

GW - 32

**GENERAL  
CORRESPONDENCE**

**YEAR(S):**

8/06 → 3/06



BILL RICHARDSON  
GOVERNOR

*State of New Mexico*  
**ENVIRONMENT DEPARTMENT**

*Hazardous Waste Bureau*  
*2905 Rodeo Park Drive East, Building 1*  
*Santa Fe, New Mexico 87505-6303*  
*Telephone (505) 428-2500*  
*Fax (505) 428-2567*  
*www.nmenv.state.nm.us*



RON CURRY  
SECRETARY

**CERTIFIED MAIL**  
**RETURN RECEIPT REQUESTED**

May 5, 2006

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

**SUBJECT: REVISED SAMPLING SCHEDULE RESULTING FROM THE AUGUST  
2005 API SEPARATOR RELEASE  
GIANT REFINING COMPANY, CINIZA REFINERY  
EPA NO. NMD000333211  
HWB-GRCC-MISC**

Dear Mr. Riege:

The New Mexico Environment Department (NMED) is revising the sampling schedule and requirements included in NMED's letter dated February 3, 2006 titled *Revised Sampling Schedule For Aeration Lagoon Effluent*. This revision is based on analytical data provided by Giant Refining Company, Ciniza Refinery (the Permittee). The attached table, titled *Giant Ciniza Refinery Sampling Schedule Resulting from the API Separator Spill*, dated May 12, 2006 (Revision 2) lists the revised sampling frequency and locations. The frequency of effluent sampling must now be conducted on a quarterly basis. Effluent sampling is no longer required at the Old API Separator, however; monthly flow rates of fluids pumped from the Old API Separator to the New API Separator must be recorded. The attached table shall replace the Table, Revision 1 dated February 1, 2006.

Additional flow measurements must be collected at the following locations: the Pilot Station Effluent (PSE) to Aeration lagoon 1 (AL-1), effluent from the New API Separator (NAPIS) to the benzene strippers, Boiler Water effluent discharge to Evaporation Pond 2, effluent discharge

Mr. Ed Riege  
Giant Ciniza Refining Company  
May 5, 2006  
Page 2 of 3

from Evaporation Pond 1 to Evaporation Pond 2 (EP1 to EP-2), and effluent from Aeration Lagoon 2 to Evaporation Pond 1 (AL-2 to EP-1). The flow rates shall be measured at the frequency required by the Oil Conservation Division (OCD). If OCD has not required a monitoring schedule to date, the flow rates shall be monitored on a monthly basis.

The Permittee shall submit the following information to NMED on a quarterly basis and presented as follows: in letter format reporting the results of quarterly effluent sampling, identify any Water Quality Control Commission (WQCC) Standards or Environmental Protection Agency Maximum Contamination Level (EPA MCL) exceedances. The Permittee shall provide monthly flow rates and calculated monthly flow volumes measured at the locations listed above. The Permittee shall describe how the flow rate readings were collected. The Permittee shall also provide all laboratory analytical results including quality assurance and quality control (QA/QC) data. The quarterly information shall be submitted to NMED within thirty (30) days of receipt of the associated final laboratory report. The Permittee must notify NMED verbally within three (3) calendar days if any contaminants are detected at concentrations that are determined to be characteristic hazardous waste except for the effluent discharged from the New API Separator.

If you have any questions regarding this letter, please call me at (505) 428-2545.

Sincerely,

Hope Monzeglio  
Project Leader  
Permits Management Program

HM

Attachment

cc: J. Kieling, NMED HWB  
D. Cobrain, NMED HWB  
W. Price, OCD  
C. Chavez, OCD  
D. Foust, OCD  
S. Morris, GRCC  
J. Lieb, GRCC  
J. Sanchez, GRCC

Mr. Ed Riege  
Giant Ciniza Refining Company  
May 5, 2006  
Page 3 of 3

File: Reading File and GRCC 2006

## Giant Ciniza Refinery Sampling Schedule Resulting From The API Separator Spill

Sampling Location	* Sampling Frequency	Analytical Suite	Comments and Additional Parameters
Effluent from AL-2 to EP-1	Quarterly	EPA Method 8260, EPA Method 8015B must include C <sub>6</sub> -C <sub>10</sub> and C <sub>10</sub> -C <sub>36</sub> carbon ranges, RCRA 8 Metals (totals)	Sampling frequency will be modified as needed by NMED
Effluent from Old API separator (storm water separator effluent)	Monthly flow rate measurements to New API Separator only	Collect monthly flow rate readings from the Old API to the New API Separator.	If effluent is re-routed to the aeration lagoons or any other location other than the New API Separator, NMED must be contacted and the sampling frequency and analytical suite will be established. As long as the effluent is re-routed to the New API Separator, monthly flow rates readings must be collected.
Effluent from Pilot Gas Station to the Aeration Lagoon	Quarterly	EPA method 8260, RCRA 8 Metals (totals); EPA Method 8015B must include C <sub>6</sub> -C <sub>10</sub> and C <sub>10</sub> -C <sub>36</sub> carbon ranges	Sampling frequency will be modified as needed by NMED
Effluent from New API separator	Quarterly	EPA method 8260, EPA Method 8015B must include C <sub>6</sub> -C <sub>10</sub> and C <sub>10</sub> -C <sub>36</sub> carbon ranges	Sampling frequency will be modified as needed by NMED
<p><b>*Note:</b> Monthly effluent samples from AL-2 to EP-1, the New API Separator (NAPIS), and the Pilot Gas Station (PSE) discharge must be collected on the same day and analyzed for EPA method 8260 and EPA Method 8015B (C<sub>6</sub>-C<sub>10</sub> and C<sub>10</sub>-C<sub>36</sub>).</p> <p>Quarterly sampling must begin in June. All data must be submitted to NMED on a quarterly basis no later than 30 days after receipt of the final laboratory report.</p>			

Table date: Revision 2-May 12, 2006.

**Chavez, Carl J, EMNRD**

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**From:** Jim Lieb [jlieb@giant.com]  
**Sent:** Monday, August 06, 2007 1:00 PM  
**To:** Chavez, Carl J, EMNRD  
**Cc:** Ed Riege  
**Subject:** Public Notice  
**Attachments:** \_0806125629\_001.pdf

Carl:

This is a copy of the public notice we had published in the Gallup Independent newspaper on Thursday August 2, 2007.

Jim

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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World in Brief

msfeld, others deny  
man cover-up

WASHINGTON (AP) —

# U.S., UK regulators fine British Airways \$550 million

By JILL LAWLESS  
Associated Press Writer

LONDON (AP) — British Airways PLC was fined almost

passenger fares from the United States to Korea.

It said both airlines had agreed to plead guilty in the United States to price fixing.

AG to fix charges for international cargo shipments.

The Justice Department said Virgin and Lufthansa would not face sanctions because they

January 2006 it colluded with Virgin Atlantic over the surcharges, which were added to fares in response to rising oil prices. Under the Office of Fair

Trade's business policy

Authorities in Britain and the United States have been investigating allegations of price-fixing on fuel surcharges since June 2006.

Between 2004 and 2006.

## AVISO AL PUBLICO

### GIANT REFINING COMPANY- CINIZA REFINERY

Por este medio notificamos que de acuerdo a la regulación (20.6.2.3106 NMAC) emitida por la Comisión de Control de Calidad de Aguas de Nuevo Méjico se ha sometido una solicitud de permiso de descargues al Director de la División de Conservación de Petróleos de Nuevo Méjico ("NMOCD" por sus siglas en ingles), 1220 S. Saint Francis Drive, Santa Fe, New Mexico 87505, Teléfono (505) 476-3440:

(Permito GW-032) Giant Refining Company, Ed Rios, Gerente de Refinería, Interestatal I-40, Salida 39, Jamestown, New Mexico 87347, ha sometido solicitud de renovación para la Refinería de Ciniza, localizada en Sección 28, Municipio 15 Norte, Ambito 15 Oeste, NMPM, McKinley County, a unas 17 millas al este de Gallup, New Mexico (al norte de la Interestatal I-40). La refinería procesa aguas residuales y las descarga en varias lagunas de evaporación en superficie. El volumen promedio de aguas residuales es de 100,000 a 140,000 galones al día. Algunos desperdicios (como aquellos contaminados con aceite) son tratados en suelo dentro de la refinería. El remanente de los desperdicios se envasa y se transporta a centros aprobados por la OCD donde se deshace o recicla. Las aguas que podrían contaminarse en caso de derrames o escapes están a una profundidad de 50 pies bajo tierra, con una concentración de sólidos en solución de 1,700 mg/L. El plan de descargue determina cómo manejar, almacenar y deshacerse de desperdicios y productos refinados de forma propia, incluye además cómo proteger las aguas dulces de derrames, escapes u otros descargues.

La NMOCD determinó que la solicitud sometida por Giant está completa y por consiguiente ha preparado un permiso preliminar. La NMOCD está dispuesta a recibir comentarios y creará un servicio de correo para aquellos interesados en conocer más sobre el asunto. Las personas interesadas en obtener más información o someter comentarios se pueden comunicar con Environmental Bureau Chief of the Oil Conservation Division a la dirección que se provee al comienzo de este anuncio. La solicitud completada y permiso preliminar están públicamente disponibles entre las horas de 8:00am a 4:00pm, de lunes a viernes, o se pueden adquirir en la página virtual de la NMOCD **HYPERLINK** "<http://www.emnrd.state.nm.us/ocd/>".

Para obtener más información sobre esta solicitud en espan?ol,

## NOTICE OF PUBLICATION GIANT REFINING COMPANY- CINIZA REFINERY

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations (20.6.2.3106 NMAC), the following discharge permit application has been submitted to the Director of the New Mexico Oil Conservation Division ("NMOCD"), 1220 S. Saint Francis Drive, Santa Fe, New Mexico 87505, Telephone (505) 476-3440:

(Permit GW-032) Giant Refining Company, Ed Rios, Refinery Manager, Interstate I-40, Exit 39, Jamestown, New Mexico 87347, has submitted a renewal application for the Ciniza Refinery located in Section 28, Township 15 North, Range 15 West, NMPM, McKinley County, about 17 miles east of Gallup, New Mexico (north side of Interstate I-40). The refinery treats wastewater and discharges into a series of surface evaporation ponds. The waste water volume averages 100,000 to 120,000 gallons per day. Some wastes (mostly oil-impacted soils) will be treated on-site in a land-treatment area. All other wastes generated will be temporarily stored in tanks or containers and shipped off site for disposal or recycling at an OCD approved site. Groundwater most likely to be affected by a spill, leak, or accidental discharge is at a depth of approximately 50 feet below the ground surface, with a total dissolved solids concentration of approximately 1,700 mg/L. The discharge plan addresses how refined products and wastes will be properly handled, stored, and disposed of, including how spills, leaks, and other accidental discharges to the surface will be managed in order to protect fresh water.

NMOCD has deemed Giant's application administratively complete and prepared a draft permit. NMOCD is accepting comments and will create a facility-specific mailing list for persons who wish to receive future notices. To obtain further information or submit comments, interested persons may contact the Environmental Bureau Chief of the

AUG-02-07

08:38AM

FROM: Gallup Independent

5057225750

T-878

P. 002/002

F-691

**GIANT**

Giant Refining Company  
Route 3, Box 7  
Gallup, NM 87301

August 17, 2006

Mr. Carl J. Chavez  
Environmental Engineer  
Oil Conservation Division  
State of New Mexico  
1220 South St. Francis Drive  
Santa Fe, NM 87505

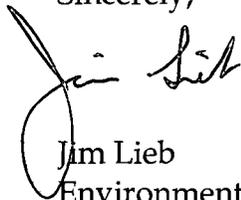
Ms. Hope Monzeglio  
Environmental Specialist  
New Mexico Environment Department  
Hazardous Waste Bureau  
2905 Rodeo Park Drive East, BLDG 1  
Santa Fe NM 87505

Dear Mr. Chavez and Ms. Monzeglio:

Giant Refining - Ciniza Refinery's waste water engineering consultant Hubel, Roth, and Clark, Inc. has prepared binders containing information on the flow meters and flumes that Giant is planning to install at the refinery for the BOD/Phenol treatment study. These binders are strictly for informational purposes and in no way are intended as a commitment for Giant to purchase any particular piece or all of the portrayed equipment.

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

Sincerely,



Jim Lieb  
Environmental Engineer  
Giant Refining - Ciniza Refinery

**GIANT**

Giant Refining Company  
Route 3, Box 7  
Gallup, NM 87301

January 20, 2007

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

**Sent By Certified Return Receipt Mail No. 7005 3110 0003 9066 6535**

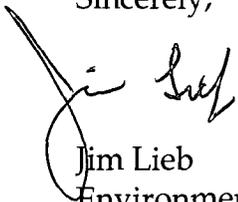
**RE: Giant Refining - Ciniza Refinery Application for Permit Renewal (Source No. GW-032)**

Dear Carl:

Enclosed is an application for renewal of the OCD Discharge permit for Giant Refining - Ciniza Refinery. Included with the application is a check for the \$100 application filing fee.

If you have any questions regarding the permit renewal application, please feel free to contact me at (505) 722-0227 or at [jlieb@giant.com](mailto:jlieb@giant.com).

Sincerely,



Jim Lieb  
Environmental Engineer

\Enclosure: Permit Renewal Application

\Cc: Letter only

Ed Rios  
Ed Riege  
Steve Morris  
Wayne Price, OCD  
Brandon Powell, OCD - Aztec Office  
Application Copy - Hope Monzeglio, NMED

ACKNOWLEDGEMENT OF RECEIPT  
OF CHECK/CASH

RCD: 2/1/07

cc

I hereby acknowledge receipt of check No. [redacted] dated 12/21/06

or cash received on \_\_\_\_\_ in the amount of \$ 100<sup>00</sup>

from Giant Industries Inc.

for GW-032

Submitted by: Lawrence Romeo Date: 2/2/07

Submitted to ASD by: Lawrence Romeo Date: 2/2/07

Received in ASD by: \_\_\_\_\_ Date: \_\_\_\_\_

Filing Fee \_\_\_\_\_ New Facility \_\_\_\_\_ Renewal

Modification \_\_\_\_\_ Other \_\_\_\_\_

Organization Code 521.07 Applicable FY 2004

To be deposited in the Water Quality Management Fund.

Full Payment \_\_\_\_\_ or Annual Increment \_\_\_\_\_

**GIANT INDUSTRIES, INC.** 1-89  
**DBA GIANT REFINING COMPANY**  
RT. 3, BOX 7  
GALLUP, NM 87301

Bank of America  
ACH R/T 107000327

95-32/1070-NM  
9664

12/21/2006

PAY TO THE ORDER OF Water Management Fund

\$ \*\*100.00

One Hundred and 00/100 \*\*\*\*\* DOLLARS

FOR Water Management Fund  
Oil Conservation Division  
1220 South St.  
Francis Drive  
Santa Fe, NM 87505  
OCD Discharge Plan Renewal Fee

GW-032

**GIANT**

Giant Refining Company  
Route 3, Box 7  
Gallup, NM 87301

January 20, 2007

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

**Sent By Certified Return Receipt Mail No. 7005 3110 0003 9066 6535**

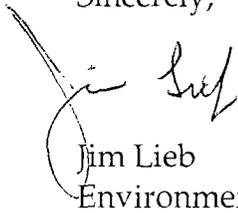
**RE: Giant Refining - Ciniza Refinery Application for Permit Renewal (Source No. GW-032)**

Dear Carl:

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If you have any questions regarding the permit renewal application, please feel free to contact me at (505) 722-0227 or at [jl Lieb@giant.com](mailto:jl Lieb@giant.com).

Sincerely,



Jim Lieb  
Environmental Engineer

\Enclosure: Permit Renewal Application

\Cc: Letter only

Ed Rios  
Ed Riege  
Steve Morris  
Wayne Price, OCD  
Brandon Powell, OCD - Aztec Office  
Application Copy - Hope Monzeglio, NMED



BILL RICHARDSON  
GOVERNOR

State of New Mexico  
**ENVIRONMENT DEPARTMENT**  
Hazardous Waste Bureau  
2905 Rodeo Park Drive East, Building 1  
Santa Fe, New Mexico 87505-6303  
Telephone (505) 428-2500  
Fax (505) 428-2567  
www.nmenv.state.nm.us

RECEIVED



AUG 14 2006  
Oil Conservation Division  
1220 S. St. Francis Drive  
Santa Fe, NM 87505  
SECRETARY

**CERTIFIED MAIL – RETURN RECEIPT REQUESTED**

August 14, 2006

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

**RE: REFINERY SEWER LINE DYE TRACE STUDY 2006  
GIANT REFINING COMPANY, CINIZA REFINERY  
EPA ID# NMD000333211  
HWB-GRCC-06-002**

Dear Mr. Riege

The New Mexico Environment Department (NMED) has completed its review of Giant Refining Company's Ciniza Refinery (Permittee) *Dye Trace Study 2006* Report, dated June 19, 2006. The Permittee concludes in the Report that no cross-connects were found between the process sewer and the storm sewer systems and that non-stormwater flow to the Old API Separator (OAPIS) is not a result of sub-surface piping cross-connections within the refinery.

The Permittee has not adequately demonstrated to NMED the source (or leak) of non-stormwater flow to the OAPIS. During a dry period consisting of approximately six months, prior to May 2006, the OAPIS was receiving water that was deemed hazardous. The following points identify areas of concern within the study.

- a. The dye study was conducted during a facility turnaround, which introduces a variety of different variables (e.g., low wastewater discharge conditions) that can yield different results than if the dye study was conducted when the facility was operating at full capacity with all units operating and water constantly flowing through the sewer systems.

Mr. Riege  
August 14, 2006  
Page 3 of 3

during the dry period. The Permittee must explain how the non-contact cooling water and heat exchanger back-flush flows and process water will be distinguished from one another and identify the sources of the other continuous flows observed in the OAPIS in the past year.

- g. It is unclear from the Figures provided in the Report where the process sewer system is in relation to the stormwater/non-process wastewater sewer system. An overlay map showing the two sewer systems would be beneficial. (e.g. it is not clear where MH17 in Figure 2 would appear in Figure 1)
- h. The Permittee must complete the last sentence found on page four of the cover letter titled *Sewer Training Outline*. The sentence ends with "and that."

The Permittee has not yet identified the source(s) of water observed in the storm sewer system during the long dry period that preceded the dye trace study and is still responsible for determining the source of process water entering the stormwater/non-process wastewater system and the OAPIS. The presence of contamination must be resolved before the stormwater can be routed to an alternate location. All responses to this letter must be submitted to NMED on or before September 11, 2006.

If you have any questions regarding this letter, please contact me at (505) 428-2545.

Sincerely,



Hope Monzeglio  
Project Leader  
Permits Management Program

HM

cc: J. Kieling, NMED HWB  
D. Cobrain, NMED HWB  
W. Price, OCD  
J. Lieb, GRCC  
S. Morris, GRCC

File: GRCC 2006 and Reading  
GRCC-HWB-06-002

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

2006 AUG 15 Release Notification and Corrective Action

OPERATOR

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

NATURE OF RELEASE

Type of Release Domestic Sewage/Water	Volume of Release 50 gallons	Volume Recovered 45 gallons
Source of Release: Pilot Travel Center sewage transfer pipe.	Date and Hour of Occurrence 8/8/06 1030 hrs. (Approx.)	Date and Hour of Discovery 8/8/06 1130 hrs.
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? Stephen C. Morris	Date and Hour 8/8/06 1300 hrs.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse. NA	
If a Watercourse was Impacted, Describe Fully.* NA		
Describe Cause of Problem and Remedial Action Taken.* A small amount of sewer water was observed in a depression where the crane had driven. The crane had apparently ruptured the pipe from the Pilot Travel Center that transfers domestic sewage to Aeration Lagoon #1. At 1200hrs, the bypass valve was opened in to pond #9. This allowed the maintenance department to do necessary repairs with a minimal release of sewage. The bypass valve at pond #9 was closed at 1515 hrs. the same day. The amount of Travel Center effluent routed to pond #9 is estimated to be no more than 1400 gallons.		
Describe Area Affected and Cleanup Action Taken.* As the back hoe operator removed soil above the broken pipe, the vacuum truck removed the water, again to minimize any release. The soil that was removed in order to make the repairs, was returned to the hole. Barrier posts will be installed as soon as possible to prevent this from happening again. The liquid that flowed into pond # 9 was treated with chlorine as was the soil at the excavation where repairs were made to the pipe.		
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: <i>Stephen C. Morris</i>	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: <i>Stephen C. Morris</i>	Approved by District Supervisor:	
Title: <i>ENV. ENGINEER</i>	Approval Date:	Expiration Date:
E-mail Address: <i>smorris@giant.com</i>	Conditions of Approval:	Attached <input type="checkbox"/>
Date: <i>8-14-06</i> Phone: <i>505 722 3833</i>		

\* Attach Additional Sheets If Necessary

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

2006 AUG 15 PM 1 32

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.	Lease No.

**LOCATION OF RELEASE**

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

**NATURE OF RELEASE**

Type of Release Domestic Sewage/Water	Volume of Release 50 gallons	Volume Recovered 45 gallons
Source of Release: Pilot Travel Center sewage transfer pipe.	Date and Hour of Occurrence 8/8/06 1030 hrs. (Approx.)	Date and Hour of Discovery 8/8/06 1130 hrs.
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? Stephen C. Morris	Date and Hour 8/8/06 1300 hrs.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse. NA	

If a Watercourse was Impacted, Describe Fully.\*  
NA

Describe Cause of Problem and Remedial Action Taken.\* A small amount of sewer water was observed in a depression where the crane had driven. The crane had apparently ruptured the pipe from the Pilot Travel Center that transfers domestic sewage to Aeration Lagoon #1. At 1200hrs, the bypass valve was opened in to pond #9. This allowed the maintenance department to do necessary repairs with a minimal release of sewage. The bypass valve at pond #9 was closed at 1515 hrs. the same day. The amount of Travel Center effluent routed to pond #9 is estimated to be no more than 1400 gallons.

Describe Area Affected and Cleanup Action Taken.\*  
As the back hoe operator removed soil above the broken pipe, the vacuum truck removed the water, again to minimize any release. The soil that was removed in order to make the repairs, was returned to the hole. Barrier posts will be installed as soon as possible to prevent this from happening again. The liquid that flowed into pond # 9 was treated with chlorine as was the soil at the excavation where repairs were made to the pipe.

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.

<b>OIL CONSERVATION DIVISION</b>	
Signature: <i>Stephen C. Morris</i>	Approved by District Supervisor:
Printed Name: <i>Stephen C. Morris</i>	Approval Date: _____ Expiration Date: _____
Title: <i>EXU, ENGINEER</i>	Conditions of Approval: _____ Attached <input type="checkbox"/>
E-mail Address: <i>s.morris@giant.com</i>	
Date: <i>8-14-06</i> Phone: <i>505 722 3833</i>	

\* Attach Additional Sheets If Necessary

**Chavez, Carl J, EMNRD**

---

**From:** Steve Morris [smorris@giant.com]  
**Sent:** Tuesday, August 15, 2006 3:15 PM  
**To:** Chavez, Carl J, EMNRD  
**Subject:** RE: Release Notification

Carl,  
I attached a map with a black X at the exact spot where the leak in the Pilot effluent line occurred.  
It was located at the corner of the road near pond #5.  
I mailed the C-141 on this to you and Brandon Powell in Aztec yesterday Monday the 14<sup>th</sup> of August.  
On the report, 50 gallons occurred in the hole where the line was dug up. Of that, 45 gallons were vacuumed up as it occurred.  
To my knowledge, there were no chemicals of concern, only trace amounts of normal travel center effluent material.  
There were no natural resources impacted, as the line was depressured before being dug up for repairs.  
There were no injuries, and the area was treated with chlorine as a precaution against exposure to bio-hazards.  
The release was stopped before excavation began by depressuring the line. That occurred at 1200hrs. when the flow was diverted to pond #9.  
Pond #9 is where Pilot effluent is routed when there is an emergency situation such as this leak.  
The effluent liquid was also treated with chlorine as it entered pond #9.  
The volume of liquid that was bypassed in to pond #9 was no more than 1400 gallons.  
Let me know if you have any other questions or concerns.  
Thanks,  
Steve

---

**From:** Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]  
**Sent:** Tuesday, August 08, 2006 2:58 PM  
**To:** Steve Morris  
**Cc:** Price, Wayne, EMNRD  
**Subject:** Release Notification

Steve:

I am in receipt of your release notification today about the pilot station effluent line to aeration lagoon #1 that was noticed at noon and reported to the OCD at about 1:30 p.m. today.

Where is the exact location of release if known? What is the estimated volume of release? What are the chemicals of concern? Were any natural resources (i.e.; ground water, surface water, etc.) impacted? Were there any injuries? Has the release been stopped or is it ongoing? Seems like you stopped or repaired the leakage and have re-routed the untreated effluent from the pilot station effluent into Pond #9. I believe Pond #9 is the emergency sanitary sewer retention pond right?

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/>

8/15/2006

(Pollution Prevention Guidance is under "Publications")

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OCD can be lead. NMED has letter - but. Gramit demonstrated capped water out of  
OCD wait for NMED letter & OCD will  
dryd letter.  
OARIS - SMD  
NARIS -

2:30 pm

Navig - Ardenia

8/10/06

NMED & OCD Conf. Call

POTW - cts of arsenic with water from refinery  
2 injection wells

Dwell size POTW not heard - same stuff non-heard

2001 - cts to dandy - do POTW & meet water well  
qualified for exemption

.HWB - did inspection.

POTW located N of NP-7 & Edge Drive.

Oct permit 2006 - Continue Section H.

- NMED is work for S. plant

permt - Inter investigation. Covered to  
- DP.

- Send Notif. of volume from Gist to NMED.

PSE - NMED not interested.

- PNM proposal - Navig WP - 8/31/06 to NMED  
plot & insert 3 mil ditch.  
Copy OCD.

Ciniza - Dye Test Study

Src. of water into OARIS. Non contact bro.

flow rate: ~ 25000 galls/wks (2.5 gpm.)

non contact bro does not mix w/ petroleum

Camera up Sewer line? Dye test after Turn around.

- OARIS -> Aera Lagoon

**Chavez, Carl J, EMNRD**

---

**From:** Chavez, Carl J, EMNRD  
**Sent:** Tuesday, August 08, 2006 4:12 PM  
**To:** Steve Morris  
**Cc:** Price, Wayne, EMNRD  
**Subject:** FW: Release Notification

Steve:

As a follow-up to our telephone conversation at around 3:45 p.m. today, and according to Wayne Price, Giant should always complete a C-141 Form and submit it to the OCD when releases occur.

Since the Pilot Station Effluent is biological in nature, and the release flowing via overland flow between the ponds and via drainage depression features, Giant should immediately pump any standing water in depression areas; turn up the impacted soils and apply chlorine to the contaminated soils to eliminate pathogens and the future potential for rainfall to move pathogens around the site during stormwater events.

Please respond to our recommendations for corrective measures based on the nature of this release. 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  
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**From:** Chavez, Carl J, EMNRD  
**Sent:** Tuesday, August 08, 2006 2:58 PM  
**To:** Steve Morris  
**Cc:** Price, Wayne, EMNRD  
**Subject:** Release Notification

Steve:

I am in receipt of your release notification today about the pilot station effluent line to aeration lagoon #1 that was noticed at noon and reported to the OCD at about 1:30 p.m. today.

Where is the exact location of release if known? Toward Pond #9, bottom of hill, right turn, up along Ponds 3-6 and fire water pond, and 90 day storage area, at base of hill by corner near Pond 9, at corner. What is the estimated volume of release? ~1400 gallons hit w/ powdered chlorine going into Pond 9. What are the chemicals of concern? Biological concerns due to sanitary effluent, Methyl phenol, ultra low concentrations of benzene, xylenes, and barium. Were any natural resources (i.e.; ground water, surface water, etc.) impacted? Surface drainage pond areas. Were there any injuries? None reported. Has the release been stopped or is it ongoing? At 3:15 p.m. the line was fixed and re-routed back to AL1. Seems like you stopped or repaired the leakage and have re-routed the untreated effluent from the pilot station effluent into Pond #9. Pond #9 is the emergency sanitary sewer retention pond. What caused the release? The crane drove over the Pilot Station Effluent line on the way to replace the fire water pump at pond 2 used for fire emergencies.

Thanks.

Carl J. Chavez, CHMM  
New Mexico Energy, Minerals & Natural Resources Dept.  
Oil Conservation Division, Environmental Bureau

8/8/2006

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/>

(Pollution Prevention Guidance is under "Publications")

**Chavez, Carl J, EMNRD**

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Thanks.

Carl J. Chavez, CHMM  
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(Pollution Prevention Guidance is under "Publications")

## Chavez, Carl J, EMNRD

---

**From:** Chavez, Carl J, EMNRD  
**Sent:** Friday, August 04, 2006 3:31 PM  
**To:** 'Jim Lieb'; Ed Riege; Steve Morris; Johnny Sanchez  
**Cc:** Price, Wayne, EMNRD; Powell, Brandon, EMNRD; Monzeglio, Hope, NMENV; Cobrain, Dave, NMENV  
**Subject:** Water Treatment System Study Conference Call August 3, 2006

Jim:

Please find below OCD comments stemming from yesterday's telephone conference call related to the above subject. Giant requested to discharge non-contact water used in refinery operations into the stormwater system.

### Wastewater Treatment System Study:

1) The OCD regards non-contact water that is run through refinery systems to be "process water;" therefore, the OCD cannot approve Giant's request to discharge non-contact water into the OAPIS and/or fire water pond. Giant will need to re-route non-contact water into a process drain(s) with contact water instead of a stormwater drain(s) with non-contact water. The discharge plan permit also supports this requirement.

During the conference call, the OCD and NMED discovered that non-contact water run through refinery systems has been discharging into the OAPIS, which will eventually be decommissioned. Furthermore, Giant is requesting to route non-contact water to the proposed fire water or evaporation pond, once the OAPIS is decommissioned.

2) The OCD requires that monthly phenol (total) monitoring at a minimum be implemented by Giant at influent and effluent locations to AL1 starting this month in order to begin assessing the existing treatment system efficiency under normal operation and flow conditions. The OCD and NMED have discussed this with Giant in previous meetings.

During the conference call, the OCD and NMED were informed that there would be a delay in the Refinery Treatment System Study until Giant could send the state agencies a completed engineering design plan (plan) for the study, including the number, type, location and installation of flow meters for the study and for future monitoring and assessment of the treatment system. The plan is scheduled for receipt in mid September of 2006 and the agencies anticipate completion of the study in February or March of 2006.

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  
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Website: <http://www.emnrd.state.nm.us/ocd/>  
(Pollution Prevention Guidance is under "Publications")

**Chavez, Carl J, EMNRD**

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**From:** Chavez, Carl J, EMNRD  
**Sent:** Friday, August 04, 2006 3:02 PM  
**To:** Monzeglio, Hope, NMENV  
**Cc:** Cobrain, Dave, NMENV; Price, Wayne, EMNRD  
**Subject:** Ciniza Refinery Dye Trace Study 2006 (June 19, 2006) & Letter dated June 22, 2006

Hope:

Pursuant to our telephone conference call yesterday with Giant to discuss flow meters for the upcoming waste water treatment study, etc., and where the Dye Trace Study was discussed in brief. The OCD is in general agreement with Giant's June 22, 2006 letter and study with the provisions provided below.

Please find the OCD's comments on the Dye Trace Study for your consideration along with some Wastewater Treatment System Study comments stemming from yesterday's telephone conference call. Based on the call, it appeared to OCD that NMED is planning to formally reply to the Dye Trace Study report. The OCD Bureau Chief would like one letter under joint signature of the NMED and OCD to be sent to Giant related to the Dye Trace Study due to the associated surface and groundwater quality issues. Please let me know if NMED disagrees with this. The Wastewater section is for your information based on yesterday's conference call.

Dye Trace Study:

1) Giant is planning to plug storm sewer drains (non-contact water) #8, 12, 33, 46, 47, 64 & 77. The OCD is concerned that if a stormwater drain is plugged where there is no process water drain, then there could be drainage problems and possible NPDES stormwater related violations. There may locations where all drainage is prevented with overland flow conditions could result in commingling of stormwater with process water. The OCD could approve plugging storm water drains where there is a process water drain that will facilitate drainage in an area, but would not condone the plugging of a process (contact) water drain where there is either a storm drain or no drainage at all present. Drainage needs to be present and in the vicinity of process areas, process water drains are preferred to stormwater drains.

The OCD observes that Giant is proposing to install a lip around storm drains where there is a potential for cross contamination from proximally located process water drains. It appears where process and non-process water drains are proximal to each other, and there is a concern about cross-contamination, the lip is elevated to prevent drainage into the storm drain and promote drainage into a process drain. However, it would seem possible for cross-contaminated process and non-process water to commingle. Clarification of this is needed to support the claim by Giant that the lip around storm drains will prevent cross-contamination from occurring. The OCD would prefer process drains to handle contamination and stormwater rather than stormwater drains accepting contaminated water from process areas.

2) Giant is planning to unplug plugged stormwater drains, i.e; #5, 11, 31, 38, 39 & 73, unless they are permanently plugged for a legitimate purpose. See item #1 above. The OCD strongly agrees with Giant's plans to unplug stormwater drains if Giant can prevent process water from impacting stormwater non-process water drains at the facility. Again, process water drains are preferred to storm drains in any refinery process area.

3) OCD notices that a stormwater line (#77) and MH-12 could not be found during the field survey. We are concerned about potentially damaged lines, and the fact that these drainage features are an integral part of the stormwater system. Giant needs to check the flow through all lines leading to missing drainage features to find them, assess their integrity and/or to reconstruct them to provide the intended drainage.

4) The legend in Figure 1 of the Dye Trace Study did not define the following acronyms: CB, DHT, T and Q. Also, it is difficult based on the diagrams provided in the report to compare process with non-process water drains. The OCD recommends that Giant provide this diagram in order to better assess where process drains are proximal to non-process water drains.

Wastewater Treatment System Study:

1) During the conference call, the OCD and NMED discovered that non-contact water run through refinery systems have been discharging into the OAPIS, which will eventually be decommissioned. Furthermore, Giant is considering routing non-contact water to the proposed fire water or evaporation pond. The OCD regards non-contact water that is run through refinery systems to be "process water." Therefore, the OCD cannot approve Giant's request to discharge non-contact water into the OAPIS and/or fire

8/4/2006

water pond.

2) During the conference call, the OCD and NMED was informed that there would be a delay in the Refinery Treatment System Study until Giant could send the state agencies a completed engineering design plan (plan) for the study, including the number, type, location and installation of flow meters for the study and for future monitoring and assessment of the treatment system. The plan is scheduled for receipt in mid September of 2006 and the agencies anticipate completion of the study in February or March of 2006. The OCD recommends monthly phenol (total) monitoring implemented by Giant at influent and effluent locations from AL1 to begin assessing the treatment capability of the treatment system under naturally operating flow conditions.

Please confirm whether NMED agrees to one letter under joint signature or provide another preferred option. 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  
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8/7/06

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Non-Contract ...  
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CCPIS Contract:

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**Sent:** Thursday, July 20, 2006 10:14 AM  
**To:** Powell, Richard, NMENV  
**Cc:** Price, Wayne, EMNRD  
**Subject:** FW: Ciniza SPCC Plan Revision/Amendment

Richard:

Hi. Do you have any thoughts on this, since it pertains to Giant's SPCC and NM oil pollution prevention requirements? Does Giant need a NM PE to sign-off or would a TX PE work? Thnx.

Carl J. Chavez, CHMM  
New Mexico Energy, Minerals & Natural Resources Dept.  
Oil Conservation Division, Environmental Bureau  
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Website: <http://www.emnrd.state.nm.us/ocd/>  
(Pollution Prevention Guidance is under "Publications")

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**From:** Jim Lieb [<mailto:jlieb@giant.com>]  
**Sent:** Thursday, July 20, 2006 9:23 AM  
**To:** Chavez, Carl J, EMNRD  
**Cc:** Ed Riege  
**Subject:** Ciniza SPCC Plan Revision/Amendment

Carl:

We are revising/amending our SPCC Plan to ensure it meets all the 40 CFR and State of NM oil pollution prevention requirements and includes all the recent relevant improvements here at the refinery. Do you know if the State of NM requires a NM registered PE to certify our Plan? We have a PE here but he is only registered in Texas.

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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**Chavez, Carl J, EMNRD**

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**From:** Jim Lieb [jlieb@giant.com]  
**Sent:** Thursday, July 20, 2006 2:14 PM  
**To:** Powell, Richard, NMENV; Chavez, Carl J, EMNRD  
**Subject:** RE: Ciniza SPCC Plan Revision/Amendment

Carl and Richard:

The State Board told me that if the SPCC Plan contains engineering plans then it would need to be certified by a NM-registered PE. Since our plan contains engineering plans it looks as though we will need to arrange for a NM-registered PE to certify/sign it. I appreciate your help in resolving this question.

-Jim Lieb

---

**From:** Powell, Richard, NMENV [mailto:richard.powell@state.nm.us]  
**Sent:** Thursday, July 20, 2006 12:41 PM  
**To:** Chavez, Carl J, EMNRD; Jim Lieb  
**Subject:** RE: Ciniza SPCC Plan Revision/Amendment

No, I mean the State Board of Licensure for Professional Engineers and Surveyors

Phone 505-827-7561

---

**From:** Chavez, Carl J, EMNRD  
**Sent:** Thursday, July 20, 2006 1:33 PM  
**To:** Jim Lieb  
**Cc:** Powell, Richard, NMENV  
**Subject:** FW: Ciniza SPCC Plan Revision/Amendment

I believe Richard is referring to the Environmental Improvement Board (EIB) right Richard? Do you have a contact phone number? 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  
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E-mail: [CarlJ.Chavez@state.nm.us](mailto:CarlJ.Chavez@state.nm.us)  
Website: <http://www.emnrd.state.nm.us/ocd/>  
(Pollution Prevention Guidance is under "Publications")

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**From:** Powell, Richard, NMENV  
**Sent:** Thursday, July 20, 2006 11:56 AM  
**To:** Chavez, Carl J, EMNRD  
**Cc:** Price, Wayne, EMNRD  
**Subject:** RE: Ciniza SPCC Plan Revision/Amendment

SPCC requires that the Plan be signed/certified by a P.E. (see 40 CFR Part 112.3(d)) but does not require that the P.E. be licensed in the state. Unfortunately, I don't know whether NM allows a non-NM registered P.E. to stamp documents for NM facilities. You will probably have to contact the Board.

---

**From:** Chavez, Carl J, EMNRD

7/21/2006

**Chavez, Carl J, EMNRD**

**From:** Jim Lieb [jlieb@giant.com]  
**Sent:** Thursday, July 20, 2006 10:00 AM  
**To:** sluke@bird-x.com  
**Cc:** Chavez, Carl J, EMNRD; Steve Morris  
**Subject:** FW: Evaporation Ponds

Scott:

Could you give Josh Rector a call at the number provided below. The New Mexico Oil Conservation Division wants us to check with the NM G&F Dept. about the sonic bird repeller your company provides. Let me know how it goes. The only birds I have seen around our ponds are Avocets and some little tiny ducks, don't know what species it is.

Thank you,

Jim Lieb  
 Giant Refining  
 505-722-0227  
 jlieb@giant.com

---

**From:** Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]  
**Sent:** Thursday, July 20, 2006 8:40 AM  
**To:** Jim Lieb  
**Subject:** RE: Evaporation Ponds

Our Engineering Bureau (William Jones) referred me to Josh Rector at 505-476-8047 with NM Game & Fish Dept. Let us know if the species and your recommended product is feasible. 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  
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 Website: <http://www.emnrd.state.nm.us/ocd/>  
 (Pollution Prevention Guidance is under "Publications")

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**From:** Jim Lieb [mailto:jlieb@giant.com]  
**Sent:** Thursday, July 20, 2006 7:26 AM  
**To:** Chavez, Carl J, EMNRD  
**Subject:** RE: Evaporation Ponds

Carl:

I will contact the NM FWS. Do you know anyone in particular I should discuss this with?

Jim Lieb

---

**From:** Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]  
**Sent:** Tuesday, July 18, 2006 12:15 PM  
**To:** Price, Wayne, EMNRD; Powell, Brandon, EMNRD; Monzeglio, Hope, NMENV; Cobrain, Dave, NMENV  
**Cc:** Jim Lieb  
**Subject:** FW: Evaporation Ponds

7/21/2006

Seems like the BirdXPeller is specific to certain bird species and if it were used in lieu of net, the NM Game, Fish & Wildlife should be contacted to determine the bird species of concern in the area of the Ciniza Refinery. Any thought about this proposal?  
Thanks.

Carl J. Chavez, CHMM  
New Mexico Energy, Minerals & Natural Resources Dept.  
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(Pollution Prevention Guidance is under "Publications")

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**From:** Jim Lieb [mailto:[jl Lieb@giant.com](mailto:jl Lieb@giant.com)]  
**Sent:** Tuesday, July 18, 2006 11:47 AM  
**To:** Chavez, Carl J, EMNRD  
**Cc:** Ed Riege; Ed Rios; Steve Morris  
**Subject:** Evaporation Ponds

### Daily Ponds 1 and 2 Inspection and Bird Repellent Proposal to OCD

In regards to keeping birds and other wildlife from our ponds we would like to propose as an alternative to netting or flagging, a combination of daily inspections and sonic bird repeller devices.

The netting of the ponds is just not feasible due to the size of the ponds. Flagging is not an effective exclusion method according to the USFWS website. Evaporation pond 1 is approximately 200 feet in diameter and pond 2 is approximately 600 feet in diameter. Based on photos in the USFWS web site it looks as though the production pits typically netted are less than 100 feet across. As Denny Faust had earlier suggested, sagging due to icing would be a major problem in winter. Also, setting the required number of support posts at the recommended spacing pattern for netting would be next to impossible given the size of the ponds. To effectively set the posts would require draining the ponds for safe access. Muck at the bottom of the ponds would render working conditions unsafe and almost impassable for vehicles. Given the wet conditions recently they likely would not dry out sufficiently in any reasonable amount of time.

Steve Morris has been with Giant for 12 years. He makes regular inspections and performs daily work around the ponds. He has never encountered any dead or distressed bird life or other wildlife in the lagoons and ponds area.

We would like to propose daily inspections of the Ponds 1 and 2 as an alternative to netting or flagging. Also, Giant would install sonic bird repeller device(s) in the area of Pond 1 and 2. The inspections would consist of drive by on the berms and near the shorelines. The shores of Pond 1 and 2 would also be walked observing for distressed wildlife. The inspections would be documented and records kept on site.

Bird-X manufactures several sonic bird repeller devices that are suitable for the ponds. Bird-X recommends the Super BirdXPeller Pro sonic bird repeller. It can reproduce the calls of several predatory bird species. It also uses bird distress calls. For variation, it alternates the calls so that the target bird species do not become acclimated. This device covers up to 6 acres and should work fine for the area surrounding Ponds 1 and 2. I have attached information from Bird-X on these products. I personally have seen how effective these bird repeller devices work at blueberry farms in Michigan.

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

Sincerely,

7/21/2006

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)

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**Chavez, Carl J, EMNRD**

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**Sent:** Tuesday, July 18, 2006 11:47 AM  
**To:** Chavez, Carl J, EMNRD  
**Cc:** Ed Riege; Ed Rios; Steve Morris  
**Subject:** Evaporation Ponds

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The netting of the ponds is just not feasible due to the size of the ponds. Flagging is not an effective exclusion method according to the USFWS website. Evaporation pond 1 is approximately 200 feet in diameter and pond 2 is approximately 600 feet in diameter. Based on photos in the USFWS web site it looks as though the production pits typically netted are less than 100 feet across. As Denny Faust had earlier suggested, sagging due to icing would be a major problem in winter. Also, setting the required number of support posts at the recommended spacing pattern for netting would be next to impossible given the size of the ponds. To effectively set the posts would require draining the ponds for safe access. Muck at the bottom of the ponds would render working conditions unsafe and almost impassable for vehicles. Given the wet conditions recently they likely would not dry out sufficiently in any reasonable amount of time.

Steve Morris has been with Giant for 12 years. He makes regular inspections and performs daily work around the ponds. He has never encountered any dead or distressed bird life or other wildlife in the lagoons and ponds area.

We would like to propose daily inspections of the Ponds 1 and 2 as an alternative to netting or flagging. Also, Giant would install sonic bird repeller device(s) in the area of Pond 1 and 2. The inspections would consist of drive by on the berms and near the shorelines. The shores of Pond 1 and 2 would also be walked observing for distressed wildlife. The inspections would be documented and records kept on site.

Bird-X manufactures several sonic bird repeller devices that are suitable for the ponds. Bird-X recommends the Super BirdXPeller Pro sonic bird repeller. It can reproduce the calls of several predatory bird species. It also uses bird distress calls. For variation, it alternates the calls so that the target bird species do not become acclimated. This device covers up to 6 acres and should work fine for the area surrounding Ponds 1 and 2. I have attached information from Bird-X on these products. I personally have seen how effective these bird repeller devices work at blueberry farms in Michigan.

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

Sincerely,

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)

7/18/2006

The Bird Control "X-ports"



Sonic Bird Repellers Since 1964

- \*Environmentally Safe
- \*Low Cost Bird Repellers
- \*Harmless to Birds
- \*Easy to Install Repellers

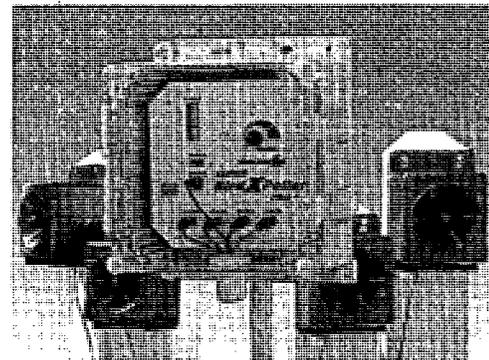
	<a href="#">Who We Are</a>	<a href="#">Products</a>	<a href="#">Applications</a>	<a href="#">References</a>	<a href="#">Bird-X on Espanol</a>
	<a href="#">Contact Us</a>	<a href="#">Order</a>	<a href="#">Specials</a>	<a href="#">F.A.Q.</a>	<a href="#">Bird-X in the News</a>

**Sonic Bird Control Repellers Since 1964.**  
**Repelling birds is our business.**

**Super BirdXPeller PRO sonic bird repeller drives pest birds away.**

**Programmable species-specific sonic bird repeller**  
 The new sonic bird repeller from Bird-X uses birds' own distress calls to create a "danger zone" - it scares bird pests away for good and covers up to 6 acres (2.4 hectares)! Predator cries help scare all the birds.

**Actual Distress Cries** Choose any or all of 8 sounds, including predators to give the birds even more of a sense of danger. Then customize by choosing volume, silent time between sounds and hours of operation.



**FREE**

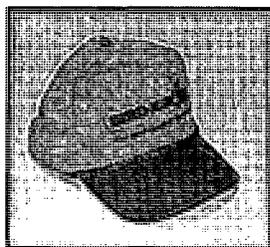
-  [Evaluation of your bird control problem](#)
-  [RFQ for a bird control solution](#)
-  [Shipping Quote on a bird control product\(s\)](#)



**Seagull**



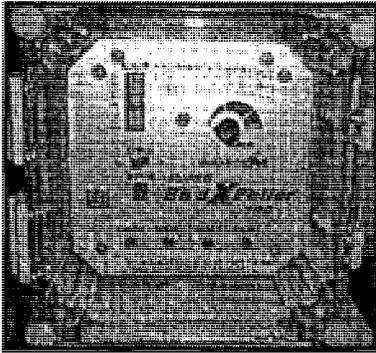
**Starling**



**Two Super BirdXPeller PRO models for your needs:**

- 110vAC SBXP-PRO 1 \$575** (repel pigeons, starlings, sparrows, gulls and woodpeckers)
- 110vAC SBXP-PRO 2 \$575** (repel crows, blackbirds, grackles, cormorants and ravens)

**Harmless.**



Super BirdXPeller PRO sonic bird repeller uses natural sounds to chase away the birds, but it doesn't harm them.

**Special price \$550** each for six or more units, any combination (PRO 1s and PRO 2s)

**For 220vAC add \$20 per unit**

**Solar Power Panel** (to constantly recharge the 12v battery) **\$250**

**Easy Operation.** Use with standard 110vAC electricity (adapter included) or purchase a 12vDC deep cycle marine type battery instead. A solar power panel is available for use with a battery.

**Heavy-duty.** Control box, with controls, plus four powerful directional speakers. Also included: AC adaptor, DC battery cables, and complete instructions.

**Coverage.** Up to 6 acres (2.4 hectares) at full volume.

**NOTE:** All bird control methods prove more effective when different types of products are used in combination. Bird-X offers the widest selection of these bird repellent products anywhere, including light and sound bird repellents, roost inhibitors and visual scare devices. Contact us to describe your bird pest situations and let one of our professionals suggest solutions for you.

 [Order](#)

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 [Specifications](#)

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 [Success Stories](#)

 [Instructions](#)

 [CD Video  
In Action](#)

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Bird-X Inc. 300 N. Elizabeth St, Chicago IL, 60607

(312) 226 - 2473 Fax (312) 226 - 2480

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**DRIVE PEST BIRDS AWAY WITH**

# **SUPER Bird X Peller PRO**



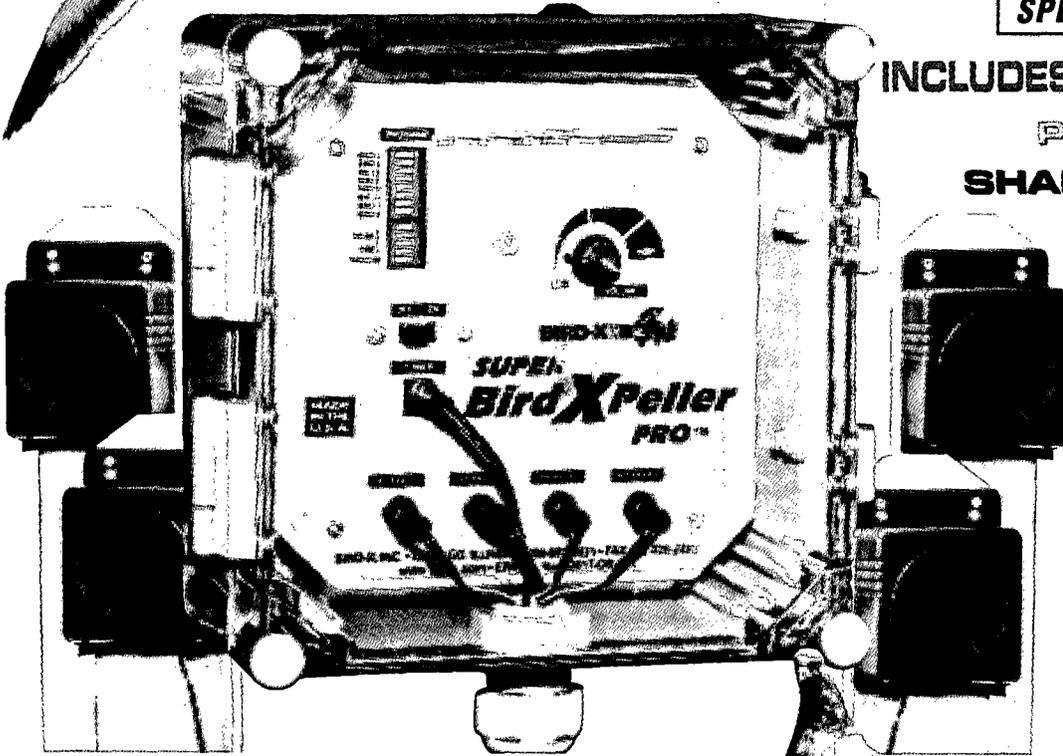
**PROGRAMMABLE SPECIES-SPECIFIC REPELLER**

**INCLUDES PREDATOR SOUNDS:**

**PEREGRINE FALCON**

**SHARP-SHINNED HAWK**

**COOPER'S HAWK**



**WHATEVER THE BIRD PROBLEM...**



**PIGEONS ROOFTOPS, LEDGES, STATUES**



**BLACKBIRDS ON HOMES**

**WOODPECKERS ON BUILDINGS**

**CORMORANTS IN TREES**



**CROWS ON PROPERTIES**

**GULLS GRACKLES**

**STARLINGS ON FARMS**

**SPARROWS**

**Sonic repeller uses intermittent distress calls to create a "danger zone" that frightens infesting birds away for good. PREDATOR cries help scare all the birds!**



**...SUPER BIRDXPPELLER PRO IS THE SOLUTION!**

**TO ORDER CALL BIRD-X, INC. 800-662-5021**

BIRD-X 

**SUPER**

# BirdXPeller PRO

**PROGRAMMABLE SPECIES-SPECIFIC REPELLER**

**UP TO  
SIX ACRES!**



## TWO SUPER BirdXPeller PRO

**MODELS FOR  
YOUR NEEDS:**

**SBXP-PRO 1 \$575**

**Targets • PIGEONS • GULLS  
• STARLINGS • SPARROWS  
• WOODPECKERS**

**• PLUS 2 PREDATOR CRIES**

**SBXP-PRO 2 \$575**

**Targets • CROWS • CORMORANTS  
• RAVENS • BLACKBIRDS  
• GRACKLES**

**• PLUS 3 PREDATOR CRIES**

### **SOLAR POWER PANEL model SOLPAN 2**

(for use with 12v battery option) **\$195**

**For 220vAC add \$20 per unit**

#### **Specifications**

##### **Dimensions:**

Control Panel: 9" x 9" x 5.25"

Speakers: 4" x 4" x 6"

##### **Shipping Weight:**

15 pounds

##### **Power Requirements:**

110 or 220vAC or 12vDC

##### **Sound Pressure:**

105 - 110 dB @ 1 meter

##### **Frequency:**

3 - 5 kHz

##### **Compliance:**

Supply power source is UL and CE listed.

EPA Est. 075310-OR-001

##### **Included:**

Control unit, four speakers with 100' cords, AC adaptor with 50' cord, DC battery cables, complete instructions

#### **ACTUAL DISTRESS CRIES**

**Choose any or all of 8 sounds,** including predators to give the birds even more of a sense of danger. Then customize by choosing volume and silent time between sounds.

#### **HARMLESS**

**Super BirdXPeller PRO uses occasional natural sounds** to chase away the birds, but it doesn't harm them.

#### **HEAVY-DUTY**

**Sturdy control box and four powerful speakers designed to last in an outdoor environment.**

#### **EASY OPERATION**

Keep the control box close at hand, and use the 100' cords to place the speakers **wherever the birds are.** Use 110vAC electricity or 12vDC battery.

THE BIRD CONTROL "X-PERTS"

**BIRD-X** 

300 N. ELIZABETH ST. • CHICAGO IL 60607  
312-BAN-BIRD • FAX 312-226-2480  
WWW.BIRD-X.COM • e-mail sales@BIRD-X.COM



**TO ORDER, CALL TOLL FREE**

**800-662-5021**



**Chavez, Carl J, EMNRD**

---

**From:** Steve Morris [smorris@giant.com]

**Sent:** Thursday, July 06, 2006 3:32 PM

**To:** Chavez, Carl J, EMNRD; Cobrain, Dave, NMENV; Foust, Denny, EMNRD; Ed Riege; Monzeglio, Hope, NMENV; Jim Lieb; Johnny Sanchez; Steve Morris; Price, Wayne, EMNRD

**Subject:** Ciniza Update 7/6/06

1. NAPIS running well, no problems noted.
2. All five aerators in place and running.
3. Air driven pump holding low level in OAPIS.
4. Weekly sample results as well as 2<sup>nd</sup> quarter 2006 Northeast OCD Land Farm results attached.



COVER LETTER

Friday, June 30, 2006

Steve Morris  
Giant Refining Co  
Rt. 3 Box 7  
Gallup, NM 87301

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

RE: Evap. Pond #2 Inlet 6/22/2006

Order No.: 0606248

Dear Steve Morris:

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 6/23/2006 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,

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

AZ license # AZ0682  
ORELAP Lab # NM100001



HALL ENVIRONMENTAL  
 attn: ANDY FREEMAN  
 4901 HAWKINS NE, SUITE D  
 ALBUQUERQUE NM 87109-4372

Explanation of codes	
B	Analyte Detected in Method Blank
E	Result is Estimated
H	Analyzed Out of Hold Time
N	Tentatively Identified Compound
S	Subcontracted
1-9	See Footnote

STANDARD

Assaigal Analytical Laboratories, Inc.

### Certificate of Analysis

All samples are reported on an "as received" basis, unless otherwise noted (i.e. - Dry Weight).

Client: HALL ENVIRONMENTAL  
 Project: 0606248  
 Order: 0606623 HAL03 Receipt: 06-23-06

William P. Blava: President of Assaigal Analytical Laboratories, Inc.

Sample: 0606248-1 Collected: 06-22-06 8:30:00 By:  
 Matrix: AQ

QC Group	Run Sequence	CAS #	Analyte	Result	Units	Dilution Factor	Detection Limit	Code	Prep Date	Run Date
0606623-0001A			EPA 405.1 Biochemical Oxygen Demand					By: NJL		
BOD06077	WC.2006.1573.16	10-26-4	Biochemical Oxygen Demand	200	mg/L	1	2		06-23-06	06-28-06
0606623-0001B			EPA 410.1 Chemical Oxygen Demand					By: NJL		
WCOD06040	WC.2006.1567.7	C-004	Chemical Oxygen Demand	867	mg/L	1	10		06-28-06	06-28-06

Unless otherwise noted, all samples were received in acceptable condition and all sampling was performed by client or client representative. Sample result of ND indicates Not Detected, ie result is less than the sample specific Detection Limit. Sample specific Detection Limit is determined by multiplying the sample Dilution Factor by the listed Reporting Detection Limit. All results relate only to the items tested. Any miscellaneous workorder information or footnotes will appear below.

Analytical results are not corrected for method blank or field blank contamination.

