	Travel			
	No travel will be necessary for Activity 1	Meal Per Diem	\$35/day/pers	0	\$0
		Vehicle	Cost	0	\$0
		Air Fare	Cost	0	\$0
		Lodging	Cost	0	\$0
	Activity 1 Subtotal				\$7,054
2.	Field Activities	Personnel			
		Principal Level	\$160.00	0	\$0
	Phase I - Site Reconnaissance/Evaluation	Professional Level 2	\$110.00	8	\$880
		Professional Level 3	\$90.00	3	\$270
	- Site walk with Ciniza	Professional Level 4	\$72.00	90	\$6,480
	- Mark known utilities in the area	Professional Level 5	\$62.00	90	\$5,580
	- Prepare all field equipment	Tech Specialist Level 3	\$110.00	25	\$2,750
	- Conduct EM-31 Survey	Clerical	\$44.00	0	\$0
	- Process EM-31 data and create map	Expenses			
	- Characterize fluids at seeps, sample as necessary	Comm/Admin Fee(2)	2.5% labor	1	\$399
	- Characterize fire water, sample as necessary	Shipping	Cost	1	\$845
	- Characterize tank draw line water, sample as necessary	Tele/Web Conference	Cost	0	\$0
	- Characterize background soil and contaminated soil, sample as necessary	Data/CAD/Modeling	\$10/hour	25	\$250
	- Complete COCs and ship samples to Ciniza-approved laboratory for analysis	Consumable Supplies	Cost	1	\$200
	- Interview Ciniza personnel to collect any relevant background information regarding tank draw line or fire water line conditions	Rental Equipment	Cost	1	\$1,425
		Purchased Equipment	Cost +10%	0	\$0
		Travel			
	Phase II - Drilling and Sampling Activities	Meal Per Diem	\$35/day/pers	18	\$630
		Vehicle/gas	Cost	1	\$900
	- Mobe/Demobe	Air Fare	Cost	0	\$0
	- Continuous coring of each proposed borehole locations to a depth determined to meet project objectives by the field geologist or until groundwater is encountered	Lodging	Cost	18	\$1,800
	- Field screening of continuous cores (PID)	Subcontractors			
	- Log lithologies and document field activities	Driller	Cost +10%	1	\$9,020
	- Collect groundwater/LNAPL/soil samples as deemed necessary by field geologist				
	- Complete COCs and ship samples to Ciniza-approved laboratory for analysis				
	- Discuss results with Ciniza and Trihydro to determine if and where the installation of additional boreholes is required				
	- Repeat the above steps as necessary				
	- Complete field documentation as needed				
	Assumptions:				
	Field activities will be completed in seven working days				
	Drillers will be on-site for no more than four 10 hour days				
	Boreholes will be no deeper than 20 ft-bgs				
	Drillers will be able to complete ten boreholes to 20 ft-bgs per day				
	Ciniza will be responsible for locating all subsurface utilities				
	Ciniza will provide additional personnel assistance as required				
	Ciniza will provide a decontamination station for the drill rig (if necessary)				
	Ciniza will provide a fluid level probe (if necessary)				
	All investigation derived waste will be disposed of by Ciniza				
	Level D PPE will be sufficient				
	Analytical and shipping costs will be direct billed to Ciniza				
	Additional consumable supplies will be billed at cost				
	Note: Rental Equipment includes PID, GPS, and EM-31 rental				
	Activity 2 Subtotal				\$31,429



Table 1. Cost Estimate, Subsurface Investigation near Tanks 101 and 102, Western Refining, Ciniza Refinery

Activity		Schedule of Charges	Hourly Rate or Charge(1)	Hours or Unit Estimate	Subtotal
3.	Reporting	Personnel			
	- Draft Sampling Report	Principal Level	\$160.00	0	\$0
	- Description of field activities	Professional Level 2	\$110.00	3	\$330
	- Field documentation	Professional Level 3	\$90.00	1	\$90
	- Updated map of borehole and sample locations	Professional Level 4	\$72.00	10	\$720
	- EM survey map	Professional Level 5	\$62.00	32	\$1,984
	- Results and conclusions of field activities	Data Validation (PL 4)	\$72.00	10	\$720
		CAD (Level T3)	\$52.00	8	\$416
	Assumptions:	Clerical	\$44.00	6	\$264
		Expenses			
		Comm/Admin Fee(2)	2.5% labor	1	\$113
	Cost for evaluating remedy options is not included in this estimate	Shipping	Cost	1	\$100
	This estimate was prepared for data collection, source determination, and delineation only	Tele/Web Conference	Cost	0	\$0
	The data validation estimate is based on two data sets	Consumable Supplies	Cost	0	\$0
	Additional data sets will be billed at approximately 3 hours per data set	Rental Equipment	Cost	0	\$0
		Purchased Equipment	Cost +10%	0	\$0
		Travel			
		Meal Per Diem	\$35/day/pers	0	\$0
		Vehicle	Cost	0	\$0
		Air Fare	Cost	0	\$0
		Lodging	Cost	0	\$0
	Activity 3 Subtotal				\$4,737
Cost Estimate Activities Summary					
1.	Field Preparation				\$7,054
2.	Field Activities				\$31,429
3.	Reporting				\$4,737
	Cost Estimate Activities 1 through 3				\$43,220

## Notes:

- (1) Charges include fringe benefits, overhead, and profit; no multiplier is used for billing.  
 (2) Fee includes incidental/daily telephone, copies, facsimiles, plots, and normal document material.  
 (e.g., photocopies, binders, plots, color copies, etc.); any extensive document production will be negotiated and billed at cost.

**Chavez, Carl J, EMNRD**

---

**From:** Monzeglio, Hope, NMENV  
**Sent:** Thursday, August 02, 2007 2:32 PM  
**To:** Chavez, Carl J, EMNRD; Ed Riege  
**Cc:** Cobrain, Dave, NMENV; Frischkorn, Cheryl, NMENV; Price, Wayne, EMNRD; Ann Allen  
**Subject:** Discharge plan and the Tables item 16 and 19

Carl

I just spoke with Ed and he had pointed out some over lapping sampling requirements in the discharge plan in the Tables in items number 16 and 19 (e.g. item 16 - Effluent from AL-2 to EP-1, item 19 -Pond 1 inlet (EP1-IN); item 16-Effluent from the New API separator, item 19 NAPI Effluent; item 16 - Effluent from the Pilot Gas Station to the Aeration lagoon, item 19-Pilot Wastewater etc.). To resolve this, could we add a footnote to the table under item number 19 to clarify this?

Could we add a footnote 10 to state: Any overlapping sampling requirements in the Table under Item 16 can be conducted during the quarterly sampling events to include the expanded analytical requirements listed in the Table in item 19. (something to that effect)

Let me know if this works.

Hope

Hope Monzeglio  
Environmental Specialist  
New Mexico Environment Department  
Hazardous Waste Bureau  
2905 Rodeo Park Drive East, BLDG 1  
Santa Fe NM 87505  
Phone: (505) 476-6045  
Main No.: (505)-476-6000  
Fax: (505)-476-6030  
[hope.monzeglio@state.nm.us](mailto:hope.monzeglio@state.nm.us)

**Websites:**  
**New Mexico Environment Department**  
**Hazardous Waste Bureau**

Please note the new phone numbers

8/16/2007

**Chavez, Carl J, EMNRD**

---

**From:** Jim Lieb [jlieb@giant.com]  
**Sent:** Tuesday, July 31, 2007 4:20 PM  
**To:** Monzeglio, Hope, NMENV  
**Cc:** Ed Riege; Cheryl Johnson; Steve Morris; Chavez, Carl J, EMNRD  
**Subject:** Request for Contained-In Determination of Lagoons Banks Cleanup Soils  
**Attachments:** Request for Contained-In Determination July 23,'07.doc.pdf;  
BanksCleanupSoilComparisonNMEDsoilscreenlevels.xls; Lagoons-PondsBanks7-07.pdf

Hope:

I have attached the request letter, a comparison table and the results from HEAL

Jim Lieb

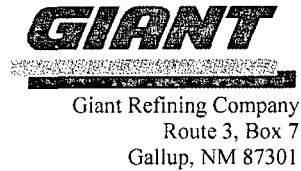
Environmental Engineer  
Giant Industries, Inc.  
Ciniza Refinery  
I-40, Exit 39  
Jamestown, NM 87347  
(505) 722-0227  
fax (505) 722-0210  
[jlieb@giant.com](mailto:jlieb@giant.com)

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7/31/2007



August 1, 2007

Ms. Hope Monzeglio  
Environmental Specialist  
New Mexico Environment Department  
Hazardous Waste Bureau  
2905 Rodeo Park Drive East, Bldg 1  
Santa Fe, NM 87505

**RE: Request for Contained-In Determination**

Dear Hope:

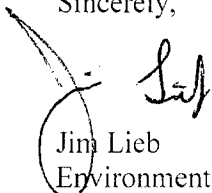
Giant (Western) Refining - Ciniza Refinery recently cleaned (in July 2007) the banks of aeration lagoons 1 and 2 and evaporation pond 1 and portions of pond 2. The soil has been contained in our waste soil staging area in a bermed area. The soil amounts to approximately 100 cubic yards. By way of this letter Western is requesting that NMED perform a contained-in determination for these soils based on the sampling results.

Giant followed your directive concerning sampling of the soil. We collected two composite samples and two discrete samples; the discrete samples were taken from soil showing the greatest visible contamination. The composite samples were analyzed for SVOCs full suite, TCLP metals – RCRA 8, reactivity, ignitibility, corrosivity, flash point and TPH. The discrete samples were analyzed for VOCs. The attached results are mostly non-detect for the SVOCs full suite and all non-detect for metals.

I prepared a comparison table for each sampled. The table compares the sample results with the NMED's Soil Screening Levels. The table shows that the overall sampling results are less than the screening levels for residential soil and industrial soil.

If you need more information in assessing the soils or need to discuss this matter with me, you may contact me at (505) 722-0227.

Sincerely,



Jim Lieb  
Environmental Engineer

Cc: Ed Riege  
Cheryl Johnson  
Steve Morris  
OCD - Carl Chavez

Attachment: Summary table  
HEAL Results

Comparison with NMED Soil Screening Levels  
Lagoons and Evaporation Pond 1 Cleanup Soil  
Soils excavated week of July 1, 2007

Western (Giant) Ciniza Refinery

Table A-1: NMED Soil Screening Levels

Parameter	Composite West	Composite East	Discrete West (mg/kg)	Discrete East (mg/kg)	Residential Soil (mg/kg)	Industrial Occupational Soil (mg/kg)
<b>Metals TCLP (6010B):</b>						
Arsenic	<5.0 mg/l	<5.0 mg/l			3.9	17.7
Barium	<100 mg/l	<100 mg/l			15600	100000
Cadmium	<1.0 mg/l	<1.0 mg/l			39	564
Chromium	<5.0 mg/l	<5.0 mg/l			100000	100000
Lead	<5.0 mg/l	<5.0 mg/l			400	800
Mercury	<0.020 mg/l	<0.020 mg/l			100000	100000
Selenium	<1.0 mg/l	<1.0 mg/l			391	5680
Silver	<5.0 mg/l	<5.0 mg/l			391	5680
<b>Volatiles (8260B):</b>						
Benzene			3.3	1.2	10.3	25.8
Toluene			21	7.7	252	252
Ethylbenzene			5.7	2.0	128	128
MTBE			<1.0	<1.0	388	984
1,2,4-Trimethylbenzene			21	8.7	58.0	213
1,3,5-Trimethylbenzene			6.5	2.4	24.8	69.2
Naphthalene			21	11	79.5	300
1-Methylnaphthalene			67	50	---	---
2-Methylnaphthalene			92	67	---	---
Isopropylbenzene			1.2	<1.0	---	---
4-Isopropyltoluene			1.1	<1.0	---	---
n-Butylbenzene			4.7	2.2	62.1	62.1
n-Propylbenzene			3.2	1.1	62.1	62.1
Xylenes			38	15	82.0	82.0
<b>SemiVolatiles (8270C):</b>						
Chrysene	mg/kg	mg/kg			615	2310
Fluorene	23	35			2660	26500
2-Methylnaphthalene	47	91			---	---
Phenanthrene	85	130			1830	20500
Pyrene	32	44			2290	30900

Notes:  
Samples collected on July 12, 2007 and received by HEAL on July 13, 2007. Samples analyzed on July 16 and July 18th.  
If a parameter is not shown it was non-detect.



## COVER LETTER

Friday, July 20, 2007

Jim Lieb  
Giant Refining Co  
Rt. 3 Box 7  
Gallup, NM 87301  
TEL: (505) 722-3833  
FAX (505) 722-0210

RE: Lagoons and Pond 1 Cleanup 7/12/2007

Order No.: 0707170

Dear Jim Lieb:

Hall Environmental Analysis Laboratory, Inc. received 4 sample(s) on 7/13/2007 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager  
Nancy McDuffie, Laboratory Manager

NM Lab # NM9425  
AZ license # AZ0682  
ORELAP Lab # NM100001



**Hall Environmental Analysis Laboratory, Inc.**

Date: 20-Jul-07

CLIENT: Giant Refining Co

Project: Lagoons and Pond 1 Cleanup 7/12/2007

Lab Order: 0707170

**CASE NARRATIVE**

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Analytical Comments for METHOD 8015DRO\_S, SAMPLE 0707170-01A: DNOP not recovered due to dilution Analytical Comments for METHOD 8015DRO\_S, SAMPLE 0707170-02A: DNOP not recovered due to dilution



## Hall Environmental Analysis Laboratory, Inc.

Date: 20-Jul-07

CLIENT: Giant Refining Co  
 Lab Order: 0707170  
 Project: Lagoons and Pond 1 Cleanup 7/12/2007  
 Lab ID: 0707170-01

Client Sample ID: Composite West  
 Collection Date: 7/12/2007 1:30:00 PM  
 Date Received: 7/13/2007  
 Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: SCC
Diesel Range Organics (DRO)	61000	2000		mg/Kg	200	7/18/2007 1:25:35 AM
Motor Oil Range Organics (MRO)	13000	10000		mg/Kg	200	7/18/2007 1:25:35 AM
Surr: DNOP	0	61.7-135	S	%REC	200	7/18/2007 1:25:35 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	590	500		mg/Kg	100	7/16/2007 10:40:21 PM
Surr: BFB	143	84-138	S	%REC	100	7/16/2007 10:40:21 PM
EPA METHOD 9056A: ANIONS						Analyst: KS
Chloride	660	6.0		mg/Kg	20	7/18/2007 12:54:36 AM
MERCURY, TCLP						Analyst: IC
Mercury	ND	0.020		mg/L	1	7/18/2007 4:48:33 PM
EPA METHOD 6010B: TCLP METALS						Analyst: NMO
Arsenic	ND	5.0		mg/L	1	7/18/2007 12:06:40 PM
Barium	ND	100		mg/L	1	7/18/2007 12:06:40 PM
Cadmium	ND	1.0		mg/L	1	7/18/2007 12:06:40 PM
Chromium	ND	5.0		mg/L	1	7/18/2007 12:06:40 PM
Lead	ND	5.0		mg/L	1	7/18/2007 12:06:40 PM
Selenium	ND	1.0		mg/L	1	7/18/2007 12:06:40 PM
Silver	ND	5.0		mg/L	1	7/18/2007 12:06:40 PM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: BL
Acenaphthene	ND	20		mg/Kg	10	7/16/2007
Acenaphthylene	ND	20		mg/Kg	10	7/16/2007
Aniline	ND	20		mg/Kg	10	7/16/2007
Anthracene	ND	20		mg/Kg	10	7/16/2007
Azobenzene	ND	20		mg/Kg	10	7/16/2007
Benz(a)anthracene	ND	25		mg/Kg	10	7/16/2007
Benzo(a)pyrene	ND	20		mg/Kg	10	7/16/2007
Benzo(b)fluoranthene	ND	20		mg/Kg	10	7/16/2007
Benzo(g,h,i)perylene	ND	30		mg/Kg	10	7/16/2007
Benzo(k)fluoranthene	ND	50		mg/Kg	10	7/16/2007
Benzoic acid	ND	50		mg/Kg	10	7/16/2007
Benzyl alcohol	ND	100		mg/Kg	10	7/16/2007
Bis(2-chloroethoxy)methane	ND	50		mg/Kg	10	7/16/2007
Bis(2-chloroethyl)ether	ND	25		mg/Kg	10	7/16/2007
Bis(2-chloroisopropyl)ether	ND	50		mg/Kg	10	7/16/2007
Bis(2-ethylhexyl)phthalate	ND	20		mg/Kg	10	7/16/2007

Qualifiers: \* Value exceeds Maximum Contaminant Level  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit  
 S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 MCL Maximum Contaminant Level  
 RL Reporting Limit

## Hall Environmental Analysis Laboratory, Inc.

Date: 20-Jul-07

CLIENT: Giant Refining Co  
 Lab Order: 0707170  
 Project: Lagoons and Pond 1 Cleanup 7/12/2007  
 Lab ID: 0707170-01

Client Sample ID: Composite West  
 Collection Date: 7/12/2007 1:30:00 PM  
 Date Received: 7/13/2007  
 Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: BL
4-Bromophenyl phenyl ether	ND	25		mg/Kg	10	7/16/2007
Butyl benzyl phthalate	ND	20		mg/Kg	10	7/16/2007
Carbazole	ND	20		mg/Kg	10	7/16/2007
4-Chloro-3-methylphenol	ND	20		mg/Kg	10	7/16/2007
4-Chloroaniline	ND	20		mg/Kg	10	7/16/2007
2-Chloronaphthalene	ND	20		mg/Kg	10	7/16/2007
2-Chlorophenol	ND	20		mg/Kg	10	7/16/2007
4-Chlorophenyl phenyl ether	ND	20		mg/Kg	10	7/16/2007
Chrysene	31	20		mg/Kg	10	7/16/2007
Di-n-butyl phthalate	ND	50		mg/Kg	10	7/16/2007
Di-n-octyl phthalate	ND	50		mg/Kg	10	7/16/2007
Dibenz(a,h)anthracene	ND	25		mg/Kg	10	7/16/2007
Dibenzofuran	ND	50		mg/Kg	10	7/16/2007
1,2-Dichlorobenzene	ND	20		mg/Kg	10	7/16/2007
1,3-Dichlorobenzene	ND	20		mg/Kg	10	7/16/2007
1,4-Dichlorobenzene	ND	20		mg/Kg	10	7/16/2007
3,3'-Dichlorobenzidine	ND	20		mg/Kg	10	7/16/2007
Diethyl phthalate	ND	20		mg/Kg	10	7/16/2007
Dimethyl phthalate	ND	20		mg/Kg	10	7/16/2007
2,4-Dichlorophenol	ND	20		mg/Kg	10	7/16/2007
2,4-Dimethylphenol	ND	20		mg/Kg	10	7/16/2007
4,6-Dinitro-2-methylphenol	ND	50		mg/Kg	10	7/16/2007
2,4-Dinitrophenol	ND	50		mg/Kg	10	7/16/2007
2,4-Dinitrotoluene	ND	20		mg/Kg	10	7/16/2007
2,6-Dinitrotoluene	ND	20		mg/Kg	10	7/16/2007
Fluoranthene	ND	20		mg/Kg	10	7/16/2007
Fluorene	23	20		mg/Kg	10	7/16/2007
Hexachlorobenzene	ND	20		mg/Kg	10	7/16/2007
Hexachlorobutadiene	ND	20		mg/Kg	10	7/16/2007
Hexachlorocyclopentadiene	ND	25		mg/Kg	10	7/16/2007
Hexachloroethane	ND	50		mg/Kg	10	7/16/2007
Indeno(1,2,3-cd)pyrene	ND	20		mg/Kg	10	7/16/2007
Isophorone	ND	20		mg/Kg	10	7/16/2007
2-Methylnaphthalene	47	20		mg/Kg	10	7/16/2007
2-Methylphenol	ND	20		mg/Kg	10	7/16/2007
3+4-Methylphenol	ND	20		mg/Kg	10	7/16/2007
N-Nitrosodi-n-propylamine	ND	20		mg/Kg	10	7/16/2007
N-Nitrosodiphenylamine	ND	20		mg/Kg	10	7/16/2007
Naphthalene	ND	20		mg/Kg	10	7/16/2007
2-Nitroaniline	ND	50		mg/Kg	10	7/16/2007
3-Nitroaniline	ND	50		mg/Kg	10	7/16/2007

Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 MCL Maximum Contaminant Level  
 RL Reporting Limit

# Hall Environmental Analysis Laboratory, Inc.

Date: 20-Jul-07

CLIENT: Giant Refining Co  
Lab Order: 0707170  
Project: Lagoons and Pond 1 Cleanup 7/12/2007  
Lab ID: 0707170-01

Client Sample ID: Composite West  
Collection Date: 7/12/2007 1:30:00 PM  
Date Received: 7/13/2007  
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: BL
4-Nitroaniline	ND	25		mg/Kg	10	7/16/2007
Nitrobenzene	ND	20		mg/Kg	10	7/16/2007
2-Nitrophenol	ND	20		mg/Kg	10	7/16/2007
4-Nitrophenol	ND	20		mg/Kg	10	7/16/2007
Pentachlorophenol	ND	50		mg/Kg	10	7/16/2007
Phenanthrene	85	20		mg/Kg	10	7/16/2007
Phenol	ND	20		mg/Kg	10	7/16/2007
Pyrene	32	20		mg/Kg	10	7/16/2007
Pyridine	ND	50		mg/Kg	10	7/16/2007
1,2,4-Trichlorobenzene	ND	20		mg/Kg	10	7/16/2007
2,4,5-Trichlorophenol	ND	20		mg/Kg	10	7/16/2007
2,4,6-Trichlorophenol	ND	20		mg/Kg	10	7/16/2007
Surr: 2,4,6-Tribromophenol	82.1	35.5-141		%REC	10	7/16/2007
Surr: 2-Fluorobiphenyl	0	30.4-128	S	%REC	10	7/16/2007
Surr: 2-Fluorophenol	51.1	28.1-129		%REC	10	7/16/2007
Surr: 4-Terphenyl-d14	411	34.6-151	S	%REC	10	7/16/2007
Surr: Nitrobenzene-d5	0	26.5-122	S	%REC	10	7/16/2007
Surr: Phenol-d5	123	37.6-118	S	%REC	10	7/16/2007

Qualifiers: \* Value exceeds Maximum Contaminant Level  
E Value above quantitation range  
J Analyte detected below quantitation limits  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
RL Reporting Limit

# Hall Environmental Analysis Laboratory, Inc.

Date: 20-Jul-07

CLIENT: Giant Refining Co  
Lab Order: 0707170  
Project: Lagoons and Pond 1 Cleanup 7/12/2007  
Lab ID: 0707170-02

Client Sample ID: Composite East  
Collection Date: 7/12/2007 1:00:00 PM  
Date Received: 7/13/2007  
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: SCC
Diesel Range Organics (DRO)	74000	2000		mg/Kg	200	7/18/2007 2:01:03 AM
Motor Oil Range Organics (MRO)	14000	10000		mg/Kg	200	7/18/2007 2:01:03 AM
Surr: DNOP	0	61.7-135	S	%REC	200	7/18/2007 2:01:03 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	540	500		mg/Kg	100	7/16/2007 11:40:14 PM
Surr: BFB	135	84-138		%REC	100	7/16/2007 11:40:14 PM
<b>EPA METHOD 9056A: ANIONS</b>						Analyst: KS
Chloride	1100	6.0		mg/Kg	20	7/18/2007 1:12:00 AM
<b>MERCURY, TCLP</b>						Analyst: IC
Mercury	ND	0.020		mg/L	1	7/18/2007 4:50:08 PM
<b>EPA METHOD 6010B: TCLP METALS</b>						Analyst: NMO
Arsenic	ND	5.0		mg/L	1	7/18/2007 12:10:48 PM
Barium	ND	100		mg/L	1	7/18/2007 12:10:48 PM
Cadmium	ND	1.0		mg/L	1	7/18/2007 12:10:48 PM
Chromium	ND	5.0		mg/L	1	7/18/2007 12:10:48 PM
Lead	ND	5.0		mg/L	1	7/18/2007 12:10:48 PM
Selenium	ND	1.0		mg/L	1	7/18/2007 12:10:48 PM
Silver	ND	5.0		mg/L	1	7/18/2007 12:10:48 PM
<b>EPA METHOD 8270C: SEMIVOLATILES</b>						Analyst: BL
Acenaphthene	ND	20		mg/Kg	10	7/16/2007
Acenaphthylene	ND	20		mg/Kg	10	7/16/2007
Aniline	ND	20		mg/Kg	10	7/16/2007
Anthracene	ND	20		mg/Kg	10	7/16/2007
Azobenzene	ND	20		mg/Kg	10	7/16/2007
Benz(a)anthracene	ND	25		mg/Kg	10	7/16/2007
Benzo(a)pyrene	ND	20		mg/Kg	10	7/16/2007
Benzo(b)fluoranthene	ND	20		mg/Kg	10	7/16/2007
Benzo(g,h,i)perylene	ND	30		mg/Kg	10	7/16/2007
Benzo(k)fluoranthene	ND	50		mg/Kg	10	7/16/2007
Benzoic acid	ND	50		mg/Kg	10	7/16/2007
Benzyl alcohol	ND	100		mg/Kg	10	7/16/2007
Bis(2-chloroethoxy)methane	ND	50		mg/Kg	10	7/16/2007
Bis(2-chloroethyl)ether	ND	25		mg/Kg	10	7/16/2007
Bis(2-chloroisopropyl)ether	ND	50		mg/Kg	10	7/16/2007
Bis(2-ethylhexyl)phthalate	ND	20		mg/Kg	10	7/16/2007

Qualifiers: \* Value exceeds Maximum Contaminant Level  
E Value above quantitation range  
J Analyte detected below quantitation limits  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
RL Reporting Limit

# Hall Environmental Analysis Laboratory, Inc.

Date: 20-Jul-07

CLIENT: Giant Refining Co  
Lab Order: 0707170  
Project: Lagoons and Pond 1 Cleanup 7/12/2007  
Lab ID: 0707170-02

Client Sample ID: Composite East  
Collection Date: 7/12/2007 1:00:00 PM  
Date Received: 7/13/2007  
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: BL
4-Bromophenyl phenyl ether	ND	25		mg/Kg	10	7/16/2007
Butyl benzyl phthalate	ND	20		mg/Kg	10	7/16/2007
Carbazole	ND	20		mg/Kg	10	7/16/2007
4-Chloro-3-methylphenol	ND	20		mg/Kg	10	7/16/2007
4-Chloroaniline	ND	20		mg/Kg	10	7/16/2007
2-Chloronaphthalene	ND	20		mg/Kg	10	7/16/2007
2-Chlorophenol	ND	20		mg/Kg	10	7/16/2007
4-Chlorophenyl phenyl ether	ND	20		mg/Kg	10	7/16/2007
Chrysene	37	20		mg/Kg	10	7/16/2007
Di-n-butyl phthalate	ND	50		mg/Kg	10	7/16/2007
Di-n-octyl phthalate	ND	50		mg/Kg	10	7/16/2007
Dibenz(a,h)anthracene	ND	25		mg/Kg	10	7/16/2007
Dibenzofuran	ND	50		mg/Kg	10	7/16/2007
1,2-Dichlorobenzene	ND	20		mg/Kg	10	7/16/2007
1,3-Dichlorobenzene	ND	20		mg/Kg	10	7/16/2007
1,4-Dichlorobenzene	ND	20		mg/Kg	10	7/16/2007
3,3'-Dichlorobenzidine	ND	20		mg/Kg	10	7/16/2007
Diethyl phthalate	ND	20		mg/Kg	10	7/16/2007
Dimethyl phthalate	ND	20		mg/Kg	10	7/16/2007
2,4-Dichlorophenol	ND	20		mg/Kg	10	7/16/2007
2,4-Dimethylphenol	ND	20		mg/Kg	10	7/16/2007
4,6-Dinitro-2-methylphenol	ND	50		mg/Kg	10	7/16/2007
2,4-Dinitrophenol	ND	50		mg/Kg	10	7/16/2007
2,4-Dinitrotoluene	ND	20		mg/Kg	10	7/16/2007
2,6-Dinitrotoluene	ND	20		mg/Kg	10	7/16/2007
Fluoranthene	ND	20		mg/Kg	10	7/16/2007
Fluorene	35	20		mg/Kg	10	7/16/2007
Hexachlorobenzene	ND	20		mg/Kg	10	7/16/2007
Hexachlorobutadiene	ND	20		mg/Kg	10	7/16/2007
Hexachlorocyclopentadiene	ND	25		mg/Kg	10	7/16/2007
Hexachloroethane	ND	50		mg/Kg	10	7/16/2007
Indeno(1,2,3-cd)pyrene	ND	20		mg/Kg	10	7/16/2007
Isophorone	ND	20		mg/Kg	10	7/16/2007
2-Methylnaphthalene	91	20		mg/Kg	10	7/16/2007
2-Methylphenol	ND	20		mg/Kg	10	7/16/2007
3+4-Methylphenol	ND	20		mg/Kg	10	7/16/2007
N-Nitrosodi-n-propylamine	ND	20		mg/Kg	10	7/16/2007
N-Nitrosodiphenylamine	ND	20		mg/Kg	10	7/16/2007
Naphthalene	ND	20		mg/Kg	10	7/16/2007
2-Nitroaniline	ND	50		mg/Kg	10	7/16/2007
3-Nitroaniline	ND	50		mg/Kg	10	7/16/2007

Qualifiers: \* Value exceeds Maximum Contaminant Level  
E Value above quantitation range  
J Analyte detected below quantitation limits  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
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RL Reporting Limit

# Hall Environmental Analysis Laboratory, Inc.

Date: 20-Jul-07

CLIENT: Giant Refining Co

Client Sample ID: Composite East

Lab Order: 0707170

Collection Date: 7/12/2007 1:00:00 PM

Project: Lagoons and Pond 1 Cleanup 7/12/2007

Date Received: 7/13/2007

Lab ID: 0707170-02

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: BL
4-Nitroaniline	ND	25		mg/Kg	10	7/16/2007
Nitrobenzene	ND	20		mg/Kg	10	7/16/2007
2-Nitrophenol	ND	20		mg/Kg	10	7/16/2007
4-Nitrophenol	ND	20		mg/Kg	10	7/16/2007
Pentachlorophenol	ND	50		mg/Kg	10	7/16/2007
Phenanthrene	130	20		mg/Kg	10	7/16/2007
Phenol	ND	20		mg/Kg	10	7/16/2007
Pyrene	44	20		mg/Kg	10	7/16/2007
Pyridine	ND	50		mg/Kg	10	7/16/2007
1,2,4-Trichlorobenzene	ND	20		mg/Kg	10	7/16/2007
2,4,5-Trichlorophenol	ND	20		mg/Kg	10	7/16/2007
2,4,6-Trichlorophenol	ND	20		mg/Kg	10	7/16/2007
Surr: 2,4,6-Tribromophenol	0	35.5-141	S	%REC	10	7/16/2007
Surr: 2-Fluorobiphenyl	0	30.4-128	S	%REC	10	7/16/2007
Surr: 2-Fluorophenol	47.0	28.1-129		%REC	10	7/16/2007
Surr: 4-Terphenyl-d14	409	34.6-151	S	%REC	10	7/16/2007
Surr: Nitrobenzene-d5	0	26.5-122	S	%REC	10	7/16/2007
Surr: Phenol-d5	126	37.6-118	S	%REC	10	7/16/2007

Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

# Hall Environmental Analysis Laboratory, Inc.

Date: 20-Jul-07

CLIENT: Giant Refining Co

Client Sample ID: Discrete West

Lab Order: 0707170

Collection Date: 7/12/2007 12:40:00 PM

Project: Lagoons and Pond 1 Cleanup 7/12/2007

Date Received: 7/13/2007

Lab ID: 0707170-03

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: SMP
Benzene	3.3	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
Toluene	21	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
Ethylbenzene	5.7	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
Methyl tert-butyl ether (MTBE)	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
1,2,4-Trimethylbenzene	21	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
1,3,5-Trimethylbenzene	6.5	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
1,2-Dichloroethane (EDC)	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
1,2-Dibromoethane (EDB)	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
Naphthalene	21	2.0		mg/Kg	20	7/18/2007 9:27:08 AM
1-Methylnaphthalene	67	4.0		mg/Kg	20	7/18/2007 9:27:08 AM
2-Methylnaphthalene	92	4.0		mg/Kg	20	7/18/2007 9:27:08 AM
Acetone	ND	15		mg/Kg	20	7/18/2007 9:27:08 AM
Bromobenzene	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
Bromochloromethane	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
Bromodichloromethane	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
Bromoform	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
Bromomethane	ND	2.0		mg/Kg	20	7/18/2007 9:27:08 AM
2-Butanone	ND	10		mg/Kg	20	7/18/2007 9:27:08 AM
Carbon disulfide	ND	10		mg/Kg	20	7/18/2007 9:27:08 AM
Carbon tetrachloride	ND	2.0		mg/Kg	20	7/18/2007 9:27:08 AM
Chlorobenzene	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
Chloroethane	ND	2.0		mg/Kg	20	7/18/2007 9:27:08 AM
Chloroform	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
Chloromethane	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
2-Chlorotoluene	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
4-Chlorotoluene	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
cis-1,2-DCE	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
cis-1,3-Dichloropropene	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
1,2-Dibromo-3-chloropropane	ND	2.0		mg/Kg	20	7/18/2007 9:27:08 AM
Dibromochloromethane	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
Dibromomethane	ND	2.0		mg/Kg	20	7/18/2007 9:27:08 AM
1,2-Dichlorobenzene	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
1,3-Dichlorobenzene	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
1,4-Dichlorobenzene	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
Dichlorodifluoromethane	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
1,1-Dichloroethane	ND	2.0		mg/Kg	20	7/18/2007 9:27:08 AM
1,1-Dichloroethene	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
1,2-Dichloropropane	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
1,3-Dichloropropane	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
2,2-Dichloropropane	ND	2.0		mg/Kg	20	7/18/2007 9:27:08 AM
1,1-Dichloropropene	ND	2.0		mg/Kg	20	7/18/2007 9:27:08 AM

Qualifiers: \* Value exceeds Maximum Contaminant Level  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit  
 S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 MCL Maximum Contaminant Level  
 RL Reporting Limit

# Hall Environmental Analysis Laboratory, Inc.

Date: 20-Jul-07

CLIENT: Giant Refining Co  
Lab Order: 0707170  
Project: Lagoons and Pond 1 Cleanup 7/12/2007  
Lab ID: 0707170-03

Client Sample ID: Discrete West  
Collection Date: 7/12/2007 12:40:00 PM  
Date Received: 7/13/2007  
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: SMP
Hexachlorobutadiene	ND	2.0		mg/Kg	20	7/18/2007 9:27:08 AM
2-Hexanone	ND	10		mg/Kg	20	7/18/2007 9:27:08 AM
Isopropylbenzene	1.2	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
4-Isopropyltoluene	1.1	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
4-Methyl-2-pentanone	ND	10		mg/Kg	20	7/18/2007 9:27:08 AM
Methylene chloride	ND	3.0		mg/Kg	20	7/18/2007 9:27:08 AM
n-Butylbenzene	4.7	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
n-Propylbenzene	3.2	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
sec-Butylbenzene	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
Styrene	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
tert-Butylbenzene	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
1,1,1,2-Tetrachloroethane	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
1,1,2,2-Tetrachloroethane	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
Tetrachloroethene (PCE)	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
trans-1,2-DCE	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
trans-1,3-Dichloropropene	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
1,2,3-Trichlorobenzene	ND	2.0		mg/Kg	20	7/18/2007 9:27:08 AM
1,2,4-Trichlorobenzene	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
1,1,1-Trichloroethane	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
1,1,2-Trichloroethane	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
Trichloroethene (TCE)	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
Trichlorofluoromethane	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
1,2,3-Trichloropropane	ND	2.0		mg/Kg	20	7/18/2007 9:27:08 AM
Vinyl chloride	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
Xylenes, Total	38	2.0		mg/Kg	20	7/18/2007 9:27:08 AM
Surr: 1,2-Dichloroethane-d4	96.5	68.7-122		%REC	20	7/18/2007 9:27:08 AM
Surr: 4-Bromofluorobenzene	104	79.3-126		%REC	20	7/18/2007 9:27:08 AM
Surr: Dibromofluoromethane	102	64.4-119		%REC	20	7/18/2007 9:27:08 AM
Surr: Toluene-d8	98.2	86.5-121		%REC	20	7/18/2007 9:27:08 AM

Qualifiers: \* Value exceeds Maximum Contaminant Level  
E Value above quantitation range  
J Analyte detected below quantitation limits  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
RL Reporting Limit



# Hall Environmental Analysis Laboratory, Inc.

Date: 20-Jul-07

CLIENT: Giant Refining Co  
Lab Order: 0707170  
Project: Lagoons and Pond 1 Cleanup 7/12/2007  
Lab ID: 0707170-04

Client Sample ID: Discrete East  
Collection Date: 7/12/2007 12:15:00 PM  
Date Received: 7/13/2007  
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: SMP
Benzene	1.2	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
Toluene	7.7	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
Ethylbenzene	2.0	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
Methyl tert-butyl ether (MTBE)	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
1,2,4-Trimethylbenzene	8.7	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
1,3,5-Trimethylbenzene	2.4	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
1,2-Dichloroethane (EDC)	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
1,2-Dibromoethane (EDB)	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
Naphthalene	11	2.0		mg/Kg	20	7/18/2007 10:02:42 AM
1-Methylnaphthalene	50	4.0		mg/Kg	20	7/18/2007 10:02:42 AM
2-Methylnaphthalene	67	4.0		mg/Kg	20	7/18/2007 10:02:42 AM
Acetone	ND	15		mg/Kg	20	7/18/2007 10:02:42 AM
Bromobenzene	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
Bromochloromethane	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
Bromodichloromethane	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
Bromoform	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
Bromomethane	ND	2.0		mg/Kg	20	7/18/2007 10:02:42 AM
2-Butanone	ND	10		mg/Kg	20	7/18/2007 10:02:42 AM
Carbon disulfide	ND	10		mg/Kg	20	7/18/2007 10:02:42 AM
Carbon tetrachloride	ND	2.0		mg/Kg	20	7/18/2007 10:02:42 AM
Chlorobenzene	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
Chloroethane	ND	2.0		mg/Kg	20	7/18/2007 10:02:42 AM
Chloroform	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
Chloromethane	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
2-Chlorotoluene	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
4-Chlorotoluene	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
cis-1,2-DCE	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
cis-1,3-Dichloropropene	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
1,2-Dibromo-3-chloropropane	ND	2.0		mg/Kg	20	7/18/2007 10:02:42 AM
Dibromochloromethane	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
Dibromomethane	ND	2.0		mg/Kg	20	7/18/2007 10:02:42 AM
1,2-Dichlorobenzene	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
1,3-Dichlorobenzene	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
1,4-Dichlorobenzene	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
Dichlorodifluoromethane	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
1,1-Dichloroethane	ND	2.0		mg/Kg	20	7/18/2007 10:02:42 AM
1,1-Dichloroethene	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
1,2-Dichloropropane	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
1,3-Dichloropropane	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
2,2-Dichloropropane	ND	2.0		mg/Kg	20	7/18/2007 10:02:42 AM
1,1-Dichloropropene	ND	2.0		mg/Kg	20	7/18/2007 10:02:42 AM

Qualifiers: + Value exceeds Maximum Contaminant Level  
E Value above quantitation range  
J Analyte detected below quantitation limits  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
RL Reporting Limit

# Hall Environmental Analysis Laboratory, Inc.

Date: 20-Jul-07

CLIENT: Giant Refining Co

Client Sample ID: Discrete East

Lab Order: 0707170

Collection Date: 7/12/2007 12:15:00 PM

Project: Lagoons and Pond 1 Cleanup 7/12/2007

Date Received: 7/13/2007

Lab ID: 0707170-04

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: SMP
Hexachlorobutadiene	ND	2.0		mg/Kg	20	7/18/2007 10:02:42 AM
2-Hexanone	ND	10		mg/Kg	20	7/18/2007 10:02:42 AM
Isopropylbenzene	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
4-isopropyltoluene	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
4-Methyl-2-pentanone	ND	10		mg/Kg	20	7/18/2007 10:02:42 AM
Methylene chloride	ND	3.0		mg/Kg	20	7/18/2007 10:02:42 AM
n-Butylbenzene	2.2	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
n-Propylbenzene	1.1	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
sec-Butylbenzene	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
Styrene	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
tert-Butylbenzene	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
1,1,1,2-Tetrachloroethane	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
1,1,2,2-Tetrachloroethane	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
Tetrachloroethene (PCE)	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
trans-1,2-DCE	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
trans-1,3-Dichloropropene	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
1,2,3-Trichlorobenzene	ND	2.0		mg/Kg	20	7/18/2007 10:02:42 AM
1,2,4-Trichlorobenzene	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
1,1,1-Trichloroethane	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
1,1,2-Trichloroethane	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
Trichloroethene (TCE)	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
Trichlorofluoromethane	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
1,2,3-Trichloropropane	ND	2.0		mg/Kg	20	7/18/2007 10:02:42 AM
Vinyl chloride	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
Xylenes, Total	15	2.0		mg/Kg	20	7/18/2007 10:02:42 AM
Surr: 1,2-Dichloroethane-d4	98.8	68.7-122		%REC	20	7/18/2007 10:02:42 AM
Surr: 4-Bromofluorobenzene	102	79.3-126		%REC	20	7/18/2007 10:02:42 AM
Surr: Dibromofluoromethane	94.1	64.4-119		%REC	20	7/18/2007 10:02:42 AM
Surr: Toluene-d8	100	86.5-121		%REC	20	7/18/2007 10:02:42 AM

Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

# LABORATORY ANALYTICAL REPORT

Client: Hall Environmental  
Project: 0707170  
Lab ID: C07070619-001  
Client Sample ID Composite West

Report Date: 07/20/07  
Collection Date: 07/12/07 13:30  
Date Received: 07/14/07  
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>PHYSICAL PROPERTIES</b>							
Corrosivity - pH	7.26	s.u.		0.01		SW9045C	07/16/07 10:52 / mkl
Flash Point (Ignitability)	>140	°F		60	140	SW1010	07/17/07 15:19 / cjs
<b>REACTIVITY</b>							
Sulfide, Reactive	ND	mg/kg		20.0	500	SW846 Ch 7	07/17/07 07:00 / jl
Cyanide, Reactive	ND	mg/kg		0.050	250	SW846 Ch 7	07/18/07 09:34 / eli-b

Report RL - Analyte reporting limit.  
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.

# LABORATORY ANALYTICAL REPORT

Client: Hall Environmental  
 Project: 0707170  
 Lab ID: C07070619-002  
 Client Sample ID Composite East

Report Date: 07/20/07  
 Collection Date: 07/13/07 13:00  
 Date Received: 07/14/07  
 Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>PHYSICAL PROPERTIES</b>							
Corrosivity - pH	7.21	s.u.		0.01		SW9045C	07/16/07 10:52 / mkl
Flash Point (Ignitability)	>140	°F		60	140	SW1010	07/18/07 08:36 / cjs
<b>REACTIVITY</b>							
Sulfide, Reactive	ND	mg/kg		20.0	500	SW846 Ch 7	07/17/07 07:25 / jl
Cyanide, Reactive	ND	mg/kg		0.050	250	SW846 Ch 7	07/18/07 09:36 / eli-h

Report RL - Analyte reporting limit.  
 Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.