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name GIANTREFIN

Date and Time Received:

6/23/2006

Work Order Number 0606248

Received by AT

Checklist completed by

*[Handwritten Signature]*

6/23/06

Signature

Date

Matrix

Carrier name FedEx

- 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? Yes  No
- No VOA vials submitted  Yes  No
- Water - pH acceptable upon receipt? Yes  No  N/A

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: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

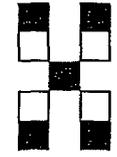
Corrective Action \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

# CHAIN-OF-CUSTODY RECORD

Client: Giant Refining Company - King  
 Address: Route 3 Box 7 Gallup, NM 87301  
 Phone #: 505 722 3833  
 Fax #: 505 722 0210

QA/QC Package:  
 Std  Level 4   
 Other: \_\_\_\_\_  
 Project Name: Evap. Pond # 2 Inlet 6-22-2006  
 Project #: \_\_\_\_\_  
 Project Manager: Steve Morris  
 Sampler: Steve Morris  
 Sample Temperature: 3



**HALL ENVIRONMENTAL ANALYSIS LABORATORY**  
 4901 Hawkins NE, Suite D  
 Albuquerque, New Mexico 87109  
 Tel. 505.345.3975 Fax 505.345.4107  
 www.hallenvironmental.com

## ANALYSIS REQUEST

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCFA 8 Metals	Anions (F, Cl, NO <sub>2</sub> , NO <sub>3</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	BOD	COD	Air Bubbles or Headspace (Y or N)
												X	X	

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative		HEAL No.
					HgCl <sub>2</sub>	HNO <sub>3</sub>	
6/22/06	0830	H <sub>2</sub> O	Pond 2 Inlet	2			6006248-1

Date: 6/22/06 Time: 1030 Relinquished By: (Signature) Steve Morris  
 Received By: (Signature) Dickpa 950 6-23-06  
 Date: \_\_\_\_\_ Time: \_\_\_\_\_ Relinquished By: (Signature) \_\_\_\_\_  
 Received By: (Signature) \_\_\_\_\_

Remarks: RUSH



COVER LETTER

Monday, June 19, 2006

Steve Morris  
Giant Refining Co  
Rt. 3 Box 7  
Gallup, NM 87301

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

RE: Evap. Pond #2 Inlet 6-8-2006

Order No.: 0606100

Dear Steve Morris:

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 6/9/2006 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,

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

AZ license # AZ0682  
ORELAP Lab # NM100001



HALL ENVIRONMENTAL  
 attn: ANDY FREEMAN  
 4901 HAWKINS NE, SUITE D  
 ALBUQUERQUE NM 87109-4372

Explanation of codes	
B	Analyte Detected in Method Blank
E	Result is Estimated
H	Analyzed Out of Hold Time
N	Tentatively Identified Compound
S	Subcontracted
1-9	See Footnote

STANDARD

Assalgal Analytical Laboratories, Inc.

### Certificate of Analysis

All samples are reported on an "as received" basis, unless otherwise noted (i.e. - Dry Weight).

Client: HALL ENVIRONMENTAL  
 Project: 0606100  
 Order: 0606216 HAL03 Receipt: 06-09-06

William P. Blava: President of Assalgal Analytical Laboratories, Inc.

Sample: 0606100-01A/ POND 2 INLET  
 Matrix: AQUEOUS

Collected: 06-08-06 8:15:00 By:

QC Group	Run Sequence	CAS #	Analyte	Result	Units	Dilution Factor	Detection Limit	Code	Prep Date	Run Date
0606216-0001A			EPA 405.1 Biochemical Oxygen Demand					By: NJL		
BOD06070	WC.2006.1472.25	10-26-4	Biochemical Oxygen Demand	292	mg/L	1	2		06-09-06	06-14-06
0606216-0001B			EPA 410.1 Chemical Oxygen Demand					By: NJL		
WCO0D06038	WC.2006.1475.7	C-004	Chemical Oxygen Demand	963	mg/L	1	10		06-16-06	06-16-06

Unless otherwise noted, all samples were received in acceptable condition and all sampling was performed by client or client representative. Sample result of ND indicates Not Detected, a result is less than the sample specific Detection Limit. Sample specific Detection Limit is determined by multiplying the sample Dilution Factor by the listed Reporting Detection Limit. All results relate only to the items tested. Any miscellaneous workorder information or footnotes will appear below.

Analytical results are not corrected for method blank or field blank contamination.

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name GIANTREFIN

Date and Time Received:

6/9/2006

Work Order Number 0606100

Received by GLS

Checklist completed by

[Signature]  
Signature

6-9-06  
Date

Matrix

Carrier name FedEx

- 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? 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, June 26, 2006

Steve Morris  
Giant Refining Co  
Rt. 3 Box 7  
Gallup, NM 87301

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

RE: Evap. Pond #2 Inlet 6/15/2006

Order No.: 0606173

Dear Steve Morris:

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 6/16/2006 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,

A handwritten signature in black ink, appearing to read "Andy Freeman".

Andy Freeman, Business Manager  
Nancy McDuffie, Laboratory Manager

AZ license # AZ0682  
ORELAP Lab # NM100001



HALL ENVIRONMENTAL  
 attn: ANDY FREEMAN  
 4901 HAWKINS NE, SUITE D  
 ALBUQUERQUE NM 87109-4372

Explanation of codes	
B	Analyte Detected in Method Blank
E	Result is Estimated
H	Analyzed Out of Hold Time
N	Tentatively Identified Compound
S	Subcontracted
1-9	See Footnote

STANDARD

Assalgal Analytical Laboratories, Inc.  
**Certificate of Analysis**

All samples are reported on an "as received" basis, unless otherwise noted (i.e. - Dry Weight).

Client: HALL ENVIRONMENTAL  
 Project: 0606173  
 Order: 0606429 HAL03 Receipt: 06-16-06

William P. Blava: President of Assalgal Analytical Laboratories, Inc.

Sample: 0606173-01A POND 2 INLET Collected: 06-15-06 9:30:00 By:  
 Matrix: AQUEOUS

QC Group	Run Sequence	CAS #	Analyte	Result	Units	Dilution Factor	Detection Limit	Code	Prep Date	Run Date
0606429-0001A		EPA 410.1 Chemical Oxygen Demand								
WCOD06039	WC.2006.1535.6	C-004	Chemical Oxygen Demand	829	mg/L	1	10		06-23-06	06-23-06

By: NJL

Sample: 0606173-01B POND 2 INLET Collected: 06-15-06 9:30:00 By:  
 Matrix: AQUEOUS

QC Group	Run Sequence	CAS #	Analyte	Result	Units	Dilution Factor	Detection Limit	Code	Prep Date	Run Date
0606429-0002A		EPA 405.1 Biochemical Oxygen Demand								
BOD06074	WC.2006.1518.5	10-26-4	Biochemical Oxygen Demand	251	mg/L	1	2		06-16-06	06-21-06

By: NJL

Unless otherwise noted, all samples were received in acceptable condition and all sampling was performed by client or client representative. Sample result of ND indicates Not Detected, ie result is less than the sample specific Detection Limit. Sample specific Detection Limit is determined by multiplying the sample Dilution Factor by the listed Reporting Detection Limit. All results relate only to the items tested. Any miscellaneous workorder information or footnotes will appear below.

Analytical results are not corrected for method blank or field blank contamination.

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name GIANTREFIN

Date and Time Received:

6/16/2006

Work Order Number 0606173

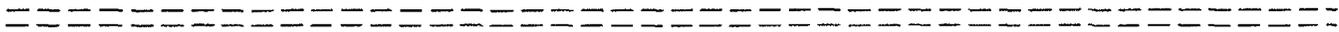
Received by GLS

Checklist completed by [Signature] Date 6-16-06

Matrix Carrier name FedEx

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





COVER LETTER

Wednesday, June 28, 2006

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 Qtr. 2006

Order No.: 0606174

Dear Steve Morris:

Hall Environmental Analysis Laboratory, Inc. received 2 sample(s) on 6/16/2006 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,

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

AZ license # AZ0682  
ORELAP Lab # NM100001



**Hall Environmental Analysis Laboratory, Inc.**

Date: 28-Jun-06

**CLIENT:** Giant Refining Co  
**Lab Order:** 0606174  
**Project:** NE OCD Landfarm 2nd Qtr. 2006  
**Lab ID:** 0606174-01

**Client Sample ID:** NEOCDLF#17  
**Collection Date:** 6/15/2006 8:00:00 AM  
**Date Received:** 6/16/2006  
**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: SCC
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	6/20/2006 3:13:26 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	6/20/2006 3:13:26 PM
Surr: DNOP	79.3	61.7-135		%REC	1	6/20/2006 3:13:26 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: HLM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/19/2006 10:38:39 PM
Surr: BFB	91.8	81.7-127		%REC	1	6/19/2006 10:38:39 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: HLM
Methyl tert-butyl ether (MTBE)	ND	0.10		mg/Kg	1	6/19/2006 10:38:39 PM
Benzene	ND	0.050		mg/Kg	1	6/19/2006 10:38:39 PM
Toluene	ND	0.050		mg/Kg	1	6/19/2006 10:38:39 PM
Ethylbenzene	ND	0.050		mg/Kg	1	6/19/2006 10:38:39 PM
Xylenes, Total	ND	0.15		mg/Kg	1	6/19/2006 10:38:39 PM
Surr: 4-Bromofluorobenzene	85.9	76.8-115		%REC	1	6/19/2006 10:38:39 PM

**Qualifiers:** \* Value exceeds Maximum Contaminant Level  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Date: 28-Jun-06

<b>CLIENT:</b>	Giant Refining Co	<b>Client Sample ID:</b>	NEOCDLF#72
<b>Lab Order:</b>	0606174	<b>Collection Date:</b>	6/15/2006 8:30:00 AM
<b>Project:</b>	NE OCD Landfarm 2nd Qtr. 2006	<b>Date Received:</b>	6/16/2006
<b>Lab ID:</b>	0606174-02	<b>Matrix:</b>	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: SCC
Diesel Range Organics (DRO)	60	10		mg/Kg	1	6/21/2006 12:31:15 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	6/21/2006 12:31:15 PM
Surr: DNOP	152	61.7-135	S	%REC	1	6/21/2006 12:31:15 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: HLM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/19/2006 11:07:47 PM
Surr: BFB	94.9	81.7-127		%REC	1	6/19/2006 11:07:47 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: HLM
Methyl tert-butyl ether (MTBE)	ND	0.10		mg/Kg	1	6/19/2006 11:07:47 PM
Benzene	ND	0.050		mg/Kg	1	6/19/2006 11:07:47 PM
Toluene	ND	0.050		mg/Kg	1	6/19/2006 11:07:47 PM
Ethylbenzene	ND	0.050		mg/Kg	1	6/19/2006 11:07:47 PM
Xylenes, Total	ND	0.15		mg/Kg	1	6/19/2006 11:07:47 PM
Surr: 4-Bromofluorobenzene	92.0	76.8-115		%REC	1	6/19/2006 11:07:47 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	ND Not Detected at the Reporting Limit
	S Spike Recovery outside accepted recovery limits	

QA/QC SUMMARY REPORT

Client: Giant Refining Co  
 Project: NE OCD Landfarm 2nd Qtr. 2006

Work Order: 0606174

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8015									
Sample ID: MB-10632		MBLK							
Diesel Range Organics (DRO)	ND	mg/Kg	10						
Motor Oil Range Organics (MRO)	ND	mg/Kg	50						
Sample ID: LCS-10632									
Diesel Range Organics (DRO)	39.33	mg/Kg	10	78.7	64.6	116			
Sample ID: LCSD-10632									
Diesel Range Organics (DRO)	41.81	mg/Kg	10	83.6	64.6	116	6.11	17.4	

Batch ID: 10632  
 Analysis Date: 6/20/2006

Analysis Date: 6/20/2006

Analysis Date: 6/20/2006

Method: SW8015									
Sample ID: MB-10631		MBLK							
Gasoline Range Organics (GRO)	ND	mg/Kg	5.0						
Sample ID: LCS-10631									
Gasoline Range Organics (GRO)	19.90	mg/Kg	5.0	79.6	73.4	115			

Batch ID: 10631  
 Analysis Date: 6/19/2006

Analysis Date: 6/19/2006

Method: SW8021									
Sample ID: MB-10631		MBLK							
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	0.15						
Sample ID: LCS-10631									
Methyl tert-butyl ether (MTBE)	0.3825	mg/Kg	0.10	109	67.9	135			
Benzene	0.2930	mg/Kg	0.050	91.6	77.5	123			
Toluene	1.783	mg/Kg	0.050	89.2	85.3	129			
Ethylbenzene	0.3907	mg/Kg	0.050	100	79.6	121			
Xylenes, Total	2.170	mg/Kg	0.15	103	80	130			

Batch ID: 10631  
 Analysis Date: 6/19/2006

Analysis Date: 6/19/2006

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:

6/16/2006

Work Order Number 0606174

Received by GLS

Checklist completed by

B. Schlyper | 6.16.06  
Signature | Date

Matrix

Carrier name FedEx

- 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? 3° 4° C ± 2 Acceptable  
If given sufficient time to cool.

COMMENTS:

-----

Client contacted \_\_\_\_\_ Date contacted: \_\_\_\_\_ Person contacted \_\_\_\_\_

Contacted by: \_\_\_\_\_ Regarding \_\_\_\_\_

Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Corrective Action \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_





**BILL RICHARDSON**  
GOVERNOR

*State of New Mexico*  
**ENVIRONMENT DEPARTMENT**

*Hazardous Waste Bureau*  
*2905 Rodeo Park Drive East, Building 1*  
*Santa Fe, New Mexico 87505-6303*  
*Telephone (505) 428-2500*  
*Fax (505) 428-2567*  
*www.nmenv.state.nm.us*



**RON CURRY**  
SECRETARY

**CERTIFIED MAIL**  
**RETURN RECEIPT REQUESTED**

June 29, 2006

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

2006 JUL 15 PM 12 40

**SUBJECT: "CONTAINED-IN" DETERMINATION APPROVAL REGARDING  
CONTAMINATED SOIL REMOVED FROM THE AERATION  
LAGOONS AND EVAPORATION PONDS  
AUGUST 2005 API SEPARATOR RELEASE  
GIANT REFINING COMPANY, CINIZA REFINERY  
EPA ID NO. NMD000333211  
HWB-GRCC-MISC**

Dear Mr. Riege:

The New Mexico Environment Department (NMED) is in receipt of Giant Refining Company, Ciniza Refinery's (the Permittee) letter titled *Request For Waste Determination At The Giant Ciniza Refinery* dated June 15, 2006. This letter requests a "contained-in" determination for petroleum contaminated soil excavated from the banks of Aeration Lagoons (AL) No. 1 and No. 2 and Evaporation Ponds (EP) No. 1 and No. 2. The soil was contaminated, in part, by API separator releases that occurred on August 3 and 15, 2005. Oily wastewater containing benzene (D018) and F037/F038-listed waste was released from the API separator, entered the ALs and EPs and was eventually deposited on the banks of the ponds. Six composite and six discrete soil samples were obtained from excavated soils removed from the banks of the ALs and EPs. The discrete samples were analyzed in a laboratory for volatile organic compounds (VOCs). The composite samples were analyzed in a laboratory for semi-volatile organic compounds (SVOCs),

Mr. Ed Riege  
Giant Ciniza Refining Company  
June 29, 2006  
Page 2 of 2

toxicity characteristic leaching procedure (TCLP) metals, reactivity, ignitability, corrosivity, diesel range organics (DRO) and gasoline range organics (GRO).

NMED has determined that the Permittee is not required to manage the soils excavated from around the banks of the ALs and EPs as hazardous waste. This determination is based on analytical data indicating concentrations of all detected constituents were below the residential NM SSLs and EPA Region 6 Residential standards. As part of this approval, the Permittee must dispose of the soil in an appropriate landfill or on-site in a designated Oil Conservation Division (OCD) landfarm, if approved by OCD. If the excavated soil is not disposed of in the OCD landfarm, the Permittee must obtain approval for final disposal from both NMED and OCD.

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

Sincerely,



James P. Bearzi  
Chief  
Hazardous Waste Bureau

JPB:hm

cc: J. Kieling, NMED HWB  
D. Cobrain, NMED HWB  
H. Monzeglio, NMED HWB  
W. Price, NMEMNRD OCD  
S. Morris, GRCC  
J. Lieb, GRCC

File: Reading GRCC 2006



**BILL RICHARDSON**  
GOVERNOR

*State of New Mexico*  
**ENVIRONMENT DEPARTMENT**

*Hazardous Waste Bureau*  
*2905 Rodeo Park Drive East, Building 1*  
*Santa Fe, New Mexico 87505-6303*  
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*Fax (505) 428-2567*

*www.nmenv.state.nm.us*



**RON CURRY**  
SECRETARY

**CERTIFIED MAIL**  
**RETURN RECEIPT REQUESTED**

June 29, 2006

Ed Riege  
Giant Refining Company,  
Route 3, Box 7  
Gallup, New Mexico 87301

**SUBJECT: NOTICE OF DEFICIENCY (NOD) RESPONSE TO  
REMEDY COMPLETION REPORT  
SWMU # 8, RAIL ROAD RACK LAGOON  
GIANT REFINING COMPANY, CINIZA REFINERY  
EPA ID #: NMD000333211  
HWB-GRCC-06-001**

Dear Mr. Riege:

The New Mexico Environment Department (NMED) has performed a technical review of the Giant Refining Company, Ciniza Refinery's (Permittee) *Remedy Completion Report SWMU #8, Railroad Rack Lagoon*, in accordance with 20.4.2.200.A(7) NMAC. NMED has determined the Report for SMWU #8 is not adequate and revisions are necessary before it can be approved. NMED therefore hereby issues this Notice of Deficiency (NOD).

1. The Permittee must review the Report to ensure all tables, figures, and appendices are accurately and descriptively titled to match the information stated in the text (e.g., Figure 2 is missing from the Table of Contents). The information shall be presented in a format to minimize confusion to the reader. NMED further recommends the Permittee revise the table titles to reference the general locations where the samples were collected as well as providing the dates of the excavation activities. This will help the reader minimize the need to cross-reference the text when reviewing the tables.

2. The Permittee must include a section that describes sampling methods and procedures.
3. All tables must be revised to include acronym definitions or provide an acronym list for the document; (e.g., Table 1 must define *na*, *SVAs*).
4. The Permittee must utilize the New Mexico Environment Department's Total Petroleum Hydrocarbons Screening Guidelines (NMED TPH), dated November 2005, available at <http://www.nmenv.state.nm.us/hwb/guidance.html>. All data tables must be revised to include the appropriate screening level for diesel range organics (DRO), found in Table 2b (unknown oil) in the NMED TPH screening guidelines.
5. **Page 5, paragraph 2:** The Report states, "Samples for which cumulative RO and MRO exceeded..."

**NMED Comment:** This sentence appears to contain a typographical error in which the "RO" should be "DRO". The Permittee must correct or clarify this statement in the text.

6. **Page 7, paragraph 3:** The Report states, "The samples were analyzed for general chemistry parameters, VOCs including analysis for DRO and MRO..."

**NMED Comment:** Volatile organic compound (VOC) analysis does not include DRO and motor oil range organics (MRO). Concentrations of DRO are determined by a separate analysis and are an indicator of detectable concentrations of semi-volatile organic compounds (SVOCs). The Permittee must revise the sentence or sentences to clarify DRO and MRO as separate analyses and not inclusive of VOC analysis.

7. **Page 7, paragraph 3:** The Report states, "NMED required additional analysis for SVOs in samples where cumulative DRO and MRO exceeded 500 mg/kg."

**NMED Comment:** This sentence appears to contain a typographical error in which the "SVOs" should be "SVOCs." The Permittee must correct or clarify this statement in the text.

8. **Page 7, paragraph 3:** Paragraph 3 states "Giant commenced excavation of the railroad lagoon in November 2004.....The samples were analyzed for general chemistry parameters, VOCs including analysis for DRO and MRO, and RCRA metals as listed on the Skinner list. NMED required additional analysis for SVOs in samples where cumulative DRO and MRO exceeded 500 mg/kg. ...Table 1 is a summary of the analytical result for the samples."

Mr. Riege  
Giant Refining Company  
June 29, 2006  
Page 3

**NMED Comment:** Samples results from RR-E-1-Wall N, RR-W-1-Wall S, RR-BP-1, and RR-BP-2 from the November excavation and found in Table 1 detected DRO or cumulative DRO and MRO above 500 mg/kg. SVOC analysis does not appear to have been conducted for these samples as SVOC data is not found in Table 1 and the laboratory results are not found in Appendix I.

The Permittee must update Table 1 to include the SVOC analysis and include the SVOC laboratory reports in Appendix I or provide an explanation as to why the SVOC data was not collected.

- 9. Page 7, paragraph 3:** Paragraph 3 states "...and a total of 14 samples were collected from undisturbed soils at the bottom and sides of the excavation." The text and Table I refer to 14 samples submitted for analysis during the November 18, 2004 sampling round. However, the cover sheet for the laboratory report in Appendix I states only 13 samples were received and only 13 data sets are present. The results for sample RR-E-1-Wall-S is presented in the summary table, but missing in the laboratory analytical report.

**NMED Comment** The Permittee must rectify this discrepancy. If data exists for sample RR-E-1-Wall-S, then it must be included in Appendix I. The Permittee must revise the report accordingly.

- 10. Page 7, paragraph 3 and Page 5 paragraph 3:** Paragraph 3 of page 7 states, "The analysis of the soil samples showed low concentrations of VOCs to be present remaining in two sampled locations along the north and south sides of the lagoon (E-1 Wall S and W-1-Wall N)" and similarly stated on page 5, paragraph 3. However, page 5, paragraph 2 refers to the same sampling locations but the sentence has replaced VOCs with SVOCs.

**NMED Comment:** It is unclear if the north and south side walls had detections of VOCs, SVOCs, or both. The Permittee must clarify the above discrepancies in the report and state which chemical parameters are being referred to.

- 11. Page 7, paragraphs 3 and 4:** These paragraphs refer to Tables 1, 6, and 9. Table 1 presents the analytical results prior to additional excavation while Tables 6 and 9 summarize final sampling results.

**NMED Comment:** NMED correspondence with the Permittee during early April 2006, determined that the comparison of soil analytical results to the Water Quality Control Commission (WQCC) Standards was an error in the report. The Permittee must revise all tables and text to eliminate reference to the WQCC standards and must apply the NMED TPH guidelines.

It is not clear, from the tables and text, which excavation events the Permittee collected soil samples to confirm that contaminant concentrations are below the New Mexico soil screening levels (NM SSLs) and TPH screening guidelines. The Permittee must clarify, throughout the report, which samples are the confirmation samples. The Permittee must also clarify in the text which "final sampling results" Table 6 and 9 are referring to.

- 12. Page 7, paragraph 3; page 11, paragraph 4:** These two paragraphs refer to additional analysis for SVOCs if the combined result of DRO and MRO exceed 500 mg/kg. Concentrations for seven samples collected at or near the inlet pipe were above 500 mg/kg and three out of four samples collected from the sidewalls and bottom of the lagoon had reported concentrations above 500 mg/kg. While the appendices show that SVOCs were analyzed, none of the summary tables include results of SVOC analysis, even when there were detectable SVOCs.

**NMED Comment:** Acenaphthene, 2,4-dimethylphenol, di-n-butylphthalate, fluorene, fluoranthene, 2-methylnaphthalene, naphthalene, N-nitrosodi-n-propylamine, phenanthrene, and pyrene were all detected SVOCs and should have been included in the summary data tables. The Permittee must revise its summary tables to include, at a minimum, all detections of SVOCs.

- 13. Page 8, paragraph 1:** Paragraph 1 discusses the amount of soil removed during the initial excavation of the lagoon, amounting to approximately 2,119 yards of soil.

**NMED Comment:** The Permittee must revise the unit of measurement to cubic yards of soil rather than yards of soil.

- 14. Page 8, paragraph 1:** The last sentence of the paragraph refers to photos of the lagoon, taken during excavation activities, provided in Appendix 8. The photos are a good representation of what the soils and sides of the excavation look like. However, of the 10 pages of photos, only the thumbnails included on the last page are appropriately dated and labeled. Because labels, dates, and orientation are missing from the other photos, it is unclear what is being shown, except for the general color and texture of lagoon soils.

**NMED Comment:** The Permittee must include on all photos, at a minimum, date, location, and orientation.

- 15. Page 8, paragraph 2:** The Report states, "The lagoon sampling locations are shown on Figure 3, Figure 4, and Figure 5."

Mr. Riege  
Giant Refining Company  
June 29, 2006  
Page 5

**NMED Comment:** Figure 4 is a revision of Figure 3, and Figure 5 is identical to Figure 4. The titles of Figures 4 and 5 are identical, except for the revision numbers. If they are identical, then the Permittee should delete one of the figures. The Permittee must clarify any differences between Figures 4 and 5 as they appear to be the same figure with different revision numbers.

- 16. Page 9, paragraph 2:** The Report states, "Hall Environmental analyzed each sample for the following parameters:....." and includes a list of EPA Methods for which the samples were analyzed.

**NMED Comment:** Appendix 2 of the Report identifies samples analyzed for SVOCs. However, this analysis was not included in the list of EPA Methods referenced above. The Permittee must revise this list to include the EPA Method used for SVOC analysis.

- 17. Page 9, paragraph 4:** The Report states, "The laboratory report is in Appendix 1." Appendix 1 references the sampling results from the November 2004 sampling event. The cover sheet of Appendix 1 is labeled, "Hall Environmental Laboratory Report – December 13, 2004."

**NMED Comment:** It is not clear what the December 13, 2004 date references. The Permittee must provide an explanation for the December date and revise the date on the Appendix cover sheet to reflect the date of the sampling event or laboratory report as long as it is consistent with the other appendices.

- 18. Page 9, paragraph 4:** The Report states, "Figure 6 shows the locations of the proposed additional lagoon sampling."

**NMED Comment:** Figure 6 appears to be an incomplete engineering drawing. There are no labels indicating the proposed sample locations. The numbers on the drawing (e.g., 640, 1000, 1900, 1, 2, and 5) are not defined. The sampling locations can only be inferred from the descriptions presented in the text of the Report. Additionally, page 11, paragraphs 2 and 4 make reference to Figure 6, which show the locations of confirmation samples collected during the August 19 and 22, 2005 sampling. It is unclear whether these sampling locations are represented on Figure 6. The Permittee must revise Figure 6 to provide a legend and sample collection locations, including confirmation sample locations. The information presented in the figure must match the information presented in the text.

- 19. Page 9, paragraph 5:** The Report states, "Pictures of the excavated pipe are in Appendix 8."

**NMED Comment:** Referring to Comment 14, the majority of pictures included in Appendix 8 are not labeled. It is unclear which picture refers to the area surrounding the excavated pipe, except for one thumbnail labeled "South end of pipe, Covered." The thumbnails are low resolution, presented in black-and-white, and do not convey much visual information. The Permittee must either include a larger photo that is appropriately labeled, or eliminate the reference to the photo of the excavated pipe.

- 20. Page 10, paragraph 1:** The Report states, "Figure 7 and Figure 8 show the locations of the additional pipe sampling."

**NMED Comment:** Figure 7 is unclear. The legend on Figure 7 describes the meaning of WS, WN, and BTM, but no such acronyms appear in the figure. Figure 7 states, "Three samples taken at each site," but does not indicate what is meant by each site. The inlet pipe is shown, with arrows pointing to "Series 1, Series 2, Series 3, and Series 4;" presumably, these are the sample locations but it is not clear what is meant by "Series." The Permittee must revise Figure 7 to clarify the above discrepancies and explicitly state the meaning of "Series," eliminate a legend that does not belong with the Figure, and clearly identify the additional sampling locations.

- 21. Page 12, paragraph 4:** The Report states, "Figure 9 shows the locations of the resample."

**NMED Comment:** The text describes 10 sample locations (RR-1 through RR-10) and implies that these locations are where the inlet pipe was resampled. These locations are not labeled on Figure 9. Instead, there are unlabeled numbers and arrows pointing to the pipe that are difficult to correlate with the text. The Permittee must revise Figure 9 so that it matches the description provided in the text. If there were 10 locations that were resampled and these sampling locations have been assigned names, then they must be appropriately labeled in the figure.

- 22. Page 12, paragraph 4:** The Report states, "Table 8 is a summary of the [concrete inlet pipe] sampling." However, Table 8, on p. 36 of the Report, is labeled "August 30, 2005 Lagoon Sampling Results: Volatiles"

**NMED Comment:** The Permittee must revise the title of Table 8 to accurately reflect its description in the text of the Report. It is associated with the inlet pipe, not the lagoon.

Mr. Riege  
Giant Refining Company  
June 29, 2006  
Page 7

- 23. Page 12, paragraph 5:** Appendix 6 of the Report contains a duplicate copy of the entire Remedy Completion Report, minus the Tables, Figures, and Appendices.

**NMED Comment:** The Permittee must remove these pages from Appendix 6 as they are redundant, or provide an explanation as to why they are included.

- 24. Page 13, paragraph 1:** The Report refers to Figures 10 and 11 as showing the locations where confirmatory samples were taken relative to the inlet pipe excavation.

**NMED Comment:** These figures are inadequate. The figures show two entirely different views of the pipe excavation. The figures are unclear regarding the confirmatory sample locations, sample locations are circled and undefined, and the sample location names do not match those described in the text. The Permittee must revise Figures 10 and 11 to accurately and descriptively match what is stated in the text and appropriately label and describe exactly what is shown in the figures.

- 25. Page 16, paragraph 1:** The Report states, "Table 6 and Table 9 summarize the final confirmatory sampling results of the lagoon and inlet concrete pipe and compare them to the regulatory cleanup criteria."

**NMED Comment:** It is unclear if Tables 6 and 9 contain the inlet concrete pipe sampling results since the table titles only identify the month that excavations occurred. The Permittee must revise the table titles to clearly identify which excavation is being represented. See Comment No. 11.

- 26. Page 6 (general):** The Report describes the overflow ditch and fan-out area to the Railroad Rack Lagoon.

**NMED Comment:** The Report does not address any recent investigation to determine if residual contamination is present at the overflow ditch and fan-out area locations. There appears to be limited information pertaining to past investigations as well.

The overflow ditch and fan-out area are considered part of SWMU #8 and are addressed in the Permittee's RCRA Part A and Part B Post-Closure Permit Application, Volume III, Appendix I.8, Section 3.0 *Site Location and Description*, page 2. If additional characterization information is not available for the overflow ditch and fan-out area, then the Permittee must submit a supplemental work plan for investigation of these areas. The investigation of the overflow ditch and the fan-out area is necessary to ensure that residual contaminants are not present above the New Mexico Soil Screening Levels and the NM TPH guidelines. Test pits may be utilized to collect confirmation samples. The

Mr. Riege  
Giant Refining Company  
June 29, 2006  
Page 8

supplemental investigation work plan can be submitted in letter format. At minimum, the plan must include the following information:

- a. identification of the approximate dimensions of the over flow ditch and fan-out area,
- b. descriptions of the proposed methods for sample collection (e.g., test pits),
- c. identification of proposed sampling locations. At a minimum, soil samples must be collected from two and five feet below ground surface at each sampling point,
- d. a map identifying the over flow ditch and fan-out area in relation to the lagoon. The map must include the proposed sampling locations, a scale, a north arrow, and any other pertinent information, such as structures or drainages,
- e. laboratory sampling analysis that includes DRO, SVOCs if DRO exceeds 500 mg/kg, VOCs, RCRA metals, and cyanide;
- f. a description on how any generated investigative derived waste will be handled, and
- g. a detailed description of sampling methods and procedures.

The supplemental investigation work plan for the overflow ditch and fan-out area must be submitted to NMED no later than August 29, 2006.

The Permittee must address all comments contained in this NOD and submit a revised report. The revised report shall be accompanied with a response letter that details where all revisions have been made, cross-referencing NMED's numbered comments. The revised report addressing all comments established in this letter shall be submitted to NMED no later than October 2, 2006.

Mr. Riege  
Giant Refining Company  
June 29, 2006  
Page 9

If you have any questions regarding this letter please contact Hope Monzeglio of my staff at (505) 428-2545.

Sincerely,



James P. Bearzi  
Chief  
Hazardous Waste Bureau

JPB:hcm

cc: J. Kieling, NMED HWB  
D. Cobrain, NMED HWB  
H. Monzeglio, NMED HWB  
W. Price, OCD  
J. Lieb, GRCC  
S. Morris, GRCC

Reading File and GRCC 2006 File

**Chavez, Carl J, EMNRD**

**From:** Jim Lieb [jlieb@giant.com]  
**Sent:** Thursday, June 22, 2006 3:00 PM  
**To:** Chavez, Carl J, EMNRD  
**Cc:** Monzeglio, Hope, NMENV; Cobrain, Dave, NMENV; Price, Wayne, EMNRD; Foust, Denny, EMNRD; Powell, Brandon, EMNRD; Ed Riege; Ed Rios  
**Subject:** RE: Ciniza Flow Meters  
**Importance:** High

Hi Carl:

The use of the Palmer-Bowlus type flume was meant as a preliminary tentative proposal that will be refined as we study the different varieties of flumes that are available. We may use several different types based on the particular circumstances that are present at each of the flow monitoring locations. I have attached a table listing the **tentative** flow devices we are considering as part of our evaluation and selection process. Each type of flume has its own unique characteristics that must be evaluated and considered for the best fit. We will likely be working with Hubbell, Roth & Clark, Inc. engineering staff to select the best flume for each location and on the engineering that will be necessary to meet the OCD and HWB's request.

The flow meters **will** include the **totalizers and instantaneous read outs** as requested by OCD and HWB. We are considering an electronic output feature that can be either directly linked into PC computer or downloaded using a jump drive. Our evaluation process will consider each flowmeter sensor type and the level-to-flow converter instrument and select the best type at each location. The available choices to select from include the ultrasonic, bubbler, and pressure transducer based devices. Like the flumes, each of the flowmeter sensor devices has their own characteristics that will need evaluation for a best fit selection. I am very familiar with the ultrasonic type as we used an ultrasonic level sensor at the Federal-Mogul manufacturing facility I worked at in Michigan on the 100,000 GPD industrial waste water treatment plant. It was very reliable and virtually trouble free in operation. It was linked into a strip chart totalizer.

I have attached a scan of the latest diagram of our NAPIS; it shows the chopper pump installation. As an alternative to digging under the NAPIS and repairing the liner (which will be very difficult and potentially dangerous) we are considering the injection of bentonite sealing grout into the leaking zone surrounding the NAPIS. Then, in the event this does not eliminate the leakage, we will consider installing a liner **inside** the NAPIS. I am currently awaiting a proposal for the bentonite grout injection work.

I put Trihydro's report in the Fed Express today to OCD and HWB. The copies should reach you all tomorrow morning.

If you have any questions, please call me at (505) 722-0227 or email reply.

Sincerely,

Jim Lieb  
 Giant - Ciniza Refinery

---

**From:** Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]  
**Sent:** Thursday, June 22, 2006 10:49 AM  
**To:** Jim Lieb; Steve Morris; Ed Riege  
**Cc:** Foust, Denny, EMNRD; Price, Wayne, EMNRD; Powell, Brandon, EMNRD; Monzeglio, Hope, NMENV; Cobrain, Dave, NMENV  
**Subject:** Ciniza Flow Meters

Jim:

Hi. The OCD went to the website to evaluate the Palmer-Bowlus flow meters that you are proposing to use at Ciniza. They are not equipped with a totalizer and instantaneous readout as requested by the OCD/HWB. According to Wayne Price, he recommends ultrasonic meters, which have few moving parts and are very dependable over time.

6/22/2006

Regarding the New API Separator, we are awaiting an as-built drawing to scale to help evaluate the problem there. We did receive a couple of drawings, but they do not appear to reflect the as-built or current construction and/or site-specific conditions at and near the NAPI at Ciniza.

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/>  
(Pollution Prevention Guidance is under "Publications")

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**Flow Meter Installation (TENTATIVE under evaluation)**

Giant Refining - Ciniza Refinery

Jim Lieb

Jun-06

Location	Estimated Flow (gpm)	Water Quality	Type Flume (Tentative)	Size Flume (Throat)	Level Sensor Type
PSE to AL1	8	Debris-Dirt	Trapezoidal	small 4 inch pipe stub	TBD
NAPIS Benzene Stripper to AL1	93	very clean	Parshall	2 inch	TBD
OAPIS to AL1*	9.2	Debris-Dirt	Palmer-Bowlus**	4 inch	TBD
Boiler Plant Water to EP2	22	very clean	Parshall	2 inch	TBD
EP1 to EP2	101	Debris-Dirt	Trapezoidal	10 inch pipe stub	TBD
AL2 to EP1	101	Debris-Dirt	Trapezoidal	10 inch pipe stub	TBD

TBD = to be determined

\*Monitoring at storm sewer inlet to OAPIS would be more accurate

\*\*Palmer-Bowlus is recommended for sewer installations.

Parshall flumes are not recommended for locations with high debris/dirty water. Not accurate at low flows.

Trapezoidal flumes are recommended for dirty water applications. Reliable flow measurements at low flows.



**GIANT**

Giant Refining Company  
Route 3, Box 7  
Gallup, NM 87301

June 22, 2006

Ms. Hope Monzeglio  
Mr. Dave Cobrain  
New Mexico Environment Department  
Hazardous Waste Bureau  
2905 Rodeo Park Drive East, BLDG 1  
Santa Fe NM 87505

Mr. Carl J. Chavez  
Oil Conservation Division, Environmental Bureau  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Mr. Brandon Powell  
Oil Conservation Division  
1000 Rio Brazos Road, Aztec, NM 87410

Re: Trihydro Corporation Sewer Dye Trace Study Results For Ciniza Refinery

Dear All:

Enclosed is the Trihydro Corporation report entitled Dye Trace Study 2006, Giant Refining, Ciniza Refinery. Trihydro was contracted by Giant to conduct a dye trace study to determine whether any cross-connections existed between the process sewer and stormwater/non-process wastewater sewer systems at the Ciniza refinery. Trihydro was also tasked with identifying locations where there appeared to be a significant potential for spills or other process water to inadvertently enter the stormwater/non-process wastewater sewer. Giant's intent is to eliminate all cross-connections and also to eliminate or minimize certain potentially significant inadvertent sources (i.e., spills) of process wastewater into the storm sewer system. Giant additionally desires to facilitate the segregation of process wastewater and stormwater such that further appropriate reuse of stormwater/noncontact cooling water and other water conservation might be explored as well.

As a result of Trihydro's dye trace study, no cross-connects were detected between the process sewer and storm sewer systems at Ciniza. Because no cross-connects were found as a result of the dye trace study by Trihydro, Giant is going to be making additional improvements to its drainage/sewer systems to assure that the stormwater/non-process

wastewater sewer system consistently and reliably excludes inadvertent process flows or oils. These include all Trihydro recommendations and certain additional improvements identified by Giant. These improvements should eliminate the need to route any low flows to the benzene strippers from the stormsewer system. Giant intends to continue to sample those low flows until it can reliably establish that the improvements made and implemented have adequately resolved this concern.

Giant takes this stormwater issue seriously and has routed all dry weather flow to the new API as an interim measure. Giant plans to respond aggressively to Trihydro's report and is committed to the following action plan:

- The following stormwater drains will be permanently plugged with grout or raised 4 inches within the next 30 days: (FCC 8, 10 and 12, Crude 21, Platformer 27, 37, and 38, Gas Con 46, 47, 56, 58 and 64, Alky 53 and 54, Isom 77). Giant will hire a contractor as soon as possible to complete this work.
  - FCC 8- permanently plug due to location
  - FCC 10- install 4 inch lip around base of drain to raise grade
  - FCC 12- permanently plug due to location
  - Crude 21- install 4 inch lip around base of drain to raise grade
  - Plat 27- install 4 inch lip around base of drain to raise grade
  - Plat 37- install 4 inch lip around base of drain to raise grade
  - Plat 38- install 4 inch lip around base of drain to raise grade
  - Gas Con 46- permanently plug due to location
  - Gas Con 47- permanently plug due to location
  - Gas Con 56- install 4 inch lip around base of drain to raise grade\*
  - Gas Con 58- install 4 inch lip around base of drain to raise grade
  - Gas Con 64- permanently plug due to location
  - Alky 53- install 4 inch lip around base of drain to raise grade
  - Alky 54- install 4 inch lip around base of drain to raise grade
  - Isom 77- permanently plug due to location

\* Storm sewer is necessary for drainage and cannot be plugged or else flooding/safety hazards will occur during storm events.

- Work orders were written on June 12 to unplug process sewer drains (5, 11, 31, 38, 39, and 58). These will be hydro-blasted within the next 30 days. If drains cannot be cleared by hydro-blasting, excavation and piping work will be completed by year end.
- Steam condensate lines will be rerouted to the nearest process sewer drain.
- All stormwater drains were repainted green within the last week. Within 90 days, all stormwater drains will be repainted with a green epoxy type coating which will weather better.

- Operator training will take place over the next 3 weeks as crew rotation allows. Maintenance training will take place over the next 30 days. Highlights of the dye trace study and sewer inspection report will be reviewed. A copy of the training outline is attached.
- Process sewer drain inspection by operators will be emphasized during normal walkarounds and quarterly testing with water by maintenance.
- Within 60 days develop a Contingency Response Plan (CRP) to respond to spills that may enter the storm drain system.

Thank you for your review of this report and action plan. We look forward from hearing from you and working with the OCD and HWB to address the recommendations of this report. Please contact me at (505) 722-0217 if you have any questions.

Sincerely,



Ed Riege  
Environmental Superintendent

C: Ed Rios  
David Kirby  
Jim Lieb  
Steve Morris  
Regina Allen - Trihydro

## *Sewer Training Outline*

**The following items will be discussed during the Storm Sewer Training sessions:**

- Review physical layouts of the storm sewer and process sewer systems most importantly highlighting the locations of storm sewer drains on the storm sewer diagrams. All storm sewer drains are painted green so as not to be confused with the process sewer drains.
- Review Section 5, Storm Sewer Drain Location Conclusions of the Trihydro report. Emphasize that the storm sewers are strictly for storm water/non-contact cooling water. Storm sewers that in the past have showed oil staining particularly must be addressed in such a manner that oils will not enter the storm sewer system.
- Review the Recommendation Sections 6.1 and 6.2 in the Trihydro report. Proper draining procedures include, but are not limited to, routing of process water or other liquids through a hose or other suitable conduit to a process sewer drain thereby preventing liquids from flowing to a storm sewer drain. Proper draining procedures also include the routing of process water to a process sewer drain at a rate such that the process sewer drain does not become overwhelmed, resulting in a spill that may flow to a storm sewer drain. Proper draining procedures should be followed when draining all types of equipment
- Review Action plan letter with employees. Emphasize that employees need to regularly inspect process sewer drains for drain plugging. If process or storm water sewer drain plugging is observed, the plugging location must be immediately reported to the shift supervisor who will write a Level 5 work order to correct the plugging.

Emphasize the importance of not allowing any piping to ever be routed to a storm drain and vigilance toward protection of the storm drains from entry of oil and other contaminants. Emphasize the importance of regulatory compliance, and that



ROUTE 3 BOX 7  
GALLUP  
NEW MEXICO 87301

PHONE  
505-722-3833  
INTERNET  
WWW.GIANT.COM

2006 JUN 21 PM 12 17

June 19, 2006

Richard Powell  
New Mexico Environmental Department  
Surface Water Quality Bureau  
P.O. Box 26110  
Santa Fe NM 87502-6110

**Re: Response to NPDES Storm Water Compliance Inspection Report, Ciniza Refinery, NPDES #NMR05B157**

Dear Mr. Powell:

This letter is to update you on a couple action items that were addressed in the written inspection report you provided for the Ciniza refinery inspection on November 10, 2005.

- ✓ LPG Tank Farm Area – an earthen berm was engineered and constructed for this area to keep storm water from this northern/eastern portion zero discharge. Berm construction was completed in late February 2006.
- ✓ South Side Main Process Area – the area of broken and missing curbing. The broken curbing was demolished and replaced with new concrete curbing and curbing was installed in areas were it had not been present. This work will be completed this week.
- ✓ Area Along North Side of Facility – additional earthen berms were constructed in the grassy swale area and a berm was constructed around the fire training diesel tank. This work was completed in late February 2006.

Giant appreciates these suggestions for improvements in its storm water management system. Thank you for this opportunity to respond with additional information.

Sincerely,

Ed Riege

Environmental Superintendent

c: Marcia Gail Bohling, USEPA (6EN-AS)  
USEPA, NPDES Permits Branch (6WQ-P)  
NMED, District V, Grants  
Carl Chavez/Wayne Price, OCD, Santa Fe  
Ed Rios Giant, Ciniza  
David Kirby Giant, Scottsdale

**Chavez, Carl J, EMNRD**

---

**From:** Chavez, Carl J, EMNRD  
**Sent:** Thursday, June 22, 2006 11:49 AM  
**To:** 'Jim Lieb'; Steve Morris; Ed Riege  
**Cc:** Foust, Denny, EMNRD; Price, Wayne, EMNRD; Powell, Brandon, EMNRD; Monzeglio, Hope, NMENV; Cobrain, Dave, NMENV  
**Subject:** Ciniza Flow Meters

Jim:

Hi. The OCD went to the website to evaluate the Palmer-Bowlus flow meters that you are proposing to use at Ciniza. They are not equipped with a totalizer and instantaneous readout as requested by the OCD/HWB. According to Wayne Price, he recommends ultrasonic meters, which have few moving parts and are very dependable over time.

Regarding the New API Separator, we are awaiting an as-built drawing to scale to help evaluate the problem there. We did receive a couple of drawings, but they do not appear to reflect the as-built or current construction and/or site-specific conditions at and near the NAPI at Ciniza.

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/>  
(Pollution Prevention Guidance is under "Publications")

**Chavez, Carl J, EMNRD**

---

**From:** Chavez, Carl J, EMNRD  
**Sent:** Thursday, June 22, 2006 11:36 AM  
**To:** Monzeglio, Hope, NMENV; Price, Wayne, EMNRD  
**Cc:** Cobrain, Dave, NMENV  
**Subject:** RE: Excavated soil at Aeration lagoons and Evaporation Ponds

Hope:

Hi. After reviewing the analytical data, the OCD can allow Giant to bioremediate the excavated soils in there landfarm on-site if they wish to do so. If they decide to dispose of the non-hazardous waste at a solid waste management facility, they will need to meet the requirements of the facility and can review OCD Rule 712 for further guidance at [http://www.emnrd.state.nm.us/emnrd/ocd/documents/RULEBOOK060328\\_004.pdf](http://www.emnrd.state.nm.us/emnrd/ocd/documents/RULEBOOK060328_004.pdf).

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  
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Website: <http://www.emnrd.state.nm.us/ocd/>  
(Pollution Prevention Guidance is under "Publications")

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**From:** Monzeglio, Hope, NMENV  
**Sent:** Tuesday, June 20, 2006 8:25 AM  
**To:** Chavez, Carl J, EMNRD; Price, Wayne, EMNRD  
**Cc:** Cobrain, Dave, NMENV  
**Subject:** Excavated soil at Aeration lagoons and Evaporation Ponds

Wayne and Carl

I am drafting up a letter to Giant pertaining to the excavated soils from the aeration lagoons and evaporation ponds in which Giant requested a "contained in determination". NMED has determined the soil excavated from around the banks of aeration lagoons one and two and evaporation ponds one and two do not need to be managed as hazardous waste.

As part of NMEDs approval, we are going to tell Giant they must dispose of the soil in an appropriate landfill or onsite in a designated Oil Conservations Division (OCD) landfill only with the approval from OCD. The final disposal location must be approved by NMED and OCD. Or if OCD does not want the soil in the landfarm, in the letter we can tell Giant they must dispose of the soil offsite.

Please let me know which soil disposal action OCD is ok with Monday June 26.

Thanks

Hope

6/22/2006

Hope Monzeglio  
Environmental Specialist  
New Mexico Environment Department  
Hazardous Waste Bureau  
2905 Rodeo Park Drive East, BLDG 1  
Santa Fe NM 87505  
Phone: (505) 428-2545  
Fax: (505)-428-2567  
[hope.monzeglio@state.nm.us](mailto:hope.monzeglio@state.nm.us)

**Chavez, Carl J, EMNRD**

---

**From:** Chavez, Carl J, EMNRD  
**Sent:** Tuesday, June 20, 2006 5:00 PM  
**To:** 'Jim Lieb'  
**Cc:** Ed Riege; Steve Morris; Loren Pritzel; Tony Allen; Price, Wayne, EMNRD  
**Subject:** RE: Giant Refinery Zinc Oxide Disposal Request

Jim:

The OCD requires that Giant follow the requirements of its permit. If a change to the permit conditions is needed, then the permit should be modified (minor modification).

Rule 712 below (see link) will need to be investigated by Giant to see if it is legal or permissible to dispose of the material into a municipal landfill.

[http://www.emnrd.state.nm.us/emnrd/ocd/documents/RULEBOOK060328\\_004.pdf](http://www.emnrd.state.nm.us/emnrd/ocd/documents/RULEBOOK060328_004.pdf)

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  
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Website: <http://www.emnrd.state.nm.us/ocd/>  
(Pollution Prevention Guidance is under "Publications")

---

**From:** Jim Lieb [mailto:[jlieb@giant.com](mailto:jlieb@giant.com)]  
**Sent:** Tuesday, June 20, 2006 10:30 AM  
**To:** Chavez, Carl J, EMNRD  
**Cc:** Ed Riege; Steve Morris; Loren Pritzel; Tony Allen  
**Subject:** RE: Giant Refinery Zinc Oxide Disposal Request

Carl:

We would like to dispose of this amount due to the very high cost to ship out east to the recycler (greater than \$3,000 just for the shipping not including the recycling charge. I will discuss with the process engineer when he returns next week about whether we can make a tolling arrangement with a catalyst supplier for a supply and return program on this material.

Thanks,

Jim Lieb

---

**From:** Chavez, Carl J, EMNRD [mailto:[CarlJ.Chavez@state.nm.us](mailto:CarlJ.Chavez@state.nm.us)]  
**Sent:** Tuesday, June 20, 2006 6:48 AM  
**To:** Johnny Sanchez  
**Cc:** Ed Riege; Steve Morris; Jim Lieb  
**Subject:** RE: Giant Refinery Zinc Oxide Disposal Request

Johnny:

6/20/2006

Good morning. According to the discharge permit, spent zinc oxide spent catalyst is recycled by an off-site metal recovery service. Shouldn't this go to the recycle center? 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  
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Website: <http://www.emnrd.state.nm.us/ocd/>  
(Pollution Prevention Guidance is under "Publications")

---

**From:** Johnny Sanchez [mailto:JohnnyS@giant.com]  
**Sent:** Monday, June 19, 2006 1:10 PM  
**To:** Chavez, Carl J, EMNRD  
**Cc:** Ed Riege; Steve Morris; Jim Lieb  
**Subject:** FW: Giant Refinery Zinc Oxide Disposal Request

Hi Carl,  
I need to know if you would approve Giant to dispose of about 5500 pounds of Spent Zinc Oxide to NWNM Regional Solid Waste Authority-Redrock Landfill. I have received approval from Steve Barela at Redrock, now I need your approval. Enclosed are lab results. Please let me know.

Thanks

---

**From:** Steve Barela [mailto:srbarela@starband.net]  
**Sent:** Friday, June 16, 2006 1:19 PM  
**To:** Johnny Sanchez  
**Subject:** RE: Giant Refinery Zinc Oxide Disposal Request

Johnny, If NMED approves – no problem.

---

**From:** Johnny Sanchez [mailto:JohnnyS@giant.com]  
**Sent:** Wednesday, June 14, 2006 11:02 AM  
**To:** srbarela@starband.net  
**Subject:** Giant Refinery Zinc Oxide Disposal Request

Hi Steve,  
Giant would like to know if you will accept the disposal of about 5500 pounds of Spent Zinc Oxide. Attached are lab results. Please let me know. I will also need to get NMED approval.

Thanks

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**Chavez, Carl J, EMNRD**

---

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**Sent:** Monday, June 19, 2006 1:10 PM  
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**Cc:** Ed Riege; Steve Morris; Jim Lieb  
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Thanks

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**Sent:** Friday, June 16, 2006 1:19 PM  
**To:** Johnny Sanchez  
**Subject:** RE: Giant Refinery Zinc Oxide Disposal Request

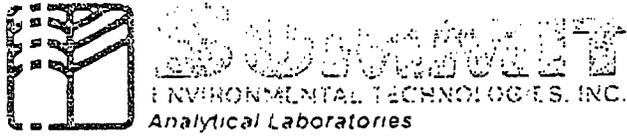
Johnny, If NMED approves – no problem.

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**From:** Johnny Sanchez [mailto:JohnnyS@giant.com]  
**Sent:** Wednesday, June 14, 2006 11:02 AM  
**To:** srbarela@starband.net  
**Subject:** Giant Refinery Zinc Oxide Disposal Request

Hi Steve,  
Giant would like to know if you will accept the disposal of about 5500 pounds of Spent Zinc Oxide. Attached are lab results. Please let me know. I will also need to get NMED approval.

Thanks



5

April 19, 2001

Client: Giant Refining Company (Gallup)  
Address: Route 3, Box 7  
Gallup, NM 87301

Date Collected: 4/10/01  
Date Received: 4/12/01  
Project #: N/A  
Client ID #: Zinc Oxide  
Laboratory ID #: 011432-02  
Matrix: Solid  
Extraction Method: 1311  
Date of Analysis: 4/16/01

TCLP Volatiles

<u>Parameter</u>	<u>Detection Limit</u> (mg/L)	<u>Results</u> (mg/L)	<u>Regulatory Level</u> (mg/L)
1,1-Dichloroethene	0.10	<0.1	0.70
1,2-Dichloroethane	0.10	<0.1	0.50
2-Butanone (MEK)	2.0	<2.0	200.0
Benzene	0.10	0.2	0.50
Carbon tetrachloride	0.10	<0.1	0.50
Chlorobenzene	0.10	<0.1	100.0
Chloroform	0.10	<0.1	6.0
Tetrachloroethene	0.10	<0.1	0.70
Trichloroethene	0.10	<0.1	0.50
Vinyl Chloride	0.20	<0.2	0.20

Laboratory Manager: Bassam Youssef

**Chavez, Carl J, EMNRD**

---

**From:** Steve Morris [smorris@giant.com]

**Sent:** Monday, June 19, 2006 9:41 AM

**To:** Chavez, Carl J, EMNRD; Cobrain, Dave, NMENV; Foust, Denny, EMNRD; Ed Riege; Monzeglio, Hope, NMENV; Jim Lieb; Johnny Sanchez; Steve Morris; Price, Wayne, EMNRD

**Subject:** Ciniza Weekly Update for Week of June 16th, 2006

1. Lori Laster with Vector Arizona is working on the engineering plan for the new firewater/stormwater pond.
2. Jim Lieb is corresponding with Carl Chavez (OCD) on the selection of appropriate flow devices for the various water flows needed.
3. Attached are lab results from Pond 2 inlet water as well as from Pond 2 post clean up.



COVER LETTER

Friday, June 09, 2006

Steve Morris  
Giant Refining Co  
Rt. 3 Box 7  
Gallup, NM 87301

TEL: (505) 722-3833

FAX (505) 722-0210

RE: Evap. Pond #2 Inlet 5/25/06

Order No.: 0605289

Dear Steve Morris:

Hall Environmental Analysis Laboratory received 1 sample(s) on 5/26/2006 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,

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

AZ license # AZ0682  
ORELAP Lab # NM100001



HALL ENVIRONMENTAL  
 attn: ANDY FREEMAN  
 4901 HAWKINS NE, SUITE D  
 ALBUQUERQUE NM 87109-4372

Explanation of codes	
B	Analyte Detected in Method Blank
E	Result is Estimated
H	Analyzed Out of Hold Time
N	Tentatively Identified Compound
S	Subcontracted
1-9	See Footnote

STANDARD

Assalgal Analytical Laboratories, Inc.

### Certificate of Analysis

All samples are reported on an "as received" basis, unless otherwise noted (i.e. - Dry Weight).

Client: HALL ENVIRONMENTAL  
 Project: 0605289  
 Order: 0605657 HAL03 Receipt: 05-26-06

William P. Blava: President of Assalgal Analytical Laboratories, Inc.

Sample: 0605289-01A POND 2 INLET Collected: 05-25-06 8:30:00 By:  
 Matrix: AQUEOUS

QC Group	Run Sequence	CAS #	Analyte	Result	Units	Dilution Factor	Detection Limit	Code	Prep Date	Run Date
0605657-0001A			EPA 405.1 Biochemical Oxygen Demand					By: NJL		
BOD06065	WC.2006.1350.22	10-26-4	Biochemical Oxygen Demand	304	mg/L	1	2		05-26-06	05-31-06

Sample: 0605289-01B POND 2 INLET Collected: 05-25-06 8:30:00 By:  
 Matrix: AQUEOUS

QC Group	Run Sequence	CAS #	Analyte	Result	Units	Dilution Factor	Detection Limit	Code	Prep Date	Run Date
0605657-0002A			EPA 410.1 Chemical Oxygen Demand					By: NJL		
WCOD08038	WC.2006.1390.11	C-004	Chemical Oxygen Demand	1120	mg/L	1	10		06-06-06	06-06-06

Unless otherwise noted, all samples were received in acceptable condition and all sampling was performed by client or client representative. Sample result of ND indicates Not Detected, in result is less than the sample specific Detection Limit. Sample specific Detection Limit is determined by multiplying the sample Dilution Factor by the listed Reporting Detection Limit. All results relate only to the items tested. Any miscellaneous workorder information or footnotes will appear below.

Analytical results are not corrected for method blank or field blank contamination.

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name GIANTREFIN

Date and Time Received:

5/26/2006

Work Order Number 0605289

Received by LMM

Checklist completed by [Signature] 5-26-06  
Signature Date

Matrix

Carrier name UPS

- 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? Yes  No
- No VOA vials submitted  Yes  No
- Water - pH acceptable upon receipt? Yes  No  N/A

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: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

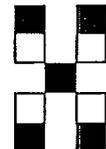
Corrective Action \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

# CHAIN-OF-CUSTODY RECORD

Client: *Giant Refining Company - Arizona*  
 Address: *Rte 3 Box 7 Gallup, NM 87301*  
 Phone #: *505 722 3833*  
 Fax #: *505 722 0210*

QA / GC Package:  
 Std  Level 4   
 Other: \_\_\_\_\_  
 Project Name: *Evap. Pond # 2 Inlet 5-25-06*  
 Project #:  
 Project Manager: *Steve Morris*  
 Sampler: *Steve Morris*  
 Sample Temperature: *60*



**HALL ENVIRONMENTAL ANALYSIS LABORATORY**  
 4901 Hawkins NE, Suite D  
 Albuquerque, New Mexico 87109  
 Tel. 505.345.3975 Fax 505.345.4107  
 www.hallenvironmental.com

## ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative			HEAL No.	BTX + MTBE + TMB's (8021)	BTX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	ED6 (Method 504.1)	EDC (Method 8021)	8910 (PMA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / PCB's (8082)	8260B (VDA)	8270 (Semi-VDA)	BOD	COD	Air Bubbles or Headspace (Y or N)	
					HgCl <sub>2</sub>	HNO <sub>3</sub>																		
<i>5/25/06</i>	<i>0830</i>	<i>H<sub>2</sub>O</i>	<i>Pond 2 Inlet</i>	<i>2</i>				<i>06052589</i>														<i>X</i>	<i>X</i>	



COVER LETTER

Wednesday, June 07, 2006

Steve Morris  
Giant Refining Co  
Rt. 3 Box 7  
Gallup, NM 87301

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

RE: Evap. Pond #2 Post Cleanup 6-1-2006

Order No.: 0606032

Dear Steve Morris:

Hall Environmental Analysis Laboratory received 4 sample(s) on 6/2/2006 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,

A handwritten signature in black ink, appearing to read "Andy Freeman".

Andy Freeman, Business Manager  
Nancy McDuffie, Laboratory Manager

AZ license # AZ0682  
ORELAP Lab # NM100001



**Hall Environmental Analysis Laboratory**

Date: 07-Jun-06

---

**CLIENT:** Giant Refining Co  
**Project:** Evap. Pond #2 Post Cleanup 6-1-2006  
**Lab Order:** 0606032

---

**CASE NARRATIVE**

"S" flags denote that the surrogate was not recoverable due to sample dilution or matrix interferences.

# Hall Environmental Analysis Laboratory

Date: 07-Jun-06

CLIENT: Giant Refining Co  
 Lab Order: 0606032  
 Project: Evap. Pond #2 Post Cleanup 6-1-2006  
 Lab ID: 0606032-01

Client Sample ID: Pond 2 Bank 1  
 Collection Date: 6/1/2006 10:00:00 AM  
 Date Received: 6/2/2006  
 Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: SCC
Diesel Range Organics (DRO)	18000	2000		mg/Kg	200	6/6/2006 8:38:24 AM
Motor Oil Range Organics (MRO)	ND	10000		mg/Kg	200	6/6/2006 8:38:24 AM
Surr: DNOP	0	61.7-135	S	%REC	200	6/6/2006 8:38:24 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	ND	100		mg/Kg	20	6/6/2006 12:05:02 PM
Surr: BFB	142	81.7-127	S	%REC	20	6/6/2006 12:05:02 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.0		mg/Kg	20	6/6/2006 12:05:02 PM
Benzene	ND	1.0		mg/Kg	20	6/6/2006 12:05:02 PM
Toluene	ND	1.0		mg/Kg	20	6/6/2006 12:05:02 PM
Ethylbenzene	ND	1.0		mg/Kg	20	6/6/2006 12:05:02 PM
Xylenes, Total	ND	3.0		mg/Kg	20	6/6/2006 12:05:02 PM
Surr: 4-Bromofluorobenzene	113	77.6-114		%REC	20	6/6/2006 12:05:02 PM

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

# Hall Environmental Analysis Laboratory

Date: 07-Jun-06

<b>CLIENT:</b>	Giant Refining Co	<b>Client Sample ID:</b>	Pond 2 BTM
<b>Lab Order:</b>	0606032	<b>Collection Date:</b>	6/1/2006 10:15:00 AM
<b>Project:</b>	Evap. Pond #2 Post Cleanup 6-1-2006	<b>Date Received:</b>	6/2/2006
<b>Lab ID:</b>	0606032-02	<b>Matrix:</b>	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: SCC
Diesel Range Organics (DRO)	1400	200		mg/Kg	20	6/6/2006 9:11:13 AM
Motor Oil Range Organics (MRO)	ND	1000		mg/Kg	20	6/6/2006 9:11:13 AM
Surr: DNOP	0	61.7-135	S	%REC	20	6/6/2006 9:11:13 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	ND	25		mg/Kg	5	6/6/2006 12:34:13 PM
Surr: BFB	149	81.7-127	S	%REC	5	6/6/2006 12:34:13 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.50		mg/Kg	5	6/6/2006 12:34:13 PM
Benzene	ND	0.25		mg/Kg	5	6/6/2006 12:34:13 PM
Toluene	ND	0.25		mg/Kg	5	6/6/2006 12:34:13 PM
Ethylbenzene	ND	0.25		mg/Kg	5	6/6/2006 12:34:13 PM
Xylenes, Total	1.3	0.75		mg/Kg	5	6/6/2006 12:34:13 PM
Surr: 4-Bromofluorobenzene	125	77.6-114	S	%REC	5	6/6/2006 12:34:13 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	ND Not Detected at the Reporting Limit
	S Spike Recovery outside accepted recovery limits	

# Hall Environmental Analysis Laboratory

Date: 07-Jun-06

<b>CLIENT:</b>	Giant Refining Co	<b>Client Sample ID:</b>	Pond 2 Bank 2
<b>Lab Order:</b>	0606032	<b>Collection Date:</b>	6/1/2006 10:30:00 AM
<b>Project:</b>	Evap. Pond #2 Post Cleanup 6-1-2006	<b>Date Received:</b>	6/2/2006
<b>Lab ID:</b>	0606032-03	<b>Matrix:</b>	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: SCC
Diesel Range Organics (DRO)	9900	1000		mg/Kg	100	6/6/2006 9:44:02 AM
Motor Oil Range Organics (MRO)	ND	5000		mg/Kg	100	6/6/2006 9:44:02 AM
Surr: DNOP	0	61.7-135	S	%REC	100	6/6/2006 9:44:02 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	ND	50		mg/Kg	10	6/6/2006 1:03:18 PM
Surr: BFB	117	81.7-127		%REC	10	6/6/2006 1:03:18 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	1.0		mg/Kg	10	6/6/2006 1:03:18 PM
Benzene	ND	0.50		mg/Kg	10	6/6/2006 1:03:18 PM
Toluene	ND	0.50		mg/Kg	10	6/6/2006 1:03:18 PM
Ethylbenzene	ND	0.50		mg/Kg	10	6/6/2006 1:03:18 PM
Xylenes, Total	ND	1.5		mg/Kg	10	6/6/2006 1:03:18 PM
Surr: 4-Bromofluorobenzene	118	77.6-114	S	%REC	10	6/6/2006 1:03:18 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	ND Not Detected at the Reporting Limit
	S Spike Recovery outside accepted recovery limits	

# Hall Environmental Analysis Laboratory

Date: 07-Jun-06

**CLIENT:** Giant Refining Co  
**Lab Order:** 0606032  
**Project:** Evap. Pond #2 Post Cleanup 6-1-2006  
**Lab ID:** 0606032-04

**Client Sample ID:** Pond 2 Bank 3  
**Collection Date:** 6/1/2006 10:45:00 AM  
**Date Received:** 6/2/2006  
**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: SCC
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	6/6/2006 10:17:06 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	6/6/2006 10:17:06 AM
Sum: DNOP	97.8	61.7-135		%REC	1	6/6/2006 10:17:06 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/6/2006 2:01:31 PM
Sum: BFB	110	81.7-127		%REC	1	6/6/2006 2:01:31 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.10		mg/Kg	1	6/6/2006 2:01:31 PM
Benzene	ND	0.050		mg/Kg	1	6/6/2006 2:01:31 PM
Toluene	ND	0.050		mg/Kg	1	6/6/2006 2:01:31 PM
Ethylbenzene	ND	0.050		mg/Kg	1	6/6/2006 2:01:31 PM
Xylenes, Total	ND	0.15		mg/Kg	1	6/6/2006 2:01:31 PM
Sum: 4-Bromofluorobenzene	107	77.6-114		%REC	1	6/6/2006 2:01:31 PM

**Qualifiers:** \* Value exceeds Maximum Contaminant Level  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit

QA/QC SUMMARY REPORT

Client: Giant Refining Co  
 Project: Evap. Pond #2 Post Cleanup 6-1-2006

Work Order: 0606032

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8015 <span style="float:right">Batch ID: 10554</span>									
Sample ID: MB-10554		MBLK							Analysis Date: 6/6/2006
Diesel Range Organics (DRO)	ND	mg/Kg	10						
Motor Oil Range Organics (MRO)	ND	mg/Kg	50						
Sample ID: LCS-10554		LCS							Analysis Date: 6/6/2006
Diesel Range Organics (DRO)	47.47	mg/Kg	10	94.9	64.6	116			
Sample ID: LCSD-10554		LCSD							Analysis Date: 6/6/2006
Diesel Range Organics (DRO)	50.04	mg/Kg	10	100	64.6	116	5.27	17.4	
Method: SW8015 <span style="float:right">Batch ID: 10550</span>									
Sample ID: MB-10550		MBLK							Analysis Date: 6/5/2006
Gasoline Range Organics (GRO)	ND	mg/Kg	5.0						
Sample ID: LCS-10550		LCS							Analysis Date: 6/6/2006
Gasoline Range Organics (GRO)	22.40	mg/Kg	5.0	89.6	73.4	115			
Sample ID: LCSD-10550		LCSD							Analysis Date: 6/6/2006
Gasoline Range Organics (GRO)	22.80	mg/Kg	5.0	91.2	73.4	115	1.77	11.6	
Method: SW8021 <span style="float:right">Batch ID: 10550</span>									
Sample ID: MB-10550		MBLK							Analysis Date: 6/5/2006
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	0.15						
Sample ID: LCS-10550		LCS							Analysis Date: 6/5/2006
Methyl tert-butyl ether (MTBE)	0.3799	mg/Kg	0.10	95.0	67.9	135			
Benzene	0.3061	mg/Kg	0.050	80.6	77.5	123			
Toluene	1.909	mg/Kg	0.050	90.9	85.3	129			
Ethylbenzene	0.3925	mg/Kg	0.050	101	79.6	121			
Xylenes, Total	2.273	mg/Kg	0.15	108	80	130			
Sample ID: LCSD-10550		LCSD							Analysis Date: 6/5/2006
Methyl tert-butyl ether (MTBE)	0.3753	mg/Kg	0.10	93.8	67.9	135	1.22	28	
Benzene	0.3074	mg/Kg	0.050	80.9	77.5	123	0.424	27	
Toluene	1.991	mg/Kg	0.050	94.8	85.3	129	4.20	19	
Ethylbenzene	0.4160	mg/Kg	0.050	107	79.6	121	5.81	10	
Xylenes, Total	2.422	mg/Kg	0.15	115	80	130	6.36	13	

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

Sample Receipt Checklist

Client Name GIANTREFIN

Date and Time Received:

6/2/2006

Work Order Number 0606032

Received by AT

Checklist completed by

*[Handwritten Signature]*

Date

*6/2/06*

Matrix

Carrier name UPS

- 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? Yes  No VOA vials submitted  Yes  No
- Water - pH acceptable upon receipt? Yes  No  N/A
- 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 \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

# CHAIN-OF-CUSTODY RECORD

QA / QC Package:

Std  Level 4

Other: \_\_\_\_\_

Client: *Giant Refining*

Project Name: *Evap Pond 2*

Company: *Coniza*

Post Cleanup 6-1-2006

Address: *Route 3 Box 7*

Project #:

*Gallup, NM 87301*

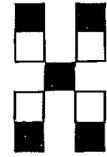
Project Manager: *Steve Morris*

Phone #: *505 722 3833*

Sampler: *Johnny Sanchez*

Fax #: *505 722 0210*

Sample Temperature: *60C*



**HALL ENVIRONMENTAL ANALYSIS LABORATORY**  
 4901 Hawkins NE, Suite D  
 Albuquerque, New Mexico 87109  
 Tel. 505.345.3975 Fax 505.345.4107  
 www.hallenvironmental.com

## ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative		HEAL No.	BTEX + MTBE + <del>THPs</del> (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles or Headspace (Y or N)	
					HgCl <sub>2</sub>	HNO <sub>3</sub>															
<i>6/1/06</i>	<i>1000</i>	<i>non aqueous</i>	<i>Pond 2 Bank ①</i>				<i>0606032-1</i>	X	X												
<i>"</i>	<i>1015</i>	<i>"</i>	<i>Pond 2 BTM</i>				<i>-2</i>	X	X												
<i>"</i>	<i>1030</i>	<i>"</i>	<i>Pond 2 Bank ②</i>				<i>-3</i>	X	X												
<i>"</i>	<i>1045</i>	<i>"</i>	<i>Pond 2 Bank ③</i>				<i>-4</i>	X	X												

Date: *6/1/06* Time: Relinquished By: (Signature) *Steve Morris*

Received By: (Signature) *[Signature]* *6/1/06*

Remarks: *RUSH*

Date: Time: Relinquished By: (Signature)

Received By: (Signature) *[Signature]* *1232*



COVER LETTER

Friday, June 09, 2006

Steve Morris  
Giant Refining Co  
Rt. 3 Box 7  
Gallup, NM 87301

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

RE: Evap. Pond #2 Inlet 6/1/06

Order No.: 0606033

Dear Steve Morris:

Hall Environmental Analysis Laboratory received 1 sample(s) on 6/2/2006 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,

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

AZ license # AZ0682  
ORELAP Lab # NM100001



HALL ENVIRONMENTAL  
 attn: ANDY FREEMAN  
 4901 HAWKINS NE, SUITE D  
 ALBUQUERQUE NM 87109-4372

Explanation of codes	
B	Analyte Detected in Method Blank
E	Result is Estimated
H	Analyzed Out of Hold Time
N	Tentatively Identified Compound
S	Subcontracted
1-9	See Footnote

STANDARD

Assaigal Analytical Laboratories, Inc.

### Certificate of Analysis

All samples are reported on an "as received" basis, unless otherwise noted (i.e. - Dry Weight).

Client: HALL ENVIRONMENTAL  
 Project: 0606033  
 Order: 0606061 HAL03 Receipt: 06-02-06

William P. Blava: President of Assaigal Analytical Laboratories, Inc.

Sample: 0606033-01A POND 2 INLET Collected: 06-01-06 11:00:00 By:  
 Matrix: AQUEOUS

QC Group	Run Sequence	CAS #	Analyte	Result	Units	Dilution Factor	Detection Limit	Code	Prep Date	Run Date
0606061-0001A			EPA 410.1 Chemical Oxygen Demand					By: NJL		
WCOD06036	WC.2006.1390.13	C-004	Chemical Oxygen Demand	1080	mg/L	1	10		06-06-06	06-06-06

Sample: 0606033-01B POND 2 INLET Collected: 06-01-06 11:00:00 By:  
 Matrix: AQUEOUS

QC Group	Run Sequence	CAS #	Analyte	Result	Units	Dilution Factor	Detection Limit	Code	Prep Date	Run Date
0606061-0002A			EPA 405.1 Biochemical Oxygen Demand					By: NJL		
BOD06068	WC.2006.1409.1	10-26-4	Biochemical Oxygen Demand	363	mg/L	1	2		06-02-06	06-07-06

Unless otherwise noted, all samples were received in acceptable condition and all sampling was performed by client or client representative. Sample result of ND indicates Not Detected, ie result is less than the sample specific Detection Limit. Sample specific Detection Limit is determined by multiplying the sample Dilution Factor by the listed Reporting Detection Limit. All results relate only to the items tested. Any miscellaneous workorder information or footnotes will appear below.

Analytical results are not corrected for method blank or field blank contamination.

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name GIANTREFIN

Date and Time Received:

6/2/2006

Work Order Number 0606035

Received by AT

Checklist completed by

*[Handwritten Signature]*

6/2/06

Signature

Date

Matrix

Carrier name UPS

- 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? Yes  No  No VOA vials submitted  Yes  No
- Water - pH acceptable upon receipt? Yes  No  N/A

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:** Chavez, Carl J, EMNRD  
**Sent:** Thursday, June 15, 2006 9:55 AM  
**To:** 'Jim Lieb'  
**Cc:** Ed Riege; Steve Morris; Monzeglio, Hope, NMENV; Ed Rios; Price, Wayne, EMNRD  
**Subject:** RE: Ciniza Refinery Flow Meter Locations

Jim:

Good morning. Wayne and I discussed your msg. We are examining the Palmer-Bowlus type flumes with totalizers. Is there any specific model or type that you are proposing to use (see [http://tracomfrp.com/palmer\\_bowlus.htm](http://tracomfrp.com/palmer_bowlus.htm))? Please provide a link to info. on the specific type for our review.

Regarding the flow meter locations, the OCD requires monitoring between EP1 and EP2 and between AL2 and EP1. This will help us to determine infiltration loss, evaporation loss rates, and to better understand the overall treatment system capacity.

The OCD considers the flow from the OAPI drainage system to be an important flow monitoring point regardless of where the effluent is routed. While the flow rate of the pump is important to monitor to determine if it can keep up with drainage from the OAPI, the flow into the OAPI drainage system coming from an unidentified source(s) is also important to know. The OCD had anticipated that the continuous flow of contaminated water into the OAPI drainage network would be fixed. In consideration of the fire water evaporation pond (note: we have not received the design), Giant had proposed decommissioning the OAPI and routing water from the OAPI drainage network into the fire water pond. In consideration of this, the assumption by OCD was that the water would not be contaminated water and would be suitable for use as an emergency fire water source. Giant had verbally mentioned to me on May 9, 2006 that the dye test did not identify any leakage into the OAPI drainage network from the suspected process area. However, the OAPI continues to receive water coming from an unidentified source. Consequently, the OCD feels that there is a need to quantify the actual flow rate of water into the OAPI drainage network. We will need to meet or hold a conference call with Giant to further discuss the feasibility of the fire water pond as proposed on March 28, 2006, after reviewing the results of the dye test and NAPI issues discussed on March 28, 2006.

After receiving a couple of drawings of the NAPI, we are wondering whether the drawings reflect the more recent construction activities, i.e.; installation and/or repair of the secondary containment system, as built specifications, etc? Please clarify that the drawing represent the current construction of the NAPI or send current as-built drawings (to scale) for our review.

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/>  
(Pollution Prevention Guidance is under "Publications")

---

**From:** Jim Lieb [mailto:[jl Lieb@giant.com](mailto:jl Lieb@giant.com)]  
**Sent:** Thursday, June 15, 2006 8:50 AM  
**To:** Chavez, Carl J, EMNRD  
**Cc:** Ed Riege; Steve Morris; Monzeglio, Hope, NMENV; Ed Rios  
**Subject:** RE: Ciniza Refinery Flow Meter Locations  
**Importance:** High

Carl:

6/15/2006

We will install the integrated flow meters. OCD and HWB require at the locations, like using Palmer-Bowlus type flumes with totalizers. Yesterday, Hope emailed reply to us that monitoring flow at location EP1 to EP2 in lieu of AL2 to EP1 was acceptable to the HWB. Would the alternate monitoring location also be acceptable to the OCD?

I'm not sure how you came to the conclusion that the flow rate to the NAPIS from the OAPIS is 0.5 gpm. I recall mentioning the 0.5 gpm rate as a "guesstimate" of the dry weather flow rate to the OAPIS. The Sandpiper pump that we are using to pump from the OAPIS to the NAPIS is capable of greater flow when it is running pumping down the level in the OAPIS. At this time we do not know what the actual flow rate is when the pump is running. To get an actual estimate of the flow, Steve Morris is going to run the discharge into a 55 gallon drum using a stopwatch feature on his watch. The NAPIS is capable of handling, and has been handling satisfactorily, the Sandpiper pumped flow from the OAPIS.

We will be forwarding the Trihydro sewer dye trace report including Giant's corrective action plan to OCD and HWB prior to June 26.

Regards,

Jim Lieb  
Giant - Ciniza

---

**From:** Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]  
**Sent:** Wednesday, June 14, 2006 2:53 PM  
**To:** Jim Lieb  
**Cc:** Ed Riege; Steve Morris; Monzeglio, Hope, NMENV  
**Subject:** RE: Ciniza Refinery Flow Meter Locations

Jim:

The OCD and HWB require integrated flow meters (flow meter with totalizer (cumulative volumes) with visual determination of flow rate upon inspection).

According to our March 28, 2006 meeting at the Ciniza Refinery, the OCD had asked the question about the maximum flow rate for the discharge from the OAPI to be routed to the NAPI. Giant informed us that the max. flow rate would need to be less than or equal to about 0.5 gpm for OAPI effluent to be routed to the NAPI. Exceedences of 0.5 gpm would result in effluent from the OAPI continuing to be routed or overflow (?) into AL1. The OCD and HWB approved this on an interim basis until Giant could assess and fix the leakage problems in the drainage system of the OAPI. Currently the OCD and HWB are awaiting the results of the dye test and Giant's officials determination of the nature of leakage into the OAPI drainage system and repairs needed to fix the problem.

The OCD and HWB have received the design of the NAPI as requested on March 28, 2006 to determine possible action(s) at the NAPI.

I hope this helps. Please contact me if you have questions. Thanks.

Carl J. Chavez, CHMM  
New Mexico Energy, Minerals & Natural Resources Dept.  
Oil Conservation Division, Environmental Bureau  
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Website: <http://www.emnrd.state.nm.us/ocd/>  
(Pollution Prevention Guidance is under "Publications")

---

**From:** Jim Lieb [mailto:jl Lieb@giant.com]  
**Sent:** Wednesday, June 14, 2006 1:19 PM  
**To:** Chavez, Carl J, EMNRD  
**Cc:** Ed Riege; Steve Morris; Monzeglio, Hope, NMENV  
**Subject:** RE: Ciniza Refinery Flow Meter Locations

6/15/2006

**Importance:** High

Carl:

There is no direct flow from the OAPIS to the AL1. Flow from the OAPIS goes directly to the NAPIS.

We would like to propose use of V-Notch meters as flow meters. We already have experience with V-Notches flow meters and they would be relatively inexpensive and quick to install in time for the study which will begin soon. We would make them permanent by setting them in concrete frames.

It will be very difficult to install a meter between AL2 and EP1. However, the flow between EP1 and EP2 is essentially the same as flow from AL2 to EP1 and could easily be installed.

Let me know.

Thank you,

Jim

---

**From:** Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]  
**Sent:** Wednesday, June 14, 2006 10:30 AM  
**To:** Jim Lieb  
**Cc:** Price, Wayne, EMNRD  
**Subject:** FW: Ciniza Refinery Flow Meter Locations

Jim:

I forgot to include item 6 below in my previous e-mail. Please include item 6 below in the flow meter monitoring location list.

- 1) PSE (pilot station effluent) to AL1 (aeration lagoon #1);
- 2) NAPIS (new API separator)- Benzene Stripper to AL1 (flow rate from benzene stripper to AL1);
- 3) OAPIS (old API separator) to AL1;
- 4) Boiler water to EP2 (evaporation pond #2); and
- 5) Flow between EP1 to EP2.
- 6) AL2 to EP1

Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM  
New Mexico Energy, Minerals & Natural Resources Dept.  
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1220 South St. Francis Dr., Santa Fe, New Mexico 87505  
Office: (505) 476-3491  
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Website: <http://www.emnrd.state.nm.us/ocd/>  
(Pollution Prevention Guidance is under "Publications")

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**From:** Chavez, Carl J, EMNRD  
**Sent:** Wednesday, June 14, 2006 9:20 AM  
**To:** 'Jim Lieb'  
**Cc:** Price, Wayne, EMNRD; Foust, Denny, EMNRD; Powell, Brandon, EMNRD; Cobrain, Dave, NMENV; Monzeglio, Hope, NMENV  
**Subject:** Ciniza Refinery Flow Meter Locations

Jim:

6/15/2006

Good morning. From our March 28, 2006 meeting, you may recall we discussed the locations for flow meter monitoring at Ciniza. The OCD and HWB require flow meters at the following locations:

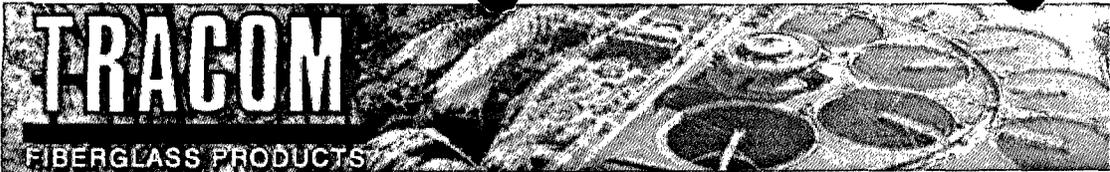
- 1) PSE (pilot station effluent) to AL1 (aeration lagoon #1);
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- 3) OAPIS (old API separator) to AL1;
- 4) Boiler water to EP2 (evaporation pond #2); and
- 5) Flow between EP1 to EP2.

Please contact me if you have questions. Thank you.

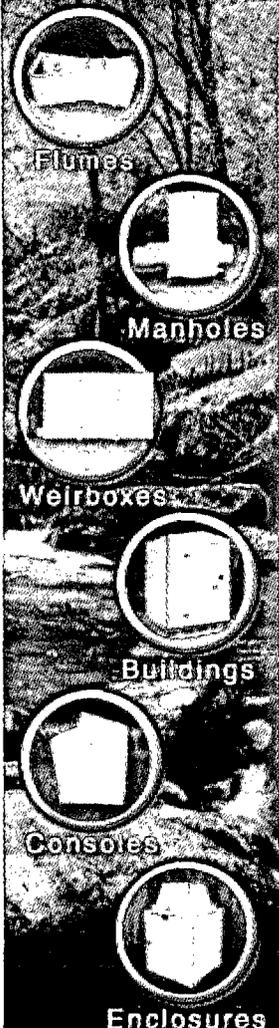
Carl J. Chavez, CHMM  
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Office: (505) 476-3491  
Fax: (505) 476-3462  
E-mail: [CarlJ.Chavez@state.nm.us](mailto:CarlJ.Chavez@state.nm.us)  
Website: <http://www.emnrd.state.nm.us/ocd/>  
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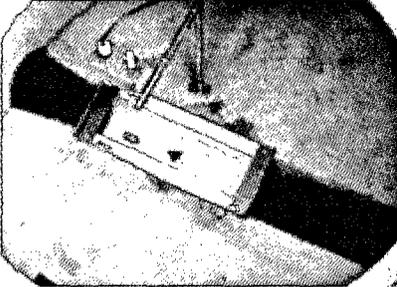
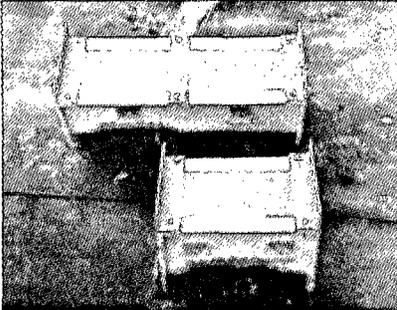
PRODUCTS HOME



## Palmer-Bowlus

The Palmer-Bowlus flume takes its name from its inventors, Harold Palmer and Fred Bowlus. The flume was developed for the Los Angeles County Sanitation Department in the mid-1930's. The flume was specifically designed to be a simple and effective wastewater flow-measuring device. The flume is essentially a restriction in the channel and is sized according to the width of the flume (typically, but not always, the width of the pipe it is connected to).

Palmer-Bowlus flumes are available from TRACOM in three different styles:

<p>4D+1"</p>	<p><b>Permanent Style</b></p> <ul style="list-style-type: none"> <li>● 2" top and end flanges</li> <li>● Integral approach section</li> <li>● Point of measurement inside of flume</li> <li>● Available with inlet and outlet end bulkheads to connect to existing pipe</li> </ul>	 <p>6" 4D+1" Style with Stainless Steel Ultrasonic Mounting Bracket</p>
<p>2D+1"</p>	<p><b>Portable Style</b></p> <ul style="list-style-type: none"> <li>● 2" top and end flanges</li> <li>● Shorter lay length than 4D+1" style</li> <li>● Point of measurement upstream (outside) of flume                             <ul style="list-style-type: none"> <li>○ Cannot be provided with bubble or sample tubes, submerged probe or Drexelbrook cavities, or staff gauges</li> </ul> </li> <li>● Available with outlet bulkhead to connect to existing pipe</li> </ul>	 <p>4" 4D+1" Style (top) 4" 2D+1" Style (bottom) Comparison</p>
<p>Insert</p>	<p><b>Insert Style</b></p> <ul style="list-style-type: none"> <li>● 2D+1" length</li> <li>● No top or end flanges</li> <li>● No support ribs</li> <li>● Intended to install into the lower half of an existing pipe</li> <li>● Reduced discharge capacity due to limited sidewall height O.D. of flume is I.D. of existing pipe</li> <li>● Point of measurement upstream (outside) of flume                             <ul style="list-style-type: none"> <li>○ Cannot be provided with bubble or sample tubes, submerged probe or Drexelbrook cavities, or staff gauges</li> </ul> </li> <li>● Not available with inlet or outlet</li> </ul>	 <p>6", 8", and 10" Insert Flumes</p>



For new construction the 4D+1" style is preferable due to the integral approach section. The 2D+1" style is more common in retrofit constructions where space is a concern, although problems can occur in that the head measurement is made upstream from the flume itself. TRACOM does not recommend the use of the 2D+1" style, unless there is a space concern, considering the marginal cost difference between it and the 4D+1" style and the additional labor that will be required to form the upstream channel properly so that an accurate level measurement can be taken.

Unlike the 4D+1" and 2D+1" styles, the Insert style does not have inlet or outlet flanges and is intended to fit into existing pipe. The overall geometry is similar to the 2D+1" style, but, unlike the 2D+1", the *O.D.* of the flume is the *I.D.* of the pipe.

### Options and Accessories

- Ultrasonic mounting brackets
- Bubble tubes
- Sample tubes
- Submerged probe cavities
- Stilling wells (attached and detached)
- Staff gauges
- Removable probe holders
- Inlet and outlet bulkheads
- Pipe stubs
- Flanged end connections
- FRP grating
- Riser boxes
- Transition entrances
- Nesting
- Multi-piece construction
- Chemically resistant gel coat

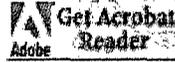
Listed below are various Palmer-Bowlus flume sizes and their recommended flow ranges.

Size	Recommended Flow Rates
4"	5-55 GPM
6"	15-148 GPM
8"	31-300 GPM
10"	56-521 GPM
12"	89-817 GPM
15"	148-1450 GPM
18"	239-2271 GPM
21"	358-3322 GPM
24"	356-3322 GPM
<i>For sizes above 24" consult the factory</i>	

### Specifications - Installation Instructions - Typical Drawing

If you would like additional information, pricing, or assistance in sizing and specifying a flume, please fill out and submit our flume application form.

**Note:** If you are unable to view those materials on your machine, please download Adobe Acrobat® 5.0 Reader.



Copyright © 2004, Tracom Inc. All Rights Reserved  
Toll-Free: 1.877.4FLUMES (1.877.435.8637)  
Phone: 1.770.664.6513 · Fax: 1.770.664.6565  
sales@tracomfrp.com  
6575-A Industrial Way  
Alpharetta, Georgia 30004 USA



**Chavez, Carl J, EMNRD**

---

**From:** Chavez, Carl J, EMNRD  
**Sent:** Wednesday, June 14, 2006 3:53 PM  
**To:** 'Jim Lieb'  
**Cc:** Ed Riege; Steve Morris; Monzeglio, Hope, NMENV  
**Subject:** RE: Ciniza Refinery Flow Meter Locations

Jim:

The OCD and HWB require integrated flow meters (flow meter with totalizer (cumulative volumes) with visual determination of flow rate upon inspection).

According to our March 28, 2006 meeting at the Ciniza Refinery, the OCD had asked the question about the maximum flow rate for the discharge from the OAPI to be routed to the NAPI. Giant informed us that the max. flow rate would need to be less than or equal to about 0.5 gpm for OAPI effluent to be routed to the NAPI. Exceedences of 0.5 gpm would result in effluent from the OAPI continuing to be routed or overflow (?) into AL1. The OCD and HWB approved this on an interim basis until Giant could assess and fix the leakage problems in the drainage system of the OAPI. Currently the OCD and HWB are awaiting the results of the dye test and Giant's officials determination of the nature of leakage into the OAPI drainage system and repairs needed to fix the problem.

The OCD and HWB have received the design of the NAPI as requested on March 28, 2006 to determine possible action(s) at the NAPI.

I hope this helps. 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  
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(Pollution Prevention Guidance is under "Publications")

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**From:** Jim Lieb [mailto:[jlieb@giant.com](mailto:jlieb@giant.com)]  
**Sent:** Wednesday, June 14, 2006 1:19 PM  
**To:** Chavez, Carl J, EMNRD  
**Cc:** Ed Riege; Steve Morris; Monzeglio, Hope, NMENV  
**Subject:** RE: Ciniza Refinery Flow Meter Locations  
**Importance:** High

Carl:

There is no direct flow from the OAPIS to the AL1. Flow from the OAPIS goes directly to the NAPIS.

We would like to propose use of V-Notch meters as flow meters. We already have experience with V-Notches flow meters and they would be relatively inexpensive and quick to install in time for the study which will begin soon. We would make them permanent by setting them in concrete frames.

It will be very difficult to install a meter between AL2 and EP1. However, the flow between EP1 and EP2 is essentially the same as flow from AL2 to EP1 and could easily be installed.

Let me know.

6/15/2006

Thank you,

Jim

---

**From:** Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]  
**Sent:** Wednesday, June 14, 2006 10:30 AM  
**To:** Jim Lieb  
**Cc:** Price, Wayne, EMNRD  
**Subject:** FW: Ciniza Refinery Flow Meter Locations

Jim:

I forgot to include item 6 below in my previous e-mail. Please include item 6 below in the flow meter monitoring location list.

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- 4) Boiler water to EP2 (evaporation pond #2); and
- 5) Flow between EP1 to EP2.
- 6) AL2 to EP1

Please contact me if you have questions. Thank you.

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**From:** Chavez, Carl J, EMNRD  
**Sent:** Wednesday, June 14, 2006 9:20 AM  
**To:** 'Jim Lieb'  
**Cc:** Price, Wayne, EMNRD; Foust, Denny, EMNRD; Powell, Brandon, EMNRD; Cobrain, Dave, NMENV; Monzeglio, Hope, NMENV  
**Subject:** Ciniza Refinery Flow Meter Locations

Jim:

Good morning. From our March 28, 2006 meeting, you may recall we discussed the locations for flow meter monitoring at Ciniza. The OCD and HWB require flow meters at the following locations:

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- 5) Flow between EP1 to EP2.

Please contact me if you have questions. Thank you.

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6/15/2006

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/>

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**Chavez, Carl J, EMNRD**

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**Sent:** Wednesday, June 14, 2006 9:20 AM  
**To:** 'Jim Lieb'  
**Cc:** Price, Wayne, EMNRD; Foust, Denny, EMNRD; Powell, Brandon, EMNRD; Cobrain, Dave, NMENV; Monzeglio, Hope, NMENV  
**Subject:** Ciniza Refinery Flow Meter Locations

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- 3) OAPIS (old API separator) to AL1; ~~into OAPIS~~
- 4) Boiler water to EP2 (evaporation pond #2); and
- 5) Flow between EP1 to EP2.

Please contact me if you have questions. Thank you.

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Website: <http://www.emnrd.state.nm.us/oecd/>  
(Pollution Prevention Guidance is under "Publications")

**Chavez, Carl J, EMNRD**

---

**From:** Jim Lieb [jlieb@giant.com]  
**Sent:** Tuesday, June 13, 2006 1:04 PM  
**To:** Monzeglio, Hope, NMENV; Chavez, Carl J, EMNRD  
**Cc:** Ed Riege; Ed Rios; Steve Morris  
**Subject:** RE: UPDATE: Sewer Dye Trace Study

Hope/Carl:

We are working diligently on this report including conclusions and recommendations for presentation to the OCD and the HWB. Our presentation will include an action plan for responding to the findings and recommendations in the report. We expect to submit the report and action plan before the June 26 date.

Jim Lieb  
Giant

---

**From:** Monzeglio, Hope, NMENV [mailto:hope.monzeglio@state.nm.us]  
**Sent:** Wednesday, May 24, 2006 8:47 AM  
**To:** Jim Lieb  
**Cc:** Cobrain, Dave, NMENV  
**Subject:** RE: Sewer Dye Trace Study

Jim

Thanks for the update. Receiving the report within 2 weeks of today's date is fine. If NMED does not receive the report by Monday June 26, 2006, Giant must submit an extension request letter that provides a specific due date for the submittal of the report. If you have any questions please contact me.

Hope

---

**From:** Jim Lieb [mailto:jlieb@giant.com]  
**Sent:** Wednesday, May 24, 2006 8:32 AM  
**To:** Monzeglio, Hope, NMENV  
**Cc:** Ed Riege; Steve Morris; Regina Allen  
**Subject:** Sewer Dye Trace Study

Hope:

Trihydro is currently in the process of preparing the report on the dye trace study they performed here earlier this month. We do not believe that we will be able to meet the 30 day report submittal requirement that was provided in the Hazardous Waste Bureau letter you submitted to Ed Riege dated May 5, 2006.

Trihydro has told me that they should have a draft report to Giant by this week. Provided a two week turn around for Giant to review the report and for Trihydro to incorporate Giant's comments, we believe a final report can be issued to HWB and OCD within 2 weeks of today's date. If it appears we will not be able to maintain this schedule I will let you know.

Sincerely,

Jim Lieb  
Environmental Engineer  
Giant Industries, Inc.  
Ciniza Refinery  
I-40, Exit 39  
Jamestown, NM 87347  
(505) 722-0227

6/14/2006

fax (505) 722-0210  
[jlleb@giant.com](mailto:jlleb@giant.com)

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**Chavez, Carl J, EMNRD**

---

**From:** Steve Morris [smorris@giant.com]

**Sent:** Monday, June 05, 2006 8:29 AM

**To:** Chavez, Carl J, EMNRD; Cobrain, Dave, NMENV; Foust, Denny, EMNRD; Ed Riege; Monzeglio, Hope, NMENV; Jim Lieb; Johnny Sanchez; Steve Morris; Price, Wayne, EMNRD

**Subject:** Ciniza Weekly Update for6/2/06

Evaporation pond #2 cleanup is complete except for gathering and moving contaminated material to staging area.

Samples were taken and shipped Thursday June 1, 2006 from the areas cleaned up as per OCD instructions.

Sample results from EP-2 Inlet and Stockpiled material from clean up of the Aeration lagoons and Pond one are attached.



COVER LETTER

Monday, May 15, 2006

Ed Riege  
Giant Refining Co  
Rt. 3 Box 7  
Gallup, NM 87301

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

RE: Stockpile Banks from Lagoons & Ponds

Order No.: 0605060

Dear Ed Riege:

Hall Environmental Analysis Laboratory received 12 sample(s) on 5/5/2006 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,

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

AZ license # AZ0682  
ORELAP Lab # NM100001



**Hall Environmental Analysis Laboratory**

Date: 15-May-06

---

**CLIENT:** Giant Refining Co  
**Project:** Stockpile Banks from Lagoons & Ponds  
**Lab Order:** 0605060

---

**CASE NARRATIVE**

"S" flags denote that the surrogate was not recoverable due to sample dilution or matrix interferences.

Reporting limits for many of the 8260 and 8270 samples are elevated due to the high amounts of diesel and motor oil range organic compounds in the samples.

# Hall Environmental Analysis Laboratory

Date: 15-May-06

<b>CLIENT:</b> Giant Refining Co	<b>Client Sample ID:</b> NW Comp
<b>Lab Order:</b> 0605060	<b>Collection Date:</b> 5/3/2006 9:30:00 AM
<b>Project:</b> Stockpile Banks from Lagoons & Ponds	<b>Date Received:</b> 5/5/2006
<b>Lab ID:</b> 0605060-01	<b>Matrix:</b> SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: SCC
Diesel Range Organics (DRO)	82000	1000		mg/Kg	100	5/10/2006 10:59:28 AM
Motor Oil Range Organics (MRO)	8000	5000		mg/Kg	100	5/10/2006 10:59:28 AM
Surr: DNOP	0	61.7-135	S	%REC	100	5/10/2006 10:59:28 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: HLM
Gasoline Range Organics (GRO)	ND	100		mg/Kg	20	5/8/2006 11:29:07 AM
Surr: BFB	104	81.7-127		%REC	20	5/8/2006 11:29:07 AM
<b>MERCURY, TCLP LEACHED</b>						Analyst: CMC
Mercury	ND	0.020		mg/L	1	5/11/2006
<b>EPA METHOD 8010B: TCLP METALS</b>						Analyst: NMO
Arsenic	ND	5.0		mg/L	1	5/12/2006 2:26:43 PM
Barium	ND	100		mg/L	1	5/12/2006 2:26:43 PM
Cadmium	ND	1.0		mg/L	1	5/12/2006 2:26:43 PM
Chromium	ND	5.0		mg/L	1	5/12/2006 2:26:43 PM
Lead	ND	5.0		mg/L	1	5/12/2006 2:26:43 PM
Selenium	ND	1.0		mg/L	1	5/12/2006 2:26:43 PM
Silver	ND	5.0		mg/L	1	5/12/2006 2:26:43 PM
<b>EPA METHOD 8270C: SEMIVOLATILES</b>						Analyst: BL
Acenaphthene	ND	40		mg/Kg	20	5/10/2006
Acenaphthylene	ND	40		mg/Kg	20	5/10/2006
Aniline	ND	40		mg/Kg	20	5/10/2006
Anthracene	ND	40		mg/Kg	20	5/10/2006
Azobenzene	ND	40		mg/Kg	20	5/10/2006
Benz(a)anthracene	ND	50		mg/Kg	20	5/10/2006
Benzo(a)pyrene	ND	40		mg/Kg	20	5/10/2006
Benzo(b)fluoranthene	ND	40		mg/Kg	20	5/10/2006
Benzo(g,h,i)perylene	ND	60		mg/Kg	20	5/10/2006
Benzo(k)fluoranthene	ND	100		mg/Kg	20	5/10/2006
Benzoic acid	ND	100		mg/Kg	20	5/10/2006
Benzyl alcohol	ND	200		mg/Kg	20	5/10/2006
Bis(2-chloroethoxy)methane	ND	100		mg/Kg	20	5/10/2006
Bis(2-chloroethyl)ether	ND	50		mg/Kg	20	5/10/2006
Bis(2-chloroisopropyl)ether	ND	100		mg/Kg	20	5/10/2006
Bis(2-ethylhexyl)phthalate	ND	40		mg/Kg	20	5/10/2006
4-Bromophenyl phenyl ether	ND	50		mg/Kg	20	5/10/2006

<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	ND Not Detected at the Reporting Limit
	S Spike Recovery outside accepted recovery limits	

# Hall Environmental Analysis Laboratory

Date: 15-May-06

<b>CLIENT:</b>	Giant Refining Co	<b>Client Sample ID:</b>	NW Comp
<b>Lab Order:</b>	0605060	<b>Collection Date:</b>	5/3/2006 9:30:00 AM
<b>Project:</b>	Stockpile Banks from Lagoons & Ponds	<b>Date Received:</b>	5/5/2006
<b>Lab ID:</b>	0605060-01	<b>Matrix:</b>	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8270C: SEMIVOLATILES</b>						Analyst: BL
Butyl benzyl phthalate	ND	40		mg/Kg	20	5/10/2006
Carbazole	ND	40		mg/Kg	20	5/10/2006
4-Chloro-3-methylphenol	ND	40		mg/Kg	20	5/10/2006
4-Chloroaniline	ND	40		mg/Kg	20	5/10/2006
2-Chloronaphthalene	ND	40		mg/Kg	20	5/10/2006
2-Chlorophenol	ND	40		mg/Kg	20	5/10/2006
4-Chlorophenyl phenyl ether	ND	40		mg/Kg	20	5/10/2006
Chrysene	ND	40		mg/Kg	20	5/10/2006
Di-n-butyl phthalate	ND	100		mg/Kg	20	5/10/2006
Di-n-octyl phthalate	ND	100		mg/Kg	20	5/10/2006
Dibenz(a,h)anthracene	ND	50		mg/Kg	20	5/10/2006
Dibenzofuran	ND	100		mg/Kg	20	5/10/2006
1,2-Dichlorobenzene	ND	40		mg/Kg	20	5/10/2006
1,3-Dichlorobenzene	ND	40		mg/Kg	20	5/10/2006
1,4-Dichlorobenzene	ND	40		mg/Kg	20	5/10/2006
3,3'-Dichlorobenzidine	ND	40		mg/Kg	20	5/10/2006
Diethyl phthalate	ND	40		mg/Kg	20	5/10/2006
Dimethyl phthalate	ND	40		mg/Kg	20	5/10/2006
2,4-Dichlorophenol	ND	40		mg/Kg	20	5/10/2006
2,4-Dimethylphenol	ND	40		mg/Kg	20	5/10/2006
4,6-Dinitro-2-methylphenol	ND	100		mg/Kg	20	5/10/2006
2,4-Dinitrophenol	ND	100		mg/Kg	20	5/10/2006
2,4-Dinitrotoluene	ND	40		mg/Kg	20	5/10/2006
2,6-Dinitrotoluene	ND	40		mg/Kg	20	5/10/2006
Fluoranthene	ND	40		mg/Kg	20	5/10/2006
Fluorene	ND	40		mg/Kg	20	5/10/2006
Hexachlorobenzene	ND	40		mg/Kg	20	5/10/2006
Hexachlorobutadiene	ND	40		mg/Kg	20	5/10/2006
Hexachlorocyclopentadiene	ND	50		mg/Kg	20	5/10/2006
Hexachloroethane	ND	100		mg/Kg	20	5/10/2006
Indeno(1,2,3-cd)pyrene	ND	40		mg/Kg	20	5/10/2006
Isophorone	ND	40		mg/Kg	20	5/10/2006
2-Methylnaphthalene	ND	40		mg/Kg	20	5/10/2006
2-Methylphenol	ND	40		mg/Kg	20	5/10/2006
3+4-Methylphenol	ND	40		mg/Kg	20	5/10/2006
N-Nitrosodi-n-propylamine	ND	40		mg/Kg	20	5/10/2006
N-Nitrosodiphenylamine	ND	40		mg/Kg	20	5/10/2006
Naphthalene	ND	40		mg/Kg	20	5/10/2006
2-Nitroaniline	ND	100		mg/Kg	20	5/10/2006
3-Nitroaniline	ND	100		mg/Kg	20	5/10/2006

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

# Hall Environmental Analysis Laboratory

Date: 15-May-06

<b>CLIENT:</b> Giant Refining Co	<b>Client Sample ID:</b> NW Comp
<b>Lab Order:</b> 0605060	<b>Collection Date:</b> 5/3/2006 9:30:00 AM
<b>Project:</b> Stockpile Banks from Lagoons & Ponds	<b>Date Received:</b> 5/5/2006
<b>Lab ID:</b> 0605060-01	<b>Matrix:</b> SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8270C: SEMIVOLATILES</b>						Analyst: BL
4-Nitroaniline	ND	50		mg/Kg	20	5/10/2006
Nitrobenzene	ND	40		mg/Kg	20	5/10/2006
2-Nitrophenol	ND	40		mg/Kg	20	5/10/2006
4-Nitrophenol	ND	40		mg/Kg	20	5/10/2006
Pentachlorophenol	ND	100		mg/Kg	20	5/10/2006
Phenanthrene	110	40		mg/Kg	20	5/10/2006
Phenol	ND	40		mg/Kg	20	5/10/2006
Pyrene	ND	40		mg/Kg	20	5/10/2006
Pyridine	ND	100		mg/Kg	20	5/10/2006
1,2,4-Trichlorobenzene	ND	40		mg/Kg	20	5/10/2006
2,4,5-Trichlorophenol	ND	40		mg/Kg	20	5/10/2006
2,4,6-Trichlorophenol	ND	40		mg/Kg	20	5/10/2006
Surr: 2,4,6-Tribromophenol	0	35.5-141	S	%REC	20	5/10/2006
Surr: 2-Fluorobiphenyl	91.8	30.4-128		%REC	20	5/10/2006
Surr: 2-Fluorophenol	537	28.1-129	S	%REC	20	5/10/2006
Surr: 4-Terphenyl-d14	0	34.6-151	S	%REC	20	5/10/2006
Surr: Nitrobenzene-d5	136	26.5-122	S	%REC	20	5/10/2006
Surr: Phenol-d5	204	37.6-118	S	%REC	20	5/10/2006

<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	ND Not Detected at the Reporting Limit
	S Spike Recovery outside accepted recovery limits	

# Hall Environmental Analysis Laboratory

Date: 15-May-06

<b>CLIENT:</b>	Giant Refining Co	<b>Client Sample ID:</b>	NE Comp
<b>Lab Order:</b>	0605060	<b>Collection Date:</b>	5/3/2006 9:35:00 AM
<b>Project:</b>	Stockpile Banks from Lagoons & Ponds	<b>Date Received:</b>	5/5/2006
<b>Lab ID:</b>	0605060-02	<b>Matrix:</b>	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: SCC
Diesel Range Organics (DRO)	44000	1000		mg/Kg	100	5/10/2006 11:32:15 AM
Motor Oil Range Organics (MRO)	6700	5000		mg/Kg	100	5/10/2006 11:32:15 AM
Surr: DNOP	0	61.7-135	S	%REC	100	5/10/2006 11:32:15 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: HLM
Gasoline Range Organics (GRO)	ND	50		mg/Kg	10	5/10/2006 10:42:03 PM
Surr: BFB	97.5	81.7-127		%REC	10	5/10/2006 10:42:03 PM
<b>MERCURY, TCLP LEACHED</b>						Analyst: CMC
Mercury	ND	0.020		mg/L	1	5/11/2006
<b>EPA METHOD 6010B: TCLP METALS</b>						Analyst: NMO
Arsenic	ND	5.0		mg/L	1	5/12/2006 2:31:03 PM
Barium	ND	100		mg/L	1	5/12/2006 2:31:03 PM
Cadmium	ND	1.0		mg/L	1	5/12/2006 2:31:03 PM
Chromium	ND	5.0		mg/L	1	5/12/2006 2:31:03 PM
Lead	ND	5.0		mg/L	1	5/12/2006 2:31:03 PM
Selenium	ND	1.0		mg/L	1	5/12/2006 2:31:03 PM
Silver	ND	5.0		mg/L	1	5/12/2006 2:31:03 PM
<b>EPA METHOD 8270C: SEMIVOLATILES</b>						Analyst: BL
Acenaphthene	ND	40		mg/Kg	20	5/10/2006
Acenaphthylene	ND	40		mg/Kg	20	5/10/2006
Aniline	ND	40		mg/Kg	20	5/10/2006
Anthracene	ND	40		mg/Kg	20	5/10/2006
Azobenzene	ND	40		mg/Kg	20	5/10/2006
Benz(a)anthracene	ND	50		mg/Kg	20	5/10/2006
Benzo(a)pyrene	ND	40		mg/Kg	20	5/10/2006
Benzo(b)fluoranthene	ND	40		mg/Kg	20	5/10/2006
Benzo(g,h,i)perylene	ND	60		mg/Kg	20	5/10/2006
Benzo(k)fluoranthene	ND	100		mg/Kg	20	5/10/2006
Benzolc acid	ND	100		mg/Kg	20	5/10/2006
Benzyl alcohol	ND	200		mg/Kg	20	5/10/2006
Bis(2-chloroethoxy)methane	ND	100		mg/Kg	20	5/10/2006
Bis(2-chloroethyl)ether	ND	50		mg/Kg	20	5/10/2006
Bis(2-chloroisopropyl)ether	ND	100		mg/Kg	20	5/10/2006
Bis(2-ethylhexyl)phthalate	ND	40		mg/Kg	20	5/10/2006
4-Bromophenyl phenyl ether	ND	50		mg/Kg	20	5/10/2006

Qualifiers: \* Value exceeds Maximum Contaminant Level  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit

# Hall Environmental Analysis Laboratory

Date: 15-May-06

<b>CLIENT:</b>	Giant Refining Co	<b>Client Sample ID:</b>	NE Comp
<b>Lab Order:</b>	0605060	<b>Collection Date:</b>	5/3/2006 9:35:00 AM
<b>Project:</b>	Stockpile Banks from Lagoons & Ponds	<b>Date Received:</b>	5/5/2006
<b>Lab ID:</b>	0605060-02	<b>Matrix:</b>	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8270C: SEMIVOLATILES</b>						Analyst: BL
Butyl benzyl phthalate	ND	40		mg/Kg	20	5/10/2006
Carbazole	ND	40		mg/Kg	20	5/10/2006
4-Chloro-3-methylphenol	ND	40		mg/Kg	20	5/10/2006
4-Chloroaniline	ND	40		mg/Kg	20	5/10/2006
2-Chloronaphthalene	ND	40		mg/Kg	20	5/10/2006
2-Chlorophenol	ND	40		mg/Kg	20	5/10/2006
4-Chlorophenyl phenyl ether	ND	40		mg/Kg	20	5/10/2006
Chrysene	ND	40		mg/Kg	20	5/10/2006
Di-n-butyl phthalate	ND	100		mg/Kg	20	5/10/2006
Di-n-octyl phthalate	ND	100		mg/Kg	20	5/10/2006
Dibenz(a,h)anthracene	ND	50		mg/Kg	20	5/10/2006
Dibenzofuran	ND	100		mg/Kg	20	5/10/2006
1,2-Dichlorobenzene	ND	40		mg/Kg	20	5/10/2006
1,3-Dichlorobenzene	ND	40		mg/Kg	20	5/10/2006
1,4-Dichlorobenzene	ND	40		mg/Kg	20	5/10/2006
3,3'-Dichlorobenzidine	ND	40		mg/Kg	20	5/10/2006
Diethyl phthalate	ND	40		mg/Kg	20	5/10/2006
Dimethyl phthalate	ND	40		mg/Kg	20	5/10/2006
2,4-Dichlorophenol	ND	40		mg/Kg	20	5/10/2006
2,4-Dimethylphenol	ND	40		mg/Kg	20	5/10/2006
4,6-Dinitro-2-methylphenol	ND	100		mg/Kg	20	5/10/2006
2,4-Dinitrophenol	ND	100		mg/Kg	20	5/10/2006
2,4-Dinitrotoluene	ND	40		mg/Kg	20	5/10/2006
2,6-Dinitrotoluene	ND	40		mg/Kg	20	5/10/2006
Fluoranthene	ND	40		mg/Kg	20	5/10/2006
Fluorene	ND	40		mg/Kg	20	5/10/2006
Hexachlorobenzene	ND	40		mg/Kg	20	5/10/2006
Hexachlorobutadiene	ND	40		mg/Kg	20	5/10/2006
Hexachlorocyclopentadiene	ND	50		mg/Kg	20	5/10/2006
Hexachloroethane	ND	100		mg/Kg	20	5/10/2006
Indeno(1,2,3-cd)pyrene	ND	40		mg/Kg	20	5/10/2006
Isophorone	ND	40		mg/Kg	20	5/10/2006
2-Methylnaphthalene	ND	40		mg/Kg	20	5/10/2006
2-Methylphenol	ND	40		mg/Kg	20	5/10/2006
3+4-Methylphenol	ND	40		mg/Kg	20	5/10/2006
N-Nitrosodi-n-propylamine	ND	40		mg/Kg	20	5/10/2006
N-Nitrosodiphenylamine	ND	40		mg/Kg	20	5/10/2006
Naphthalene	ND	40		mg/Kg	20	5/10/2006
2-Nitroaniline	ND	100		mg/Kg	20	5/10/2006
3-Nitroaniline	ND	100		mg/Kg	20	5/10/2006

<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	ND Not Detected at the Reporting Limit
	S Spike Recovery outside accepted recovery limits	

# Hall Environmental Analysis Laboratory

Date: 15-May-06

<b>CLIENT:</b> Giant Refining Co	<b>Client Sample ID:</b> NE Comp
<b>Lab Order:</b> 0605060	<b>Collection Date:</b> 5/3/2006 9:35:00 AM
<b>Project:</b> Stockpile Banks from Lagoons & Ponds	<b>Date Received:</b> 5/5/2006
<b>Lab ID:</b> 0605060-02	<b>Matrix:</b> SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8270C: SEMIVOLATILES</b>						Analyst: BL
4-Nitroaniline	ND	50		mg/Kg	20	5/10/2006
Nitrobenzene	ND	40		mg/Kg	20	5/10/2006
2-Nitrophenol	ND	40		mg/Kg	20	5/10/2006
4-Nitrophenol	ND	40		mg/Kg	20	5/10/2006
Pentachlorophenol	ND	100		mg/Kg	20	5/10/2006
Phenanthrene	58	40		mg/Kg	20	5/10/2006
Phenol	ND	40		mg/Kg	20	5/10/2006
Pyrene	ND	40		mg/Kg	20	5/10/2006
Pyridine	ND	100		mg/Kg	20	5/10/2006
1,2,4-Trichlorobenzene	ND	40		mg/Kg	20	5/10/2006
2,4,5-Trichlorophenol	ND	40		mg/Kg	20	5/10/2006
2,4,6-Trichlorophenol	ND	40		mg/Kg	20	5/10/2006
Surr: 2,4,6-Tribromophenol	0	35.5-141	S	%REC	20	5/10/2006
Surr: 2-Fluorobiphenyl	79.8	30.4-128		%REC	20	5/10/2006
Surr: 2-Fluorophenol	535	28.1-129	S	%REC	20	5/10/2006
Surr: 4-Terphenyl-d14	679	34.6-151	S	%REC	20	5/10/2006
Surr: Nitrobenzene-d5	116	26.5-122		%REC	20	5/10/2006
Surr: Phenol-d5	210	37.6-118	S	%REC	20	5/10/2006

<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	ND Not Detected at the Reporting Limit
	S Spike Recovery outside accepted recovery limits	

# Hall Environmental Analysis Laboratory

Date: 15-May-06

CLIENT: Giant Refining Co

Client Sample ID: MID W Comp

Lab Order: 0605060

Collection Date: 5/3/2006 9:40:00 AM

Project: Stockpile Banks from Lagoons & Ponds

Date Received: 5/5/2006

Lab ID: 0605060-03

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: SCC
Diesel Range Organics (DRO)	65000	1000		mg/Kg	100	5/10/2006 12:05:06 PM
Motor Oil Range Organics (MRO)	9400	5000		mg/Kg	100	5/10/2006 12:05:06 PM
Surr: DNOP	0	61.7-135	S	%REC	100	5/10/2006 12:05:06 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: HLM
Gasoline Range Organics (GRO)	ND	50		mg/Kg	10	5/8/2006 12:27:18 PM
Surr: BFB	157	81.7-127	S	%REC	10	5/8/2006 12:27:18 PM
<b>MERCURY, TCLP LEACHED</b>						Analyst: CMC
Mercury	ND	0.020		mg/L	1	5/11/2006
<b>EPA METHOD 6010B: TCLP METALS</b>						Analyst: NMO
Arsenic	ND	5.0		mg/L	1	5/12/2006 2:35:12 PM
Barium	ND	100		mg/L	1	5/12/2006 2:35:12 PM
Cadmium	ND	1.0		mg/L	1	5/12/2006 2:35:12 PM
Chromium	ND	5.0		mg/L	1	5/12/2006 2:35:12 PM
Lead	ND	5.0		mg/L	1	5/12/2006 2:35:12 PM
Selenium	ND	1.0		mg/L	1	5/12/2006 2:35:12 PM
Silver	ND	5.0		mg/L	1	5/12/2006 2:35:12 PM
<b>EPA METHOD 8270C: SEMIVOLATILES</b>						Analyst: BL
Acenaphthene	ND	40		mg/Kg	20	5/10/2006
Acenaphthylene	ND	40		mg/Kg	20	5/10/2006
Aniline	ND	40		mg/Kg	20	5/10/2006
Anthracene	ND	40		mg/Kg	20	5/10/2006
Azobenzene	ND	40		mg/Kg	20	5/10/2006
Benz(a)anthracene	ND	50		mg/Kg	20	5/10/2006
Benzo(a)pyrene	ND	40		mg/Kg	20	5/10/2006
Benzo(b)fluoranthene	ND	40		mg/Kg	20	5/10/2006
Benzo(g,h,i)perylene	ND	60		mg/Kg	20	5/10/2006
Benzo(k)fluoranthene	ND	100		mg/Kg	20	5/10/2006
Benzoic acid	ND	100		mg/Kg	20	5/10/2006
Benzyl alcohol	ND	200		mg/Kg	20	5/10/2006
Bis(2-chloroethoxy)methane	ND	100		mg/Kg	20	5/10/2006
Bis(2-chloroethyl)ether	ND	50		mg/Kg	20	5/10/2006
Bis(2-chloroisopropyl)ether	ND	100		mg/Kg	20	5/10/2006
Bis(2-ethylhexyl)phthalate	ND	40		mg/Kg	20	5/10/2006
4-Bromophenyl phenyl ether	ND	50		mg/Kg	20	5/10/2006

Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

# Hall Environmental Analysis Laboratory

Date: 15-May-06

CLIENT: Giant Refining Co  
 Lab Order: 0605060  
 Project: Stockpile Banks from Lagoons & Ponds  
 Lab ID: 0605060-03

Client Sample ID: MID W Comp  
 Collection Date: 5/3/2006 9:40:00 AM  
 Date Received: 5/5/2006  
 Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8270C: SEMIVOLATILES</b>						Analyst: BL
Butyl benzyl phthalate	ND	40		mg/Kg	20	5/10/2006
Carbazole	ND	40		mg/Kg	20	5/10/2006
4-Chloro-3-methylphenol	ND	40		mg/Kg	20	5/10/2006
4-Chloroaniline	ND	40		mg/Kg	20	5/10/2006
2-Chloronaphthalene	ND	40		mg/Kg	20	5/10/2006
2-Chlorophenol	ND	40		mg/Kg	20	5/10/2006
4-Chlorophenyl phenyl ether	ND	40		mg/Kg	20	5/10/2006
Chrysene	ND	40		mg/Kg	20	5/10/2006
Di-n-butyl phthalate	ND	100		mg/Kg	20	5/10/2006
Di-n-octyl phthalate	ND	100		mg/Kg	20	5/10/2006
Dibenz(a,h)anthracene	ND	50		mg/Kg	20	5/10/2006
Dibenzofuran	ND	100		mg/Kg	20	5/10/2006
1,2-Dichlorobenzene	ND	40		mg/Kg	20	5/10/2006
1,3-Dichlorobenzene	ND	40		mg/Kg	20	5/10/2006
1,4-Dichlorobenzene	ND	40		mg/Kg	20	5/10/2006
3,3'-Dichlorobenzidine	ND	40		mg/Kg	20	5/10/2006
Diethyl phthalate	ND	40		mg/Kg	20	5/10/2006
Dimethyl phthalate	ND	40		mg/Kg	20	5/10/2006
2,4-Dichlorophenol	ND	40		mg/Kg	20	5/10/2006
2,4-Dimethylphenol	ND	40		mg/Kg	20	5/10/2006
4,6-Dinitro-2-methylphenol	ND	100		mg/Kg	20	5/10/2006
2,4-Dinitrophenol	ND	100		mg/Kg	20	5/10/2006
2,4-Dinitrotoluene	ND	40		mg/Kg	20	5/10/2006
2,6-Dinitrotoluene	ND	40		mg/Kg	20	5/10/2006
Fluoranthene	ND	40		mg/Kg	20	5/10/2006
Fluorene	ND	40		mg/Kg	20	5/10/2006
Hexachlorobenzene	ND	40		mg/Kg	20	5/10/2006
Hexachlorobutadiene	ND	40		mg/Kg	20	5/10/2006
Hexachlorocyclopentadiene	ND	50		mg/Kg	20	5/10/2006
Hexachloroethane	ND	100		mg/Kg	20	5/10/2006
Indeno(1,2,3-cd)pyrene	ND	40		mg/Kg	20	5/10/2006
Isophorone	ND	40		mg/Kg	20	5/10/2006
2-Methylnaphthalene	ND	40		mg/Kg	20	5/10/2006
2-Methylphenol	ND	40		mg/Kg	20	5/10/2006
3+4-Methylphenol	ND	40		mg/Kg	20	5/10/2006
N-Nitrosodi-n-propylamine	ND	40		mg/Kg	20	5/10/2006
N-Nitrosodiphenylamine	ND	40		mg/Kg	20	5/10/2006
Naphthalene	ND	40		mg/Kg	20	5/10/2006
2-Nitroaniline	ND	100		mg/Kg	20	5/10/2006
3-Nitroaniline	ND	100		mg/Kg	20	5/10/2006

Qualifiers: \* Value exceeds Maximum Contaminant Level  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit

**Hall Environmental Analysis Laboratory**

Date: 15-May-06

<b>CLIENT:</b> Giant Refining Co	<b>Client Sample ID:</b> MID W Comp
<b>Lab Order:</b> 0605060	<b>Collection Date:</b> 5/3/2006 9:40:00 AM
<b>Project:</b> Stockpile Banks from Lagoons & Ponds	<b>Date Received:</b> 5/5/2006
<b>Lab ID:</b> 0605060-03	<b>Matrix:</b> SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8270C: SEMIVOLATILES</b>						Analyst: BL
4-Nitroaniline	ND	50		mg/Kg	20	5/10/2006
Nitrobenzene	ND	40		mg/Kg	20	5/10/2006
2-Nitrophenol	ND	40		mg/Kg	20	5/10/2006
4-Nitrophenol	ND	40		mg/Kg	20	5/10/2006
Pentachlorophenol	ND	100		mg/Kg	20	5/10/2006
Phenanthrene	57	40		mg/Kg	20	5/10/2006
Phenol	ND	40		mg/Kg	20	5/10/2006
Pyrene	ND	40		mg/Kg	20	5/10/2006
Pyridine	ND	100		mg/Kg	20	5/10/2006
1,2,4-Trichlorobenzene	ND	40		mg/Kg	20	5/10/2006
2,4,5-Trichlorophenol	ND	40		mg/Kg	20	5/10/2006
2,4,6-Trichlorophenol	ND	40		mg/Kg	20	5/10/2006
Sum: 2,4,6-Tribromophenol	0	35.5-141	S	%REC	20	5/10/2006
Sum: 2-Fluorobiphenyl	71.9	30.4-128		%REC	20	5/10/2006
Sum: 2-Fluorophenol	553	28.1-129	S	%REC	20	5/10/2006
Sum: 4-Terphenyl-d14	659	34.6-151	S	%REC	20	5/10/2006
Sum: Nitrobenzene-d5	128	26.5-122	S	%REC	20	5/10/2006
Sum: Phenol-d5	202	37.6-118	S	%REC	20	5/10/2006

<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	ND Not Detected at the Reporting Limit
	S Spike Recovery outside accepted recovery limits	

# Hall Environmental Analysis Laboratory

Date: 15-May-06

<b>CLIENT:</b> Giant Refining Co	<b>Client Sample ID:</b> MID E Comp
<b>Lab Order:</b> 0605060	<b>Collection Date:</b> 5/3/2006 9:45:00 AM
<b>Project:</b> Stockpile Banks from Lagoons & Ponds	<b>Date Received:</b> 5/5/2006
<b>Lab ID:</b> 0605060-04	<b>Matrix:</b> SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: SCC
Diesel Range Organics (DRO)	82000	1000		mg/Kg	100	5/10/2006 12:37:54 PM
Motor Oil Range Organics (MRO)	9500	5000		mg/Kg	100	5/10/2006 12:37:54 PM
Surr: DNOP	0	61.7-135	S	%REC	100	5/10/2006 12:37:54 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: HLM
Gasoline Range Organics (GRO)	ND	50		mg/Kg	10	5/10/2006 11:40:17 PM
Surr: BFB	100	81.7-127		%REC	10	5/10/2006 11:40:17 PM
<b>MERCURY, TCLP LEACHED</b>						Analyst: CMC
Mercury	ND	0.020		mg/L	1	5/11/2006
<b>EPA METHOD 6010B: TCLP METALS</b>						Analyst: NMO
Arsenic	ND	5.0		mg/L	1	5/12/2006 2:39:29 PM
Barium	ND	100		mg/L	1	5/12/2006 2:39:29 PM
Cadmium	ND	1.0		mg/L	1	5/12/2006 2:39:29 PM
Chromium	ND	5.0		mg/L	1	5/12/2006 2:39:29 PM
Lead	ND	5.0		mg/L	1	5/12/2006 2:39:29 PM
Selenium	ND	1.0		mg/L	1	5/12/2006 2:39:29 PM
Silver	ND	5.0		mg/L	1	5/12/2006 2:39:29 PM
<b>EPA METHOD 8270C: SEMIVOLATILES</b>						Analyst: BL
Acenaphthene	ND	40		mg/Kg	20	5/10/2006
Acenaphthylene	ND	40		mg/Kg	20	5/10/2006
Aniline	ND	40		mg/Kg	20	5/10/2006
Anthracene	ND	40		mg/Kg	20	5/10/2006
Azobenzene	ND	40		mg/Kg	20	5/10/2006
Benz(a)anthracene	ND	50		mg/Kg	20	5/10/2006
Benzo(a)pyrene	ND	40		mg/Kg	20	5/10/2006
Benzo(b)fluoranthene	ND	40		mg/Kg	20	5/10/2006
Benzo(g,h,i)perylene	ND	60		mg/Kg	20	5/10/2006
Benzo(k)fluoranthene	ND	100		mg/Kg	20	5/10/2006
Benzoic acid	ND	100		mg/Kg	20	5/10/2006
Benzyl alcohol	ND	200		mg/Kg	20	5/10/2006
Bis(2-chloroethoxy)methane	ND	100		mg/Kg	20	5/10/2006
Bis(2-chloroethyl)ether	ND	50		mg/Kg	20	5/10/2006
Bis(2-chloroisopropyl)ether	ND	100		mg/Kg	20	5/10/2006
Bis(2-ethylhexyl)phthalate	ND	40		mg/Kg	20	5/10/2006
4-Bromophenyl phenyl ether	ND	50		mg/Kg	20	5/10/2006

<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	ND Not Detected at the Reporting Limit
	S Spike Recovery outside accepted recovery limits	

# Hall Environmental Analysis Laboratory

Date: 15-May-06

<b>CLIENT:</b> Giant Refining Co	<b>Client Sample ID:</b> MID E Comp
<b>Lab Order:</b> 0605060	<b>Collection Date:</b> 5/3/2006 9:45:00 AM
<b>Project:</b> Stockpile Banks from Lagoons & Ponds	<b>Date Received:</b> 5/5/2006
<b>Lab ID:</b> 0605060-04	<b>Matrix:</b> SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8270C: SEMIVOLATILES</b>						Analyst: BL
Butyl benzyl phthalate	ND	40		mg/Kg	20	5/10/2006
Carbazole	ND	40		mg/Kg	20	5/10/2006
4-Chloro-3-methylphenol	ND	40		mg/Kg	20	5/10/2006
4-Chloroaniline	ND	40		mg/Kg	20	5/10/2006
2-Chloronaphthalene	ND	40		mg/Kg	20	5/10/2006
2-Chlorophenol	ND	40		mg/Kg	20	5/10/2006
4-Chlorophenyl phenyl ether	ND	40		mg/Kg	20	5/10/2006
Chrysene	ND	40		mg/Kg	20	5/10/2006
Di-n-butyl phthalate	ND	100		mg/Kg	20	5/10/2006
Di-n-octyl phthalate	ND	100		mg/Kg	20	5/10/2006
Dibenz(a,h)anthracene	ND	50		mg/Kg	20	5/10/2006
Dibenzofuran	ND	100		mg/Kg	20	5/10/2006
1,2-Dichlorobenzene	ND	40		mg/Kg	20	5/10/2006
1,3-Dichlorobenzene	ND	40		mg/Kg	20	5/10/2006
1,4-Dichlorobenzene	ND	40		mg/Kg	20	5/10/2006
3,3'-Dichlorobenzidine	ND	40		mg/Kg	20	5/10/2006
Diethyl phthalate	ND	40		mg/Kg	20	5/10/2006
Dimethyl phthalate	ND	40		mg/Kg	20	5/10/2006
2,4-Dichlorophenol	ND	40		mg/Kg	20	5/10/2006
2,4-Dimethylphenol	ND	40		mg/Kg	20	5/10/2006
4,6-Dinitro-2-methylphenol	ND	100		mg/Kg	20	5/10/2006
2,4-Dinitrophenol	ND	100		mg/Kg	20	5/10/2006
2,4-Dinitrotoluene	ND	40		mg/Kg	20	5/10/2006
2,6-Dinitrotoluene	ND	40		mg/Kg	20	5/10/2006
Fluoranthene	ND	40		mg/Kg	20	5/10/2006
Fluorene	ND	40		mg/Kg	20	5/10/2006
Hexachlorobenzene	ND	40		mg/Kg	20	5/10/2006
Hexachlorobutadiene	ND	40		mg/Kg	20	5/10/2006
Hexachlorocyclopentadiene	ND	50		mg/Kg	20	5/10/2006
Hexachloroethane	ND	100		mg/Kg	20	5/10/2006
Indeno(1,2,3-cd)pyrene	ND	40		mg/Kg	20	5/10/2006
Isophorone	ND	40		mg/Kg	20	5/10/2006
2-Methylnaphthalene	ND	40		mg/Kg	20	5/10/2006
2-Methylphenol	ND	40		mg/Kg	20	5/10/2006
3+4-Methylphenol	ND	40		mg/Kg	20	5/10/2006
N-Nitrosodi-n-propylamine	ND	40		mg/Kg	20	5/10/2006
N-Nitrosodiphenylamine	ND	40		mg/Kg	20	5/10/2006
Naphthalene	ND	40		mg/Kg	20	5/10/2006
2-Nitroaniline	ND	100		mg/Kg	20	5/10/2006
3-Nitroaniline	ND	100		mg/Kg	20	5/10/2006

<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	ND Not Detected at the Reporting Limit
	S Spike Recovery outside accepted recovery limits	

# Hall Environmental Analysis Laboratory

Date: 15-May-06

CLIENT: Giant Refining Co  
 Lab Order: 0605060  
 Project: Stockpile Banks from Lagoons & Ponds  
 Lab ID: 0605060-04

Client Sample ID: MID E Comp  
 Collection Date: 5/3/2006 9:45:00 AM  
 Date Received: 5/5/2006  
 Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8270C: SEMIVOLATILES</b>						Analyst: BL
4-Nitroaniline	ND	50		mg/Kg	20	5/10/2006
Nitrobenzene	ND	40		mg/Kg	20	5/10/2006
2-Nitrophenol	ND	40		mg/Kg	20	5/10/2006
4-Nitrophenol	ND	40		mg/Kg	20	5/10/2006
Pentachlorophenol	ND	100		mg/Kg	20	5/10/2006
Phenanthrene	100	40		mg/Kg	20	5/10/2006
Phenol	ND	40		mg/Kg	20	5/10/2006
Pyrene	ND	40		mg/Kg	20	5/10/2006
Pyridine	ND	100		mg/Kg	20	5/10/2006
1,2,4-Trichlorobenzene	ND	40		mg/Kg	20	5/10/2006
2,4,5-Trichlorophenol	ND	40		mg/Kg	20	5/10/2006
2,4,6-Trichlorophenol	ND	40		mg/Kg	20	5/10/2006
Surr: 2,4,6-Tribromophenol	0	35.5-141	S	%REC	20	5/10/2006
Surr: 2-Fluorobiphenyl	95.8	30.4-128		%REC	20	5/10/2006
Surr: 2-Fluorophenol	545	28.1-129	S	%REC	20	5/10/2006
Surr: 4-Terphenyl-d14	671	34.6-151	S	%REC	20	5/10/2006
Surr: Nitrobenzene-d5	124	26.5-122	S	%REC	20	5/10/2006
Surr: Phenol-d5	214	37.6-118	S	%REC	20	5/10/2006

Qualifiers: \* Value exceeds Maximum Contaminant Level  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit

# Hall Environmental Analysis Laboratory

Date: 15-May-06

<b>CLIENT:</b>	Giant Refining Co	<b>Client Sample ID:</b>	SW Comp
<b>Lab Order:</b>	0605060	<b>Collection Date:</b>	5/3/2006 9:50:00 AM
<b>Project:</b>	Stockpile Banks from Lagoons & Ponds	<b>Date Received:</b>	5/5/2006
<b>Lab ID:</b>	0605060-05	<b>Matrix:</b>	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: SCC
Diesel Range Organics (DRO)	53000	1000		mg/Kg	100	5/10/2006 1:10:37 PM
Motor Oil Range Organics (MRO)	8700	5000		mg/Kg	100	5/10/2006 1:10:37 PM
Surr: DNOP	0	61.7-135	S	%REC	100	5/10/2006 1:10:37 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: HLM
Gasoline Range Organics (GRO)	ND	50		mg/Kg	10	5/11/2006 12:38:15 AM
Surr: BFB	105	81.7-127		%REC	10	5/11/2006 12:38:15 AM
<b>MERCURY, TCLP LEACHED</b>						Analyst: CMC
Mercury	ND	0.020		mg/L	1	5/11/2006
<b>EPA METHOD 6010B: TCLP METALS</b>						Analyst: NMO
Arsenic	ND	5.0		mg/L	1	5/12/2006 2:43:46 PM
Barium	ND	100		mg/L	1	5/12/2006 2:43:46 PM
Cadmium	ND	1.0		mg/L	1	5/12/2006 2:43:46 PM
Chromium	ND	5.0		mg/L	1	5/12/2006 2:43:46 PM
Lead	ND	5.0		mg/L	1	5/12/2006 2:43:46 PM
Selenium	ND	1.0		mg/L	1	5/12/2006 2:43:46 PM
Silver	ND	5.0		mg/L	1	5/12/2006 2:43:46 PM
<b>EPA METHOD 8270C: SEMIVOLATILES</b>						Analyst: BL
Acenaphthene	ND	40		mg/Kg	20	5/10/2006
Acenaphthylene	ND	40		mg/Kg	20	5/10/2006
Aniline	ND	40		mg/Kg	20	5/10/2006
Anthracene	ND	40		mg/Kg	20	5/10/2006
Azobenzene	ND	40		mg/Kg	20	5/10/2006
Benz(a)anthracene	ND	50		mg/Kg	20	5/10/2006
Benzo(a)pyrene	ND	40		mg/Kg	20	5/10/2006
Benzo(b)fluoranthene	ND	40		mg/Kg	20	5/10/2006
Benzo(g,h,i)perylene	ND	60		mg/Kg	20	5/10/2006
Benzo(k)fluoranthene	ND	100		mg/Kg	20	5/10/2006
Benzoic acid	ND	100		mg/Kg	20	5/10/2006
Benzyl alcohol	ND	200		mg/Kg	20	5/10/2006
Bis(2-chloroethoxy)methane	ND	100		mg/Kg	20	5/10/2006
Bis(2-chloroethyl)ether	ND	50		mg/Kg	20	5/10/2006
Bis(2-chloroisopropyl)ether	ND	100		mg/Kg	20	5/10/2006
Bis(2-ethylhexyl)phthalate	ND	40		mg/Kg	20	5/10/2006
4-Bromophenyl phenyl ether	ND	50		mg/Kg	20	5/10/2006

<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	ND Not Detected at the Reporting Limit
	S Spike Recovery outside accepted recovery limits	

# Hall Environmental Analysis Laboratory

Date: 15-May-06

CLIENT: Giant Refining Co  
 Lab Order: 0605060  
 Project: Stockpile Banks from Lagoons & Ponds  
 Lab ID: 0605060-05

Client Sample ID: SW Comp  
 Collection Date: 5/3/2006 9:50:00 AM  
 Date Received: 5/5/2006  
 Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8270C: SEMIVOLATILES</b>						Analyst: BL
Butyl benzyl phthalate	ND	40		mg/Kg	20	5/10/2006
Carbazole	ND	40		mg/Kg	20	5/10/2006
4-Chloro-3-methylphenol	ND	40		mg/Kg	20	5/10/2006
4-Chloroaniline	ND	40		mg/Kg	20	5/10/2006
2-Chloronaphthalene	ND	40		mg/Kg	20	5/10/2006
2-Chlorophenol	ND	40		mg/Kg	20	5/10/2006
4-Chlorophenyl phenyl ether	ND	40		mg/Kg	20	5/10/2006
Chrysene	ND	40		mg/Kg	20	5/10/2006
Di-n-butyl phthalate	ND	100		mg/Kg	20	5/10/2006
Di-n-octyl phthalate	ND	100		mg/Kg	20	5/10/2006
Dibenz(a,h)anthracene	ND	50		mg/Kg	20	5/10/2006
Dibenzofuran	ND	100		mg/Kg	20	5/10/2006
1,2-Dichlorobenzene	ND	40		mg/Kg	20	5/10/2006
1,3-Dichlorobenzene	ND	40		mg/Kg	20	5/10/2006
1,4-Dichlorobenzene	ND	40		mg/Kg	20	5/10/2006
3,3'-Dichlorobenzidine	ND	40		mg/Kg	20	5/10/2006
Diethyl phthalate	ND	40		mg/Kg	20	5/10/2006
Dimethyl phthalate	ND	40		mg/Kg	20	5/10/2006
2,4-Dichlorophenol	ND	40		mg/Kg	20	5/10/2006
2,4-Dimethylphenol	ND	40		mg/Kg	20	5/10/2006
4,6-Dinitro-2-methylphenol	ND	100		mg/Kg	20	5/10/2006
2,4-Dinitrophenol	ND	100		mg/Kg	20	5/10/2006
2,4-Dinitrotoluene	ND	40		mg/Kg	20	5/10/2006
2,6-Dinitrotoluene	ND	40		mg/Kg	20	5/10/2006
Fluoranthene	ND	40		mg/Kg	20	5/10/2006
Fluorene	ND	40		mg/Kg	20	5/10/2006
Hexachlorobenzene	ND	40		mg/Kg	20	5/10/2006
Hexachlorobutadiene	ND	40		mg/Kg	20	5/10/2006
Hexachlorocyclopentadiene	ND	50		mg/Kg	20	5/10/2006
Hexachloroethane	ND	100		mg/Kg	20	5/10/2006
Indeno(1,2,3-cd)pyrene	ND	40		mg/Kg	20	5/10/2006
Isophorone	ND	40		mg/Kg	20	5/10/2006
2-Methylnaphthalene	ND	40		mg/Kg	20	5/10/2006
2-Methylphenol	ND	40		mg/Kg	20	5/10/2006
3+4-Methylphenol	ND	40		mg/Kg	20	5/10/2006
N-Nitrosodi-n-propylamine	ND	40		mg/Kg	20	5/10/2006
N-Nitrosodiphenylamine	ND	40		mg/Kg	20	5/10/2006
Naphthalene	ND	40		mg/Kg	20	5/10/2006
2-Nitroaniline	ND	100		mg/Kg	20	5/10/2006
3-Nitroaniline	ND	100		mg/Kg	20	5/10/2006

Qualifiers: \* Value exceeds Maximum Contaminant Level  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit

# Hall Environmental Analysis Laboratory

Date: 15-May-06

<b>CLIENT:</b> Giant Refining Co	<b>Client Sample ID:</b> SW Comp
<b>Lab Order:</b> 0605060	<b>Collection Date:</b> 5/3/2006 9:50:00 AM
<b>Project:</b> Stockpile Banks from Lagoons & Ponds	<b>Date Received:</b> 5/5/2006
<b>Lab ID:</b> 0605060-05	<b>Matrix:</b> SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8270C: SEMIVOLATILES</b>						Analyst: BL
4-Nitroaniline	ND	50		mg/Kg	20	5/10/2006
Nitrobenzene	ND	40		mg/Kg	20	5/10/2006
2-Nitrophenol	ND	40		mg/Kg	20	5/10/2006
4-Nitrophenol	ND	40		mg/Kg	20	5/10/2006
Pentachlorophenol	ND	100		mg/Kg	20	5/10/2006
Phenanthrene	55	40		mg/Kg	20	5/10/2006
Phenol	ND	40		mg/Kg	20	5/10/2006
Pyrene	ND	40		mg/Kg	20	5/10/2006
Pyridine	ND	100		mg/Kg	20	5/10/2006
1,2,4-Trichlorobenzene	ND	40		mg/Kg	20	5/10/2006
2,4,5-Trichlorophenol	ND	40		mg/Kg	20	5/10/2006
2,4,6-Trichlorophenol	ND	40		mg/Kg	20	5/10/2006
Surr: 2,4,6-Tribromophenol	468	35.5-141	S	%REC	20	5/10/2006
Surr: 2-Fluorobiphenyl	83.8	30.4-128		%REC	20	5/10/2006
Surr: 2-Fluorophenol	539	28.1-129	S	%REC	20	5/10/2006
Surr: 4-Terphenyl-d14	679	34.6-151	S	%REC	20	5/10/2006
Surr: Nitrobenzene-d5	124	26.5-122	S	%REC	20	5/10/2006
Surr: Phenol-d5	204	37.6-118	S	%REC	20	5/10/2006

<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	ND Not Detected at the Reporting Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory

Date: 15-May-06

<b>CLIENT:</b>	Giant Refining Co	<b>Client Sample ID:</b>	SE Comp
<b>Lab Order:</b>	0605060	<b>Collection Date:</b>	5/3/2006 9:55:00 AM
<b>Project:</b>	Stockpile Banks from Lagoons & Ponds	<b>Date Received:</b>	5/5/2006
<b>Lab ID:</b>	0605060-06	<b>Matrix:</b>	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: SCC
Diesel Range Organics (DRO)	51000	1000		mg/Kg	100	5/10/2006 1:43:20 PM
Motor Oil Range Organics (MRO)	9800	5000		mg/Kg	100	5/10/2006 1:43:20 PM
Surr: DNOP	0	61.7-135	S	%REC	100	5/10/2006 1:43:20 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: HLM
Gasoline Range Organics (GRO)	ND	25		mg/Kg	5	5/11/2006 1:36:08 AM
Surr: BFB	96.6	81.7-127		%REC	5	5/11/2006 1:36:08 AM
<b>MERCURY, TCLP LEACHED</b>						Analyst: CMC
Mercury	ND	0.020		mg/L	1	5/11/2006
<b>EPA METHOD 6010B: TCLP METALS</b>						Analyst: NMO
Arsenic	ND	5.0		mg/L	1	5/12/2006 2:47:55 PM
Barium	ND	100		mg/L	1	5/12/2006 2:47:55 PM
Cadmium	ND	1.0		mg/L	1	5/12/2006 2:47:55 PM
Chromium	ND	5.0		mg/L	1	5/12/2006 2:47:55 PM
Lead	ND	5.0		mg/L	1	5/12/2006 2:47:55 PM
Selenium	ND	1.0		mg/L	1	5/12/2006 2:47:55 PM
Silver	ND	5.0		mg/L	1	5/12/2006 2:47:55 PM
<b>EPA METHOD 8270C: SEMIVOLATILES</b>						Analyst: BL
Acenaphthene	ND	40		mg/Kg	20	5/10/2006
Acenaphthylene	ND	40		mg/Kg	20	5/10/2006
Aniline	ND	40		mg/Kg	20	5/10/2006
Anthracene	ND	40		mg/Kg	20	5/10/2006
Azobenzene	ND	40		mg/Kg	20	5/10/2006
Benz(a)anthracene	ND	50		mg/Kg	20	5/10/2006
Benzo(a)pyrene	ND	40		mg/Kg	20	5/10/2006
Benzo(b)fluoranthene	ND	40		mg/Kg	20	5/10/2006
Benzo(g,h,i)perylene	ND	60		mg/Kg	20	5/10/2006
Benzo(k)fluoranthene	ND	100		mg/Kg	20	5/10/2006
Benzoic acid	ND	100		mg/Kg	20	5/10/2006
Benzyl alcohol	ND	200		mg/Kg	20	5/10/2006
Bis(2-chloroethoxy)methane	ND	100		mg/Kg	20	5/10/2006
Bis(2-chloroethyl)ether	ND	50		mg/Kg	20	5/10/2006
Bis(2-chloroisopropyl)ether	ND	100		mg/Kg	20	5/10/2006
Bis(2-ethylhexyl)phthalate	ND	40		mg/Kg	20	5/10/2006
4-Bromophenyl phenyl ether	ND	50		mg/Kg	20	5/10/2006

<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	ND Not Detected at the Reporting Limit
	S Spike Recovery outside accepted recovery limits	

# Hall Environmental Analysis Laboratory

Date: 15-May-06

<b>CLIENT:</b>	Giant Refining Co	<b>Client Sample ID:</b>	SE Comp
<b>Lab Order:</b>	0605060	<b>Collection Date:</b>	5/3/2006 9:55:00 AM
<b>Project:</b>	Stockpile Banks from Lagoons & Ponds	<b>Date Received:</b>	5/5/2006
<b>Lab ID:</b>	0605060-06	<b>Matrix:</b>	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8270C: SEMIVOLATILES</b>						Analyst: BL
Butyl benzyl phthalate	ND	40		mg/Kg	20	5/10/2006
Carbazole	ND	40		mg/Kg	20	5/10/2006
4-Chloro-3-methylphenol	ND	40		mg/Kg	20	5/10/2006
4-Chloroaniline	ND	40		mg/Kg	20	5/10/2006
2-Chloronaphthalene	ND	40		mg/Kg	20	5/10/2006
2-Chlorophenol	ND	40		mg/Kg	20	5/10/2006
4-Chlorophenyl phenyl ether	ND	40		mg/Kg	20	5/10/2006
Chrysene	ND	40		mg/Kg	20	5/10/2006
Di-n-butyl phthalate	ND	100		mg/Kg	20	5/10/2006
Di-n-octyl phthalate	ND	100		mg/Kg	20	5/10/2006
Dibenz(a,h)anthracene	ND	50		mg/Kg	20	5/10/2006
Dibenzofuran	ND	100		mg/Kg	20	5/10/2006
1,2-Dichlorobenzene	ND	40		mg/Kg	20	5/10/2006
1,3-Dichlorobenzene	ND	40		mg/Kg	20	5/10/2006
1,4-Dichlorobenzene	ND	40		mg/Kg	20	5/10/2006
3,3'-Dichlorobenzidine	ND	40		mg/Kg	20	5/10/2006
Diethyl phthalate	ND	40		mg/Kg	20	5/10/2006
Dimethyl phthalate	ND	40		mg/Kg	20	5/10/2006
2,4-Dichlorophenol	ND	40		mg/Kg	20	5/10/2006
2,4-Dimethylphenol	ND	40		mg/Kg	20	5/10/2006
4,6-Dinitro-2-methylphenol	ND	100		mg/Kg	20	5/10/2006
2,4-Dinitrophenol	ND	100		mg/Kg	20	5/10/2006
2,4-Dinitrotoluene	ND	40		mg/Kg	20	5/10/2006
2,6-Dinitrotoluene	ND	40		mg/Kg	20	5/10/2006
Fluoranthene	ND	40		mg/Kg	20	5/10/2006
Fluorene	ND	40		mg/Kg	20	5/10/2006
Hexachlorobenzene	ND	40		mg/Kg	20	5/10/2006
Hexachlorobutadiene	ND	40		mg/Kg	20	5/10/2006
Hexachlorocyclopentadiene	ND	50		mg/Kg	20	5/10/2006
Hexachloroethane	ND	100		mg/Kg	20	5/10/2006
Indeno(1,2,3-cd)pyrene	ND	40		mg/Kg	20	5/10/2006
Isophorone	ND	40		mg/Kg	20	5/10/2006
2-Methylnaphthalene	ND	40		mg/Kg	20	5/10/2006
2-Methylphenol	ND	40		mg/Kg	20	5/10/2006
3+4-Methylphenol	ND	40		mg/Kg	20	5/10/2006
N-Nitrosodi-n-propylamine	ND	40		mg/Kg	20	5/10/2006
N-Nitrosodiphenylamine	ND	40		mg/Kg	20	5/10/2006
Naphthalene	ND	40		mg/Kg	20	5/10/2006
2-Nitroaniline	ND	100		mg/Kg	20	5/10/2006
3-Nitroaniline	ND	100		mg/Kg	20	5/10/2006

<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	ND Not Detected at the Reporting Limit
	S Spike Recovery outside accepted recovery limits	

# Hall Environmental Analysis Laboratory

Date: 15-May-06

CLIENT: Giant Refining Co

Client Sample ID: SE Comp

Lab Order: 0605060

Collection Date: 5/3/2006 9:55:00 AM

Project: Stockpile Banks from Lagoons & Ponds

Date Received: 5/5/2006

Lab ID: 0605060-06

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8270C: SEMIVOLATILES</b>						Analyst: BL
4-Nitroaniline	ND	50		mg/Kg	20	5/10/2006
Nitrobenzene	ND	40		mg/Kg	20	5/10/2006
2-Nitrophenol	ND	40		mg/Kg	20	5/10/2006
4-Nitrophenol	ND	40		mg/Kg	20	5/10/2006
Pentachlorophenol	ND	100		mg/Kg	20	5/10/2006
Phenanthrene	47	40		mg/Kg	20	5/10/2006
Phenol	ND	40		mg/Kg	20	5/10/2006
Pyrene	ND	40		mg/Kg	20	5/10/2006
Pyridine	ND	100		mg/Kg	20	5/10/2006
1,2,4-Trichlorobenzene	ND	40		mg/Kg	20	5/10/2006
2,4,5-Trichlorophenol	ND	40		mg/Kg	20	5/10/2006
2,4,6-Trichlorophenol	ND	40		mg/Kg	20	5/10/2006
Surr: 2,4,6-Tribromophenol	0	35.5-141	S	%REC	20	5/10/2006
Surr: 2-Fluorobiphenyl	95.8	30.4-128		%REC	20	5/10/2006
Surr: 2-Fluorophenol	543	28.1-129	S	%REC	20	5/10/2006
Surr: 4-Terphenyl-d14	663	34.6-151	S	%REC	20	5/10/2006
Surr: Nitrobenzene-d5	116	26.5-122		%REC	20	5/10/2006
Surr: Phenol-d5	208	37.6-118	S	%REC	20	5/10/2006

Qualifiers: \* Value exceeds Maximum Contaminant Level  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit

# Hall Environmental Analysis Laboratory

Date: 15-May-06

<b>CLIENT:</b> Giant Refining Co	<b>Client Sample ID:</b> #1 More Contam.
<b>Lab Order:</b> 0605060	<b>Collection Date:</b> 5/3/2006 10:00:00 AM
<b>Project:</b> Stockpile Banks from Lagoons & Ponds	<b>Date Received:</b> 5/5/2006
<b>Lab ID:</b> 0605060-07	<b>Matrix:</b> SOLID

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8260B: VOLATILES</b>						Analyst: KTM
Benzene	ND	1.0		mg/Kg	20	5/10/2006
Toluene	ND	1.0		mg/Kg	20	5/10/2006
Ethylbenzene	ND	1.0		mg/Kg	20	5/10/2006
Methyl tert-butyl ether (MTBE)	ND	1.0		mg/Kg	20	5/10/2006
1,2,4-Trimethylbenzene	2.0	1.0		mg/Kg	20	5/10/2006
1,3,5-Trimethylbenzene	ND	1.0		mg/Kg	20	5/10/2006
1,2-Dichloroethane (EDC)	ND	1.0		mg/Kg	20	5/10/2006
1,2-Dibromoethane (EDB)	ND	1.0		mg/Kg	20	5/10/2006
Naphthalene	2.9	2.0		mg/Kg	20	5/10/2006
1-Methylnaphthalene	16	4.0		mg/Kg	20	5/10/2006
2-Methylnaphthalene	21	4.0		mg/Kg	20	5/10/2006
Acetone	ND	15		mg/Kg	20	5/10/2006
Bromobenzene	ND	1.0		mg/Kg	20	5/10/2006
Bromochloromethane	ND	1.0		mg/Kg	20	5/10/2006
Bromodichloromethane	ND	1.0		mg/Kg	20	5/10/2006
Bromoform	ND	1.0		mg/Kg	20	5/10/2006
Bromomethane	ND	2.0		mg/Kg	20	5/10/2006
2-Butanone	ND	10		mg/Kg	20	5/10/2006
Carbon disulfide	ND	10		mg/Kg	20	5/10/2006
Carbon tetrachloride	ND	2.0		mg/Kg	20	5/10/2006
Chlorobenzene	ND	1.0		mg/Kg	20	5/10/2006
Chloroethane	ND	2.0		mg/Kg	20	5/10/2006
Chloroform	ND	1.0		mg/Kg	20	5/10/2006
Chloromethane	ND	1.0		mg/Kg	20	5/10/2006
2-Chlorotoluene	ND	1.0		mg/Kg	20	5/10/2006
4-Chlorotoluene	ND	1.0		mg/Kg	20	5/10/2006
cis-1,2-DCE	ND	1.0		mg/Kg	20	5/10/2006
cis-1,3-Dichloropropene	ND	1.0		mg/Kg	20	5/10/2006
1,2-Dibromo-3-chloropropane	ND	2.0		mg/Kg	20	5/10/2006
Dibromochloromethane	ND	1.0		mg/Kg	20	5/10/2006
Dibromomethane	ND	2.0		mg/Kg	20	5/10/2006
1,2-Dichlorobenzene	ND	1.0		mg/Kg	20	5/10/2006
1,3-Dichlorobenzene	ND	1.0		mg/Kg	20	5/10/2006
1,4-Dichlorobenzene	ND	1.0		mg/Kg	20	5/10/2006
Dichlorodifluoromethane	ND	1.0		mg/Kg	20	5/10/2006
1,1-Dichloroethane	ND	2.0		mg/Kg	20	5/10/2006
1,1-Dichloroethene	ND	1.0		mg/Kg	20	5/10/2006
1,2-Dichloropropane	ND	1.0		mg/Kg	20	5/10/2006
1,3-Dichloropropane	ND	1.0		mg/Kg	20	5/10/2006
2,2-Dichloropropane	ND	2.0		mg/Kg	20	5/10/2006

<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	ND Not Detected at the Reporting Limit
	S Spike Recovery outside accepted recovery limits	

# Hall Environmental Analysis Laboratory

Date: 15-May-06

<b>CLIENT:</b> Giant Refining Co	<b>Client Sample ID:</b> #1 More Contam.
<b>Lab Order:</b> 0605060	<b>Collection Date:</b> 5/3/2006 10:00:00 AM
<b>Project:</b> Stockpile Banks from Lagoons & Ponds	<b>Date Received:</b> 5/5/2006
<b>Lab ID:</b> 0605060-07	<b>Matrix:</b> SOLID

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8260B: VOLATILES</b>						Analyst: KTM
1,1-Dichloropropene	ND	1.0		mg/Kg	20	5/10/2006
Hexachlorobutadiene	ND	2.0		mg/Kg	20	5/10/2006
2-Hexanone	ND	10		mg/Kg	20	5/10/2006
Isopropylbenzene	ND	1.0		mg/Kg	20	5/10/2006
4-Isopropyltoluene	ND	1.0		mg/Kg	20	5/10/2006
4-Methyl-2-pentanone	ND	10		mg/Kg	20	5/10/2006
Methylene chloride	ND	3.0		mg/Kg	20	5/10/2006
n-Butylbenzene	ND	1.0		mg/Kg	20	5/10/2006
n-Propylbenzene	ND	1.0		mg/Kg	20	5/10/2006
sec-Butylbenzene	ND	1.0		mg/Kg	20	5/10/2006
Styrene	ND	1.0		mg/Kg	20	5/10/2006
tert-Butylbenzene	ND	1.0		mg/Kg	20	5/10/2006
1,1,1,2-Tetrachloroethane	ND	1.0		mg/Kg	20	5/10/2006
1,1,2,2-Tetrachloroethane	ND	1.0		mg/Kg	20	5/10/2006
Tetrachloroethene (PCE)	ND	1.0		mg/Kg	20	5/10/2006
trans-1,2-DCE	ND	1.0		mg/Kg	20	5/10/2006
trans-1,3-Dichloropropene	ND	1.0		mg/Kg	20	5/10/2006
1,2,3-Trichlorobenzene	ND	2.0		mg/Kg	20	5/10/2006
1,2,4-Trichlorobenzene	ND	1.0		mg/Kg	20	5/10/2006
1,1,1-Trichloroethane	ND	1.0		mg/Kg	20	5/10/2006
1,1,2-Trichloroethane	ND	1.0		mg/Kg	20	5/10/2006
Trichloroethene (TCE)	ND	1.0		mg/Kg	20	5/10/2006
Trichlorofluoromethane	ND	1.0		mg/Kg	20	5/10/2006
1,2,3-Trichloropropane	ND	2.0		mg/Kg	20	5/10/2006
Vinyl chloride	ND	1.0		mg/Kg	20	5/10/2006
Xylenes, Total	ND	1.0		mg/Kg	20	5/10/2006
Surr: 1,2-Dichloroethane-d4	124	74.2-135		%REC	20	5/10/2006
Surr: 4-Bromofluorobenzene	92.5	75.2-127		%REC	20	5/10/2006
Surr: Dibromofluoromethane	115	76.9-138		%REC	20	5/10/2006
Surr: Toluene-d8	95.9	74-119		%REC	20	5/10/2006

<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	ND Not Detected at the Reporting Limit
	S Spike Recovery outside accepted recovery limits	

# Hall Environmental Analysis Laboratory

Date: 15-May-06

CLIENT: Giant Refining Co

Client Sample ID: #2 More Contam.

Lab Order: 0605060

Collection Date: 5/3/2006 10:05:00 AM

Project: Stockpile Banks from Lagoons & Ponds

Date Received: 5/5/2006

Lab ID: 0605060-08

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8260B: VOLATILES</b>						Analyst: KTM
Benzene	ND	5.0		mg/Kg	100	5/9/2006
Toluene	ND	5.0		mg/Kg	100	5/9/2006
Ethylbenzene	ND	5.0		mg/Kg	100	5/9/2006
Methyl tert-butyl ether (MTBE)	ND	5.0		mg/Kg	100	5/9/2006
1,2,4-Trimethylbenzene	ND	5.0		mg/Kg	100	5/9/2006
1,3,5-Trimethylbenzene	ND	5.0		mg/Kg	100	5/9/2006
1,2-Dichloroethane (EDC)	ND	5.0		mg/Kg	100	5/9/2006
1,2-Dibromoethane (EDB)	ND	5.0		mg/Kg	100	5/9/2006
Naphthalene	ND	10		mg/Kg	100	5/9/2006
1-Methylnaphthalene	43	20		mg/Kg	100	5/9/2006
2-Methylnaphthalene	ND	20		mg/Kg	100	5/9/2006
Acetone	ND	75		mg/Kg	100	5/9/2006
Bromobenzene	ND	5.0		mg/Kg	100	5/9/2006
Bromochloromethane	ND	5.0		mg/Kg	100	5/9/2006
Bromodichloromethane	ND	5.0		mg/Kg	100	5/9/2006
Bromoform	ND	5.0		mg/Kg	100	5/9/2006
Bromomethane	ND	10		mg/Kg	100	5/9/2006
2-Butanone	ND	50		mg/Kg	100	5/9/2006
Carbon disulfide	ND	50		mg/Kg	100	5/9/2006
Carbon tetrachloride	ND	10		mg/Kg	100	5/9/2006
Chlorobenzene	ND	5.0		mg/Kg	100	5/9/2006
Chloroethane	ND	10		mg/Kg	100	5/9/2006
Chloroform	ND	5.0		mg/Kg	100	5/9/2006
Chloromethane	ND	5.0		mg/Kg	100	5/9/2006
2-Chlorotoluene	ND	5.0		mg/Kg	100	5/9/2006
4-Chlorotoluene	ND	5.0		mg/Kg	100	5/9/2006
cis-1,2-DCE	ND	5.0		mg/Kg	100	5/9/2006
cis-1,3-Dichloropropene	ND	5.0		mg/Kg	100	5/9/2006
1,2-Dibromo-3-chloropropane	ND	10		mg/Kg	100	5/9/2006
Dibromochloromethane	ND	5.0		mg/Kg	100	5/9/2006
Dibromomethane	ND	10		mg/Kg	100	5/9/2006
1,2-Dichlorobenzene	ND	5.0		mg/Kg	100	5/9/2006
1,3-Dichlorobenzene	ND	5.0		mg/Kg	100	5/9/2006
1,4-Dichlorobenzene	ND	5.0		mg/Kg	100	5/9/2006
Dichlorodifluoromethane	ND	5.0		mg/Kg	100	5/9/2006
1,1-Dichloroethane	ND	10		mg/Kg	100	5/9/2006
1,1-Dichloroethene	ND	5.0		mg/Kg	100	5/9/2006
1,2-Dichloropropane	ND	5.0		mg/Kg	100	5/9/2006
1,3-Dichloropropane	ND	5.0		mg/Kg	100	5/9/2006
2,2-Dichloropropane	ND	10		mg/Kg	100	5/9/2006

Qualifiers: \* Value exceeds Maximum Contaminant Level  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit

# Hall Environmental Analysis Laboratory

Date: 15-May-06

<b>CLIENT:</b>	Giant Refining Co	<b>Client Sample ID:</b>	#2 More Contam.
<b>Lab Order:</b>	0605060	<b>Collection Date:</b>	5/3/2006 10:05:00 AM
<b>Project:</b>	Stockpile Banks from Lagoons & Ponds	<b>Date Received:</b>	5/5/2006
<b>Lab ID:</b>	0605060-08	<b>Matrix:</b>	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8260B: VOLATILES</b>						Analyst: KTM
1,1-Dichloropropene	ND	5.0		mg/Kg	100	5/9/2006
Hexachlorobutadiene	ND	10		mg/Kg	100	5/9/2006
2-Hexanone	ND	50		mg/Kg	100	5/9/2006
Isopropylbenzene	ND	5.0		mg/Kg	100	5/9/2006
4-Isopropyltoluene	ND	5.0		mg/Kg	100	5/9/2006
4-Methyl-2-pentanone	ND	50		mg/Kg	100	5/9/2006
Methylene chloride	ND	15		mg/Kg	100	5/9/2006
n-Butylbenzene	ND	5.0		mg/Kg	100	5/9/2006
n-Propylbenzene	ND	5.0		mg/Kg	100	5/9/2006
sec-Butylbenzene	ND	5.0		mg/Kg	100	5/9/2008
Styrene	ND	5.0		mg/Kg	100	5/9/2006
tert-Butylbenzene	ND	5.0		mg/Kg	100	5/9/2006
1,1,1,2-Tetrachloroethane	ND	5.0		mg/Kg	100	5/9/2006
1,1,2,2-Tetrachloroethane	ND	5.0		mg/Kg	100	5/9/2006
Tetrachloroethene (PCE)	ND	5.0		mg/Kg	100	5/9/2006
trans-1,2-DCE	ND	5.0		mg/Kg	100	5/9/2006
trans-1,3-Dichloropropene	ND	5.0		mg/Kg	100	5/9/2006
1,2,3-Trichlorobenzene	ND	10		mg/Kg	100	5/9/2008
1,2,4-Trichlorobenzene	ND	5.0		mg/Kg	100	5/9/2006
1,1,1-Trichloroethane	ND	5.0		mg/Kg	100	5/9/2006
1,1,2-Trichloroethane	ND	5.0		mg/Kg	100	5/9/2006
Trichloroethene (TCE)	ND	5.0		mg/Kg	100	5/9/2006
Trichlorofluoromethane	ND	5.0		mg/Kg	100	5/9/2006
1,2,3-Trichloropropane	ND	10		mg/Kg	100	5/9/2006
Vinyl chloride	ND	5.0		mg/Kg	100	5/9/2006
Xylenes, Total	ND	5.0		mg/Kg	100	5/9/2006
Surr: 1,2-Dichloroethane-d4	136	74.2-135	S	%REC	100	5/9/2006
Surr: 4-Bromofluorobenzene	96.4	75.2-127		%REC	100	5/9/2006
Surr: Dibromofluoromethane	116	76.9-138		%REC	100	5/9/2006
Surr: Toluene-d8	102	74-119		%REC	100	5/9/2008

<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	ND Not Detected at the Reporting Limit
	S Spike Recovery outside accepted recovery limits	

# Hall Environmental Analysis Laboratory

Date: 15-May-06

<b>CLIENT:</b> Giant Refining Co	<b>Client Sample ID:</b> #3 More Contam.
<b>Lab Order:</b> 0605060	<b>Collection Date:</b> 5/3/2006 10:10:00 AM
<b>Project:</b> Stockpile Banks from Lagoons & Ponds	<b>Date Received:</b> 5/5/2006
<b>Lab ID:</b> 0605060-09	<b>Matrix:</b> SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8260B: VOLATILES</b>						Analyst: KTM
Benzene	ND	1.0		mg/Kg	20	5/10/2006
Toluene	ND	1.0		mg/Kg	20	5/10/2006
Ethylbenzene	ND	1.0		mg/Kg	20	5/10/2006
Methyl tert-butyl ether (MTBE)	ND	1.0		mg/Kg	20	5/10/2006
1,2,4-Trimethylbenzene	ND	1.0		mg/Kg	20	5/10/2006
1,3,5-Trimethylbenzene	1.2	1.0		mg/Kg	20	5/10/2006
1,2-Dichloroethane (EDC)	ND	1.0		mg/Kg	20	5/10/2006
1,2-Dibromoethane (EDB)	ND	1.0		mg/Kg	20	5/10/2006
Naphthalene	2.2	2.0		mg/Kg	20	5/10/2006
1-Methylnaphthalene	12	4.0		mg/Kg	20	5/10/2006
2-Methylnaphthalene	11	4.0		mg/Kg	20	5/10/2006
Acetone	ND	15		mg/Kg	20	5/10/2006
Bromobenzene	ND	1.0		mg/Kg	20	5/10/2006
Bromochloromethane	ND	1.0		mg/Kg	20	5/10/2006
Bromodichloromethane	ND	1.0		mg/Kg	20	5/10/2006
Bromoform	ND	1.0		mg/Kg	20	5/10/2006
Bromomethane	ND	2.0		mg/Kg	20	5/10/2006
2-Butanone	ND	10		mg/Kg	20	5/10/2006
Carbon disulfide	ND	10		mg/Kg	20	5/10/2006
Carbon tetrachloride	ND	2.0		mg/Kg	20	5/10/2006
Chlorobenzene	ND	1.0		mg/Kg	20	5/10/2006
Chloroethane	ND	2.0		mg/Kg	20	5/10/2006
Chloroform	ND	1.0		mg/Kg	20	5/10/2006
Chloromethane	ND	1.0		mg/Kg	20	5/10/2006
2-Chlorotoluene	ND	1.0		mg/Kg	20	5/10/2006
4-Chlorotoluene	ND	1.0		mg/Kg	20	5/10/2006
cis-1,2-DCE	ND	1.0		mg/Kg	20	5/10/2006
cis-1,3-Dichloropropene	ND	1.0		mg/Kg	20	5/10/2006
1,2-Dibromo-3-chloropropane	ND	2.0		mg/Kg	20	5/10/2006
Dibromochloromethane	ND	1.0		mg/Kg	20	5/10/2006
Dibromomethane	ND	2.0		mg/Kg	20	5/10/2006
1,2-Dichlorobenzene	ND	1.0		mg/Kg	20	5/10/2006
1,3-Dichlorobenzene	ND	1.0		mg/Kg	20	5/10/2006
1,4-Dichlorobenzene	ND	1.0		mg/Kg	20	5/10/2006
Dichlorodifluoromethane	ND	1.0		mg/Kg	20	5/10/2006
1,1-Dichloroethane	ND	2.0		mg/Kg	20	5/10/2006
1,1-Dichloroethene	ND	1.0		mg/Kg	20	5/10/2006
1,2-Dichloropropane	ND	1.0		mg/Kg	20	5/10/2006
1,3-Dichloropropane	ND	1.0		mg/Kg	20	5/10/2006
2,2-Dichloropropane	ND	2.0		mg/Kg	20	5/10/2006

<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	ND Not Detected at the Reporting Limit
	S Spike Recovery outside accepted recovery limits	

# Hall Environmental Analysis Laboratory

Date: 15-May-06

CLIENT: Giant Refining Co  
 Lab Order: 0605060  
 Project: Stockpile Banks from Lagoons & Ponds  
 Lab ID: 0605060-09

Client Sample ID: #3 More Contam.  
 Collection Date: 5/3/2006 10:10:00 AM  
 Date Received: 5/5/2006  
 Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8260B: VOLATILES</b>						Analyst: KTM
1,1-Dichloropropene	ND	1.0		mg/Kg	20	5/10/2006
Hexachlorobutadiene	ND	2.0		mg/Kg	20	5/10/2006
2-Hexanone	ND	10		mg/Kg	20	5/10/2006
Isopropylbenzene	ND	1.0		mg/Kg	20	5/10/2006
4-Isopropyltoluene	ND	1.0		mg/Kg	20	5/10/2006
4-Methyl-2-pentanone	ND	10		mg/Kg	20	5/10/2006
Methylene chloride	ND	3.0		mg/Kg	20	5/10/2006
n-Butylbenzene	1.3	1.0		mg/Kg	20	5/10/2006
n-Propylbenzene	ND	1.0		mg/Kg	20	5/10/2006
sec-Butylbenzene	ND	1.0		mg/Kg	20	5/10/2006
Styrene	ND	1.0		mg/Kg	20	5/10/2006
tert-Butylbenzene	ND	1.0		mg/Kg	20	5/10/2006
1,1,1,2-Tetrachloroethane	ND	1.0		mg/Kg	20	5/10/2006
1,1,2,2-Tetrachloroethane	ND	1.0		mg/Kg	20	5/10/2006
Tetrachloroethene (PCE)	ND	1.0		mg/Kg	20	5/10/2006
trans-1,2-DCE	ND	1.0		mg/Kg	20	5/10/2006
trans-1,3-Dichloropropene	ND	1.0		mg/Kg	20	5/10/2006
1,2,3-Trichlorobenzene	ND	2.0		mg/Kg	20	5/10/2006
1,2,4-Trichlorobenzene	ND	1.0		mg/Kg	20	5/10/2006
1,1,1-Trichloroethane	ND	1.0		mg/Kg	20	5/10/2006
1,1,2-Trichloroethane	ND	1.0		mg/Kg	20	5/10/2006
Trichloroethene (TCE)	ND	1.0		mg/Kg	20	5/10/2006
Trichlorofluoromethane	ND	1.0		mg/Kg	20	5/10/2006
1,2,3-Trichloropropane	ND	2.0		mg/Kg	20	5/10/2006
Vinyl chloride	ND	1.0		mg/Kg	20	5/10/2006
Xylenes, Total	ND	1.0		mg/Kg	20	5/10/2006
Surr: 1,2-Dichloroethane-d4	117	74.2-135		%REC	20	5/10/2006
Surr: 4-Bromofluorobenzene	105	75.2-127		%REC	20	5/10/2006
Surr: Dibromofluoromethane	111	76.9-138		%REC	20	5/10/2006
Surr: Toluene-d8	102	74-119		%REC	20	5/10/2006

Qualifiers: \* Value exceeds Maximum Contaminant Level  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit

# Hall Environmental Analysis Laboratory

Date: 15-May-06

<b>CLIENT:</b>	Giant Refining Co	<b>Client Sample ID:</b>	#4 Less Contam.
<b>Lab Order:</b>	0605060	<b>Collection Date:</b>	5/3/2006 10:15:00 AM
<b>Project:</b>	Stockpile Banks from Lagoons & Ponds	<b>Date Received:</b>	5/5/2006
<b>Lab ID:</b>	0605060-10	<b>Matrix:</b>	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8260B: VOLATILES</b>						Analyst: KTM
Benzene	ND	0.050		mg/Kg	1	5/10/2006
Toluene	ND	0.050		mg/Kg	1	5/10/2006
Ethylbenzene	ND	0.050		mg/Kg	1	5/10/2006
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	5/10/2006
1,2,4-Trimethylbenzene	ND	0.050		mg/Kg	1	5/10/2006
1,3,5-Trimethylbenzene	ND	0.050		mg/Kg	1	5/10/2006
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	5/10/2006
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	5/10/2006
Naphthalene	ND	0.10		mg/Kg	1	5/10/2006
1-Methylnaphthalene	ND	0.20		mg/Kg	1	5/10/2006
2-Methylnaphthalene	ND	0.20		mg/Kg	1	5/10/2006
Acetone	ND	0.75		mg/Kg	1	5/10/2006
Bromobenzene	ND	0.050		mg/Kg	1	5/10/2006
Bromochloromethane	ND	0.050		mg/Kg	1	5/10/2006
Bromodichloromethane	ND	0.050		mg/Kg	1	5/10/2006
Bromoform	ND	0.050		mg/Kg	1	5/10/2006
Bromomethane	ND	0.10		mg/Kg	1	5/10/2006
2-Butanone	ND	0.50		mg/Kg	1	5/10/2006
Carbon disulfide	ND	0.50		mg/Kg	1	5/10/2006
Carbon tetrachloride	ND	0.10		mg/Kg	1	5/10/2006
Chlorobenzene	ND	0.050		mg/Kg	1	5/10/2006
Chloroethane	ND	0.10		mg/Kg	1	5/10/2006
Chloroform	ND	0.050		mg/Kg	1	5/10/2006
Chloromethane	ND	0.050		mg/Kg	1	5/10/2006
2-Chlorotoluene	ND	0.050		mg/Kg	1	5/10/2006
4-Chlorotoluene	ND	0.050		mg/Kg	1	5/10/2006
cis-1,2-DCE	ND	0.050		mg/Kg	1	5/10/2006
cis-1,3-Dichloropropene	ND	0.050		mg/Kg	1	5/10/2006
1,2-Dibromo-3-chloropropane	ND	0.10		mg/Kg	1	5/10/2006
Dibromochloromethane	ND	0.050		mg/Kg	1	5/10/2006
Dibromomethane	ND	0.10		mg/Kg	1	5/10/2006
1,2-Dichlorobenzene	ND	0.050		mg/Kg	1	5/10/2006
1,3-Dichlorobenzene	ND	0.050		mg/Kg	1	5/10/2006
1,4-Dichlorobenzene	ND	0.050		mg/Kg	1	5/10/2006
Dichlorodifluoromethane	ND	0.050		mg/Kg	1	5/10/2006
1,1-Dichloroethane	ND	0.10		mg/Kg	1	5/10/2006
1,1-Dichloroethene	ND	0.050		mg/Kg	1	5/10/2006
1,2-Dichloropropane	ND	0.050		mg/Kg	1	5/10/2006
1,3-Dichloropropane	ND	0.050		mg/Kg	1	5/10/2006
2,2-Dichloropropane	ND	0.10		mg/Kg	1	5/10/2006

<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	ND Not Detected at the Reporting Limit
	S Spike Recovery outside accepted recovery limits	