## QA/QC Summary Report

Client: Hall Environmental  
Project: 0707170

Report Date: 07/20/07  
Work Order: C07070619

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW1010		Batch: 070717A-FLSHIPNT-S							
Sample ID: C07070619-002ADUP	Sample Duplicate					Run: PM_FLASHPOINT B_070718		07/18/07 11:33	
Flash Point (Ignitability)	> 140	°F	60				0.0	5	
Sample ID: MBLK1_070717A	Method Blank					Run: PM_FLASHPOINT B_070718		07/18/07 13:28	
Flash Point (Ignitability)	ND	°F	60						
Sample ID: LCS1_070717A	Laboratory Control Sample					Run: PM_FLASHPOINT B_070718		07/17/07 12:42	
Flash Point (Ignitability)	82.0	°F	60	100	96	104			
Method: SW846 Ch 7		Batch: 15275							
Sample ID: MB-15275	Method Blank					Run: TITRATION_070717A		07/17/07 06:50	
Sulfide, Reactive	ND	mg/kg	1						
Sample ID: C07070619-002AMS	Sample Matrix Spike					Run: TITRATION_070717A		07/17/07 07:27	
Sulfide, Reactive	792	mg/kg	20	105	80	120			
Sample ID: C07070619-002AMSD	Sample Matrix Spike Duplicate					Run: TITRATION_070717A		07/17/07 07:29	
Sulfide, Reactive	784	mg/kg	20	103	80	120	1.0	20	
Method: SW846 Ch 7		Batch: B_27829							
Sample ID: MB-27829	Method Blank					Run: SUB-B96611		07/18/07 09:37	
Cyanide, Reactive	ND	mg/kg	0.05						

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit

## QA/QC SUMMARY REPORT

Client: Giant Refining Co  
 Project: Lagoons and Pond 1 Cleanup 7/12/2007

Work Order: 0707170

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW9056A									
Sample ID: MB-13393		MBLK				Batch ID: 13393	Analysis Date: 7/18/2007 12:02:22 AM		
Chloride	ND	mg/Kg	3.0						
Sample ID: LCS-13393		LCS				Batch ID: 13393	Analysis Date: 7/18/2007 12:19:46 AM		
Chloride	14.57	mg/Kg	0.30	97.2	90	110			
Method: SW8015									
Sample ID: MB-13388		MBLK				Batch ID: 13388	Analysis Date: 7/17/2007 9:24:54 AM		
Diesel Range Organics (DRO)	ND	mg/Kg	10						
Motor Oil Range Organics (MRO)	ND	mg/Kg	50						
Sample ID: LCS-13388		LCS				Batch ID: 13388	Analysis Date: 7/17/2007 9:59:35 AM		
Diesel Range Organics (DRO)	43.64	mg/Kg	10	87.3	64.6	116			
Sample ID: LCSD-13388		LCSD				Batch ID: 13388	Analysis Date: 7/17/2007 10:34:32 AM		
Diesel Range Organics (DRO)	46.58	mg/Kg	10	93.2	64.6	116	6.52	17.4	
Method: SW8015									
Sample ID: MB-13385		MBLK				Batch ID: 13385	Analysis Date: 7/16/2007 7:10:19 PM		
Gasoline Range Organics (GRO)	ND	mg/Kg	5.0						
Sample ID: LCS-13385		LCS				Batch ID: 13385	Analysis Date: 7/16/2007 4:10:19 PM		
Gasoline Range Organics (GRO)	23.43	mg/Kg	5.0	93.7	69.5	120			
Sample ID: LCSD-13385		LCSD				Batch ID: 13385	Analysis Date: 7/16/2007 6:10:28 PM		
Gasoline Range Organics (GRO)	23.70	mg/Kg	5.0	94.8	69.5	120	1.15	11.6	

## Qualifiers:

E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 S Spike recovery outside accepted recovery limits

## QA/QC SUMMARY REPORT

Client: Giant Refining Co

Project: Lagoons and Pond 1 Cleanup 7/12/2007

Work Order: 0707170

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8270C									
Sample ID: MB-13387		MBLK			Batch ID: 13387		Analysis Date:		7/16/2007
Acenaphthene	ND	mg/Kg	0.20						
Acenaphthylene	ND	mg/Kg	0.20						
Aniline	ND	mg/Kg	0.20						
Anthracene	ND	mg/Kg	0.20						
Azobenzene	ND	mg/Kg	0.20						
Benz(a)anthracene	ND	mg/Kg	0.25						
Benzo(a)pyrene	ND	mg/Kg	0.20						
Benzo(b)fluoranthene	ND	mg/Kg	0.20						
Benzo(g,h,i)perylene	ND	mg/Kg	0.30						
Benzo(k)fluoranthene	ND	mg/Kg	0.50						
Benzoic acid	ND	mg/Kg	0.50						
Benzyl alcohol	ND	mg/Kg	1.0						
Bis(2-chloroethoxy)methane	ND	mg/Kg	0.50						
Bis(2-chloroethyl)ether	ND	mg/Kg	0.25						
Bis(2-chloroisopropyl)ether	ND	mg/Kg	0.50						
Bis(2-ethylhexyl)phthalate	ND	mg/Kg	0.20						
4-Bromophenyl phenyl ether	ND	mg/Kg	0.25						
Butyl benzyl phthalate	ND	mg/Kg	0.20						
Carbazole	ND	mg/Kg	0.20						
4-Chloro-3-methylphenol	ND	mg/Kg	0.20						
4-Chloroaniline	ND	mg/Kg	0.20						
2-Chloronaphthalene	ND	mg/Kg	0.20						
2-Chlorophenol	ND	mg/Kg	0.20						
4-Chlorophenyl phenyl ether	ND	mg/Kg	0.20						
Chrysene	ND	mg/Kg	0.20						
Di-n-butyl phthalate	ND	mg/Kg	0.50						
Di-n-octyl phthalate	ND	mg/Kg	0.50						
Dibenz(a,h)anthracene	ND	mg/Kg	0.25						
Dibenzofuran	ND	mg/Kg	0.50						
1,2-Dichlorobenzene	ND	mg/Kg	0.20						
1,3-Dichlorobenzene	ND	mg/Kg	0.20						
1,4-Dichlorobenzene	ND	mg/Kg	0.20						
3,3'-Dichlorobenzidine	ND	mg/Kg	0.20						
Diethyl phthalate	ND	mg/Kg	0.20						
Dimethyl phthalate	ND	mg/Kg	0.20						
2,4-Dichlorophenol	ND	mg/Kg	0.20						
2,4-Dimethylphenol	ND	mg/Kg	0.20						
4,6-Dinitro-2-methylphenol	ND	mg/Kg	0.50						
2,4-Dinitrophenol	ND	mg/Kg	0.50						
2,4-Dinitrotoluene	ND	mg/Kg	0.20						
2,6-Dinitrotoluene	ND	mg/Kg	0.20						
Fluoranthene	ND	mg/Kg	0.20						
Fluorene	ND	mg/Kg	0.20						
Hexachlorobenzene	ND	mg/Kg	0.20						

## Qualifiers:

E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

## QA/QC SUMMARY REPORT

Client: Giant Refining Co  
Project: Lagoons and Pond 1 Cleanup 7/12/2007

Work Order: 0707170

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: SW8270C

Sample ID: MB-13387

MBLK

Batch ID: 13387

Analysis Date:

7/16/2007

Hexachlorobutadiene	ND	mg/Kg	0.20
Hexachlorocyclopentadiene	ND	mg/Kg	0.25
Hexachloroethane	ND	mg/Kg	0.50
Indeno(1,2,3-cd)pyrene	ND	mg/Kg	0.20
Isophorone	ND	mg/Kg	0.20
2-Methylnaphthalene	ND	mg/Kg	0.20
2-Methylphenol	ND	mg/Kg	0.20
3+4-Methylphenol	ND	mg/Kg	0.20
N-Nitrosodi-n-propylamine	ND	mg/Kg	0.20
N-Nitrosodiphenylamine	ND	mg/Kg	0.20
Naphthalene	ND	mg/Kg	0.20
2-Nitroaniline	ND	mg/Kg	0.50
3-Nitroaniline	ND	mg/Kg	0.50
4-Nitroaniline	ND	mg/Kg	0.25
Nitrobenzene	ND	mg/Kg	0.20
2-Nitrophenol	ND	mg/Kg	0.20
4-Nitrophenol	ND	mg/Kg	0.20
Pentachlorophenol	ND	mg/Kg	0.50
Phenanthrene	ND	mg/Kg	0.20
Phenol	ND	mg/Kg	0.20
Pyrene	ND	mg/Kg	0.20
Pyridine	ND	mg/Kg	0.50
1,2,4-Trichlorobenzene	ND	mg/Kg	0.20
2,4,5-Trichlorophenol	ND	mg/Kg	0.20
2,4,6-Trichlorophenol	ND	mg/Kg	0.20

Sample ID: LCS-13387

LCS

Batch ID: 13387

Analysis Date:

7/16/2007

Acenaphthene	1.024	mg/Kg	0.20	61.3	24	125
4-Chloro-3-methylphenol	2.211	mg/Kg	0.20	66.4	14.6	154
2-Chlorophenol	1.606	mg/Kg	0.20	48.2	13.3	149
1,4-Dichlorobenzene	0.7113	mg/Kg	0.20	42.6	23.6	118
2,4-Dinitrotoluene	1.016	mg/Kg	0.20	60.8	28	136
N-Nitrosodi-n-propylamine	1.016	mg/Kg	0.20	60.9	28	114
4-Nitrophenol	2.470	mg/Kg	0.20	74.2	13.1	150
Pentachlorophenol	2.488	mg/Kg	0.50	74.7	20.1	139
Phenol	1.601	mg/Kg	0.20	48.1	17.3	141
Pyrene	1.186	mg/Kg	0.20	71.0	29	131
1,2,4-Trichlorobenzene	0.7100	mg/Kg	0.20	42.5	17.9	126

Sample ID: LCSD-13387

LCSD

Batch ID: 13387

Analysis Date:

7/16/2007

Acenaphthene	1.149	mg/Kg	0.20	68.8	24	125	11.5	25
4-Chloro-3-methylphenol	2.353	mg/Kg	0.20	70.7	14.6	154	6.19	25
2-Chlorophenol	1.949	mg/Kg	0.20	58.5	13.3	149	19.3	25
1,4-Dichlorobenzene	0.8063	mg/Kg	0.20	48.3	23.6	118	12.5	25
2,4-Dinitrotoluene	1.081	mg/Kg	0.20	64.7	28	136	6.23	25
N-Nitrosodi-n-propylamine	1.110	mg/Kg	0.20	66.4	28	114	8.78	25

## Qualifiers:

E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

Page 3



## QA/QC SUMMARY REPORT

Client: Giant Refining Co  
Project: Lagoons and Pond 1 Cleanup 7/12/2007

Work Order: 0707170

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: SW8270C

Sample ID: LCSD-13387

LCSD

Batch ID: 13387

Analysis Date:

7/16/2007

4-Nitrophenol	2.548	mg/Kg	0.20	76.5	13.1	150	3.11	25	
Pentachlorophenol	2.541	mg/Kg	0.50	76.3	20.1	139	2.08	25	
Phenol	1.881	mg/Kg	0.20	56.5	17.3	141	16.1	25	
Pyrene	1.221	mg/Kg	0.20	73.1	29	131	2.88	25	
1,2,4-Trichlorobenzene	0.8057	mg/Kg	0.20	48.2	17.9	126	12.6	25	

Method: SW7470

Sample ID: MB-13419

MBLK

Batch ID: 13419

Analysis Date:

7/18/2007 4:45:26 PM

Mercury ND mg/L 0.020

Sample ID: LCS-13419

LCS

Batch ID: 13419

Analysis Date:

7/18/2007 4:46:59 PM

Mercury 0.005024 mg/L 0.0020 100 80 120

## Qualifiers:

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

## QA/QC SUMMARY REPORT

Client: Giant Refining Co  
 Project: Lagoons and Pond 1 Cleanup 7/12/2007

Work Order: 0707170

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW1311/6010									
Sample ID: 0707170-02B MSD		MSD			Batch ID: 13406	Analysis Date: 7/18/2007 12:14:58 PM			
Arsenic	ND	mg/L	5.0	104	75	125	0	20	
Barium	ND	mg/L	100	94.4	75	125	0	20	
Cadmium	ND	mg/L	1.0	98.5	75	125	0	20	
Chromium	ND	mg/L	5.0	92.7	75	125	0	20	
Lead	ND	mg/L	5.0	91.4	75	125	0	20	
Selenium	ND	mg/L	1.0	107	75	125	0	20	
Silver	ND	mg/L	5.0	105	75	125	0	20	
Sample ID: MB-13406		MBLK			Batch ID: 13406	Analysis Date: 7/18/2007 12:01:39 PM			
Arsenic	ND	mg/L	5.0						
Barium	ND	mg/L	100						
Cadmium	ND	mg/L	1.0						
Chromium	ND	mg/L	5.0						
Lead	ND	mg/L	5.0						
Selenium	ND	mg/L	1.0						
Silver	ND	mg/L	5.0						
Sample ID: LCS-13406		LCS			Batch ID: 13406	Analysis Date: 7/18/2007 12:04:10 PM			
Arsenic	0.5592	mg/L	0.20	109	80	120			
Barium	0.4920	mg/L	0.20	98.2	80	120			
Cadmium	0.5177	mg/L	0.20	104	80	120			
Chromium	0.5024	mg/L	0.20	100	80	120			
Lead	0.4961	mg/L	0.20	99.2	80	120			
Selenium	0.5591	mg/L	0.20	112	80	120			
Silver	0.5271	mg/L	0.20	104	80	120			
Sample ID: 0707170-02B MS		MS			Batch ID: 13406	Analysis Date: 7/18/2007 12:12:26 PM			
Arsenic	ND	mg/L	5.0	110	75	125			
Barium	ND	mg/L	100	95.2	75	125			
Cadmium	ND	mg/L	1.0	103	75	125			
Chromium	ND	mg/L	5.0	96.0	75	125			
Lead	ND	mg/L	5.0	94.7	75	125			
Selenium	ND	mg/L	1.0	102	75	125			
Silver	ND	mg/L	5.0	107	75	125			

## Qualifiers:

E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 S Spike recovery outside accepted recovery limits

## QA/QC SUMMARY REPORT

Client: Giant Refining Co  
 Project: Lagoons and Pond 1 Cleanup 7/12/2007

Work Order: 0707170

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8260B									
Sample ID: MB-13385		MBLK			Batch ID: 13385		Analysis Date: 7/17/2007 6:03:42 AM		
Benzene	ND	mg/Kg	0.050						
Toluene	ND	mg/Kg	0.050						
Ethylbenzene	ND	mg/Kg	0.050						
Methyl tert-butyl ether (MTBE)	ND	mg/Kg	0.050						
1,2,4-Trimethylbenzene	ND	mg/Kg	0.050						
1,3,5-Trimethylbenzene	ND	mg/Kg	0.050						
1,2-Dichloroethane (EDC)	ND	mg/Kg	0.050						
1,2-Dibromoethane (EDB)	ND	mg/Kg	0.050						
Naphthalene	ND	mg/Kg	0.10						
1-Methylnaphthalene	ND	mg/Kg	0.20						
2-Methylnaphthalene	ND	mg/Kg	0.20						
Acetone	ND	mg/Kg	0.75						
Bromobenzene	ND	mg/Kg	0.050						
Bromochloromethane	ND	mg/Kg	0.050						
Bromodichloromethane	ND	mg/Kg	0.050						
Bromoform	ND	mg/Kg	0.050						
Bromomethane	ND	mg/Kg	0.10						
2-Butanone	ND	mg/Kg	0.50						
Carbon disulfide	ND	mg/Kg	0.50						
Carbon tetrachloride	ND	mg/Kg	0.10						
Chlorobenzene	ND	mg/Kg	0.050						
Chloroethane	ND	mg/Kg	0.10						
Chloroform	ND	mg/Kg	0.050						
Chloromethane	ND	mg/Kg	0.050						
2-Chlorotoluene	ND	mg/Kg	0.050						
4-Chlorotoluene	ND	mg/Kg	0.050						
cis-1,2-DCE	ND	mg/Kg	0.050						
cis-1,3-Dichloropropene	ND	mg/Kg	0.050						
1,2-Dibromo-3-chloropropane	ND	mg/Kg	0.10						
Dibromochloromethane	ND	mg/Kg	0.050						
Dibromomethane	ND	mg/Kg	0.10						
1,2-Dichlorobenzene	ND	mg/Kg	0.050						
1,3-Dichlorobenzene	ND	mg/Kg	0.050						
1,4-Dichlorobenzene	ND	mg/Kg	0.050						
Dichlorodifluoromethane	ND	mg/Kg	0.050						
1,1-Dichloroethane	ND	mg/Kg	0.10						
1,1-Dichloroethene	ND	mg/Kg	0.050						
1,2-Dichloropropane	ND	mg/Kg	0.050						
1,3-Dichloropropane	ND	mg/Kg	0.050						
2,2-Dichloropropane	ND	mg/Kg	0.10						
1,1-Dichloropropene	ND	mg/Kg	0.10						
Hexachlorobutadiene	ND	mg/Kg	0.10						
2-Hexanone	ND	mg/Kg	0.50						
Isopropylbenzene	ND	mg/Kg	0.050						

## Qualifiers:

E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 S Spike recovery outside accepted recovery limits

## QA/QC SUMMARY REPORT

Client: Giant Refining Co  
 Project: Lagoons and Pond 1 Cleanup 7/12/2007

Work Order: 0707170

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: SW8260B

Sample ID: MB-13385

MBLK

Batch ID: 13385 Analysis Date: 7/17/2007 6:03:42 AM

4-Isopropyltoluene	ND	mg/Kg	0.050
4-Methyl-2-pentanone	ND	mg/Kg	0.50
Methylene chloride	ND	mg/Kg	0.15
n-Butylbenzene	ND	mg/Kg	0.050
n-Propylbenzene	ND	mg/Kg	0.050
sec-Butylbenzene	ND	mg/Kg	0.050
Styrene	ND	mg/Kg	0.050
tert-Butylbenzene	ND	mg/Kg	0.050
1,1,1,2-Tetrachloroethane	ND	mg/Kg	0.050
1,1,2,2-Tetrachloroethane	ND	mg/Kg	0.050
Tetrachloroethene (PCE)	ND	mg/Kg	0.050
trans-1,2-DCE	ND	mg/Kg	0.050
trans-1,3-Dichloropropene	ND	mg/Kg	0.050
1,2,3-Trichlorobenzene	ND	mg/Kg	0.10
1,2,4-Trichlorobenzene	ND	mg/Kg	0.050
1,1,1-Trichloroethane	ND	mg/Kg	0.050
1,1,2-Trichloroethane	ND	mg/Kg	0.050
Trichloroethene (TCE)	ND	mg/Kg	0.050
Trichlorofluoromethane	ND	mg/Kg	0.050
1,2,3-Trichloropropane	ND	mg/Kg	0.10
Vinyl chloride	ND	mg/Kg	0.050
Xylenes, Total	ND	mg/Kg	0.10

Sample ID: LCS-13385

LCS

Batch ID: 13385 Analysis Date: 7/17/2007 6:39:15 AM

Benzene	1.039	mg/Kg	0.050	104	78.2	123
Toluene	0.9869	mg/Kg	0.050	98.7	72.6	128
Chlorobenzene	1.024	mg/Kg	0.050	102	82.2	116
1,1-Dichloroethene	1.061	mg/Kg	0.050	106	64.9	132
Trichloroethene (TCE)	1.020	mg/Kg	0.050	102	65.1	108

Sample ID: LCSD-13385

LCSD

Batch ID: 13385 Analysis Date: 7/17/2007 8:26:10 AM

Benzene	1.030	mg/Kg	0.050	103	78.2	123	0.812	20
Toluene	1.015	mg/Kg	0.050	102	72.6	128	2.85	20
Chlorobenzene	1.017	mg/Kg	0.050	102	82.2	116	0.764	20
1,1-Dichloroethene	1.043	mg/Kg	0.050	104	64.9	132	1.65	20
Trichloroethene (TCE)	0.9995	mg/Kg	0.050	100	65.1	108	2.06	20

## Qualifiers:

E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name GIANTREFIN

Date and Time Received:

7/13/2007

Work Order Number 0707170

Received by AT

Checklist completed by

Signature

Date

7/13/07

Matrix:

Carrier name Client drop-off

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>	
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>	Not Shipped <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>	
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Water - VOA vials have zero headspace?	No VOA vials submitted <input checked="" type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
Water - Preservation labels on bottle and cap match?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>	
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>	

Container/Temp Blank temperature?

6°

4° C ± 2 Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted

Date contacted:

Person contacted

Contacted by:

Regarding:

Comments:

Corrective Action



**Chavez, Carl J, EMNRD**

---

**From:** Cobrain, Dave, NMENV  
**Sent:** Tuesday, July 31, 2007 9:26 AM  
**To:** Chavez, Carl J, EMNRD; Price, Wayne, EMNRD  
**Cc:** Monzeglio, Hope, NMENV; Frischkorn, Cheryl, NMENV  
**Subject:** Aggressive Biologic Treatment definition from 40 CFR 261.31  
**Attachments:** Doc2.doc

Wayne/Carl,

Attached is the definition of aggressive biologic treatment from the RCRA Regs. I added the bold and color text. The definitions in 260.10 don't include a definition of activated sludge. It could be a Clean Water Act definition. We'll get back to you on the Liquid Waste regs shortly.

Dave

7/31/2007

40 CFR 261.31(b)

(b) Listing Specific Definitions: (1) For the purposes of the F037 and F038 listings, oil/water/solids is defined as oil and/or water and/or solids.(2) (i) For the purposes of the F037 and F038 listings, **aggressive biological treatment units are defined as units which employ one of the following four treatment methods: activated sludge; trickling filter; rotating biological contactor for the continuous accelerated biological oxidation of wastewaters; or high-rate aeration.** High-rate aeration is a system of surface impoundments or tanks, in which intense mechanical aeration is used to completely mix the wastes, enhance biological activity, and (A) the units employ a minimum of 6 hp per million gallons of treatment volume; and either (B) the hydraulic retention time of the unit is no longer than 5 days; or (C) the hydraulic retention time is no longer than 30 days and the unit does not generate a sludge that is a hazardous waste by the Toxicity Characteristic.

(ii) Generators and treatment, storage and disposal facilities have the burden of proving that their sludges are exempt from listing as F037 and F038 wastes under this definition. Generators and treatment, storage and disposal facilities must maintain, in their operating or other onsite records, documents and data sufficient to prove that: (A) the unit is an aggressive biological treatment unit as defined in this subsection; and (B) the sludges sought to be exempted from the definitions of F037 and/or F038 were actually generated in the aggressive biological treatment unit.

(3) (i) For the purposes of the F037 listing, sludges are considered to be generated at the moment of deposition in the unit, where deposition is defined as at least a temporary cessation of lateral particle movement.

(ii) For the purposes of the F038 listing, (A) sludges are considered to be generated at the moment of deposition in the unit, where deposition is defined as at least a temporary cessation of lateral particle movement and (B) floats are considered to be generated at the moment they are formed in the top of the unit.





#6 @ 12" O/C - NORTH AND SOUTH,  
AND 9" O/C - EAST AND WEST. —  
8" THK. CONC. SLAB ~ 4000 PSI CONC.

60'-0" OVERALL TRUCK SHOWN  
(x 10'-0" OVERALL WIDE)

UPPER ELEVATION

RETAINING WALL

#6 @ 12" O/C - NORTH AND SOUTH,  
AND 9" O/C - EAST AND WEST. —  
8" THK. CONC. SLAB ~ 4000 PSI CONC.

APPROVED BY MAINTENANCE

APPROVED BY OPERATIONS

APPROVED BY ENVIR/SAFETY

245

109'-6"



HOT OIL TRUCK UNLOADING AREA			
SLAB FOUNDATION PLAN & SECTION			
THIS DOCUMENT IS THE PROPERTY OF QUANTUM. WITHOUT THIS DOCUMENT THE JURY DATA HEREIN SHALL BE CORRUPT OR MISREPRODUCED IN ANY MANNER WITHOUT THE WRITTEN CONSENT OF QUANTUM. RETURN.			
DRAWN: R.S.	05-05-07	SCALE: FILL	ENG: RBL
CHECK: X		3.00/8" = 1'-0"	APP: NDL
JOB NO.	DWG. NO.	HOT OIL DWG.,	SHT. 2
			REV. C

SCALE FACTOR = X

**Chavez, Carl J, EMNRD**

---

**From:** Jim Lieb [jlieb@giant.com]  
**Sent:** Thursday, July 26, 2007 3:50 PM  
**To:** Chavez, Carl J, EMNRD; Monzeglio, Hope, NMENV; Powell, Brandon, EMNRD  
**Cc:** Ed Rios; Ed Riege; Steve Morris; Joel Quinones; John Platero; Butch Turpen; Don Riley; Ann Allen; Cheryl Johnson  
**Subject:** Weir Box Overflow on July 19th at Giant/Western - Ciniza Refinery  
**Attachments:** C-141reportform.pdf

Hope/Carl/Brandon:

I have prepared a C-141 for the overflow at the weir box at the new API (NAPIS) that occurred on 7-19-07. We got hit with a really big thunderstorm on the 19<sup>th</sup> at around 5:15 pm. The resulting slug of rain water overflowed the weir box. The lab staff went right down to the API as soon as they got the signal of high weir box level. They opened the weir box bypass line that when opened allows water to bypass the weir box and flow directly into the NAPIS. The lab foreman estimates it overflowed for 5 minutes and 5 to 10 barrels escaped. I checked the area of the spill the next morning and it looked as though some water flowed into the second aeration lagoon and most into evaporation pond #1. A berm down slope from the NAPIS near the EP1 prevented any from escaping further downslope. I asked the lab foreman who was on duty at the time how he estimated the volume released; he said it was based on the volume of the weir box assuming the whole box overflowed.

To avoid repeats, we have begun daily cleanouts of the weir box during the rainy season. We are also doing an evaluation of the front end loading capacity of the NAPIS as there may be some clogging occurring in the influent pipe there.

If you have any questions, please contact me at (505) 722-0227.  
Regards,

Jim Lieb  
Environmental Engineer  
Giant Industries, Inc.  
Ciniza Refinery  
I-40, Exit 39  
Jamestown, NM 87347  
(505) 722-0227  
fax (505) 722-0210  
[jlieb@giant.com](mailto:jlieb@giant.com)

---

This inbound email has been scanned by the MessageLabs Email Security System.

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7/26/2007

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources

Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-141  
Revised October 10, 2003

Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

**Release Notification and Corrective Action**

**OPERATOR**

☒ Initial Report ☐ Final Report

Name of Company	Western Refining – Ciniza Refinery	Contact	Jim Lieb
Address	1-40, Exit 39, Jamestown NM 87347	Telephone No.	505-722-0227
Facility Name	Ciniza Refinery	Facility Type	Oil refinery

Surface Owner	Giant Industries, Inc.	Mineral Owner	Giant Industries, Inc.	Lease No.	
---------------	------------------------	---------------	------------------------	-----------	--

**LOCATION OF RELEASE**

Unit Letter	Section 23 & 33	Township 15N	Range 15W	Feet from the	North/South Line	Feet from the	East/West Line	County McKinley
-------------	--------------------	-----------------	--------------	---------------	------------------	---------------	----------------	--------------------

Latitude 35°29'30" Longitude -108°24'40"

**NATURE OF RELEASE**

Type of Release	Rain water and Process Waste Water	Volume of Release: 5-10 barrels estimate (210 - 420 gallons)	Volume Recovered: 100 gallons estimate split between what will have soaked in soil to be cleaned up and will be vacuumed up
Source of Release	Weir Box of the New API Separator (NAPIS)	Date and Hour of Occurrence 7/19/07 1717 hours	Date and Hour of Discovery 7/19/07 1723 hours
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Carl Chavez and Hope Monzeglio	
By Whom?	Jim Lieb	Date and Hour July 20, 2007 at 0850 hours	
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\*

Cause: Heavy rainfall resulted in large slug of water that overflowed the weir box. The weir box had some debris in it that partially contributed to the overflow.

Remedial action: The weir box was put on bypass to allow water to flow directly into the New API separator (NAPIS) until the heavy flow ceased. Debris was removed from the weir box screen and normal flow through the weir box was resumed.


Describe Area Affected and Cleanup Action Taken.\*

The area surrounding the weir box, along the north side of the NAPIS, and down slope approximately 100 feet from the NAPIS. Most of the water looks to have flowed into evaporation pond 1. A berm is in place down slope of the NAPIS. Waste water that made it to the berm was contained within the berm. The waste water soaked into the soil around the weir box and within the bermed area. A high priority work order was put in this morning to have the pooled water vacuumed up. The impacted soil will be removed when the area has dried out. The soil will be placed on plastic liner and enclosed by a berm in our waste soil staging area for final disposition.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

**OIL CONSERVATION DIVISION**

Signature:



Printed Name: Ed Rios

Approved by District Supervisor:

Title: General Manager

Approval Date:

Expiration Date:

E-mail Address: erios@giant.com

Conditions of Approval:

Attached ☐

Date: 7-20-07

Phone: (505) 722-0202

\* Attach Additional Sheets If Necessary

## Chavez, Carl J, EMNRD

---

**From:** Monzeglio, Hope, NMENV  
**Sent:** Wednesday, July 11, 2007 10:37 AM  
**To:** Chavez, Carl J, EMNRD; Price, Wayne, EMNRD  
**Cc:** Cobrain, Dave, NMENV; Frischkorn, Cheryl, NMENV  
**Subject:** Ciniza discharge plan

Carl

In response to the public notice of OCD's discharge plan for Ciniza, some of NMED's requests did not make it into the Table found in number 19. I also have a question on a footnote in the Table in number 19 as well. My comments are listed below. Please let me know if you need me to submit a formal comment during the comment period.

1) Number 19, the Table, well location NAPIS-1, NAPIS-2, NAPIS-3D. NMED would like to add if water is present a sampled must be collected and analyzed for BTEX, MTBE, GRO and DRO extended. (we are expecting water in some of these wells).

2) Number 19, footnote 1, I did not see which well this belong to?

Let me know if I need to submit a formal comment.

Thanks  
Hope

Hope Monzeglio  
Environmental Specialist  
New Mexico Environment Department  
Hazardous Waste Bureau  
2905 Rodeo Park Drive East, BLDG 1  
Santa Fe NM 87505  
Phone: (505) 476-6045  
Main No.: (505)-476-6000  
Fax: (505)-476-6030  
[hope.monzeglio@state.nm.us](mailto:hope.monzeglio@state.nm.us)

**Websites:**  
**New Mexico Environment Department**  
**Hazardous Waste Bureau**

Please note the new phone numbers

7/11/2007

6W-32

**Chavez, Carl J, EMNRD**

---

**From:** Jim Lieb [jlieb@giant.com]  
**Sent:** Tuesday, July 10, 2007 10:07 AM  
**To:** Chavez, Carl J, EMNRD; Powell, Brandon, EMNRD; Monzeglio, Hope, NMENV  
**Cc:** Ed Rios; Ed Riege; Steve Morris; Ann Allen  
**Subject:** C-141 for 7-7-07 fire at Giant Refining - Ciniza Refinery  
**Attachments:** \_0710094359\_001.pdf

I prepared the OCD's C-141 form for the small fire we experienced on Saturday morning. No one was injured. Some water from a fire water monitor made it down to the old API. This was pumped to the new API for recovery of kerosene.

Regards,

Jim Lieb  
Environmental Engineer  
Giant Industries, Inc.  
Ciniza Refinery  
I-40, Exit 39  
Jamestown, NM 87347  
(505) 722-0227  
fax (505) 722-0210  
[jlieb@giant.com](mailto:jlieb@giant.com)

---

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7/10/2007

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources

Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-141  
Revised October 10, 2003

Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

**Release Notification and Corrective Action**

**OPERATOR**

☒ Initial Report ☐ Final Report

Name of Company	Giant Refining – Ciniza Refinery	Contact	Jim Lieb
Address	I-40, Exit 39, Jamestown NM 87347	Telephone No.	505-722-0227
Facility Name	Ciniza Refinery	Facility Type	Oil Refinery

Surface Owner	Giant Industries, Inc.	Mineral Owner	Giant Industries, Inc.	Lease No.	
---------------	------------------------	---------------	------------------------	-----------	--

**LOCATION OF RELEASE**

Unit Letter	Section 23 & 33	Township 15N	Range 15W	Feet from the	North/South Line	Feet from the	East/West Line	County McKinley
-------------	--------------------	-----------------	--------------	---------------	------------------	---------------	----------------	--------------------

Latitude 35°29'22" Longitude 108°25'24"

**NATURE OF RELEASE**

Type of Release	smoke from fire, fire monitor water, some kerosene	Volume of Release	200 gallons fire monitor water (estimated) with some kerosene to sewers to old API separator	Volume Recovered	199 gallons – water/ kerosene was recovered in new API
Source of Release	KHT Unit at the outlet piping of D-H2	Date and Hour of Occurrence	7/7/07 11:50 am	Date and Hour of Discovery	7/7/07 11:55 am
Was Immediate Notice Given?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?			
By Whom?	Date and Hour				
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.\* not applicable

Describe Cause of Problem and Remedial Action Taken.\*

A tube failed in the D-H2 reactor charge heater. The tube failure resulted in a small fire. Fire was fought with fire extinguishers. Fire monitor water was used to cool down surrounding equipment.

Describe Area Affected and Cleanup Action Taken.\*

D-H2 heater, area was hosed down.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature:	<b>OIL CONSERVATION DIVISION</b>		
Printed Name: Jim Lieb	Approved by District Supervisor:		
Title: Environmental Engineer	Approval Date:	Expiration Date:	
E-mail Address: <a href="mailto:jlieb@giant.com">jlieb@giant.com</a>	Conditions of Approval:		Attached <input type="checkbox"/>
Date: July 10, 2007 Phone: 505-722-0227			

\* Attach Additional Sheets If Necessary

**Chavez, Carl J, EMNRD**

---

**From:** Jim Lieb [jlieb@giant.com]  
**Sent:** Friday, July 06, 2007 2:50 PM  
**To:** Monzeglio, Hope, NMENV; Chavez, Carl J, EMNRD  
**Cc:** Ed Riege; Steve Morris; Cheryl Johnson  
**Subject:** Cleaned Up Banks of Lagoons and Pond 1 at Western ciniza Refinery  
**Attachments:** 101\_0253.JPG; 101\_0246.JPG; 101\_0247.JPG; 101\_0249.JPG; 101\_0250.JPG; 101\_0251.JPG; 101\_0252.JPG

Hope, Carl:

Fuhs Trucking finished the cleanup of the banks of Aeration lagoons 1 and 2 and NE side of Evaporation Pond 1 this week. I have attached some pictures showing the cleaned lagoons and pond. Some also show the aerators working fine. A small shed shown in one picture houses two of our flow meters for the Pilot discharge and the flow from the benzene strippers into AL1. Our waste water generally looks cleaner now that the SWAATS unit is on line. The SWAATS recovers nitrogen and sulfur from waste streams and generates fertilizer as a byproduct that I believe we are currently selling to agricultural entities such as NAPI.

Regards,

Jim Lieb  
Environmental Engineer  
Giant Industries, Inc.  
Ciniza Refinery  
I-40, Exit 39  
Jamestown, NM 87347  
(505) 722-0227  
fax (505) 722-0210  
[jlieb@giant.com](mailto:jlieb@giant.com)

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7/9/2007

## Western/Giant Refining- Ciniza Refinery

7/6/2007 2:50 p.m.

Hope, Carl:

Fuhs Trucking finished the cleanup of the banks of Aeration lagoons 1 and 2 and NE side of Evaporation Pond 1 this week. I have attached some pictures showing the cleaned lagoons and pond. Some also show the aerators working fine. A small shed shown in one picture houses two of our flow meters for the Pilot discharge and the flow from the benzene strippers into AL1. Our waste water generally looks cleaner now that the SWAATS unit is on line. The SWAATS recovers nitrogen and sulfur from waste streams and generates fertilizer as a byproduct that I believe we are currently selling to agricultural entities such as NAPI.

Regards,

Jim Lieb  
Environmental Engineer  
Giant Industries, Inc.  
Ciniza Refinery  
I-40, Exit 39  
Jamestown, NM 87347  
(505) 722-0227  
fax (505) 722-0210  
[jl Lieb@giant.com](mailto:jl Lieb@giant.com)



## Western/Giant Refining- Ciniza Refinery

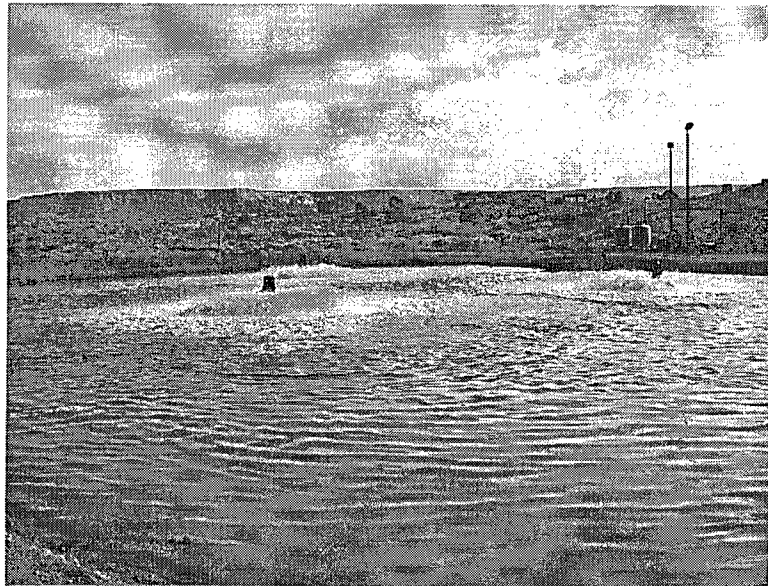
7/6/2007 2:50 p.m.

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Regards,

Jim Lieb  
Environmental Engineer  
Giant Industries, Inc.  
Ciniza Refinery  
I-40, Exit 39  
Jamestown, NM 87347  
(505) 722-0227  
fax (505) 722-0210  
[jl Lieb@giant.com](mailto:jl Lieb@giant.com)



MELISSA BUHRIG  
SENIOR COUNSEL  
915-775-3226 DIRECT  
915-775-3356 FACSIMILE

June 26, 2007

**Via E-Mail CarlJ.Chavez@state.nm.us**  
**and Federal Express #7996 6499 0428**

Mr. Carl Chavez  
Energy, Minerals and Natural Resources Department  
Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, NM 87505

Re: Ciniza Refinery

Dear Mr. Chavez:

This letter provides background on the acquisition of Giant Industries, Inc. ("Giant") by Western Refining, Inc. ("Western") on May 31, 2007, and how that transaction relates to the ownership and operation of the Ciniza refinery. Briefly, the transaction did not directly impact the ownership or operation of the Ciniza refinery. Giant Industries Arizona, Inc. ("Giant Arizona") has and continues to own and operate the Ciniza Refinery.

Pursuant to an Agreement and Plan of Merger (as amended, the "Agreement"), dated August 26, 2006, and amended November 12, 2006, Western agreed to purchase all of the outstanding shares of stock of Giant in exchange for Giant's agreement to merge with a wholly-owned subsidiary of Western (the "Transaction"). This Transaction made Giant a wholly-owned subsidiary of Western, but did not impact either: (a) ownership and operation of the Ciniza refinery by Giant Arizona; or (b) ownership of Giant Arizona by Giant. The only impact of the Transaction was on the ownership of Giant Industries, Inc., which went from being owned by individual shareholders, to being owned by Western. Attached as Attachment 1 is a chart showing the corporate structure of Giant prior to the Transaction and attached as Attachment 2 is a chart showing the corporate structure after the Transaction. As you can see, the owner and operator of the Ciniza refinery remains the same: Giant Arizona.

Mr. Carl J. Chavez

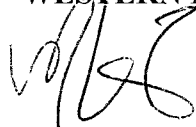
June 26, 2007

Page 2 of 2

We are hopeful this addresses any questions you may have on the ownership and operation of the Ciniza refinery. Please don't hesitate to contact me at (915) 775-3226 with questions, or if there is any other information I can provide.

Sincerely,

**WESTERN REFINING COMPANY, L.P.**

A handwritten signature in black ink, appearing to read 'MB', is positioned above the printed name.

Melissa Buhrig  
Senior Counsel

Enclosure

Client: Giant Refining  
Company - Cincin  
Address: Route 3 Box 7

Falling, NM 87301

Phone #: 505 722 3833  
Fax #: 505 722 0210

Fax #: 505 722 0210

Date	Time	Matrix	Sample I.D. No.
------	------	--------	-----------------

## Matrix

Sample I.D. No.

Number/Volume

Preservative

$$\text{HgCl}_2 \quad \text{HNO}_3$$

NY 12

0705138

QA/QC Package: ☐ Level 4 ☐

Other:

Project Name: NE-OSD Longform  
2<sup>nd</sup> Qtr. 2007

Project #:

**Project Manager:**

Sampler:

Sample Temperature:

Date:	5/19/07
Time:	1090

Relinquished By: (Signature) *John G. Harris*

Date:	Time:
-------	-------

Belonging to: (Signature)

Received By (Signature)

Received By: (Signature)

5/10/07  
0905

**HALL ENVIRONMENTAL  
ANALYSIS LABORATORY**

4901 Hawkins NE, Suite D  
Albuquerque, New Mexico 87109  
Tel. 505.345.3975 Fax 505.345.4107  
[www.hallenvironmental.com](http://www.hallenvironmental.com)

# ANALYSIS REQUEST

[illegible]

Remarks:

OCD LTA SAMPLE GRID LENGTH 14FT.  
WIDTH 7FT.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100
101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130
131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150

5/8/2007

sample date

EXCEL RAND # CHOICES

0.5961907	89.42861
0.3597572	53.96358

Lift samples taken from Cell #s 89 and 54.

## Hall Environmental Analysis Laboratory, Inc.

Date: 01-Dec-06

<b>CLIENT:</b>	Giant Refining Co	<b>Client Sample ID:</b>	Fuel Oil Rack
<b>Lab Order:</b>	0611097	<b>Collection Date:</b>	11/7/2006 3:15:00 PM
<b>Project:</b>	Misc. Soil Samples	<b>Date Received:</b>	11/8/2006
<b>Lab ID:</b>	0611097-01	<b>Matrix:</b>	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 7471: MERCURY</b>						
Mercury	0.17	0.033		mg/Kg	1	Analyst: IC 11/30/2006
<b>EPA METHOD 6010B: SOIL METALS</b>						
Arsenic	ND	2.5		mg/Kg	1	Analyst: CMS 11/17/2006 1:29:55 PM
Barium	720	2.0		mg/Kg	20	11/17/2006 2:08:26 PM
Cadmium	ND	0.10		mg/Kg	1	11/17/2006 1:29:55 PM
Chromium	5.0	0.30		mg/Kg	1	11/17/2006 1:29:55 PM
Lead	1.4	0.25		mg/Kg	1	11/17/2006 1:29:55 PM
Selenium	ND	2.5		mg/Kg	1	11/17/2006 1:29:55 PM
Silver	ND	0.25		mg/Kg	1	11/17/2006 1:29:55 PM
<b>EPA METHOD 8260B: VOLATILES</b>						
Benzene	ND	2.5		mg/Kg	50	Analyst: LMM 11/10/2006
Toluene	47	2.5		mg/Kg	50	11/10/2006
Ethylbenzene	18	2.5		mg/Kg	50	11/10/2006
Methyl tert-butyl ether (MTBE)	ND	2.5		mg/Kg	50	11/10/2006
1,2,4-Trimethylbenzene	120	2.5		mg/Kg	50	11/10/2006
1,3,5-Trimethylbenzene	46	2.5		mg/Kg	50	11/10/2006
1,2-Dichloroethane (EDC)	ND	2.5		mg/Kg	50	11/10/2006
1,2-Dibromoethane (EDB)	ND	2.5		mg/Kg	50	11/10/2006
Naphthalene	120	5.0		mg/Kg	50	11/10/2006
1-Methylnaphthalene	140	10		mg/Kg	50	11/10/2006
2-Methylnaphthalene	270	20		mg/Kg	100	11/13/2006
Acetone	ND	38		mg/Kg	50	11/10/2006
Bromobenzene	ND	2.5		mg/Kg	50	11/10/2006
Bromochloromethane	ND	2.5		mg/Kg	50	11/10/2006
Bromodichloromethane	ND	2.5		mg/Kg	50	11/10/2006
Bromoform	ND	2.5		mg/Kg	50	11/10/2006
Bromomethane	ND	5.0		mg/Kg	50	11/10/2006
2-Butanone	ND	25		mg/Kg	50	11/10/2006
Carbon disulfide	ND	25		mg/Kg	50	11/10/2006
Carbon tetrachloride	ND	5.0		mg/Kg	50	11/10/2006
Chlorobenzene	ND	2.5		mg/Kg	50	11/10/2006
Chloroethane	ND	5.0		mg/Kg	50	11/10/2006
Chloroform	ND	2.5		mg/Kg	50	11/10/2006
Chloromethane	ND	2.5		mg/Kg	50	11/10/2006
2-Chlorotoluene	ND	2.5		mg/Kg	50	11/10/2006
4-Chlorotoluene	ND	2.5		mg/Kg	50	11/10/2006
cis-1,2-DCE	ND	2.5		mg/Kg	50	11/10/2006

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
E Value above quantitation range	H Holding times for preparation or analysis exceeded	
J Analyte detected below quantitation limits	MCL Maximum Contaminant Level	
ND Not Detected at the Reporting Limit	RL Reporting Limit	
S Spike recovery outside accepted recovery limits		



## COVER LETTER

Friday, December 01, 2006

Cheryl Johnson  
Giant Refining Co  
Rt. 3 Box 7  
Gallup, NM 87301

TEL: (505) 722-3833  
FAX (505) 722-0210

RE: Misc. Soil Samples

Order No.: 0611097

Dear Cheryl Johnson:

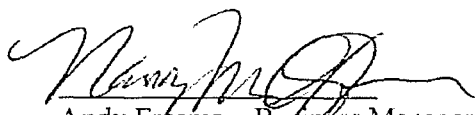
Hall Environmental Analysis Laboratory, Inc. received 6 sample(s) on 11/8/2006 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

  
Andy Freeman, Business Manager  
Nancy McDuffie, Laboratory Manager

NM Lab # NM9425  
AZ license # AZ0682  
ORELAP Lab # NM100001





# Hall Environmental Analysis Laboratory, Inc.

## Sample Receipt Checklist

Client Name GIANTREFIN

Date and Time Received:

5/10/2007

Work Order Number 0705135

Received by AT

Checklist completed by

Jamp SL  
Signature

May 10, 07  
Date

Matrix

Carrier name Client drop-off

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>	
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>	Not Shipped <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>	
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Water - VOA vials have zero headspace?	No VOA vials submitted <input checked="" type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
Water - Preservation labels on bottle and cap match?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>	
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>	

Container/Temp Blank temperature?

3°

4° C ± 2 Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted

Date contacted:

Person contacted

Contacted by:

Regarding

Comments:

Corrective Action

## QA/QC SUMMARY REPORT

Client: Giant Refining Co  
 Project: NE OCD Landfarm 2nd Quarter 2007

Work Order: 0705136

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
---------	--------	-------	-----	------	----------	-----------	------	----------	------

Method: SW8021

Sample ID: 0705136-01A MSD Batch ID: 12912 Analysis Date: 5/11/2007 11:36:16 AM

Methyl tert-butyl ether (MTBE)	0.4393	mg/Kg	0.10	107	67.9	135	1.69	28	
Benzene	0.3212	mg/Kg	0.050	115	62.7	114	0.0622	27	S
Toluene	2.269	mg/Kg	0.050	113	68.2	121	0.0881	19	
Ethylbenzene	0.4461	mg/Kg	0.050	112	71.4	115	0.382	10	
Xylenes, Total	2.605	mg/Kg	0.10	113	65	135	0.968	13	

Sample ID: MB-12912 Batch ID: 12912 Analysis Date: 5/11/2007 10:03:25 AM

Methyl tert-butyl ether (MTBE)	ND	mg/Kg	0.10						
Benzene	ND	mg/Kg	0.050						
Toluene	ND	mg/Kg	0.050						
Ethylbenzene	ND	mg/Kg	0.050						
Xylenes, Total	ND	mg/Kg	0.10						

Sample ID: LCS-12912 Batch ID: 12912 Analysis Date: 5/11/2007 10:35:57 AM

Methyl tert-butyl ether (MTBE)	0.4051	mg/Kg	0.10	98.8	67.9	135			
Benzene	0.2968	mg/Kg	0.050	106	62.7	114			
Toluene	2.088	mg/Kg	0.050	104	68.2	121			
Ethylbenzene	0.4049	mg/Kg	0.050	101	71.4	115			
Xylenes, Total	2.341	mg/Kg	0.10	102	65	135			

Sample ID: 0705136-01A MS Batch ID: 12912 Analysis Date: 5/11/2007 11:06:06 AM

Methyl tert-butyl ether (MTBE)	0.4468	mg/Kg	0.10	109	67.9	135			
Benzene	0.3214	mg/Kg	0.050	115	62.7	114			S
Toluene	2.271	mg/Kg	0.050	114	68.2	121			
Ethylbenzene	0.4444	mg/Kg	0.050	111	71.4	115			
Xylenes, Total	2.580	mg/Kg	0.10	112	65	135			

## Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	RPD recovery outside accepted recovery limits

## QA/QC SUMMARY REPORT

Client: Giant Refining Co  
 Project: NE OCD Landfarm 2nd Quarter 2007

Work Order: 0705136

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8015									
Sample ID: 0705136-01BMSD		MSD							
Diesel Range Organics (DRO)	38.36	mg/Kg	10	76.7	67.4	117	0.0495	17.4	
Sample ID: MB-12928		MBLK							
Diesel Range Organics (DRO)	ND	mg/Kg	10						
Motor Oil Range Organics (MRO)	ND	mg/Kg	50						
Sample ID: LCS-12928		LCS							
Diesel Range Organics (DRO)	38.99	mg/Kg	10	78.0	64.6	116			
Sample ID: LCSD-12928		LCSD							
Diesel Range Organics (DRO)	40.93	mg/Kg	10	81.9	64.6	116	4.86	17.4	
Sample ID: 0705136-01BMS		MS							
Diesel Range Organics (DRO)	38.38	mg/Kg	10	76.8	67.4	117			
Method: SW8015									
Sample ID: 0705136-01A MSD		MSD							
Gasoline Range Organics (GRO)	28.08	mg/Kg	5.0	102	69.5	120	1.65	11.6	
Sample ID: MB-12912		MBLK							
Gasoline Range Organics (GRO)	ND	mg/Kg	5.0						
Sample ID: LCS-12912		LCS							
Gasoline Range Organics (GRO)	25.43	mg/Kg	5.0	91.0	69.5	120			
Sample ID: 0705136-01A MS		MS							
Gasoline Range Organics (GRO)	27.62	mg/Kg	5.0	100	69.5	120			

## Qualifiers:

E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 S Recovery outside accepted recovery limits

**Hall Environmental Analysis Laboratory, Inc.**

Date: 15-May-07

CLIENT: Giant Refining Co  
Lab Order: 0705136  
Project: NE OCD Landfarm 2nd Quarter 2007  
Lab ID: 0705136-02

Client Sample ID: Cell # 93  
Collection Date: 5/8/2007 10:45:00 AM  
Date Received: 5/10/2007  
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: JMP
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	5/14/2007 6:14:14 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/14/2007 6:14:14 PM
Surr: DNOP	95.1	61.7-135		%REC	1	5/14/2007 6:14:14 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/11/2007 12:36:21 PM
Surr: BFB	117	84-138		%REC	1	5/11/2007 12:36:21 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.10		mg/Kg	1	5/11/2007 12:36:21 PM
Benzene	ND	0.050		mg/Kg	1	5/11/2007 12:36:21 PM
Toluene	ND	0.050		mg/Kg	1	5/11/2007 12:36:21 PM
Ethylbenzene	ND	0.050		mg/Kg	1	5/11/2007 12:36:21 PM
Xylenes, Total	ND	0.10		mg/Kg	1	5/11/2007 12:36:21 PM
Surr: 4-Bromofluorobenzene	92.0	68.2-109		%REC	1	5/11/2007 12:36:21 PM

Qualifiers: \* Value exceeds Maximum Contaminant Level  
E Value above quantitation range  
J Analyte detected below quantitation limits  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits  
B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
RL Reporting Limit

**Hall Environmental Analysis Laboratory, Inc.**

Date: 15-May-07

CLIENT: Giant Refining Co

Client Sample ID: Cell # 39

Lab Order: 0705136

Collection Date: 5/8/2007 10:00:00 AM

Project: NE OCD Landfarm 2nd Quarter 2007

Date Received: 5/10/2007

Lab ID: 0705136-01

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: JMP
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	5/14/2007 5:39:49 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/14/2007 5:39:49 PM
Surr: DNOP	105	61.7-135		%REC	1	5/14/2007 5:39:49 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/11/2007 12:06:21 PM
Surr: BFB	117	84-138		%REC	1	5/11/2007 12:06:21 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.10		mg/Kg	1	5/11/2007 12:06:21 PM
Benzene	ND	0.050		mg/Kg	1	5/11/2007 12:06:21 PM
Toluene	ND	0.050		mg/Kg	1	5/11/2007 12:06:21 PM
Ethylbenzene	ND	0.050		mg/Kg	1	5/11/2007 12:06:21 PM
Xylenes, Total	ND	0.10		mg/Kg	1	5/11/2007 12:06:21 PM
Surr: 4-Bromofluorobenzene	91.8	68.2-109		%REC	1	5/11/2007 12:06:21 PM

Qualifiers: \* Value exceeds Maximum Contaminant Level  
E Value above quantitation range  
J Analyte detected below quantitation limits  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
RL Reporting Limit



## COVER LETTER

Tuesday, May 15, 2007

Steve Morris  
Giant Refining Co  
Rt. 3 Box 7  
Gallup, NM 87301

TEL: (505) 722-3833  
FAX (505) 722-0210

RE: NE OCD Landfarm 2nd Quarter 2007

Order No.: 0705136

Dear Steve Morris:


Hall Environmental Analysis Laboratory, Inc. received 2 sample(s) on 5/10/2007 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,



Andy Freeman, Business Manager  
Nancy McDuffie, Laboratory Manager

NM Lab # NM9425  
AZ license # AZ0682  
ORELAP Lab # NM100001



**HALL ENVIRONMENTAL  
ANALYSIS LABORATORY**

4901 Hawkins NE, Suite D  
Albuquerque, New Mexico 87109  
Tel. 505.345.3975 Fax 505.345.4  
[www.hallenvironmental.com](http://www.hallenvironmental.com)

CHAIN-OF-CUSTODY RECORD						QA/QC Package:		
Client: <u>Grant Refining Company - Tinian</u> Address: <u>Route 3 Box 7</u> <u>Galley, NM 87301</u>						Other: <input type="checkbox"/> Std <input type="checkbox"/> Level 4 <input type="checkbox"/>		
						Project Name: <u>NE-OCD Sampling</u> <u>Lift Samples 5-8-2007</u>		
Project #:						Project Manager: <u>Steve Morris</u>		
Phone #: <u>505 722 3833</u>						Sampler: <u>Steve Morris</u>		
Fax #: <u>505 722 0210</u>						Sample Temperature: <u>3</u>		
Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative		HEAL No.	
					HgCl <sub>2</sub>	HNO <sub>3</sub>		
<u>5/8/07</u>	<u>1115</u>	<u>Soil</u>	<u>NE-OCD Wharf</u>	<u>2</u>			<u>0705140</u>	
<u>"</u>	<u>1145</u>	<u>"</u>	<u>NE-OCD East</u>	<u>2</u>			<u>1</u>	
							<u>2</u>	
Date: <u>5/19/07</u>	Time: <u>0908</u>	Relinquished By: (Signature) <u>Steve Morris</u>			Received By: (Signature) <u>Steve Morris</u>			
Date: <u>5/19/07</u>	Time: <u>0908</u>	Relinquished By: (Signature) <u>Steve Morris</u>			Received By: (Signature) <u>Steve Morris</u>			

# Hall Environmental Analysis Laboratory, Inc.

## Sample Receipt Checklist

Client Name GIANTREFIN

Date and Time Received:

5/10/2007

Work Order Number 0705140

Received by AT

Checklist completed by

*Jany SL*  
Signature

*May 10, 07*  
Date

Matrix

Carrier name Client drop-off

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>	
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>	Not Shipped <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>	
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Water - VOA vials have zero headspace?	No VOA vials submitted <input checked="" type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
Water - Preservation labels on bottle and cap match?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>	
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>	
Container/Temp Blank temperature?	3°	4° C ± 2 Acceptable If given sufficient time to cool.		

COMMENTS:

Client contacted \_\_\_\_\_ Date contacted: \_\_\_\_\_ Person contacted \_\_\_\_\_

Contacted by: \_\_\_\_\_ Regarding \_\_\_\_\_

Comments: \_\_\_\_\_

Corrective Action \_\_\_\_\_



## QA/QC SUMMARY REPORT

Client: Giant Refining Co  
 Project: NE OCD Landfarm Lift Samples 5/8/07

Work Order: 0705140

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
<b>Method: SW8015</b>									
Sample ID: MB-12928		MBLK							
					Batch ID: 12928	Analysis Date: 5/14/2007 1:44:32 PM			
Diesel Range Organics (DRO)	ND	mg/Kg	10						
Motor Oil Range Organics (MRO)	ND	mg/Kg	50						
Sample ID: LCS-12928		LCS							
					Batch ID: 12928	Analysis Date: 5/14/2007 2:19:14 PM			
Diesel Range Organics (DRO)	38.99	mg/Kg	10	78.0	64.6	116			
Sample ID: LCSD-12928		LCSD							
					Batch ID: 12928	Analysis Date: 5/14/2007 2:53:57 PM			
Diesel Range Organics (DRO)	40.93	mg/Kg	10	81.9	64.6	116	4.86	17.4	
<b>Method: SW8015</b>									
Sample ID: MB-12912		MBLK							
					Batch ID: 12912	Analysis Date: 5/11/2007 10:03:25 AM			
Gasoline Range Organics (GRO)	ND	mg/Kg	5.0						
Sample ID: LCS-12912		LCS							
					Batch ID: 12912	Analysis Date: 5/11/2007 10:35:57 AM			
Gasoline Range Organics (GRO)	25.43	mg/Kg	5.0	91.0	69.5	120			
<b>Method: SW8021</b>									
Sample ID: MB-12912		MBLK							
					Batch ID: 12912	Analysis Date: 5/11/2007 10:03:25 AM			
Benzene	ND	mg/Kg	0.050						
Toluene	ND	mg/Kg	0.050						
Ethylbenzene	ND	mg/Kg	0.050						
Xylenes, Total	ND	mg/Kg	0.10						
Sample ID: LCS-12912		LCS							
					Batch ID: 12912	Analysis Date: 5/11/2007 10:35:57 AM			
Benzene	0.2968	mg/Kg	0.050	106	62.7	114			
Toluene	2.088	mg/Kg	0.050	104	68.2	121			
Ethylbenzene	0.4049	mg/Kg	0.050	101	71.4	115			
Xylenes, Total	2.341	mg/Kg	0.10	102	65	135			

## Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

## Hall Environmental Analysis Laboratory, Inc.

Date: 15-May-07

CLIENT:	Giant Refining Co	Client Sample ID:	NE-OCD East
Lab Order:	0705140	Collection Date:	5/8/2007 11:45:00 AM
Project:	NE OCD Landfarm Lift Samples 5/8/07	Date Received:	5/10/2007
Lab ID:	0705140-02	Matrix:	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: JMP
Diesel Range Organics (DRO)	290	10		mg/Kg	1	5/14/2007 8:31:54 PM
Motor Oil Range Organics (MRO)	130	50		mg/Kg	1	5/14/2007 8:31:54 PM
Surr: DNOP	109	61.7-135		%REC	1	5/14/2007 8:31:54 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/11/2007 1:36:42 PM
Surr: BFB	117	84-138		%REC	1	5/11/2007 1:36:42 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Benzene	ND	0.050		mg/Kg	1	5/11/2007 1:36:42 PM
Toluene	ND	0.050		mg/Kg	1	5/11/2007 1:36:42 PM
Ethylbenzene	ND	0.050		mg/Kg	1	5/11/2007 1:36:42 PM
Xylenes, Total	ND	0.10		mg/Kg	1	5/11/2007 1:36:42 PM
Surr: 4-Bromofluorobenzene	93.1	68.2-109		%REC	1	5/11/2007 1:36:42 PM

Qualifiers:	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	MCL Maximum Contaminant Level
	ND Not Detected at the Reporting Limit	RL Reporting Limit
	S Spike recovery outside accepted recovery limits	

**Hall Environmental Analysis Laboratory, Inc.**

Date: 15-May-07

CLIENT: Giant Refining Co  
Lab Order: 0705140  
Project: NE OCD Landfarm Lift Samples 5/8/07  
Lab ID: 0705140-01

Client Sample ID: NE-OCD West  
Collection Date: 5/8/2007 11:15:00 AM  
Date Received: 5/10/2007  
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: JMP
Diesel Range Organics (DRO)	140	10		mg/Kg	1	5/14/2007 7:57:29 PM
Motor Oil Range Organics (MRO)	84	50		mg/Kg	1	5/14/2007 7:57:29 PM
Surr: DNOP	106	61.7-135		%REC	1	5/14/2007 7:57:29 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/11/2007 1:06:32 PM
Surr: BFB	116	84-138		%REC	1	5/11/2007 1:06:32 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Benzene	ND	0.050		mg/Kg	1	5/11/2007 1:06:32 PM
Toluene	ND	0.050		mg/Kg	1	5/11/2007 1:06:32 PM
Ethylbenzene	ND	0.050		mg/Kg	1	5/11/2007 1:06:32 PM
Xylenes, Total	ND	0.10		mg/Kg	1	5/11/2007 1:06:32 PM
Surr: 4-Bromofluorobenzene	91.6	68.2-109		%REC	1	5/11/2007 1:06:32 PM

Qualifiers: \* Value exceeds Maximum Contaminant Level  
E Value above quantitation range  
J Analyte detected below quantitation limits  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
RL Reporting Limit



## COVER LETTER

Tuesday, May 15, 2007

Steve Morris  
Giant Refining Co  
Rt. 3 Box 7  
Gallup, NM 87301  
TEL: (505) 722-3833  
FAX (505) 722-0210

RE: NE OCD Landfarm Lift Samples 5/8/07

Order No.: 0705140

Dear Steve Morris:

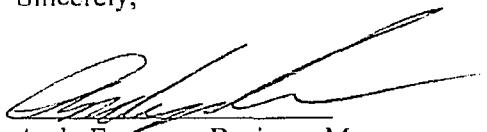
Hall Environmental Analysis Laboratory, Inc. received 2 sample(s) on 5/10/2007 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,



Andy Freeman, Business Manager  
Nancy McDuffie, Laboratory Manager

NM Lab # NM9425  
AZ license # AZ0682  
ORELAP Lab # NM100001



4901 Hawkins NE ■ Suite D ■ Albuquerque, NM 87109  
505.345.3975 ■ Fax 505.345.4107  
[www.hallenvironmental.com](http://www.hallenvironmental.com)

**Chavez, Carl J, EMNRD**

---

**From:** Steve Morris [smorris@giant.com]  
**Sent:** Tuesday, May 29, 2007 2:02 PM  
**To:** Monzeglio, Hope, NMENV; Chavez, Carl J, EMNRD  
**Cc:** Ed Riege; Jim Lieb  
**Subject:** Northeast OCD Landfarm samples  
**Attachments:** NEOCDLIFT050807.pdf; NEOCDLF2QTR07.pdf; NEOCDLFLIFRANDOMGRID.pdf; MiscSoils11-8-07.pdf

Hope and Carl,

I have attached sample results for the second quarter of this year as well as "Lift Samples" taken on May 8<sup>th</sup>, 2007.

Additionally, I scanned and attached a copy of the Random Grid Selector for the NE OCD land farm.

While this copy of the Random Grid Selector represents the lift samples, all samples (including quarterly), taken from

OCD permitted land farms are selected using this type of Excel spreadsheet.

This Excel spreadsheet is used when we need to select random sample sites for the NE OCD land farm.

Considering the low levels detected in the lift samples, Giant requests approval from OCD and NMED to add a second lift of no more than six inches to the NE OCD land farm.

Giant has included analytical test results for some soils that we would like to apply to the land farm.

Please give me a call at 505-722-0258 if you have any questions regarding this request.

Thanks,

Steve Morris

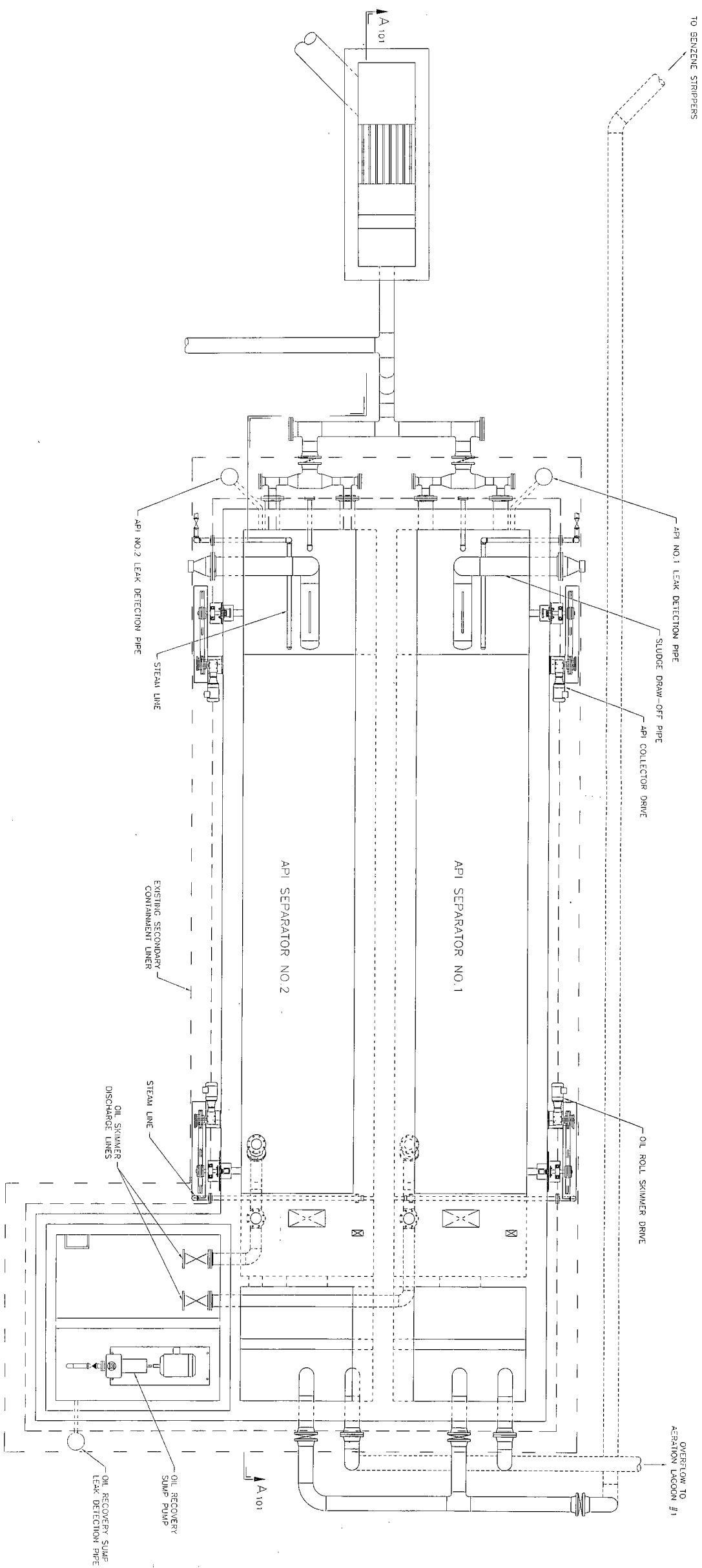
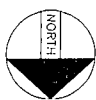
---

This inbound email has been scanned by the MessageLabs Email Security System.

---

5/30/2007





OVERFLOW TO  
AERATION LAGOON #1

NOTES:

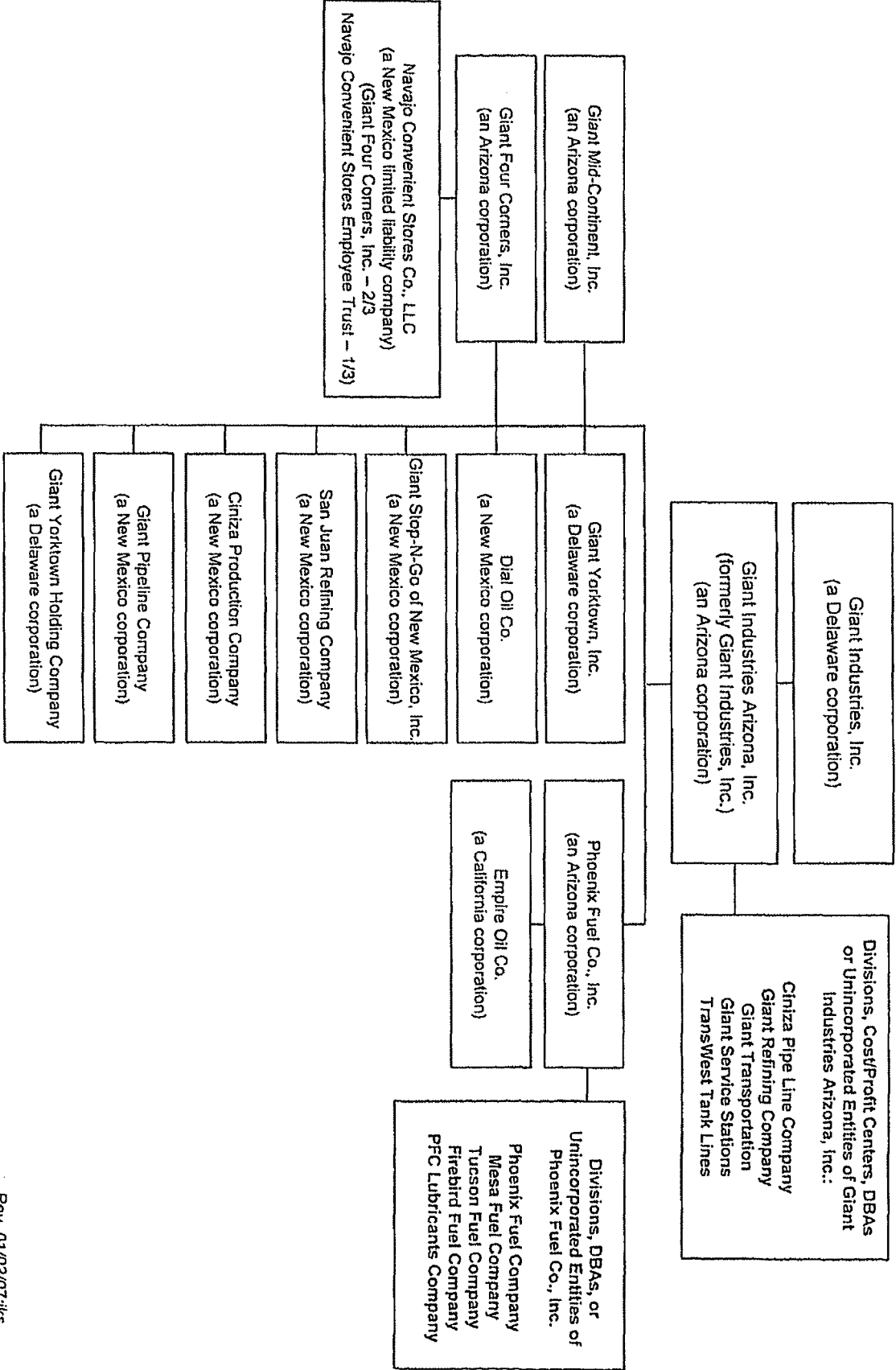
1. VAPOR COVERS AND INTERNAL EQUIPMENT COMPONENTS REMOVED FROM VIEW FOR CLARITY.

[illegible]

# SEWENS



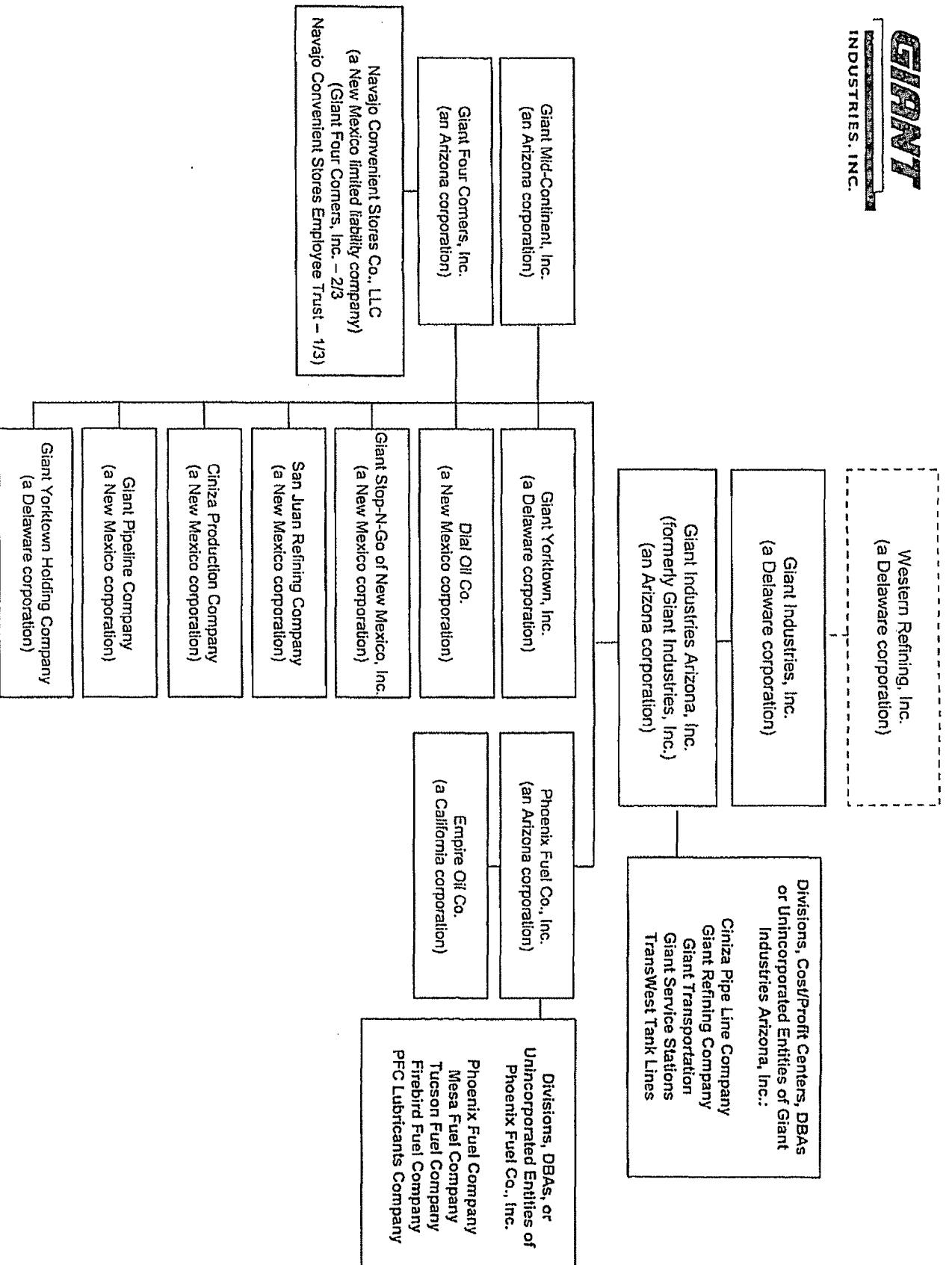
Giant Industries, Inc. & Affiliates Corporate Structure







ATTACHMENT 2



**20.6.2.3104 DISCHARGE PERMIT REQUIRED:** Unless otherwise provided by this Part, no person shall cause or allow effluent or leachate to discharge so that it may move directly or indirectly into ground water unless he is discharging pursuant to a discharge permit issued by the secretary. When a permit has been issued, discharges must be consistent with the terms and conditions of the permit. In the event of a transfer of the ownership, control, or possession of a facility for which a discharge permit is in effect, the transferee shall have authority to discharge under such permit, provided that the transferee has complied with Section 20.6.2.3111 NMAC, regarding transfers.

[2-18-77, 12-24-87, 12-1-95; Rn & A, 20.6.2.3104 NMAC - 20 NMAC 6.2.III.3104, 1-15-01; A, 12-1-01]

**20.6.2.3111 TRANSFER OF DISCHARGE PERMIT:** No purported transfer of any discharge permit shall be effective to create, alter or extinguish any right or responsibility of any person subject to this Part, unless the following transfer requirements are met:

**A.** Prior to any transfer of ownership, control, or possession (whether by lease, conveyance or otherwise) of a facility with a discharge permit, the transferor shall notify the transferee in writing of the existence of the discharge permit, and shall deliver or send by certified mail to the department a copy of such written notification, together with a certification or other proof that such notification has in fact been received by the transferee.

**B.** Upon receipt of such notification, the transferee shall have the duty to inquire into all of the provisions and requirements contained in such discharge permit, and the transferee shall be charged with notice of all such provisions and requirements as they appear of record in the department's file or files concerning such discharge permit.

**C.** Until both ownership and possession of the facility have been transferred to the transferee, the transferor shall continue to be responsible for any discharge from the facility.

**D.** Upon assuming either ownership or possession of the facility, the transferee shall have the same rights and responsibilities under the discharge permit as were applicable to the transferor.

**E.** Nothing in this section or in this part shall be construed to relieve any person of responsibility or liability for any act or omission which occurred while that person owned, controlled or was in possession of the facility.

[2-18-77, 12-24-87, 12-1-95, 11-15-96; 20.6.2.3111 NMAC - Rn, 20 NMAC 6.2.III.3111, 1-15-01; A, 12-1-01]

**20.6.2.4104 ABATEMENT PLAN REQUIRED:**

**A.** Unless otherwise provided by this Part, all responsible persons who are abating, or who are required to abate, water pollution in excess of the standards and requirements set forth in Section 20.6.2.4103 NMAC of this Part shall do so pursuant to an abatement plan approved by the secretary. When an abatement plan has been approved, all actions leading to and including abatement shall be consistent with the terms and conditions of the abatement plan.

**B.** In the event of a transfer of the ownership, control or possession of a facility for which an abatement plan is required or approved, where the transferor is a responsible person, the transferee also shall be considered a responsible person for the duration of the abatement plan, and may jointly share the responsibility to conduct the actions required by this Part with other responsible persons. The transferor shall notify the transferee in writing, at least thirty (30) days prior to the transfer, that an abatement plan has been required or approved for the facility, and shall deliver or send by certified mail to the secretary a copy of such notification together with a certificate or other proof that such notification has in fact been received by the transferee. The transferor and transferee may agree to a designated responsible person who shall assume the responsibility to conduct the actions required by this Part. The responsible persons shall notify the secretary in writing if a designated responsible person is agreed upon. If the secretary determines that the designated responsible person has failed to conduct the actions required by this Part, the secretary shall notify all responsible persons of this failure in writing and allow them thirty (30) days, or longer for good cause shown, to conduct the required actions before issuing a compliance order pursuant to Section 20.6.2.1220 NMAC.

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-141  
Revised October 10, 2003

Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

RECEIVED  
2007 JUN 28 AM 11 55

## Release Notification and Corrective Action

### OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	Western Refining - Ciniza Refinery	Contact	Jim Lieb
Address	I-40, Exit 39, Jamestown NM 87347	Telephone No.	505-722-0227
Facility Name	Ciniza Refinery	Facility Type	Oil refinery

Surface Owner	Giant Industries, Inc.	Mineral Owner	Giant Industries, Inc.	Lease No.	
---------------	------------------------	---------------	------------------------	-----------	--

### LOCATION OF RELEASE

Unit Letter	Section 23 & 33	Township 15N	Range 15W	Feet from the	North/South Line	Feet from the	East/West Line	County McKinley
-------------	--------------------	-----------------	--------------	---------------	------------------	---------------	----------------	--------------------

Latitude 35°29'30" Longitude -108°24'40"

### NATURE OF RELEASE

Type of Release	Process Waste Water	Volume of Release: 10 barrels estimate (420 gallons)	Volume Recovered: 400 gallons estimate (in soil)
Source of Release	Weir Box of the New API Separator	Date and Hour of Occurrence 6/23/07 2100 hours	Date and Hour of Discovery 6/23/07 2105 hours
Was Immediate Notice Given?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?		Date and Hour	at hours
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\*

Cause: Weir box screen became partially clogged with debris/trash causing waste water to overflow.

Remedial action: Debris was removed from the weir box screen and normal flow through the weir box resumed.

Describe Area Affected and Cleanup Action Taken.\*

The area surrounding the weir box, along the north side of the NAPIS, and down slope approximately 100 feet from the NAPIS. A berm is in place down slope of the NAPIS. Waste water that made it to the berm was contained within the berm. The waste water soaked into the soil around the weir box and within the bermed area. Approximately 95% of the contaminated soil has been recovered as of the time of this report. The cleanup will continue until the remainder of the impacted soil is removed. The soil will be placed on plastic liner and enclosed by a berm in our waste soil staging area for final disposition.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature:	<u>OIL CONSERVATION DIVISION</u>		
Printed Name: Jim Lieb	Approved by District Supervisor:		
Title: Environmental Engineer	Approval Date:	Expiration Date:	
E-mail Address: jlieb@giant.com	Conditions of Approval:		Attached <input type="checkbox"/>
Date: 6-25-07	Phone: (505) 722-0227		

\* Attach Additional Sheets If Necessary

GW-032

Glat Ciniza  
Check for permit

EMNRD TAX ID 85 6000 565  
STATE ID 02 171619 006

**Chavez, Carl J, EMNRD**

---

**From:** Allen, Ann [ann.allen@wnr.com]  
**Sent:** Friday, June 15, 2007 5:06 PM  
**To:** Chavez, Carl J, EMNRD  
**Cc:** Ed Riege; Steve Morris; Monzeglio, Hope, NMENV; Jim Lieb  
**Subject:** RE: Giant Ciniza Transfer of Operator  
**Attachments:** Giant Corporate Structure Before & After 5.31.07.pdf

Carl,

On May 31, 2007, Western Refining Inc. and Giant Industries, Inc. closed a transaction under which Western acquired all of the outstanding shares of stock of Giant Industries, Inc. and Giant Industries, Inc. became a subsidiary of Western. Since Western did not buy Giant's assets, all of the assets are still owned by the identical company (Giant) that owned them before Western purchased the stock. The refinery at Ciniza continues to be owned and operated by Giant.

Attached are the corporate structures before and after the closing of the transaction on May 31. Attachment 1 is before the transaction. Attachment 2 is after the transaction. All Giant corporations, including Ciniza Production Company, continue to exist as they had before the transaction. As a result of the transaction, Western will own all shares of Giant Industries, Inc. and will be added above Giant Industries, Inc. in the corporate structure as shown in Attachment 2.

Said another way, Western purchased all outstanding shares of Giant Industries but did not acquire any physical assets. Following the transaction, Giant Industries will continue to be the owner and operator of the Ciniza refinery. Similarly, Giant Industries Arizona, Inc. will continue to be the sole shareholder and parent corporation of Ciniza Production Company. The corporate status of Giant Industries, Inc., Giant Industries Arizona, Inc., and Ciniza Production Company did not change as a result of the transaction which closed on May 31.

I hope this explanation is helpful. Let me know if you need additional detail.

Regards,  
 Ann

**Leslie Ann Allen**  
**Vice President**  
**Environmental & Regulatory Affairs**  
**Western Refining Company, L.P.**  
 6501 Trowbridge Drive  
 El Paso, Texas 79905  
 Phone: 915-775-3455  
 Mobile: 915-491-1562  
 Fax: 915-775-5568

---

**From:** Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]  
**Sent:** Friday, June 15, 2007 8:21 AM  
**To:** Jim Lieb  
**Cc:** Ed Riege; Steve Morris; Allen, Ann; Monzeglio, Hope, NMENV  
**Subject:** RE: Giant Ciniza Transfer of Operator

Jim:

Hi. Yes, Monday morning will work. Thnx.

7/25/2007

---

**From:** Jim Lieb [mailto:jl Lieb@giant.com]  
**Sent:** Friday, June 15, 2007 8:07 AM  
**To:** Chavez, Carl J, EMNRD  
**Cc:** Ed Riege; Steve Morris; ann.allen@westernrefining.com; Monzeglio, Hope, NMENV  
**Subject:** RE: Giant Ciniza Transfer of Operator

Carl- Ed is not here today. I am here all by my lonesome. Could this be addressed on Monday?

Jim Lieb

---

**From:** Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]  
**Sent:** Friday, June 15, 2007 7:41 AM  
**To:** Ed Riege  
**Cc:** Jim Lieb; Steve Morris; ann.allen@westernrefining.com; Monzeglio, Hope, NMENV  
**Subject:** Giant Ciniza Transfer of Operator

Ed:

Could you please send me a preliminary e-mail response this morning with the details of the Western Refining acquisition of Giant Refining Company so we may mull whether the transfer of discharge permit provision requirements apply. In preliminary discussions with Wayne Price he feels that this process needs to be followed; however, reply to this e-mail with details and we will let our attorney make the determination based on our discussions last Tuesday. I hope to have a DP draft completed and out by COB today. If not, then Monday. Thank you.