# Hall Environmental Analysis Laboratory

Date: 15-May-06

<b>CLIENT:</b> Giant Refining Co	<b>Client Sample ID:</b> #4 Less Contam.
<b>Lab Order:</b> 0605060	<b>Collection Date:</b> 5/3/2006 10:15:00 AM
<b>Project:</b> Stockpile Banks from Lagoons & Ponds	<b>Date Received:</b> 5/5/2006
<b>Lab ID:</b> 0605060-10	<b>Matrix:</b> SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8260B: VOLATILES</b>						Analyst: KTM
1,1-Dichloropropene	ND	0.050		mg/Kg	1	5/10/2006
Hexachlorobutadiene	ND	0.10		mg/Kg	1	5/10/2006
2-Hexanone	ND	0.50		mg/Kg	1	5/10/2006
Isopropylbenzene	ND	0.050		mg/Kg	1	5/10/2006
4-Isopropyltoluene	ND	0.050		mg/Kg	1	5/10/2006
4-Methyl-2-pentanone	ND	0.50		mg/Kg	1	5/10/2006
Methylene chloride	ND	0.15		mg/Kg	1	5/10/2006
n-Butylbenzene	ND	0.050		mg/Kg	1	5/10/2006
n-Propylbenzene	ND	0.050		mg/Kg	1	5/10/2006
sec-Butylbenzene	ND	0.050		mg/Kg	1	5/10/2006
Styrene	ND	0.050		mg/Kg	1	5/10/2006
tert-Butylbenzene	ND	0.050		mg/Kg	1	5/10/2006
1,1,1,2-Tetrachloroethane	ND	0.050		mg/Kg	1	5/10/2006
1,1,2,2-Tetrachloroethane	ND	0.050		mg/Kg	1	5/10/2006
Tetrachloroethene (PCE)	ND	0.050		mg/Kg	1	5/10/2006
trans-1,2-DCE	ND	0.050		mg/Kg	1	5/10/2006
trans-1,3-Dichloropropene	ND	0.050		mg/Kg	1	5/10/2006
1,2,3-Trichlorobenzene	ND	0.10		mg/Kg	1	5/10/2006
1,2,4-Trichlorobenzene	ND	0.050		mg/Kg	1	5/10/2006
1,1,1-Trichloroethane	ND	0.050		mg/Kg	1	5/10/2006
1,1,2-Trichloroethane	ND	0.050		mg/Kg	1	5/10/2006
Trichloroethane (TCE)	ND	0.050		mg/Kg	1	5/10/2006
Trichlorofluoromethane	ND	0.050		mg/Kg	1	5/10/2006
1,2,3-Trichloropropane	ND	0.10		mg/Kg	1	5/10/2006
Vinyl chloride	ND	0.050		mg/Kg	1	5/10/2006
Xylenes, Total	ND	0.050		mg/Kg	1	5/10/2006
Surr: 1,2-Dichloroethane-d4	116	74.2-135		%REC	1	5/10/2006
Surr: 4-Bromofluorobenzene	93.4	75.2-127		%REC	1	5/10/2006
Surr: Dibromofluoromethane	105	76.9-138		%REC	1	5/10/2006
Surr: Toluene-d8	96.9	74-119		%REC	1	5/10/2006

<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	ND Not Detected at the Reporting Limit
	S Spike Recovery outside accepted recovery limits	

# Hall Environmental Analysis Laboratory

Date: 15-May-06

<b>CLIENT:</b>	Giant Refining Co	<b>Client Sample ID:</b>	#5 Less Contam.
<b>Lab Order:</b>	0605060	<b>Collection Date:</b>	5/3/2006 10:20:00 AM
<b>Project:</b>	Stockpile Banks from Lagoons & Ponds	<b>Date Received:</b>	5/5/2006
<b>Lab ID:</b>	0605060-11	<b>Matrix:</b>	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8260B: VOLATILES</b>						Analyst: KTM
Benzene	ND	0.050		mg/Kg	1	5/10/2006
Toluene	ND	0.050		mg/Kg	1	5/10/2006
Ethylbenzene	ND	0.050		mg/Kg	1	5/10/2006
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	5/10/2006
1,2,4-Trimethylbenzene	ND	0.050		mg/Kg	1	5/10/2006
1,3,5-Trimethylbenzene	ND	0.050		mg/Kg	1	5/10/2006
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	5/10/2006
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	5/10/2006
Naphthalene	ND	0.10		mg/Kg	1	5/10/2006
1-Methylnaphthalene	ND	0.20		mg/Kg	1	5/10/2006
2-Methylnaphthalene	ND	0.20		mg/Kg	1	5/10/2006
Acetone	ND	0.75		mg/Kg	1	5/10/2006
Bromobenzene	ND	0.050		mg/Kg	1	5/10/2006
Bromochloromethane	ND	0.050		mg/Kg	1	5/10/2006
Bromodichloromethane	ND	0.050		mg/Kg	1	5/10/2006
Bromoform	ND	0.050		mg/Kg	1	5/10/2006
Bromomethane	ND	0.10		mg/Kg	1	5/10/2006
2-Butanone	ND	0.50		mg/Kg	1	5/10/2006
Carbon disulfide	ND	0.50		mg/Kg	1	5/10/2006
Carbon tetrachloride	ND	0.10		mg/Kg	1	5/10/2006
Chlorobenzene	ND	0.050		mg/Kg	1	5/10/2006
Chloroethane	ND	0.10		mg/Kg	1	5/10/2006
Chloroform	ND	0.050		mg/Kg	1	5/10/2006
Chloromethane	ND	0.050		mg/Kg	1	5/10/2006
2-Chlorotoluene	ND	0.050		mg/Kg	1	5/10/2006
4-Chlorotoluene	ND	0.050		mg/Kg	1	5/10/2006
cis-1,2-DCE	ND	0.050		mg/Kg	1	5/10/2006
cis-1,3-Dichloropropene	ND	0.050		mg/Kg	1	5/10/2006
1,2-Dibromo-3-chloropropane	ND	0.10		mg/Kg	1	5/10/2006
Dibromochloromethane	ND	0.050		mg/Kg	1	5/10/2006
Dibromomethane	ND	0.10		mg/Kg	1	5/10/2006
1,2-Dichlorobenzene	ND	0.050		mg/Kg	1	5/10/2006
1,3-Dichlorobenzene	ND	0.050		mg/Kg	1	5/10/2006
1,4-Dichlorobenzene	ND	0.050		mg/Kg	1	5/10/2006
Dichlorodifluoromethane	ND	0.050		mg/Kg	1	5/10/2006
1,1-Dichloroethane	ND	0.10		mg/Kg	1	5/10/2006
1,1-Dichloroethene	ND	0.050		mg/Kg	1	5/10/2006
1,2-Dichloropropane	ND	0.050		mg/Kg	1	5/10/2006
1,3-Dichloropropane	ND	0.050		mg/Kg	1	5/10/2006
2,2-Dichloropropane	ND	0.10		mg/Kg	1	5/10/2006

<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	ND Not Detected at the Reporting Limit
	S Spike Recovery outside accepted recovery limits	

# Hall Environmental Analysis Laboratory

Date: 15-May-06

CLIENT: Giant Refining Co  
 Lab Order: 0605060  
 Project: Stockpile Banks from Lagoons & Ponds  
 Lab ID: 0605060-11

Client Sample ID: #5 Less Contam.  
 Collection Date: 5/3/2006 10:20:00 AM  
 Date Received: 5/5/2006  
 Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8260B: VOLATILES</b>						Analyst: KTM
1,1-Dichloropropene	ND	0.050		mg/Kg	1	5/10/2006
Hexachlorobutadiene	ND	0.10		mg/Kg	1	5/10/2006
2-Hexanone	ND	0.50		mg/Kg	1	5/10/2006
Isopropylbenzene	ND	0.050		mg/Kg	1	5/10/2006
4-Isopropyltoluene	ND	0.050		mg/Kg	1	5/10/2006
4-Methyl-2-pentanone	ND	0.50		mg/Kg	1	5/10/2006
Methylene chloride	ND	0.15		mg/Kg	1	5/10/2006
n-Butylbenzene	ND	0.050		mg/Kg	1	5/10/2006
n-Propylbenzene	ND	0.050		mg/Kg	1	5/10/2006
sec-Butylbenzene	ND	0.050		mg/Kg	1	5/10/2006
Styrene	ND	0.050		mg/Kg	1	5/10/2006
tert-Butylbenzene	ND	0.050		mg/Kg	1	5/10/2006
1,1,1,2-Tetrachloroethane	ND	0.050		mg/Kg	1	5/10/2006
1,1,2,2-Tetrachloroethane	ND	0.050		mg/Kg	1	5/10/2006
Tetrachloroethane (PCE)	ND	0.050		mg/Kg	1	5/10/2006
trans-1,2-DCE	ND	0.050		mg/Kg	1	5/10/2006
trans-1,3-Dichloropropene	ND	0.050		mg/Kg	1	5/10/2006
1,2,3-Trichlorobenzene	ND	0.10		mg/Kg	1	5/10/2006
1,2,4-Trichlorobenzene	ND	0.050		mg/Kg	1	5/10/2006
1,1,1-Trichloroethane	ND	0.050		mg/Kg	1	5/10/2006
1,1,2-Trichloroethane	ND	0.050		mg/Kg	1	5/10/2006
Trichloroethane (TCE)	ND	0.050		mg/Kg	1	5/10/2006
Trichlorofluoromethane	ND	0.050		mg/Kg	1	5/10/2006
1,2,3-Trichloropropane	ND	0.10		mg/Kg	1	5/10/2006
Vinyl chloride	ND	0.050		mg/Kg	1	5/10/2006
Xylenes, Total	ND	0.050		mg/Kg	1	5/10/2006
Surr: 1,2-Dichloroethane-d4	132	74.2-135		%REC	1	5/10/2006
Surr: 4-Bromofluorobenzene	103	75.2-127		%REC	1	5/10/2006
Surr: Dibromofluoromethane	118	76.9-138		%REC	1	5/10/2006
Surr: Toluene-d8	101	74-119		%REC	1	5/10/2006

Qualifiers: \* Value exceeds Maximum Contaminant Level  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit

# Hall Environmental Analysis Laboratory

Date: 15-May-06

<b>CLIENT:</b> Giant Refining Co	<b>Client Sample ID:</b> #6 Less Contam.
<b>Lab Order:</b> 0605060	<b>Collection Date:</b> 5/3/2006 10:25:00 AM
<b>Project:</b> Stockpile Banks from Lagoons & Ponds	<b>Date Received:</b> 5/5/2006
<b>Lab ID:</b> 0605060-12	<b>Matrix:</b> SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8260B: VOLATILES</b>						Analyst: KTM
Benzene	ND	0.050		mg/Kg	1	5/10/2006
Toluene	ND	0.050		mg/Kg	1	5/10/2006
Ethylbenzene	ND	0.050		mg/Kg	1	5/10/2006
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	5/10/2006
1,2,4-Trimethylbenzene	ND	0.050		mg/Kg	1	5/10/2006
1,3,5-Trimethylbenzene	ND	0.050		mg/Kg	1	5/10/2006
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	5/10/2006
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	5/10/2006
Naphthalene	ND	0.10		mg/Kg	1	5/10/2006
1-Methylnaphthalene	0.56	0.20		mg/Kg	1	5/10/2006
2-Methylnaphthalene	0.43	0.20		mg/Kg	1	5/10/2006
Acetone	ND	0.75		mg/Kg	1	5/10/2006
Bromobenzene	ND	0.050		mg/Kg	1	5/10/2006
Bromochloromethane	ND	0.050		mg/Kg	1	5/10/2006
Bromodichloromethane	ND	0.050		mg/Kg	1	5/10/2006
Bromoform	ND	0.050		mg/Kg	1	5/10/2006
Bromomethane	ND	0.10		mg/Kg	1	5/10/2006
2-Butanone	ND	0.50		mg/Kg	1	5/10/2006
Carbon disulfide	ND	0.50		mg/Kg	1	5/10/2006
Carbon tetrachloride	ND	0.10		mg/Kg	1	5/10/2006
Chlorobenzene	ND	0.050		mg/Kg	1	5/10/2006
Chloroethane	ND	0.10		mg/Kg	1	5/10/2006
Chloroform	ND	0.050		mg/Kg	1	5/10/2006
Chloromethane	ND	0.050		mg/Kg	1	5/10/2006
2-Chlorotoluene	ND	0.050		mg/Kg	1	5/10/2006
4-Chlorotoluene	ND	0.050		mg/Kg	1	5/10/2006
cis-1,2-DCE	ND	0.050		mg/Kg	1	5/10/2006
cis-1,3-Dichloropropene	ND	0.050		mg/Kg	1	5/10/2006
1,2-Dibromo-3-chloropropane	ND	0.10		mg/Kg	1	5/10/2006
Dibromochloromethane	ND	0.050		mg/Kg	1	5/10/2006
Dibromomethane	ND	0.10		mg/Kg	1	5/10/2006
1,2-Dichlorobenzene	ND	0.050		mg/Kg	1	5/10/2006
1,3-Dichlorobenzene	ND	0.050		mg/Kg	1	5/10/2006
1,4-Dichlorobenzene	ND	0.050		mg/Kg	1	5/10/2006
Dichlorodifluoromethane	ND	0.050		mg/Kg	1	5/10/2006
1,1-Dichloroethane	ND	0.10		mg/Kg	1	5/10/2006
1,1-Dichloroethene	ND	0.050		mg/Kg	1	5/10/2006
1,2-Dichloropropane	ND	0.050		mg/Kg	1	5/10/2006
1,3-Dichloropropane	ND	0.050		mg/Kg	1	5/10/2006
2,2-Dichloropropane	ND	0.10		mg/Kg	1	5/10/2006

<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	ND Not Detected at the Reporting Limit
	S Spike Recovery outside accepted recovery limits	

**Hall Environmental Analysis Laboratory**

Date: 15-May-06

**CLIENT:** Giant Refining Co  
**Lab Order:** 0605060  
**Project:** Stockpile Banks from Lagoons & Ponds  
**Lab ID:** 0605060-12

**Client Sample ID:** #6 Less Contam.  
**Collection Date:** 5/3/2006 10:25:00 AM  
**Date Received:** 5/5/2006  
**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8260B: VOLATILES</b>						Analyst: KTM
1,1-Dichloropropene	ND	0.050		mg/Kg	1	5/10/2006
Hexachlorobutadiene	ND	0.10		mg/Kg	1	5/10/2006
2-Hexanone	ND	0.50		mg/Kg	1	5/10/2006
Isopropylbenzene	ND	0.050		mg/Kg	1	5/10/2006
4-Isopropyltoluene	ND	0.050		mg/Kg	1	5/10/2006
4-Methyl-2-pentanone	ND	0.50		mg/Kg	1	5/10/2006
Methylene chloride	ND	0.15		mg/Kg	1	5/10/2006
n-Butylbenzene	ND	0.050		mg/Kg	1	5/10/2006
n-Propylbenzene	ND	0.050		mg/Kg	1	5/10/2006
sec-Butylbenzene	ND	0.050		mg/Kg	1	5/10/2006
Styrene	ND	0.050		mg/Kg	1	5/10/2006
tert-Butylbenzene	ND	0.050		mg/Kg	1	5/10/2006
1,1,1,2-Tetrachloroethane	ND	0.050		mg/Kg	1	5/10/2006
1,1,2,2-Tetrachloroethane	ND	0.050		mg/Kg	1	5/10/2006
Tetrachloroethene (PCE)	ND	0.050		mg/Kg	1	5/10/2006
trans-1,2-DCE	ND	0.050		mg/Kg	1	5/10/2006
trans-1,3-Dichloropropene	ND	0.050		mg/Kg	1	5/10/2006
1,2,3-Trichlorobenzene	ND	0.10		mg/Kg	1	5/10/2006
1,2,4-Trichlorobenzene	ND	0.050		mg/Kg	1	5/10/2006
1,1,1-Trichloroethane	ND	0.050		mg/Kg	1	5/10/2006
1,1,2-Trichloroethane	ND	0.050		mg/Kg	1	5/10/2006
Trichloroethene (TCE)	ND	0.050		mg/Kg	1	5/10/2006
Trichlorofluoromethane	ND	0.050		mg/Kg	1	5/10/2006
1,2,3-Trichloropropane	ND	0.10		mg/Kg	1	5/10/2006
Vinyl chloride	ND	0.050		mg/Kg	1	5/10/2006
Xylenes, Total	ND	0.050		mg/Kg	1	5/10/2006
Surr: 1,2-Dichloroethane-d4	128	74.2-135		%REC	1	5/10/2006
Surr: 4-Bromofluorobenzene	93.6	75.2-127		%REC	1	5/10/2006
Surr: Dibromofluoromethane	112	76.9-138		%REC	1	5/10/2006
Surr: Toluene-d8	99.6	74-119		%REC	1	5/10/2006

**Qualifiers:**

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

**LABORATORY ANALYTICAL REPORT**

Client: Hall Environmental  
 Project: 0605060  
 Lab ID: C06050423-001  
 Client Sample ID: MW Comp

Report Date: 05/12/06  
 Collection Date: 05/03/06 09:30  
 Date Received: 05/09/06  
 Matrix: Soil

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
<b>PHYSICAL PROPERTIES</b>							
Corrosivity - pH	7.46	s.u.		0.01		SW9045C	05/11/06 14:23 / ph
Flash Point (Ignitability)	>140	°F		60	140	SW1010	05/11/06 08:53 / bah
<b>REACTIVITY</b>							
Sulfide, Reactive	ND	mg/kg		20.0	500	SW846 Ch 7	05/10/06 14:21 / jl
Cyanide, Reactive	ND	mg/kg		1.0	250	SW846 Ch 7	05/11/06 14:14 / ell-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: 0605060  
 Lab ID: C06050423-002  
 Client Sample ID: NE Comp

Report Date: 05/12/06  
 Collection Date: 05/03/06 09:35  
 Date Received: 05/09/06  
 Matrix: Soil

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
<b>PHYSICAL PROPERTIES</b>							
Corrosivity - pH	7.53	s.u.		0.01		SW9045C	05/11/06 14:23 / ph
Flash Point (Ignitability)	>140	°F		60	140	SW1010	05/11/06 11:00 / bah
<b>REACTIVITY</b>							
Sulfide, Reactive	ND	mg/kg		20.0	500	SW846 Ch 7	05/10/06 14:23 / jl
Cyanide, Reactive	ND	mg/kg		1.0	250	SW846 Ch 7	05/11/06 14:16 / ell-b

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

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

**LABORATORY ANALYTICAL REPORT**

Client: Hall Environmental  
 Project: 0605060  
 Lab ID: C06050423-003  
 Client Sample ID: MID W Comp

Report Date: 05/12/06  
 Collection Date: 05/03/06 09:40  
 Date Received: 05/09/06  
 Matrix: Soil

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
<b>PHYSICAL PROPERTIES</b>							
Corrosivity - pH	7.17	s.u.		0.01		SW9045C	05/11/06 14:23 / ph
Flash Point (Ignitability)	>140	°F		80	140	SW1010	05/11/06 13:10 / bah
<b>REACTIVITY</b>							
Sulfide, Reactive	ND	mg/kg		20.0	500	SW846 Ch 7	05/10/06 14:26 / JI
Cyanide, Reactive	ND	mg/kg		1.0	250	SW846 Ch 7	05/11/06 14:18 / ell-b

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

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

**LABORATORY ANALYTICAL REPORT**

Client: Hall Environmental  
 Project: 0605060  
 Lab ID: C06050423-004  
 Client Sample ID: MID E Comp

Report Date: 05/12/06  
 Collection Date: 05/03/06 09:45  
 Date Received: 05/09/06  
 Matrix: Soil

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
<b>PHYSICAL PROPERTIES</b>							
Corrosivity - pH	7.21	s.u.		0.01		SW9045C	05/11/06 14:23 / ph
Flash Point (Ignitability)	>140	°F		60	140	SW1010	05/11/06 14:44 / bah
<b>REACTIVITY</b>							
Sulfide, Reactive	ND	mg/kg		20.0	500	SW846 Ch 7	05/10/06 14:28 /jl
Cyanide, Reactive	ND	mg/kg		1.0	250	SW846 Ch 7	05/11/06 14:20 / efl-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:** 0605060  
**Lab ID:** C06050423-005  
**Client Sample ID:** SW Comp

**Report Date:** 05/12/06  
**Collection Date:** 05/03/06 09:50  
**Date Received:** 05/09/06  
**Matrix:** Soil

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
<b>PHYSICAL PROPERTIES</b>							
Corrosivity - pH	7.41	s.u.		0.01		SW9045C	05/11/06 14:23 / ph
Flash Point (Ignitability)	>140	°F		60	140	SW1010	05/11/06 15:45 / bah
<b>REACTIVITY</b>							
Sulfide, Reactive	ND	mg/kg		20.0	500	SW846 Ch 7	05/10/06 14:31 / jl
Cyanide, Reactive	ND	mg/kg		1.0	250	SW846 Ch 7	05/11/06 14:21 / ell-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:** 0605060  
**Lab ID:** C06050423-006  
**Client Sample ID:** SE Comp

**Report Date:** 05/12/06  
**Collection Date:** 05/03/06 09:55  
**Date Received:** 05/09/06  
**Matrix:** Soil

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
<b>PHYSICAL PROPERTIES</b>							
Corrosivity - pH	7.33	s.u.		0.01		SW8045C	05/11/06 14:23 / ph
Flash Point (Ignitability)	>140	°F		60	140	SW1010	05/11/06 16:49 / bah
<b>REACTIVITY</b>							
Sulfide, Reactive	ND	mg/kg		20.0	500	SW846 Ch 7	05/10/06 14:34 / jl
Cyanide, Reactive	ND	mg/kg		1.0	250	SW846 Ch 7	05/11/06 14:23 / ell-b

**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: 0605060

Report Date: 05/12/06  
Work Order: C06050423

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: SW1010</b>							Batch: 060511A-FLSHPNT-S		
Sample ID: C06050423-001ADUP	Sample Duplicate								
Flash Point (Ignitability)	> 140	°F	60				0.0	5	
Run: PM_FLASHPOINT_060511A									05/11/06 10:00
Sample ID: MBLK1_060511A	Method Blank								
Flash Point (Ignitability)	ND	°F	60						
Run: PM_FLASHPOINT_060511A									05/11/06 16:58
Sample ID: LCS1_060511A	Laboratory Control Sample								
Flash Point (Ignitability)	82.0	°F	60	100	96	104			
Run: PM_FLASHPOINT_060511A									05/11/06 07:54
<b>Method: SW846 Ch 7</b>							Batch: 10942		
Sample ID: MB-10942-S	Method Blank								
Sulfide, Reactive	ND	mg/kg	1						
Run: TITRATION_060510A									05/10/06 14:17
Sample ID: C06050423-006B	Sample Duplicate								
Sulfide, Reactive	12.0	mg/kg	20				0.0	20	
Run: TITRATION_060510A									05/10/06 14:39
<b>Method: SW846 Ch 7</b>							Batch: B_21065		
Sample ID: MB-21065	Method Blank								
Cyanide, Reactive	ND	mg/kg	0.05						
Run: SUB-B75588									05/11/06 14:27

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC SUMMARY REPORT

Client: Giant Refining Co  
 Project: Stockpile Banks from Lagoons & Ponds

Work Order: 0605060

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: SW8015								Batch ID: 10369	
Sample ID: MB-10369		MBLK						Analysis Date: 5/10/2006	
Diesel Range Organics (DRO)	ND	mg/Kg	10						
Motor Oil Range Organics (MRO)	ND	mg/Kg	50						
Sample ID: LCS-10369		LCS						Analysis Date: 5/10/2006	
Diesel Range Organics (DRO)	43.73	mg/Kg	10	87.5	64.6	116			
Sample ID: LCSD-10369		LCSD						Analysis Date: 5/10/2006	
Diesel Range Organics (DRO)	45.86	mg/Kg	10	91.7	64.6	116	4.76	17.4	

Method: SW8015								Batch ID: 10361	
Sample ID: MB-10361		MBLK						Analysis Date: 5/8/2006	
Gasoline Range Organics (GRO)	ND	mg/Kg	5.0						
Sample ID: LCS-10361		LCS						Analysis Date: 5/8/2006	
Gasoline Range Organics (GRO)	20.20	mg/Kg	5.0	80.8	77	115			
Sample ID: LCSD-10361		LCSD						Analysis Date: 5/8/2006	
Gasoline Range Organics (GRO)	22.00	mg/Kg	5.0	88.0	77	115	8.53	11.6	

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: Stockpile Banks from Lagoons & Ponds

Work Order: 0605060

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: SW8270C  
 Sample ID: MB-10367

Batch ID: 10367  
 Analysis Date: 5/10/2006

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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	0.2097	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: Stockpile Banks from Lagoons & Ponds

Work Order: 0605060

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: SW8270C  
 Sample ID: MB-10367

Batch ID: 10367  
 Analysis Date: 5/10/2006

Hexachlorobutadiene	ND	mg/Kg	0.20						
Hexachlorocyclopentadiene	ND	mg/Kg	0.25						
Hexachloroelthane	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-10367

LCS

Analysis Date: 5/10/2006

Acenaphthene	1.223	mg/Kg	0.20	73.3	24	125			
4-Chloro-3-methylphenol	2.391	mg/Kg	0.20	71.8	14.6	154			
2-Chlorophenol	2.073	mg/Kg	0.20	62.3	13.3	149			
1,4-Dichlorobenzene	0.8983	mg/Kg	0.20	53.8	23.6	118			
2,4-Dinitrotoluene	1.072	mg/Kg	0.20	64.2	28	136			
N-Nitrosodi-n-propylamine	1.098	mg/Kg	0.20	65.8	28	114			
4-Nitrophenol	2.234	mg/Kg	0.20	67.1	13.1	150			
Pentachlorophenol	2.441	mg/Kg	0.50	73.3	20.1	139			
Phenol	2.037	mg/Kg	0.20	61.2	17.3	141			
Pyrene	1.224	mg/Kg	0.20	73.3	29	131			
1,2,4-Trichlorobenzene	0.9813	mg/Kg	0.20	58.8	17.9	126			

Sample ID: LCSD-10367

LCSD

Analysis Date: 5/10/2006

Acenaphthene	1.200	mg/Kg	0.20	71.9	24	125	1.93	25	
4-Chloro-3-methylphenol	2.163	mg/Kg	0.20	65.0	14.6	154	9.98	25	
2-Chlorophenol	1.725	mg/Kg	0.20	51.8	13.3	149	18.3	25	
1,4-Dichlorobenzene	0.7727	mg/Kg	0.20	46.3	23.6	118	15.0	25	
2,4-Dinitrotoluene	1.086	mg/Kg	0.20	65.0	28	136	1.30	25	
N-Nitrosodi-n-propylamine	0.9733	mg/Kg	0.20	58.3	28	114	12.1	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

## QA/QC SUMMARY REPORT

Client: Giant Refining Co  
 Project: Stockpile Banks from Lagoons & Ponds

Work Order: 0605060

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8270C								Batch ID: 10367	
Sample ID: LCSD-10367		LCSD						Analysis Date: 5/10/2006	
4-Nitrophenol	2.254	mg/Kg	0.20	67.7	13.1	150	0.862	25	
Pentachlorophenol	2.344	mg/Kg	0.50	70.4	20.1	139	4.05	25	
Phenol	1.721	mg/Kg	0.20	51.7	17.3	141	16.8	25	
Pyrene	1.193	mg/Kg	0.20	71.4	29	131	2.54	25	
1,2,4-Trichlorobenzene	0.8497	mg/Kg	0.20	50.9	17.9	126	14.4	25	

Method: SW7470								Batch ID: 10399	
Sample ID: MB-10399		MBLK						Analysis Date: 5/11/2006	
Mercury	ND	mg/L	0.020						
Sample ID: LCS-10399		LCS						Analysis Date: 5/11/2006	
Mercury	0.004860	mg/L	0.0020	97.2	80	120			
Sample ID: 0605060-02AMS		MS						Analysis Date: 5/11/2006	
Mercury	0.004785	mg/L	0.0020	95.7	75	125			
Sample ID: 0605060-02AMSD		MSD						Analysis Date: 5/11/2006	
Mercury	0.004530	mg/L	0.0020	90.6	75	125	5.48	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

QA/QC SUMMARY REPORT

Client: Giant Refining Co  
 Project: Stockpile Banks from Lagoons & Ponds

Work Order: 0605060

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: SW1311/6010

Batch ID: 10391

Sample ID: MB-10391

MBLK

Analysis Date: 5/12/2006

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-10391

LCS

Analysis Date: 5/12/2006

Arsenic	0.5714	mg/L	0.20	114	80	120			
Barium	0.4692	mg/L	0.20	93.6	80	120			
Cadmium	0.5199	mg/L	0.20	104	80	120			
Chromium	0.4823	mg/L	0.20	96.5	80	120			
Lead	0.4841	mg/L	0.20	92.8	80	120			
Selenium	0.5610	mg/L	0.20	112	80	120			
Silver	0.5307	mg/L	0.20	106	80	120			

Sample ID: 0605060-05AMS

MS

Analysis Date: 5/12/2006

Arsenic	0.6494	mg/L	0.20	120	75	125			
Barium	0.8321	mg/L	0.20	97.6	75	125			
Cadmium	0.5350	mg/L	0.20	107	75	125			
Chromium	0.4697	mg/L	0.20	93.9	75	125			
Lead	0.4574	mg/L	0.20	90.9	75	125			
Selenium	0.5508	mg/L	0.20	110	75	125			
Silver	0.5574	mg/L	0.20	111	75	125			

Sample ID: 0605060-05AMSD

MSD

Analysis Date: 5/12/2006

Arsenic	0.6296	mg/L	0.20	116	75	125	3.10	20	
Barium	0.8358	mg/L	0.20	98.4	75	125	0.444	20	
Cadmium	0.5327	mg/L	0.20	107	75	125	0.421	20	
Chromium	0.5057	mg/L	0.20	101	75	125	7.39	20	
Lead	0.4547	mg/L	0.20	90.4	75	125	0.596	20	
Selenium	0.5251	mg/L	0.20	105	75	125	4.78	20	
Silver	0.5582	mg/L	0.20	112	75	125	0.138	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: Stockpile Banks from Lagoons & Ponds

Work Order: 0605060

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8260B									
Sample ID: mb-10361		MBLK							
							Batch ID: 10361		
							Analysis Date: 5/9/2006		
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

## QA/QC SUMMARY REPORT

Client: Giant Refining Co  
 Project: Stockpile Banks from Lagoons & Ponds

Work Order: 0605060

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8260B									
Sample ID: mb-10361		MBLK							
									Batch ID: 10361
									Analysis Date: 5/9/2006
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	0.050						
Sample ID: mb-10361		MBLK							
									Analysis Date: 5/10/2006
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						

## 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: Stockpile Banks from Lagoons &amp; Ponds

Work Order: 0605060

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8260B									
Sample ID: mb-10361		MBLK							
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						
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						

Batch ID: 10361

Analysis Date: 5/10/2006

## 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: Stockpile Banks from Lagoons & Ponds

Work Order: 0605060

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8260B									
Sample ID: mb-10361		MBLK							
Xylenes, Total	ND	mg/Kg	0.050						
Sample ID: lcs-10361		LCS							
Benzene	0.8252	mg/Kg	0.050	82.5	80.8	132			
Toluene	0.9339	mg/Kg	0.050	93.4	72.1	126			
Chlorobenzene	1.078	mg/Kg	0.050	108	75.4	140			
1,1-Dichloroethene	0.9166	mg/Kg	0.050	91.7	59	147			
Trichloroethene (TCE)	0.7785	mg/Kg	0.050	77.8	77.2	123			
Sample ID: 0605060-12a ms		MS							
Benzene	0.8676	mg/Kg	0.050	86.8	80.8	132			
Toluene	0.9851	mg/Kg	0.050	98.5	72.1	126			
Chlorobenzene	1.092	mg/Kg	0.050	109	75.4	140			
1,1-Dichloroethene	1.066	mg/Kg	0.050	107	59	147			
Trichloroethene (TCE)	0.8804	mg/Kg	0.050	88.0	77.2	123			
Sample ID: 0605060-12a msd		MSD							
Benzene	0.7971	mg/Kg	0.050	79.7	80.8	132	8.47	20	S
Toluene	0.8644	mg/Kg	0.050	86.4	72.1	126	13.1	20	
Chlorobenzene	1.061	mg/Kg	0.050	106	75.4	140	2.92	20	
1,1-Dichloroethene	0.9447	mg/Kg	0.050	94.5	59	147	12.0	20	
Trichloroethene (TCE)	0.7631	mg/Kg	0.050	76.3	77.2	123	14.3	20	S

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

Sample Receipt Checklist

Client Name GIANTREFIN

Date and Time Received:

5/5/2006

Work Order Number 0605060

Received by AT

Checklist completed by

*[Handwritten Signature]*

Signature

Date

5/5/06

Matrix

Carrier name UPS

- 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?

15°

4° C ± 2 Acceptable  
If given sufficient time to cool.

COMMENTS:

Client contacted \_\_\_\_\_ Date contacted: \_\_\_\_\_ Person contacted \_\_\_\_\_

Contacted by: \_\_\_\_\_ Regarding \_\_\_\_\_

Comments: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Corrective Action \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

# CHAIN-OF-CUSTODY RECORD

Client: *Plant Refining Co.*  
*Cinisa*  
 Address: *Route 3 Box 7*  
 *Gallup NM 87301*

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

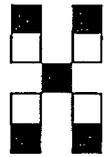
QA/QC Package:  
 Std  Level 4   
 Other: \_\_\_\_\_

Project Name: *STOCKPILE BANKS*  
*FROM LAGOONS + PONDS*

Project #: *111605*

Project Manager:  
*ED RIEGLE*

Sampler: *JUANINY SANCHEZ*  
 Sample Temperature: *15'*



**HALL ENVIRONMENTAL ANALYSIS LABORATORY**  
 4901 Hawkins NE, Suite D  
 Albuquerque, New Mexico 87109  
 Tel. 505.345.3975 Fax 505.345.4107  
 www.hallenvironmental.com

## ANALYSIS REQUEST

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	PCPA 8 Metals <i>TCLP</i>	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	<i>REACTIVITY</i>	<i>IGNITABILITY</i>	<i>CORROSIVITY (CIC)</i>	Air Bubbles or Headspace (Y or N)
		X					X				X	X	X	X	
		X					X				X	X	X	X	
		X					X				X	X	X	X	
		X					X				X	X	X	X	
		X					X				X	X	X	X	
		X					X				X	X	X	X	
										X					
										X					
										X					
										X					

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative		HEAL No.
					HgCl <sub>2</sub>	HNO <sub>3</sub>	
<i>5-3-06</i>	<i>0930</i>	<i>SOIL</i>	<i>N.W. Comp</i>	<i>2</i>			<i>dash 60-1</i>
	<i>0935</i>		<i>N.E.</i>				<i>-2</i>
	<i>0940</i>		<i>MID.W.</i>				<i>-3</i>
	<i>0945</i>		<i>MID.E.</i>				<i>-4</i>
	<i>0950</i>		<i>S.W.</i>				<i>-5</i>
	<i>0955</i>		<i>S.E.</i>				<i>-6</i>
	<i>10:00</i>	<i>BLACK SOLIDS</i>	<i>#1 MORE CONTAM.</i>	<i>1</i>			<i>-7</i>
	<i>10:05</i>		<i>#2 MORE CONTAM</i>				<i>-8</i>
	<i>10:10</i>		<i>#3 MORE CONTAM.</i>				<i>-9</i>
	<i>10:15</i>	<i>SOIL</i>	<i>#4 LESS CONTAM.</i>				<i>-10</i>
	<i>10:20</i>		<i>#5 LESS CONTAM</i>				<i>-11</i>
	<i>10:25</i>		<i>#6 LESS CONTAM.</i>				<i>-12</i>

Date: *5-4-06* Time: *0800* Relinquished By: (Signature) *J Sanchez*  
 Received By: (Signature) *[Signature]* *515106*  
 Remarks: *RUSH!*

Date: \_\_\_\_\_ Time: \_\_\_\_\_ Relinquished By: (Signature) \_\_\_\_\_  
 Received By: (Signature) \_\_\_\_\_

*1005*



COVER LETTER

Friday, May 12, 2006

Steve Morris  
Giant Refining Co  
Rt. 3 Box 7  
Gallup, NM 87301

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

RE: Pond 2 Inlet Week of 5/4/06

Order No.: 0605059

Dear Steve Morris:

Hall Environmental Analysis Laboratory received 1 sample(s) on 5/5/2006 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,

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

AZ license # AZ0682  
ORELAP Lab # NM100001



HALL ENVIRONMENTAL  
 attn: ANDY FREEMAN  
 4901 HAWKINS NE, SUITE D  
 ALBUQUERQUE NM 87109-4372

Explanation of codes	
B	Analyte Detected in Method Blank
E	Result is Estimated
H	Analyzed Out of Hold Time
N	Tentatively Identified Compound
S	Subcontracted
1-9	See Footnote

STANDARD

Assaigal Analytical Laboratories, Inc.

### Certificate of Analysis

All samples are reported on an "as received" basis, unless otherwise noted (i.e. - Dry Weight).

Client: HALL ENVIRONMENTAL  
 Project: 0605059  
 Order: 0605164 HAL03 Receipt: 05-05-06

William P. Blava: President of Assaigal Analytical Laboratories, Inc.

Sample: 0605059-01A/POND 2 INLET Collected: 05-04-06 7:30:00 By:  
 Matrix: AQUEOUS

QC Group	Run Sequence	CAS #	Analyte	Result	Units	Dilution Factor	Detection Limit	Code	Prep Date	Run Date
0605164-0001A			EPA 410.1 Chemical Oxygen Demand					By: NJL		
WCOD06031	WC.2006.1189.24	C-004	Chemical Oxygen Demand	1180	mg/L	1	10		05-11-06	05-11-06

Sample: 0605059-01B/POND 2 INLET Collected: 05-04-06 7:30:00 By:  
 Matrix: AQUEOUS

QC Group	Run Sequence	CAS #	Analyte	Result	Units	Dilution Factor	Detection Limit	Code	Prep Date	Run Date
0605164-0002A			EPA 405.1 Biochemical Oxygen Demand					By: NJL		
BOD06056	WC.2006.1172.11	10-26-4	Biochemical Oxygen Demand	496	mg/L	1	2		05-05-06	05-10-06

Unless otherwise noted, all samples were received in acceptable condition and all sampling was performed by client or client representative. Sample result of ND indicates Not Detected, ie result is less than the sample specific Detection Limit. Sample specific Detection Limit is determined by multiplying the sample Dilution Factor by the listed Reporting Detection Limit. All results relate only to the items tested. Any miscellaneous workorder information or footnotes will appear below.

Analytical results are not corrected for method blank or field blank contamination.

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name GIANTREFIN

Date and Time Received:

5/5/2006

Work Order Number 0605059

Received by AT

Checklist completed by

*[Handwritten Signature]*

5/5/06

Signature

Date

Matrix

Carrier name UPS

- 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? Yes  No VOA vials submitted  Yes  No
- Water - pH acceptable upon receipt? Yes  No  N/A

Container/Temp Blank temperature?

15°

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:** Chavez, Carl J, EMNRD  
**Sent:** Thursday, May 25, 2006 3:27 PM  
**To:** 'Jim Lieb'  
**Cc:** Monzeglio, Hope, NMENV; Cobrain, Dave, NMENV; Foust, Denny, EMNRD; Powell, Brandon, EMNRD  
**Subject:** RE: DOUR vs. BOD5 Sampling & Analyses

Jim:

Good afternoon. After discussing the above and the details from our recent telephone conference call with Wayne Price, the OCD supports the DOUR method and Giant's plan to correlate the DOUR with BOD5 and other organic chemical treatment capacity; however, we do request that Giant provide us with a list of similar type facilities where the DOUR method has been applied. It could be a simple telephone list with company name, facility, contact person, phone number, etc. We request that the DOUR and other applicable information be submitted to the OCD with analytical data on a regular basis and that Giant send the OCD a sample format of the data sheet it will use to monitor and evaluate the efficiency of its treatment system based on the above. We would prefer a data sheet that displays information in a logical and easily understandable format. It seems like it may be a summary or cumulative type data sheet with correlation graphs, etc.?

If HWB would like to receive this info. or would like to suggest items for the DOUR data sheet or monitoring report, please respond to this message. 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/>  
 (Pollution Prevention Guidance is under "Publications")

---

**From:** Jim Lieb [<mailto:jlieb@giant.com>]  
**Sent:** Tuesday, May 23, 2006 10:31 AM  
**To:** Monzeglio, Hope, NMENV  
**Cc:** Cote Edward L.; Chavez, Carl J, EMNRD  
**Subject:** RE: DOUR vs. BOD5 Sampling & Analyses

I'll call you and Carl at 1:15 today NM time.

Jim

---

**From:** Monzeglio, Hope, NMENV [<mailto:hope.monzeglio@state.nm.us>]  
**Sent:** Tuesday, May 23, 2006 9:24 AM  
**To:** Chavez, Carl J, EMNRD; Jim Lieb  
**Cc:** Ed Riege; Cote Edward L.  
**Subject:** RE: DOUR vs. BOD5 Sampling & Analyses

1:15 works.

Hope

---

**From:** Chavez, Carl J, EMNRD

5/25/2006

**Sent:** Tuesday, May 23, 2006 10:04 AM  
**To:** Jim Lieb; Monzeglio, Hope, NMENV  
**Cc:** Ed Riege; Cote Edward L.  
**Subject:** RE: DOUR vs. BOD5 Sampling & Analyses

It works for me. You will need to call Hope and I for the call. Thnx.

Carl J. Chavez, CHMM  
New Mexico Energy, Minerals & Natural Resources Dept.  
Oil Conservation Division, Environmental Bureau  
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(Pollution Prevention Guidance is under "Publications")

---

**From:** Jim Lieb [mailto:[jlieb@giant.com](mailto:jlieb@giant.com)]  
**Sent:** Tuesday, May 23, 2006 9:57 AM  
**To:** Chavez, Carl J, EMNRD; Monzeglio, Hope, NMENV  
**Cc:** Ed Riege; Cote Edward L.  
**Subject:** RE: DOUR vs. BOD5 Sampling & Analyses

Carl, Hope: Would today at 1:15 pm (NM time) be OK for a call?

Jim

---

**From:** Chavez, Carl J, EMNRD [mailto:[CarlJ.Chavez@state.nm.us](mailto:CarlJ.Chavez@state.nm.us)]  
**Sent:** Monday, May 22, 2006 1:45 PM  
**To:** Jim Lieb  
**Cc:** Monzeglio, Hope, NMENV; Foust, Denny, EMNRD  
**Subject:** RE: DOUR vs. BOD5 Sampling & Analyses

Jim:

Yes, I am available. Wayne would like to pass on this call. 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  
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Website: <http://www.emnrd.state.nm.us/ocd/>  
(Pollution Prevention Guidance is under "Publications")

---

**From:** Jim Lieb [mailto:[jlieb@giant.com](mailto:jlieb@giant.com)]  
**Sent:** Monday, May 22, 2006 1:29 PM  
**To:** Chavez, Carl J, EMNRD  
**Cc:** Monzeglio, Hope, NMENV  
**Subject:** RE: DOUR vs. BOD5 Sampling & Analyses

Carl:

Would tomorrow between the hours of 10 am and 3 pm or Wednesday between 11 am and 3 pm be OK?

Jim

---

**From:** Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]

**Sent:** Wednesday, May 17, 2006 9:06 AM

**To:** Jim Lieb

**Cc:** Ed Riege; Cote Edward L.; Steve Morris; Price, Wayne, EMNRD; Foust, Denny, EMNRD; Cobrain, Dave, NMENV; Monzeglio, Hope, NMENV

**Subject:** RE: DOUR vs. BOD5 Sampling & Analyses

Jim:

I can see its use for BOD loading, but phenol deals with the treatment system capacity to knock out organic chemicals, which is a different treatment system efficiency monitoring issue. Please setup a conference call (probably T - TH in the am) and HWB/OCD + District Office can discuss. Thnx.

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 Oil Conservation Division, Environmental Bureau  
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 Website: <http://www.emnrd.state.nm.us/ocd/>  
 (Pollution Prevention Guidance is under "Publications")

---

**From:** Jim Lieb [mailto:jlieb@giant.com]

**Sent:** Wednesday, May 17, 2006 9:59 AM

**To:** Chavez, Carl J, EMNRD

**Cc:** Ed Riege; Cote Edward L.; Steve Morris; Price, Wayne, EMNRD; Foust, Denny, EMNRD; Cobrain, Dave, NMENV; Monzeglio, Hope, NMENV

**Subject:** RE: DOUR vs. BOD5 Sampling & Analyses

**Importance:** High

Carl:

You are correct. It was only our intention to use the YSI DOUR instrument for the measurements for the study, not to replace the current BOD5 monitoring requirement. The instrument is a good method to establish the operating parameters for the treatment system. Once we have established the current systems treatment capacity, we can respond quickly as might be necessary to improve treatment capacity. HR&C is knowledgeable regarding methods to enhance aeration lagoons treatment capacity so they will be valuable in the event the study shows our system needs improvement in treatment of BOD5 and in the phenol that OCD and NMED HWB would like to see.

I am confirming with HR&C regarding the BOD Analyst TM software. In the meantime, I have initiated purchase requisitions for the YSI instrument and for HR&C's engineering assistance with the study.

I will check with HR&C (Ed Cote) regarding scheduling a conference call with OCD to discuss this further.

Regards,

Jim Lieb

---

**From:** Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]

**Sent:** Wednesday, May 17, 2006 7:40 AM

**To:** jlieb@giant.com; Ed Riege; Steve Morris; Johnny Sanchez

**Cc:** Price, Wayne, EMNRD; Cobrain, Dave, NMENV; Foust, Denny, EMNRD; Monzeglio, Hope, NMENV

5/25/2006

**Subject:** DOUR vs. BOD5 Sampling & Analyses

Jim:

Good morning. I have completed my preliminary review of your request to basically replace BOD5 analytical with the DOUR (dissolved oxygen uptake rate) meter in lagoons and ponds. I am copying the HWB and District Staff in this message to see if they have any input or agree with my conclusions. I do not think that Giant is requesting to eliminate BOD5 analytical monitoring in this request, but would like to use the DOUR in the regular monitoring of its treatment system aeration lagoons and ponds to establish treatment system BOD loading capacity limits on a regular basis for its treatment system right? The DOUR seems essential to your treatment system study that is scheduled to be implemented after the turn-around at the refinery.

The HRC letter dated May 4, 2006 indicates that the 1986 original design calculations for BOD loading to Giant Ciniza's treatment system (OCD reviewed the document) were based on assumptions from literature values for biological rate constants. The DOUR will allow Giant- Ciniza to develop site-specific biological rate constants on a regular basis that may be used in calculations of BOD loading capacity and for monitoring to show the treatment system is operating within its treatment capacity.

The OCD encourages the use of the DOUR to accomplish monitoring to determine if the BOD loading is within Giant's treatment system's capacity. BOD is currently monitored on a quarterly basis at the pilot plant effluent. The OCD has required BOD and COD monitoring at EP1-EP2 on a weekly basis in order to get a handle on the treatment system capacity and impacts of hazardous waste to the ponds. The OCD had also mentioned Phenol (total) monitoring to assess % reduction from AL-1 and AL-2 to determine the efficiency of the treatment system. The OCD/HWB would like to see a minimum 80% reduction in phenol from the influent to AL1 to the effluent of AL2 to monitor the efficiency of the actual treatment system.

In conclusion, the DOUR does not appear to be a test to replace BOD monitoring, but to help determine the BOD loading capacity based on site-specific biological rate constant readings from the YSI Instrument or DOUR meter. The YSI seems to include BOD Analyst TM software to assist with BOD calculations, but this may not be a standard feature. Is the YSI capable of generating BOD values using the extra software? If not, the meter will assist Giant in developing real-time biological rate constants that can be used to establish real-time BOD loading to Giant's treatment system. If the YSI is capable of generating real-time BOD data, then the OCD may be amenable to considering the replacement of BOD analytical lab monitoring with the YSI BOD readings, IF Giant can confirm other treatment systems that have been allowed to replace the standard laboratory BOD5 with the YSI instrument.

I hope this helps. Please contact me to discuss and depending on other input, we may want to schedule a conference call with HRC. 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  
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**Chavez, Carl J, EMNRD**

---

**From:** Chavez, Carl J, EMNRD  
**Sent:** Thursday, May 25, 2006 8:42 AM  
**To:** Foust, Denny, EMNRD; Powell, Brandon, EMNRD  
**Cc:** Price, Wayne, EMNRD  
**Subject:** FW: DOUR vs. BOD5 Sampling & Analyses at Ciniza Refinery

FYI.

Giant will bring Ed Cote of HRC to Ciniza during the week of June 4, 2006 to train staff on the use of the YSI for the real-time calculation of the DOUR (dissolved oxygen uptake rate) and monitoring treatment capacity. Over time, the DOUR may assist in the development of remediation correlations with BOD loading and chemical remediation efficiency. DOUR testing will not replace BOD5 testing requirements, but will be used in the upcoming treatment system study after the refinery turn-around expected in June. Giant will submit the treatment study report to the OCD/HWB in September 2006. Thereafter, the DOUR testing will be incorporated into Giant's internal monitoring program to confirm based on production capacity that the treatment system will handle any given flow rate. OCD asked Giant to provide company references that will help to confirm it is being used at similar types of facilities.

I need to check with Wayne to see if this DOUR monitoring method should be formalized by the state and submitted to the OCD/HWB at some frequency or whether we treat this as an internal device used by Giant in its treatment study to evaluate the size of its ponds; determine when to add zeolites/freeze dried bugs to enhance the treatment system, etc.; and internally thereafter?

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  
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Website: <http://www.emnrd.state.nm.us/ocd/>  
(Pollution Prevention Guidance is under "Publications")

---

**From:** Foust, Denny, EMNRD  
**Sent:** Tuesday, May 23, 2006 9:56 AM  
**To:** Chavez, Carl J, EMNRD; Jim Lieb  
**Cc:** Monzeglio, Hope, NMENV  
**Subject:** RE: DOUR vs. BOD5 Sampling & Analyses

Gentlemen:  
I believe the District office would not have a contribution to this discussion.

---

**From:** Chavez, Carl J, EMNRD  
**Sent:** Mon 5/22/2006 2:45 PM  
**To:** Jim Lieb  
**Cc:** Monzeglio, Hope, NMENV; Foust, Denny, EMNRD  
**Subject:** RE: DOUR vs. BOD5 Sampling & Analyses

Jim:

Yes, I am available. Wayne would like to pass on this call. Thanks.

5/25/2006

Carl J. Chavez, CHMM  
New Mexico Energy, Minerals & Natural Resources Dept.  
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---

**From:** Jim Lieb [mailto:jlieb@giant.com]  
**Sent:** Monday, May 22, 2006 1:29 PM  
**To:** Chavez, Carl J, EMNRD  
**Cc:** Monzeglio, Hope, NMENV  
**Subject:** RE: DOUR vs. BOD5 Sampling & Analyses

Carl:

Would tomorrow between the hours of 10 am and 3 pm or Wednesday between 11 am and 3 pm be OK?

Jim

---

**From:** Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]  
**Sent:** Wednesday, May 17, 2006 9:06 AM  
**To:** Jim Lieb  
**Cc:** Ed Riege; Cote Edward L.; Steve Morris; Price, Wayne, EMNRD; Foust, Denny, EMNRD; Cobrain, Dave, NMENV; Monzeglio, Hope, NMENV  
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**Sent:** Wednesday, May 17, 2006 9:59 AM  
**To:** Chavez, Carl J, EMNRD  
**Cc:** Ed Riege; Cote Edward L.; Steve Morris; Price, Wayne, EMNRD; Foust, Denny, EMNRD; Cobrain, Dave, NMENV; Monzeglio, Hope, NMENV  
**Subject:** RE: DOUR vs. BOD5 Sampling & Analyses  
**Importance:** High

Carl:

5/25/2006

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Jim Lieb

---

**From:** Chavez, Carl J, EMNRD [mailto:Carl.J.Chavez@state.nm.us]  
**Sent:** Wednesday, May 17, 2006 7:40 AM  
**To:** jlieb@giant.com; Ed Riege; Steve Morris; Johnny Sanchez  
**Cc:** Price, Wayne, EMNRD; Cobrain, Dave, NMENV; Foust, Denny, EMNRD; Monzeglio, Hope, NMENV  
**Subject:** DOUR vs. BOD5 Sampling & Analyses

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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

5/25/2006

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/>

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Hope M HWB

Concl OCJ

Juni Leis Civilization Refinery

ed Cotter HRC - (advised) WW treatment, Refinery Alms, ME

+

Dour - quick accurate reads of biological activity biological

legions, Asic pond, concentration measures;

Use Dour in-house method:

Concl 1 Dour & BODs method

Rate R pond f (temp.)

EPI diff value

EPZ " "

Dour monitor - Bacteria freeze dried - 6 hrs. O<sub>2</sub> T.

phosphate.

BOD test, DF (5:1, 10:1) BOD test - - stop

oper. station - DO<sub>6</sub> → DO<sub>4</sub> 5-6 mg/L

Biological

BOD<sub>5</sub> - organic chemical species - Benz, phenol,

+ BOD<sub>5</sub> vs organic chemicals

PSE - final volume in PSE - too high do measure

BOD - indicator of wet from usual.

artificially, baseline, phenol CS, Benzene, DO,

IF BOD too high? phenol

phosphate, freeze dried large & cultivated on refinery waste, desert fuel

settling in cry ponds, etc, <sup>also</sup> Zerkite near TorC could be

used for treatment of ponds, wet. over, talcum powder

↑ main organisms,

↑ ponds - develop projections

S<sub>10</sub> - specific load rates, pond over size / under size.

~ Treatment Study

~ 2 when

Next was June 06

Treated

Submit Study in Sept 06

(BOD system)

~~Sept~~

Treat Method

**Chavez, Carl J, EMNRD**

**From:** Jim Lieb [jlieb@giant.com]  
**Sent:** Monday, May 22, 2006 8:06 AM  
**To:** Chavez, Carl J, EMNRD  
**Cc:** Foust, Denny, EMNRD; Monzeglio, Hope, NMENV  
**Subject:** RE: New API Separator Diagram(s)

Carl:

I have attached two diagrams of the new API separator to this email.

Jim Lieb  
Giant

---

**From:** Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]  
**Sent:** Wednesday, May 17, 2006 1:36 PM  
**To:** Jim Lieb  
**Subject:** RE: New API Separator Diagram(s)

Jim:

During the OCD/HWB site meeting, we had requested a design diagram(s) of the New API Separator. Could you please send them to OCD/HWB and Denny Foust? 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/>  
(Pollution Prevention Guidance is under "Publications")

---

**From:** Jim Lieb [mailto:jlieb@giant.com]  
**Sent:** Wednesday, May 17, 2006 1:14 PM  
**To:** Monzeglio, Hope, NMENV  
**Cc:** Ed Riege; Cote Edward L.; Steve Morris; Price, Wayne, EMNRD; Cobrain, Dave, NMENV; Chavez, Carl J, EMNRD  
**Subject:** RE: DOUR vs. BOD5 Sampling & Analyses

A conference call would have to be arranged for next week as I will be out of the office rest of today and tomorrow. Ed Cote is out of the office most this week also.

Jim

---

**From:** Monzeglio, Hope, NMENV [mailto:hope.monzeglio@state.nm.us]  
**Sent:** Wednesday, May 17, 2006 12:05 PM  
**To:** Chavez, Carl J, EMNRD; Jim Lieb  
**Cc:** Ed Riege; Cote Edward L.; Steve Morris; Price, Wayne, EMNRD; Foust, Denny, EMNRD; Cobrain, Dave, NMENV  
**Subject:** RE: DOUR vs. BOD5 Sampling & Analyses

NMED is available for a conference call on Thursday morning.

Hope

---

**From:** Chavez, Carl J, EMNRD  
**Sent:** Wednesday, May 17, 2006 10:06 AM  
**To:** Jim Lieb  
**Cc:** Ed Riege; Cote Edward L.; Steve Morris; Price, Wayne, EMNRD; Foust, Denny, EMNRD; Cobrain, Dave, NMENV; Monzeglio, Hope, NMENV  
**Subject:** RE: DOUR vs. BOD5 Sampling & Analyses

Jim:

I can see its use for BOD loading, but phenol deals with the treatment system capacity to knock out organic chemicals, which is a different treatment system efficiency monitoring issue. Please setup a conference call (probably T - TH in the am) and HWB/OCD + District Office can discuss. 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/>  
 (Pollution Prevention Guidance is under "Publications")

---

**From:** Jim Lieb [mailto:[jlieb@giant.com](mailto:jlieb@giant.com)]  
**Sent:** Wednesday, May 17, 2006 9:59 AM  
**To:** Chavez, Carl J, EMNRD  
**Cc:** Ed Riege; Cote Edward L.; Steve Morris; Price, Wayne, EMNRD; Foust, Denny, EMNRD; Cobrain, Dave, NMENV; Monzeglio, Hope, NMENV  
**Subject:** RE: DOUR vs. BOD5 Sampling & Analyses  
**Importance:** High

Carl:

You are correct. It was only our intention to use the YSI DOUR instrument for the measurements for the study, not to replace the current BOD5 monitoring requirement. The instrument is a good method to establish the operating parameters for the treatment system. Once we have established the current systems treatment capacity, we can respond quickly as might be necessary to improve treatment capacity. HR&C is knowledgeable regarding methods to enhance aeration lagoons treatment capacity so they will be valuable in the event the study shows our system needs improvement in treatment of BOD5 and in the phenol that OCD and NMED HWB would like to see.

I am confirming with HR&C regarding the BOD Analyst TM software. In the meantime, I have initiated purchase requisitions for the YSI instrument and for HR&C's engineering assistance with the study.

I will check with HR&C (Ed Cote) regarding scheduling a conference call with OCD to discuss this further.

Regards,

Jim Lieb

---

**From:** Chavez, Carl J, EMNRD [mailto:[CarlJ.Chavez@state.nm.us](mailto:CarlJ.Chavez@state.nm.us)]  
**Sent:** Wednesday, May 17, 2006 7:40 AM  
**To:** [jlieb@giant.com](mailto:jlieb@giant.com); Ed Riege; Steve Morris; Johnny Sanchez  
**Cc:** Price, Wayne, EMNRD; Cobrain, Dave, NMENV; Foust, Denny, EMNRD; Monzeglio, Hope, NMENV  
**Subject:** DOUR vs. BOD5 Sampling & Analyses

5/22/2006

Jim:

Good morning. I have completed my preliminary review of your request to basically replace BOD5 analytical with the DOUR (dissolved oxygen uptake rate) meter in lagoons and ponds. I am copying the HWB and District Staff in this message to see if they have any input or agree with my conclusions. I do not think that Giant is requesting to eliminate BOD5 analytical monitoring in this request, but would like to use the DOUR in the regular monitoring of its treatment system aeration lagoons and ponds to establish treatment system BOD loading capacity limits on a regular basis for its treatment system right? The DOUR seems essential to your treatment system study that is scheduled to be implemented after the turn-around at the refinery.

The HRC letter dated May 4, 2006 indicates that the 1986 original design calculations for BOD loading to Giant Ciniza's treatment system (OCD reviewed the document) were based on assumptions from literature values for biological rate constants. The DOUR will allow Giant- Ciniza to develop site-specific biological rate constants on a regular basis that may be used in calculations of BOD loading capacity and for monitoring to show the treatment system is operating within its treatment capacity.