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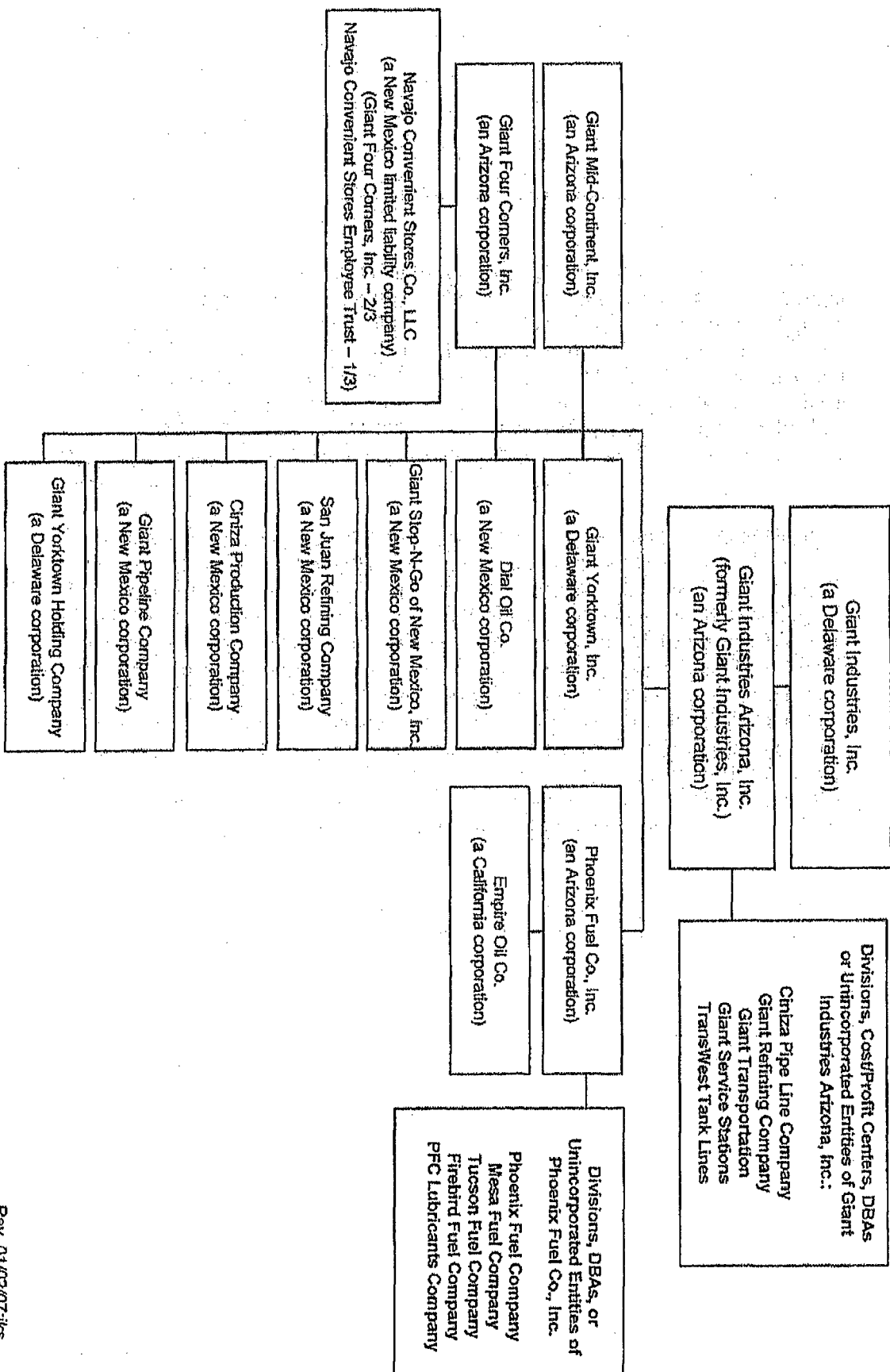
7/25/2007



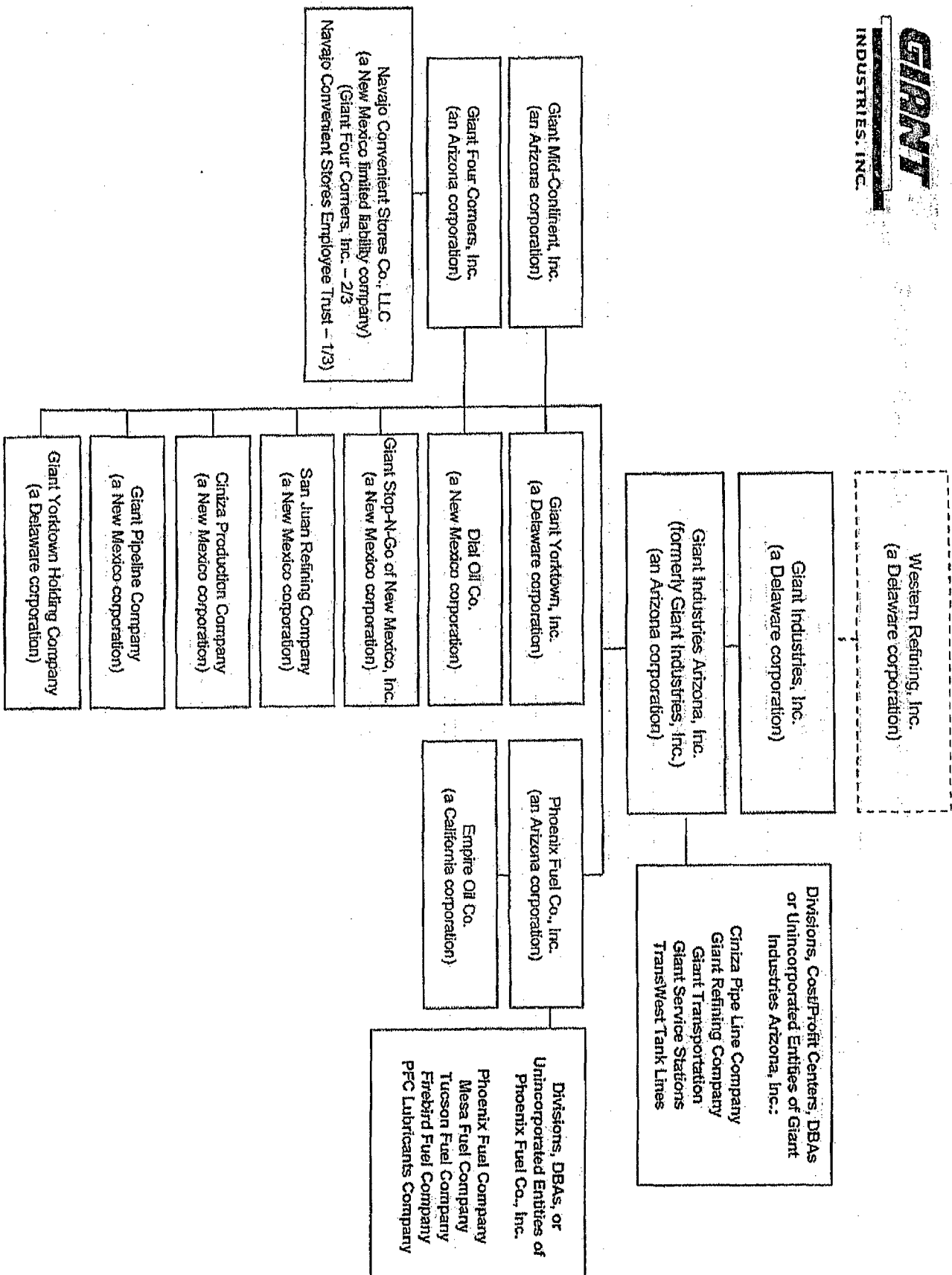


ATTACHMENT 1

**Giant Industries, Inc. & Affiliates Corporate Structure**



ATTACHMENT 2



**Chavez, Carl J, EMNRD**

---

**From:** Monzeglio, Hope, NMENV  
**Sent:** Friday, June 15, 2007 10:19 AM  
**To:** Chavez, Carl J, EMNRD  
**Subject:** RE: Boundary wells at Ciniza

No problem, talk to you Monday. Thanks for the clarification.

Hope

---

**From:** Chavez, Carl J, EMNRD  
**Sent:** Friday, June 15, 2007 9:59 AM  
**To:** Monzeglio, Hope, NMENV  
**Cc:** Cobrain, Dave, NMENV; Price, Wayne, EMNRD  
**Subject:** RE: Boundary wells at Ciniza

I mean remove BTEX and leave VOCs and wherever BTEX only is stated, replace it with VOCs. Sorry. Thnx.

---

**From:** Monzeglio, Hope, NMENV  
**Sent:** Friday, June 15, 2007 9:26 AM  
**To:** Chavez, Carl J, EMNRD  
**Cc:** Cobrain, Dave, NMENV; Price, Wayne, EMNRD  
**Subject:** RE: Boundary wells at Ciniza

Carl

We will call you on Monday. I am not sure of Dave's schedule, he is meetings all day today so I won't know until Monday. I am not sure if I am clear on your point "GW Monitoring Table- we will remove BTEX and leave SVOCs". For the BW wells, NMED feels Giant only needs analysis for BTEX not VOCs. We can talk about it on Monday. Have a good weekend.

Thanks  
Hope

---

**From:** Chavez, Carl J, EMNRD  
**Sent:** Friday, June 15, 2007 9:15 AM  
**To:** Monzeglio, Hope, NMENV  
**Cc:** Cobrain, Dave, NMENV; Price, Wayne, EMNRD  
**Subject:** RE: Boundary wells at Ciniza

Hope and Dave:

I spoke with Wayne this morning about the issues raised this past Tuesday at Giant Ciniza. We can talk Monday if you want to discuss our positions listed below.

Wayne is fine with the ALs engineering and construction plan with implementation schedule. Tanks will most likely be installed, but we can include language that does not specifically mention tanks.

We want EP-1 to have a single liner with leak detection at a minimum, since clay is present.

GW Monitoring Table- we will remove BTEX and leave SVOCs.

6/15/2007

Closure & Financial Assurance: to include all ponds and Wayne is hoping they get the msg. that someday they may want to consider injection wells and rid themselves of high salinity ponds.

Sec. 21 D(a)ii: Will leave chlorides in because we do want to see the concentrations of chlorides to assess the concentration. The issue here is that an exceedance of any water quality std. in EP-1 seems to present concerns from Giant about exceeding WQSs in the ponds. We also want to include monitoring for chlorides at downgradient MWs as exceedances in these well may very well drive the transition from ponds to injection wells at the facility someday.

Boiler water to EP-2: we will include a semi-annual gen. chem.. of this water into EP2 in the GW table.

Will specify annual gen. chem.. on Ponds 8 and 9 instead of letting them pick one pond.

Language in DP will include "OCD and HWB" where it pertains to GW monitoring or RCRA related activity only. To include "OCD and HWB" everywhere would indicate that it is a joint permit.

That's it. Give us a call Monday to discuss. Wayne wants to look over my draft Monday, and then I will send it out to you to see if we have it right. Thank you.

---

**From:** Monzeglio, Hope, NMENV  
**Sent:** Thursday, June 14, 2007 9:11 AM  
**To:** Chavez, Carl J, EMNRD  
**Cc:** Cobrain, Dave, NMENV; Price, Wayne, EMNRD  
**Subject:** Boundary wells at Ciniza

Carl

I have attached the tables showing the analytical data for the Boundary wells at Ciniza from the 2005 annual groundwater monitoring report. This includes the 8260 VOCs, dissolved metals, and general chemistry. For the Boundary Wells, there was question of having Ciniza sample for BTEX plus MTBE or 8260 VOCs full suite. For the table in the Discharge Permit, NMED is fine with having Ciniza sample for BTEX -8021B plus MTBE at the Boundary wells instead of 8260. I looked at the laboratory reports for the boundary wells and there were no detections for the other constituents listed under 8260. Chlorides do not appear to be a problem either. Let me know if you have questions.

FYI, I am only in the office till 11:00 tomorrow.

Thanks  
 Hope

Hope Monzeglio  
 Environmental Specialist  
 New Mexico Environment Department  
 Hazardous Waste Bureau  
 2905 Rodeo Park Drive East, BLDG 1  
 Santa Fe NM 87505  
 Phone: (505) 476-6045  
 Main No.: (505)-476-6000  
 Fax: (505)-476-6030  
[hope.monzeglio@state.nm.us](mailto:hope.monzeglio@state.nm.us)

**Websites:**  
[New Mexico Environment Department](#)  
[Hazardous Waste Bureau](#)

Please note the new phone numbers

6/15/2007

**Chavez, Carl J, EMNRD**

---

**From:** Monzeglio, Hope, NMENV  
**Sent:** Thursday, June 14, 2007 9:11 AM  
**To:** Chavez, Carl J, EMNRD  
**Cc:** Cobrain, Dave, NMENV; Price, Wayne, EMNRD  
**Subject:** Boundary wells at Ciniza  
**Attachments:** GRCC Boundary Wells analytical.pdf

Carl

I have attached the tables showing the analytical data for the Boundary wells at Ciniza from the 2005 annual groundwater monitoring report. This includes the 8260 VOCs, dissolved metals, and general chemistry. For the Boundary Wells, there was question of having Ciniza sample for BTEX plus MTBE or 8260 VOCs full suite. For the table in the Discharge Permit, NMED is fine with having Ciniza sample for BTEX -8021B plus MTBE at the Boundary wells instead of 8260. I looked at the laboratory reports for the boundary wells and there were no detections for the other constituents listed under 8260. Chlorides do not appear to be a problem either. Let me know if you have questions.

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Thanks  
Hope

Hope Monzeglio  
Environmental Specialist  
New Mexico Environment Department  
Hazardous Waste Bureau  
2905 Rodeo Park Drive East, BLDG 1  
Santa Fe NM 87505  
Phone: (505) 476-6045  
Main No.: (505)-476-6000  
Fax: (505)-476-6030  
[hope.monzeglio@state.nm.us](mailto:hope.monzeglio@state.nm.us)

**Websites:**  
**New Mexico Environment Department**  
**Hazardous Waste Bureau**

Please note the new phone numbers

6/14/2007

VOLATILES 8260B																				
mg/L	DATE SAMPLED	OW 11**	BW 1A	BW 1B	BW 2A	BW 2B	BW 3B	BW 1C	BW 2C	BW 3C	WQCC 20 NMAC 6.2.3103	MCL'S	EPA sug. for MTBE							
Benzene	17/20-Oct-05	<0.001	DRY	DRY	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.01	0.005								
	08-Dec-04	<0.001	DRY	DRY																
	04-Aug-04		DRY	DRY	<0.001	<0.001	<0.001	<0.001	<0.01	0.0052										
Toluene	17/20-Oct-05	<0.001	DRY	DRY	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.75	1								
	08-Dec-04	<0.001	DRY	DRY																
	04-Aug-04		DRY	DRY	<0.001	<0.001	<0.001	<0.001	<0.01	0.001										
EthylBen	17/20-Oct-05	<0.001	DRY	DRY	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.75	0.7								
	08-Dec-04	<0.001	DRY	DRY																
	04-Aug-04		DRY	DRY	<0.001	<0.001	<0.001	<0.001	<0.01	<0.001										
Xylene	17/20-Oct-05	<0.001	DRY	DRY	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.62	10								
	08-Dec-04	<0.001	DRY	DRY																
	04-Aug-04		DRY	DRY	<0.001	<0.001	<0.001	<0.001	<0.01	0.0015										
MTBE	17/20-Oct-05	<0.001	DRY	DRY	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001			0.2							
	08-Dec-04	<0.001	DRY	DRY																
	04-Aug-04		DRY	DRY	<0.001	<0.001	<0.001	<0.001	<0.01	0.001										

\*\*OW-11 was sampled in 2005 on September 29, 2005.

**GENERAL CHEMISTRY**

mg/L	DATE SAMPLED	OW 11**	BW 1A	BW 1B	BW 2A	BW 2B	BW 3B	BW 1C	BW 2C	BW 3C	POND #2	WELL #2	WELL #4	WQCC 20 NMAC 6.2.3103	MCL'S
Fluoride	17/20-Oct-05	2.3	DRY	DRY	1.1	1.7	1.4	2.2	1.5	1.6				1.6	4
	08-Dec-04	2.3	DRY	DRY											
	04-Aug-04		DRY	DRY	1.2	1.7	1.4	2	2.2	0.95		0.21			
	06-Nov-03	2.3													
	09-Dec-04												0.18		
Chloride	17/20-Oct-05	87	DRY	DRY	39	29	34	34	42	37				250	250
	08-Dec-04	80	DRY	DRY											
	04-Aug-04		DRY	DRY	40	32	35	38	46	25					
	06-Nov-03	88													
	09-Dec-04												16		
Nitrogen - Nitrite	17/20-Oct-05	<0.1	DRY	DRY	<0.50	<0.50	<0.10	<0.50	<0.50	<0.10					1
	08-Dec-04	<0.50	DRY	DRY											
	04-Aug-04		DRY	DRY	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10					
	06-Nov-03	<0.10													
	09-Dec-04												<0.10		
Bromide	17/20-Oct-05		DRY	DRY											
	08-Dec-04	<0.10	DRY	DRY											
	04-Aug-04		DRY	DRY	0.4	1.3	0.49	0.32	0.78	1.2					
	06-Nov-03	<0.10													
Nitrogen - Nitrate	17/20-Oct-05	0.72	DRY	DRY	<0.50	<0.50	<0.10	<0.50	<0.50	<0.10				10	
	08-Dec-04	<0.50	DRY	DRY											
	04-Aug-04		DRY	DRY	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10		0.12			
	06-Nov-03	0.65													
	09-Dec-04												<0.10		
P	17/20-Oct-05	<0.50	DRY	DRY	0.59	<0.50	1.0	<0.50	<0.50	<0.50					
	08-Dec-04	<0.50	DRY	DRY											
	04-Aug-04		DRY	DRY	0.57	<0.50	1.2	<0.50	<0.50	<0.50					
	06-Nov-03	<0.50													
	09-Dec-04												<0.50		

Sulfate	17/20-Oct-05	990	DRY	DRY	6.9	130	56	240	270	350				600	
	08-Dec-04	1100	DRY	DRY											
	04-Aug-04		DRY	DRY	9.6	140	63	210	230	440					
	06-Nov-03	1000													
	09-Dec-04												170		

TDS	17/20-Oct-05		DRY	DRY										1000	500
	08-Dec-04	1900	DRY	DRY											
	04-Aug-04		DRY	DRY	1100	1500	1000	970	970	940	3800				
	06-Nov-03	1800													
pH	29-Sep-05	8.44	DRY	DRY										6.5 - 8.5	BETWEEN AND 9
	08-Dec-04	8.48	DRY	DRY											
	04-Aug-04		DRY	DRY	8.4	8.35	8.5	9.36	8.84	8.87					
	06-Nov-03	8.45													
SP COND	17-Oct-05		DRY	DRY	1400	2500	1600	1400	1500	1400					
	04-Aug-04		DRY	DRY	1447	2280	1534	1280	1401	1380					
	Temp F		DRY	DRY	63	62	61	62	62	62					
	Depth to water		DRY	DRY	32.1'	29.7'	32.9	18.8"	27.5'	63.2'					

\*\*OW-11 was sampled on September 29, 2005.



DISSOLVED METALS														
mg/L	DATE SAMPLE D	OW 11	BW 1A	BW 1B	BW 2A	BW 2B	BW 3B	BW 1C	BW 2C	BW 3C	POND #2	WE LL #2	WELL #4	MCL
Arsenic	29-Sep-05	<0.020												0.05
	08-Dec-04	<0.020												
	04-Aug-04		DRY	DRY	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020			<0.020	
	19-Nov-04										<0.020			
Barium	29-Sep-05	<0.020												2
	08-Dec-04	<0.020												
	04-Aug-04		DRY	DRY	0.12	0.066	0.13	<0.0020	0.047	0.051			0.014	
	19-Nov-04										0.14			
Cadmium	29-Sep-05	0.002												0.005
	08-Dec-04	0.002												
	04-Aug-04		DRY	DRY	<0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020			<0.0020	
	19-Nov-04										<0.0020			
Calcium	17-Oct-05	10			10	23	9.9	3.1	140	6.1				
	08-Dec-04	9.6												
	04-Aug-04		DRY	DRY	6.7	14	11	3.8	5.6	45				
Cr	29-Sep-05	<0.006 0												0.1
	08-Dec-04	<0.006 0												
	04-Aug-04		DRY	DRY	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060			<0.0060	
	19-Nov-04										0.012			
Lead	29-Sep-05	<0.005 0												0.015
	08-Dec-04	<0.005 0												
	04-Aug-04		DRY	DRY	0.0059	0.0064	0.006	<0.0050	<0.0050	<0.0050			<0.0050	
	19-Nov-04										0.0075			
Mg	17-Oct-05	1.2			3.6	3.9	2.9	<1.0	7.7	1.1				
	08-Dec-04	1.1												
	04-Aug-04		DRY	DRY	2.5	3.2	3.1	<1.0	1.5	9.8				
	19-Nov-04													
K	17-Oct-05	1.7			1.1	2.1	1.4	1.5	2.5	1.8				
	08-Dec-04	1.9												
	04-Aug-04		DRY	DRY	<1.0	4.7	1.3	2	2	5.3				

**DISSOLVED METALS**

EPA METHOD 601

mg/L	Date Sampled	OW 11	BW1A	BW1B	BW2A	BW2B	BW3B	BW1C	BW2C	BW3C	POND 2	WELL #2	WELL #4	MCL's
Se	29-Sep-05	<0.050												
	08-Dec-04	0.005												
	04-Aug-04		DRY	DRY	<0.050	0.069	<0.050	<0.050	<0.050	<0.050			<0.050	0.05
	19-Nov-04										<0.050			
	09-Dec-04											<0.050		
Silver	29-Sep-05	<0.0050												
	08-Dec-04	<0.0050												
	04-Aug-04		DRY	DRY	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050			<0.0050	0.05
	19-Nov-04										<0.0050			
	09-Dec-04											<0.0050		
Sodium	29-Sep-05	620												
	08-Dec-04	620												
	04-Aug-04		DRY	DRY	220	540	340	200	300	230				
	19-Nov-04													
	09-Dec-04													
Uranium	29-Sep-05													
	08-Dec-04													
	04-Aug-04		DRY	DRY	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10			<0.10	0.2
	09-Dec-04											<0.10		

GW-32

Hope and Carl:

Siemens Water Technologies has prepared diagrams for approval by Giant on the stainless steel inserts for the NAPIS. Giant will return comments on the diagrams to Siemens by May 25. We anticipate the work on the first bay (the West bay) will commence in June with work to drain and clean the West bay commencing by June 25. After cleaning, the West bay will be repaired using epoxy grout to fill cracks. Next, a flexible liner will be applied to the inside of the bay. Giant has tested several linings by suspending coupons in the weir box for 2 to 3 weeks and evaluated the coupons after the period of submersion. We have selected an elastomeric polyurethane coating lining material provided by a major coatings manufacturer. The elastomeric liner material has held up very well to exposure in the refinery's waste water. The elastomeric liner will be applied to a minimum thickness of 100 mils. After the lining has cured, Siemens will commence on-site fabrication and placement of the stainless steel liner in the West bay. Work on the West bay is expected to be completed by end of August. Work on the East bay is expected to be completed by late October.

I have attached a schedule provided by Siemens.

I have attached diagrams provided by Siemens that show the leak detection system in the sumps (lowest points of the NAPIS). We will use a dipstick to check for leakage in the two bays.

We will likely be using Kleinfelder to oversee installation of the three monitoring wells at the NAPIS. I will provide you with a copy of their proposal when they have finalized it for your approval prior to starting work. We are shooting for placement of the wells later this month or early in June.

I apologize for not getting this update to you earlier but a heavy schedule and recent developments seemed to make submittal at this time appropriate.

If you have questions or need more information please contact me. I will be out of the office Thursday attending a greenhouse gas emissions inventory meeting in Santa Fe. Monday is a holiday.

Regards,

Jim Lieb  
Environmental Engineer  
Giant Industries, Inc.  
Ciniza Refinery  
I-40, Exit 39  
Jamestown, NM 87347  
(505) 722-0227  
fax (505) 722-0210  
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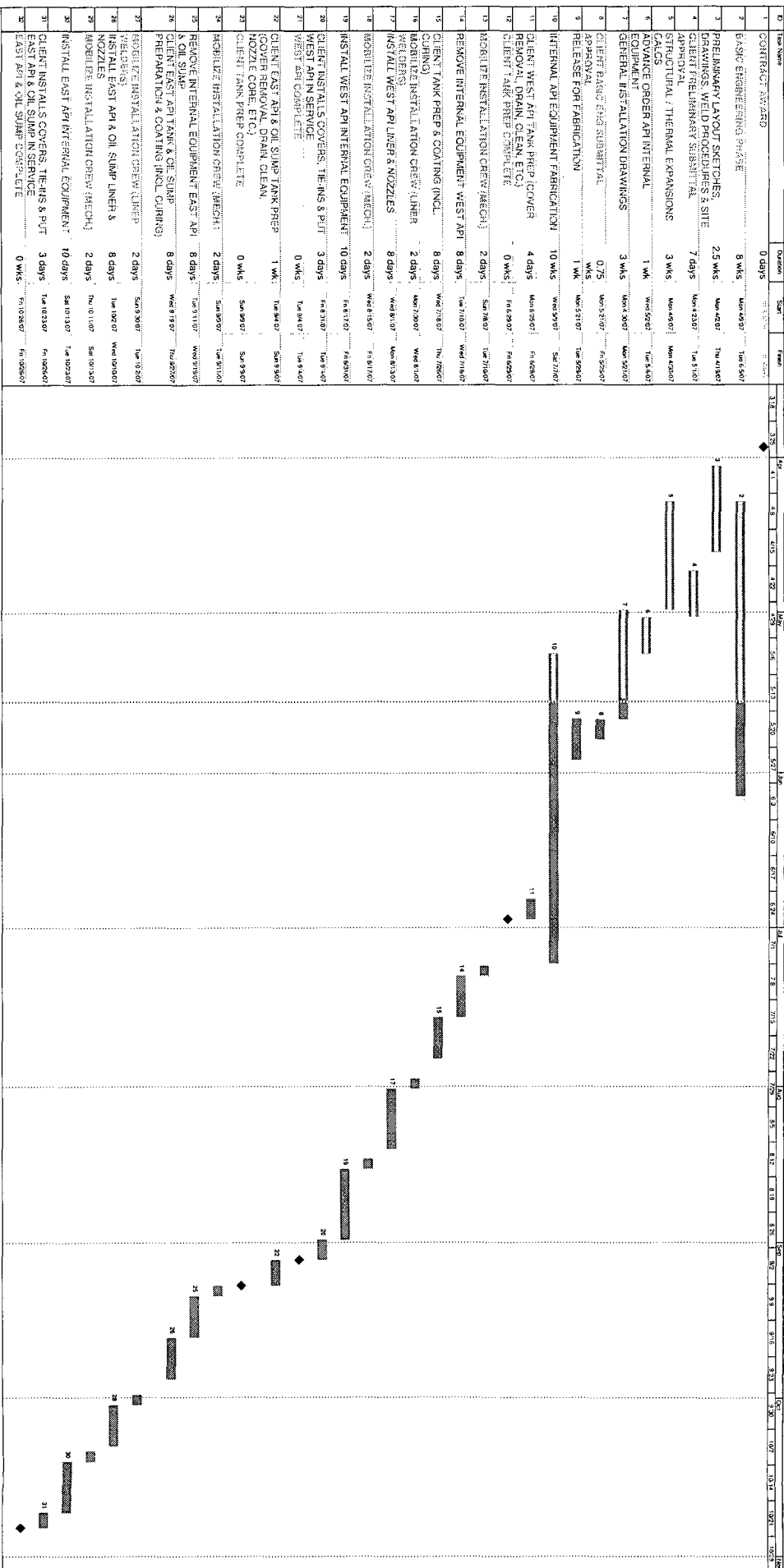
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5/30/2007



GRANT INDUSTRIES  
API UROPADE  
GALLUP, NM  
SHEPENS PROJECT S00062 (42400)



Task Name: SHEPENS PROJECT S00062 (42400)

Task ID: 1

Task Type: Task

Task Status: Not Started

Task Priority: High

Task Owner: Grant Industries

Task Manager: [Name]

Task Start Date: 1/1/07

Task End Date: 1/6/07

Task Duration: 6 days

Task Description: [Description]

Task Notes: [Notes]

Task Attachments: [Attachments]

Task Comments: [Comments]

Task History: [History]

Task Dependencies: [Dependencies]

Task Resources: [Resources]

Task Risks: [Risks]

Task Issues: [Issues]

Task Milestones: [Milestones]

Task Deliverables: [Deliverables]

Task Acceptance Criteria: [Criteria]

Task Sign-off: [Sign-off]

Task Approval: [Approval]

Task Release: [Release]

Task Closure: [Closure]

Task Archiving: [Archiving]

Task Deletion: [Deletion]

Task Export: [Export]

Task Import: [Import]

Task Print: [Print]

Task Refresh: [Refresh]

Task Cancel: [Cancel]

Task Help: [Help]

Task About: [About]

Task Version: [Version]

Task License: [License]

Task Privacy: [Privacy]

Task Terms: [Terms]

Task Contact: [Contact]

Task Feedback: [Feedback]

Task Support: [Support]

Task Updates: [Updates]

Task News: [News]

Task Events: [Events]

Task Offers: [Offers]

Task Partners: [Partners]

Task Suppliers: [Suppliers]

Task Customers: [Customers]

Task Employees: [Employees]

Task Contractors: [Contractors]

Task Vendors: [Vendors]

Task Distributors: [Distributors]

Task Retailers: [Retailers]

Task Wholesalers: [Wholesalers]

Task Importers: [Importers]

Task Exporters: [Exporters]

Task Manufacturers: [Manufacturers]

Task Suppliers: [Suppliers]

Task Customers: [Customers]

Task Employees: [Employees]

Task Contractors: [Contractors]

Task Vendors: [Vendors]

Task Distributors: [Distributors]

Task Retailers: [Retailers]

Task Wholesalers: [Wholesalers]

Task Importers: [Importers]

Task Exporters: [Exporters]

Task Manufacturers: [Manufacturers]

## Hall Environmental Analysis Laboratory, Inc.

Date: 01-Dec-06

CLIENT: Giant Refining Co  
 Lab Order: 0611097  
 Project: Misc. Soil Samples  
 Lab ID: 0611097-01

Client Sample ID: Fuel Oil Rack  
 Collection Date: 11/7/2006 3:15:00 PM  
 Date Received: 11/8/2006  
 Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: LMM
cis-1,3-Dichloropropene	ND	2.5		mg/Kg	50	11/10/2006
1,2-Dibromo-3-chloropropane	ND	5.0		mg/Kg	50	11/10/2006
Dibromochloromethane	ND	2.5		mg/Kg	50	11/10/2006
Dibromomethane	ND	5.0		mg/Kg	50	11/10/2006
1,2-Dichlorobenzene	ND	2.5		mg/Kg	50	11/10/2006
1,3-Dichlorobenzene	ND	2.5		mg/Kg	50	11/10/2006
1,4-Dichlorobenzene	ND	2.5		mg/Kg	50	11/10/2006
Dichlorodifluoromethane	ND	2.5		mg/Kg	50	11/10/2006
1,1-Dichloroethane	ND	5.0		mg/Kg	50	11/10/2006
1,1-Dichloroethene	ND	2.5		mg/Kg	50	11/10/2006
1,2-Dichloropropane	ND	2.5		mg/Kg	50	11/10/2006
1,3-Dichloropropane	ND	2.5		mg/Kg	50	11/10/2006
2,2-Dichloropropane	ND	5.0		mg/Kg	50	11/10/2006
1,1-Dichloropropene	ND	2.5		mg/Kg	50	11/10/2006
Hexachlorobutadiene	ND	5.0		mg/Kg	50	11/10/2006
2-Hexanone	ND	25		mg/Kg	50	11/10/2006
Isopropylbenzene	4.7	2.5		mg/Kg	50	11/10/2006
4-Isopropyltoluene	7.2	2.5		mg/Kg	50	11/10/2006
4-Methyl-2-pentanone	ND	25		mg/Kg	50	11/10/2006
Methylene chloride	ND	7.5		mg/Kg	50	11/10/2006
n-Butylbenzene	31	2.5		mg/Kg	50	11/10/2006
n-Propylbenzene	9.7	2.5		mg/Kg	50	11/10/2006
sec-Butylbenzene	2.9	2.5		mg/Kg	50	11/10/2006
Styrene	ND	2.5		mg/Kg	50	11/10/2006
tert-Butylbenzene	ND	2.5		mg/Kg	50	11/10/2006
1,1,1,2-Tetrachloroethane	ND	2.5		mg/Kg	50	11/10/2006
1,1,2,2-Tetrachloroethane	ND	2.5		mg/Kg	50	11/10/2006
Tetrachloroethene (PCE)	ND	2.5		mg/Kg	50	11/10/2006
trans-1,2-DCE	ND	2.5		mg/Kg	50	11/10/2006
trans-1,3-Dichloropropene	ND	2.5		mg/Kg	50	11/10/2006
1,2,3-Trichlorobenzene	ND	5.0		mg/Kg	50	11/10/2006
1,2,4-Trichlorobenzene	ND	2.5		mg/Kg	50	11/10/2006
1,1,1-Trichloroethane	ND	2.5		mg/Kg	50	11/10/2006
1,1,2-Trichloroethane	ND	2.5		mg/Kg	50	11/10/2006
Trichloroethene (TCE)	ND	2.5		mg/Kg	50	11/10/2006
Trichlorofluoromethane	ND	2.5		mg/Kg	50	11/10/2006
1,2,3-Trichloropropane	ND	5.0		mg/Kg	50	11/10/2006
Vinyl chloride	ND	2.5		mg/Kg	50	11/10/2006
Xylenes, Total	170	5.0		mg/Kg	50	11/10/2006
Surr: 1,2-Dichloroethane-d4	91.4	62-127		%REC	50	11/10/2006

Qualifiers: \* Value exceeds Maximum Contaminant Level  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit  
 S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 MCL Maximum Contaminant Level  
 RL Reporting Limit

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## Hall Environmental Analysis Laboratory, Inc.

Date: 01-Dec-06

CLIENT:	Giant Refining Co	Client Sample ID:	Fuel Oil Rack
Lab Order:	0611097	Collection Date:	11/7/2006 3:15:00 PM
Project:	Misc. Soil Samples	Date Received:	11/8/2006
Lab ID:	0611097-01	Matrix:	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: LMM
Surr: 4-Bromofluorobenzene	113	75.2-127	%REC		50	11/10/2006
Surr: Dibromofluoromethane	91.8	68.1-120	%REC		50	11/10/2006
Surr: Toluene-d8	87.9	74-119	%REC		50	11/10/2006

Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

## Hall Environmental Analysis Laboratory, Inc.

Date: 01-Dec-06

CLIENT:	Giant Refining Co	Client Sample ID:	Gas Con
Lab Order:	0611097	Collection Date:	11/7/2006 3:12:00 PM
Project:	Misc. Soil Samples	Date Received:	11/8/2006
Lab ID:	0611097-02	Matrix:	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: IC
Mercury	1.0	0.16		mg/Kg	5	11/30/2006
EPA METHOD 6010B: SOIL METALS						Analyst: CMS
Arsenic	6.4	2.5		mg/Kg	1	11/17/2006 1:33:28 PM
Barium	430	1.0		mg/Kg	10	11/17/2006 2:10:59 PM
Cadmium	ND	0.10		mg/Kg	1	11/17/2006 1:33:28 PM
Chromium	41	0.30		mg/Kg	1	11/17/2006 1:33:28 PM
Lead	11	0.25		mg/Kg	1	11/17/2006 1:33:28 PM
Selenium	ND	2.5		mg/Kg	1	11/17/2006 1:33:28 PM
Silver	ND	0.25		mg/Kg	1	11/17/2006 1:33:28 PM
EPA METHOD 8260B: VOLATILES						Analyst: LMM
Benzene	ND	0.050		mg/Kg	1	11/13/2006
Toluene	ND	0.050		mg/Kg	1	11/13/2006
Ethylbenzene	ND	0.050		mg/Kg	1	11/13/2006
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	11/13/2006
1,2,4-Trimethylbenzene	ND	0.050		mg/Kg	1	11/13/2006
1,3,5-Trimethylbenzene	ND	0.050		mg/Kg	1	11/13/2006
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	11/13/2006
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	11/13/2006
Naphthalene	ND	0.10		mg/Kg	1	11/13/2006
1-Methylnaphthalene	0.25	0.20		mg/Kg	1	11/13/2006
2-Methylnaphthalene	0.23	0.20		mg/Kg	1	11/13/2006
Acetone	ND	0.75		mg/Kg	1	11/13/2006
Bromobenzene	ND	0.050		mg/Kg	1	11/13/2006
Bromochloromethane	ND	0.050		mg/Kg	1	11/13/2006
Bromodichloromethane	ND	0.050		mg/Kg	1	11/13/2006
Bromoform	ND	0.050		mg/Kg	1	11/13/2006
Bromomethane	ND	0.10		mg/Kg	1	11/13/2006
2-Butanone	ND	0.50		mg/Kg	1	11/13/2006
Carbon disulfide	ND	0.50		mg/Kg	1	11/13/2006
Carbon tetrachloride	ND	0.10		mg/Kg	1	11/13/2006
Chlorobenzene	ND	0.050		mg/Kg	1	11/13/2006
Chloroethane	ND	0.10		mg/Kg	1	11/13/2006
Chloroform	ND	0.050		mg/Kg	1	11/13/2006
Chloromethane	ND	0.050		mg/Kg	1	11/13/2006
2-Chlorotoluene	ND	0.050		mg/Kg	1	11/13/2006
4-Chlorotoluene	ND	0.050		mg/Kg	1	11/13/2006
cis-1,2-DCE	ND	0.050		mg/Kg	1	11/13/2006

Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit



## Hall Environmental Analysis Laboratory, Inc.

Date: 01-Dec-06

CLIENT: Giant Refining Co  
 Lab Order: 0611097  
 Project: Misc. Soil Samples  
 Lab ID: 0611097-02

Client Sample ID: Gas Con  
 Collection Date: 11/7/2006 3:12:00 PM  
 Date Received: 11/8/2006  
 Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: LMM
cis-1,3-Dichloropropene	ND	0.050		mg/Kg	1	11/13/2006
1,2-Dibromo-3-chloropropane	ND	0.10		mg/Kg	1	11/13/2006
Dibromochloromethane	ND	0.050		mg/Kg	1	11/13/2006
Dibromomethane	ND	0.10		mg/Kg	1	11/13/2006
1,2-Dichlorobenzene	ND	0.050		mg/Kg	1	11/13/2006
1,3-Dichlorobenzene	ND	0.050		mg/Kg	1	11/13/2006
1,4-Dichlorobenzene	ND	0.050		mg/Kg	1	11/13/2006
Dichlorodifluoromethane	ND	0.050		mg/Kg	1	11/13/2006
1,1-Dichloroethane	ND	0.10		mg/Kg	1	11/13/2006
1,1-Dichloroethene	ND	0.050		mg/Kg	1	11/13/2006
1,2-Dichloropropane	ND	0.050		mg/Kg	1	11/13/2006
1,3-Dichloropropane	ND	0.050		mg/Kg	1	11/13/2006
2,2-Dichloropropane	ND	0.10		mg/Kg	1	11/13/2006
1,1-Dichloropropene	ND	0.050		mg/Kg	1	11/13/2006
Hexachlorobutadiene	ND	0.10		mg/Kg	1	11/13/2006
2-Hexanone	ND	0.50		mg/Kg	1	11/13/2006
Isopropylbenzene	ND	0.050		mg/Kg	1	11/13/2006
4-Isopropyltoluene	ND	0.050		mg/Kg	1	11/13/2006
4-Methyl-2-pentanone	ND	0.50		mg/Kg	1	11/13/2006
Methylene chloride	ND	0.15		mg/Kg	1	11/13/2006
n-Butylbenzene	ND	0.050		mg/Kg	1	11/13/2006
n-Propylbenzene	ND	0.050		mg/Kg	1	11/13/2006
sec-Butylbenzene	ND	0.050		mg/Kg	1	11/13/2006
Styrene	ND	0.050		mg/Kg	1	11/13/2006
tert-Butylbenzene	ND	0.050		mg/Kg	1	11/13/2006
1,1,1,2-Tetrachloroethane	ND	0.050		mg/Kg	1	11/13/2006
1,1,2,2-Tetrachloroethane	ND	0.050		mg/Kg	1	11/13/2006
Tetrachloroethene (PCE)	ND	0.050		mg/Kg	1	11/13/2006
trans-1,2-DCE	ND	0.050		mg/Kg	1	11/13/2006
trans-1,3-Dichloropropene	ND	0.050		mg/Kg	1	11/13/2006
1,2,3-Trichlorobenzene	ND	0.10		mg/Kg	1	11/13/2006
1,2,4-Trichlorobenzene	ND	0.050		mg/Kg	1	11/13/2006
1,1,1-Trichloroethane	ND	0.050		mg/Kg	1	11/13/2006
1,1,2-Trichloroethane	ND	0.050		mg/Kg	1	11/13/2006
Trichloroethene (TCE)	ND	0.050		mg/Kg	1	11/13/2006
Trichlorofluoromethane	ND	0.050		mg/Kg	1	11/13/2006
1,2,3-Trichloropropane	ND	0.10		mg/Kg	1	11/13/2006
Vinyl chloride	ND	0.050		mg/Kg	1	11/13/2006
Xylenes, Total	ND	0.10		mg/Kg	1	11/13/2006
Surr: 1,2-Dichloroethane-d4	76.4	62-127		%REC	1	11/13/2006

Qualifiers: \* Value exceeds Maximum Contaminant Level  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit  
 S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 MCL Maximum Contaminant Level  
 RL Reporting Limit

**Hall Environmental Analysis Laboratory, Inc.**

Date: 01-Dec-06

CLIENT: Giant Refining Co  
Lab Order: 0611097  
Project: Misc. Soil Samples  
Lab ID: 0611097-02

Client Sample ID: Gas Con  
Collection Date: 11/7/2006 3:12:00 PM  
Date Received: 11/8/2006  
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: LMM
Surr: 4-Bromofluorobenzene	94.2	75.2-127		%REC	1	11/13/2006
Surr: Dibromofluoromethane	76.3	68.1-120		%REC	1	11/13/2006
Surr: Toluene-d8	95.9	74-119		%REC	1	11/13/2006

Qualifiers: \* Value exceeds Maximum Contaminant Level  
E Value above quantitation range  
J Analyte detected below quantitation limits  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
RL Reporting Limit

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## Hall Environmental Analysis Laboratory, Inc.

Date: 01-Dec-06

<b>CLIENT:</b>	Giant Refining Co	<b>Client Sample ID:</b>	Sour Nap. Soil
<b>Lab Order:</b>	0611097	<b>Collection Date:</b>	11/7/2006 3:20:00 PM
<b>Project:</b>	Misc. Soil Samples	<b>Date Received:</b>	11/8/2006
<b>Lab ID:</b>	0611097-03	<b>Matrix:</b>	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 7471: MERCURY</b>						
Mercury	1.3	0.16		mg/Kg	5	11/30/2006
<b>EPA METHOD 6010B: SOIL METALS</b>						
Arsenic	ND	2.5		mg/Kg	1	11/17/2006 1:36:02 PM
Barium	520	2.0		mg/Kg	20	11/17/2006 2:33:27 PM
Cadmium	ND	0.10		mg/Kg	1	11/17/2006 1:36:02 PM
Chromium	12	0.30		mg/Kg	1	11/17/2006 1:36:02 PM
Lead	5.3	0.25		mg/Kg	1	11/17/2006 1:36:02 PM
Selenium	ND	2.5		mg/Kg	1	11/17/2006 1:36:02 PM
Silver	ND	0.25		mg/Kg	1	11/17/2006 1:36:02 PM
<b>EPA METHOD 8260B: VOLATILES</b>						
Benzene	ND	0.050		mg/Kg	1	11/10/2006
Toluene	ND	0.050		mg/Kg	1	11/10/2006
Ethylbenzene	ND	0.050		mg/Kg	1	11/10/2006
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	11/10/2006
1,2,4-Trimethylbenzene	ND	0.050		mg/Kg	1	11/10/2006
1,3,5-Trimethylbenzene	ND	0.050		mg/Kg	1	11/10/2006
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	11/10/2006
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	11/10/2006
Naphthalene	ND	0.10		mg/Kg	1	11/10/2006
1-Methylnaphthalene	ND	0.20		mg/Kg	1	11/10/2006
2-Methylnaphthalene	ND	0.20		mg/Kg	1	11/10/2006
Acetone	ND	0.75		mg/Kg	1	11/10/2006
Bromobenzene	ND	0.050		mg/Kg	1	11/10/2006
Bromochloromethane	ND	0.050		mg/Kg	1	11/10/2006
Bromodichloromethane	ND	0.050		mg/Kg	1	11/10/2006
Bromoform	ND	0.050		mg/Kg	1	11/10/2006
Bromomethane	ND	0.10		mg/Kg	1	11/10/2006
2-Butanone	ND	0.50		mg/Kg	1	11/10/2006
Carbon disulfide	ND	0.50		mg/Kg	1	11/10/2006
Carbon tetrachloride	ND	0.10		mg/Kg	1	11/10/2006
Chlorobenzene	ND	0.050		mg/Kg	1	11/10/2006
Chloroethane	ND	0.10		mg/Kg	1	11/10/2006
Chloroform	ND	0.050		mg/Kg	1	11/10/2006
Chloromethane	ND	0.050		mg/Kg	1	11/10/2006
2-Chlorotoluene	ND	0.050		mg/Kg	1	11/10/2006
4-Chlorotoluene	ND	0.050		mg/Kg	1	11/10/2006
cis-1,2-DCE	ND	0.050		mg/Kg	1	11/10/2006

Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

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## Hall Environmental Analysis Laboratory, Inc.

Date: 01-Dec-06

CLIENT: Giant Refining Co  
 Lab Order: 0611097  
 Project: Misc. Soil Samples  
 Lab ID: 0611097-03

Client Sample ID: Sour Nap. Soil  
 Collection Date: 11/7/2006 3:20:00 PM  
 Date Received: 11/8/2006  
 Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: LMM
cis-1,3-Dichloropropene	ND	0.050		mg/Kg	1	11/10/2006
1,2-Dibromo-3-chloropropane	ND	0.10		mg/Kg	1	11/10/2006
Dibromochloromethane	ND	0.050		mg/Kg	1	11/10/2006
Dibromomethane	ND	0.10		mg/Kg	1	11/10/2006
1,2-Dichlorobenzene	ND	0.050		mg/Kg	1	11/10/2006
1,3-Dichlorobenzene	ND	0.050		mg/Kg	1	11/10/2006
1,4-Dichlorobenzene	ND	0.050		mg/Kg	1	11/10/2006
Dichlorodifluoromethane	ND	0.050		mg/Kg	1	11/10/2006
1,1-Dichloroethane	ND	0.10		mg/Kg	1	11/10/2006
1,1-Dichloroethene	ND	0.050		mg/Kg	1	11/10/2006
1,2-Dichloropropane	ND	0.050		mg/Kg	1	11/10/2006
1,3-Dichloropropane	ND	0.050		mg/Kg	1	11/10/2006
2,2-Dichloropropane	ND	0.10		mg/Kg	1	11/10/2006
1,1-Dichloropropene	ND	0.050		mg/Kg	1	11/10/2006
Hexachlorobutadiene	ND	0.10		mg/Kg	1	11/10/2006
2-Hexanone	ND	0.50		mg/Kg	1	11/10/2006
Isopropylbenzene	ND	0.050		mg/Kg	1	11/10/2006
4-Isopropyltoluene	ND	0.050		mg/Kg	1	11/10/2006
4-Methyl-2-pentanone	ND	0.50		mg/Kg	1	11/10/2006
Methylene chloride	ND	0.15		mg/Kg	1	11/10/2006
n-Butylbenzene	ND	0.050		mg/Kg	1	11/10/2006
n-Propylbenzene	ND	0.050		mg/Kg	1	11/10/2006
sec-Butylbenzene	ND	0.050		mg/Kg	1	11/10/2006
Styrene	ND	0.050		mg/Kg	1	11/10/2006
tert-Butylbenzene	ND	0.050		mg/Kg	1	11/10/2006
1,1,1,2-Tetrachloroethane	ND	0.050		mg/Kg	1	11/10/2006
1,1,2,2-Tetrachloroethane	ND	0.050		mg/Kg	1	11/10/2006
Tetrachloroethene (PCE)	ND	0.050		mg/Kg	1	11/10/2006
trans-1,2-DCE	ND	0.050		mg/Kg	1	11/10/2006
trans-1,3-Dichloropropene	ND	0.050		mg/Kg	1	11/10/2006
1,2,3-Trichlorobenzene	ND	0.10		mg/Kg	1	11/10/2006
1,2,4-Trichlorobenzene	ND	0.050		mg/Kg	1	11/10/2006
1,1,1-Trichloroethane	ND	0.050		mg/Kg	1	11/10/2006
1,1,2-Trichloroethane	ND	0.050		mg/Kg	1	11/10/2006
Trichloroethene (TCE)	ND	0.050		mg/Kg	1	11/10/2006
Trichlorofluoromethane	ND	0.050		mg/Kg	1	11/10/2006
1,2,3-Trichloropropane	ND	0.10		mg/Kg	1	11/10/2006
Vinyl chloride	ND	0.050		mg/Kg	1	11/10/2006
Xylenes, Total	ND	0.10		mg/Kg	1	11/10/2006
Surr: 1,2-Dichloroethane-d4	74.3	62-127		%REC	1	11/10/2006

Qualifiers: \* Value exceeds Maximum Contaminant Level  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit  
 S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 MCL Maximum Contaminant Level  
 RL Reporting Limit

# Hall Environmental Analysis Laboratory, Inc.

Date: 01-Dec-06

CLIENT: Giant Refining Co  
Lab Order: 0611097  
Project: Misc. Soil Samples  
Lab ID: 0611097-03

Client Sample ID: Sour Nap. Soil  
Collection Date: 11/7/2006 3:20:00 PM  
Date Received: 11/8/2006  
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: LMM
Surr: 4-Bromofluorobenzene	86.2	75.2-127		%REC	1	11/10/2006
Surr: Dibromofluoromethane	73.5	68.1-120		%REC	1	11/10/2006
Surr: Toluene-d8	95.3	74-119		%REC	1	11/10/2006

## Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

## Hall Environmental Analysis Laboratory, Inc.

Date: 01-Dec-06

CLIENT: Giant Refining Co  
 Lab Order: 0611097  
 Project: Misc. Soil Samples  
 Lab ID: 0611097-04

Client Sample ID: #4 Oily soil  
 Collection Date: 11/7/2006 3:35:00 PM  
 Date Received: 11/8/2006  
 Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 7471: MERCURY</b>						
Mercury	ND	0.033		mg/Kg	1	Analyst: IC 11/30/2006
<b>EPA METHOD 6010B: SOIL METALS</b>						
Arsenic	ND	2.5		mg/Kg	1	Analyst: CMS 11/17/2006 1:38:36 PM
Barium	410	1.0		mg/Kg	10	11/17/2006 2:16:02 PM
Cadmium	0.37	0.10		mg/Kg	1	11/17/2006 1:38:36 PM
Chromium	5.6	0.30		mg/Kg	1	11/17/2006 1:38:36 PM
Lead	7.0	0.25		mg/Kg	1	11/17/2006 1:38:36 PM
Selenium	ND	2.5		mg/Kg	1	11/17/2006 1:38:36 PM
Silver	ND	0.25		mg/Kg	1	11/17/2006 1:38:36 PM
<b>EPA METHOD 8260B: VOLATILES</b>						
Benzene	ND	0.50		mg/Kg	10	Analyst: LMM 11/13/2006
Toluene	ND	0.50		mg/Kg	10	11/13/2006
Ethylbenzene	ND	0.50		mg/Kg	10	11/13/2006
Methyl tert-butyl ether (MTBE)	ND	0.50		mg/Kg	10	11/13/2006
1,2,4-Trimethylbenzene	ND	0.50		mg/Kg	10	11/13/2006
1,3,5-Trimethylbenzene	1.3	0.50		mg/Kg	10	11/13/2006
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg	10	11/13/2006
1,2-Dibromoethane (EDB)	ND	0.50		mg/Kg	10	11/13/2006
Naphthalene	ND	1.0		mg/Kg	10	11/13/2006
1-Methylnaphthalene	ND	2.0		mg/Kg	10	11/13/2006
2-Methylnaphthalene	ND	2.0		mg/Kg	10	11/13/2006
Acetone	ND	7.5		mg/Kg	10	11/13/2006
Bromobenzene	ND	0.50		mg/Kg	10	11/13/2006
Bromochloromethane	ND	0.50		mg/Kg	10	11/13/2006
Bromodichloromethane	ND	0.50		mg/Kg	10	11/13/2006
Bromoform	ND	0.50		mg/Kg	10	11/13/2006
Bromomethane	ND	1.0		mg/Kg	10	11/13/2006
2-Butanone	ND	5.0		mg/Kg	10	11/13/2006
Carbon disulfide	ND	5.0		mg/Kg	10	11/13/2006
Carbon tetrachloride	ND	1.0		mg/Kg	10	11/13/2006
Chlorobenzene	ND	0.50		mg/Kg	10	11/13/2006
Chloroethane	ND	1.0		mg/Kg	10	11/13/2006
Chloroform	ND	0.50		mg/Kg	10	11/13/2006
Chloromethane	ND	0.50		mg/Kg	10	11/13/2006
2-Chlorotoluene	ND	0.50		mg/Kg	10	11/13/2006
4-Chlorotoluene	ND	0.50		mg/Kg	10	11/13/2006
cis-1,2-DCE	ND	0.50		mg/Kg	10	11/13/2006

Qualifiers: \* Value exceeds Maximum Contaminant Level  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit  
 S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 MCL Maximum Contaminant Level  
 RL Reporting Limit

## Hall Environmental Analysis Laboratory, Inc.

Date: 01-Dec-06

CLIENT: Giant Refining Co  
 Lab Order: 0611097  
 Project: Misc. Soil Samples  
 Lab ID: 0611097-04

Client Sample ID: #4 Oily soil  
 Collection Date: 11/7/2006 3:35:00 PM  
 Date Received: 11/8/2006  
 Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: LMM
cis-1,3-Dichloropropene	ND	0.50		mg/Kg	10	11/13/2006
1,2-Dibromo-3-chloropropane	ND	1.0		mg/Kg	10	11/13/2006
Dibromochloromethane	ND	0.50		mg/Kg	10	11/13/2006
Dibromomethane	ND	1.0		mg/Kg	10	11/13/2006
1,2-Dichlorobenzene	ND	0.50		mg/Kg	10	11/13/2006
1,3-Dichlorobenzene	ND	0.50		mg/Kg	10	11/13/2006
1,4-Dichlorobenzene	ND	0.50		mg/Kg	10	11/13/2006
Dichlorodifluoromethane	ND	0.50		mg/Kg	10	11/13/2006
1,1-Dichloroethane	ND	1.0		mg/Kg	10	11/13/2006
1,1-Dichloroethene	ND	0.50		mg/Kg	10	11/13/2006
1,2-Dichloropropane	ND	0.50		mg/Kg	10	11/13/2006
1,3-Dichloropropane	ND	0.50		mg/Kg	10	11/13/2006
2,2-Dichloropropane	ND	1.0		mg/Kg	10	11/13/2006
1,1-Dichloropropene	ND	0.50		mg/Kg	10	11/13/2006
Hexachlorobutadiene	ND	1.0		mg/Kg	10	11/13/2006
2-Hexanone	ND	5.0		mg/Kg	10	11/13/2006
Isopropylbenzene	ND	0.50		mg/Kg	10	11/13/2006
4-Isopropyltoluene	ND	0.50		mg/Kg	10	11/13/2006
4-Methyl-2-pentanone	ND	5.0		mg/Kg	10	11/13/2006
Methylene chloride	ND	1.5		mg/Kg	10	11/13/2006
n-Butylbenzene	0.80	0.50		mg/Kg	10	11/13/2006
n-Propylbenzene	ND	0.50		mg/Kg	10	11/13/2006
sec-Butylbenzene	ND	0.50		mg/Kg	10	11/13/2006
Styrene	ND	0.50		mg/Kg	10	11/13/2006
tert-Butylbenzene	ND	0.50		mg/Kg	10	11/13/2006
1,1,1,2-Tetrachloroethane	ND	0.50		mg/Kg	10	11/13/2006
1,1,2,2-Tetrachloroethane	ND	0.50		mg/Kg	10	11/13/2006
Tetrachloroethene (PCE)	ND	0.50		mg/Kg	10	11/13/2006
trans-1,2-DCE	ND	0.50		mg/Kg	10	11/13/2006
trans-1,3-Dichloropropene	ND	0.50		mg/Kg	10	11/13/2006
1,2,3-Trichlorobenzene	ND	1.0		mg/Kg	10	11/13/2006
1,2,4-Trichlorobenzene	ND	0.50		mg/Kg	10	11/13/2006
1,1,1-Trichloroethane	ND	0.50		mg/Kg	10	11/13/2006
1,1,2-Trichloroethane	ND	0.50		mg/Kg	10	11/13/2006
Trichloroethene (TCE)	ND	0.50		mg/Kg	10	11/13/2006
Trichlorofluoromethane	ND	0.50		mg/Kg	10	11/13/2006
1,2,3-Trichloropropane	ND	1.0		mg/Kg	10	11/13/2006
Vinyl chloride	ND	0.50		mg/Kg	10	11/13/2006
Xylenes, Total	ND	1.0		mg/Kg	10	11/13/2006
Surr: 1,2-Dichloroethane-d4	93.4	62-127		%REC	10	11/13/2006

Qualifiers: \* Value exceeds Maximum Contaminant Level  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit  
 S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 MCL Maximum Contaminant Level  
 RL Reporting Limit

**Hall Environmental Analysis Laboratory, Inc.**

Date: 01-Dec-06

CLIENT:	Giant Refining Co	Client Sample ID:	#4 Oily soil
Lab Order:	0611097	Collection Date:	11/7/2006 3:35:00 PM
Project:	Misc. Soil Samples	Date Received:	11/8/2006
Lab ID:	0611097-04	Matrix:	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8260B: VOLATILES</b>						Analyst: LMM
Surr: 4-Bromofluorobenzene	97.5	75.2-127		%REC	10	11/13/2006
Surr: Dibromofluoromethane	98.8	68.1-120		%REC	10	11/13/2006
Surr: Toluene-d8	96.8	74-119		%REC	10	11/13/2006

Qualifiers:	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	MCL Maximum Contaminant Level
	ND Not Detected at the Reporting Limit	RL Reporting Limit
	S Spike recovery outside accepted recovery limits	



## Hall Environmental Analysis Laboratory, Inc.

Date: 01-Dec-06

CLIENT: Giant Refining Co  
 Lab Order: 0611097  
 Project: Misc. Soil Samples  
 Lab ID: 0611097-05

Client Sample ID: #5 Oily soil  
 Collection Date: 11/7/2006 3:40:00 PM  
 Date Received: 11/8/2006  
 Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 7471: MERCURY</b>						
Mercury	0.052	0.033		mg/Kg	1	Analyst: IC 11/30/2006
<b>EPA METHOD 6010B: SOIL METALS</b>						
Arsenic	ND	2.5		mg/Kg	1	Analyst: CMS 11/17/2006 1:41:04 PM
Barium	570	2.0		mg/Kg	20	11/17/2006 2:21:52 PM
Cadmium	0.12	0.10		mg/Kg	1	11/17/2006 1:41:04 PM
Chromium	11	0.30		mg/Kg	1	11/17/2006 1:41:04 PM
Lead	7.6	0.25		mg/Kg	1	11/17/2006 1:41:04 PM
Selenium	ND	2.5		mg/Kg	1	11/17/2006 1:41:04 PM
Silver	ND	0.25		mg/Kg	1	11/17/2006 1:41:04 PM
<b>EPA METHOD 8260B: VOLATILES</b>						
Benzene	ND	0.50		mg/Kg	10	Analyst: LMM 11/13/2006
Toluene	ND	0.50		mg/Kg	10	11/13/2006
Ethylbenzene	ND	0.50		mg/Kg	10	11/13/2006
Methyl tert-butyl ether (MTBE)	ND	0.50		mg/Kg	10	11/13/2006
1,2,4-Trimethylbenzene	5.0	0.50		mg/Kg	10	11/13/2006
1,3,5-Trimethylbenzene	1.8	0.50		mg/Kg	10	11/13/2006
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg	10	11/13/2006
1,2-Dibromoethane (EDB)	ND	0.50		mg/Kg	10	11/13/2006
Naphthalene	11	1.0		mg/Kg	10	11/13/2006
1-Methylnaphthalene	36	2.0		mg/Kg	10	11/13/2006
2-Methylnaphthalene	50	2.0		mg/Kg	10	11/13/2006
Acetone	ND	7.5		mg/Kg	10	11/13/2006
Bromobenzene	ND	0.50		mg/Kg	10	11/13/2006
Bromochloromethane	ND	0.50		mg/Kg	10	11/13/2006
Bromodichloromethane	ND	0.50		mg/Kg	10	11/13/2006
Bromoform	ND	0.50		mg/Kg	10	11/13/2006
Bromomethane	ND	1.0		mg/Kg	10	11/13/2006
2-Butanone	ND	5.0		mg/Kg	10	11/13/2006
Carbon disulfide	ND	5.0		mg/Kg	10	11/13/2006
Carbon tetrachloride	ND	1.0		mg/Kg	10	11/13/2006
Chlorobenzene	ND	0.50		mg/Kg	10	11/13/2006
Chloroethane	ND	1.0		mg/Kg	10	11/13/2006
Chloroform	ND	0.50		mg/Kg	10	11/13/2006
Chloromethane	ND	0.50		mg/Kg	10	11/13/2006
2-Chlorotoluene	ND	0.50		mg/Kg	10	11/13/2006
4-Chlorotoluene	ND	0.50		mg/Kg	10	11/13/2006
cis-1,2-DCE	ND	0.50		mg/Kg	10	11/13/2006

Qualifiers: \* Value exceeds Maximum Contaminant Level  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit  
 S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 MCL Maximum Contaminant Level  
 RL Reporting Limit

## Hall Environmental Analysis Laboratory, Inc.

Date: 01-Dec-06

CLIENT: Giant Refining Co  
 Lab Order: 0611097  
 Project: Misc. Soil Samples  
 Lab ID: 0611097-05

Client Sample ID: #5 Oily soil  
 Collection Date: 11/7/2006 3:40:00 PM  
 Date Received: 11/8/2006  
 Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: LMM
cis-1,3-Dichloropropene	ND	0.50		mg/Kg	10	11/13/2006
1,2-Dibromo-3-chloropropane	ND	1.0		mg/Kg	10	11/13/2006
Dibromochloromethane	ND	0.50		mg/Kg	10	11/13/2006
Dibromomethane	ND	1.0		mg/Kg	10	11/13/2006
1,2-Dichlorobenzene	ND	0.50		mg/Kg	10	11/13/2006
1,3-Dichlorobenzene	ND	0.50		mg/Kg	10	11/13/2006
1,4-Dichlorobenzene	ND	0.50		mg/Kg	10	11/13/2006
Dichlorodifluoromethane	ND	0.50		mg/Kg	10	11/13/2006
1,1-Dichloroethane	ND	1.0		mg/Kg	10	11/13/2006
1,1-Dichloroethene	ND	0.50		mg/Kg	10	11/13/2006
1,2-Dichloropropane	ND	0.50		mg/Kg	10	11/13/2006
1,3-Dichloropropane	ND	0.50		mg/Kg	10	11/13/2006
2,2-Dichloropropane	ND	1.0		mg/Kg	10	11/13/2006
1,1-Dichloropropene	ND	0.50		mg/Kg	10	11/13/2006
Hexachlorobutadiene	ND	1.0		mg/Kg	10	11/13/2006
2-Hexanone	ND	5.0		mg/Kg	10	11/13/2006
Isopropylbenzene	ND	0.50		mg/Kg	10	11/13/2006
4-Isopropyltoluene	ND	0.50		mg/Kg	10	11/13/2006
4-Methyl-2-pentanone	ND	5.0		mg/Kg	10	11/13/2006
Methylene chloride	ND	1.5		mg/Kg	10	11/13/2006
n-Butylbenzene	2.2	0.50		mg/Kg	10	11/13/2006
n-Propylbenzene	ND	0.50		mg/Kg	10	11/13/2006
sec-Butylbenzene	ND	0.50		mg/Kg	10	11/13/2006
Styrene	ND	0.50		mg/Kg	10	11/13/2006
tert-Butylbenzene	ND	0.50		mg/Kg	10	11/13/2006
1,1,1,2-Tetrachloroethane	ND	0.50		mg/Kg	10	11/13/2006
1,1,2,2-Tetrachloroethane	ND	0.50		mg/Kg	10	11/13/2006
Tetrachloroethene (PCE)	ND	0.50		mg/Kg	10	11/13/2006
trans-1,2-DCE	ND	0.50		mg/Kg	10	11/13/2006
trans-1,3-Dichloropropene	ND	0.50		mg/Kg	10	11/13/2006
1,2,3-Trichlorobenzene	ND	1.0		mg/Kg	10	11/13/2006
1,2,4-Trichlorobenzene	ND	0.50		mg/Kg	10	11/13/2006
1,1,1-Trichloroethane	ND	0.50		mg/Kg	10	11/13/2006
1,1,2-Trichloroethane	ND	0.50		mg/Kg	10	11/13/2006
Trichloroethene (TCE)	ND	0.50		mg/Kg	10	11/13/2006
Trichlorofluoromethane	ND	0.50		mg/Kg	10	11/13/2006
1,2,3-Trichloropropane	ND	1.0		mg/Kg	10	11/13/2006
Vinyl chloride	ND	0.50		mg/Kg	10	11/13/2006
Xylenes, Total	2.4	1.0		mg/Kg	10	11/13/2006
Surr: 1,2-Dichloroethane-d4	90.8	62-127		%REC	10	11/13/2006

Qualifiers: \* Value exceeds Maximum Contaminant Level  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit  
 S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 MCL Maximum Contaminant Level  
 RL Reporting Limit

## Hall Environmental Analysis Laboratory, Inc.

Date: 01-Dec-06

CLIENT:	Giant Refining Co	Client Sample ID:	#5 Oily soil
Lab Order:	0611097	Collection Date:	11/7/2006 3:40:00 PM
Project:	Misc. Soil Samples	Date Received:	11/8/2006
Lab ID:	0611097-05	Matrix:	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: LMM
Surr: 4-Bromofluorobenzene	95.6	75.2-127		%REC	10	11/13/2006
Surr: Dibromofluoromethane	94.7	68.1-120		%REC	10	11/13/2006
Surr: Toluene-d8	92.3	74-119		%REC	10	11/13/2006

Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

## Hall Environmental Analysis Laboratory, Inc.

Date: 01-Dec-06

CLIENT: Giant Refining Co  
 Lab Order: 0611097  
 Project: Misc. Soil Samples  
 Lab ID: 0611097-06

Client Sample ID: #6 Oily soil  
 Collection Date: 11/7/2006 3:50:00 PM  
 Date Received: 11/8/2006  
 Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 7471: MERCURY</b>						Analyst: IC
Mercury	0.64	0.16		mg/Kg	5	11/30/2006
<b>EPA METHOD 6010B: SOIL METALS</b>						Analyst: CMS
Arsenic	ND	2.5		mg/Kg	1	11/17/2006 1:43:37 PM
Barium	490	1.0		mg/Kg	10	11/17/2006 2:23:31 PM
Cadmium	0.28	0.10		mg/Kg	1	11/17/2006 1:43:37 PM
Chromium	25	1.5		mg/Kg	5	11/17/2006 2:35:57 PM
Lead	11	1.2		mg/Kg	5	11/17/2006 2:35:57 PM
Selenium	ND	12		mg/Kg	5	11/17/2006 2:35:57 PM
Silver	ND	0.25		mg/Kg	1	11/17/2006 1:43:37 PM
<b>EPA METHOD 8260B: VOLATILES</b>						Analyst: LMM
Benzene	ND	0.50		mg/Kg	10	11/13/2006
Toluene	ND	0.50		mg/Kg	10	11/13/2006
Ethylbenzene	ND	0.50		mg/Kg	10	11/13/2006
Methyl tert-butyl ether (MTBE)	ND	0.50		mg/Kg	10	11/13/2006
1,2,4-Trimethylbenzene	ND	0.50		mg/Kg	10	11/13/2006
1,3,5-Trimethylbenzene	ND	0.50		mg/Kg	10	11/13/2006
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg	10	11/13/2006
1,2-Dibromoethane (EDB)	ND	0.50		mg/Kg	10	11/13/2006
Naphthalene	ND	1.0		mg/Kg	10	11/13/2006
1-Methylnaphthalene	ND	2.0		mg/Kg	10	11/13/2006
2-Methylnaphthalene	ND	2.0		mg/Kg	10	11/13/2006
Acetone	ND	7.5		mg/Kg	10	11/13/2006
Bromobenzene	ND	0.50		mg/Kg	10	11/13/2006
Bromochloromethane	ND	0.50		mg/Kg	10	11/13/2006
Bromodichloromethane	ND	0.50		mg/Kg	10	11/13/2006
Bromoform	ND	0.50		mg/Kg	10	11/13/2006
Bromomethane	ND	1.0		mg/Kg	10	11/13/2006
2-Butanone	ND	5.0		mg/Kg	10	11/13/2006
Carbon disulfide	ND	5.0		mg/Kg	10	11/13/2006
Carbon tetrachloride	ND	1.0		mg/Kg	10	11/13/2006
Chlorobenzene	ND	0.50		mg/Kg	10	11/13/2006
Chloroethane	ND	1.0		mg/Kg	10	11/13/2006
Chloroform	ND	0.50		mg/Kg	10	11/13/2006
Chloromethane	ND	0.50		mg/Kg	10	11/13/2006
2-Chlorotoluene	ND	0.50		mg/Kg	10	11/13/2006
4-Chlorotoluene	ND	0.50		mg/Kg	10	11/13/2006
cis-1,2-DCE	ND	0.50		mg/Kg	10	11/13/2006

Qualifiers: \* Value exceeds Maximum Contaminant Level  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit  
 S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 MCL Maximum Contaminant Level  
 RL Reporting Limit

## Hall Environmental Analysis Laboratory, Inc.

Date: 01-Dec-06

CLIENT:	Giant Refining Co	Client Sample ID:	#6 Oily soil
Lab Order:	0611097	Collection Date:	11/7/2006 3:50:00 PM
Project:	Misc. Soil Samples	Date Received:	11/8/2006
Lab ID:	0611097-06	Matrix:	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: LMM
cis-1,3-Dichloropropene	ND	0.50		mg/Kg	10	11/13/2006
1,2-Dibromo-3-chloropropane	ND	1.0		mg/Kg	10	11/13/2006
Dibromochloromethane	ND	0.50		mg/Kg	10	11/13/2006
Dibromomethane	ND	1.0		mg/Kg	10	11/13/2006
1,2-Dichlorobenzene	ND	0.50		mg/Kg	10	11/13/2006
1,3-Dichlorobenzene	ND	0.50		mg/Kg	10	11/13/2006
1,4-Dichlorobenzene	ND	0.50		mg/Kg	10	11/13/2006
Dichlorodifluoromethane	ND	0.50		mg/Kg	10	11/13/2006
1,1-Dichloroethane	ND	1.0		mg/Kg	10	11/13/2006
1,1-Dichloroethene	ND	0.50		mg/Kg	10	11/13/2006
1,2-Dichloropropane	ND	0.50		mg/Kg	10	11/13/2006
1,3-Dichloropropane	ND	0.50		mg/Kg	10	11/13/2006
2,2-Dichloropropane	ND	1.0		mg/Kg	10	11/13/2006
1,1-Dichloropropene	ND	0.50		mg/Kg	10	11/13/2006
Hexachlorobutadiene	ND	1.0		mg/Kg	10	11/13/2006
2-Hexanone	ND	5.0		mg/Kg	10	11/13/2006
Isopropylbenzene	ND	0.50		mg/Kg	10	11/13/2006
4-Isopropyltoluene	ND	0.50		mg/Kg	10	11/13/2006
4-Methyl-2-pentanone	ND	5.0		mg/Kg	10	11/13/2006
Methylene chloride	ND	1.5		mg/Kg	10	11/13/2006
n-Butylbenzene	ND	0.50		mg/Kg	10	11/13/2006
n-Propylbenzene	ND	0.50		mg/Kg	10	11/13/2006
sec-Butylbenzene	ND	0.50		mg/Kg	10	11/13/2006
Styrene	ND	0.50		mg/Kg	10	11/13/2006
tert-Butylbenzene	ND	0.50		mg/Kg	10	11/13/2006
1,1,1,2-Tetrachloroethane	ND	0.50		mg/Kg	10	11/13/2006
1,1,2,2-Tetrachloroethane	ND	0.50		mg/Kg	10	11/13/2006
Tetrachloroethene (PCE)	ND	0.50		mg/Kg	10	11/13/2006
trans-1,2-DCE	ND	0.50		mg/Kg	10	11/13/2006
trans-1,3-Dichloropropene	ND	0.50		mg/Kg	10	11/13/2006
1,2,3-Trichlorobenzene	ND	1.0		mg/Kg	10	11/13/2006
1,2,4-Trichlorobenzene	ND	0.50		mg/Kg	10	11/13/2006
1,1,1-Trichloroethane	ND	0.50		mg/Kg	10	11/13/2006
1,1,2-Trichloroethane	ND	0.50		mg/Kg	10	11/13/2006
Trichloroethene (TCE)	ND	0.50		mg/Kg	10	11/13/2006
Trichlorofluoromethane	ND	0.50		mg/Kg	10	11/13/2006
1,2,3-Trichloropropane	ND	1.0		mg/Kg	10	11/13/2006
Vinyl chloride	ND	0.50		mg/Kg	10	11/13/2006
Xylenes, Total	ND	1.0		mg/Kg	10	11/13/2006
Surr: 1,2-Dichloroethane-d4	93.8	62-127		%REC	10	11/13/2006

Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 17 of 18

# Hall Environmental Analysis Laboratory, Inc.

Date: 01-Dec-06

<b>CLIENT:</b>	Giant Refining Co	<b>Client Sample ID:</b>	#6 Oily soil
<b>Lab Order:</b>	0611097	<b>Collection Date:</b>	11/7/2006 3:50:00 PM
<b>Project:</b>	Misc. Soil Samples	<b>Date Received:</b>	11/8/2006
<b>Lab ID:</b>	0611097-06	<b>Matrix:</b>	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: LMM
Surr: 4-Bromofluorobenzene	90.6	75.2-127	%REC		10	11/13/2006
Surr: Dibromofluoromethane	98.2	68.1-120	%REC		10	11/13/2006
Surr: Toluene-d8	92.7	74-119	%REC		10	11/13/2006

<b>Qualifiers:</b>	<ul style="list-style-type: none"> <li>* Value exceeds Maximum Contaminant Level</li> <li>E Value above quantitation range</li> <li>J Analyte detected below quantitation limits</li> <li>ND Not Detected at the Reporting Limit</li> <li>S Spike recovery outside accepted recovery limits</li> </ul>	<ul style="list-style-type: none"> <li>B Analyte detected in the associated Method Blank</li> <li>H Holding times for preparation or analysis exceeded</li> <li>MCL Maximum Contaminant Level</li> <li>RL Reporting Limit</li> </ul>
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## QA/QC SUMMARY REPORT

Client: Giant Refining Co  
Project: Misc. Soil Samples

Work Order: 0611097

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW7471									
Sample ID: MB-11869		MBLK				Batch ID: 11869	Analysis Date:		11/30/2006
Mercury	ND	mg/Kg	0.033						
Sample ID: LCS-11869		LCS				Batch ID: 11869	Analysis Date:		11/30/2006
Mercury	0.1699	mg/Kg	0.033	95.6	80	120			

## Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

Page 1

## QA/QC SUMMARY REPORT

Client: Giant Refining Co  
Project: Misc. Soil Samples

Work Order: 0611097

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW6010A									
Sample ID: 0611097-06B MSD		MSD			Batch ID: 11772		Analysis Date: 11/17/2006 2:03:22 PM		
Arsenic	29.39	mg/Kg	2.5	117	75	125	11.1	30	
Cadmium	23.19	mg/Kg	0.10	91.3	75	125	13.8	30	
Silver	23.81	mg/Kg	0.25	94.9	75	125	14.6	30	
Sample ID: 0611097-06B MSD		MSD			Batch ID: 11772		Analysis Date: 11/17/2006 2:40:52 PM		
Chromium	41.33	mg/Kg	1.5	64.7	75	125	12.4	30	S
Lead	32.28	mg/Kg	1.2	86.2	75	125	6.05	30	
Sample ID: 0611097-06B MSD		MSD			Batch ID: 11772		Analysis Date: 11/17/2006 2:40:52 PM		
Selenium	29.98	mg/Kg	12	119	75	125	23.8	30	
Sample ID: MB-11772		MBLK			Batch ID: 11772		Analysis Date: 11/17/2006 1:19:54 PM		
Arsenic	ND	mg/Kg	2.5						
Barium	ND	mg/Kg	0.10						
Cadmium	ND	mg/Kg	0.10						
Chromium	ND	mg/Kg	0.30						
Lead	ND	mg/Kg	0.25						
Selenium	ND	mg/Kg	2.5						
Silver	ND	mg/Kg	0.25						
Sample ID: MB-11772		MBLK			Batch ID: 11772		Analysis Date: 11/17/2006 1:19:54 PM		
Selenium	ND	mg/Kg	2.5						
Sample ID: LCS-11772		LCS			Batch ID: 11772		Analysis Date: 11/17/2006 1:22:21 PM		
Arsenic	24.46	mg/Kg	2.5	97.8	80	120			
Barium	23.95	mg/Kg	0.10	95.5	80	120			
Cadmium	24.20	mg/Kg	0.10	96.8	80	120			
Chromium	24.42	mg/Kg	0.30	97.7	80	120			
Lead	23.61	mg/Kg	0.25	94.4	80	120			
Selenium	22.98	mg/Kg	2.5	87.6	80	120			
Silver	24.74	mg/Kg	0.25	98.9	80	120			
Sample ID: LCS-11772		LCS			Batch ID: 11772		Analysis Date: 11/17/2006 1:22:21 PM		
Selenium	23.51	mg/Kg	2.5	90.5	80	120			
Sample ID: 0611097-06B MS		MS			Batch ID: 11772		Analysis Date: 11/17/2006 2:00:47 PM		
Arsenic	26.29	mg/Kg	2.5	105	75	125			
Cadmium	20.20	mg/Kg	0.10	79.7	75	125			
Silver	20.57	mg/Kg	0.25	82.3	75	125			
Sample ID: 0611097-06B MS		MS			Batch ID: 11772		Analysis Date: 11/17/2006 2:38:24 PM		
Chromium	46.80	mg/Kg	1.5	86.8	75	125			
Lead	34.29	mg/Kg	1.2	94.6	75	125			
Sample ID: 0611097-06B MS		MS			Batch ID: 11772		Analysis Date: 11/17/2006 2:38:24 PM		
Selenium	23.60	mg/Kg	12	94.4	75	125			

## Qualifiers:

E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

Page 2



## QA/QC SUMMARY REPORT

Client: Giant Refining Co  
Project: Misc. Soil Samples

Work Order: 0611097

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: SW8260B

Sample ID: MB-11700

MBLK

Batch ID: 11700 Analysis Date: 11/10/2006

Benzene	ND	mg/Kg	0.050
Toluene	ND	mg/Kg	0.050
Ethylbenzene	ND	mg/Kg	0.050
Methyl tert-butyl ether (MTBE)	ND	mg/Kg	0.050
1,2,4-Trimethylbenzene	ND	mg/Kg	0.050
1,3,5-Trimethylbenzene	ND	mg/Kg	0.050
1,2-Dichloroethane (EDC)	ND	mg/Kg	0.050
1,2-Dibromoethane (EDB)	ND	mg/Kg	0.050
Naphthalene	ND	mg/Kg	0.10
1-Methylnaphthalene	ND	mg/Kg	0.20
2-Methylnaphthalene	ND	mg/Kg	0.20
Acetone	ND	mg/Kg	0.75
Bromobenzene	ND	mg/Kg	0.050
Bromochloromethane	ND	mg/Kg	0.050
Bromodichloromethane	ND	mg/Kg	0.050
Bromoform	ND	mg/Kg	0.050
Bromomethane	ND	mg/Kg	0.10
2-Butanone	ND	mg/Kg	0.50
Carbon disulfide	ND	mg/Kg	0.50
Carbon tetrachloride	ND	mg/Kg	0.10
Chlorobenzene	ND	mg/Kg	0.050
Chloroethane	ND	mg/Kg	0.10
Chloroform	ND	mg/Kg	0.050
Chloromethane	ND	mg/Kg	0.050
2-Chlorotoluene	ND	mg/Kg	0.050
4-Chlorotoluene	ND	mg/Kg	0.050
cis-1,2-DCE	ND	mg/Kg	0.050
cis-1,3-Dichloropropene	ND	mg/Kg	0.050
1,2-Dibromo-3-chloropropane	ND	mg/Kg	0.10
Dibromochloromethane	ND	mg/Kg	0.050
Dibromomethane	ND	mg/Kg	0.10
1,2-Dichlorobenzene	ND	mg/Kg	0.050
1,3-Dichlorobenzene	ND	mg/Kg	0.050
1,4-Dichlorobenzene	ND	mg/Kg	0.050
Dichlorodifluoromethane	ND	mg/Kg	0.050
1,1-Dichloroethane	ND	mg/Kg	0.10
1,1-Dichloroethene	ND	mg/Kg	0.050
1,2-Dichloropropane	ND	mg/Kg	0.050
1,3-Dichloropropane	ND	mg/Kg	0.050
2,2-Dichloropropane	ND	mg/Kg	0.10
1,1-Dichloropropene	ND	mg/Kg	0.050
Hexachlorobutadiene	ND	mg/Kg	0.10
2-Hexanone	ND	mg/Kg	0.50
Isopropylbenzene	ND	mg/Kg	0.050

## Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

Page 1

## QA/QC SUMMARY REPORT

Client: Giant Refining Co  
Project: Misc. Soil Samples

Work Order: 0611097

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: SW8260B

Sample ID: MB-11700

MBLK

Batch ID: 11700 Analysis Date: 11/10/2006

4-Isopropyltoluene	ND	mg/Kg	0.050
4-Methyl-2-pentanone	ND	mg/Kg	0.50
Methylene chloride	ND	mg/Kg	0.15
n-Butylbenzene	ND	mg/Kg	0.050
n-Propylbenzene	ND	mg/Kg	0.050
sec-Butylbenzene	ND	mg/Kg	0.050
Styrene	ND	mg/Kg	0.050
tert-Butylbenzene	ND	mg/Kg	0.050
1,1,1,2-Tetrachloroethane	ND	mg/Kg	0.050
1,1,2,2-Tetrachloroethane	ND	mg/Kg	0.050
Tetrachloroethene (PCE)	ND	mg/Kg	0.050
trans-1,2-DCE	ND	mg/Kg	0.050
trans-1,3-Dichloropropene	ND	mg/Kg	0.050
1,2,3-Trichlorobenzene	ND	mg/Kg	0.10
1,2,4-Trichlorobenzene	ND	mg/Kg	0.050
1,1,1-Trichloroethane	ND	mg/Kg	0.050
1,1,2-Trichloroethane	ND	mg/Kg	0.050
Trichloroethene (TCE)	ND	mg/Kg	0.050
Trichlorofluoromethane	ND	mg/Kg	0.050
1,2,3-Trichloropropane	ND	mg/Kg	0.10
Vinyl chloride	ND	mg/Kg	0.050
Xylenes, Total	ND	mg/Kg	0.10

Sample ID: LCS-11700

LCS

Batch ID: 11700 Analysis Date: 11/10/2006

Benzene	0.9526	mg/Kg	0.050	95.3	80.8	132
Toluene	0.9187	mg/Kg	0.050	91.9	72.1	126
Chlorobenzene	0.9493	mg/Kg	0.050	94.9	75.4	140
1,1-Dichloroethene	0.9325	mg/Kg	0.050	93.2	59	147
Trichloroethene (TCE)	0.8759	mg/Kg	0.050	87.6	63.5	123

Sample ID: LCSD-11700

LCSD

Batch ID: 11700 Analysis Date: 11/10/2006

Benzene	0.9738	mg/Kg	0.050	97.4	80.8	132	2.20	20
Toluene	0.8562	mg/Kg	0.050	85.6	72.1	126	7.04	20
Chlorobenzene	0.9606	mg/Kg	0.050	96.1	75.4	140	1.18	20
1,1-Dichloroethene	0.8966	mg/Kg	0.050	89.7	59	147	3.93	20
Trichloroethene (TCE)	0.8436	mg/Kg	0.050	84.4	63.5	123	3.76	20

## Qualifiers:

- |   |  |    |  |
|---|--|----|--|
| E | Value above quantitation range             | H  | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit                |
| R | RPD outside accepted recovery limits       | S  | Spike recovery outside accepted recovery limits    |

# Hall Environmental Analysis Laboratory, Inc.

## Sample Receipt Checklist

Client Name GIANTREFIN

Date and Time Received:

11/8/2006

Work Order Number 0611097

Received by AT

Checklist completed by

Signature

Date

Matrix

Carrier name Client drop-off

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☒

No ☐

Not Present ☐

Not Shipped ☐

Custody seals intact on sample bottles?

Yes ☐

No ☐

N/A ☒

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

Water - VOA vials have zero headspace?

No VOA vials submitted ☒

Yes ☐

No ☐

Water - pH acceptable upon receipt?

Yes ☐

No ☐

N/A ☒

Container/Temp Blank temperature?

4°

4° C ± 2 Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted

Date contacted:

Person contacted

Contacted by:

Regarding

Comments:

Corrective Action

**HALL ENVIRONMENTAL  
ANALYSIS LABORATORY**  
4901 Hawkins NE, Suite D  
Albuquerque, New Mexico 87109  
Tel. 505.345.3975 Fax 505.345.4107  
[www.hallenvironmental.com](http://www.hallenvironmental.com)


Project #:

## ANALYSIS REQUEST

Sampler: W  
Sample Temperature: 4

[illegible]

Remarks;

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
			 9/8/06 0250/

**Chavez, Carl J, EMNRD**

---

**From:** Jim Lieb [jlieb@giant.com]  
**Sent:** Wednesday, May 23, 2007 9:52 AM  
**To:** Monzeglio, Hope, NMENV  
**Cc:** Ed Riege; Steve Morris; Chavez, Carl J, EMNRD  
**Subject:** Commencment of RR Rack Lagoon Trench Cleanup at the Giant Refining - Ciniza Refinery  
**Attachments:** HALL5484\_000.pdf

Hope:

The work on the trench cleanup at points B8 and B9 has commenced with Trihydro providing sampling and oversight. The excavations at B8 and B9 are each approximately 4 feet by 6 feet by 3 feet deep. We have taken samples from bottoms of the two excavations and sent them to Hall Environmental Analytical Laboratory. Analytical results from HEAL indicate that soil at the sample point at the NE corner of excavation of point B8 is 1300 mg/kg which is above the 890 mg/kg threshold. A blank duplicate from the center of B8 also showed 1300 mg/kg. A soil sample from the center of B9 has shown 2600 mg/kg. I have attached the HEAL results to my email for your review. We will continue the cleanup at this point. We will keep NMED and OCD abreast of developments.

Regards,

Jim Lieb  
Environmental Engineer  
Giant Industries, Inc.  
Ciniza Refinery  
I-40, Exit 39  
Jamestown, NM 87347  
(505) 722-0227  
fax (505) 722-0210  
[jlieb@giant.com](mailto:jlieb@giant.com)

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This inbound email has been scanned by the MessageLabs Email Security System.