The OCD encourages the use of the DOUR to accomplish monitoring to determine if the BOD loading is within Giant's treatment system's capacity. BOD is currently monitored on a quarterly basis at the pilot plant effluent. The OCD has required BOD and COD monitoring at EP1-EP2 on a weekly basis in order to get a handle on the treatment system capacity and impacts of hazardous waste to the ponds. The OCD had also mentioned Phenol (total) monitoring to assess % reduction from AL-1 and AL-2 to determine the efficiency of the treatment system. The OCD/HWB would like to see a minimum 80% reduction in phenol from the influent to AL1 to the effluent of AL2 to monitor the efficiency of the actual treatment system.

In conclusion, the DOUR does not appear to be a test to replace BOD monitoring, but to help determine the BOD loading capacity based on site-specific biological rate constant readings from the YSI Instrument or DOUR meter. The YSI seems to include BOD Analyst TM software to assist with BOD calculations, but this may not be a standard feature. Is the YSI capable of generating BOD values using the extra software? If not, the meter will assist Giant in developing real-time biological rate constants that can be used to establish real-time BOD loading to Giant's treatment system. If the YSI is capable of generating real-time BOD data, then the OCD may be amenable to considering the replacement of BOD analytical lab monitoring with the YSI BOD readings, IF Giant can confirm other treatment systems that have been allowed to replace the standard laboratory BOD5 with the YSI instrument.

I hope this helps. Please contact me to discuss and depending on other input, we may want to schedule a conference call with HRC. 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/>  
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5/22/2006

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**Z84-T5  
API SEPARATOR NO. 1**

TYPE: CONCRETE ABOVE GROUND  
 SIZE: 6.5' WIDE x 5' DIA x 30' EFFECTIVE LENGTH  
 DESIGN PRESSURE: 2" W.C. VAC. 6" W.C. PRESSURE  
 DESIGN TEMPERATURE:  $\pm 110^{\circ}$  F.

**SLUDGE COLLECTOR DRIVE**

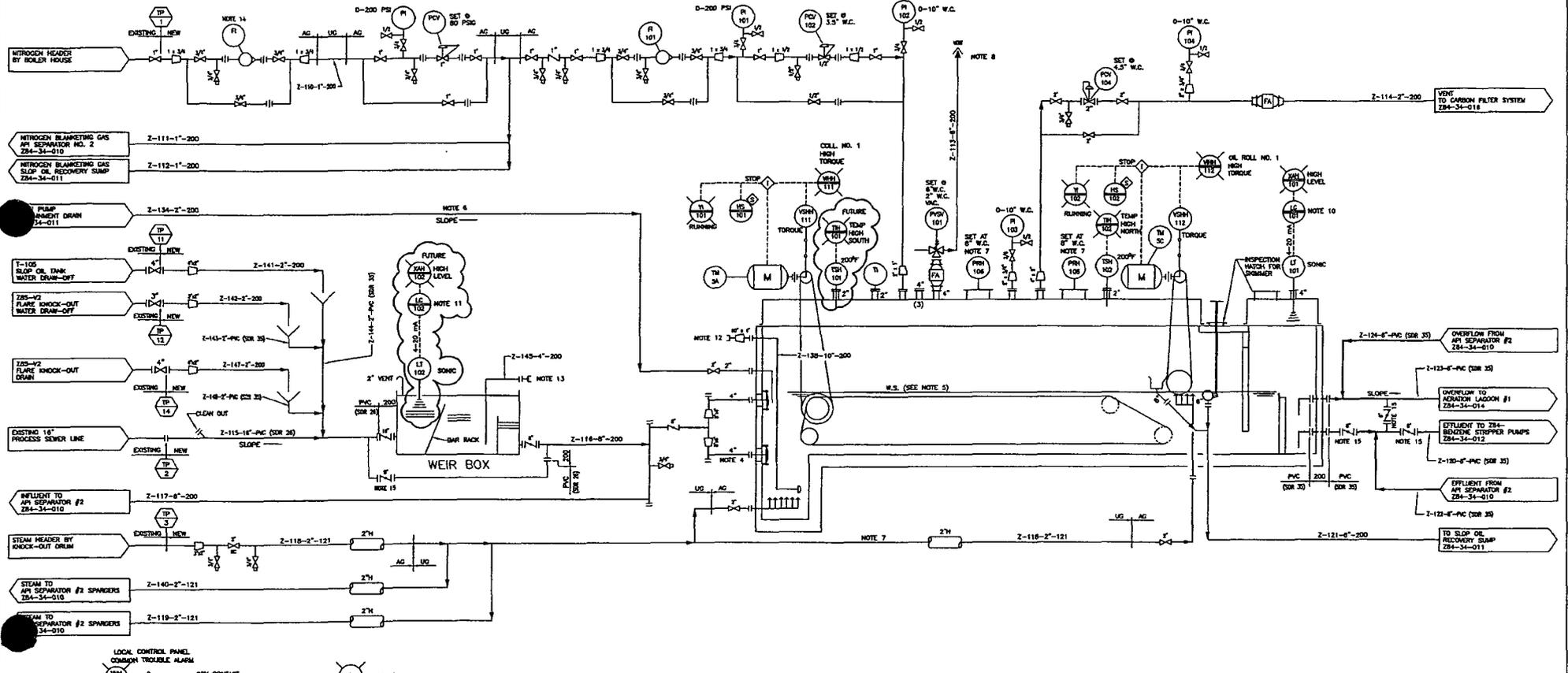
TYPE: CHAIN & FLIGHT  
 MOTOR: 0.5 HP, 460V, 3PH, 60HZ, 1.15 SF  
 TEMP. SUITED FOR 6900 FT. ELEV.  
 FLIGHT SPEED: 2 RPM

**OIL ROLL SKIMMER**

TYPE: OIL ROLL 304 S.S.  
 MOTOR: 0.5 HP, 460V, 3PH, 60HZ, 1.15 SF  
 TEMP. SUITED FOR 6900 FT. ELEV.  
 ROLL SPEED: 10 RPM

**SCUM PIPE**

TYPE: 8" DIA. RACK & PINION  
 OPERATOR: MANUAL HAND WHEEL  
 WITH POSITION INDICATOR



- NOTES:**
- FOR GENERAL NOTES AND SYMBOLS SEE DRAWINGS Z84-34-004 & 007
  - POWER WIRING, SIGNAL WIRING AND INTERLOCKS AS NOTED
  - SLUDGE HOPPER CLEAN-OUT SUCTION LINE TO BE SUBMERGED TO WITHIN 6" OF BOTTOM OF HOPPER.
  - TANK INLET WALL SLEEVES TO BE 6" FOR FUTURE CONSIDERATION.
  - WATER SURFACE ELEVATION IS BASED ON AVE. FLOW OF 150 GPM, FUTURE FLOW OF 300 GPM, WATER SURFACE IS 1" HIGHER.
  - SLOP OIL SUMP PUMP DRAIN LINE TO BE SUBMERGED BELOW WATER SURFACE DRAIN FREELY FROM SLOP OIL SUMP PUMP CONTAINMENT.
  - WHEN STEAM IS USED TO FACILITATE THE REMOVAL OF SETTLED SLUDGE OR "SHIMMED" OIL WASTE A PRESSURE RELIEF WATCH IS TO BE OPENED TO RELIEVE ANY ACCUMULATED INTERNAL PRESSURE.
  - VENT TO SAFE AREA.
  - ALARM SIGNAL TO GINT DCS IS VOLTAGE FREE CONTACT.
  - EFFLUENT CHAMBER HIGH LEVEL ALARM CONTROLLER SETTINGS: ALARM SETTING AT PEAK FLOW: 60.30" = 10.870M, BOTTOM OF TANK: 107.00" = 20.000M
  - WEIR BOX HIGH LEVEL ALARM SETTING TO BE DETERMINED BY GANT.
  - SLUDGE HOPPER CLEAN-OUT TO BE ACCESSED BY VACUUM TRUCK
  - SLUDGE HOPPER CLEAN-OUT WATER RETURN FROM VACUUM TRUCK AND PIPE SLETTED IN SLUDGE HOPPER
  - PI- TO BE LOCATED BY BOILER HOUSE TIE-IN
  - BUTTERFLY VALVES ON PVC (SDR 26 & 35) LINES TO BE CARBON STEEL.

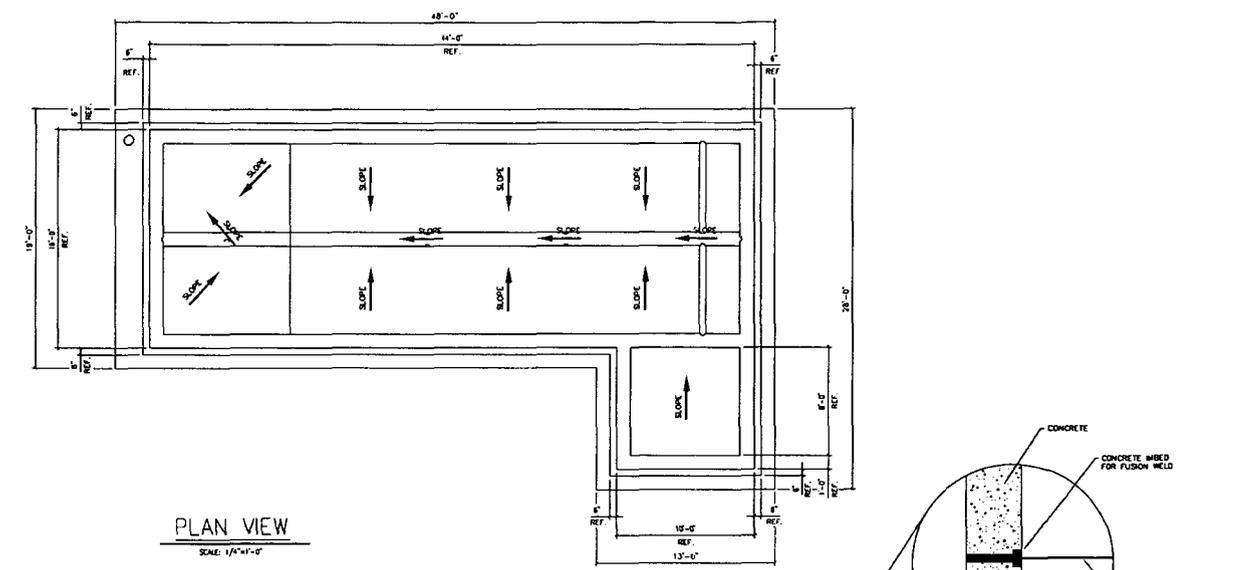
LOCAL CONTROL PANEL	CHASMAN TROUBLE ALARM	DIAGNOSTIC VOLTAGE FREE	ALARM LIGHT
API COLLECTOR NO. 1	WEIR BOX HIGH LEVEL	API TANK NO. 1 HIGH LEVEL	
OIL ROLL SKIMMER NO. 1	API TANK NO. 1 HIGH LEVEL	API TANK NO. 2 HIGH LEVEL	
API COLLECTOR NO. 2	API TANK NO. 2 HIGH LEVEL		
OIL ROLL SKIMMER NO. 2	API TANK NO. 2 HIGH LEVEL		
SUMP LEVEL LOW	SUMP LEVEL HIGH		
API TANK NO. 1 HIGH TEMP-NORTH	API TANK NO. 2 HIGH TEMP-NORTH		
API TANK NO. 1 HIGH TEMP-SOUTH	API TANK NO. 2 HIGH TEMP-SOUTH		

REFERENCE DWG. TITLE	REF. DWG. No.	REV.	REVISION DESCRIPTION	RFC No.	DATE
			IFC & REVISED DRAWING NUMBERS RCC #6770	998-9011-39	3/13/02
			ISSUED FOR APPROVAL RCC #6770	998-9011-39	1/29/02

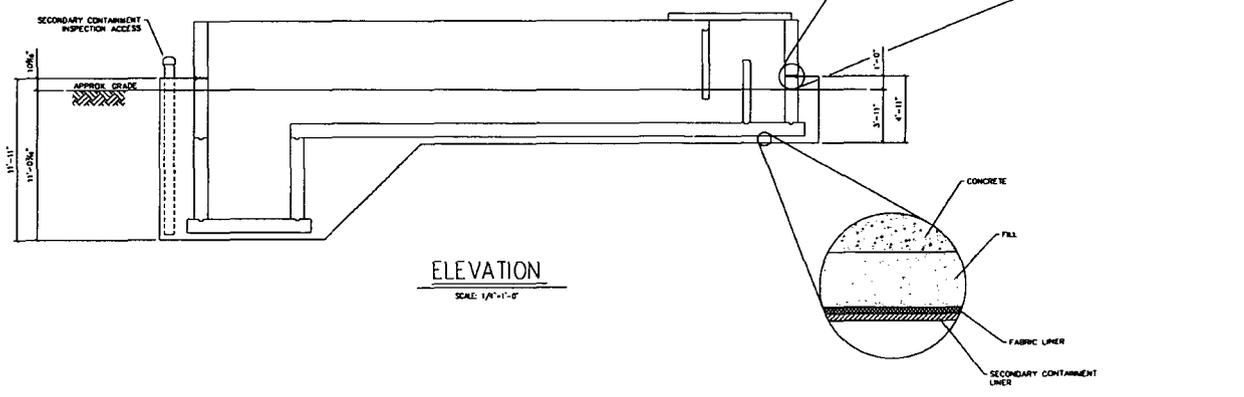
**GIANT**  
 CHINAZ REFINERY      GALLUP NEW MEXICO  
 REFINING CO.  
 A DIVISION OF GIANT INDUSTRIES

**PROCESS & INSTRUMENTATION DIAGRAM  
 API SEPARATOR BASINS AND SLOP OIL RECOVERY SUMP**

DRN. BY: TMB	DATE: 12/12/01	RFE No.: 998-9011-39
CHKD. BY: TM	DATE: 12/13/01	CAD REF:
APPD. BY: BL	DATE: 2/21/02	Z84-34-009
DRAWING NO. Z84-34-009		



PLAN VIEW  
SCALE: 1/4" = 1'-0"



ELEVATION  
SCALE: 1/4" = 1'-0"

0	ISSUED FOR CONSTRUCTION	1206	
MARK	DATE	DESCRIPTION	BY APPROV
CINIZA REFINERY		<b>GIANT</b> GALLUP NEW MEXICO REFINING CO.	
A DIVISION OF GIANT INDUSTRIES			
SECONDARY CONTAINMENT API SEPARATOR BASINS			
SCALE:	1/4" = 1'-0"	APPROV:	
DATE:	11/15/03	APPR DATE:	
DRN:	ghs	REV:	
CDWG:	1 DWG NUM	284-03-112A	0

**Chavez, Carl J, EMNRD**

**From:** Jim Lieb [jlieb@giant.com]  
**Sent:** Wednesday, May 17, 2006 9:59 AM  
**To:** Chavez, Carl J, EMNRD  
**Cc:** Ed Riege; Cote Edward L.; Steve Morris; Price, Wayne, EMNRD; Foust, Denny, EMNRD; Cobrain, Dave, NMENV; Monzeglio, Hope, NMENV  
**Subject:** RE: DOUR vs. BOD5 Sampling & Analyses  
**Importance:** High

Carl:

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I am confirming with HR&C regarding the BOD Analyst TM software. In the meantime, I have initiated purchase requisitions for the YSI instrument and for HR&C's engineering assistance with the study.

I will check with HR&C (Ed Cote) regarding scheduling a conference call with OCD to discuss this further.

Regards,

Jim Lieb

---

**From:** Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]  
**Sent:** Wednesday, May 17, 2006 7:40 AM  
**To:** jlieb@giant.com; Ed Riege; Steve Morris; Johnny Sanchez  
**Cc:** Price, Wayne, EMNRD; Cobrain, Dave, NMENV; Foust, Denny, EMNRD; Monzeglio, Hope, NMENV  
**Subject:** DOUR vs. BOD5 Sampling & Analyses

Jim:

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5/17/2006

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Office: (505) 476-3491  
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**Chavez, Carl J, EMNRD**

**From:** Chavez, Carl J, EMNRD  
**Sent:** Wednesday, May 17, 2006 8:40 AM  
**To:** 'jlieb@giant.com'; 'Ed Riege'; 'Steve Morris'; 'Johnny Sanchez'  
**Cc:** Price, Wayne, EMNRD; Cobrain, Dave, NMENV; Foust, Denny, EMNRD; Monzeglio, Hope, NMENV  
**Subject:** DOUR vs. BOD5 Sampling & Analyses

Jim:

Good morning. I have completed my preliminary review of your request to basically replace BOD5 analytical with the DOUR (dissolved oxygen uptake rate) meter in lagoons and ponds. I am copying the HWB and District Staff in this message to see if they have any input or agree with my conclusions. I do not think that Giant is requesting to eliminate BOD5 analytical monitoring in this request, but would like to use the DOUR in the regular monitoring of its treatment system aeration lagoons and ponds to establish treatment system BOD loading capacity limits on a regular basis for its treatment system right? The DOUR seems essential to your treatment system study that is scheduled to be implemented after the turn-around at the refinery.

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Office: (505) 476-3491  
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E-mail: [CarlJ.Chavez@state.nm.us](mailto:CarlJ.Chavez@state.nm.us)  
Website: <http://www.emnrd.state.nm.us/ocd/>  
(Pollution Prevention Guidance is under "Publications")

5/17/2006

**Chavez, Carl J, EMNRD**

---

**From:** Jim Lieb [jlieb@giant.com]  
**Sent:** Monday, May 08, 2006 11:43 AM  
**To:** Chavez, Carl J, EMNRD  
**Cc:** Ed Riege; Cote Edward L.  
**Subject:** Giant Ciniza Lagoons Treatability Study

Carl:

We have been researching methods of conducting treatability studies on aeration lagoons. I have been in contact with an engineering firm that among other areas specializes in industrial waste water treatment. They are recommending that we perform dissolved oxygen uptake rate (DOUR) measurements on the aeration lagoons as a better method than BOD testing. One key advantage of the DOUR method is that the method uses a portable instrument that can yield immediate results as opposed to the week turn around on BOD5. Also, once we have established normal and proper operating DOUR levels, the instrument will yield immediate results we can use in performing regular checks to monitor lagoon treatment operation. I have attached their proposal including information on the DOUR meter we would acquire and use on the lagoons and ponds. Please review and let me know if this method would be acceptable to OCD in lieu of testing for BOD. If you have any questions, I can arrange a conference call with the HRC staff.

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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**PRINCIPALS**

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

**CHIEF FINANCIAL OFFICER**

J. Bruce McFarland

**SENIOR ASSOCIATES**

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Gary J. Tressel  
Lawrence R. Ancypa  
Kenneth A. Melchior  
Dennis M. Monsere  
Randal L. Ford  
David P. Wilcox  
Timothy H. Sullivan

**ASSOCIATES**

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Nancy M.D. Faught  
Jonathan E. Booth  
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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

May 4, 2006

Giant Industries, Inc.  
Ciniza Refinery  
I-40, Exit 39  
Jamestown, New Mexico 87347

Attention: Mr. James Lieb

Re: Proposal for Wastewater Engineering Services

HRC Job No. 20060375.86

Dear Mr. Lieb:

Thank you for contacting Hubbell, Roth and Clark, Inc. (HRC) regarding your wastewater treatment system. We are pleased to offer you this proposal based upon our telephone conversation and the information that you sent via e-mail.

**Background and Approach**

Giant provided HRC with several letters and e-mail correspondences with the State regarding concerns with BOD treatment capacity in your aerated lagoon system. The State specifically asked that Giant evaluate the pond's performance with a more "modern" approach from the original 1986 design calculations. Giant has performed sampling of the influent and effluent of the system as a first step in developing a response to the State.

The calculations that were originally used to size your pond appear to be sound but they relied upon literature values for the biological rate constants. This is appropriate when designing a new system since a sample of the actual wastewater is not available for testing. Giant has the opportunity to test the biological treatment system's performance in-situ.

The viability of a biological treatment system is best measured by performing dissolved oxygen uptake rate (DOUR) testing. This standardized test simply measures the rate of oxygen consumption of your wastewater's microbial population using samples taken directly from the pond. This testing must be performed on-site, immediately after taking the sample. This information will be used to calibrate the original calculations. HRC proposes to demonstrate this testing to your staff so that this tool may be used for any future troubleshooting.

Corporate Office: 555 Hulet Drive • P.O. Box 824 • Bloomfield Hills, MI 48303-0824 (Mailing – P.O. Box) – 48302-0360 (UPS Zip)  
Telephone: (248) 454-6300 • FAX: (248) 338-2592 or (248) 454-6312 • www.hrc-engr.com

**Scope of Services**

1. One, two day site visit by Ed Cote to perform the following:
  - a. Visit the wastewater treatment facility and review the process equipment including basin volumes and aerator sizing.
  - b. Review historical analytical data.
  - c. Perform DOUR testing and train Giant's personnel in this test. HRC will purchase a dissolved oxygen meter for this work and turn over to Giant.
2. Document HRC's findings in a letter report.
3. Respond to Giant's questions during negotiations via e-mail and telephone.

**Professional Fees**

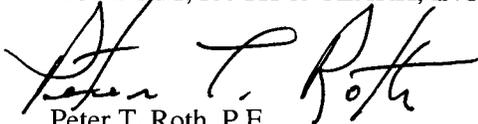
HRC proposes to perform this work on a not-to-exceed without prior approval basis as follows:

<u>Description</u>	<u>Amount</u>
• Travel expenses (estimated)	\$ 800
• Labor, estimated at 60 manhours @ \$135/hour	\$ 8,100
• Dissolved oxygen meter with self-stirring probe (see attached, Model YSI 5100)	\$ 2,100
<b>Total</b>	<b>\$ 11,000</b>

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

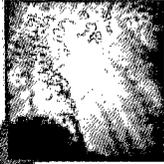
Very truly yours,

HUBBELL, ROTH & CLARK, INC.



Peter T. Roth, P.E.  
Principal/Vice President

ELC/jjb  
pc: HRC; File



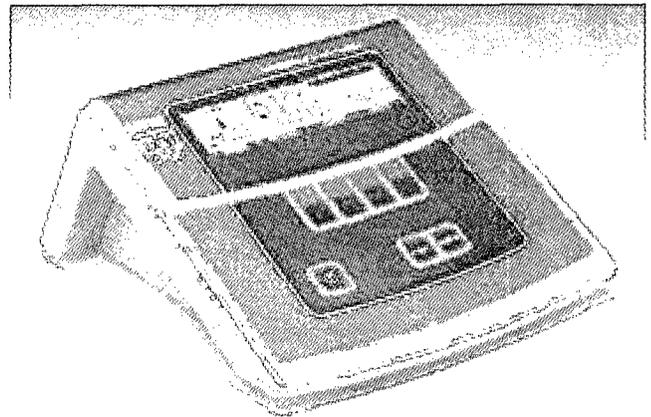
## YSI 5000/5100 DISSOLVED OXYGEN INSTRUMENTS

---

YSI engineered the YSI 5000 Series to meet the expanding needs of laboratory instruments. These dissolved oxygen instruments feature: auto-calibration, large, graphic displays and low keypad profiles for maximum efficiency.

The full-featured YSI 5100 instrument offers even greater performance and flexibility with auto calibration and built-in SOUR software to meet U.S. EPA 503 regulations for safe use of biosolids. OUR (Oxygen Uptake Rate) and SOUR (Specific Oxygen Uptake Rate) are also valuable process control tools because they indicate the biological activity of microorganisms used in treatment.

---



Microprocessor-based, the YSI 5000 will store 100 sets of data and is equipped with RS232 interface for direct link to your computer.

Both models are upgradeable by floppy disk, making it easy to take advantage of future software improvements.

**YSI 5000 and YSI 5100 both include:**

- Menu-driven software
- Dissolved oxygen and temperature measurement
- Large LCD display
- Automatic calibration
- 100 data-point memory with date/time stamp
- RS232 interface
- Performance of all required BOD calculations when used with YSI's BOD Analyst™ software
- Compatibility with all existing YSI probes (adapter may be required)
- Instrument-powered probe
- Computer interface control
- CE compliant

**YSI 5100 also includes:**

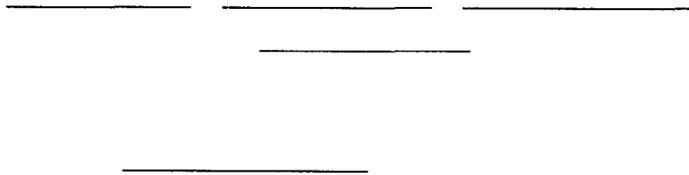
- On board SOUR software
- Graphical display and storage of OUR's and SOUR's
- Built-in barometer that can be calibrated
- Barcode scanner interface
- Port for computer keyboard

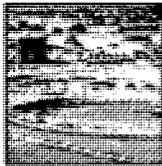
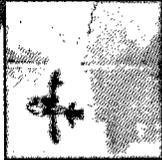
## **Barcode Scanner**

BOD analysis is even easier when you add a barcode scanner (YSI 5015). One scan records the BOD bottle number, DO concentration, temperature, and time and date. Available for use with the YSI 5100 DO Instrument only.

## **BOD Bottle Barcode Labels**

These waterproof, self-adhesive barcode labels (YSI 059160) make recording bottle numbers as easy as pressing a button! 1000 per pack. Available for use with the YSI 5100 DO Instrument only.





## SPECIFICATIONS - YSI 5000/5100 DISSOLVED OXYGEN INSTRUMENTS

### Dissolved Oxygen Performance Specifications

<b>Readout:</b>	LCD
<b>Accuracy:</b>	+0.1% +1 lsd mg/L
	+0.1% +1 lsd mg/L % air
	+ 0.1°C
<b>Range:</b>	0-60 mg/L
	0-600 % air
	-5 to + 50°C temperature
<b>Resolution:</b>	.01mg/L
	0.1% air
	0.01°C temperature
<b>Power:</b>	Bat & AC
<b>Salinity Compensation:</b>	Yes
<b>Temperature Compensation:</b>	Automatic
<b>Other Features:</b>	RS232
	YSI 5000 has BOD, YSI 5100 has OUR/SOUR
	Memory

"water bear" (an aquatic animal), the waste was weak and the mixed liquor was 800 mg/L, but the effluent was of good quality.

What can be interpreted of abnormal conditions is the following:

- If an abnormal microorganism predominates in a given system, it is because an environment that is favorable to the organism exists.
- If the abnormal microorganism is subjected to a change in environment, it may dissipate in favor of another indicator organism that thrives in the new environment.
- If the change in environment occurs gradually, a smooth transition can be observed through routine microscopic examination.
- An operator's role is to change and maintain conditions favorable to those organisms that result in a desired effluent quality when they predominate.

## **OXYGEN UPTAKE RATE TEST AND RESPIRATION RATE**

The oxygen uptake rate (OUR) test and resulting respiration rate (RR) measure and show how active organisms are in the activated sludge process. The activity of the organisms is related to the amount of oxygen the organisms consume. The OUR test measures how much oxygen a sample of activated sludge consumes over a specific time period. The RR relates the OUR test results to the concentration of organisms in the activated sludge sample. The results from the OUR test are used to calculate RR. Another term for RR is specific oxygen uptake rate (SOUR).

Refer to *Operating Activated Sludge Using Oxygen Uptake* (Water Pollution Control Federation, 1989, Problem-Related Operations-Based Education, Alexandria, Va.) for more detailed information on the OUR test and RR and their relationships to the activated sludge process.

### Equipment

- Calibrated and fully charged DO meter and a means of constantly stirring the sample. A self-stirring BOD bottle probe or separate magnetic stirring device may be used.
- Stopwatch or other timing device.

### Other Data Required

- Volatile suspended solids in grams per litre (ounces per gallon) of the activated sludge sample from which the OUR test was performed. Refer to "Volatile and Fixed Residue in Wastewater" in *Simplified Laboratory Procedures for Wastewater Examination* (Water Pollution Control Federation, 1985, Special Publication, Washington, D.C.).

### Procedure

1. Collect a fresh sample of activated sludge.
2. In the laboratory, immediately after sample collection, transfer approximately 750 mL (46 cu in.) of the well-mixed activated sludge to a 1-L (0.035-cu ft) bottle.

3. Cap the 1-L (0.035-cu ft) bottle and thoroughly shake or aerate the sample to bring the DO level above 5 mg/L.
4. Pour a well-mixed portion of the aerated sample into a BOD bottle and fill to overflowing. Some bubbles will gather at the top. Tilt the bottle and/or tap on the sides of the bottle with a spatula to work the bubbles out of the sample. NOTE: The activated sludge sample that remains after filling the BOD bottle can be used to perform a volatile suspended solids (VSS) test in step 11.
5. Insert DO meter probe into BOD bottle and begin stirring. Turn DO meter to 0 to 10 scale.
6. Wait approximately 30 to 60 seconds for DO meter reading to stabilize. (Note: The indicator needle or readout should be dropping constantly during this procedure.)
7. Beginning at any given time, record the DO level of the sample in 30-second or 1-minute intervals. Do not record DO levels less than 1.0 mg/L.
8. Graph the results by plotting DO (in milligrams per litre) on the vertical axis and time (in minutes) on the horizontal axis.
9. Draw a straight line connecting the majority of the points. Extend the line so that it crosses the horizontal and vertical axes. Note: The operator may discover that the line is not straight at the beginning and end of the test (Figure 2.3, from *Operating Activated Sludge Using Oxygen Uptake* [1989]. Problem-Related Operations-Based Education, Water Pollution Control Federation, Alexandria, Va.). The straight line is drawn to negate the effects of these curves. At the

beginning, false values (undissolved bubbles, for example) cause interference. At the end, the curve flattens because of limitations of the DO meter. There is no advantage in continuing to graph values of 1 mg/L O<sub>2</sub> or less.

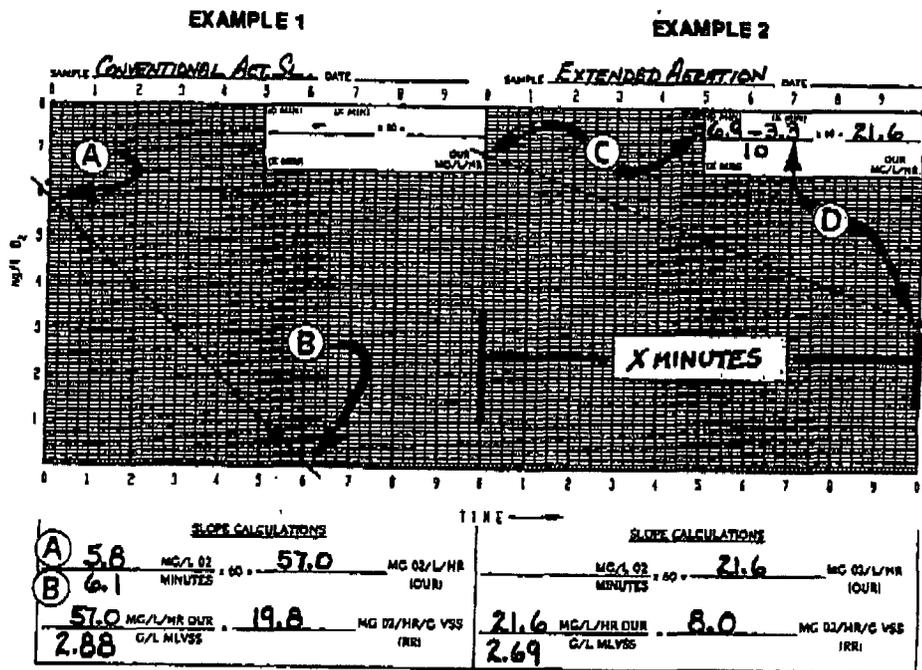


Figure 2.3 Graph of OUR test.

10. Determine the slope of the line, in milligrams per litre of oxygen per minute. (The easiest way to determine the slope is to use the points at which the line crosses the axes. Divide the milligrams per litre of oxygen crossing point A by the time in minutes crossing point B.)
11. Determine the VSS content of the activated sludge sample. Express VSS concentration in grams per litre (ounces per gallon). This is done by dividing the milligrams per litre of VSS by 1 000.

12. Enter values in the equation and calculate the respiration rate. The RR is expressed as milligrams of oxygen per hour per gram of VSS. Note: The U.S. Environmental Protection Agency permits the use of SOUR as a means of evaluating compliance with biosolids vector attraction reduction for aerobic digesters. As stated previously, RR and SOUR are the same. If the RR is being performed on an aerobic digester sample to determine compliance with vector attraction reduction requirements for beneficial use of biosolids, total solids is used to calculate RR, not VSS. Refer to "Total Solids, Volatile Matter and Fixed Matter in Sludge" in *Simplified Laboratory Procedures for Wastewater Examination* (Water Pollution Control Federation, 1985, Special Publication, Washington, D.C.).

### Calculation

The calculations and equations for OUR and RR are described separately below.

### *Oxygen Uptake Rate*

There are two commonly used methods for calculating OUR. Both methods arrive at the same numerical result. In both cases, the respiration rate worksheet/graph will be used.

The first method as stated in the procedure above requires drawing a straight line through the greatest number of points graphed. The line will cross both the horizontal (time) and vertical (milligrams per litre) axes of the graph. The values at these two points are used in the OUR calculation (refer to Figure 2.3). The milligrams per litre of

oxygen value, *A*, is divided by the minutes value, *B*, and multiplied by 60 minutes per hour to derive milligrams per litre per hour.

The second method (refer to Figure 2.3) is applicable when using the second, or right hand, side of the graph to do an OUR on an aerobic digester or extended aeration system. These usually flat lines may not conveniently cross the horizontal axis. The straight line through the majority of points should still be drawn. Pick a point on the line as time zero (*C*) and enter the milligrams per litre of oxygen value in the calculation box on the upper part of the graph. Pick a second point (*D*) on the line as the end time and enter it. The points should be at least 5 minutes apart. Divide by the time span between the two points, and multiply by 60 minutes per hour to derive the milligrams per litre per hour OUR.

OUR (mg/L·h) =

$$\frac{\text{DO concentration at 0 min (mg/L)} - \text{DO concentration at } x \text{ min (mg/L)} \times 60 \text{ min/h}}{x \text{ min}}$$

### *Respiration Rate*

The RR is the OUR divided by the VSS in grams per litre (ounces per gallon). The abbreviation MLVSS stands for mixed liquor volatile suspended solids.

$$\text{RR (mg O}_2\text{/g h VSS)} = \frac{\text{OUR (mg/L h)}}{\text{MLVSS (g)}}$$

The respiration rate worksheet/graph (Figure 2.4, from *Operating Activated Sludge Using Oxygen Uptake* [1989]. Problem-Related Operations-Based Education, Water Pollution Control

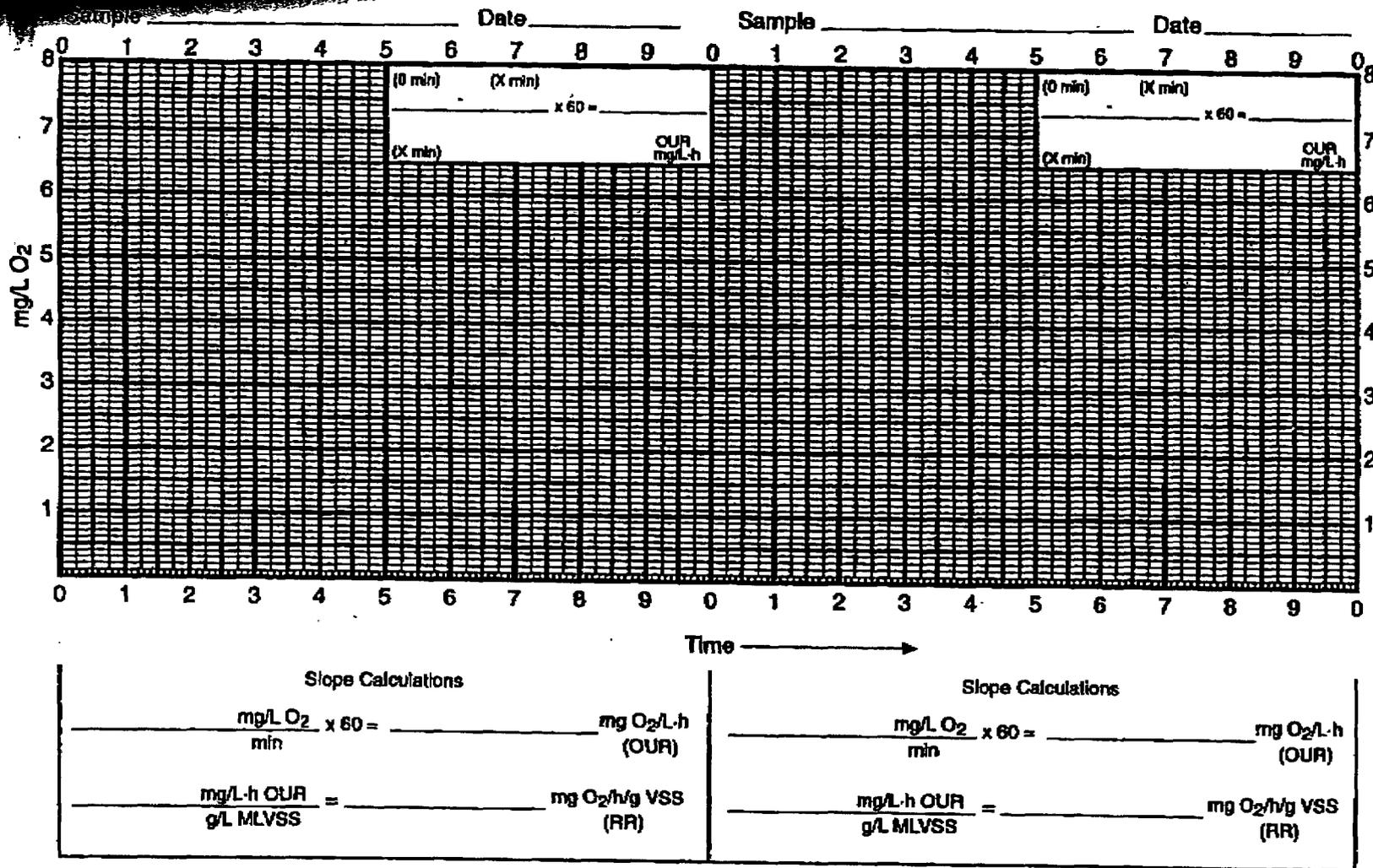


Figure 2.4 Respiration rate worksheet/graph.

Federation, Alexandria, Va.) can be used to perform the RR and OUR calculations.

### Sample Problem

An OUR test on an activated sludge sample with a TSS concentration of 1 750 mg/L and VSS concentration of 1 400 mg/L yields the readings shown in Table 2.2. Plot these readings on the respiration rate worksheet/graph (see Figure 2.4). What is the OUR, using the first method of OUR calculation? Verify this using the second method of OUR calculation.

Calculate the respiration rate on the worksheet. The respiration rate worksheet/graph shown in Figure 2.5 illustrates the solution to the example problem.

**Table 2.2 Results from SOUR test on an activated sludge sample.**

Time	O <sub>2</sub> , mg/L	Time	O <sub>2</sub> , mg/L
0	4.8	3 min	3.1
15 sec	4.5	4 min	2.7
30 sec	4.3	5 min	2.2
45 sec	4.1	6 min	1.8
1 min	4.1	7 min	1.3
1.5 min	3.8	8 min	0.9
2 min	3.6	9 min	0.7
2.5 min	3.4	10 min	0.5

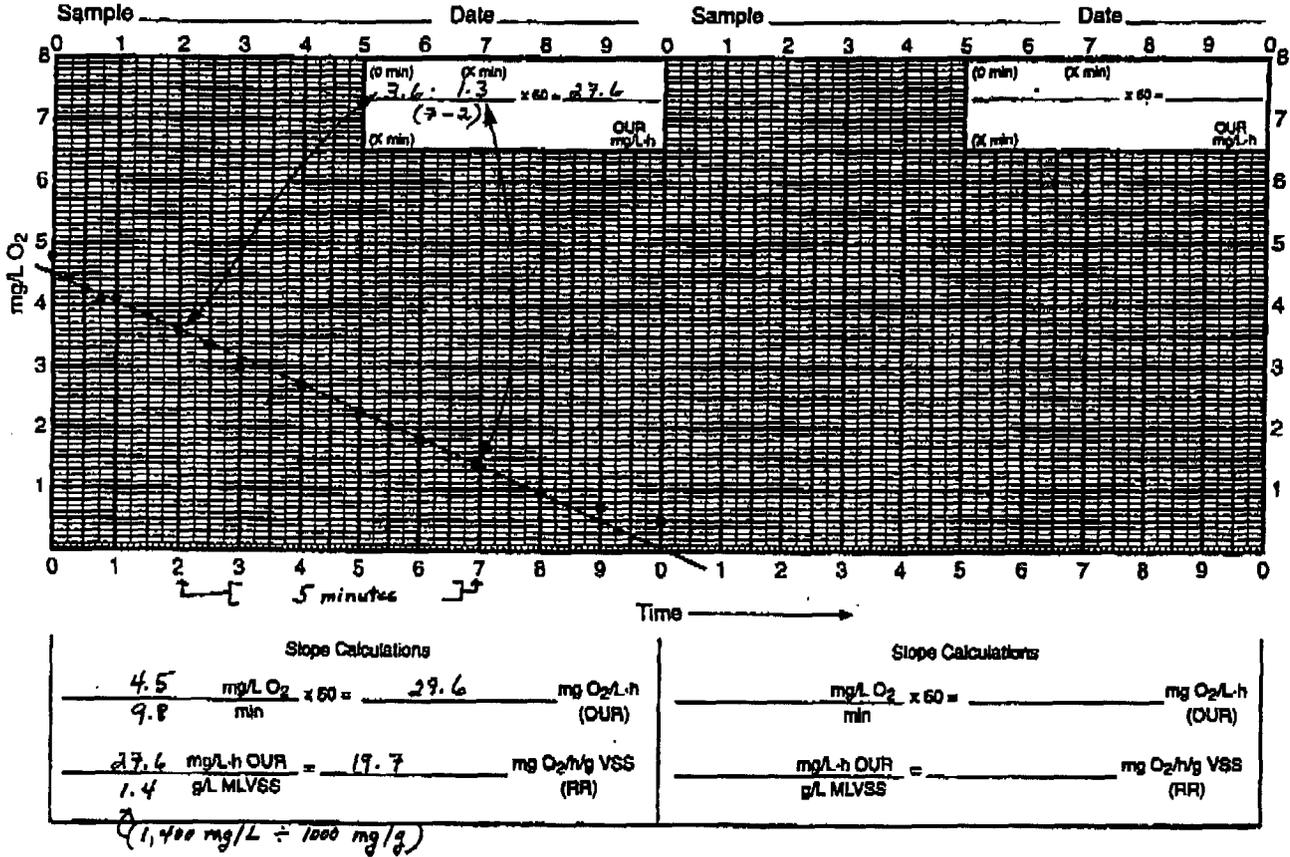


Figure 2.5 Solution to respiration rate sample problem.

### SLUDGE VOLUME INDEX

Sludge volume index (SVI) is defined as the volume of sludge in millilitres (cubic inches) occupied by 1 g (0.04 oz) of activated sludge after settling for 30 minutes. This index relates the 30-minute settling volume from the settleometer process control test to the concentration of solids in the sample on which the settleometer test was performed. The SVI will help the operator evaluate the settling characteristics of the activated sludge as the concentration of the solids in the system change.

**Chavez, Carl J, EMNRD**

---

**From:** Steve Morris [smorris@giant.com]  
**Sent:** Thursday, May 11, 2006 1:56 PM  
**To:** Chavez, Carl J, EMNRD; Cobrain, Dave, NMENV; Foust, Denny, EMNRD; Ed Riege; Monzeglio, Hope, NMENV; Jim Lieb; Johnny Sanchez; Steve Morris; Price, Wayne, EMNRD  
**Subject:** Ciniza Weekly Update 5/11/06

Pond # 2 clean up was started Sunday May 7<sup>th</sup>, 2006, and continues.

The latest analysis from Hall Lab. is attached.

The NAPIS has been running without any problems noted.

The transfer pump at the OAPIS has been keeping the level down and no flow has gone to Aeration Lagoon # 1.

**DISCLAIMER:** The information contained in this e-mail message may be privileged, confidential and protected from disclosure. If you are not the intended recipient, any further disclosure, use, dissemination, distribution or copying of this message or any attachment is strictly prohibited. If you think you have received this e-mail message in error, please e-mail the sender at the above address and permanently delete the e-mail. Although this e-mail and any attachments are believed to be free of any virus or other defect that might affect any computer system into which they are received and opened, it is the responsibility of the recipient to ensure that they are virus free and no responsibility is accepted by Giant Industries, Inc. or its affiliates for any loss or damage arising in any way from their use.



COVER LETTER

Wednesday, May 10, 2006

Steve Morris  
Giant Refining Co  
Rt. 3 Box 7  
Gallup, NM 87301

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

RE: Pond #2 Inlet 4-27-2006

Order No.: 0604272

Dear Steve Morris:

Hall Environmental Analysis Laboratory received 1 sample(s) on 4/28/2006 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,

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

AZ license # AZ0682  
ORELAP Lab # NM100001



HALL ENVIRONMENTAL  
 attn: ANDY FREEMAN  
 4901 HAWKINS NE, SUITE D  
 ALBUQUERQUE NM 87109-4372

Explanation of codes	
B	Analyte Detected in Method Blank
E	Result is Estimated
H	Analyzed Out of Hold Time
N	Tentatively Identified Compound
S	Subcontracted
1-9	See Footnote

STANDARD

Assalgal Analytical Laboratories, Inc.

### Certificate of Analysis

All samples are reported on an "as received" basis, unless otherwise noted (i.e. - Dry Weight).

Client: HALL ENVIRONMENTAL  
 Project: 0604272  
 Order: 0604669 HAL03 Receipt: 04-28-06

William P. Blava: President of Assalgal Analytical Laboratories, Inc.

Sample: 0604272-01A/POND 2 INLET Collected: 04-27-06 7:00:00 By:  
 Matrix: AQUEOUS

QC Group	Run Sequence	CAS #	Analyte	Result	Units	Dilution Factor	Detection Limit	Code	Prep Date	Run Date
0604669-0001A			EPA 405.1 Biochemical Oxygen Demand					By: NJL		
BOD06053	WC.2006.1147.15	10-26-4	Biochemical Oxygen Demand	463	mg/L	1	2		04-28-06	05-03-06

Sample: 0604272-01B/POND 2 INLET Collected: 04-27-06 7:00:00 By:  
 Matrix: AQUEOUS

QC Group	Run Sequence	CAS #	Analyte	Result	Units	Dilution Factor	Detection Limit	Code	Prep Date	Run Date
0604669-0002A			EPA 410.1 Chemical Oxygen Demand					By: NJL		
WCOD06030	WC.2006.1155.6	C-004	Chemical Oxygen Demand	1210	mg/L	1	10		05-09-06	05-09-06

Unless otherwise noted, all samples were received in acceptable condition and all sampling was performed by client or client representative. Sample result of ND indicates Not Detected, ie result is less than the sample specific Detection Limit. Sample specific Detection Limit is determined by multiplying the sample Dilution Factor by the listed Reporting Detection Limit. All results relate only to the items tested. Any miscellaneous workorder information or footnotes will appear below.

Analytical results are not corrected for method blank or field blank contamination.

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name GIANTREFIN

Date and Time Received:

4/28/2006

Work Order Number 0604272

Received by LMM

Checklist completed by

*Lisa Healy*  
Signature

4/28/06  
Date

Matrix

Carrier name UPS

- 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? Yes  No VOA vials submitted  Yes  No
- Water - pH acceptable upon receipt? Yes  No  N/A

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 \_\_\_\_\_



COVER LETTER

Tuesday, May 09, 2006

Steve Morris  
Giant Refining Co  
Rt. 3 Box 7  
Gallup, NM 87301

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

RE: NMED-OCD Monthly Water Samples 4/28

Order No.: 0605009

Dear Steve Morris:

Hall Environmental Analysis Laboratory received 3 sample(s) on 5/2/2006 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

AZ license # AZ0682  
ORELAP Lab # NM100001



# Hall Environmental Analysis Laboratory

Date: 09-May-06

CLIENT: Giant Refining Co  
 Project: NMED-OCD Monthly Water Samples 4/28/06

Lab Order: 0605009

Lab ID: 0605009-01

Collection Date: 4/28/2006 1:30:00 PM

Client Sample ID: Pilot TC Eff.

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE</b>						Analyst: SCC
Diesel Range Organics (DRO)	18	3.0		mg/L	1	5/4/2006 4:07:47 PM
Motor Oil Range Organics (MRO)	ND	15		mg/L	1	5/4/2006 4:07:47 PM
Surr: DNOP	140	58-140		%REC	1	5/4/2006 4:07:47 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: HLM
Gasoline Range Organics (GRO)	0.084	0.050		mg/L	1	5/2/2006 11:55:21 AM
Surr: BFB	97.6	80-123		%REC	1	5/2/2006 11:55:21 AM
<b>EPA METHOD 7470: MERCURY</b>						Analyst: CMC
Mercury	ND	0.00020		mg/L	1	5/5/2006
<b>EPA 6010: TOTAL RECOVERABLE METALS</b>						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	5/4/2006 12:10:37 PM
Barium	ND	0.020		mg/L	1	5/4/2006 12:10:37 PM
Cadmium	ND	0.0020		mg/L	1	5/4/2006 12:10:37 PM
Chromium	ND	0.0060		mg/L	1	5/4/2006 12:10:37 PM
Lead	ND	0.0050		mg/L	1	5/4/2006 12:10:37 PM
Selenium	ND	0.050		mg/L	1	5/4/2006 12:10:37 PM
Silver	ND	0.0050		mg/L	1	5/4/2006 12:10:37 PM
<b>EPA METHOD 8260B: VOLATILES</b>						Analyst: BDH
Benzene	ND	1.0		µg/L	1	5/2/2006
Toluene	4.1	1.0		µg/L	1	5/2/2006
Ethylbenzene	ND	1.0		µg/L	1	5/2/2006
Methyl tert-butyl ether (MTBE)	ND	1.5		µg/L	1	5/2/2006
1,2,4-Trimethylbenzene	4.0	1.0		µg/L	1	5/2/2006
1,3,5-Trimethylbenzene	1.2	1.0		µg/L	1	5/2/2006
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	5/2/2006
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	5/2/2006
Naphthalene	ND	2.0		µg/L	1	5/2/2006
1-Methylnaphthalene	ND	4.0		µg/L	1	5/2/2006
2-Methylnaphthalene	ND	4.0		µg/L	1	5/2/2006
Acetone	ND	10		µg/L	1	5/2/2006
Bromobenzene	ND	1.0		µg/L	1	5/2/2006
Bromochloromethane	ND	1.0		µg/L	1	5/2/2006
Bromodichloromethane	ND	1.0		µg/L	1	5/2/2006
Bromoform	ND	1.0		µg/L	1	5/2/2006

Qualifiers: \* Value exceeds Maximum Contaminant Level  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 S Spike Recovery outside accepted recovery limits

,B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit

# Hall Environmental Analysis Laboratory

Date: 09-May-06

CLIENT: Giant Refining Co  
 Project: NMED-OCD Monthly Water Samples 4/28/06

Lab Order: 0605009

## EPA METHOD 8260B: VOLATILES

Analyst: BDH

Bromomethane	ND	2.0	µg/L	1	5/2/2006
2-Butanone	ND	10	µg/L	1	5/2/2006
Carbon disulfide	ND	10	µg/L	1	5/2/2006
Carbon Tetrachloride	ND	2.0	µg/L	1	5/2/2006
Chlorobenzene	ND	1.0	µg/L	1	5/2/2006
Chloroethane	ND	2.0	µg/L	1	5/2/2006
Chloroform	ND	1.0	µg/L	1	5/2/2006
Chloromethane	ND	1.0	µg/L	1	5/2/2006
2-Chlorotoluene	ND	1.0	µg/L	1	5/2/2006
4-Chlorotoluene	ND	1.0	µg/L	1	5/2/2006
cis-1,2-DCE	ND	1.0	µg/L	1	5/2/2006
cis-1,3-Dichloropropene	ND	1.0	µg/L	1	5/2/2006
1,2-Dibromo-3-chloropropane	ND	2.0	µg/L	1	5/2/2006
Dibromochloromethane	ND	1.0	µg/L	1	5/2/2006
Dibromomethane	ND	2.0	µg/L	1	5/2/2006
1,2-Dichlorobenzene	ND	1.0	µg/L	1	5/2/2006
1,3-Dichlorobenzene	ND	1.0	µg/L	1	5/2/2006
1,4-Dichlorobenzene	1.7	1.0	µg/L	1	5/2/2006
Dichlorodifluoromethane	ND	1.0	µg/L	1	5/2/2006
1,1-Dichloroethane	ND	2.0	µg/L	1	5/2/2006
1,1-Dichloroethene	ND	1.0	µg/L	1	5/2/2006
1,2-Dichloropropane	ND	1.0	µg/L	1	5/2/2006
1,3-Dichloropropane	ND	1.0	µg/L	1	5/2/2006
2,2-Dichloropropane	ND	2.0	µg/L	1	5/2/2006
1,1-Dichloropropene	ND	1.0	µg/L	1	5/2/2006
Hexachlorobutadiene	ND	2.0	µg/L	1	5/2/2006
2-Hexanone	ND	10	µg/L	1	5/2/2006
Isopropylbenzene	ND	1.0	µg/L	1	5/2/2006
4-Isopropyltoluene	3.1	1.0	µg/L	1	5/2/2006
4-Methyl-2-pentanone	ND	10	µg/L	1	5/2/2006
Methylene Chloride	ND	3.0	µg/L	1	5/2/2006
n-Butylbenzene	ND	1.0	µg/L	1	5/2/2006
n-Propylbenzene	ND	1.0	µg/L	1	5/2/2006
sec-Butylbenzene	ND	2.0	µg/L	1	5/2/2006
Styrene	ND	1.5	µg/L	1	5/2/2006
tert-Butylbenzene	ND	1.0	µg/L	1	5/2/2006
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1	5/2/2006
1,1,2,2-Tetrachloroethane	ND	1.0	µg/L	1	5/2/2006
Tetrachloroethene (PCE)	ND	1.0	µg/L	1	5/2/2006
trans-1,2-DCE	ND	1.0	µg/L	1	5/2/2006
trans-1,3-Dichloropropene	ND	1.0	µg/L	1	5/2/2006
1,2,3-Trichlorobenzene	ND	1.0	µg/L	1	5/2/2006
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1	5/2/2006
1,1,1-Trichloroethane	ND	1.0	µg/L	1	5/2/2006

Qualifiers: \* Value exceeds Maximum Contaminant Level  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit

# Hall Environmental Analysis Laboratory

Date: 09-May-06

CLIENT: Giant Refining Co  
 Project: NMED-OCD Monthly Water Samples 4/28/06

Lab Order: 0605009

**EPA METHOD 8260B: VOLATILES**

Analyst: BDH

1,1,2-Trichloroethane	ND	1.0	µg/L	1	5/2/2006
Trichloroethene (TCE)	ND	1.0	µg/L	1	5/2/2006
Trichlorofluoromethane	ND	1.0	µg/L	1	5/2/2006
1,2,3-Trichloropropane	ND	2.0	µg/L	1	5/2/2006
Vinyl chloride	ND	1.0	µg/L	1	5/2/2006
Xylenes, Total	ND	3.0	µg/L	1	5/2/2006
Surr: 1,2-Dichloroethane-d4	99.4	69.9-130	%REC	1	5/2/2006
Surr: 4-Bromofluorobenzene	99.2	75-139	%REC	1	5/2/2006
Surr: Dibromofluoromethane	91.7	57.3-135	%REC	1	5/2/2006
Surr: Toluene-d8	90.3	81.9-122	%REC	1	5/2/2006

Qualifiers: \* Value exceeds Maximum Contaminant Level  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit

# Hall Environmental Analysis Laboratory

Date: 09-May-06

CLIENT: Giant Refining Co  
 Project: NMED-OCD Monthly Water Samples 4/28/06

Lab Order: 0605009

Lab ID: 0605009-02

Collection Date: 4/28/2006 1:15:00 PM

Client Sample ID: NAPIS Eff.

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE</b>						Analyst: SCC
Diesel Range Organics (DRO)	83	3.0		mg/L	1	5/4/2006 4:41:08 PM
Motor Oil Range Organics (MRO)	ND	15		mg/L	1	5/4/2006 4:41:08 PM
Surr: DNOP	135	58-140		%REC	1	5/4/2006 4:41:08 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: HLM
Gasoline Range Organics (GRO)	22	2.5		mg/L	50	5/2/2006 12:27:04 PM
Surr: BFB	89.6	80-123		%REC	50	5/2/2006 12:27:04 PM
<b>EPA METHOD 8260B: VOLATILES</b>						Analyst: BDH
Benzene	6100	100		µg/L	100	5/2/2006
Toluene	8800	250		µg/L	250	5/2/2006
Ethylbenzene	910	100		µg/L	100	5/2/2006
Methyl tert-butyl ether (MTBE)	ND	150		µg/L	100	5/2/2006
1,2,4-Trimethylbenzene	900	100		µg/L	100	5/2/2006
1,3,5-Trimethylbenzene	230	100		µg/L	100	5/2/2006
1,2-Dichloroethane (EDC)	ND	100		µg/L	100	5/2/2006
1,2-Dibromoethane (EDB)	ND	100		µg/L	100	5/2/2006
Naphthalene	580	200		µg/L	100	5/2/2006
1-Methylnaphthalene	ND	400		µg/L	100	5/2/2006
2-Methylnaphthalene	ND	400		µg/L	100	5/2/2006
Acetone	18000	1000		µg/L	100	5/2/2006
Bromobenzene	ND	100		µg/L	100	5/2/2006
Bromochloromethane	ND	100		µg/L	100	5/2/2006
Bromodichloromethane	ND	100		µg/L	100	5/2/2006
Bromoform	ND	100		µg/L	100	5/2/2006
Bromomethane	ND	200		µg/L	100	5/2/2006
2-Butanone	4000	1000		µg/L	100	5/2/2006
Carbon disulfide	ND	1000		µg/L	100	5/2/2006
Carbon Tetrachloride	ND	200		µg/L	100	5/2/2006
Chlorobenzene	ND	100		µg/L	100	5/2/2006
Chloroethane	ND	200		µg/L	100	5/2/2006
Chloroform	ND	100		µg/L	100	5/2/2006
Chloromethane	ND	100		µg/L	100	5/2/2006
2-Chlorotoluene	ND	100		µg/L	100	5/2/2006
4-Chlorotoluene	ND	100		µg/L	100	5/2/2006
cis-1,2-DCE	ND	100		µg/L	100	5/2/2006
cis-1,3-Dichloropropene	ND	100		µg/L	100	5/2/2006
1,2-Dibromo-3-chloropropane	ND	200		µg/L	100	5/2/2006

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

# Hall Environmental Analysis Laboratory

Date: 09-May-06

CLIENT: Giant Refining Co  
 Project: NMED-OCD Monthly Water Samples 4/28/06

Lab Order: 0605009

## EPA METHOD 8260B: VOLATILES

Analyst: BDH

Dibromochloromethane	ND	100	µg/L	100	5/2/2006
Dibromomethane	ND	200	µg/L	100	5/2/2006
1,2-Dichlorobenzene	ND	100	µg/L	100	5/2/2006
1,3-Dichlorobenzene	ND	100	µg/L	100	5/2/2006
1,4-Dichlorobenzene	ND	100	µg/L	100	5/2/2006
Dichlorodifluoromethane	ND	100	µg/L	100	5/2/2006
1,1-Dichloroethane	ND	200	µg/L	100	5/2/2006
1,1-Dichloroethene	ND	100	µg/L	100	5/2/2006
1,2-Dichloropropane	ND	100	µg/L	100	5/2/2006
1,3-Dichloropropane	ND	100	µg/L	100	5/2/2006
2,2-Dichloropropane	ND	200	µg/L	100	5/2/2006
1,1-Dichloropropene	ND	100	µg/L	100	5/2/2006
Hexachlorobutadiene	ND	200	µg/L	100	5/2/2006
2-Hexanone	ND	1000	µg/L	100	5/2/2006
Isopropylbenzene	ND	100	µg/L	100	5/2/2006
4-Isopropyltoluene	ND	100	µg/L	100	5/2/2006
4-Methyl-2-pentanone	ND	1000	µg/L	100	5/2/2006
Methylene Chloride	ND	300	µg/L	100	5/2/2006
n-Butylbenzene	ND	100	µg/L	100	5/2/2006
n-Propylbenzene	130	100	µg/L	100	5/2/2006
sec-Butylbenzene	ND	200	µg/L	100	5/2/2006
Styrene	ND	150	µg/L	100	5/2/2006
tert-Butylbenzene	ND	100	µg/L	100	5/2/2006
1,1,1,2-Tetrachloroethane	ND	100	µg/L	100	5/2/2006
1,1,2,2-Tetrachloroethane	ND	100	µg/L	100	5/2/2006
Tetrachloroethene (PCE)	ND	100	µg/L	100	5/2/2006
trans-1,2-DCE	ND	100	µg/L	100	5/2/2006
trans-1,3-Dichloropropene	ND	100	µg/L	100	5/2/2006
1,2,3-Trichlorobenzene	ND	100	µg/L	100	5/2/2006
1,2,4-Trichlorobenzene	ND	100	µg/L	100	5/2/2006
1,1,1-Trichloroethane	ND	100	µg/L	100	5/2/2006
1,1,2-Trichloroethane	ND	100	µg/L	100	5/2/2006
Trichloroethene (TCE)	ND	100	µg/L	100	5/2/2006
Trichlorofluoromethane	ND	100	µg/L	100	5/2/2006
1,2,3-Trichloropropane	ND	200	µg/L	100	5/2/2006
Vinyl chloride	ND	100	µg/L	100	5/2/2006
Xylenes, Total	6100	300	µg/L	100	5/2/2006
Surr: 1,2-Dichloroethane-d4	94.4	69.9-130	%REC	100	5/2/2006
Surr: 4-Bromofluorobenzene	102	75-139	%REC	100	5/2/2006
Surr: Dibromofluoromethane	93.7	57.3-135	%REC	100	5/2/2006
Surr: Toluene-d8	89.3	81.9-122	%REC	100	5/2/2006

Qualifiers: \* Value exceeds Maximum Contaminant Level  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit

# Hall Environmental Analysis Laboratory

Date: 09-May-06

CLIENT: Giant Refining Co  
 Project: NMED-OCD Monthly Water Samples 4/28/06

Lab Order: 0605009

Lab ID: 0605009-03

Collection Date: 4/28/2006 1:05:00 PM

Client Sample ID: AL-2 to EP-1

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE</b>						Analyst: SCC
Diesel Range Organics (DRO)	42	3.0		mg/L	1	5/4/2006 5:14:10 PM
Motor Oil Range Organics (MRO)	ND	15		mg/L	1	5/4/2006 5:14:10 PM
Surr: DNOP	132	58-140		%REC	1	5/4/2006 5:14:10 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: HLM
Gasoline Range Organics (GRO)	1.1	0.25		mg/L	5	5/2/2006 12:58:47 PM
Surr: BFB	110	80-123		%REC	5	5/2/2006 12:58:47 PM
<b>EPA METHOD 7470: MERCURY</b>						Analyst: CMC
Mercury	0.0071	0.00020		mg/L	1	5/5/2006
<b>EPA 6010: TOTAL RECOVERABLE METALS</b>						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	5/4/2006 12:21:48 PM
Barium	0.11	0.020		mg/L	1	5/4/2006 12:21:48 PM
Cadmium	ND	0.0020		mg/L	1	5/4/2006 12:21:48 PM
Chromium	0.0068	0.0060		mg/L	1	5/4/2006 12:21:48 PM
Lead	0.0080	0.0050		mg/L	1	5/4/2006 12:21:48 PM
Selenium	ND	0.050		mg/L	1	5/4/2006 12:21:48 PM
Silver	ND	0.0050		mg/L	1	5/4/2006 12:21:48 PM
<b>EPA METHOD 8260B: VOLATILES</b>						Analyst: BDH
Benzene	9.3	1.0		µg/L	1	5/2/2006
Toluene	24	1.0		µg/L	1	5/2/2006
Ethylbenzene	4.7	1.0		µg/L	1	5/2/2006
Methyl tert-butyl ether (MTBE)	ND	1.5		µg/L	1	5/2/2006
1,2,4-Trimethylbenzene	24	1.0		µg/L	1	5/2/2006
1,3,5-Trimethylbenzene	6.7	1.0		µg/L	1	5/2/2006
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	5/2/2006
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	5/2/2006
Naphthalene	7.8	2.0		µg/L	1	5/2/2006
1-Methylnaphthalene	390	40		µg/L	10	5/4/2006
2-Methylnaphthalene	180	40		µg/L	10	5/4/2006
Acetone	ND	10		µg/L	1	5/2/2006
Bromobenzene	ND	1.0		µg/L	1	5/2/2006
Bromochloromethane	ND	1.0		µg/L	1	5/2/2006
Bromodichloromethane	ND	1.0		µg/L	1	5/2/2006
Bromoform	ND	1.0		µg/L	1	5/2/2006

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

# Hall Environmental Analysis Laboratory

Date: 09-May-06

CLIENT: Giant Refining Co  
 Project: NMED-OCD Monthly Water Samples 4/28/06

Lab Order: 0605009

## EPA METHOD 8260B: VOLATILES

Analyst: BDH

Bromomethane	ND	2.0	µg/L	1	5/2/2006
2-Butanone	ND	10	µg/L	1	5/2/2006
Carbon disulfide	ND	10	µg/L	1	5/2/2006
Carbon Tetrachloride	ND	2.0	µg/L	1	5/2/2006
Chlorobenzene	ND	1.0	µg/L	1	5/2/2006
Chloroethane	ND	2.0	µg/L	1	5/2/2006
Chloroform	ND	1.0	µg/L	1	5/2/2006
Chloromethane	ND	1.0	µg/L	1	5/2/2006
2-Chlorotoluene	ND	1.0	µg/L	1	5/2/2006
4-Chlorotoluene	ND	1.0	µg/L	1	5/2/2006
cis-1,2-DCE	ND	1.0	µg/L	1	5/2/2006
cis-1,3-Dichloropropene	ND	1.0	µg/L	1	5/2/2006
1,2-Dibromo-3-chloropropane	ND	2.0	µg/L	1	5/2/2006
Dibromochloromethane	ND	1.0	µg/L	1	5/2/2006
Dibromomethane	ND	2.0	µg/L	1	5/2/2006
1,2-Dichlorobenzene	ND	1.0	µg/L	1	5/2/2006
1,3-Dichlorobenzene	ND	1.0	µg/L	1	5/2/2006
1,4-Dichlorobenzene	ND	1.0	µg/L	1	5/2/2006
Dichlorodifluoromethane	ND	1.0	µg/L	1	5/2/2006
1,1-Dichloroethane	ND	2.0	µg/L	1	5/2/2006
1,1-Dichloroethene	ND	1.0	µg/L	1	5/2/2006
1,2-Dichloropropane	ND	1.0	µg/L	1	5/2/2006
1,3-Dichloropropane	ND	1.0	µg/L	1	5/2/2006
2,2-Dichloropropane	ND	2.0	µg/L	1	5/2/2006
1,1-Dichloropropene	ND	1.0	µg/L	1	5/2/2006
Hexachlorobutadiene	ND	2.0	µg/L	1	5/2/2006
2-Hexanone	ND	10	µg/L	1	5/2/2006
Isopropylbenzene	ND	1.0	µg/L	1	5/2/2006
4-Isopropyltoluene	1.5	1.0	µg/L	1	5/2/2006
4-Methyl-2-pentanone	ND	10	µg/L	1	5/2/2006
Methylene Chloride	ND	3.0	µg/L	1	5/2/2006
n-Butylbenzene	ND	1.0	µg/L	1	5/2/2006
n-Propylbenzene	ND	1.0	µg/L	1	5/2/2006
sec-Butylbenzene	ND	2.0	µg/L	1	5/2/2006
Styrene	ND	1.5	µg/L	1	5/2/2006
tert-Butylbenzene	ND	1.0	µg/L	1	5/2/2006
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1	5/2/2006
1,1,2,2-Tetrachloroethane	ND	1.0	µg/L	1	5/2/2006
Tetrachloroethene (PCE)	ND	1.0	µg/L	1	5/2/2006
trans-1,2-DCE	ND	1.0	µg/L	1	5/2/2006
trans-1,3-Dichloropropene	ND	1.0	µg/L	1	5/2/2006
1,2,3-Trichlorobenzene	ND	1.0	µg/L	1	5/2/2006
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1	5/2/2006
1,1,1-Trichloroethane	ND	1.0	µg/L	1	5/2/2006

Qualifiers: \* Value exceeds Maximum Contaminant Level  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit

# Hall Environmental Analysis Laboratory

Date: 09-May-06

CLIENT: Giant Refining Co  
 Project: NMED-OCD Monthly Water Samples 4/28/06

Lab Order: 0605009

**EPA METHOD 8260B: VOLATILES**

Analyst: BDH

1,1,2-Trichloroethane	ND	1.0	µg/L	1	5/2/2006
Trichloroethene (TCE)	ND	1.0	µg/L	1	5/2/2006
Trichlorofluoromethane	ND	1.0	µg/L	1	5/2/2006
1,2,3-Trichloropropane	ND	2.0	µg/L	1	5/2/2006
Vinyl chloride	ND	1.0	µg/L	1	5/2/2006
Xylenes, Total	40	3.0	µg/L	1	5/2/2006
Surr: 1,2-Dichloroethane-d4	94.5	69.9-130	%REC	1	5/2/2006
Surr: 4-Bromofluorobenzene	96.1	75-139	%REC	1	5/2/2006
Surr: Dibromofluoromethane	95.6	57.3-135	%REC	1	5/2/2006
Surr: Toluene-d8	84.7	81.9-122	%REC	1	5/2/2006

Qualifiers: \* Value exceeds Maximum Contaminant Level  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit

QA/QC SUMMARY REPORT

Client: Giant Refining Co  
 Project: NMED-OCD Monthly Water Samples 4/28/06

Work Order: 0605009

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8015									
Sample ID: MB-10314		MBLK							
Diesel Range Organics (DRO)	ND	mg/L	1.0						
Motor Oil Range Organics (MRO)	ND	mg/L	5.0						
Sample ID: LCS-10314		LCS							
Diesel Range Organics (DRO)	6.106	mg/L	1.0	122	74	157			
Sample ID: LCSD-10314		LCSD							
Diesel Range Organics (DRO)	5.398	mg/L	1.0	108	74	157	12.3	23	
Method: SW8015									
Sample ID: 5ML REAGENT BLA		MBLK							
Gasoline Range Organics (GRO)	ND	mg/L	0.050						
Sample ID: 2.5UG GRO LCS		LCS							
Gasoline Range Organics (GRO)	0.5340	mg/L	0.050	107	73.3	119			
Sample ID: 2.5ug gro lcsd 13		LCSD							
Gasoline Range Organics (GRO)	0.5000	mg/L	0.050	100	73.3	119	6.58	8.39	
Method: SW7470									
Sample ID: MB-10362		MBLK							
Mercury	ND	mg/L	0.00020						
Sample ID: LCS-10362		LCS							
Mercury	0.005040	mg/L	0.00020	101	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: NMED-OCD Monthly Water Samples 4/28/06

Work Order: 0605009

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: SW6010A

Batch ID: 10315

Sample ID: MB-10315

MBLK

Analysis Date: 5/4/2006

Arsenic	ND	mg/L	0.020						
Barium	ND	mg/L	0.020						
Cadmium	ND	mg/L	0.0020						
Chromium	ND	mg/L	0.0060						
Lead	ND	mg/L	0.0050						
Selenium	ND	mg/L	0.050						
Silver	ND	mg/L	0.0050						

Sample ID: LCS-10315

LCS

Analysis Date: 5/4/2006

Arsenic	0.4965	mg/L	0.020	99.3	80	120			
Barium	0.4816	mg/L	0.020	96.3	80	120			
Cadmium	0.4976	mg/L	0.0020	99.5	80	120			
Chromium	0.4887	mg/L	0.0060	97.6	80	120			
Lead	0.4692	mg/L	0.0050	93.8	80	120			
Selenium	0.4775	mg/L	0.050	95.5	80	120			
Silver	0.4972	mg/L	0.0050	99.4	80	120			

Sample ID: 0605009-03BMS

MS

Analysis Date: 5/4/2006

Arsenic	0.5254	mg/L	0.020	101	75	125			
Barium	0.6030	mg/L	0.020	98.0	75	125			
Cadmium	0.4987	mg/L	0.0020	99.7	75	125			
Chromium	0.4872	mg/L	0.0060	96.1	75	125			
Lead	0.4552	mg/L	0.0050	89.4	75	125			
Selenium	0.4588	mg/L	0.050	91.8	75	125			
Silver	0.5204	mg/L	0.0050	104	75	125			

Sample ID: 0605009-03BMSD

MSD

Analysis Date: 5/4/2006

Arsenic	0.5194	mg/L	0.020	100	75	125	1.16	20	
Barium	0.6045	mg/L	0.020	98.3	75	125	0.245	20	
Cadmium	0.4914	mg/L	0.0020	98.3	75	125	1.49	20	
Chromium	0.4807	mg/L	0.0060	94.8	75	125	1.33	20	
Lead	0.4449	mg/L	0.0050	87.4	75	125	2.28	20	
Selenium	0.4430	mg/L	0.050	88.6	75	125	3.50	20	
Silver	0.5037	mg/L	0.0050	101	75	125	3.26	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: NMED-OCD Monthly Water Samples 4/28/06

Work Order: 0605009

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

Batch ID: R19124

Sample ID: 100ng lcs

LCS

Analysis Date: 5/1/2006

Benzene	18.22	µg/L	1.0	91.1	71	124			
Toluene	19.59	µg/L	1.0	98.0	81.5	118			
Chlorobenzene	19.42	µg/L	1.0	94.2	81.2	132			
1,1-Dichloroethene	20.79	µg/L	1.0	104	65.5	134			
Trichloroethene (TCE)	18.12	µg/L	1.0	90.6	69.5	119			

Sample ID: 100ng lcs

LCS

Analysis Date: 5/4/2006

Benzene	18.02	µg/L	1.0	90.1	71	124			
Toluene	17.66	µg/L	1.0	88.3	81.5	118			
Chlorobenzene	19.77	µg/L	1.0	98.9	81.2	132			
1,1-Dichloroethene	17.33	µg/L	1.0	86.7	65.5	134			
Trichloroethene (TCE)	17.29	µg/L	1.0	86.5	69.5	119			

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

Sample Receipt Checklist

Client Name GIANTREFIN

Date and Time Received:

5/2/2006

Work Order Number 0605009

Received by GLS

Checklist completed by

Signature *B. Schipper*

Date

5-2-06

Matrix

Carrier name UPS

- 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?

10°

4° C ± 2 Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted \_\_\_\_\_ Date contacted: \_\_\_\_\_ Person contacted \_\_\_\_\_

Contacted by: \_\_\_\_\_ Regarding \_\_\_\_\_

Comments: Sample 0605009-3 One of the five VOAS in the set was broken in transit. 5-2-06  
-added 3mL HNO<sub>3</sub> to HEAL-1 & -3 to pH (m)

Corrective Action \_\_\_\_\_

# CHAIN-OF-CUSTODY RECORD

Client: *Giant Refining Company - Ciniza*  
 Address: *Route 3 Box 7 Gallup, NM 87301*  
 Phone #: *505 722 3833*  
 Fax #: *505 722 0210*

QA/QC Package:  
 Std  Level 4   
 Other:  
 Project Name: *NMED-0CD*  
*Monthly Water Samples 4/28/06*  
 Project #:  
 Project Manager: *STEVE MORRIS*  
 Sampler: *[Signature]*  
 Sample Temperature: *10°*



**HALL ENVIRONMENTAL ANALYSIS LABORATORY**  
 4901 Hawkins NE, Suite D  
 Albuquerque, New Mexico 87109  
 Tel. 505.345.3975 Fax 505.345.4107  
 www.hallenvironmental.com

## ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative			HEAL No.	BTX + MTBE + TMB's (8021)	BTX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	ROPA 8 Metals Total	Anions (F, Cl, NO <sub>2</sub> , NO <sub>3</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / PCB's (8082)	8260B (VDA)	8270 (Semi-VDA)	Air Bubbles or Headspace (Y or N)
					HgCl <sub>2</sub>	HNO <sub>3</sub>															
<i>4/28/06</i>	<i>13:30</i>	<i>H<sub>2</sub>O</i>	<i>Pilt TC Eff.</i>							<i>X</i>					<i>X</i>			<i>X</i>			
<i>"</i>	<i>13:15</i>	<i>"</i>	<i>NAPIS Eff.</i>							<i>X</i>								<i>X</i>			
<i>"</i>	<i>13:05</i>	<i>"</i>	<i>AL-2 to EP-1</i>							<i>X</i>					<i>X</i>			<i>X</i>			

Date: *5-1-06* Time: *0800* Relinquished By: (Signature) *[Signature]*  
 Date: Time: Relinquished By: (Signature)

Received By: (Signature) *[Signature]* *5-2-06*  
 Received By: (Signature)

Remarks: *Rush. PLEASE SEND 500ML PLASTIC HNO<sub>3</sub> BOTTLE 1*

**Chavez, Carl J, EMNRD**

---

**From:** Chavez, Carl J, EMNRD  
**Sent:** Tuesday, May 16, 2006 3:40 PM  
**To:** 'jlieb@giant.com'  
**Cc:** Price, Wayne, EMNRD; Foust, Denny, EMNRD  
**Subject:** Flagging of Evaporation Ponds at Ciniza Refinery

Jim:

After searching for "pond flagging" guidance information, since OCD has none, I encountered website information links on "pond flagging" that is provided below. It appears that flagging may not be as effective as netting; consequently, OCD recommends that Giant consider (see US Game & Fish & Wildlife link below) the pros and cons of "flagging" vs. "netting" to determine which method will prevent migratory birds from landing and dying in the evaporation ponds.

Wyoming

<http://soswy.state.wy.us/RULES/556.pdf>  
<http://www.fws.gov/Endangered/ESB/99/01-02/10-11.pdf>

EPA

Family Tree Corporation Case

<http://www.epa.gov/region8/compliance/pdf/RCRA0820040008AOC.pdf>

US Fish & Wildlife

<http://mountain-prairie.fws.gov/contaminants/contaminants1c.html>  
<http://mountain-prairie.fws.gov/contaminants/papers/r6718c02.pdf>

Please contact me to discuss 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/>  
(Pollution Prevention Guidance is under "Publications")

**Chavez, Carl J, EMNRD**

**From:** Chavez, Carl J, EMNRD  
**Sent:** Wednesday, May 10, 2006 4:03 PM  
**To:** 'Jim Lieb'; 'Steve Morris'; 'Ed Riege'  
**Cc:** Cobrain, Dave, NMENV; Monzeglio, Hope, NMENV; Price, Wayne, EMNRD; Foust, Denny, EMNRD  
**Subject:** Evaporation Pond 2 (EP2) Corrective Action Inspection 5-9-06

Jim, et. al.:

Good afternoon. I am writing to clarify some cleanup and non-cleanup issues that we discussed yesterday related to the corrective action at EP2 (with exception of the fence around the fire water pond).

Fence around fire water pond question: please remove the fence in order to key in the liner, if the engineering design is approved and Giant proceeds to construct the pond with leak detection sump.

Netting on ponds greater than 16 feet question: please net evaporation ponds 1 and 2, since they have not been rendered non-hazardous to wildlife including migratory birds.

Cleanup goal: please scrape contamination at least 4 inches, by 2 foot back and out of pond, all along the estimated 300 feet off shoreline (see photos). If black waste material is still present in pond, scrape down to remove all black waste from inside of pond. The estimated volume of waste for disposal is about 200 ft<sup>3</sup> or 7.5 yd<sup>3</sup>, but probably more.

Sample location clarification: a total of 4 samples analyzed for Benzene (10 ppm), BTEX (50 ppm) and TPH (100 ppm) are required with cleanup level in parentheses). Please collect 3 samples within the scraped saturated areas INSIDE (not on the shoreline) of the pond at the NE, E and SE areas of evaporation pond 2 (EP2) . The 4th sample should be collected at the NE (location of original sampling with analytical data), but deeper into the pond to determine whether contamination is present at deeper depths or just along the east side of EP2 near shoreline. Visual observations of EP2 indicate that prevailing westerly and/or southwesterly winds have moved floating contamination to the eastern side of EP2; thus, sampling will be focused on the eastern side of the pond within saturated areas adjacent to the shoreline(see attached photos). Giant is working to meet the OCD's May 31, 2006 cleanup deadline and conditions in Wayne Price's (OCD) e-mail of April 12, 2006.

Disposal: Giant will test or classify waste before disposal, but is tentatively planning to dispose of waste at the Thoreau landfill. Waste will be stored near the old hazardous waste treatment area.

I'm working on the March 28, 2006 follow-up inspection letter and may include any May 9, 2006 inspection information as needed. Thank you for your cooperation. Please contact me if you have questions.

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/>  
 (Pollution Prevention Guidance is under "Publications")

Disclaimer: Please be advised that this e-mail does not relieve Giant- Ciniza of responsibility should their operations pose a threat to ground water, surface water, human health or the environment. In addition, Giant is not relieved of responsibility for compliance with any other federal, state, or local laws and/or regulations.

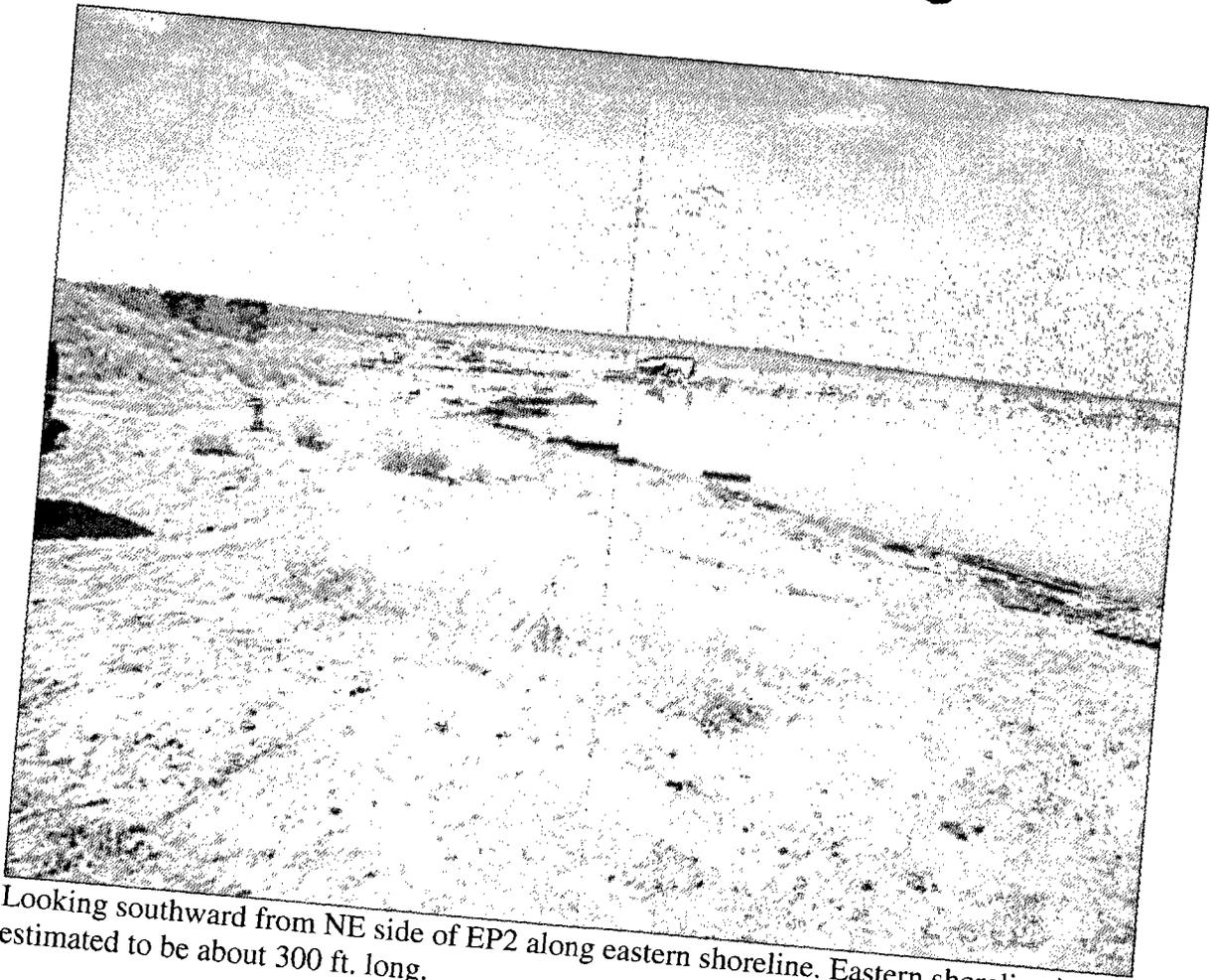
5/10/2006

**OCD Ciniza Refinery Evaporation Pond 2 Corrective Action Inspection  
May 10, 2006**

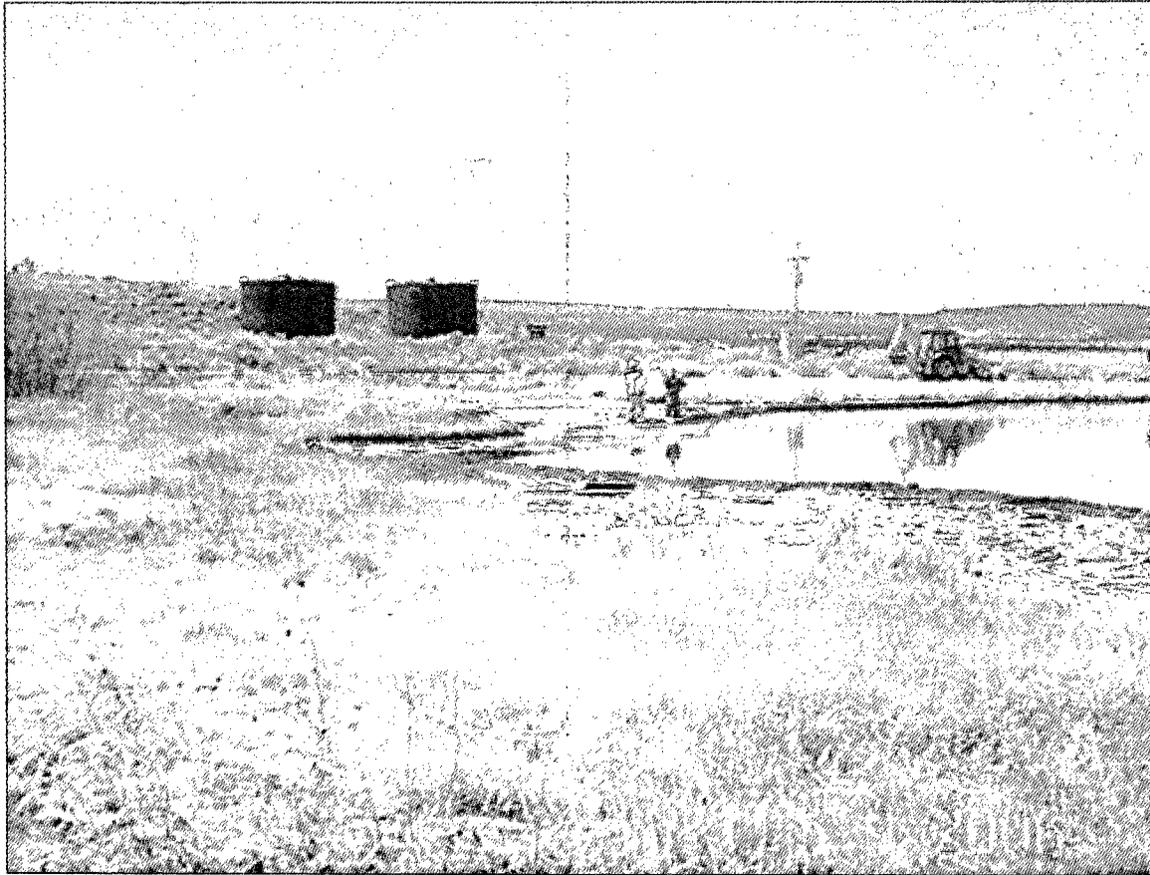
**Photos:**



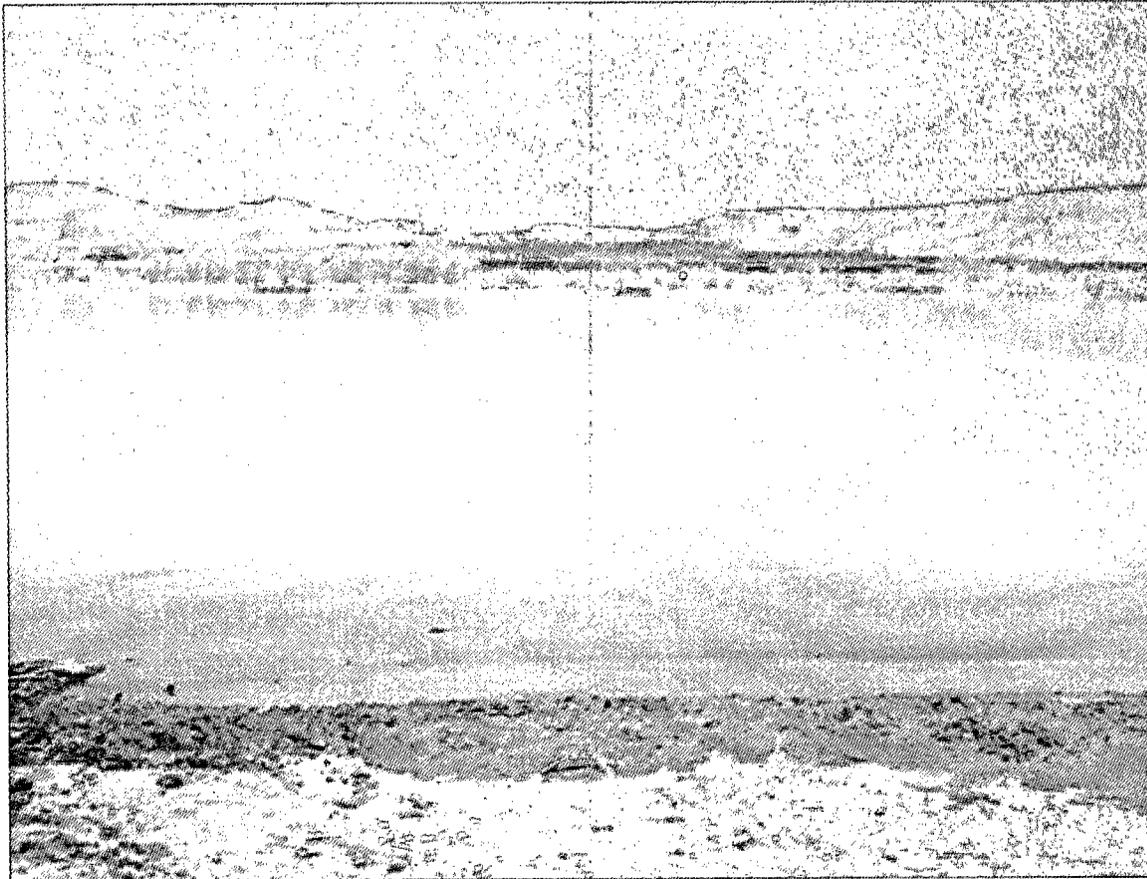
Discharge of EP1 effluent into EP2



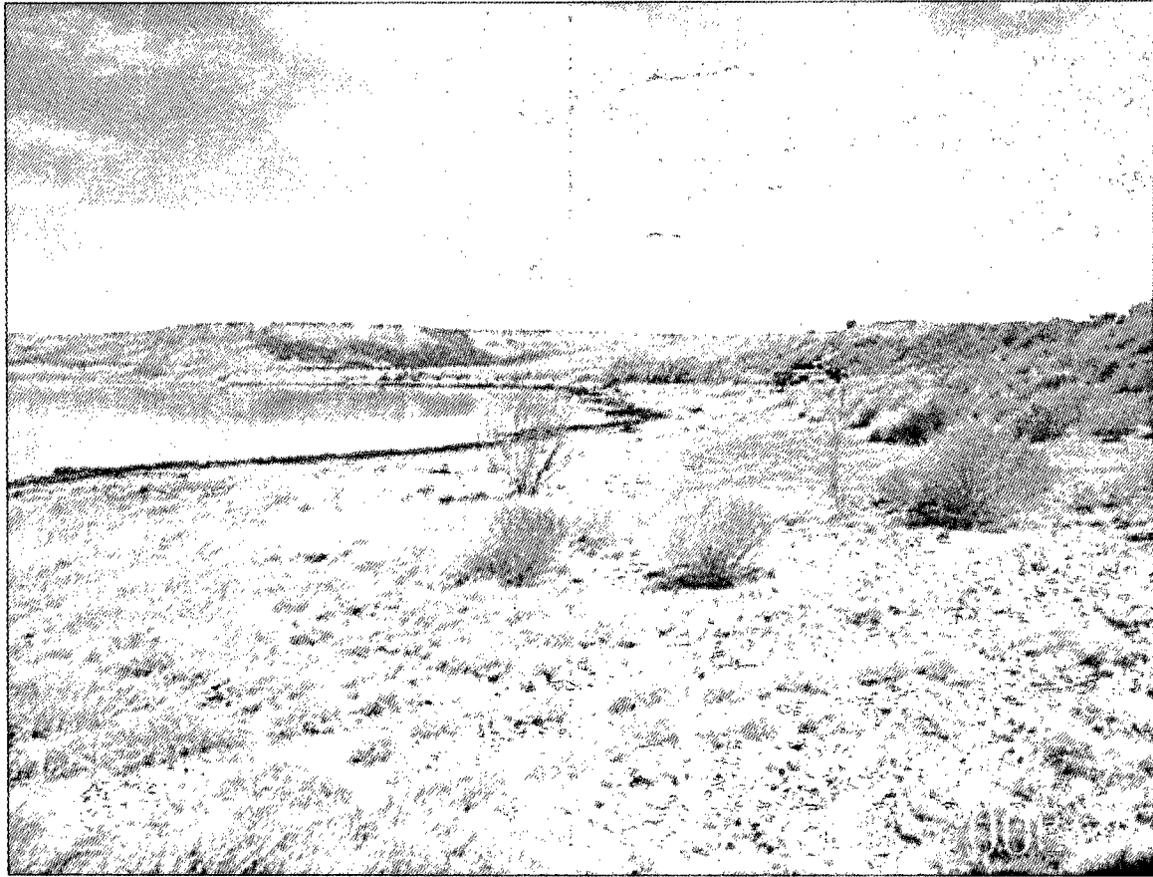
Looking southward from NE side of EP2 along eastern shoreline. Eastern shoreline is estimated to be about 300 ft. long.



Looking southward from mid-point along east side of EP 2 shoreline at scraped waste along shoreline and workers preparing for a lunch break.



Looking westward from east side middle section of EP2. Scraped waste on shoreline in foreground. Notice clean shoreline conditions on west side of pond.



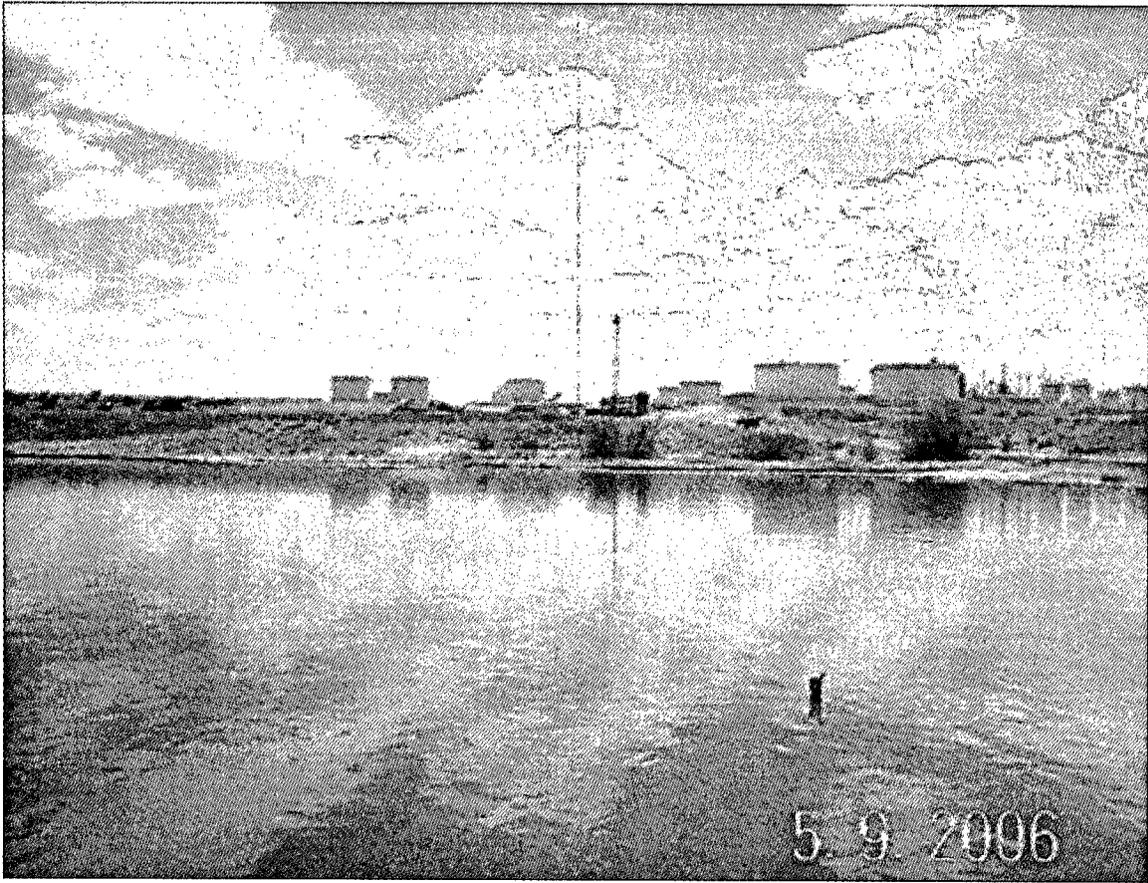
Looking northward from SE side of pond along east side of EP 2 shoreline. Eastern shoreline is estimated to be about 300 ft. long.



Contractors are digging with long scrapers by hand at least 4 inches deep from at least 2 feet inside of pond scraping waste outward over shoreline. Anticipated volume of waste expected from soil cleanup is expected to be greater than 200 ft<sup>3</sup> or 7.4 yd<sup>3</sup> as the shoreline will end up being scraped during the waste removal process.



Looking northward from SW of EP2 along shoreline.



Looking eastward from center west shoreline of EP2 back toward refinery.



Looking southward from NE point along EP2 shoreline. Eastern shoreline is estimated to be about 300 ft. long.

**Chavez, Carl J, EMNRD**

---

**From:** Chavez, Carl J, EMNRD  
**Sent:** Monday, May 08, 2006 8:36 AM  
**To:** 'Johnny Sanchez'  
**Cc:** Foust, Denny, EMNRD; Price, Wayne, EMNRD  
**Subject:** RE:

Johnny:

I was informed by Wayne Price that if total metals analytical data are submitted, the OCD will divide the total metals analytical values by a dilution attenuation factor of 20 to derive values in comparison with the TCLP. Consequently, the levels are below the TCLP and OCD hereby approves of the disposal. You also need to contact the receiving facility for their requirements, i.e., special testing, etc., that may be required before they will accept waste into their facility.

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/>  
(Pollution Prevention Guidance is under "Publications")

---

**From:** Johnny Sanchez [mailto:JohnnyS@giant.com]  
**Sent:** Monday, May 08, 2006 8:14 AM  
**To:** Chavez, Carl J, EMNRD  
**Subject:**

Carl,  
Please see the attachments for your review.

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**BILL RICHARDSON**  
GOVERNOR

*State of New Mexico*  
**ENVIRONMENT DEPARTMENT**

*Hazardous Waste Bureau*  
*2905 Rodeo Park Drive East, Building 1*  
*Santa Fe, New Mexico 87505-6303*  
*Telephone (505) 428-2500*  
*Fax (505) 428-2567*  
*www.nmenv.state.nm.us*



**RON CURRY**  
SECRETARY

**CERTIFIED MAIL**  
**RETURN RECEIPT REQUESTED**

May 5, 2006

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

**SUBJECT: RESPONSE TO THE OLD API SEPARATOR EFFLUENT LETTER  
GIANT REFINING COMPANY, CINIZA REFINERY  
EPA NO. NMD000333211  
HWB-GRCC-MISC**

Dear Mr. Riege:

The New Mexico Environment Department (NMED) is in receipt of Giant Refining Company's, Ciniza Refinery (Permittee) letter dated April 12, 2006, titled *Old API Separator Effluent*. This letter was in response to NMED's letter dated February 3, 2006.

The Permittee must continue to route all effluent discharging from the "Old" API separator to the "New" API Separator until the process wastewater no longer commingles with the storm sewer water. Upon completion of the dye trace study and other investigation of the storm sewer system, the Permittee must submit all study results to NMED and the New Mexico Oil Conservation Division (OCD). The submittal must also provide and identify the "procedures and policy in place to isolate contaminants from storm water" as stated in the *Commitment for Resolution of API Separator Storm Water Issues* presented to NMED on March 28, 2006. The submittal must be in report format and include the following information:

- a. A description of how the dye trace study was performed, the activities that took place, and the results and conclusions of the study.

Mr. Ed Riege  
Giant Ciniza Refining Company  
May 5, 2006  
Page 2 of 2

2006 MAY 11 PM 1 40

- b. A description of how and where the storm sewer system was blocked, and the results of each segment of the sewer system testing.
- c. Include the procedures and policy in place to isolate process water from storm water.
- d. Any other additional information.

In the letter the Permittee indicates that diversion of storm water to a proposed pond will be completed by July 30, 2006." The Permittee must receive prior approval from NMED and OCD before routing the storm sewer water to the proposed pond. The Permittee will not be authorized to bypass the refinery wastewater treatment system and reroute storm sewer water to the proposed pond if process wastewater and storm sewer water cannot be separated.

The report describing the results of the dye trace study, other sewer system testing and the procedures and policy to isolate contaminants from storm water must be submitted to NMED within 30 calendar days after the completion of such activities.

If you have any questions regarding this letter, please call me at (505) 428-2545.

Sincerely,



Hope Monzeglio  
Project Leader  
Permits Management Program

HM

cc: J. Kieling, NMED HWB  
D. Cobrain, NMED HWB  
W. Price, OCD  
C. Chavez, OCD  
D. Foust, OCD  
S. Morris, GRCC  
J. Lieb, GRCC

File: Reading file and GRCC 2006



**BILL RICHARDSON**  
GOVERNOR

**State of New Mexico**  
**ENVIRONMENT DEPARTMENT**

**Hazardous Waste Bureau**  
**2905 Rodeo Park Drive East, Building 1**  
**Santa Fe, New Mexico 87505-6303**  
**Telephone (505) 428-2500**  
**Fax (505) 428-2567**  
**www.nmenv.state.nm.us**



**RON CURRY**  
SECRETARY

**CERTIFIED MAIL**  
**RETURN RECEIPT REQUESTED**

May 5, 2006

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

**SUBJECT: REVISED SAMPLING SCHEDULE RESULTING FROM THE AUGUST  
2005 API SEPARATOR RELEASE  
GIANT REFINING COMPANY, CINIZA REFINERY  
EPA NO. NMD000333211  
HWB-GRCC-MISC**

Dear Mr. Riege:

The New Mexico Environment Department (NMED) is revising the sampling schedule and requirements included in NMED's letter dated February 3, 2006 titled *Revised Sampling Schedule For Aeration Lagoon Effluent*. This revision is based on analytical data provided by Giant Refining Company, Ciniza Refinery (the Permittee). The attached table, titled *Giant Ciniza Refinery Sampling Schedule Resulting from the API Separator Spill*, dated May 12, 2006 (Revision 2) lists the revised sampling frequency and locations. The frequency of effluent sampling must now be conducted on a quarterly basis. Effluent sampling is no longer required at the Old API Separator, however; monthly flow rates of fluids pumped from the Old API Separator to the New API Separator must be recorded. The attached table shall replace the Table, Revision 1 dated February 1, 2006.

Additional flow measurements must be collected at the following locations: the Pilot Station Effluent (PSE) to Aeration lagoon 1 (AL-1), effluent from the New API Separator (NAPIS) to the benzene strippers, Boiler Water effluent discharge to Evaporation Pond 2, effluent discharge from Evaporation Pond 1 to Evaporation Pond 2 (EP1 to EP-2), and effluent from Aeration

Mr. Ed Riege  
Giant Ciniza Refining Company  
May 5, 2006  
Page 2 of 2

Lagoon 2 to Evaporation Pond 1 (AL-2 to EP-1). The flow rates shall be measured at the frequency required by the Oil Conservation Division (OCD). If OCD has not required a monitoring schedule to date, the flow rates shall be monitored on a monthly basis.

The Permittee shall submit the following information to NMED on a quarterly basis and presented as follows: in letter format reporting the results of quarterly effluent sampling, identify any Water Quality Control Commission (WQCC) Standards or Environmental Protection Agency Maximum Contamination Level (EPA MCL) exceedances. The Permittee shall provide monthly flow rates and calculated monthly flow volumes measured at the locations listed above. The Permittee shall describe how the flow rate readings were collected. The Permittee shall also provide all laboratory analytical results including quality assurance and quality control (QA/QC) data. The quarterly information shall be submitted to NMED within thirty (30) days of receipt of the associated final laboratory report. The Permittee must notify NMED verbally within three (3) calendar days if any contaminants are detected at concentrations that are determined to be characteristic hazardous waste except for the effluent discharged from the New API Separator.

If you have any questions regarding this letter, please call me at (505) 428-2545.

Sincerely,



Hope Monzeglio  
Project Leader  
Permits Management Program

HM

Attachment

cc: J. Kieling, NMED HWB  
D. Cobrain, NMED HWB  
W. Price, OCD  
C. Chavez, OCD  
D. Foust, OCD  
S. Morris, GRCC  
J. Lieb, GRCC  
J. Sanchez, GRCC

File: Reading File and GRCC 2006

## Giant Ciniza Refinery Sampling Schedule Resulting From The API Separator Spill

Sampling Location	* Sampling Frequency	Analytical Suite	Comments and Additional Parameters
Effluent from AL-2 to EP-1	Quarterly	EPA Method 8260, EPA Method 8015B must include C <sub>6</sub> -C <sub>10</sub> and C <sub>10</sub> -C <sub>36</sub> carbon ranges, RCRA 8 Metals (totals)	Sampling frequency will be modified as needed by NMED
Effluent from Old API separator (storm water separator effluent)	Monthly flow rate measurements to New API Separator only	Collect monthly flow rate readings from the Old API to the New API Separator.	If effluent is re-routed to the aeration lagoons or any other location other than the New API Separator, NMED must be contacted and the sampling frequency and analytical suite will be established. As long as the effluent is re-routed to the New API Separator, monthly flow rates readings must be collected.
Effluent from Pilot Gas Station to the Aeration Lagoon	Quarterly	EPA method 8260, RCRA 8 Metals (totals); EPA Method 8015B must include C <sub>6</sub> -C <sub>10</sub> and C <sub>10</sub> -C <sub>36</sub> carbon ranges	Sampling frequency will be modified as needed by NMED
Effluent from New API separator	Quarterly	EPA method 8260, EPA Method 8015B must include C <sub>6</sub> -C <sub>10</sub> and C <sub>10</sub> -C <sub>36</sub> carbon ranges	Sampling frequency will be modified as needed by NMED

**\*Note:** Monthly effluent samples from AL-2 to EP-1, the New API Separator (NAPIS), and the Pilot Gas Station (PSE) discharge must be collected on the same day and analyzed for EPA method 8260 and EPA Method 8015B (C<sub>6</sub>-C<sub>10</sub> and C<sub>10</sub>-C<sub>36</sub>).

Quarterly sampling must begin in June. All data must be submitted to NMED on a quarterly basis no later than 30 days after receipt of the final laboratory report.

Table date: Revision 2-May 12, 2006.

**Chavez, Carl J, EMNRD**

---

**From:** Steve Morris [smorris@giant.com]  
**Sent:** Friday, May 05, 2006 12:39 PM  
**To:** Chavez, Carl J, EMNRD; Cobrain, Dave, NMENV; Foust, Denny, EMNRD; Ed Riege; Monzeglio, Hope, NMENV; Jim Lieb; Johnny Sanchez; Steve Morris; Price, Wayne, EMNRD  
**Subject:** Ciniza Weekly Update 5/5/06

Paul Ledbetter with Fusion Lining Service was here today to look at the proposed firewater/stormwater pond. He will be sending us a proposal in a little over a week.

Oscar with Refchem has been authorized to bring his crew out this week end to get started on the Pond #2 clean up.

The field work portion of the leak dye study has been completed with no crossover found between the process sewer and stormwater sewer systems.

Regina Allen with Trihydro Corp. will be sending us a report as soon as she can get it completed.

We will forward that along as soon as we get it.

Hall Env. Lab didn't receive the Pond #2 inlet sample dated 4/20/06 within the 48 hour limit so the attached PDF has COD only. We will try and make sure this does not happen in the future.

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COVER LETTER

Thursday, April 27, 2006

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

RE: Evap. Pond #2 Inlet 4/20/06

Order No.: 0604228

Dear Steve Morris:

Hall Environmental Analysis Laboratory received 1 sample(s) on 4/25/2006 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

AZ license # AZ0682  
ORELAP Lab # NM100001



HALL ENVIRONMENTAL  
 attn: ANDY FREEMAN  
 4901 HAWKINS NE, SUITE D  
 ALBUQUERQUE NM 87109-4372

Explanation of codes	
B	Analyte Detected in Method Blank
E	Result is Estimated
H	Analyzed Out of Hold Time
N	Tentatively Identified Compound
S	Subcontracted
1-9	See Footnote

STANDARD

Assaigal Analytical Laboratories, Inc.

### Certificate of Analysis

All samples are reported on an "as received" basis, unless otherwise noted (i.e. - Dry Weight).

Client: HALL ENVIRONMENTAL  
 Project: 0604228  
 Order: 0604540 HAL03 Receipt: 04-25-06

William P. Biava: President of Assaigal Analytical Laboratories, Inc.

Sample: 0604228-01A/POND 2 INLET Collected: 04-20-06 7:30:00 By:  
 Matrix: AQUEOUS

QC Group	Run Sequence	CAS #	Analyte	Result	Units	Dilution Factor	Detection Limit	Code	Prep Date	Run Date
0604540-0001A			EPA 410.1 Chemical Oxygen Demand					By: NJL		
WCOD06027	WC.2006.1050.5	C-004	Chemical Oxygen Demand	1310	mg/L	1	10		04-27-06	04-27-06

Unless otherwise noted, all samples were received in acceptable condition and all sampling was performed by client or client representative. Sample result of ND indicates Not Detected, ie result is less than the sample specific Detection Limit. Sample specific Detection Limit is determined by multiplying the sample Dilution Factor by the listed Reporting Detection Limit. All results relate only to the items tested. Any miscellaneous workorder information or footnotes will appear below.

Analytical results are not corrected for method blank or field blank contamination.

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name GIANTREFIN

Date and Time Received:

4/25/2006

Work Order Number 0604228

Received by LMM

Checklist completed by Lisa Hedukas 4/25/06
Signature Date

Matrix

Carrier name UPS

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

Container/Temp Blank temperature? 14° 4° C ± 2 Acceptable
If given sufficient time to cool.

COMMENTS:

Client contacted \_\_\_\_\_ Date contacted: \_\_\_\_\_ Person contacted \_\_\_\_\_

Contacted by: \_\_\_\_\_ Regarding \_\_\_\_\_

Comments: \_\_\_\_\_

Corrective Action \_\_\_\_\_

# CHAIN-OF-CUSTODY RECORD

QA / QC Package:

Std  Level 4

Other: \_\_\_\_\_

Client: *Diapht Refining  
Unizco*

Project Name: *Evap Pond #2  
INLET 4-20-06*

Address: *Route 3, Box 7  
Gallup NM, 87301*

Project #:

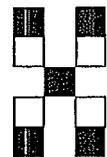
Project Manager: *Steve Morris*

Phone #: *505-722-3833*

Sampler: *Johnny Sanchez*

Fax #: *505-722-6210*

Sample Temperature: *14*



**HALL ENVIRONMENTAL  
ANALYSIS LABORATORY**  
4901 Hawkins NE, Suite D  
Albuquerque, New Mexico 87109  
Tel. 505.345.3975 Fax 505.345.4107  
www.hallenvironmental.com

## ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative		HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	B310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / PCB's (8082)	8260B (VDA)	8270 (Semi-VDA)	Air Bubbles or Headspace (Y or N)	
					HgCl <sub>2</sub>	HNO <sub>3</sub>															
<i>4-20-06</i>	<i>0730</i>	<i>H<sub>2</sub>O</i>	<i>Pond 2 Inlet</i>				<i>0604228</i>														

*X BOD  
X COD*

Date: *4/20/06* Time: *0800*  
Relinquished By: (Signature) *Johnny Sanchez*

Received By: (Signature) *0931 Lisa Halverson 412526*  
Received By: (Signature) \_\_\_\_\_

Remarks: *Rush, PLEASE SEND  
500ML PLASTIC H<sub>2</sub>SO<sub>4</sub> BOTTLES  
Do not analyze BOD AS 4/25/06*

**Chavez, Carl J, EMNRD**

---

**From:** Chavez, Carl J, EMNRD  
**Sent:** Thursday, May 04, 2006 5:20 PM  
**To:** Johnny Sanchez; 'Ed Riege'  
**Cc:** Price, Wayne, EMNRD; Foust, Denny, EMNRD  
**Subject:** FW: Giant needs your approval

Johnny:

Good afternoon. After reviewing your TCLPs attached to your April 19, 2006 request to dispose of tank scale from Tank 339, I notice that many of the 40 CFR 261.24 Toxicity Characteristic parameters, i.e., arsenic, barium, etc. are missing from your submittal. Please contact your lab and see if they have the TCLP parameters for the rest of the contaminants that OCD needs to review in order to approve your request.

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/>  
(Pollution Prevention Guidance is under "Publications")

---

**From:** Foust, Denny, EMNRD  
**Sent:** Monday, April 24, 2006 7:18 AM  
**To:** Chavez, Carl J, EMNRD  
**Subject:** FW: Giant needs your approval

Carl:  
If you do not have a problem with this, please give them permission.

---

**From:** Johnny Sanchez [<mailto:JohnnyS@giant.com>]  
**Sent:** Wed 4/19/2006 10:32 AM  
**To:** Foust, Denny, EMNRD  
**Subject:** FW: Giant needs your approval

Mr. Foust,

The Giant Ciniza Refinery requests your approval to dispose of Tank Scale cleanout from Tank 339 to NM Regional Solid Waste Authority Landfill near Thoreau, NM. This material consists of sandblast media and rusty scale from tank. There are no oils. Enclosed are files of lab results and correspondence from Giant to Steve Barela. Please advise as per your approval.

Thanks  
[johnnys@giant.com](mailto:johnnys@giant.com)  
505-722-0231

---

**From:** Price, Wayne, EMNRD [<mailto:wayne.price@state.nm.us>]

5/4/2006

**Sent:** Wednesday, April 19, 2006 7:56 AM  
**To:** Chavez, Carl J, EMNRD; Johnny Sanchez  
**Subject:** RE: Giant needs your approval

OCD Santa Fe approves if the District office approves. Please contact Mr. Denney Foust. If the District office approves then please place this approval in your Discharge Plan file.

---

**From:** Chavez, Carl J, EMNRD  
**Sent:** Tuesday, April 18, 2006 2:18 PM  
**To:** Johnny Sanchez  
**Cc:** Price, Wayne, EMNRD  
**Subject:** RE: Giant needs your approval

Johnny:

I am in receipt of your e-mail with information. I will respond after reviewing the information in a timely manner. 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/>  
(Pollution Prevention Guidance is under "Publications")

---

**From:** Johnny Sanchez [<mailto:Johnnys@giant.com>]  
**Sent:** Tuesday, April 18, 2006 1:44 PM  
**To:** Chavez, Carl J, EMNRD  
**Subject:** Giant needs your approval

The Giant Ciniza Refinery requests your approval to dispose of Tank Scale cleanout from Tank 339 to NM Regional Solid Waste Authority Landfill near Thoreau, NM. This material consists of sandblast media and rusty scale from tank. There are no oils. Enclosed are files of lab results and correspondence from Giant to Steve Barela. Please advise as per your approval.