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5/30/2007

**Hall Environmental Analysis Laboratory, Inc.**

Date: 23-May-07

**CLIENT:** Giant Refining Co  
**Project:** Additional Fan out area samples**Lab Order:** 0705313**Lab ID:** 0705313-01  
**Client Sample ID:** BD 5212007**Collection Date:** 5/21/2007**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						<b>Analyst: SCC</b>
Diesel Range Organics (DRO)	1300	100		mg/Kg	10	5/22/2007 1:55:15 PM
Motor Oil Range Organics (MRO)	ND	500		mg/Kg	10	5/22/2007 1:55:15 PM
Surr: DNOP	88.8	61.7-135		%REC	10	5/22/2007 1:55:15 PM

**Lab ID:** 0705313-02  
**Client Sample ID:** B-8 NW**Collection Date:** 5/21/2007 12:30:00 PM**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						<b>Analyst: SCC</b>
Diesel Range Organics (DRO)	610	100		mg/Kg	10	5/22/2007 2:29:36 PM
Motor Oil Range Organics (MRO)	ND	500		mg/Kg	10	5/22/2007 2:29:36 PM
Surr: DNOP	104	61.7-135		%REC	10	5/22/2007 2:29:36 PM

**Lab ID:** 0705313-03  
**Client Sample ID:** B-8 NE**Collection Date:** 5/21/2007 12:37:00 PM**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						<b>Analyst: SCC</b>
Diesel Range Organics (DRO)	1300	100		mg/Kg	10	5/22/2007 3:04:17 PM
Motor Oil Range Organics (MRO)	ND	500		mg/Kg	10	5/22/2007 3:04:17 PM
Surr: DNOP	101	61.7-135		%REC	10	5/22/2007 3:04:17 PM

**Lab ID:** 0705313-04  
**Client Sample ID:** B-8 SW**Collection Date:** 5/21/2007 12:42:00 PM**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						<b>Analyst: SCC</b>
Diesel Range Organics (DRO)	88	10		mg/Kg	1	5/23/2007 8:02:24 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/23/2007 8:02:24 AM
Surr: DNOP	98.2	61.7-135		%REC	1	5/23/2007 8:02:24 AM

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

# Hall Environmental Analysis Laboratory, Inc.

Date: 23-May-07

CLIENT: Giant Refining Co  
Project: Additional Fan out area samples

Lab Order: 0705313

Lab ID: 0705313-05  
Client Sample ID: B-8 SE

Collection Date: 5/21/2007 12:47:00 PM  
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: SCC
Diesel Range Organics (DRO)	650	100		mg/Kg	10	5/22/2007 4:48:05 PM
Motor Oil Range Organics (MRO)	ND	500		mg/Kg	10	5/22/2007 4:48:05 PM
Surr: DNOP	106	61.7-135		%REC	10	5/22/2007 4:48:05 PM

Lab ID: 0705313-06  
Client Sample ID: B-8 Center

Collection Date: 5/21/2007 12:52:00 PM  
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: SCC
Diesel Range Organics (DRO)	790	100		mg/Kg	10	5/22/2007 1:20:34 PM
Motor Oil Range Organics (MRO)	ND	500		mg/Kg	10	5/22/2007 1:20:34 PM
Surr: DNOP	106	61.7-135		%REC	10	5/22/2007 1:20:34 PM

Lab ID: 0705313-09  
Client Sample ID: B-9 NW

Collection Date: 5/21/2007 1:09:00 PM  
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: SCC
Diesel Range Organics (DRO)	130	10		mg/Kg	1	5/22/2007 11:37:16 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/22/2007 11:37:16 AM
Surr: DNOP	103	61.7-135		%REC	1	5/22/2007 11:37:16 AM

Lab ID: 0705313-10  
Client Sample ID: B-9 NE

Collection Date: 5/21/2007 1:18:00 PM  
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: SCC
Diesel Range Organics (DRO)	200	10		mg/Kg	1	5/22/2007 12:11:41 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/22/2007 12:11:41 PM
Surr: DNOP	89.0	61.7-135		%REC	1	5/22/2007 12:11:41 PM

Qualifiers: \* Value exceeds Maximum Contaminant Level  
E Value above quantitation range  
J Analyte detected below quantitation limits  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
RL Reporting Limit

**Hall Environmental Analysis Laboratory, Inc.**

Date: 23-May-07

**CLIENT:** Giant Refining Co  
**Project:** Additional Fan out area samples**Lab Order:** 0705313**Lab ID:** 0705313-11**Collection Date:** 5/21/2007 1:23:00 PM**Client Sample ID:** B-9 SW**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: SCC
Diesel Range Organics (DRO)	210	10		mg/Kg	1	5/22/2007 12:46:11 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/22/2007 12:46:11 PM
Surr: DNOP	87.1	61.7-135		%REC	1	5/22/2007 12:46:11 PM

**Lab ID:** 0705313-12**Collection Date:** 5/21/2007 1:30:00 PM**Client Sample ID:** B-9 SE**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: SCC
Diesel Range Organics (DRO)	210	100		mg/Kg	10	5/22/2007 5:22:48 PM
Motor Oil Range Organics (MRO)	ND	500		mg/Kg	10	5/22/2007 5:22:48 PM
Surr: DNOP	105	61.7-135		%REC	10	5/22/2007 5:22:48 PM

**Lab ID:** 0705313-13**Collection Date:** 5/21/2007 1:40:00 PM**Client Sample ID:** EB**Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE</b>						Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	5/22/2007 8:16:12 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	5/22/2007 8:16:12 PM
Surr: DNOP	116	58-140		%REC	1	5/22/2007 8:16:12 PM

**Lab ID:** 0705313-14**Collection Date:** 5/21/2007 1:37:00 PM**Client Sample ID:** B9 Center**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: SCC
Diesel Range Organics (DRO)	2600	100		mg/Kg	10	5/22/2007 5:57:28 PM
Motor Oil Range Organics (MRO)	ND	500		mg/Kg	10	5/22/2007 5:57:28 PM
Surr: DNOP	93.7	61.7-135		%REC	10	5/22/2007 5:57:28 PM

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit



<b>TO:</b> Ms. Hope Monzeglio NMED Hazardous Waste Bureau 2905 Rodeo Park Drive East, Building 1 Santa Fe, NM 87505-6313	<b>JUN 05 2007</b>		<b>PAGE</b>	<b>OF</b>
	<b>TRANSMITTAL DATE</b>		05/25/07	
	<b>TRANSMITTAL DCN:</b>		83817-PROP-ALB07TS002	
<b>RETURN RESPONSES/COMMENTS TO:</b>		J. Ball		
<b>RETURN RESPONSES/COMMENTS BY:</b>				

<b>PROJECT NO.:</b>	83817	<b>PROJECT NAME:</b>	Giant Ciniza Refinery
<b>ACTIVITY/DESCRIPTION:</b>	Letter Request		

DOCUMENTS BEING TRANSMITTED				
ITEM	REV.	PAGES	DATE	DESIGNATOR
Letter Request for Approval of Boring/Monitoring Well Locations – Ciniza Refinery	0		05/25/07	83817.PROP-ALB07LT001

<b>INSTRUCTIONS/REMARKS</b>	<b>RECEIPT AND READ ACKNOWLEDGEMENT PLEASE COMPLETE AND RETURN WITHIN 15 WORKING DAYS TO:</b>
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<b>CLIENT RECEIPT</b>	<b>PRINT NAME</b>	<b>SIGNATURE</b>	<b>DATE</b>
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<b>TO:</b> Ms. Hope Monzeglio NMED Hazardous Waste Bureau 2905 Rodeo Park Drive East, Building 1 Santa Fe, NM 87505-6313	<b>PAGE</b>		<b>OF</b>	
	<b>TRANSMITTAL DATE:</b>	05/25/07		
	<b>TRANSMITTAL DCN:</b>	83817.PROP-ALB07TS002		
<b>RETURN RESPONSES/COMMENTS TO:</b>		J. Ball		
<b>RETURN RESPONSES/COMMENTS BY:</b>				

<b>PROJECT NO.:</b>	83817	<b>PROJECT NAME:</b>	Giant Ciniza Refinery
<b>ACTIVITY/DESCRIPTION:</b>	Letter Request		

DOCUMENTS BEING TRANSMITTED				
ITEM	REV.	PAGES	DATE	DESIGNATOR
Letter Request for Approval of Boring/Monitoring Well Locations – Ciniza Refinery	0		05/25/07	83817.PROP-ALB07LT001

<b>INSTRUCTIONS/REMARKS</b>	<b>RECEIPT AND READ ACKNOWLEDGEMENT PLEASE COMPLETE AND RETURN WITHIN 15 WORKING DAYS TO:</b>
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**KLEINFELDER**

*An employee owned company*

May 24, 2007  
File No. 83817.PROP-ALB07LT001

Ms. Hope Monzeglio  
New Mexico Environment Department  
Hazardous Waste Bureau  
2905 Rodeo Park Drive East, Building 1  
Santa Fe, New Mexico 87505-6313

**RE: Request for Approval of Boring/Monitoring Well Locations  
Ciniza Refinery  
Jamestown, New Mexico**

Dear Ms. Monzeglio:

Kleinfelder, Inc. (Kleinfelder) would like to formally request approval of the locations of the proposed borings/monitoring wells at the Ciniza refinery operated by Giant Industries. The attached Work Plan was developed in response to your March 23, 2007 correspondence to Giant. The proposed boring/monitoring locations were determined in accordance with your letter and are depicted in Figure 2 of the attached Work Plan. Kleinfelder reserves the ability for minor relocation of these locations depending on field conditions, i.e. relocation due to underground utilities.

Kleinfelder is currently planning to mobilize to the site for drilling activities the week of May 28<sup>th</sup>, 2007 and as such, your prompt attention is appreciated.

We appreciate the opportunity to work with you on this project. If you have any questions, or need additional information, please contact this office at 344-7373.

Respectfully submitted,  
**KLEINFELDER WEST, INC. (formerly Kleinfelder)**

Justin D. Ball, P.G.  
Project Manager

**Reviewed by:**

Bernard Bockisch, PMP  
Project Manager

c: Carl Chavez, NMOCD

JDB:ad

<b>TO:</b> Ms. Hope Monzeglio NMED Hazardous Waste Bureau 2905 Rodeo Park Drive East, Building 1 Santa Fe, NM 87505-6313	<b>PAGE</b>		<b>OF</b>	
	<b>TRANSMITTAL DATE:</b>	05/25/07		
	<b>TRANSMITTAL DCN:</b>	83817.PROP-ALB07TS003		
<b>RETURN RESPONSES/COMMENTS TO:</b>		J. Ball		
<b>RETURN RESPONSES/COMMENTS BY:</b>				

<b>PROJECT NO.:</b>	83817	<b>PROJECT NAME:</b>	Giant Ciniza Refinery
<b>ACTIVITY/DESCRIPTION:</b>	Rev. 1 Work Plan		

DOCUMENTS BEING TRANSMITTED				
ITEM	REV.	PAGES	DATE	DESIGNATOR
Work Plan for Monitoring Well Installation – Ciniza Refinery	1		05/25/07	83817.PROP-ALB07WP001 Rev. 1

<b>INSTRUCTIONS/REMARKS</b>	<b>RECEIPT AND READ ACKNOWLEDGEMENT PLEASE COMPLETE AND RETURN WITHIN 15 WORKING DAYS TO:</b>
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<b>TO:</b>	Ms. Hope Monzeglio NMED Hazardous Waste Bureau 2905 Rodeo Park Drive East, Building I Santa Fe, NM 87505-6313	<b>PAGE</b>		<b>OF</b>
		<b>TRANSMITTAL DATE:</b>		05/25/07
		<b>TRANSMITTAL DCN:</b>		83817.PROP-ALB07TS003
<b>RETURN RESPONSES/COMMENTS TO:</b>		J. Ball		
<b>RETURN RESPONSES/COMMENTS BY:</b>				

<b>PROJECT NO.:</b>	83817	<b>PROJECT NAME:</b>	Giant Ciniza Refinery
<b>ACTIVITY/DESCRIPTION:</b>	Rev. 1 Work Plan		

DOCUMENTS BEING TRANSMITTED				
ITEM	REV.	PAGES	DATE	DESIGNATOR
Work Plan for Monitoring Well Installation – Ciniza Refinery	1		05/25/07	83817.PROP-ALB07WP001 Rev. 1

<b>INSTRUCTIONS/REMARKS</b>	<b>RECEIPT AND READ ACKNOWLEDGEMENT PLEASE COMPLETE AND RETURN WITHIN 15 WORKING DAYS TO:</b>
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Complete this section upon receipt from client			

**WORK PLAN FOR MONITORING  
WELL INSTALLATION  
CINIZA REFINERY  
JAMESTOWN, NEW MEXICO**

PREPARED FOR:

**GIANT INDUSTRIES  
CINIZA REFINERY  
I-40, EXIT 39  
JAMESTOWN, NEW MEXICO**

PREPARED BY:

**KLEINFELDER**  
8300 JEFFERSON NE, SUITE B  
ALBUQUERQUE, NEW MEXICO 87113

May 24, 2007



**KLEINFELDER**

*An employee owned company*

May 24, 2007  
File No. 83817.PROP-ALB07WP001

Giant Industries  
Ciniza Refinery  
I-40, Exit 39  
Jamestown, NM 87347  
Attn: Mr. Jim Lieb

**Subject: Work Plan for  
Monitoring Well Installation Rev. 1  
Ciniza Refinery  
Jamestown, New Mexico**

Dear Mr. Lieb:

Kleinfelder West, Inc. is pleased to submit this work plan to Giant Industries (Client) to provide monitoring well installation services for the Ciniza refinery (Site) in Jamestown, New Mexico. This work plan was developed after discussions with you, Mr. Steve Morris and Mr. Frank Diller. Copies of this work plan have been sent to Ms. Hope Monzeglio of the New Mexico Environment Department Hazardous Waste Bureau and Carl Chavez of the Oil Conservation Division.

Respectfully submitted,  
**KLEINFELDER WEST, INC.**

Justin D. Ball, P.G.  
Project Manager

Reviewed by:

Bernard Bockisch, PMP  
Senior Project Manager

JDB:BB:ad

c: Hope Monzeglio, NMED HWB  
Carl Chavez, OCD

May 25, 2007  
Proposal No. 05901.1-ALB07PR078 – Rev 1

Michelle Potts  
Burns & McDonnell  
9400 Parkway  
Kansas City, MO 64114

**Subject: Construction Material Testing  
Corrosion Control Facility  
Project 43753 – Package 2  
KAFB, New Mexico**

Dear Michelle:

Kleinfelder West, Inc. (Kleinfelder) is pleased to present this proposal to provide Burns & McDonnell, (Client), with Construction Material Testing services for the above referenced project. This proposal is based on the review of the Specifications Civil, Concrete, Enclosure Designation (issued for Construction project drawings (dated April 2007) as provided by Burns and McDonnell. We understand that the Corrosion Control Facility, package 2, construction project will include the following:

1. Minor excavation to facilitate foundation construction and placement of building concrete slab.
2. Concrete placement for foundation, building slab, building apron, and miscellaneous flatwork.
3. Installation of utilities, including trenching, backfill and compaction.
4. Placement of base course material and asphalt pavement.

This proposal assumes:

1. Burns & McDonnell will provide the Contractor Quality Control (CQC) officer and will be responsible for knowing specifications requirements for material testing and observation and notifying Kleinfelder when services are required. Kleinfelder shall be notified a minimum of 24 hours in advance to allow for the scheduling of our representative.
2. Upon excavation of building footing, Kleinfelder will conduct nuclear gauge testing to monitor the moisture/density compliance of supporting soils prior to placement of concrete. Kleinfelder shall also provide nuclear gauge testing



during backfill of utility trenches as requested to ensure compliance with required compaction requirements. Moisture – density reading will also be taken on base course materials placed under building slab, concrete apron, and under asphalt paving section.

3. Soils' testing is based on proctor, sieve analysis and plasticity index testing for on-site and imported base course materials. Additional sieve analysis and plasticity index testing may be conducted to ensure continued compliance of materials.
4. Asphalt paving materials will be tested for asphalt content, aggregate sieve analysis, and stability and flow results. Field technician will observe paving observations and conduct compaction checks by nuclear gauge method. Asphalt may be cored to check for thickness compliance as well as for unit weight results.
5. Kleinfelder will conduct field testing for slump, air content, and temperature during placement of concrete materials. Technicians will also cast four concrete cylinders per set for compression strength testing (1-seven day break, 2-twenty-eight day break and one hold cylinder). Additional cylinders for early breaks for form removals or strength indications can be cast upon notification by client and acknowledgement. Kleinfelder also anticipates that 4 flexural beams per daily pour will be required during placement of concrete floor slab. The two areas noted on drawing as having floor elevation of 100.0 are also anticipated to require floor flatness testing. This proposal assumes that Burns and McDonnell CQC officer will maintain control charts for concrete test results.
6. This proposal does not include plant inspection or testing for asphalt or concrete plants or materials for design mixes.
7. This proposal assumes that materials observation and testing for the pre-engineered metal building will be conducted by manufacturer representative. If visual inspection of field welds and/or bolt inspection is requested, Kleinfelder shall provide this service as extra work at the special inspection rate.
8. Time required obtaining badging, attending orientation session, Client safety meetings, site access, and similar project requirements will be charged as per applicable employee hourly rate. To ensure that staff is available Kleinfelder will ensure clearance for 2 staff professionals and 2 technicians. Burns and McDonnell will not be charged under this item for any additional Kleinfelder staff assigned to this project requiring an orientation session.
9. Kleinfelder assumes that Burns & McDonnell will provide badge clearance. Kleinfelder has clearance in place to transport nuclear gauge onto KAFB.
10. Technicians will be paid as per Wage Decision NM030001 07/14/2006.

11. Overtime at 1.5 times of applicable basic rate will apply to work after 8 hours and work on Saturday. Double time will apply for services provided on Sunday or Holiday.
12. This proposal does not provide for submission of documents relating to personnel, procedures, equipment calibrations or other quality assurance documentation. If required the actual time required for Kleinfelder Quality Assurance Officer to compile will be applied at rate as shown on fee schedule. The Quality Assurance Officer will also provide escort for any inspection of Kleinfelder facilities as deemed necessary by KAFB Contracting Officer. Actual hours required to provide escort and associated services will be invoiced.
13. Perry Hampel, CMT Manager, of Kleinfelder Albuquerque Office, will provide general project management. This does not include attendance at meetings/consultations which will be additional time charged.
14. Mileage is estimated at 30 miles per round trip.
15. This proposal good for 30 (thirty) calendar days from date of issue.

This estimate is based on Kleinfelder assumptions of Client/Sub-contractor(s) required time to complete various project activities. Actual construction activities may take more or less time. As Kleinfelder does not plan, direct, or control the contractors operations in anyway our services to be billed on a **time and materials basis** for services rendered. Kleinfelder will report observations and material testing results but shall not cease, modify, or direct corrections of any contractor's operations or those of his sub-contractors. Kleinfelder will **invoice for only actual services** authorized and performed.

Our services will be conducted in accordance with the requirements of the plans and specifications and will be performed by technicians from our Albuquerque office. Kleinfelder's laboratory is fully accredited to perform the test(s) required by ASTM, NMDOT, AMRL, CCRL, and adheres to U.S. Army Corps of Engineers standards. The Kleinfelder Albuquerque laboratory has consistently scored high in the State of New Mexico Highway Transportation Department evaluation and was ranked as the NMSHTD #1 private testing laboratory in 2005.

The cost for the services listed on the attached Corrosion Control Facility, Package 2 Cost Estimate sheet. The estimated cost is **\$33,078.75** plus applicable taxes for the anticipated services as shown on estimate sheet. Kleinfelder will not exceed this cost estimate until client has approved in writing the continuation of services and associated additional cost. If additional work is required, if standby time is incurred, or if retesting is required, the cost will be based on the unit rates listed on our attached Fee Schedule. Any work required beyond the scope of this proposal will be undertaken only after receiving your prior authorization and after an adjustment has been made to our fee to cover the additional work. The fees presented in this proposal are based on prompt payment for services presented in our standard invoicing format. Additional charges will

be applied for specialized invoicing if backup documentation is needed. These special services will be charged on a time and expense basis.

The safety of our employees is of paramount concern to Kleinfelder. Unsafe conditions for staff will require a modification of our estimated scope of work and associated fees. We will advise you of the additional costs necessary to mitigate these unanticipated conditions, if applicable.

Kleinfelder is committed to providing quality service to our clients, commensurate with their wants, needs, and desired level of risk. If a portion of this proposal does not meet your needs, or if those needs have changed, Kleinfelder will be happy to consider appropriate modifications, subject to the standards of care to which we adhere as professionals. Modifications such as changes in scope, methodology, scheduling, and contract terms may result in changes to the risks assumed by Burns and McDonnell as well as adjustments to our fees.

Kleinfelder will perform its services in a manner consistent with the standards of care and skill ordinarily exercised by members of the profession, practicing under similar conditions, in the geographic vicinity, and at the time the services will be performed. No warranty or guarantee, express or implied, is part of the services offered by this proposal.

This proposal assumes that Burns and McDonnell will issue an authorization document in accordance to Master Services Agreement dated June 18, 2004, between Kleinfelder and Client prior to the performance of any services. The authorization should also reference this proposal.

We are looking forward to providing our professional services to you on this project. Should you have any questions or if we can be of further assistance, please do not hesitate to contact us.

Respectfully submitted,  
**KLEINFELDER WEST, INC.**

Perry Hampel  
CMT Department Manager

Enclosures: Fee Schedule  
Corrosion Control Facility Package 2 Cost Estimate

PLH: ad

Client agrees to Scope of Work as described in this Proposal 05901.1-ALB07PR065  
and Fee Schedule attached and incorporated herein:

By: \_\_\_\_\_  
Client Name

Title: \_\_\_\_\_

Date: \_\_\_\_\_

# KLEINFELDER

## FEE SCHEDULE

### Manpower

**Technician** (earthwork, concrete, and asphalt), based on services provided for 8 hour, Monday to Friday work day) **\$52.50/hour** (Davis Bacon Wage Rates)

**Special Inspections** (inspect concrete reinforcement steel, visual welding inspection, bolt inspection, and floor flatness inspection) **\$65/hour**

**Overtime Rate** (after 8 hours and Saturdays) **1.5 x base hourly rate** (Sundays or Stat Holidays) **2 x base hourly rate**

**Supervisory Technician** (scheduling and technician supervision) **\$70/hour**

**Quality Assurance Officer** as required providing requested certification/qualifications of Kleinfelder facilities and/or staffing **\$95/hour**

**Project Professional** (Geotechnical Engineer). **\$130/hour**

**Project Manager** (general project management, special consultation, or attend meetings) **\$130/hour**

**Engineering Consultation (PE)** (As requested as special consultation) **\$165/hour**

**Office Support** (Actual time for project set up, filing, billing, reports, etc.,) **\$45/hour**

**Travel Time** at applicable hourly rate (Kleinfelder will charge from portal to portal).

**Mileage** is charged portal to portal. **\$ 0.60/mile**

### Laboratory Tests

#### Soil and Aggregate Tests

**Standard or Modified Proctor** (AASHTO T-99 or ASTM D-698 or AASHTO T-180 or ASTM D-1557) **\$120/each**

**Sieve Analysis**, Coarse and Fine Including Wash (ASTM D-136) **\$50/each**

**Atterberg Limits** – Liquid Limit and Plasticity Index (ASTM D-4318) **\$50/each**

**Density/Compaction** – (ASTM D-2922) technician hourly rate.

# KLEINFELDER

## Concrete

**Concrete Cylinder Cured** (Includes hold and compression test if performed, ASTM C-39). **\$16 each.** Based on using 4" x 8" molds. Additional **\$2** if 6"x12" molds are requested by client or required due to aggregate size.

**Field Test Concrete** (Air content, slump, unit weight and cast cylinders) technician hourly rate.

**Floor Flatness Testing** (Special Inspection hourly rate)

**Floor Flatness Testing Equipment \$500/per day**

**Coring Testing** (obtaining core) technician hourly rate to operate coring machine plus **\$175/day** coring equipment (includes generator, water, and bit wear)

**Compression Testing on Core Samples \$30/each**

## Asphalt Tests

**Gyratory Analysis** (ASSHTO T-312) **\$305/set** (for SuperPave mixes)

**Marshall Stability and Flow** (ASSHTO T-312) **\$295/set**

**Extraction and Sieve Analysis** (ASSHTO T-308/T-30) **\$120/each**

**Maximum Theoretical Specific Gravity** (Rice Method) (ASSHTO T-209) **\$70/each**

**Flat and Elongated Particles \$80/each** (required if SuperPave asphalts used)

**Fractured Faces \$55/each** (required if SuperPave asphalts used)

**Compaction Testing (in field via nuclear gauge)** technician hourly rate

**Unit Weight of Asphalt Core or Compacted Sample** (ASTM D-2726) **\$50/each**

**Coring Testing** (obtaining core) technician hourly rate to operate coring machine plus **\$175/day** coring equipment (includes generator, water, and bit wear)

# KLEINFELDER

Corrosion Control Facility Cost Estimate PACKAGE 2					
Item	Test	Units	Estimated Quantity	Cost per Unit	Total Unit Cost
<b>Soils</b>					
	Technician for site work (nuclear density testing for foundation excavation, trench backfill, and base course placement, soil sampling, levelness and thickness inspection, and travel.)	hour	100	\$52.50	\$5,250.00
	Technician Overtime (Anticipated hours in excess of 8 hours and Saturday work)	hour	24	\$78.75	\$1,890.00
	Supervisory Technician (sand cone calibration of nuclear gauge - allowance for 3 soil types)	hour	6	\$70.00	\$420.00
	Project Professional (periodic observation by Geotechnical Engineer and travel)	hour	15	\$130.00	\$1,950.00
	Proctor (estimate 2 for on-site materials, 1 for base course)	each	3	\$120	\$360.00
	Sieve (estimate 2 for on-site materials, and 5 for base course (1 per day - estimate 5 days of placement))	each	7	\$50	\$350.00
	Atterberg Limits (estimate 2 for on-site materials, and 5 for base course (1 per day - estimate 5 days of placement))	each	8	\$50	\$400.00
<b>Asphalt</b>					
	Technician (nuclear density testing, levelness inspection, sampling, delivery of samples to lab, coring operations, and travel.)	hour	35	\$52.50	\$1,837.50
	Technician Overtime (Anticipated hours in excess of 8 hours or Saturday work)	hour	5	\$78.75	\$393.75
	Extraction and Sieve (estimate 2 samples per day - 2 days of paving)	hour	4	\$120.00	\$480.00
	Marshall Stability and Flow (estimate 2 samples per day - 2 days of paving)	hour	4	\$295.00	\$1,180.00
	Maximum Theoretical Specific Gravity (estimate 2 samples per day - 2 days of paving)	hour	4	\$70.00	\$280.00
	Unit Weight of Cores (3 cores per day of asphalt placement. Includes thickness evaluation)	hour	6	\$50.00	\$300.00
	Coring Equipment (includes generator and bit wear)	day	1	\$175.00	\$175.00
<b>Concrete</b>					
	Technician (field testing for air content, slump, unit weight, and temperature, cast test specimens, and travel.)	hour	100	\$52.50	\$5,250.00
	Technician Overtime (Anticipated hours in excess of 8 hours or Saturday work)	hour	10	\$78.75	\$787.50
	Special Inspections (reinforcement, visual welding inspection, visual inspection embedded items, floor flatness measurements, and travel.)	hour	30	\$65.00	\$1,950.00
	Concrete Compression Tests (estimate 40 sets at 4 cylinders per set)	hour	40	\$18.00	\$720.00
	Flexural Beam Tests (estimate 5 sets at 4 cylinders per set)	hour	20	\$65.00	\$1,300.00
	Floor Flatness Equipment (daily rate)	day	2	\$300.00	\$600.00
<b>Pre-Engineered Metal Building</b>					
	Special Inspections (visual inspection field welding, visual inspection bolt tightening, and travel.) <b>Additional Charge if service requested.</b>	hour	0	\$65.00	\$0.00
<b>Billable Overheads</b>					
	Project Manager (Estimate 2 hours per week for 10 weeks)	hour	20	\$130	\$2,600.00
	Supervision Technician (scheduling/field review - 1 hour per week, estimate 10 weeks)	hour	10	\$70	\$700.00
	Engineer (report review - 2 hour per week, estimate 10 weeks)	hour	10	\$165	\$1,650.00
	Quality Assurance Officer (facility inspection and related work)	hour	10	\$95	\$950.00
	Vehicle Mileage (estimate 35 trips at an estimated 30 miles/round trip)	miles	1050	\$0.60	\$630.00
	Office Support (clerical and secretary services, actual time required)	hour	15	\$45.00	\$675.00
Sub Total					<b>\$33,078.75</b>

# KLEINFELDER

**Note:** Kleinfelder does not plan, direct, control the contractors operations in anyway, nor determines efficiency of testing callouts for any project activities. Thus, our services will be billed on a time and materials basis for services rendered.



**Chavez, Carl J, EMNRD**

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**From:** Jim Lieb [jlieb@giant.com]  
**Sent:** Thursday, May 17, 2007 11:08 AM  
**To:** Chavez, Carl J, EMNRD  
**Cc:** Ed Riege; Steve Morris  
**Subject:** TDS Data For Upgradient well (OW-11) at Giant Refining -Ciniza  
**Attachments:** \_0517110256\_001.pdf

Carl:

I attached the table from the Revised OCD GW Report for Ciniza Refinery which includes the OW-11 well TDS data.

Regards,

Jim Lieb  
Environmental Engineer  
Giant Industries, Inc.  
Ciniza Refinery  
I-40, Exit 39  
Jamestown, NM 87347  
(505) 722-0227  
fax (505) 722-0210  
[jlieb@giant.com](mailto:jlieb@giant.com)

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5/17/2007

**OW-11\* Monitoring Results**  
Chloride, Fluorides, and Total Dissolved Solids

OW-11 Sampling Date	Chloride (mg/l)	( $x_n$ - mean) <sup>2</sup> Chloride	Fluoride (mg/l)	( $x_n$ - mean) <sup>2</sup> Fluoride	Total Dissolved Solids (mg/l)	( $x_n$ - mean) <sup>2</sup> TDS
9/29/2005	87	841	2.3	0.09		
4/4/2001	100	256	2.81	0.0441	1,880	164836
Spring 1998	85	961			1,850	141376
Spring 1997	88	784			1,874	160000
Spring 1996	108	64			1,630	24336
4/28/1993	160	1936			1,100	139876
4/22/1992	160	1936			2,300	682276
9/13/1990	118	4			1,220	64516
6/13/1990	117	1			1,180	86436
4/4/1990	123	49			1,110	132496
Jun-89	129	169			1,080	155236
Feb-89	114	4			986	238144
<b>Mean:</b>	<b>116</b>		<b>2.6</b>		<b>1,474</b>	
Standard Deviation (sigma)	<b>19</b>		<b>1</b>		<b>64</b>	
95% Upper Tolerance Limit	<b>179</b>		<b>6</b>		<b>1,689</b>	
Site Maximum Detected Concentration	<b>46</b>		<b>2.2</b>		<b>1,500</b>	

Because each site maximum detected concentration is within the 95% Upper Tolerance Limit the detected values are within the background reference value.

\*OW-11 is an upgradient well and therefore should qualify as representative of natural conditions.

**Chavez, Carl J, EMNRD**

---

**From:** Steve Morris [smorris@giant.com]  
**Sent:** Friday, April 20, 2007 7:20 AM  
**To:** Monzeglio, Hope, NMENV; Chavez, Carl J, EMNRD  
**Cc:** Ed Riege; Jim Lieb  
**Subject:** NAPIS RELEASE LAB RESULTS

Hope and Carl,  
Here are the lab results from the four weeks of sampling I took to Hall Lab.  
You may already have some of these, but now they are all together.  
Sorry for the delay.  
Steve

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This inbound email has been scanned by the MessageLabs Email Security System.

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4/20/2007



## COVER LETTER

Monday, April 16, 2007

Steve Morris  
Giant Refining Co  
Rt. 3 Box 7  
Gallup, NM 87301  
TEL: (505) 722-3833  
FAX (505) 722-0210

RE: NMED Weekly NAPIS Release 4-12-2007

Order No.: 0704190

Dear Steve Morris:

Hall Environmental Analysis Laboratory, Inc. received 2 sample(s) on 4/12/2007 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a horizontal line.

Andy Freeman, Business Manager  
Nancy McDuffie, Laboratory Manager

NM Lab # NM9425  
AZ license # AZ0682  
ORELAP Lab # NM100001



**Hall Environmental Analysis Laboratory, Inc.**

Date: 16-Apr-07

<b>CLIENT:</b>	Giant Refining Co	<b>Client Sample ID:</b>	AL-2 Outlet
<b>Lab Order:</b>	0704190	<b>Collection Date:</b>	4/12/2007 10:00:00 AM
<b>Project:</b>	NMED Weekly NAPIS Release 4-12-2007	<b>Date Received:</b>	4/12/2007
<b>Lab ID:</b>	0704190-01	<b>Matrix:</b>	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE</b>						Analyst: SCC
Diesel Range Organics (DRO)	200	30		mg/L	10	4/16/2007 3:14:28 AM
Motor Oil Range Organics (MRO)	ND	150		mg/L	10	4/16/2007 3:14:28 AM
Surr: DNOP	118	58-140		%REC	10	4/16/2007 3:14:28 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	2.6	0.50		mg/L	10	4/13/2007 3:57:08 PM
Surr: BFB	120	79.2-121		%REC	10	4/13/2007 3:57:08 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	25		µg/L	10	4/13/2007 3:57:08 PM
Benzene	ND	10		µg/L	10	4/13/2007 3:57:08 PM
Toluene	11	10		µg/L	10	4/13/2007 3:57:08 PM
Ethylbenzene	ND	10		µg/L	10	4/13/2007 3:57:08 PM
Xylenes, Total	22	20		µg/L	10	4/13/2007 3:57:08 PM
Surr: 4-Bromofluorobenzene	91.7	70.2-105		%REC	10	4/13/2007 3:57:08 PM

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	MCL Maximum Contaminant Level
	ND Not Detected at the Reporting Limit	RL Reporting Limit
	S Spike recovery outside accepted recovery limits	

## QA/QC SUMMARY REPORT

Client: Giant Refining Co  
 Project: NMED Weekly NAPIS Release 4-12-2007

Work Order: 0704190

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
<b>Method: SW8015</b>									
Sample ID: MB-12723		MBLK			Batch ID: 12723	Analysis Date: 4/15/2007 10:41:32 PM			
Diesel Range Organics (DRO)	ND	mg/L	1.0						
Motor Oil Range Organics (MRO)	ND	mg/L	5.0						
Sample ID: LCS-12723		LCS			Batch ID: 12723	Analysis Date: 4/15/2007 11:15:38 PM			
Diesel Range Organics (DRO)	4.655	mg/L	1.0	93.1	74	157			
Sample ID: LCSD-12723		LCSD			Batch ID: 12723	Analysis Date: 4/15/2007 11:49:43 PM			
Diesel Range Organics (DRO)	4.864	mg/L	1.0	97.3	74	157	4.41	23	
<b>Method: SW8015</b>									
Sample ID: 5ML REAGENT BLA		MBLK			Batch ID: R23225	Analysis Date: 4/13/2007 8:41:38 AM			
Gasoline Range Organics (GRO)	ND	mg/L	0.050						
Sample ID: 2.5UG GRO LCS		LCS			Batch ID: R23225	Analysis Date: 4/13/2007 2:54:23 PM			
Gasoline Range Organics (GRO)	0.4478	mg/L	0.050	86.5	80	115			
Sample ID: 2.5UG GRO LCSD		LCSD			Batch ID: R23225	Analysis Date: 4/13/2007 3:24:30 PM			
Gasoline Range Organics (GRO)	0.4326	mg/L	0.050	83.5	80	115	3.45	8.39	
<b>Method: SW8021</b>									
Sample ID: 5ML REAGENT BLA		MBLK			Batch ID: R23225	Analysis Date: 4/13/2007 8:41:38 AM			
Methyl tert-butyl ether (MTBE)	ND	µg/L	2.5						
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
Sample ID: 100NG BTEX LCS		LCS			Batch ID: R23225	Analysis Date: 4/14/2007 7:07:44 AM			
Methyl tert-butyl ether (MTBE)	19.37	µg/L	2.5	96.8	51.2	138			
Benzene	19.40	µg/L	1.0	97.0	85.9	113			
Toluene	19.73	µg/L	1.0	98.6	86.4	113			
Ethylbenzene	20.31	µg/L	1.0	102	83.5	118			
Xylenes, Total	60.22	µg/L	2.0	100	83.4	122			
Sample ID: 100NG BTEX LCSD		LCSD			Batch ID: R23225	Analysis Date: 4/14/2007 7:37:39 AM			
Methyl tert-butyl ether (MTBE)	18.63	µg/L	2.5	93.2	51.2	138	3.89	28	
Benzene	19.11	µg/L	1.0	95.6	85.9	113	1.50	27	
Toluene	19.37	µg/L	1.0	96.9	86.4	113	1.82	19	
Ethylbenzene	19.52	µg/L	1.0	97.6	83.5	118	3.99	10	
Xylenes, Total	57.74	µg/L	2.0	96.2	83.4	122	4.19	13	

## Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name GIANTREFIN

Date and Time Received:

4/12/2007

Work Order Number 0704190

Received by

GLS

Checklist completed by

*JS / Schlupp*  
Signature

4-12-07  
Date

Matrix

Carrier name Client drop-off

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>	
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>	Not Shipped <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>	
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Water - VOA vials have zero headspace?	No VOA vials submitted <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Water - Preservation labels on bottle and cap match?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>	
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>	

Container/Temp Blank temperature?

6°

4° C ± 2 Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted \_\_\_\_\_ Date contacted: \_\_\_\_\_ Person contacted \_\_\_\_\_

Contacted by: \_\_\_\_\_ Regarding \_\_\_\_\_

Comments: \_\_\_\_\_

Corrective Action \_\_\_\_\_







## COVER LETTER

Wednesday, March 28, 2007

Steve Morris  
Giant Refining Co  
Rt. 3 Box 7  
Gallup, NM 87301

TEL: (505) 722-3833

FAX (505) 722-0210

RE: NMED Weekly NAPIS Release Samples 3/

Order No.: 0703354

Dear Steve Morris:

Hall Environmental Analysis Laboratory, Inc. received 3 sample(s) on 3/22/2007 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a horizontal line.

Andy Freeman, Business Manager  
Nancy McDuffie, Laboratory Manager

NM Lab # NM9425  
AZ license # AZ0682  
ORELAP Lab # NM100001



**Hall Environmental Analysis Laboratory, Inc.**

Date: 28-Mar-07

CLIENT: Giant Refining Co

Client Sample ID: AL-1 Inlet

Lab Order: 0703354

Collection Date: 3/22/2007 10:00:00 AM

Project: NMED Weekly NAPIS Release Samples 3/22/2

Date Received: 3/22/2007

Lab ID: 0703354-01

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE</b>						Analyst: SCC
Diesel Range Organics (DRO)	390	30		mg/L	10	3/28/2007 6:27:10 AM
Motor Oil Range Organics (MRO)	ND	150		mg/L	10	3/28/2007 6:27:10 AM
Surr: DNOP	132	58-140		%REC	10	3/28/2007 6:27:10 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	25	2.5		mg/L	50	3/26/2007 8:17:54 PM
Surr: BFB	112	79.2-121		%REC	50	3/26/2007 8:17:54 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Methyl tert-butyl ether (MTBE)	140	120		µg/L	50	3/26/2007 8:17:54 PM
Benzene	3400	50		µg/L	50	3/26/2007 8:17:54 PM
Toluene	4800	50		µg/L	50	3/26/2007 8:17:54 PM
Ethylbenzene	300	50		µg/L	50	3/26/2007 8:17:54 PM
Xylenes, Total	1900	100		µg/L	50	3/26/2007 8:17:54 PM
Surr: 4-Bromofluorobenzene	89.5	70.2-105		%REC	50	3/26/2007 8:17:54 PM

Qualifiers: \* Value exceeds Maximum Contaminant Level  
E Value above quantitation range  
J Analyte detected below quantitation limits  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
RL Reporting Limit

**Hall Environmental Analysis Laboratory, Inc.**

Date: 28-Mar-07

**CLIENT:** Giant Refining Co  
**Lab Order:** 0703354  
**Project:** NMED Weekly NAPIS Release Samples 3/22/2  
**Lab ID:** 0703354-02

**Client Sample ID:** AL-2 Outlet  
**Collection Date:** 3/22/2007 10:20:00 AM  
**Date Received:** 3/22/2007  
**Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE</b>						Analyst: SCC
Diesel Range Organics (DRO)	65	1.0		mg/L	1	3/27/2007 3:19:35 PM
Motor Oil Range Organics (MRO)	9.8	5.0		mg/L	1	3/27/2007 3:19:35 PM
Surr: DNOP	118	58-140		%REC	1	3/27/2007 3:19:35 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	1.2	0.50		mg/L	10	3/27/2007 9:33:19 AM
Surr: BFB	110	79.2-121		%REC	10	3/27/2007 9:33:19 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	25		µg/L	10	3/27/2007 9:33:19 AM
Benzene	17	10		µg/L	10	3/27/2007 9:33:19 AM
Toluene	51	10		µg/L	10	3/27/2007 9:33:19 AM
Ethylbenzene	ND	10		µg/L	10	3/27/2007 9:33:19 AM
Xylenes, Total	59	20		µg/L	10	3/27/2007 9:33:19 AM
Surr: 4-Bromofluorobenzene	91.2	70.2-105		%REC	10	3/27/2007 9:33:19 AM

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

**Hall Environmental Analysis Laboratory, Inc.**

Date: 28-Mar-07

**CLIENT:** Giant Refining Co**Client Sample ID:** EP-2 Inlet**Lab Order:** 0703354**Collection Date:** 3/22/2007 10:40:00 AM**Project:** NMED Weekly NAPIS Release Samples 3/22/2**Date Received:** 3/22/2007**Lab ID:** 0703354-03**Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE</b>						Analyst: SCC
Diesel Range Organics (DRO)	84	1.0		mg/L	1	3/27/2007 3:54:00 PM
Motor Oil Range Organics (MRO)	13	5.0		mg/L	1	3/27/2007 3:54:00 PM
Surr: DNOP	115	58-140		%REC	1	3/27/2007 3:54:00 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	1.5	0.50		mg/L	10	3/27/2007 11:44:13 AM
Surr: BFB	110	79.2-121		%REC	10	3/27/2007 11:44:13 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	25		µg/L	10	3/27/2007 11:44:13 AM
Benzene	16	10		µg/L	10	3/27/2007 11:44:13 AM
Toluene	58	10		µg/L	10	3/27/2007 11:44:13 AM
Ethylbenzene	ND	10		µg/L	10	3/27/2007 11:44:13 AM
Xylenes, Total	69	20		µg/L	10	3/27/2007 11:44:13 AM
Surr: 4-Bromofluorobenzene	89.6	70.2-105		%REC	10	3/27/2007 11:44:13 AM

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

## QA/QC SUMMARY REPORT

Client: Giant Refining Co  
 Project: NMED Weekly NAPIS Release Samples 3/22/2

Work Order: 0703354

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
<b>Method: SW8015</b>									
Sample ID: MB-12590		MBLK							
					Batch ID: 12590		Analysis Date: 3/27/2007 11:53:27 AM		
Diesel Range Organics (DRO)	ND	mg/L	1.0						
Motor Oil Range Organics (MRO)	ND	mg/L	5.0						
Sample ID: LCS-12590		LCS							
					Batch ID: 12590		Analysis Date: 3/27/2007 1:01:56 PM		
Diesel Range Organics (DRO)	4.535	mg/L	1.0	90.7	74	157			
Sample ID: LCSD-12590		LCSD							
					Batch ID: 12590		Analysis Date: 3/27/2007 1:36:17 PM		
Diesel Range Organics (DRO)	5.484	mg/L	1.0	110	74	157	18.9	23	

<b>Method: SW8015</b>									
Sample ID: 5ML REAGENT BLA		MBLK							
					Batch ID: R22985		Analysis Date: 3/26/2007 8:01:09 AM		
Gasoline Range Organics (GRO)	ND	mg/L	0.050						
Sample ID: 5ML REAGENT BLA		MBLK							
					Batch ID: R23003		Analysis Date: 3/27/2007 7:04:31 AM		
Gasoline Range Organics (GRO)	ND	mg/L	0.050						
Sample ID: 2.5UG GRO LCS		LCS							
					Batch ID: R22985		Analysis Date: 3/27/2007 2:31:08 AM		
Gasoline Range Organics (GRO)	0.4522	mg/L	0.050	87.2	80	115			
Sample ID: 2.5UG GRO LCS		LCS							
					Batch ID: R23003		Analysis Date: 3/27/2007 2:47:26 PM		
Gasoline Range Organics (GRO)	0.4678	mg/L	0.050	90.6	80	115			
Sample ID: 2.5UG GRO LCSD		LCSD							
					Batch ID: R22985		Analysis Date: 3/27/2007 3:01:12 AM		
Gasoline Range Organics (GRO)	0.4456	mg/L	0.050	85.9	80	115	1.47	8.39	

## Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

## QA/QC SUMMARY REPORT

Client: Giant Refining Co  
 Project: NMED Weekly NAPIS Release Samples 3/22/2

Work Order: 0703354

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
---------	--------	-------	-----	------	----------	-----------	------	----------	------

Method: SW8021

Sample ID: 5ML REAGENT BLA

MBLK

Batch ID: R22985 Analysis Date: 3/26/2007 8:01:09 AM

Methyl tert-butyl ether (MTBE)	ND	µg/L	2.5
Benzene	ND	µg/L	1.0
Toluene	ND	µg/L	1.0
Ethylbenzene	ND	µg/L	1.0
Xylenes, Total	ND	µg/L	2.0

Sample ID: 5ML REAGENT BLA

MBLK

Batch ID: R23003 Analysis Date: 3/27/2007 7:04:31 AM

Methyl tert-butyl ether (MTBE)	ND	µg/L	2.5
Benzene	ND	µg/L	1.0
Toluene	ND	µg/L	1.0
Ethylbenzene	ND	µg/L	1.0
Xylenes, Total	ND	µg/L	2.0

Sample ID: 100NG BTEX LCS

LCS

Batch ID: R22985 Analysis Date: 3/27/2007 12:31:13 AM

Methyl tert-butyl ether (MTBE)	19.00	µg/L	2.5	95.0	51.2	138
Benzene	19.27	µg/L	1.0	96.4	85.9	113
Toluene	19.26	µg/L	1.0	96.3	86.4	113
Ethylbenzene	19.57	µg/L	1.0	97.9	83.5	118
Xylenes, Total	58.31	µg/L	2.0	97.2	83.4	122

Sample ID: 100NG BTEX LCS

LCS

Batch ID: R23003 Analysis Date: 3/27/2007 1:47:13 PM

Methyl tert-butyl ether (MTBE)	19.29	µg/L	2.5	96.4	51.2	138
Benzene	19.59	µg/L	1.0	97.9	85.9	113
Toluene	19.65	µg/L	1.0	98.2	86.4	113
Ethylbenzene	20.05	µg/L	1.0	100	83.5	118
Xylenes, Total	59.57	µg/L	2.0	99.3	83.4	122

Sample ID: 100NG BTEX LCSD

LCSD

Batch ID: R22985 Analysis Date: 3/27/2007 1:01:06 AM

Methyl tert-butyl ether (MTBE)	19.46	µg/L	2.5	97.3	51.2	138	2.38	28
Benzene	19.95	µg/L	1.0	99.8	85.9	113	3.48	27
Toluene	20.03	µg/L	1.0	100	86.4	113	3.90	19
Ethylbenzene	20.27	µg/L	1.0	101	83.5	118	3.52	10
Xylenes, Total	60.05	µg/L	2.0	100	83.4	122	2.95	13

## Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

# Hall Environmental Analysis Laboratory, Inc.

## Sample Receipt Checklist

Client Name GIANTREFIN

Date and Time Received:

3/22/2007

Work Order Number 0703354

Received by AT

Checklist completed by

*James J.*  
Signature

*March 22, 07*  
Date

Matrix

Carrier name Client drop-off

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/> Not Shipped <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Water - VOA vials have zero headspace?	No VOA vials submitted <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Water - Preservation labels on bottle and cap match?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>

Container/Temp Blank temperature?

2°

4° C ± 2 Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted \_\_\_\_\_ Date contacted: \_\_\_\_\_ Person contacted \_\_\_\_\_

Contacted by: \_\_\_\_\_ Regarding \_\_\_\_\_

Comments: \_\_\_\_\_

Corrective Action \_\_\_\_\_







## COVER LETTER

Monday, April 02, 2007

Steve Morris  
Giant Refining Co  
Rt. 3 Box 7  
Gallup, NM 87301

TEL: (505) 722-3833

FAX (505) 722-0210

RE: NMED Monthly NAPIS Release Samples 3-

Order No.: 0703456

Dear Steve Morris:

Hall Environmental Analysis Laboratory, Inc. received 2 sample(s) on 3/29/2007 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager  
Nancy McDuffie, Laboratory Manager

NM Lab # NM9425  
AZ license # AZ0682  
ORELAP Lab # NM100001



**Hall Environmental Analysis Laboratory, Inc.**

Date: 02-Apr-07

CLIENT: Giant Refining Co

Client Sample ID: AL-2 Outlet

Lab Order: 0703456

Collection Date: 3/29/2007 10:30:00 AM

Project: NMED Monthly NAPIS Release Samples 3-29-

Date Received: 3/29/2007

Lab ID: 0703456-01

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE</b>						Analyst: SCC
Diesel Range Organics (DRO)	780	30		mg/L	10	4/2/2007 7:51:23 AM
Motor Oil Range Organics (MRO)	160	150		mg/L	10	4/2/2007 7:51:23 AM
Surr: DNOP	116	58-140		%REC	10	4/2/2007 7:51:23 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	5.1	2.5		mg/L	50	3/30/2007 8:38:06 PM
Surr: BFB	113	79.2-121		%REC	50	3/30/2007 8:38:06 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	120		µg/L	50	3/30/2007 8:38:06 PM
Benzene	ND	50		µg/L	50	3/30/2007 8:38:06 PM
Toluene	230	50		µg/L	50	3/30/2007 8:38:06 PM
Ethylbenzene	ND	50		µg/L	50	3/30/2007 8:38:06 PM
Xylenes, Total	320	100		µg/L	50	3/30/2007 8:38:06 PM
1,2,4-Trimethylbenzene	160	50		µg/L	50	3/30/2007 8:38:06 PM
1,3,5-Trimethylbenzene	ND	50		µg/L	50	3/30/2007 8:38:06 PM
Surr: 4-Bromofluorobenzene	88.6	70.2-105		%REC	50	3/30/2007 8:38:06 PM

Qualifiers: \* Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

**Hall Environmental Analysis Laboratory, Inc.**

Date: 02-Apr-07

CLIENT: Giant Refining Co

Client Sample ID: EP-2 Inlet

Lab Order: 0703456

Collection Date: 3/29/2007 11:00:00 AM

Project: NMED Monthly NAPIS Release Samples 3-29-

Date Received: 3/29/2007

Lab ID: 0703456-02

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: SCC
Diesel Range Organics (DRO)	820	30		mg/L	10	4/2/2007 8:25:45 AM
Motor Oil Range Organics (MRO)	160	150		mg/L	10	4/2/2007 8:25:45 AM
Surr: DNOP	125	58-140		%REC	10	4/2/2007 8:25:45 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	5.0	1.0		mg/L	20	3/30/2007 10:38:24 PM
Surr: BFB	119	79.2-121		%REC	20	3/30/2007 10:38:24 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	50		µg/L	20	3/30/2007 10:38:24 PM
Benzene	ND	20		µg/L	20	3/30/2007 10:38:24 PM
Toluene	80	20		µg/L	20	3/30/2007 10:38:24 PM
Ethylbenzene	24	20		µg/L	20	3/30/2007 10:38:24 PM
Xylenes, Total	220	40		µg/L	20	3/30/2007 10:38:24 PM
1,2,4-Trimethylbenzene	170	20		µg/L	20	3/30/2007 10:38:24 PM
1,3,5-Trimethylbenzene	56	20		µg/L	20	3/30/2007 10:38:24 PM
Surr: 4-Bromofluorobenzene	91.4	70.2-105		%REC	20	3/30/2007 10:38:24 PM

## Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

## QA/QC SUMMARY REPORT

Client: Giant Refining Co  
 Project: NMED Monthly NAPIS Release Samples 3-29-

Work Order: 0703456

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
<b>Method: SW8015</b>									
Sample ID: MB-12617		MBLK			Batch ID: 12617		Analysis Date: 3/31/2007 1:54:38 AM		
Diesel Range Organics (DRO)	ND	mg/L	1.0						
Motor Oil Range Organics (MRO)	ND	mg/L	5.0						
Sample ID: LCS-12617		LCS			Batch ID: 12617		Analysis Date: 3/31/2007 2:28:25 AM		
Diesel Range Organics (DRO)	5.524	mg/L	1.0	110	74	157			
Sample ID: LCSD-12617		LCSD			Batch ID: 12617		Analysis Date: 3/31/2007 10:11:30 AM		
Diesel Range Organics (DRO)	5.061	mg/L	1.0	101	74	157	8.75	23	
<b>Method: SW8015</b>									
Sample ID: 5ML REAGENT BLA		MBLK			Batch ID: R23054		Analysis Date: 3/30/2007 7:30:47 AM		
Gasoline Range Organics (GRO)	ND	mg/L	0.050						
Sample ID: 2.5UG GRO LCS		LCS			Batch ID: R23054		Analysis Date: 3/31/2007 6:39:04 AM		
Gasoline Range Organics (GRO)	0.4320	mg/L	0.050	81.4	80	115			
Sample ID: 2.5UG GRO LCSD		LCSD			Batch ID: R23054		Analysis Date: 3/31/2007 7:09:02 AM		
Gasoline Range Organics (GRO)	0.4318	mg/L	0.050	81.3	80	115	0.0463	8.39	
<b>Method: SW8021</b>									
Sample ID: b 7		MBLK			Batch ID: R23054		Analysis Date: 3/30/2007 11:01:30 AM		
Methyl tert-butyl ether (MTBE)	ND	µg/L	2.5						
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
1,2,4-Trimethylbenzene	ND	µg/L	1.0						
1,3,5-Trimethylbenzene	ND	µg/L	1.0						
Sample ID: 100NG BTEX LCS		LCS			Batch ID: R23054		Analysis Date: 3/30/2007 7:07:58 PM		
Methyl tert-butyl ether (MTBE)	19.43	µg/L	2.5	97.2	51.2	138			
Benzene	19.80	µg/L	1.0	99.0	85.9	113			
Toluene	20.21	µg/L	1.0	99.6	86.4	113			
Ethylbenzene	20.21	µg/L	1.0	101	83.5	118			
Xylenes, Total	60.54	µg/L	2.0	101	83.4	122			
1,2,4-Trimethylbenzene	19.65	µg/L	1.0	98.3	83.5	115			
1,3,5-Trimethylbenzene	19.41	µg/L	1.0	97.1	85.2	113			

## Qualifiers:

E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name GIANTREFIN

Date and Time Received:

3/29/2007

Work Order Number 0703456

Received by AT

Checklist completed by

Signature

Date

3/29/07

Matrix

Carrier name Client drop-off

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>	
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>	Not Shipped <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>	
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Water - VOA vials have zero headspace?	No VOA vials submitted <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Water - Preservation labels on bottle and cap match?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>	
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>	

Container/Temp Blank temperature?

5°

4° C ± 2 Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted

Date contacted:

Person contacted

Contacted by:

Regarding

Comments:

Corrective Action

Company - Cingular

Falling, NM

Fax #: 505 722 0210

QA/QC Package:

Std ☐ Level 4 ☐

Other:

Project Name: NMED Weekly NAPIS

Release Stamp  
3-29-2007

Project #:

Project Manager:

Steve Morris

Sampler: *Steve Galois*

Sample Temperature:

Date \_\_\_\_\_ Time \_\_\_\_\_

Time

Sample I.D. No.

Number/Volume

Pressure Valve

---

Final value

HEAL No.

3/29/07	1030	H <sub>2</sub> O	AL-2 Outlet
---------	------	------------------	-------------

"	1100	"	EP-2 chubut
---	------	---	-------------

Date:	Time:
3/29/07	1515

Time: 1515

Relinquished By: (Signature)

Relinquished By: (Signature)

Received By: [Signature]

Received By: [Signature]

10/16/83

10/16/83

Remarks:	RUSH
----------	------

## HAZARDOUS ENVIRONMENTAL ANALYSIS LABORATORY

4901 Hawkins NE, Suite D

Albuquerque, New Mexico 87109

Tel. 505.345.3975 Fax 505.345.4107

[www.hallenvironmental.com](http://www.hallenvironmental.com)

# ANALYSIS REQUEST

[illegible]

Remarks:

## COVER LETTER

Tuesday, April 10, 2007

Steve Morris  
Giant Refining Co  
Rt. 3 Box 7  
Gallup, NM 87301  
TEL: (505) 722-3833  
FAX (505) 722-0210

RE: NMED Weekly NAPIS Release Samples 4/5/

Order No.: 0704097

Dear Steve Morris:

Hall Environmental Analysis Laboratory, Inc. received 2 sample(s) on 4/6/2007 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,



Andy Freeman, Business Manager  
Nancy McDuffie, Laboratory Manager

NM Lab # NM9425  
AZ license # AZ0682  
ORELAP Lab # NM100001



**Hall Environmental Analysis Laboratory, Inc.**

Date: 10-Apr-07

CLIENT: Giant Refining Co

Client Sample ID: AL-2 Outlet

Lab Order: 0704097

Collection Date: 4/5/2007 11:00:00 AM

Project: NMED Weekly NAPIS Release Samples 4/5/07

Date Received: 4/6/2007

Lab ID: 0704097-01

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE</b>						Analyst: SCC
Diesel Range Organics (DRO)	560	30		mg/L	10	4/9/2007 9:26:51 AM
Motor Oil Range Organics (MRO)	ND	150		mg/L	10	4/9/2007 9:26:51 AM
Surr: DNOP	128	58-140		%REC	10	4/9/2007 9:26:51 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: LMM
Gasoline Range Organics (GRO)	4.8	0.25		mg/L	5	4/8/2007 1:29:07 AM
Surr: BFB	140	79.2-121	S	%REC	5	4/8/2007 1:29:07 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: LMM
Methyl tert-butyl ether (MTBE)	ND	12		µg/L	5	4/8/2007 1:29:07 AM
Benzene	21	5.0		µg/L	5	4/8/2007 1:29:07 AM
Toluene	65	5.0		µg/L	5	4/8/2007 1:29:07 AM
Ethylbenzene	14	5.0		µg/L	5	4/8/2007 1:29:07 AM
Xylenes, Total	84	10		µg/L	5	4/8/2007 1:29:07 AM
1,2,4-Trimethylbenzene	61	5.0		µg/L	5	4/8/2007 1:29:07 AM
1,3,5-Trimethylbenzene	22	5.0		µg/L	5	4/8/2007 1:29:07 AM
Surr: 4-Bromofluorobenzene	91.5	70.2-105		%REC	5	4/8/2007 1:29:07 AM

Qualifiers: \* Value exceeds Maximum Contaminant Level  
E Value above quantitation range  
J Analyte detected below quantitation-limits  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
RL Reporting Limit



# Hall Environmental Analysis Laboratory, Inc.

Date: 10-Apr-07

CLIENT: Giant Refining Co

Client Sample ID: EP-2 Inlet

Lab Order: 0704097

Collection Date: 4/5/2007 11:30:00 AM

Project: NMED Weekly NAPIS Release Samples 4/5/07

Date Received: 4/6/2007

Lab ID: 0704097-02

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE</b>						Analyst: SCC
Diesel Range Organics (DRO)	1700	30		mg/L	10	4/9/2007 10:00:57 AM
Motor Oil Range Organics (MRO)	270	150		mg/L	10	4/9/2007 10:00:57 AM
Surr: DNOP	151	58-140	S	%REC	10	4/9/2007 10:00:57 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: LMM
Gasoline Range Organics (GRO)	2.0	0.25		mg/L	5	4/9/2007 9:58:24 AM
Surr: BFB	118	79.2-121		%REC	5	4/9/2007 9:58:24 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: LMM
Methyl tert-butyl ether (MTBE)	ND	12		µg/L	5	4/9/2007 9:58:24 AM
Benzene	9.7	5.0		µg/L	5	4/9/2007 9:58:24 AM
Toluene	41	5.0		µg/L	5	4/9/2007 9:58:24 AM
Ethylbenzene	9.4	5.0		µg/L	5	4/9/2007 9:58:24 AM
Xylenes, Total	74	10		µg/L	5	4/9/2007 9:58:24 AM
1,2,4-Trimethylbenzene	47	5.0		µg/L	5	4/9/2007 9:58:24 AM
1,3,5-Trimethylbenzene	15	5.0		µg/L	5	4/9/2007 9:58:24 AM
Surr: 4-Bromofluorobenzene	90.0	70.2-105		%REC	5	4/9/2007 9:58:24 AM

Qualifiers: \* Value exceeds Maximum Contaminant Level  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit  
 S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 MCL Maximum Contaminant Level  
 RL Reporting Limit

## QA/QC SUMMARY REPORT

Client: Giant Refining Co

Project: NMED Weekly NAPIS Release Samples 4/5/07

Work Order: 0704097

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8015									
Sample ID: MB-12679		MBLK			Batch ID: 12679		Analysis Date: 4/9/2007 7:44:37 AM		
Diesel Range Organics (DRO)	ND	mg/L	1.0						
Motor Oil Range Organics (MRO)	ND	mg/L	5.0						
Sample ID: LCS-12679		LCS			Batch ID: 12679		Analysis Date: 4/9/2007 8:18:44 AM		
Diesel Range Organics (DRO)	5.173	mg/L	1.0	103	74	157			
Sample ID: LCSD-12679		LCSD			Batch ID: 12679		Analysis Date: 4/9/2007 8:52:47 AM		
Diesel Range Organics (DRO)	5.908	mg/L	1.0	118	74	157	13.3	23	

Method: SW8015									
Sample ID: 5ML REAGENT BLA		MBLK		Batch ID: R23139		Analysis Date: 4/6/2007 9:30:14 AM			
Gasoline Range Organics (GRO)	ND	mg/L	0.050						
Sample ID: 5ML REAGENT BLA		MBLK		Batch ID: R23144		Analysis Date: 4/7/2007 3:11:02 PM			
Gasoline Range Organics (GRO)	ND	mg/L	0.050						
Sample ID: 5ML REAGENT BLA		MBLK		Batch ID: R23152		Analysis Date: 4/9/2007 8:27:59 AM			
Gasoline Range Organics (GRO)	ND	mg/L	0.050						
Sample ID: 2.5UG GRO LCS		LCS		Batch ID: R23139		Analysis Date: 4/6/2007 11:42:13 AM			
Gasoline Range Organics (GRO)	0.4978	mg/L	0.050	99.6	80	115			
Sample ID: 2.5UG GRO LCS		LCS		Batch ID: R23144		Analysis Date: 4/7/2007 5:11:52 PM			
Gasoline Range Organics (GRO)	0.4782	mg/L	0.050	95.6	80	115			

## Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

## QA/QC SUMMARY REPORT

Client: Giant Refining Co

Project: NMED Weekly NAPIS Release Samples 4/5/07

Work Order: 0704097

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8021									
Sample ID: 5ML REAGENT BLA		MBLK			Batch ID: R23139	Analysis Date: 4/6/2007 9:30:14 AM			
Methyl tert-butyl ether (MTBE)	ND	µg/L	2.5						
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
1,2,4-Trimethylbenzene	ND	µg/L	1.0						
1,3,5-Trimethylbenzene	ND	µg/L	1.0						
Sample ID: 5ML REAGENT BLA		MBLK			Batch ID: R23144	Analysis Date: 4/7/2007 3:11:02 PM			
Methyl tert-butyl ether (MTBE)	ND	µg/L	2.5						
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
1,2,4-Trimethylbenzene	ND	µg/L	1.0						
1,3,5-Trimethylbenzene	ND	µg/L	1.0						
Sample ID: 5ML REAGENT BLA		MBLK			Batch ID: R23152	Analysis Date: 4/9/2007 8:27:59 AM			
Methyl tert-butyl ether (MTBE)	ND	µg/L	2.5						
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
1,2,4-Trimethylbenzene	ND	µg/L	1.0						
1,3,5-Trimethylbenzene	ND	µg/L	1.0						
Sample ID: 100NG BTEX LCS		LCS			Batch ID: R23139	Analysis Date: 4/6/2007 11:12:13 AM			
Methyl tert-butyl ether (MTBE)	18.45	µg/L	2.5	46.1	51.2	138			S
Benzene	18.88	µg/L	1.0	94.4	85.9	113			
Toluene	19.42	µg/L	1.0	97.1	86.4	113			
Ethylbenzene	19.64	µg/L	1.0	98.2	83.5	118			
Xylenes, Total	59.10	µg/L	2.0	98.5	83.4	122			
1,2,4-Trimethylbenzene	19.01	µg/L	1.0	95.0	83.5	115			
1,3,5-Trimethylbenzene	18.82	µg/L	1.0	94.1	85.2	113			
Sample ID: 100NG BTEX LCS		LCS			Batch ID: R23144	Analysis Date: 4/7/2007 4:41:35 PM			
Methyl tert-butyl ether (MTBE)	19.30	µg/L	2.5	48.2	51.2	138			S
Benzene	19.18	µg/L	1.0	95.9	85.9	113			
Toluene	19.60	µg/L	1.0	98.0	86.4	113			
Ethylbenzene	19.77	µg/L	1.0	98.9	83.5	118			
Xylenes, Total	59.26	µg/L	2.0	98.8	83.4	122			
1,2,4-Trimethylbenzene	19.02	µg/L	1.0	95.1	83.5	115			
1,3,5-Trimethylbenzene	18.89	µg/L	1.0	94.4	85.2	113			

## Qualifiers:

E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name GIANTREFIN

Date and Time Received:

4/6/2007

Work Order Number 0704097

Received by AT

Checklist completed by

*Amie Shan*

4/6/07

Signature

Date

Matrix

Carrier name Client drop-off

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>	
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>	Not Shipped <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>	
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Water - VOA vials have zero headspace?	No VOA vials submitted <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Water - Preservation labels on bottle and cap match?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>	
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>	

Container/Temp Blank temperature?

2°

4° C ± 2 Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted \_\_\_\_\_ Date contacted: \_\_\_\_\_ Person contacted \_\_\_\_\_

Contacted by: \_\_\_\_\_ Regarding \_\_\_\_\_

Comments: \_\_\_\_\_

Corrective Action \_\_\_\_\_



**Chavez, Carl J, EMNRD**

---

**From:** Jim Lieb [jlieb@giant.com]  
**Sent:** Tuesday, April 17, 2007 9:25 AM  
**To:** Monzeglio, Hope, NMENV  
**Cc:** Chavez, Carl J, EMNRD; Ed Riege; Steve Morris  
**Subject:** RE: New API separator  
**Importance:** High

Hope:

Just want to let you know I received your email and am preparing a reply update on the two items in your email that I will provide NMED and OCD by April 27. I reply to your other emails from today also in this email.

Siemens Water Technology Group is working on the design of the stainless steel liner system for the NAPIS now. So I have asked them to also provide some details including a sketch / diagram on the leak detection system. I will include their information in my reply to you regarding your email. Siemens has told us that, tentatively, installation of the liner in the first bay could begin as early as this July and the second bay and oil recovery sump ("existing oil sludge pit") may be accomplished by September.

We are also currently in process of evaluating flexible concrete coating systems that can seal and bridge cracking surfaces and effectively serve as the secondary containment liner. The repair of the NAPIS walls and floor in each bay must be completed prior to the installations of the SS liner.

Several weeks ago, I asked Bill Kingsley for a proposal for the monitoring well installations at the NAPIS. I anticipate he will provide a quote soon (perhaps today based on a call to him a few minutes ago). I will submit a purchase order as soon as he provides his quote to Giant. At this point I do not fore see any issue with meeting the July 29<sup>th</sup> deadline for the installation of the three monitoring wells at the NAPIS and report submittal. Installation of the wells will require some coordination so it will not interfere with bay repairs and coating and the Siemens installation of the SS liners. Hence, we aim for the completion the installation of the monitoring wells by early June if at all possible.

I am also putting together the well logs information you had requested for delivery by end of April. I believe that I should have the information to you by the end of this month. To assemble the information has meant looking in quite a few records and through a number of storage locations.

Trihydro will soon provide Giant with their proposal for the cleanup of the fan-out and ditch areas of the former RR Rack Lagoon (SWMU#8). We anticipate work beginning in May. I will forward a copy of their proposal to you for use as an informal "work plan".

If I forgot anything let me know. If you have any questions please call or respond to this email.

Regards,

Jim Lieb  
Environmental Engineer  
Giant Industries, Inc.  
Ciniza Refinery  
I-40, Exit 39  
Jamestown, NM 87347  
(505) 722-0227  
fax (505) 722-0210  
[jlieb@giant.com](mailto:jlieb@giant.com)

4/17/2007

---

**From:** Monzeglio, Hope, NMENV [mailto:hope.monzeglio@state.nm.us]  
**Sent:** Tuesday, April 17, 2007 8:19 AM  
**To:** Ed Riege; Jim Lieb  
**Cc:** Cobrain, Dave, NMENV; Chavez, Carl J, EMNRD; WPRICE@state.nm.us; Steve Morris  
**Subject:** New API separator

Ed and Jim

I just want to get an update on the status of the New API separator.

Carl sent an e-mail to Jim dated 2/12/07 Subject: RE: Giant-Ciniza Refinery NAPIS Leakage Correction Plan. Three points of the email are addressed below:

- 1) Giant must install the monitoring wells regardless if Giant were to install a steel based secondary liner with secondary leak detection in the NAPI. The monitoring well installation work plan is still due to NMED and OCD on 2/28/07 as stated in your 12/29/06 proposal.
- 2) Giant states "At present we are anticipating equipping the existing sludge pit of the API with a small notch to catch any accumulated liquid in conjunction with a stand pipe that will be monitored." Giant must clarify this statement. What is the sludge pit of the API, is this the sump? Where will the notch be installed and what is its purpose? Describe the purpose of the stand pipe and describe its function in the sludge pit.
- 3) The description provided in number 4 is interpreted that Giant will be repairing one bay at a time and utilizing the other bay to handle the refinery's process waste water. If this interpretation is incorrect, Giant must clarify the process for handling refinery process water. Giant also states they will sample for TPH and benzene, this must include BTEX and MTBE.

Point 1) NMED sent a letter dated March 23, 2007 pertaining to the "Work Plan for the Monitoring Well Installation Around the New API Separator." The letter addressed the installation of three monitoring wells and the submission of a drilling report that summarizes the monitoring well installations and sampling activities to NMED and the Oil Conservation Division (OCD) within 120 days of receipt of this letter. From the return receipt card, Giant received this letter on March 29, 2007. Therefore the monitoring wells must be installed and the drilling report must be submitted to NMED on or before July 29, 2007.

Point 2) and 3), to my knowledge Giant has not responded to these questions. Please provide NMED and OCD a response to the above questions and provide us with an update for correcting the leakage from the New API separator by Friday April 27, 2007.

If you have questions please let me know.

Thanks

Hope

Hope Monzeglio  
Environmental Specialist  
New Mexico Environment Department  
Hazardous Waste Bureau  
2905 Rodeo Park Drive East, BLDG 1  
Santa Fe NM 87505  
Phone: (505) 476-6045  
Main No.: (505)-476-6000  
Fax: (505)-476-6030  
[hope.monzeglio@state.nm.us](mailto:hope.monzeglio@state.nm.us)

4/17/2007

**Websites:**  
**New Mexico Environment Department**  
**Hazardous Waste Bureau**

Please note the new phone numbers

Confidentiality Notice: This e-mail, including all attachments is for the sole use of the intended recipient(s) and may contain confidential and privileged information. Any unauthorized review, use, disclosure or distribution is prohibited unless specifically provided under the New Mexico Inspection of Public Records Act. If you are not the intended recipient, please contact the sender and destroy all copies of this message. -- This email has been scanned by the Sybari - Antigen Email System.

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This inbound email has been scanned by the MessageLabs Email Security System.

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4/17/2007



**Chavez, Carl J, EMNRD**

**From:** Monzeglio, Hope, NMENV  
**Sent:** Tuesday, April 17, 2007 8:19 AM  
**To:** Ed Riege; Jim Lieb  
**Cc:** Cobrain, Dave, NMENV; Chavez, Carl J, EMNRD; Price, Wayne, EMNRD; Steve Morris  
**Subject:** New API separator

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If you have questions please let me know.

Thanks

Hope

Hope Monzeglio  
Environmental Specialist  
New Mexico Environment Department  
Hazardous Waste Bureau  
2905 Rodeo Park Drive East, BLDG 1  
Santa Fe NM 87505  
Phone: (505) 476-6045  
Main No.: (505)-476-6000  
Fax: (505)-476-6030

4/17/2007

[hope.monzeglio@state.nm.us](mailto:hope.monzeglio@state.nm.us)

**Websites:**

**New Mexico Environment Department**  
**Hazardous Waste Bureau**

Please note the new phone numbers

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources

Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-141  
Revised October 10, 2003

Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

Release Notification and Corrective Action

OPERATOR

X Initial Report ☐ Final Report

Name of Company Giant Refining Company - Ciniza	Contact Stephen C. Morris
Address Route 3 Box 7 Gallup, NM 87301	Telephone No. 505-722-3833
Facility Name Giant Refining Company - Ciniza Refinery	Facility Type Oil Refinery
Surface Owner Giant Industries Inc.	Mineral Owner Giant Industries Inc.

LOCATION OF RELEASE

Unit Letter	Section 23 & 33	Township 15N	Range 15W	Feet from the	North/South Line	Feet from the	East/West Line	County McKinley
-------------	--------------------	-----------------	--------------	---------------	------------------	---------------	----------------	--------------------

Latitude 35° 29' 30" Longitude 108° 24' 40"

NATURE OF RELEASE

Type of Release Slop Oil Release to lagoons and pond #1.	Volume of Release 800 gallons	Volume Recovered 700 gallons
Source of Release Oil/Water Separator	Date and Hour of Occurrence 3/3/07 0900hrs.	Date and Hour of Discovery 3/3/07 1000hrs.
Was Immediate Notice Given? X Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Brandon Powell at OCD by phone.	
By Whom? Stephen C. Morris	Date and Hour 3/6/07 0930hrs.	
Was a Watercourse Reached? <input type="checkbox"/> Yes X No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.\*  
N/A

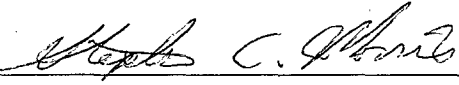
Describe Cause of Problem and Remedial Action Taken.\*

The level device on the oil sump at the new API Separator failed to start the oil pump, allowing oil to pass through to the water pumps and out to the aeration lagoons and pond #1. Upon investigation, the pump switch was found to have been left in the off position rather than auto.

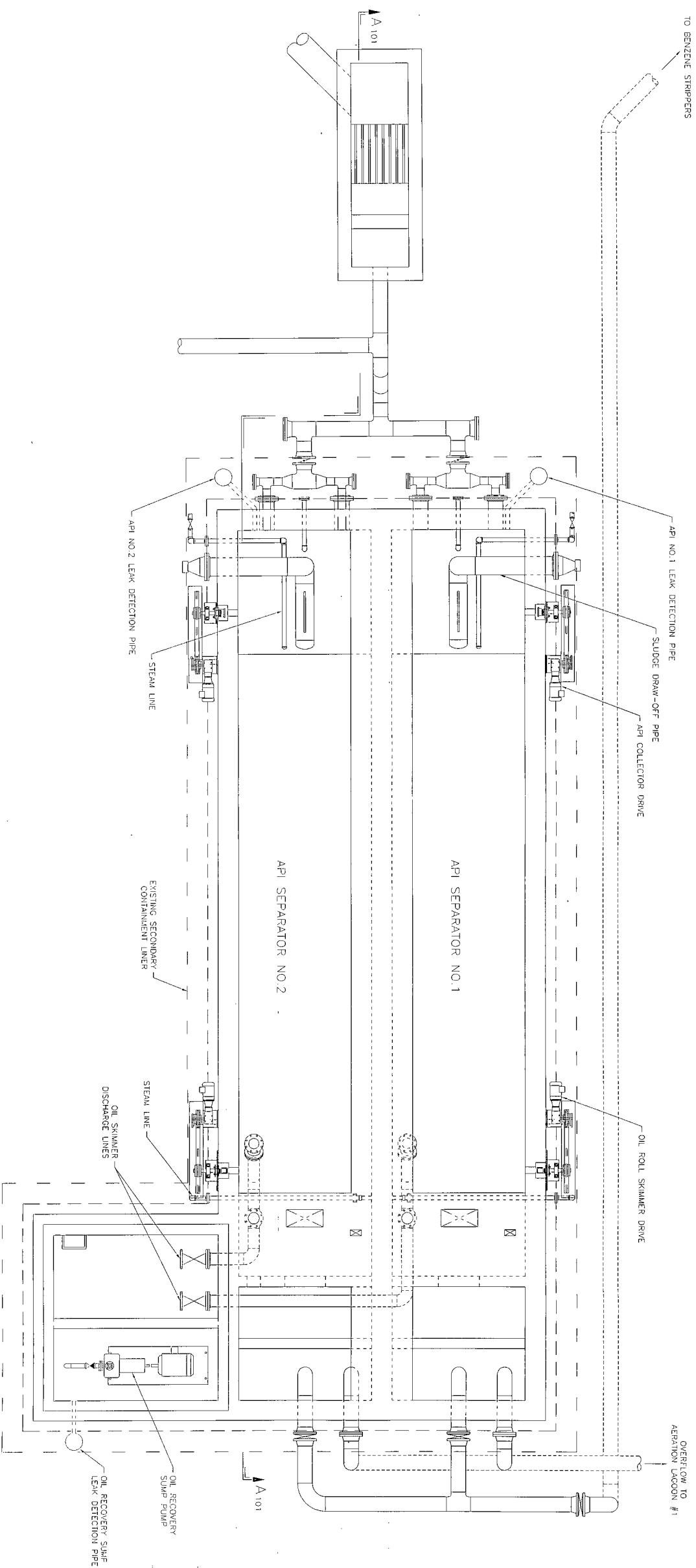
Describe Area Affected and Cleanup Action Taken.\*

Aeration lagoons one and two and evaporation pond one were impacted by the oil release. Riley Industrial was contacted and two vacuum trucks were sent to work on the cleanup.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: 	OIL CONSERVATION DIVISION	
Printed Name: Stephen C. Morris	Approved by District Supervisor:	
Title: Environmental Engineer	Approval Date:	Expiration Date:
E-mail Address: smorris@giant.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 03-12-2007	Phone: 505 722 0258	

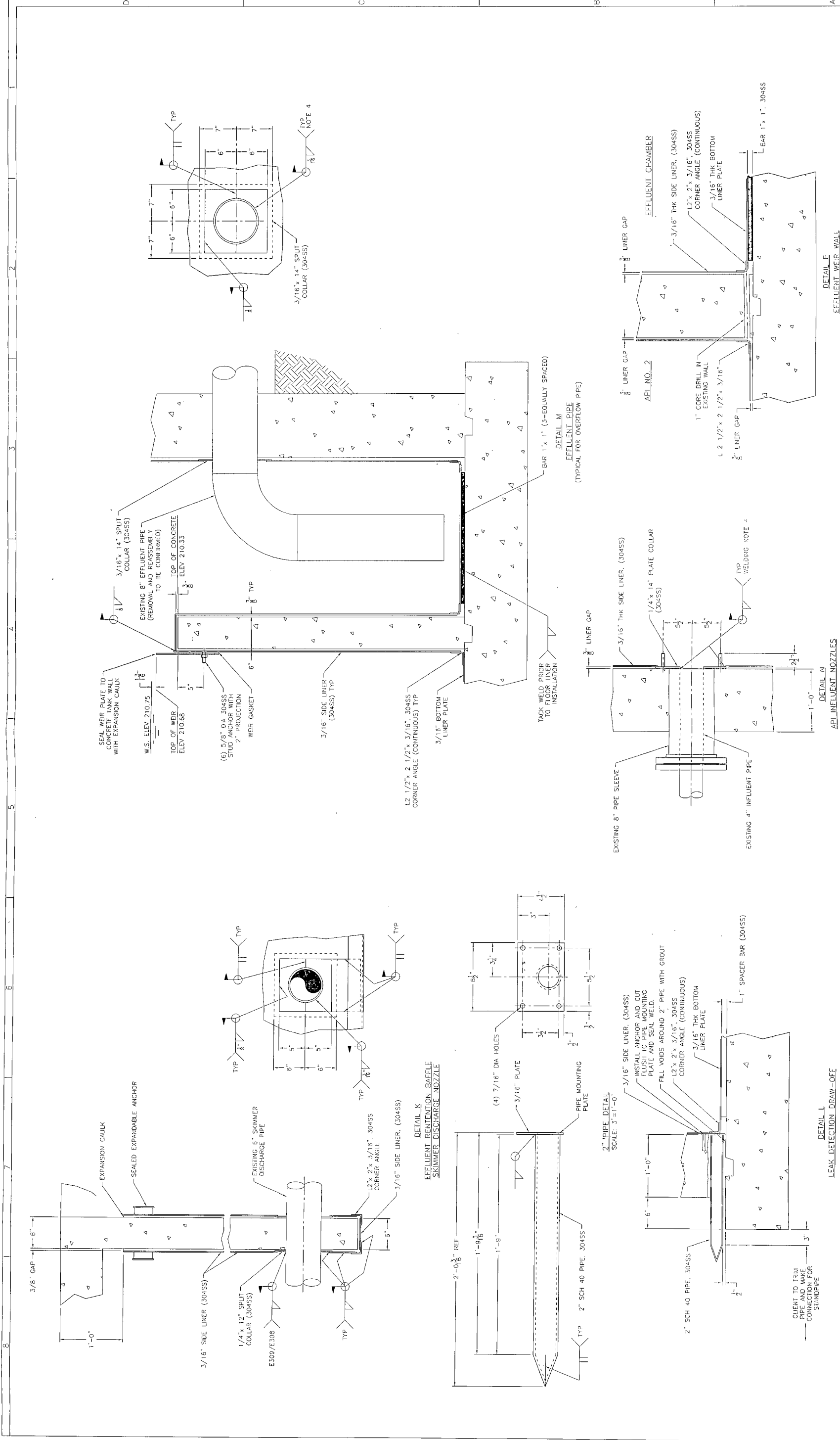
\* Attach Additional Sheets If Necessary



## NOTES

1. VAPOR COVERS AND INTERNAL EQUIPMENT COMPONENTS REMOVED FROM VIEW FOR CLARITY.

[illegible]



DETAIL L  
LEAK DETECTION DRAW-OFF

DETAIL N  
API INFLUENT NOZZLES

DETAIL M  
EFFLUENT PIPE  
(TYPICAL FOR OVERFLOW PIPE)

DETAIL P  
EFFLUENT WEIR WALL

THIS DOCUMENT AND ALL INFORMATION CONTAINED HEREIN ARE UNCLASSIFIED EXCEPT WHERE SHOWN OTHERWISE. THE INFORMATION CONTAINED HEREIN IS UNCLASSIFIED EXCEPT WHERE SHOWN OTHERWISE. IT IS THE POLICY OF THE U.S. GOVERNMENT TO MAKE AVAILABLE TO THE PUBLIC INFORMATION THAT IS NOT OTHERWISE RESTRICTED BY LAW. IT IS THE POLICY OF THE U.S. GOVERNMENT TO MAKE AVAILABLE TO THE PUBLIC INFORMATION THAT IS NOT OTHERWISE RESTRICTED BY LAW.		DESIGNER	DATE	TITLE
DJS	05/02/07	GENERAL ARRANGEMENT	WORK THIS DRAWING WITH DRAWING NO. 42-00-106.	
CHKD BY	DATE	SEPARATOR LINER DETAILS AND SECTIONS		
APPROVED	DATE	PIPE PENETRATIONS		
ENGINEER	DATE	CLIENT GIANT INDUSTRIES, INC.		
DRAWN BY	DATE	CNIZA REFINERY, CALCUP, NM.		
DATE	DATE	DATE		

**SIEMENS** WATER TECHNOLOGIES

**Chavez, Carl J, EMNRD**

---

**From:** Steve Morris [smorris@giant.com]  
**Sent:** Tuesday, May 29, 2007 2:02 PM  
**To:** Monzeglio, Hope, NMENV; Chavez, Carl J, EMNRD  
**Cc:** Ed Riege; Jim Lieb  
**Subject:** Northeast OCD Landfarm samples  
**Attachments:** NEOCDLIFT050807.pdf; NEOCDLF2QTR07.pdf; NEOCDLFLIFTRANDOMGRID.pdf; MiscSoils11-8-07.pdf

Hope and Carl,

I have attached sample results for the second quarter of this year as well as "Lift Samples" taken on May 8<sup>th</sup>, 2007.

Additionally, I scanned and attached a copy of the Random Grid Selector for the NE OCD land farm.

While this copy of the Random Grid Selector represents the lift samples, all samples (including quarterly), taken from

OCD permitted land farms are selected using this type of Excel spreadsheet.

This Excel spreadsheet is used when we need to select random sample sites for the NE OCD land farm.

Considering the low levels detected in the lift samples, Giant requests approval from OCD and NMED to add a second lift of no more than six inches to the NE OCD land farm.

Giant has included analytical test results for some soils that we would like to apply to the land farm.

Please give me a call at 505-722-0258 if you have any questions regarding this request.

Thanks,

Steve Morris

---

This inbound email has been scanned by the MessageLabs Email Security System.

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5/30/2007



## COVER LETTER

Tuesday, May 15, 2007

Steve Morris  
Giant Refining Co  
Rt. 3 Box 7  
Gallup, NM 87301

TEL: (505) 722-3833  
FAX (505) 722-0210

RE: NE OCD Landfarm Lift Samples 5/8/07

Order No.: 0705140

Dear Steve Morris:

Hall Environmental Analysis Laboratory, Inc. received 2 sample(s) on 5/10/2007 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", written over a horizontal line.

Andy Freeman, Business Manager  
Nancy McDuffie, Laboratory Manager

NM Lab # NM9425  
AZ license # AZ0682  
ORELAP Lab # NM100001



**Hall Environmental Analysis Laboratory, Inc.**

Date: 15-May-07

CLIENT:	Giant Refining Co	Client Sample ID:	NE-OCD West
Lab Order:	0705140	Collection Date:	5/8/2007 11:15:00 AM
Project:	NE OCD Landfarm Lift Samples 5/8/07	Date Received:	5/10/2007
Lab ID:	0705140-01	Matrix:	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JMP
Diesel Range Organics (DRO)	140	10		mg/Kg	1	5/14/2007 7:57:29 PM
Motor Oil Range Organics (MRO)	84	50		mg/Kg	1	5/14/2007 7:57:29 PM
Surr: DNOP	106	61.7-135		%REC	1	5/14/2007 7:57:29 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/11/2007 1:06:32 PM
Surr: BFB	116	84-138		%REC	1	5/11/2007 1:06:32 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.050		mg/Kg	1	5/11/2007 1:06:32 PM
Toluene	ND	0.050		mg/Kg	1	5/11/2007 1:06:32 PM
Ethylbenzene	ND	0.050		mg/Kg	1	5/11/2007 1:06:32 PM
Xylenes, Total	ND	0.10		mg/Kg	1	5/11/2007 1:06:32 PM
Surr: 4-Bromofluorobenzene	91.6	68.2-109		%REC	1	5/11/2007 1:06:32 PM

Qualifiers:	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike recovery outside accepted recovery limits		



## Hall Environmental Analysis Laboratory, Inc.

Date: 15-May-07

CLIENT:	Giant Refining Co	Client Sample ID:	NE-OCD East
Lab Order:	0705140	Collection Date:	5/8/2007 11:45:00 AM
Project:	NE OCD Landfarm Lift Samples 5/8/07	Date Received:	5/10/2007
Lab ID:	0705140-02	Matrix:	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JMP
Diesel Range Organics (DRO)	290	10		mg/Kg	1	5/14/2007 8:31:54 PM
Motor Oil Range Organics (MRO)	130	50		mg/Kg	1	5/14/2007 8:31:54 PM
Surr: DNOP	109	61.7-135		%REC	1	5/14/2007 8:31:54 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/11/2007 1:36:42 PM
Surr: BFB	117	84-138		%REC	1	5/11/2007 1:36:42 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.050		mg/Kg	1	5/11/2007 1:36:42 PM
Toluene	ND	0.050		mg/Kg	1	5/11/2007 1:36:42 PM
Ethylbenzene	ND	0.050		mg/Kg	1	5/11/2007 1:36:42 PM
Xylenes, Total	ND	0.10		mg/Kg	1	5/11/2007 1:36:42 PM
Surr: 4-Bromofluorobenzene	93.1	68.2-109		%REC	1	5/11/2007 1:36:42 PM

Qualifiers:	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike recovery outside accepted recovery limits		

## QA/QC SUMMARY REPORT

Client: Giant Refining Co  
 Project: NE OCD Landfarm Lift Samples 5/8/07

Work Order: 0705140

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8015									
Sample ID: MB-12928		MBLK							
			Batch ID:	12928	Analysis Date:	5/14/2007 1:44:32 PM			
Diesel Range Organics (DRO)	ND	mg/Kg	10						
Motor Oil Range Organics (MRO)	ND	mg/Kg	50						
Sample ID: LCS-12928		LCS							
			Batch ID:	12928	Analysis Date:	5/14/2007 2:19:14 PM			
Diesel Range Organics (DRO)	38.99	mg/Kg	10	78.0	64.6	116			
Sample ID: LCSD-12928		LCSD							
			Batch ID:	12928	Analysis Date:	5/14/2007 2:53:57 PM			
Diesel Range Organics (DRO)	40.93	mg/Kg	10	81.9	64.6	116	4.86	17.4	
Method: SW8015									
Sample ID: MB-12912		MBLK							
			Batch ID:	12912	Analysis Date:	5/11/2007 10:03:25 AM			
Gasoline Range Organics (GRO)	ND	mg/Kg	5.0						
Sample ID: LCS-12912		LCS							
			Batch ID:	12912	Analysis Date:	5/11/2007 10:35:57 AM			
Gasoline Range Organics (GRO)	25.43	mg/Kg	5.0	91.0	69.5	120			
Method: SW8021									
Sample ID: MB-12912		MBLK							
			Batch ID:	12912	Analysis Date:	5/11/2007 10:03:25 AM			
Benzene	ND	mg/Kg	0.050						
Toluene	ND	mg/Kg	0.050						
Ethylbenzene	ND	mg/Kg	0.050						
Xylenes, Total	ND	mg/Kg	0.10						
Sample ID: LCS-12912		LCS							
			Batch ID:	12912	Analysis Date:	5/11/2007 10:35:57 AM			
Benzene	0.2968	mg/Kg	0.050	106	62.7	114			
Toluene	2.088	mg/Kg	0.050	104	68.2	121			
Ethylbenzene	0.4049	mg/Kg	0.050	101	71.4	115			
Xylenes, Total	2.341	mg/Kg	0.10	102	65	135			

## Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

# Hall Environmental Analysis Laboratory, Inc.

## Sample Receipt Checklist

Client Name GIANTREFIN

Date and Time Received:

5/10/2007

Work Order Number 0705140

Received by AT

Checklist completed by

*Jany SL*  
Signature

*May 10, 07*  
Date

Matrix

Carrier name Client drop-off

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>	
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>	Not Shipped <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>	
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Water - VOA vials have zero headspace?	No VOA vials submitted <input checked="" type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
Water - Preservation labels on bottle and cap match?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>	
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>	

Container/Temp Blank temperature?

3°

4° C ± 2 Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted

Date contacted:

Person contacted

Contacted by:

Regarding

Comments:

Corrective Action

Black	White	White
White	Black	White
White	White	Black

## HALL ENVIRONMENTAL ANALYSIS LABORATORY

4901 Hawkins NE, Suite D

Albuquerque, New Mexico 87109

Tel. 505.345.3975 Fax 505.345.4107

[www.hallenvironmental.com](http://www.hallenvironmental.com)

# ANALYSIS REQUEST

CHAIN-OF-CUSTODY RECORD							QA/QC Package:			
							<input type="checkbox"/> Std <input type="checkbox"/> Level 4 <input type="checkbox"/>		Other:	
Client: Giant Refining Company - Tinian Address: Route 3 Box 7 Galley, NM 87301							Project Name: NE-OCD Sandstorm Left Sample 5-S-2007			
							Project #:			
							Project Manager: <i>Steve Morris</i>			
Phone #: 505 722 3833							Sampler: <i>Steve Morris</i>			
Fax #: 505 722 9210							Sample Temperature: 3			
Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative		HEAL No.			
5/8/07	1115	Soil	NE-OCD West	2	HgCl <sub>2</sub>	HNO <sub>3</sub>	OTD5140	1		
"	1145	"	NE-OCD East	2				2		
Date: 5/19/07	Time: 0908	Relinquished By: (Signature) <i>Steve Morris</i>			Received By: (Signature)		5/19/07			
Date:	Time:	Relinquished By: (Signature)			Received By: (Signature)					



## COVER LETTER

Tuesday, May 15, 2007

Steve Morris  
Giant Refining Co  
Rt. 3 Box 7  
Gallup, NM 87301

TEL: (505) 722-3833  
FAX (505) 722-0210

RE: NE OCD Landfarm 2nd Quarter 2007

Order No.: 0705136

Dear Steve Morris:

Hall Environmental Analysis Laboratory, Inc. received 2 sample(s) on 5/10/2007 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a horizontal line.

Andy Freeman, Business Manager  
Nancy McDuffie, Laboratory Manager

NM Lab # NM9425  
AZ license # AZ0682  
ORELAP Lab # NM100001



4901 Hawkins NE ■ Suite D ■ Albuquerque, NM 87109  
505.345.3975 ■ Fax 505.345.4107  
[www.hallenvironmental.com](http://www.hallenvironmental.com)

**Hall Environmental Analysis Laboratory, Inc.**

Date: 15-May-07

CLIENT: Giant Refining Co  
Lab Order: 0705136  
Project: NE OCD Landfarm 2nd Quarter 2007  
Lab ID: 0705136-01

Client Sample ID: Cell # 39  
Collection Date: 5/8/2007 10:00:00 AM  
Date Received: 5/10/2007  
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: JMP
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	5/14/2007 5:39:49 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/14/2007 5:39:49 PM
Surr: DNOP	105	61.7-135		%REC	1	5/14/2007 5:39:49 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/11/2007 12:06:21 PM
Surr: BFB	117	84-138		%REC	1	5/11/2007 12:06:21 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.10		mg/Kg	1	5/11/2007 12:06:21 PM
Benzene	ND	0.050		mg/Kg	1	5/11/2007 12:06:21 PM
Toluene	ND	0.050		mg/Kg	1	5/11/2007 12:06:21 PM
Ethylbenzene	ND	0.050		mg/Kg	1	5/11/2007 12:06:21 PM
Xylenes, Total	ND	0.10		mg/Kg	1	5/11/2007 12:06:21 PM
Surr: 4-Bromofluorobenzene	91.8	68.2-109		%REC	1	5/11/2007 12:06:21 PM

Qualifiers: \* Value exceeds Maximum Contaminant Level  
E Value above quantitation range  
J Analyte detected below quantitation limits  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
RL Reporting Limit

**Hall Environmental Analysis Laboratory, Inc.**

Date: 15-May-07

CLIENT:	Giant Refining Co	Client Sample ID:	Cell # 93
Lab Order:	0705136	Collection Date:	5/8/2007 10:45:00 AM
Project:	NE OCD Landfarm 2nd Quarter 2007	Date Received:	5/10/2007
Lab ID:	0705136-02	Matrix:	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JMP
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	5/14/2007 6:14:14 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/14/2007 6:14:14 PM
Surr: DNOP	95.1	61.7-135		%REC	1	5/14/2007 6:14:14 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/11/2007 12:36:21 PM
Surr: BFB	117	84-138		%REC	1	5/11/2007 12:36:21 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.10		mg/Kg	1	5/11/2007 12:36:21 PM
Benzene	ND	0.050		mg/Kg	1	5/11/2007 12:36:21 PM
Toluene	ND	0.050		mg/Kg	1	5/11/2007 12:36:21 PM
Ethylbenzene	ND	0.050		mg/Kg	1	5/11/2007 12:36:21 PM
Xylenes, Total	ND	0.10		mg/Kg	1	5/11/2007 12:36:21 PM
Surr: 4-Bromofluorobenzene	92.0	68.2-109		%REC	1	5/11/2007 12:36:21 PM

Qualifiers:	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	MCL Maximum Contaminant Level
	ND Not Detected at the Reporting Limit	RL Reporting Limit
	S Spike recovery outside accepted recovery limits	

## QA/QC SUMMARY REPORT

Client: Giant Refining Co  
 Project: NE OCD Landfarm 2nd Quarter 2007

Work Order: 0705136

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8015									
Sample ID: 0705136-01BMSD		MSD			Batch ID: 12928	Analysis Date: 5/14/2007 7:23:03 PM			
Diesel Range Organics (DRO)	38.36	mg/Kg	10	76.7	67.4	117	0.0495	17.4	
Sample ID: MB-12928		MBLK			Batch ID: 12928	Analysis Date: 5/14/2007 1:44:32 PM			
Diesel Range Organics (DRO)	ND	mg/Kg	10						
Motor Oil Range Organics (MRO)	ND	mg/Kg	50						
Sample ID: LCS-12928		LCS			Batch ID: 12928	Analysis Date: 5/14/2007 2:19:14 PM			
Diesel Range Organics (DRO)	38.99	mg/Kg	10	78.0	64.6	116			
Sample ID: LCSD-12928		LCSD			Batch ID: 12928	Analysis Date: 5/14/2007 2:53:57 PM			
Diesel Range Organics (DRO)	40.93	mg/Kg	10	81.9	64.6	116	4.86	17.4	
Sample ID: 0705136-01BMS		MS			Batch ID: 12928	Analysis Date: 5/14/2007 6:48:34 PM			
Diesel Range Organics (DRO)	38.38	mg/Kg	10	76.8	67.4	117			
Method: SW8015									
Sample ID: 0705136-01A MSD		MSD			Batch ID: 12912	Analysis Date: 5/11/2007 11:36:16 AM			
Gasoline Range Organics (GRO)	28.08	mg/Kg	5.0	102	69.5	120	1.65	11.6	
Sample ID: MB-12912		MBLK			Batch ID: 12912	Analysis Date: 5/11/2007 10:03:25 AM			
Gasoline Range Organics (GRO)	ND	mg/Kg	5.0						
Sample ID: LCS-12912		LCS			Batch ID: 12912	Analysis Date: 5/11/2007 10:35:57 AM			
Gasoline Range Organics (GRO)	25.43	mg/Kg	5.0	91.0	69.5	120			
Sample ID: 0705136-01A MS		MS			Batch ID: 12912	Analysis Date: 5/11/2007 11:06:06 AM			
Gasoline Range Organics (GRO)	27.62	mg/Kg	5.0	100	69.5	120			

## Qualifiers:

E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 S Recovery outside accepted recovery limits



## QA/QC SUMMARY REPORT

Client: Giant Refining Co  
 Project: NE OCD Landfarm 2nd Quarter 2007

Work Order: 0705136

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
---------	--------	-------	-----	------	----------	-----------	------	----------	------

Method: SW8021

Sample ID: 0705136-01A MSD			MSD		Batch ID: 12912		Analysis Date: 5/11/2007 11:36:16 AM		
Methyl tert-butyl ether (MTBE)	0.4393	mg/Kg	0.10	107	67.9	135	1.69	28	S
Benzene	0.3212	mg/Kg	0.050	115	62.7	114	0.0622	27	
Toluene	2.269	mg/Kg	0.050	113	68.2	121	0.0881	19	
Ethylbenzene	0.4461	mg/Kg	0.050	112	71.4	115	0.382	10	
Xylenes, Total	2.605	mg/Kg	0.10	113	65	135	0.968	13	

Sample ID: MB-12912		MBLK		Batch ID: 12912		Analysis Date: 5/11/2007 10:03:25 AM	
Methyl tert-butyl ether (MTBE)	ND	mg/Kg	0.10				
Benzene	ND	mg/Kg	0.050				
Toluene	ND	mg/Kg	0.050				
Ethylbenzene	ND	mg/Kg	0.050				
Xylenes, Total	ND	mg/Kg	0.10				

Sample ID: LCS-12912	LCS				Batch ID: 12912	Analysis Date: 5/11/2007 10:35:57 AM
Methyl tert-butyl ether (MTBE)	0.4051	mg/Kg	0.10	98.8	67.9	135
Benzene	0.2968	mg/Kg	0.050	106	62.7	114
Toluene	2.088	mg/Kg	0.050	104	68.2	121
Ethylbenzene	0.4049	mg/Kg	0.050	101	71.4	115
Xylenes, Total	2.341	mg/Kg	0.10	102	65	135

Sample ID: 0705136-01A MS		MS			Batch ID: 12912		Analysis Date: 5/11/2007 11:06:06 AM	
Methyl tert-butyl ether (MTBE)	0.4468	mg/Kg	0.10	109	67.9	135		
Benzene	0.3214	mg/Kg	0.050	115	62.7	114		S
Toluene	2.271	mg/Kg	0.050	114	68.2	121		
Ethylbenzene	0.4444	mg/Kg	0.050	111	71.4	115		
Xylenes, Total	2.580	mg/Kg	0.10	112	65	135		

## Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name GIANTREFIN

Date and Time Received:

5/10/2007

Work Order Number 0705136

Received by AT

Checklist completed by

Jamy SL  
Signature

May 10, 07  
Date

Matrix

Carrier name Client drop-off

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>	
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>	Not Shipped <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>	
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Water - VOA vials have zero headspace?	No VOA vials submitted <input checked="" type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
Water - Preservation labels on bottle and cap match?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>	
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>	

Container/Temp Blank temperature?

3°

4° C ± 2 Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted \_\_\_\_\_ Date contacted: \_\_\_\_\_ Person contacted \_\_\_\_\_

Contacted by: \_\_\_\_\_ Regarding \_\_\_\_\_

Comments: \_\_\_\_\_

Corrective Action \_\_\_\_\_

**HALL ENVIRONMENTAL  
ANALYSIS LABORATORY**  
4901 Hawkins NE, Suite D  
Albuquerque, New Mexico 87109  
Tel. 505.345.3975 Fax 505.345.4  
[www.hallenvironmental.com](http://www.hallenvironmental.com)

CHAIN-OF-CUSTODY RECORD					QA/QC Package:			
					Other:	Std	Level 4	
Client: <u>Glent Refining</u>					Project Name: <u>NE-OSD Landfarm</u>			
Company: <u>Conaway - Liniga</u>					2nd Qtr. 2007			
Address: <u>Route 3 Box 7</u>					Project #:			
<u>Gallup, NM 87301</u>					Project Manager:			
					<u>Steve Morris</u>			
Phone #: <u>505 7223833</u>					Sampler: <u>Steve Morris</u>			
Fax #: <u>505 7220210</u>					Sample Temperature: <u>3</u>			
Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative		HEAL No.	
					HgCl <sub>2</sub>	HNO <sub>3</sub>		
5/8/07	1000	Soil	Cell # 39	2			0705138	1
"	1045	"	Cell # 93	2				2
Date:	Time:	Relinquished By: (Signature)		Received By: (Signature)				
5/10/07	0905	<u>Steve Morris</u>		<u>Steve Morris</u>				
Date:	Time:	Relinquished By: (Signature)		Received By: (Signature)				
						5/10/07		

OCD LTA SAMPLE GRID LENGTH 14FT.

WIDTH 7FT.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100
101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130
131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150

5/8/2007

Sample Date

EXCEL RAND # CHOICES

0.5961907	89.42861
0.3597572	53.96358

*Lift samples taken from Cell #s 89 and 54.*



## COVER LETTER

Friday, December 01, 2006

Cheryl Johnson  
Giant Refining Co  
Rt. 3 Box 7  
Gallup, NM 87301

TEL: (505) 722-3833  
FAX (505) 722-0210

RE: Misc. Soil Samples

Order No.: 0611097

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory, Inc. received 6 sample(s) on 11/8/2006 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager  
Nancy McDuffie, Laboratory Manager

NM Lab # NM9425  
AZ license # AZ0682  
ORELAP Lab # NM100001



## Hall Environmental Analysis Laboratory, Inc.

Date: 01-Dec-06

CLIENT: Giant Refining Co  
 Lab Order: 0611097  
 Project: Misc. Soil Samples  
 Lab ID: 0611097-01

Client Sample ID: Fuel Oil Rack  
 Collection Date: 11/7/2006 3:15:00 PM  
 Date Received: 11/8/2006  
 Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 7471: MERCURY</b>						
Mercury	0.17	0.033		mg/Kg	1	Analyst: IC 11/30/2006
<b>EPA METHOD 6010B: SOIL METALS</b>						
Arsenic	ND	2.5		mg/Kg	1	Analyst: CMS 11/17/2006 1:29:55 PM
Barium	720	2.0		mg/Kg	20	11/17/2006 2:08:26 PM
Cadmium	ND	0.10		mg/Kg	1	11/17/2006 1:29:55 PM
Chromium	5.0	0.30		mg/Kg	1	11/17/2006 1:29:55 PM
Lead	1.4	0.25		mg/Kg	1	11/17/2006 1:29:55 PM
Selenium	ND	2.5		mg/Kg	1	11/17/2006 1:29:55 PM
Silver	ND	0.25		mg/Kg	1	11/17/2006 1:29:55 PM
<b>EPA METHOD 8260B: VOLATILES</b>						
Benzene	ND	2.5		mg/Kg	50	Analyst: LMM 11/10/2006
Toluene	47	2.5		mg/Kg	50	11/10/2006
Ethylbenzene	18	2.5		mg/Kg	50	11/10/2006
Methyl tert-butyl ether (MTBE)	ND	2.5		mg/Kg	50	11/10/2006
1,2,4-Trimethylbenzene	120	2.5		mg/Kg	50	11/10/2006
1,3,5-Trimethylbenzene	46	2.5		mg/Kg	50	11/10/2006
1,2-Dichloroethane (EDC)	ND	2.5		mg/Kg	50	11/10/2006
1,2-Dibromoethane (EDB)	ND	2.5		mg/Kg	50	11/10/2006
Naphthalene	120	5.0		mg/Kg	50	11/10/2006
1-Methylnaphthalene	140	10		mg/Kg	50	11/10/2006
2-Methylnaphthalene	270	20		mg/Kg	100	11/13/2006
Acetone	ND	38		mg/Kg	50	11/10/2006
Bromobenzene	ND	2.5		mg/Kg	50	11/10/2006
Bromochloromethane	ND	2.5		mg/Kg	50	11/10/2006
Bromodichloromethane	ND	2.5		mg/Kg	50	11/10/2006
Bromoform	ND	2.5		mg/Kg	50	11/10/2006
Bromomethane	ND	5.0		mg/Kg	50	11/10/2006
2-Butanone	ND	25		mg/Kg	50	11/10/2006
Carbon disulfide	ND	25		mg/Kg	50	11/10/2006
Carbon tetrachloride	ND	5.0		mg/Kg	50	11/10/2006
Chlorobenzene	ND	2.5		mg/Kg	50	11/10/2006
Chloroethane	ND	5.0		mg/Kg	50	11/10/2006
Chloroform	ND	2.5		mg/Kg	50	11/10/2006
Chloromethane	ND	2.5		mg/Kg	50	11/10/2006
2-Chlorotoluene	ND	2.5		mg/Kg	50	11/10/2006
4-Chlorotoluene	ND	2.5		mg/Kg	50	11/10/2006
cis-1,2-DCE	ND	2.5		mg/Kg	50	11/10/2006

Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 1 of 18

<b>TO:</b> Mr. Jim Lieb Giant Industries Ciniza Refinery I-40 Exit 39 Jamestown, NM 87347	<b>PAGE</b> 1	<b>OF</b> 1
	<b>TRANSMITTAL DATE:</b>	10/24/07
	<b>TRANSMITTAL DCN:</b>	89068.PROP-ALB07TS001
<b>RETURN RESPONSES/COMMENTS TO:</b>	Eileen Shannon	
<b>RETURN RESPONSES/COMMENTS BY:</b>		

<b>PROJECT NO.:</b>	84679	<b>PROJECT NAME:</b>	Ciniza Refinery
<b>ACTIVITY/DESCRIPTION:</b>	Notice of Disapproval		

DOCUMENTS BEING TRANSMITTED				
ITEM	REV.	PAGES	DATE	DESIGNATOR
Response to Notice of Disapproval	0		10/24/07	84679.3-ALB07LT001

<b>INSTRUCTIONS/REMARKS</b> COPIES TO INDIVIDUALS ON CC LIST	<b>RECEIPT AND READ ACKNOWLEDGEMENT</b> <b>PLEASE COMPLETE AND RETURN WITHIN</b> <b>15 WORKING DAYS TO:</b>
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<b>TO:</b> Mr. Jim Lieb Giant Industries Ciniza Refinery I-40 Exit 39 Jamestown, NM 87347	<b>PAGE</b> 1	<b>OF</b> 1
	<b>TRANSMITTAL DATE:</b>	10/24/07
	<b>TRANSMITTAL DCN:</b>	89068.PROP-ALB07TS001
<b>RETURN RESPONSES/COMMENTS TO:</b> Eileen Shannon		
<b>RETURN RESPONSES/COMMENTS BY:</b>		

<b>PROJECT NO.:</b> 84679	<b>PROJECT NAME:</b> Ciniza Refinery
<b>ACTIVITY/DESCRIPTION:</b> Notice of Disapproval	

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**KLEINFELDER**

*An employee owned company*

October 23, 2007

Kleinfelder Project No. 84679  
File No.: 84679.3-ALB07LT001

Giant Refining Company  
Ciniza Refinery  
Route 3, Box 7  
Gallup, NM 87301  
Attn: Mr. Jim Lieb

**Subject: Response to Notice of Disapproval  
Monitoring Well Installation Report  
Ciniza Refinery  
Jamestown, New Mexico**

Dear Mr. Lieb:

Kleinfelder West, Inc. (Kleinfelder) has reviewed the Notice of Disapproval letter issued by the New Mexico Environment Department (NMED) Hazardous Waste Bureau (HWB) dated October 15, 2007 in response to Kleinfelder's Monitoring Well Installation Report dated August 7, 2007.

In reviewing the NMED-HWB's October 15, 2007 disapproval letter and comparing it to their March 23, 2007 and June 4, 2007 work plan approval letters, there appears to be significant differences in what was required and approved (March and June letters) and what was expected (October letter). The March 23 letter states "the purpose of the installation of the wells was to evaluate for the presence of contaminants at the NAPIS." Petroleum hydrocarbon concentrations were observed in samples collected wells installed in June 2007.

As stated in the March 2007 HWB letter, and Kleinfelder's approved work plan, shallow wells KA-1 and KA-2 were installed to intersect the base of the NAPIS, with a screened-interval of 5 -10 feet below grade and the deeper well, KA-3, was installed to intersect the Chinle Formation. The October 2007 disapproval letter was the first time discussions of installation of KA-3 in dry strata was mentioned.

In water level measurements from June 21, 2007, nine to ten days after well installation, depth to water ranged from 8.22 (KA-1) to 8.5 (KA-3) to 8.54 (KA-2) feet below ground surface. This indicates that the deep and shallow screened intervals are hydraulically connected. The wells, as constructed, give an accurate documentation of groundwater

conditions upgradient, downgradient, and at different vertical depths in the vicinity of the NAPIS.

A comparison of what was stated in the March 23, June 4, and October 15, 2007 NMED-HWB letters, Kleinfelder's May 24, 2007 work plan and August 7, 2007 report is included in the attached Table 1. Also included in Table 1 is a more detailed Kleinfelder response to the NMED-HWB Comments 4 and 5 in the October 15 letter.

Kleinfelder has also prepared the following responses to the itemized comments:

Comment 1:

*"In future reports, the Permittee must compare soil analytical results to the New Mexico Soil Screening Levels (NMSSLs) found on the Hazardous Waste Bureau's (HWB) website: <http://www.nmenv.state.nm.us/hwb/guidance.html>. Soil and groundwater diesel range organic (DRO) analytical results must be compared to NMED's guidance document New Mexico Environment Department TPH Screening Guidelines posted on the same web address. Groundwater analytical results must be compared to the lower of the Water Quality Control Commission (WQCC) standards or EPA's maximum contaminant levels (MCLs). The EPA Region VI Human Health Medium-Specific Screening Levels (Region VI) for Tap Water must be applied if a WQCC standard or MCL has not been established for a compound."*

**Kleinfelder Response:** The attached soil and groundwater sample analytical result tables (Tables 2 and 3, respectively) have been revised to compare to the appropriate referenced standards.

Comment 2:

*"The Permittee states in Section 2.2 (Monitoring Well Installation and Groundwater Sampling) on page 4, paragraph 4 that '[t]he temperature, specific conductivity, and pH were measured and logged at regular intervals using a YSI-556 water quality meter. These recorded values are included with the field notes in Appendix B.'*

*The Permittee must submit the water quality parameters in tabular format. Appendix B made reference to the collection of water quality parameters but the values were not included."*

**Kleinfelder Response:** The water quality parameters logged with the YSI-556 meter were inadvertently omitted and are attached.

Comment 3:

*"In Section 2.3 (Site Survey), the Permittee discusses "Investigation Derived Waste Management" for soil but does not identify what laboratory analyses were conducted for the soil samples, nor does it address disposal of water.*

*The New Mexico Oil Conservation Division (OCD) must approve disposal of soil in an OCD - approved landfarm, All wastewater generated during monitoring well installation and sampling activities must be placed in the refinery wastewater treatment system, upgradient of the NAPIS.*

In addition, the Permittee must also identify what analytical methods were performed on soils to determine disposal options.

*Investigation-Derived Waste Management described in Appendix A of the Work Plan for Monitoring Well Installation states "[s]oil borings identified through field-screening procedures as containing 100 ppm or greater volatile organic compounds (VOCs) will be placed in 55-gallon drums and disposed of at a regulated disposal facility." The use of a photo ionization detector to determine which soils are to be placed in a 55-gallon drum for disposal is not appropriate and also does not account for soils containing heavy end contaminants such as diesel range organics (DRO). In the future, field screening cannot be the only method for determining how soils will be disposed."*

**Kleinfelder Response:** Water generated during well development and well sampling was discharged to an impervious surface and allowed to evaporate, as discussed in Kleinfelder's approved May 24, 2007 work plan.

All soil cuttings generated during boring installation were drummed pending determination of disposal options. The ten individual soil samples collected for characterization (Table 2) are a conservative concentration summary of the soil cuttings. A letter with the laboratory results will be prepared and submitted to OCD requesting permission to dispose of the drill cuttings at Ciniza's landfarm.

Comment 6:

*"Based on the information provided in this Report, it appears the NAPIS is leaking. Shallow groundwater generally flows in a west-northwest direction at this location. The groundwater chemical analytical results obtained from monitoring well KA-1 located on the upgradient side (east) of the NAPIS did not indicate the presence of contamination. However, the groundwater chemical analytical results from monitoring wells KA-2 and KA-3 located on the downgradient side (west) of the NAPIS indicated the presence of benzene, toluene, ethylbenzene, xylenes (BTEX), DRO and gasoline range organics (GRO). Based on the information provided in the Report and upon the installation of the replacement monitoring wells, the Permittee must implement the following:*

- a. Monitor and collect groundwater samples from replacement monitoring wells for KA-1 and KA-2 within two weeks, one month, three months, and quarterly thereafter from the date of completion of well development.*
- b. The initial sampling event must include laboratory analyses of groundwater samples collected from KA-1 and KA-2 replacement wells for VOCs using EPA Method 8260, semi-volatile organic compounds (SVOCs) using EPA Method 8310, GRO, DRO extended, and RCRA metals. The following sampling events must include chemical analyses of water samples for BTEX plus methyl tertbutyl ether (MTBE) using EPA Method 8021B, GRO, DRO extended, and general chemistry in accordance with item 19 of OCD's Discharge Plan... The sampling suite may be modified by NMED and in concurrence with OCD upon review of the laboratory reports.*
- c. The Permittee must submit the laboratory results from each sampling event to NMED and OCD within seven business days upon receipt of the final laboratory report.*

- d. *According to the Permittee, the liner for the NAPIS should be installed between mid November and December 31, 2007, The Permittee must notify NMED and OCD within one week of the completion of all repair work and installation of liners at the NAPIS."*

**Kleinfelder Response:** To clarify sampling requirements:

- The sample collected "within two weeks" will include: VOCs per EPA Method 8260; semi-volatile (polyaromatic hydrocarbons only) per EPA Method 8310; Total Petroleum Hydrocarbons (GRO and DRO extended) per EPA Method 8015B; and RCRA metals per EPA Method 6010/7470.
- Samples collected "one month, three months, and quarterly thereafter" will include: BTEX plus MTBE, Total Petroleum Hydrocarbons (GRO and DRO extended) per EPA Method 8021B/8015B; and general chemistry (per OCD's discharge plan).

We will present these items at our meeting scheduled for 1:30 PM on Wednesday October 24, 2007 at the NMED Hazardous Waste Bureau offices at 2905 Rodeo Park Drive East, Building 1 in Santa Fe.

Should any questions or need additional information please contact me at (505) 344-7373.

Respectfully submitted,  
**KLEINFELDER WEST, INC.**

Reviewed by:



Eileen Shannon, P.G.  
Project Manager



Fred T. Schelby, P.E.  
Environmental Department Manager

Enclosures:

Table 1 – Response to Comments 4 and 5

Table 2 – Soil Sample Analytical Results (revised)

Table 3 – Groundwater Sample Analytical Results (revised)

YSI-556 Groundwater Quality Parameter Readings

cc: J. Bearzi, Bureau Chief, NMED-HWB, Santa Fe  
J. Kielling, NMED-HWB, Santa Fe  
D. Cobrain, NMED-HWB, Santa Fe  
C. Frischkorn, NMED-HWB, Santa Fe  
H. Monzeglio, NMED-HWB, Santa Fe  
W. Price, Bureau Chief, OCD, Santa Fe  
B. Powell, OCD Aztec Office

**Table 1**  
**Ciniza Refinery, Giant Refining Company**  
**Response to Comments 4 and 5 (NMED-HWB October 15, 2007 letter)**

	March 23, 2007, NMED-HWB Letter to Giant, re: Work Plan with Comments	May 24, 2007, Kleinfelder Work Plan	June 4, 2007, NMED-HWB Work Plan Approval Letter with Comments	August 7, 2007, Kleinfelder Monitoring Well Installation Report	October 15, 2007, NMED-HWB Notice of Disapproval of Monitoring Well Installation Report/Wells	Kleinfelder Response
<b>Comment 4</b> Purpose of Well (KA-3)	Page 2, 1 <sup>st</sup> Paragraph  “The other well must be constructed so that the screened interval intersects the confining layer located directly below the uppermost water bearing zone to evaluate for the downward migration of groundwater”	Page 3, 1 <sup>st</sup> Paragraph  “The third boring (KA-3) will be located adjacent to the downgradient shallow boring KA-2. KA-3 will be advanced to approximately 25 ft bgs and intersect the upper surface of the Chinle Group, a regional aquitard located beneath the site.”  Page 4, 2 <sup>nd</sup> Paragraph  “Deep monitoring well KA-3 will be constructed with 10 feet of screen slightly below the top of the Chinle Group contact, estimated at 25 to 15 ft bgs.”	Page 1, 2 <sup>nd</sup> Paragraph  “NMED hereby approves the Work Plan. The Permittee must include all requirements established in the March 23, 2007 letter from NMED to the Permittee.”	Page 4, 2 <sup>nd</sup> Paragraph  “Monitoring well KA-3 was constructed with the screened interval from 15 to 25 ft bgs, across alluvial-Chinle Formation contact.”	Comment 4, Page 2  “The objective of the installation of deep monitoring well KA-3 was not achieved. This well should have been screened within the confining layer that underlies the uppermost water bearing zone and also should have been hydraulically isolated from the overlying saturated zone. The purpose of this well is to evaluate the downward migration of the water and determine if the overlying water bearing zone infiltrates into the confining layer.”  Page 3, 2 <sup>nd</sup> Paragraph  The well log for KA-3 identifies the Chinle formation starting at 20 feet bgs, including wet fractured Chinle Formation from approximately 18 to 22 feet bgs. Therefore, the screened interval should have been set below this not within the water-bearing zone between 15 and 25 feet bgs.  Page 3, 3 <sup>rd</sup> Paragraph  “a. Install the monitoring well so that the screened interval is placed within the confining layer, in dry strata, below the overlying water-bearing zone.”	Approved work plan and letters from the NMED state that well KA-3 should intersect, or cross the alluvial-Chinle Formation contact. No where was it stated that the well should be installed completely within the Chinle Formation entirely beneath the alluvial water-bearing zone.
					The Chinle Formation starts at 18 feet, based on the soil boring log. The well was screened across the formation contact from 15-25 feet.	
					If the objective is to evaluate downward contaminant transport, a well within a dry aquitard will not give any data other than that the hydrologic unit is dry. In this scenario, contaminant transport would be limited to flow through fractures.	
					The existing deeper monitoring well intersects the top of the aquitard, likely intersecting the potential flow path of contaminants down from the bottom of the source and the across the surface of the aquitard. The vertical gradient between KA-2 and KA-3 is 0.003 ft/ft.	

Table 1  
Ciniza Refinery, Giant Refining Company  
Response to Comments 4 and 5 (NMED-HWB October 15, 2007 letter)

	March 23, 2007, NMED-HWB Letter to Giant, re: Work Plan with Comments	May 24, 2007, Kleinfelder Work Plan	June 4, 2007, NMED-HWB Work Plan Approval Letter with Comments	August 7, 2007, Kleinfelder Monitoring Well Installation Report	October 15, 2007, NMED-HWB Notice of Disapproval of Monitoring Well Installation Report/Wells	Kleinfelder Response
Comment 5 Wells KA-1 and KA-2	Page 1, Last Paragraph "The boring log information will be used to place the location of the screened interval of the monitoring well in the uppermost water-bearing zone that is anticipated to intersect the base of the NAPIS. One of the wells must be constructed so that the screened interval corresponds to that of the well located to the east (upgradient) side of the NAPIS to evaluate for releases from the NAPIS."	Page 1, Last Paragraph "Two of these borings will be advanced in order to intersect the uppermost water-bearing zone anticipated to intersect the base of the separator. Previous borings advanced onsite indicate this uppermost water-bearing zone is between 5 and 8 ft bgs. These two shallow borings will be located immediately upgradient (KA-1) and downgradient (KA-2), and within 20 feet of the separator. Borings KA-1 and KA-2 will be terminated within the confining unit."	Page 1, 2 <sup>nd</sup> Paragraph "NMED hereby approves the Work Plan. The Permittee must include all requirements established in the March 23, 2007 letter from NMED to the Permittee."	Page 4, 2 <sup>nd</sup> Paragraph "Monitoring wells KA-1 and KA-2 were constructed with the screened interval set from 4.5 to 9.5 ft bgs in order to intersect the water table. Since KA-1 and KA-2 were advanced into the confining unit, the bottom of each boring was backfilled with hydrated bentonite chips to prevent downward migration of fluids through the confining unit."	Page 3, Last Paragraph According to the boring log for well KA-3, the saturated zone appears to extend into the upper portion of the Chinle Formation to approximately 20 feet bgs, with moist to wet conditions present up to approximately 22 feet bgs. From this information and the boring logs for wells KA-1 and KA-2, it appears these wells were not drilled into the confining unit and the screened interval intersects only the uppermost portion of the water table, resulting in a very limited section of the well screen intersecting the saturated zone.	The 3/23/07 NMED Work Plan letter stated that the shallow wells should be installed to intersect the uppermost water-bearing zone anticipated to intersect the base of the separator. The base of the sump of the new API separator is approximately 10 feet.  The KA-2 well screen (first of the shallow wells installed) was installed in a clay strata observed as "moist to very moist" and appeared to be the shallowest zone groundwater is present.
					Page 4, 1 <sup>st</sup> Paragraph NMED requested that the Permittee collect water table measurements during the week of September 17, 2007; KA-1 measured 8.89 feet bgs, KA-2 9.51 bgs, and KA-3 8.95 feet bg. The well logs for KA-1 and KA-2 identify these wells as being ten foot in depth, it is therefore difficult to determine whether the water in KA-1 and KA-2 is formation water or standing water in the end cap. The current screened intervals for KA-1 and KA-2 do not appear to be screened to accommodate seasonal water table fluctuations.	Wells KA-1 and KA-2 were purged dry, allowed to recover, and then sampled. This indicates that the water recovery into the well is formation water. When water levels were measured on June 21, 2007, between 0.096 and 1.28 feet of water had recovered into KA-2 and KA-1, respectively.  Determination of seasonal water fluctuations requires a minimum of four quarters of monitoring.
Purpose of the Investigation	Page 1, 1 <sup>st</sup> paragraph "The purpose of the monitoring well installations is to evaluate for the presence of contaminants at the NAPIS."		Page 1, 2 <sup>nd</sup> Paragraph "NMED hereby approves the Work Plan. The Permittee must include all requirements established in the March 23, 2007 letter from NMED to the Permittee."	Page 8, 2 <sup>nd</sup> and 3 <sup>rd</sup> Bullets "Soil samples .... Analytical results were above the NMED standard for total TPH at 9 ft bgs in boring KA-2 and 10 ft bgs in boring KA-3."  "...monitoring well ..... developed, and sampled .... Benzene, total xylenes, and MTBE were detected at levels above regulatory limits in well KA-2. MTBE was detected above regulatory limits in well KA-3."	Page 4, last paragraph "Based on the information provided in this Report, it appears the NAPIS is leaking. .... However, the groundwater chemical analytical results from monitoring wells KA-2 and KA-3 located on the downgradient side (west) of the NAPIS indicated the presence of benzene, toluene, ethylbenzene, xylenes (BTX), DRO and gasoline range organics (GRO)."	Monitor wells KA-2 and KA-3 indicate that contamination is present downgradient of the NAPIS, fulfilling the purpose of the March 23, 2007 letter from NMED-HWB.

**Table 2**  
**Soil Sample Laboratory Analytical Results**  
**Ciniza Refinery, Jamestown, New Mexico**

Sample ID	Date Collected	Depth	B <sup>1</sup>	T <sup>2</sup>	E <sup>3</sup>	X <sup>4</sup>	BTEX <sup>5</sup>	MTBE <sup>6</sup>	Total TPH <sup>7</sup>	TPH-GRO <sup>8</sup>	TPH-DRO <sup>9</sup>	TPH-MRO <sup>10</sup>
KA1@1	6/12/2007	1	<0.050	<0.050	<0.050	<0.10	<0.25	<0.10	99	<5	47	52
KA1@5	6/12/2007	5	<0.050	<0.050	<0.050	<0.10	<0.25	<0.10	<65	<5	<10	<50
KA1@10	6/12/2007	10	<0.050	<0.050	<0.050	<0.10	<0.25	<0.10	<65	<5	<10	<50
KA2@5	6/12/2007	5	<0.050	<0.050	<0.050	<0.10	<0.25	<0.10	40	<5	40	<50
KA2@9	6/11/2007	9	0.051	<0.050	<0.050	<0.10	0.051	<0.10	400	<5	240	160
KA2@10	6/11/2007	10	<0.050	<0.050	0.058	0.19	0.25	<0.10	10	10	<10	<50
KA3@10	6/11/2007	10	<0.050	<0.050	<0.050	<0.10	<0.25	<0.10	460	<5	240	220
KA3@12.5	6/11/2007	12.5	<0.050	<0.050	<0.050	<0.10	<0.25	<0.10	<65	<5	<10	<50
KA3@22.5	6/11/2007	22.5	<0.050	<0.050	<0.050	<0.10	<0.25	<0.10	<65	<5	<10	<50
KA3@25	6/11/2007	25	<0.050	<0.050	<0.050	<0.10	<0.25	<0.10	<65	<5	<10	<50
NMED SSL <sup>11</sup>			25.8	252	128	82	--	--	--	--	--	--
NMED TPH - Diesel #2 <sup>12</sup>			--	--	--	--	--	--	1120	--	--	--
NMED TPH - Mineral Oil <sup>12</sup>			--	--	--	--	--	--	3040	--	--	--

Depths in Feet below ground surface

<sup>1</sup> benzene, mg/kg

<sup>2</sup> toluene, mg/kg

<sup>3</sup> ethylbenzene, mg/kg

<sup>4</sup> total xylenes, mg/kg

<sup>5</sup> BTEX = benzene + toluene + ethylbenzene + total xylenes by EPA Method 8021B, mg/kg

<sup>6</sup> Methyl tert-Butyl Ether by EPA Method 8021B, mg/kg

<sup>7</sup> Total TPH = GRO+DRO+MRO

<sup>8</sup> TPH-GRO = total petroleum hydrocarbons - gasoline range organics by EPA Method 8015B, mg/kg

<sup>9</sup> TPH-DRO = total petroleum hydrocarbons - diesel range organics by EPA Method 8015B, mg/kg

<sup>10</sup> TPH-MRO = total petroleum hydrocarbons - motor oil range organics by EPA Method 8015B, mg/kg

<sup>11</sup> New Mexico Environment Department Soil Screening Levels, June 06, Rev. 4.0 - Industrial Soil

<sup>12</sup> New Mexico Environment Department TPH Screening Guidelines, October 06, Industrial Direct Exposure. Standards listed based upon ratio of GRO, DRO and MRO, compared to Table 1 of this reference.

Soil Screening Levels are considered the lowest levels of each compound requiring response action, in mg/kg (NMED 2005)

Table 3  
Groundwater Sample Laboratory Analytical Results  
Ciniza Refinery, Jamestown, New Mexico

Sample ID	Date Collected	B <sup>1</sup>	T <sup>2</sup>	E <sup>3</sup>	X <sup>4</sup>	BTEX <sup>5</sup>	MtBE <sup>6</sup>	Total TPH <sup>7</sup>	TPH - GRO <sup>8</sup>	TPH - DRO <sup>9</sup>	TPH - MRO <sup>10</sup>
KA-1	6/21/2007	<1.0	<1.0	<1.0	<2.0	<5.0	<2.5	<5.0	<0.050	<1.0	<5.0
KA-2	6/21/2007	870	74	260	860	2,100	680	47	5.6	41	<5.0
KA-3	6/21/2007	<1.0	<1.0	<1.0	<2.0	<5.0	150	0.16	0.16	<1.0	<5.0
NMWQCC Standard <sup>11</sup>		10	750	750	620	--	--	--	--	--	--
USEPA MCLs <sup>12</sup>		5	1000	700	10,000	--	--	--	--	--	--
USEPA Region 6 HMMSSL - Tap Water <sup>13</sup>		--	--	--	--	--	11	--	--	--	--
NMED TPH - Diesel #2 <sup>14</sup>		--	--	--	--	--	--	1.72	--	--	--
NMED TPH - Mineral Oil <sup>14</sup>		--	--	--	--	--	--	3.64	--	--	--

Values in shaded boxes indicate that the result exceeds the applicable standard, applicable standard in bold.

<sup>1</sup> B = benzene (µg/L)

<sup>2</sup> T = toluene (µg/L)

<sup>3</sup> E = ethylbenzene (µg/L)

<sup>4</sup> X = total xylenes (µg/L)

<sup>5</sup> BTEX = B+T+E+X (µg/L)

<sup>6</sup> M = Methyl tert-butyl ether (MTBE, µg/L)

<sup>7</sup> Total TPH = GRO+DRO+MRO

<sup>8</sup> Total Petroleum Hydrocarbons, Gasoline Range Organics (mg/L)

<sup>9</sup> Total Petroleum Hydrocarbons, Diesel Range Organics (mg/L)

<sup>10</sup> Total Petroleum Hydrocarbons, Motor Oil Range Organics (mg/L)

<sup>11</sup> New Mexico Water Quality Control Commission

<sup>12</sup> United States Environmental Protection Agency Maximum Contaminant Level

<sup>13</sup> United States Environmental Protection Agency, Region 6 Human Health Medium Specific Screening Levels - Tap Water

<sup>14</sup> New Mexico Environment Department TPH Screening Guidelines, October 06, Groundwater (GW-1). Standards listed based upon ratio of GRO, DRO and MRO in soil, compared to Table 1 of this reference.



YSI-556 Groundwater Quality Parameter Readings  
Ciniza Refinery

KA-2	DateTime	Temp	SpCond	DO Conc	pH
Gallons Purged	M/D/Y	C	mS/cm	mg/L	
0.33	6/21/2007 9:32	16.82	1.685	5.47	8.26

KA-3	DateTime	Temp	SpCond	DO Conc	pH
Gallons Purged	M/D/Y	C	mS/cm	mg/L	
1	6/21/2007 9:46	22.59	2.060	3.03	7.88
2	6/21/2007 9:49	22.02	2.120	2.32	7.66
3	6/21/2007 9:51	21.79	2.252	2.33	7.57
4	6/21/2007 9:53	21.32	2.241	2.62	7.68
5	6/21/2007 9:54	20.66	2.210	2.49	7.71
6	6/21/2007 9:57	20.73	2.228	2.25	7.54
7	6/21/2007 9:59	20.07	2.179	2.56	7.66
8	6/21/2007 10:01	20.78	2.215	2.80	7.54
9	6/21/2007 10:05	19.96	2.121	2.25	7.57

KA-1	DateTime	Temp	SpCond	DO Conc	pH
Gallons Purged	M/D/Y	C	mS/cm	mg/L	
0.66	6/21/2007 9:25	23.68	3.432	3.98	7.73