Thanks  
[johnnys@giant.com](mailto:johnnys@giant.com)  
505-722-0231

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5/4/2006

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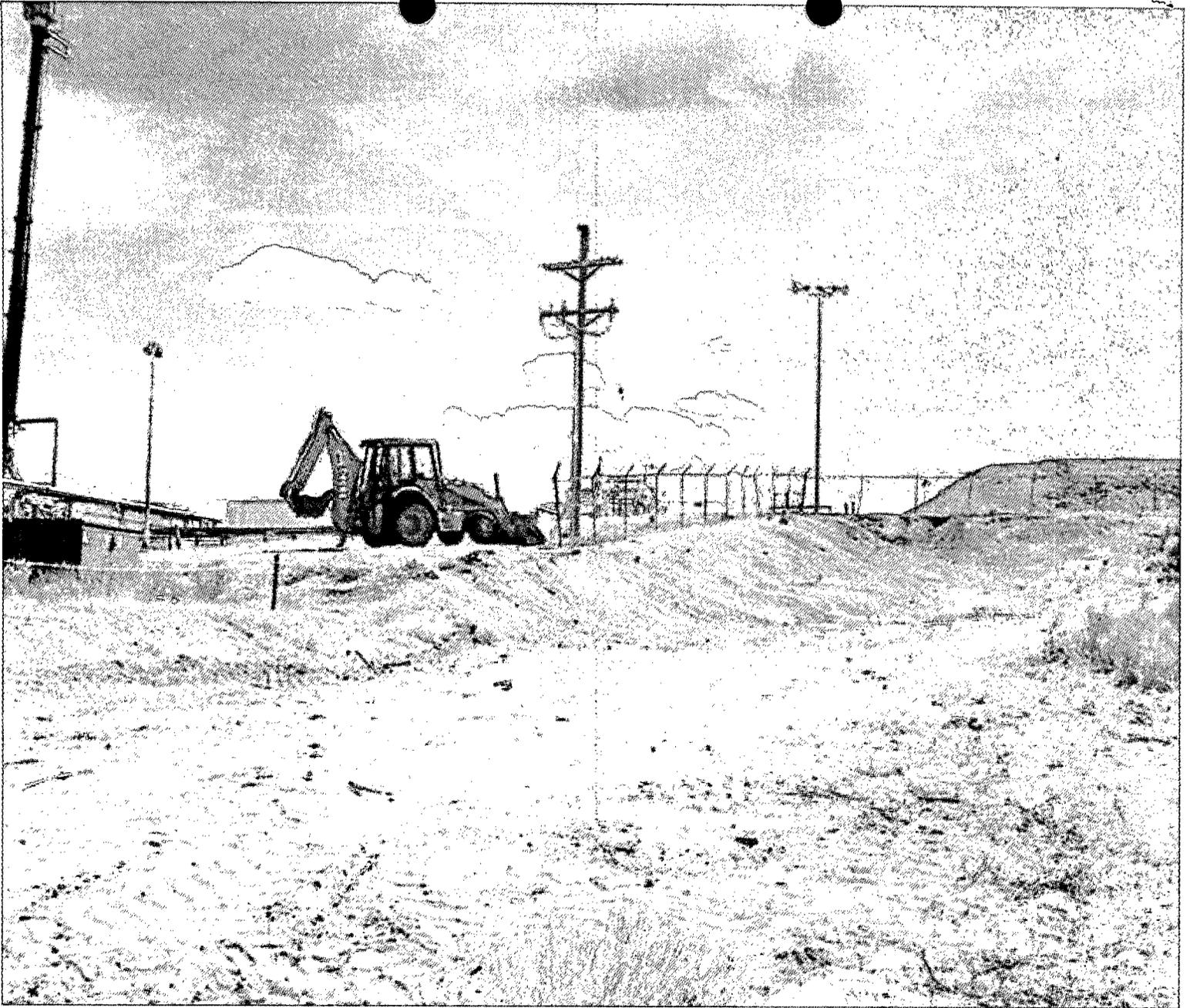
**Chavez, Carl J, EMNRD**

**From:** Ed Riege [eriege@giant.com]  
**Sent:** Tuesday, May 02, 2006 12:56 PM  
**To:** Chavez, Carl J, EMNRD; Price, Wayne, EMNRD  
**Cc:** Jim Lieb; Steve Morris; Johnny Sanchez; Don Riley; Ed Rios  
**Subject:** FW: FLARE PICS

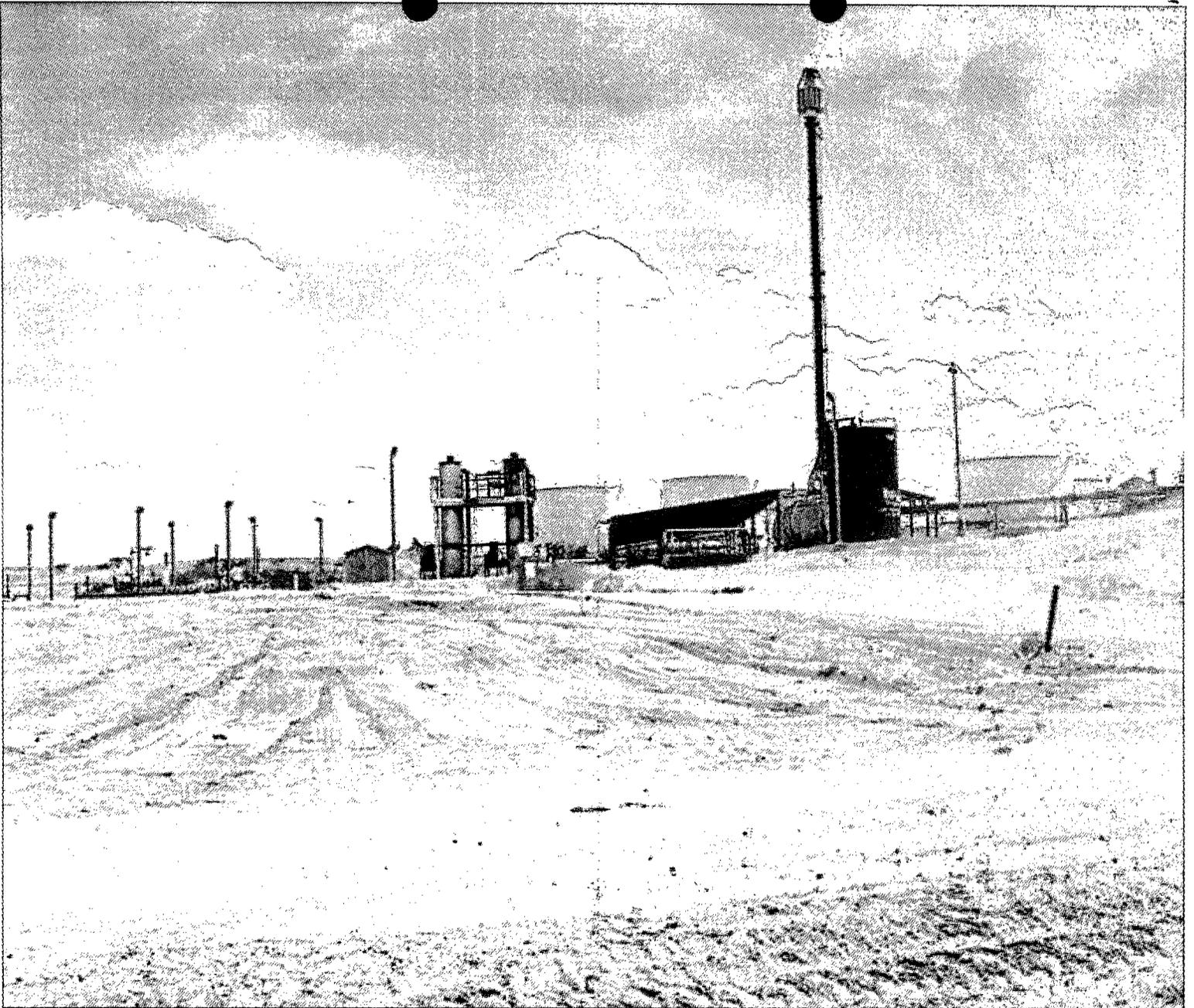
Hi Wayne and Carl,  
The clean-up of weeds around the flare resulting from your March 28, 2006 State Fire Prevention inspection at the Ciniza refinery will be completed today May 2, 2006. As the pictures show, the guys did a good job of weed removal.

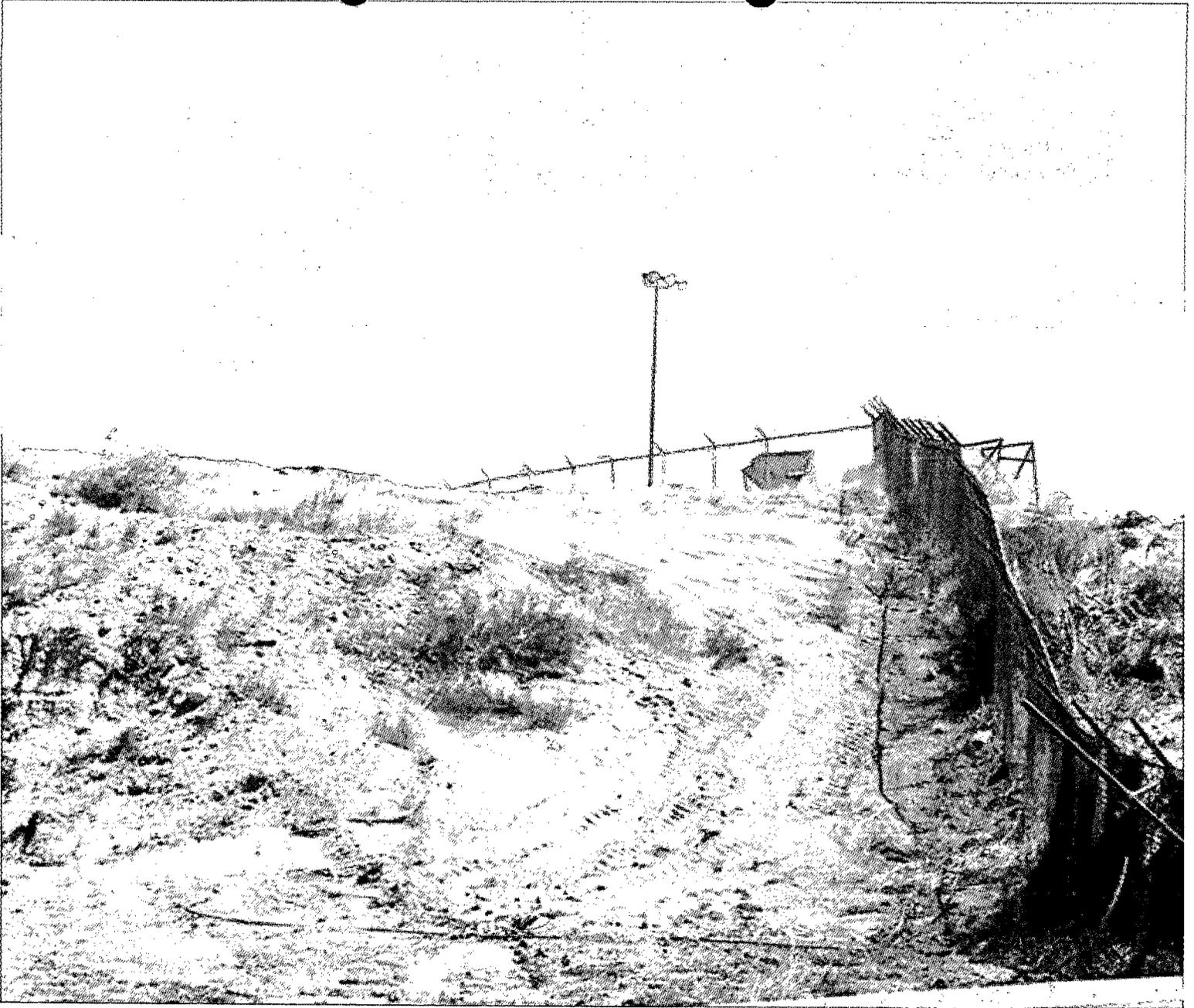
Ed Riege

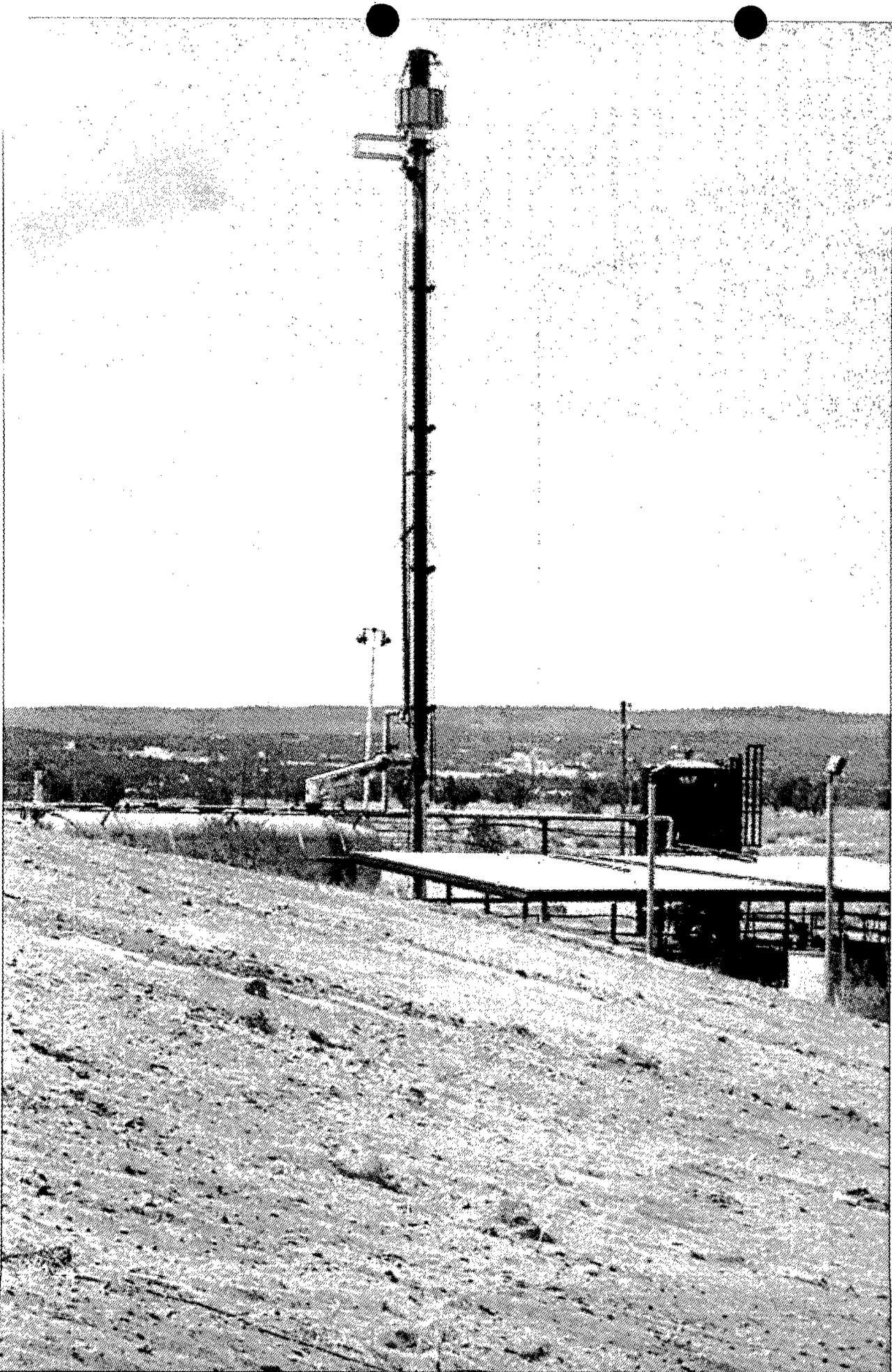












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**Chavez, Carl J, EMNRD**

**From:** Ed Riege [eriege@giant.com]  
**Sent:** Monday, April 24, 2006 11:03 AM  
**To:** Price, Wayne, EMNRD  
**Cc:** Chavez, Carl J, EMNRD; Jim Lieb; Steve Morris; Ed Rios  
**Subject:** RE: Evap. Pond #2 bank material.

A purchase order has been issued to Ref-Chem who will begin cleanup next week.

---

**From:** Price, Wayne, EMNRD [mailto:wayne.price@state.nm.us]  
**Sent:** Monday, April 24, 2006 10:33 AM  
**To:** Eriegen@giant.com  
**Cc:** Chavez, Carl J, EMNRD  
**Subject:** FW: Evap. Pond #2 bank material.

Ed, what is the status of this requirement?

---

**From:** Price, Wayne, EMNRD  
**Sent:** Wednesday, April 12, 2006 1:21 PM  
**To:** 'Steve Morris'; Chavez, Carl J, EMNRD; Cobrain, Dave, NMENV; Monzeglio, Hope, NMENV  
**Cc:** Ed Riege; Jim Lieb; Johnny Sanchez; Perrin, Charlie, EMNRD; Foust, Denny, EMNRD  
**Subject:** RE: Evap. Pond #2 bank material.

Dear Mr. Morris, Mr. Riege, and Mr. Lieb:

OCD is in receipt of the pond #2 bank soil samples. The DRO ranges from 64,000 mg/kg to 200,000 mg/kg. Please note in the discharge plan approval letter dated June 23, 2004 last paragraph and sentence; Please be advised that all exposed pits, including lined pits and open top tanks (exceeding 16 feet in diameter) shall be screened, netted, or otherwise *rendered non-hazardous to wildlife including migratory birds*.

The discharge plan application did not specifically request that oily discharges to the evaporation ponds would be part of the operation.

The oily discharge is considered a waste and condition # 13 does not allow oily waste to be disposed of in the evaporation ponds.

**(#13. Waste Disposal:** All wastes will be disposed of at an OCD approved facility. Only oilfield exempt wastes shall be disposed of down Class II injection wells. Non-exempt oilfield wastes that are non-hazardous may be disposed of at an OCD approved facility upon proper waste determination per 40 CFR Part 261. Any waste stream that is not listed in the discharge permit will be approved by OCD on a case-by-case basis.)

**This waste stream was not approved.** Please note that Section 3104. of the regulations requires that "when a permit has been approved, discharges must be consistent with the terms and conditions of the permit Giant is deficient in the fact that it has allowed approved waste to be discharged and remain in the evaporation ponds which may endanger migratory birds.

Therefore, OCD hereby orders Giant Ciniza to take immediate actions to remove the oily waste from the pond banks in order to protect migratory birds and other wildlife. The waste may be stocked piled on site for a maximum of 6 months

5/4/2006

until Giant receives approval for final disposal.

**Failure to remove oily soil from the banks by May 31, 2006 will be reason for OCD to issue a Notice of Violation.**

This E-mail authorizes Giant to take immediate emergency response actions. Please provide a weekly report of the operations to Carl Chavez-OCD until deemed complete by OCD.

Please be advised that OCD requirement stated herein does not relieve the owner/operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

---

**From:** Steve Morris [mailto:smorris@giant.com]  
**Sent:** Wednesday, April 12, 2006 10:23 AM  
**To:** Chavez, Carl J, EMNRD; Cobrain, Dave, NMENV; Monzeglio, Hope, NMENV; Price, Wayne, EMNRD  
**Cc:** Ed Riege; Jim Lieb; Johnny Sanchez  
**Subject:** Evap. Pond #2 bank material.

The lab analysis from the samples taken at the waters edge of pond #2 is attached.

The Diesel Range Organics appear to be the main item of concern.

Due to the difficulty in getting equipment into the area, we would like to add enzymes to the inlet water and raise the level of the pond a couple of inches.

In doing this, I believe we could eliminate the DRO without disturbing the surrounding areas.

During my daily inspections of the ponds, I have not seen any evidence of free hydrocarbon or sheen on the surface of pond #2.

If you have any questions or concerns please give me a call at 505-722-0258.

Thanks, Steve Morris

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5/4/2006

COVER LETTER

Wednesday, April 19, 2006

Steve Morris  
Giant Refining Co  
Rt. 3 Box 7  
Gallup, NM 87301

TEL: (505) 722-3833

FAX (505) 722-0210

RE: Evap. Pond #2 Inlet 4/11/06

Order No.: 0604098

Dear Steve Morris:

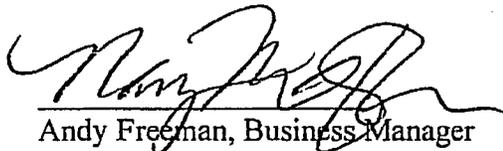
Hall Environmental Analysis Laboratory received 1 sample(s) on 4/12/2006 for the analyses presented in the following report.

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

AZ license # AZ0682

ORELAP Lab # NM100001



HALL ENVIRONMENTAL  
 attn: ANDY FREEMAN  
 4901 HAWKINS NE, SUITE D  
 ALBUQUERQUE NM 87109-4372

Explanation of codes	
B	Analyte Detected in Method Blank
E	Result is Estimated
H	Analyzed Out of Hold Time
N	Tentatively Identified Compound
S	Subcontracted
1-9	See Footnote

STANDARD

Assaigal Analytical Laboratories, Inc.

## Certificate of Analysis

All samples are reported on an "as received" basis, unless otherwise noted (i.e. - Dry Weight).

Client: HALL ENVIRONMENTAL  
 Project: 0604098  
 Order: 0604275 HAL03 Receipt: 04-12-06

William P. Biava: President of Assaigal Analytical Laboratories, Inc.

Sample: 0604098-01A/POND 2 INLET Collected: 04-11-06 7:30:00 By:  
 Matrix: AQUEOUS

QC Group	Run Sequence	CAS #	Analyte	Result	Units	Dilution Factor	Detection Limit	Code	Prep Date	Run Date
0604275-0001A			EPA 410.1 Chemical Oxygen Demand					By: NJL		
WCOD06024	WC.2006.961.9	C-004	Chemical Oxygen Demand	1480	mg/L	1	10		04-17-06	04-17-06

Sample: 0604098-01B/POND 2 INLET Collected: 04-11-06 7:30:00 By:  
 Matrix: AQUEOUS

QC Group	Run Sequence	CAS #	Analyte	Result	Units	Dilution Factor	Detection Limit	Code	Prep Date	Run Date
0604275-0002A			EPA 405.1 Biochemical Oxygen Demand					By: NJL		
BOD06045	WC.2006.971.5	10-26-4	Biochemical Oxygen Demand	667	mg/L	1	2		04-13-06	04-18-06

Unless otherwise noted, all samples were received in acceptable condition and all sampling was performed by client or client representative. Sample result of ND indicates Not Detected, ie result is less than the sample specific Detection Limit. Sample specific Detection Limit is determined by multiplying the sample Dilution Factor by the listed Reporting Detection Limit. All results relate only to the items tested. Any miscellaneous workorder information or footnotes will appear below.

Analytical results are not corrected for method blank or field blank contamination.

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name GIANTREFIN

Date and Time Received:

4/12/2006

Work Order Number 0604098

Received by

LMM

Checklist completed by

Liseo Helukos  
Signature

4/12/06  
Date

Matrix

Carrier name UPS

- 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?

5°

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

Thursday, April 27, 2006

Steve Morris  
Giant Refining Co  
Rt. 3 Box 7  
Gallup, NM 87301

TEL: (505) 722-3833

FAX (505) 722-0210

RE: Evap. Pond #2 Inlet 4/20/06

Order No.: 0604228

Dear Steve Morris:

Hall Environmental Analysis Laboratory received 1 sample(s) on 4/25/2006 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

AZ license # AZ0682

ORELAP Lab # NM100001





HALL ENVIRONMENTAL  
 attn: ANDY FREEMAN  
 4901 HAWKINS NE, SUITE D  
 ALBUQUERQUE NM 87109-4372

Explanation of codes	
B	Analyte Detected in Method Blank
E	Result is Estimated
H	Analyzed Out of Hold Time
N	Tentatively Identified Compound
S	Subcontracted
1-9	See Footnote

STANDARD

Assaigal Analytical Laboratories, Inc.

### Certificate of Analysis

All samples are reported on an "as received" basis, unless otherwise noted (i.e. - Dry Weight).

Client: HALL ENVIRONMENTAL  
 Project: 0604228  
 Order: 0604540 HAL03 Receipt: 04-25-06

William P. Blava: President of Assaigal Analytical Laboratories, Inc.

Sample: 0604228-01A/POND 2 INLET Collected: 04-20-06 7:30:00 By:  
 Matrix: AQUEOUS

QC Group	Run Sequence	CAS #	Analyte	Result	Units	Dilution Factor	Detection Limit	Code	Prep Date	Run Date
0604540-0001A			EPA 410.1 Chemical Oxygen Demand					By: NJL		
WCOD06027	WC.2006.1050.5	C-004	Chemical Oxygen Demand	1310	mg/L	1	10		04-27-06	04-27-06

Unless otherwise noted, all samples were received in acceptable condition and all sampling was performed by client or client representative. Sample result of ND indicates Not Detected, ie result is less than the sample specific Detection Limit. Sample specific Detection Limit is determined by multiplying the sample Dilution Factor by the listed Reporting Detection Limit. All results relate only to the items tested. Any miscellaneous workorder information or footnotes will appear below.

Analytical results are not corrected for method blank or field blank contamination.

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name GIANTREFIN

Date and Time Received:

4/25/2006

Work Order Number 0604228

Received by

LMM

Checklist completed by Lisa Hedukas 4/25/06
Signature Date

Matrix Carrier name UPS

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

Container/Temp Blank temperature? 14° 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

Thursday, April 13, 2006

Steve Morris  
Giant Refining Co  
Rt. 3 Box 7  
Gallup, NM 87301

TEL: (505) 722-3833

FAX (505) 722-0210

RE: Evap. Pond #2 Inlet 4/6/06

Order No.: 0604055

Dear Steve Morris:

Hall Environmental Analysis Laboratory received 1 sample(s) on 4/7/2006 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

AZ license # AZ0682  
ORELAP Lab # NM100001



HALL ENVIRONMENTAL  
 attn: ANDY FREEMAN  
 4901 HAWKINS NE, SUITE D  
 ALBUQUERQUE NM 87109-4372

Explanation of codes	
B	Analyte Detected in Method Blank
E	Result is Estimated
H	Analyzed Out of Hold Time
N	Tentatively Identified Compound
S	Subcontracted
1-9	See Footnote

STANDARD

Assaigal Analytical Laboratories, Inc.

## Certificate of Analysis

All samples are reported on an "as received" basis, unless otherwise noted (i.e. - Dry Weight).

Client: HALL ENVIRONMENTAL  
 Project: 0604055  
 Order: 0604177 HAL03 Receipt: 04-07-06

William P. Biava: President of Assaigal Analytical Laboratories, Inc.

Sample: 0604055-01A/POND 2 INLET Collected: 04-06-06 11:00:00 By:  
 Matrix: AQUEOUS

QC Group	Run Sequence	CAS #	Analyte	Result	Units	Dilution Factor	Detection Limit	Code	Prep Date	Run Date
0604177-0001A			EPA 410.1 Chemical Oxygen Demand					By: NJL		
WC006023	WC.2006.895.8	C-004	Chemical Oxygen Demand	1330	mg/L	1	10		04-10-06	04-10-06

Sample: 0604055-01B/POND 2 INLET Collected: 04-06-06 11:00:00 By:  
 Matrix: AQUEOUS SR0852

QC Group	Run Sequence	CAS #	Analyte	Result	Units	Dilution Factor	Detection Limit	Code	Prep Date	Run Date
0604177-0002A			EPA 405.1 Biochemical Oxygen Demand					By: NJL		
BOD06043	WC.2006.920.15	10-26-4	Biochemical Oxygen Demand	461	mg/L	1	2		04-07-06	04-12-06

Unless otherwise noted, all samples were received in acceptable condition and all sampling was performed by client or client representative. Sample result of ND indicates Not Detected, is result is less than the sample specific Detection Limit. Sample specific Detection Limit is determined by multiplying the sample Dilution Factor by the listed Reporting Detection Limit. All results relate only to the items tested. Any miscellaneous workorder information or footnotes will appear below.

Analytical results are not corrected for method blank or field blank contamination.

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name GIANTREFIN

Date and Time Received:

4/7/2006

Work Order Number 0604055

Received by LMM

Checklist completed by

Signature [Handwritten Signature] Date 4-7-06

Matrix

Carrier name FedEx

- 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? 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

Wednesday, April 12, 2006

Steve Morris  
Giant Refining Co  
Rt. 3 Box 7  
Gallup, NM 87301

TEL: (505) 722-3833

FAX (505) 722-0210

RE: NMED Mntly & OCD Qtly Samp 3/30/06

Order No.: 0603345

Dear Steve Morris:

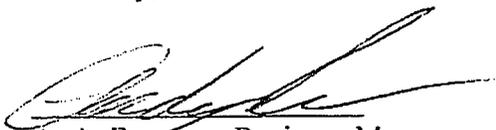
Hall Environmental Analysis Laboratory received 3 sample(s) on 3/31/2006 for the analyses presented in the following report.

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

AZ license # AZ0682  
ORELAP Lab # NM100001



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**CLIENT:** Giant Refining Co  
**Project:** NMED Mntly & OCD Qily Samp 3/30/06  
**Lab Order:** 0603345

**CASE NARRATIVE**

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Analytical Comments for METHOD 8260\_W, SAMPLE 0603345-01a: Dilution necessary due to sulfur dioxide

# Hall Environmental Analysis Laboratory

Date: 12-Apr-06

<b>CLIENT:</b> Giant Refining Co	<b>Client Sample ID:</b> Pilot Eff
<b>Lab Order:</b> 0603345	<b>Collection Date:</b> 3/30/2006 9:45:00 AM
<b>Project:</b> NMED Mntly & OCD Qlty Samp 3/30/06	<b>Date Received:</b> 3/31/2006
<b>Lab ID:</b> 0603345-01	<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)	22	3.0		mg/L	1	4/4/2006 9:22:58 AM
Motor Oil Range Organics (MRO)	ND	15		mg/L	1	4/4/2006 9:22:58 AM
Surr: DNOP	96.4	58-140		%REC	1	4/4/2006 9:22:58 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	0.078	0.050		mg/L	1	4/10/2006 2:01:51 PM
Surr: BFB	114	79.7-119		%REC	1	4/10/2006 2:01:51 PM
<b>EPA METHOD 7470: MERCURY</b>						Analyst: CMC
Mercury	ND	0.00020		mg/L	1	4/5/2006
<b>EPA 6010: TOTAL RECOVERABLE METALS</b>						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	4/11/2006 2:50:18 PM
Barium	0.15	0.020		mg/L	1	4/11/2006 2:50:18 PM
Cadmium	0.0027	0.0020		mg/L	1	4/11/2006 2:50:18 PM
Chromium	0.023	0.0060		mg/L	1	4/11/2006 2:50:18 PM
Lead	0.0081	0.0050		mg/L	1	4/11/2006 2:50:18 PM
Selenium	ND	0.050		mg/L	1	4/11/2006 2:50:18 PM
Silver	0.0061	0.0050		mg/L	1	4/11/2006 6:03:48 PM
<b>EPA METHOD 8270C: SEMIVOLATILES</b>						Analyst: BL
Acenaphthene	ND	100		µg/L	2	4/11/2006
Acenaphthylene	ND	100		µg/L	2	4/11/2006
Aniline	ND	200		µg/L	2	4/11/2006
Anthracene	ND	100		µg/L	2	4/11/2006
Azobenzene	ND	100		µg/L	2	4/11/2006
Benzo(a)anthracene	ND	150		µg/L	2	4/11/2006
Benzo(a)pyrene	ND	150		µg/L	2	4/11/2006
Benzo(b)fluoranthene	ND	150		µg/L	2	4/11/2006
Benzo(g,h,i)perylene	ND	100		µg/L	2	4/11/2006
Benzo(k)fluoranthene	ND	100		µg/L	2	4/11/2006
Benzoic acid	1300	500		µg/L	2	4/11/2006
Benzyl alcohol	ND	200		µg/L	2	4/11/2006
Bis(2-chloroethoxy)methane	ND	100		µg/L	2	4/11/2006
Bis(2-chloroethyl)ether	ND	150		µg/L	2	4/11/2006
Bis(2-chloroisopropyl)ether	ND	150		µg/L	2	4/11/2006
Bis(2-ethylhexyl)phthalate	ND	150		µg/L	2	4/11/2006
4-Bromophenyl phenyl ether	ND	100		µg/L	2	4/11/2006

<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	ND Not Detected at the Reporting Limit
	S Spike Recovery outside accepted recovery limits	

# Hall Environmental Analysis Laboratory

Date: 12-Apr-06

CLIENT: Giant Refining Co  
 Lab Order: 0603345  
 Project: NMED Mtly & OCD Qtly Samp 3/30/06  
 Lab ID: 0603345-01

Client Sample ID: Pilot Eff  
 Collection Date: 3/30/2006 9:45:00 AM  
 Date Received: 3/31/2006  
 Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8270C: SEMIVOLATILES</b>						Analyst: BL
Butyl benzyl phthalate	ND	150		µg/L	2	4/11/2006
Carbazole	ND	100		µg/L	2	4/11/2006
4-Chloro-3-methylphenol	ND	200		µg/L	2	4/11/2006
4-Chloroaniline	ND	200		µg/L	2	4/11/2006
2-Chloronaphthalene	ND	100		µg/L	2	4/11/2006
2-Chlorophenol	ND	100		µg/L	2	4/11/2006
4-Chlorophenyl phenyl ether	ND	150		µg/L	2	4/11/2006
Chrysene	ND	150		µg/L	2	4/11/2006
Di-n-butyl phthalate	ND	100		µg/L	2	4/11/2006
Di-n-octyl phthalate	ND	150		µg/L	2	4/11/2006
Dibenz(a,h)anthracene	ND	100		µg/L	2	4/11/2006
Dibenzofuran	ND	100		µg/L	2	4/11/2006
1,2-Dichlorobenzene	ND	100		µg/L	2	4/11/2006
1,3-Dichlorobenzene	ND	100		µg/L	2	4/11/2006
1,4-Dichlorobenzene	ND	100		µg/L	2	4/11/2006
3,3'-Dichlorobenzidine	ND	150		µg/L	2	4/11/2006
Diethyl phthalate	ND	100		µg/L	2	4/11/2006
Dimethyl phthalate	ND	100		µg/L	2	4/11/2006
2,4-Dichlorophenol	ND	100		µg/L	2	4/11/2006
2,4-Dimethylphenol	ND	100		µg/L	2	4/11/2006
4,6-Dinitro-2-methylphenol	ND	500		µg/L	2	4/11/2006
2,4-Dinitrophenol	ND	500		µg/L	2	4/11/2006
2,4-Dinitrotoluene	ND	100		µg/L	2	4/11/2006
2,6-Dinitrotoluene	ND	100		µg/L	2	4/11/2006
Fluoranthene	ND	100		µg/L	2	4/11/2006
Fluorene	ND	100		µg/L	2	4/11/2006
Hexachlorobenzene	ND	100		µg/L	2	4/11/2006
Hexachlorobutadiene	ND	100		µg/L	2	4/11/2006
Hexachlorocyclopentadiene	ND	100		µg/L	2	4/11/2006
Hexachloroethane	ND	100		µg/L	2	4/11/2006
Indeno(1,2,3-cd)pyrene	ND	100		µg/L	2	4/11/2006
Isophorone	ND	100		µg/L	2	4/11/2006
2-Methylnaphthalene	ND	100		µg/L	2	4/11/2006
2-Methylphenol	ND	150		µg/L	2	4/11/2006
3+4-Methylphenol	370	200		µg/L	2	4/11/2006
N-Nitrosodi-n-propylamine	ND	100		µg/L	2	4/11/2006
N-Nitrosodimethylamine	ND	100		µg/L	2	4/11/2006
N-Nitrosodiphenylamine	ND	100		µg/L	2	4/11/2006
Naphthalene	ND	100		µg/L	2	4/11/2006
2-Nitroaniline	ND	500		µg/L	2	4/11/2006

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                ND Not Detected at the Reporting Limit  
 S Spike Recovery outside accepted recovery limits

# Hall Environmental Analysis Laboratory

Date: 12-Apr-06

<b>CLIENT:</b>	Giant Refining Co	<b>Client Sample ID:</b>	Pilot Eff
<b>Lab Order:</b>	0603345	<b>Collection Date:</b>	3/30/2006 9:45:00 AM
<b>Project:</b>	NMED Mntly & OCD Qily Samp 3/30/06	<b>Date Received:</b>	3/31/2006
<b>Lab ID:</b>	0603345-01	<b>Matrix:</b>	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8270C: SEMIVOLATILES</b>						Analyst: BL
3-Nitroaniline	ND	500		µg/L	2	4/11/2006
4-Nitroaniline	ND	200		µg/L	2	4/11/2006
Nitrobenzene	ND	100		µg/L	2	4/11/2006
2-Nitrophenol	ND	150		µg/L	2	4/11/2006
4-Nitrophenol	ND	500		µg/L	2	4/11/2006
Pentachlorophenol	ND	500		µg/L	2	4/11/2006
Phenanthrene	ND	100		µg/L	2	4/11/2006
Phenol	ND	100		µg/L	2	4/11/2006
Pyrene	ND	150		µg/L	2	4/11/2006
Pyridine	ND	300		µg/L	2	4/11/2006
1,2,4-Trichlorobenzene	ND	100		µg/L	2	4/11/2006
2,4,5-Trichlorophenol	ND	100		µg/L	2	4/11/2006
2,4,6-Trichlorophenol	ND	150		µg/L	2	4/11/2006
Surr: 2,4,6-Tribromophenol	96.5	16.6-150		%REC	2	4/11/2006
Surr: 2-Fluorobiphenyl	67.8	19.6-134		%REC	2	4/11/2006
Surr: 2-Fluorophenol	59.3	9.54-113		%REC	2	4/11/2006
Surr: 4-Terphenyl-d14	61.8	22.7-145		%REC	2	4/11/2006
Surr: Nitrobenzene-d5	65.3	14.6-134		%REC	2	4/11/2006
Surr: Phenol-d5	47.0	10.7-80.3		%REC	2	4/11/2006

<b>EPA METHOD 8260B: VOLATILES</b>						Analyst: HLM
Benzene	ND	10		µg/L	10	4/4/2006
Toluene	10	10		µg/L	10	4/4/2006
Ethylbenzene	ND	10		µg/L	10	4/4/2006
Methyl tert-butyl ether (MTBE)	ND	15		µg/L	10	4/4/2006
1,2,4-Trimethylbenzene	ND	10		µg/L	10	4/4/2006
1,3,5-Trimethylbenzene	ND	10		µg/L	10	4/4/2006
1,2-Dichloroethane (EDC)	ND	10		µg/L	10	4/4/2006
1,2-Dibromoethane (EDB)	ND	10		µg/L	10	4/4/2006
Naphthalene	ND	20		µg/L	10	4/4/2006
1-Methylnaphthalene	ND	40		µg/L	10	4/4/2006
2-Methylnaphthalene	ND	40		µg/L	10	4/4/2006
Acetone	ND	100		µg/L	10	4/4/2006
Bromobenzene	ND	10		µg/L	10	4/4/2006
Bromochloromethane	ND	10		µg/L	10	4/4/2006
Bromodichloromethane	ND	10		µg/L	10	4/4/2006
Bromoform	ND	10		µg/L	10	4/4/2006
Bromomethane	ND	20		µg/L	10	4/4/2006
2-Butanone	ND	100		µg/L	10	4/4/2006
Carbon disulfide	ND	100		µg/L	10	4/4/2006

**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	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

# Hall Environmental Analysis Laboratory

Date: 12-Apr-06

<b>CLIENT:</b>	Giant Refining Co	<b>Client Sample ID:</b>	Pilot Eff
<b>Lab Order:</b>	0603345	<b>Collection Date:</b>	3/30/2006 9:45:00 AM
<b>Project:</b>	NMED Mntly & OCD Qtly Samp 3/30/06	<b>Date Received:</b>	3/31/2006
<b>Lab ID:</b>	0603345-01	<b>Matrix:</b>	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8260B: VOLATILES</b>						Analyst: HLM
Carbon Tetrachloride	ND	20		µg/L	10	4/4/2006
Chlorobenzene	ND	10		µg/L	10	4/4/2006
Chloroethane	ND	20		µg/L	10	4/4/2006
Chloroform	20	10		µg/L	10	4/4/2006
Chloromethane	ND	10		µg/L	10	4/4/2006
2-Chlorotoluene	ND	10		µg/L	10	4/4/2006
4-Chlorotoluene	ND	10		µg/L	10	4/4/2006
cis-1,2-DCE	ND	10		µg/L	10	4/4/2006
cis-1,3-Dichloropropene	ND	10		µg/L	10	4/4/2006
1,2-Dibromo-3-chloropropane	ND	20		µg/L	10	4/4/2006
Dibromochloromethane	ND	10		µg/L	10	4/4/2006
Dibromomethane	ND	20		µg/L	10	4/4/2006
1,2-Dichlorobenzene	ND	10		µg/L	10	4/4/2006
1,3-Dichlorobenzene	ND	10		µg/L	10	4/4/2006
1,4-Dichlorobenzene	ND	10		µg/L	10	4/4/2006
Dichlorodifluoromethane	ND	10		µg/L	10	4/4/2006
1,1-Dichloroethane	ND	20		µg/L	10	4/4/2006
1,1-Dichloroethene	ND	10		µg/L	10	4/4/2006
1,2-Dichloropropane	ND	10		µg/L	10	4/4/2006
1,3-Dichloropropane	ND	10		µg/L	10	4/4/2006
2,2-Dichloropropane	ND	20		µg/L	10	4/4/2006
1,1-Dichloropropene	ND	10		µg/L	10	4/4/2006
Hexachlorobutadiene	ND	20		µg/L	10	4/4/2006
2-Hexanone	ND	100		µg/L	10	4/4/2006
Isopropylbenzene	ND	10		µg/L	10	4/4/2006
4-Isopropyltoluene	ND	10		µg/L	10	4/4/2006
4-Methyl-2-pentanone	ND	100		µg/L	10	4/4/2006
Methylene Chloride	ND	30		µg/L	10	4/4/2006
n-Butylbenzene	ND	10		µg/L	10	4/4/2006
n-Propylbenzene	ND	10		µg/L	10	4/4/2006
sec-Butylbenzene	ND	20		µg/L	10	4/4/2006
Styrene	ND	15		µg/L	10	4/4/2006
tert-Butylbenzene	ND	10		µg/L	10	4/4/2006
1,1,1,2-Tetrachloroethane	ND	10		µg/L	10	4/4/2006
1,1,2,2-Tetrachloroethane	ND	10		µg/L	10	4/4/2006
Tetrachloroethene (PCE)	ND	10		µg/L	10	4/4/2006
trans-1,2-DCE	ND	10		µg/L	10	4/4/2006
trans-1,3-Dichloropropene	ND	10		µg/L	10	4/4/2006
1,2,3-Trichlorobenzene	ND	10		µg/L	10	4/4/2006
1,2,4-Trichlorobenzene	ND	10		µg/L	10	4/4/2006

<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	ND Not Detected at the Reporting Limit
	S Spike Recovery outside accepted recovery limits	

# Hall Environmental Analysis Laboratory

Date: 12-Apr-06

CLIENT: Giant Refining Co

Client Sample ID: Pilot Eff

Lab Order: 0603345

Collection Date: 3/30/2006 9:45:00 AM

Project: NMED Mntly & OCD Qtly Samp 3/30/06

Date Received: 3/31/2006

Lab ID: 0603345-01

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8260B: VOLATILES</b>						Analyst: HLM
1,1,1-Trichloroethane	ND	10		µg/L	10	4/4/2006
1,1,2-Trichloroethane	ND	10		µg/L	10	4/4/2006
Trichloroethene (TCE)	ND	10		µg/L	10	4/4/2006
Trichlorofluoromethane	ND	10		µg/L	10	4/4/2006
1,2,3-Trichloropropane	ND	20		µg/L	10	4/4/2006
Vinyl chloride	ND	10		µg/L	10	4/4/2006
Xylenes, Total	ND	30		µg/L	10	4/4/2006
Surr: 1,2-Dichloroethane-d4	101	69.9-130		%REC	10	4/4/2006
Surr: 4-Bromofluorobenzene	90.4	71.2-123		%REC	10	4/4/2006
Surr: Dibromofluoromethane	108	57.3-135		%REC	10	4/4/2006
Surr: Toluene-d8	98.6	81.9-122		%REC	10	4/4/2006

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      ND Not Detected at the Reporting Limit  
 S Spike Recovery outside accepted recovery limits

# Hall Environmental Analysis Laboratory

Date: 12-Apr-06

<b>CLIENT:</b> Giant Refining Co	<b>Client Sample ID:</b> NAPIS Eff
<b>Lab Order:</b> 0603345	<b>Collection Date:</b> 3/30/2006 10:10:00 AM
<b>Project:</b> NMED Mntly & OCD Qtly Samp 3/30/06	<b>Date Received:</b> 3/31/2006
<b>Lab ID:</b> 0603345-02	<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)	520	30		mg/L	10	4/4/2006 11:45:13 AM
Motor Oil Range Organics (MRO)	ND	150		mg/L	10	4/4/2006 11:45:13 AM
Surr: DNOP	118	58-140		%REC	10	4/4/2006 11:45:13 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	64	12		mg/L	250	4/7/2006 1:41:57 PM
Surr: BFB	103	79.7-118		%REC	250	4/7/2006 1:41:57 PM
<b>EPA METHOD 8260B: VOLATILES</b>						Analyst: HLM
Benzene	8600	250		µg/L	250	4/4/2006
Toluene	12000	250		µg/L	250	4/4/2006
Ethylbenzene	790	250		µg/L	250	4/4/2006
Methyl tert-butyl ether (MTBE)	1500	380		µg/L	250	4/4/2006
1,2,4-Trimethylbenzene	1000	250		µg/L	250	4/4/2006
1,3,5-Trimethylbenzene	ND	250		µg/L	250	4/4/2006
1,2-Dichloroethane (EDC)	ND	250		µg/L	250	4/4/2006
1,2-Dibromoethane (EDB)	ND	250		µg/L	250	4/4/2006
Naphthalene	1100	500		µg/L	250	4/4/2006
1-Methylnaphthalene	ND	1000		µg/L	250	4/4/2006
2-Methylnaphthalene	1200	1000		µg/L	250	4/4/2006
Acetone	42000	2500		µg/L	250	4/4/2006
Bromobenzene	ND	250		µg/L	250	4/4/2006
Bromochloromethane	ND	250		µg/L	250	4/4/2006
Bromodichloromethane	ND	250		µg/L	250	4/4/2006
Bromoform	ND	250		µg/L	250	4/4/2006
Bromomethane	ND	500		µg/L	250	4/4/2006
2-Butanone	15000	2500		µg/L	250	4/4/2006
Carbon disulfide	ND	2500		µg/L	250	4/4/2006
Carbon Tetrachloride	ND	500		µg/L	250	4/4/2006
Chlorobenzene	ND	250		µg/L	250	4/4/2006
Chloroethane	ND	500		µg/L	250	4/4/2006
Chloroform	ND	250		µg/L	250	4/4/2006
Chloromethane	ND	250		µg/L	250	4/4/2006
2-Chlorotoluene	ND	250		µg/L	250	4/4/2006
4-Chlorotoluene	ND	250		µg/L	250	4/4/2006
cis-1,2-DCE	ND	250		µg/L	250	4/4/2006
cis-1,3-Dichloropropene	ND	250		µg/L	250	4/4/2006
1,2-Dibromo-3-chloropropane	ND	500		µg/L	250	4/4/2006
Dibromochloromethane	ND	250		µg/L	250	4/4/2006

<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	ND Not Detected at the Reporting Limit
	S Spike Recovery outside accepted recovery limits	

# Hall Environmental Analysis Laboratory

Date: 12-Apr-06

<b>CLIENT:</b>	Giant Refining Co	<b>Client Sample ID:</b>	NAPIS Eff
<b>Lab Order:</b>	0603345	<b>Collection Date:</b>	3/30/2006 10:10:00 AM
<b>Project:</b>	NMED Mnly & OCD Qly Samp 3/30/06	<b>Date Received:</b>	3/31/2006
<b>Lab ID:</b>	0603345-02	<b>Matrix:</b>	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8260B: VOLATILES</b>						Analyst: HLM
Dibromomethane	ND	500		µg/L	250	4/4/2006
1,2-Dichlorobenzene	ND	250		µg/L	250	4/4/2006
1,3-Dichlorobenzene	ND	250		µg/L	250	4/4/2006
1,4-Dichlorobenzene	ND	250		µg/L	250	4/4/2006
Dichlorodifluoromethane	ND	250		µg/L	250	4/4/2006
1,1-Dichloroethane	ND	500		µg/L	250	4/4/2006
1,1-Dichloroethene	ND	250		µg/L	250	4/4/2006
1,2-Dichloropropane	ND	250		µg/L	250	4/4/2006
1,3-Dichloropropane	ND	250		µg/L	250	4/4/2006
2,2-Dichloropropane	ND	500		µg/L	250	4/4/2006
1,1-Dichloropropene	ND	250		µg/L	250	4/4/2006
Hexachlorobutadiene	ND	500		µg/L	250	4/4/2006
2-Hexanone	ND	2500		µg/L	250	4/4/2006
Isopropylbenzene	ND	250		µg/L	250	4/4/2006
4-Isopropyltoluene	ND	250		µg/L	250	4/4/2006
4-Methyl-2-pentanone	ND	2500		µg/L	250	4/4/2006
Methylene Chloride	ND	750		µg/L	250	4/4/2006
n-Butylbenzene	ND	250		µg/L	250	4/4/2006
n-Propylbenzene	ND	250		µg/L	250	4/4/2006
sec-Butylbenzene	ND	500		µg/L	250	4/4/2006
Styrene	ND	380		µg/L	250	4/4/2006
tert-Butylbenzene	ND	250		µg/L	250	4/4/2006
1,1,1,2-Tetrachloroethane	ND	250		µg/L	250	4/4/2006
1,1,2,2-Tetrachloroethane	ND	250		µg/L	250	4/4/2006
Tetrachloroethene (PCE)	ND	250		µg/L	250	4/4/2006
trans-1,2-DCE	ND	250		µg/L	250	4/4/2006
trans-1,3-Dichloropropene	ND	250		µg/L	250	4/4/2006
1,2,3-Trichlorobenzene	ND	250		µg/L	250	4/4/2006
1,2,4-Trichlorobenzene	ND	250		µg/L	250	4/4/2006
1,1,1-Trichloroethane	ND	250		µg/L	250	4/4/2006
1,1,2-Trichloroethane	ND	250		µg/L	250	4/4/2006
Trichloroethene (TCE)	ND	250		µg/L	250	4/4/2006
Trichlorofluoromethane	ND	250		µg/L	250	4/4/2006
1,2,3-Trichloropropane	ND	500		µg/L	250	4/4/2006
Vinyl chloride	ND	250		µg/L	250	4/4/2006
Xylenes, Total	4700	750		µg/L	250	4/4/2006
Surr: 1,2-Dichloroethane-d4	107	69.9-130		%REC	250	4/4/2006
Surr: 4-Bromofluorobenzene	90.6	71.2-123		%REC	250	4/4/2006
Surr: Dibromofluoromethane	92.4	57.3-135		%REC	250	4/4/2006
Surr: Toluene-d8	102	81.9-122		%REC	250	4/4/2006

<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	ND Not Detected at the Reporting Limit
	S Spike Recovery outside accepted recovery limits	

# Hall Environmental Analysis Laboratory

Date: 12-Apr-06

<b>CLIENT:</b> Giant Refining Co	<b>Client Sample ID:</b> AL-2 to EP-1
<b>Lab Order:</b> 0603345	<b>Collection Date:</b> 3/30/2006 10:30:00 AM
<b>Project:</b> NMED Mntly & OCD Qtly Samp 3/30/06	<b>Date Received:</b> 3/31/2006
<b>Lab ID:</b> 0603345-03	<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)	64	3.0		mg/L	1	4/4/2006 10:08:17 AM
Motor Oil Range Organics (MRO)	ND	15		mg/L	1	4/4/2006 10:08:17 AM
Surr: DNOP	90.2	58-140		%REC	1	4/4/2006 10:08:17 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	3.5	2.5		mg/L	50	4/7/2006 2:40:33 PM
Surr: BFB	109	79.7-118		%REC	50	4/7/2006 2:40:33 PM
<b>EPA METHOD 7470: MERCURY</b>						Analyst: CMC
Mercury	0.0017	0.00020		mg/L	1	4/5/2006
<b>EPA 6010: TOTAL RECOVERABLE METALS</b>						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	4/11/2006 2:53:13 PM
Barium	0.22	0.020		mg/L	1	4/11/2006 2:53:13 PM
Cadmium	ND	0.0020		mg/L	1	4/11/2006 2:53:13 PM
Chromium	0.010	0.0060		mg/L	1	4/11/2006 2:53:13 PM
Lead	0.011	0.0050		mg/L	1	4/11/2006 2:53:13 PM
Selenium	ND	0.050		mg/L	1	4/11/2006 2:53:13 PM
Silver	ND	0.0050		mg/L	1	4/11/2006 6:06:18 PM
<b>EPA METHOD 8260B: VOLATILES</b>						Analyst: HLM
Benzene	210	50		µg/L	50	4/4/2006
Toluene	440	50		µg/L	50	4/4/2006
Ethylbenzene	60	50		µg/L	50	4/4/2006
Methyl tert-butyl ether (MTBE)	ND	75		µg/L	50	4/4/2006
1,2,4-Trimethylbenzene	170	50		µg/L	50	4/4/2006
1,3,5-Trimethylbenzene	ND	50		µg/L	50	4/4/2006
1,2-Dichloroethane (EDC)	ND	50		µg/L	50	4/4/2006
1,2-Dibromoethane (EDB)	ND	50		µg/L	50	4/4/2006
Naphthalene	200	100		µg/L	50	4/4/2006
1-Methylnaphthalene	410	200		µg/L	50	4/4/2006
2-Methylnaphthalene	620	200		µg/L	50	4/4/2006
Acetone	2500	500		µg/L	50	4/4/2006
Bromobenzene	ND	50		µg/L	50	4/4/2006
Bromochloromethane	ND	50		µg/L	50	4/4/2006
Bromodichloromethane	ND	50		µg/L	50	4/4/2006
Bromoform	ND	50		µg/L	50	4/4/2006
Bromomethane	ND	100		µg/L	50	4/4/2006

<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	ND Not Detected at the Reporting Limit
	S Spike Recovery outside accepted recovery limits	

# Hall Environmental Analysis Laboratory

Date: 12-Apr-06

<b>CLIENT:</b>	Giant Refining Co	<b>Client Sample ID:</b>	AL-2 to EP-1
<b>Lab Order:</b>	0603345	<b>Collection Date:</b>	3/30/2006 10:30:00 AM
<b>Project:</b>	NMED Mntly & OCD Qlty Samp 3/30/06	<b>Date Received:</b>	3/31/2006
<b>Lab ID:</b>	0603345-03	<b>Matrix:</b>	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8260B: VOLATILES</b>						Analyst: HLM
2-Butanone	820	500		µg/L	50	4/4/2006
Carbon disulfide	ND	500		µg/L	50	4/4/2006
Carbon Tetrachloride	ND	100		µg/L	50	4/4/2006
Chlorobenzene	ND	50		µg/L	50	4/4/2006
Chloroethane	ND	100		µg/L	50	4/4/2006
Chloroform	ND	50		µg/L	50	4/4/2006
Chloromethane	ND	50		µg/L	50	4/4/2006
2-Chlorotoluene	ND	50		µg/L	50	4/4/2006
4-Chlorotoluene	ND	50		µg/L	50	4/4/2006
cis-1,2-DCE	ND	50		µg/L	50	4/4/2006
cis-1,3-Dichloropropene	ND	50		µg/L	50	4/4/2006
1,2-Dibromo-3-chloropropane	ND	100		µg/L	50	4/4/2006
Dibromochloromethane	ND	50		µg/L	50	4/4/2006
Dibromomethane	ND	100		µg/L	50	4/4/2006
1,2-Dichlorobenzene	ND	50		µg/L	50	4/4/2006
1,3-Dichlorobenzene	ND	50		µg/L	50	4/4/2006
1,4-Dichlorobenzene	ND	50		µg/L	50	4/4/2006
Dichlorodifluoromethane	ND	50		µg/L	50	4/4/2006
1,1-Dichloroethane	ND	100		µg/L	50	4/4/2006
1,1-Dichloroethene	ND	50		µg/L	50	4/4/2006
1,2-Dichloropropane	ND	50		µg/L	50	4/4/2006
1,3-Dichloropropane	ND	50		µg/L	50	4/4/2006
2,2-Dichloropropane	ND	100		µg/L	50	4/4/2006
1,1-Dichloropropene	ND	50		µg/L	50	4/4/2006
Hexachlorobutadiene	ND	100		µg/L	50	4/4/2006
2-Hexanone	ND	500		µg/L	50	4/4/2006
Isopropylbenzene	ND	50		µg/L	50	4/4/2006
4-Isopropyltoluene	ND	50		µg/L	50	4/4/2006
4-Methyl-2-pentanone	ND	500		µg/L	50	4/4/2006
Methylene Chloride	ND	150		µg/L	50	4/4/2006
n-Butylbenzene	ND	50		µg/L	50	4/4/2006
n-Propylbenzene	ND	50		µg/L	50	4/4/2006
sec-Butylbenzene	ND	100		µg/L	50	4/4/2006
Styrene	ND	75		µg/L	50	4/4/2006
tert-Butylbenzene	ND	50		µg/L	50	4/4/2006
1,1,1,2-Tetrachloroethane	ND	50		µg/L	50	4/4/2006
1,1,2,2-Tetrachloroethane	ND	50		µg/L	50	4/4/2006
Tetrachloroethene (PCE)	ND	50		µg/L	50	4/4/2006
trans-1,2-DCE	ND	50		µg/L	50	4/4/2006
trans-1,3-Dichloropropene	ND	50		µg/L	50	4/4/2006

<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	ND Not Detected at the Reporting Limit
	S Spike Recovery outside accepted recovery limits	

# Hall Environmental Analysis Laboratory

Date: 12-Apr-06

CLIENT:	Giant Refining Co	Client Sample ID:	AL-2 to EP-1
Lab Order:	0603345	Collection Date:	3/30/2006 10:30:00 AM
Project:	NMED Mtly & OCD Qtly Samp 3/30/06	Date Received:	3/31/2006
Lab ID:	0603345-03	Matrix:	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8260B: VOLATILES</b>						Analyst: HLM
1,2,3-Trichlorobenzene	ND	50		µg/L	50	4/4/2006
1,2,4-Trichlorobenzene	ND	50		µg/L	50	4/4/2006
1,1,1-Trichloroethane	ND	50		µg/L	50	4/4/2006
1,1,2-Trichloroethane	ND	50		µg/L	50	4/4/2006
Trichloroethene (TCE)	ND	50		µg/L	50	4/4/2006
Trichlorofluoromethane	ND	50		µg/L	50	4/4/2006
1,2,3-Trichloropropane	ND	100		µg/L	50	4/4/2006
Vinyl chloride	ND	50		µg/L	50	4/4/2006
Xylenes, Total	430	150		µg/L	50	4/4/2006
Surr: 1,2-Dichloroethane-d4	94.5	69.9-130		%REC	50	4/4/2006
Surr: 4-Bromofluorobenzene	84.4	71.2-123		%REC	50	4/4/2006
Surr: Dibromofluoromethane	105	57.3-135		%REC	50	4/4/2006
Surr: Toluene-d8	96.4	81.9-122		%REC	50	4/4/2006

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	ND Not Detected at the Reporting Limit
	S Spike Recovery outside accepted recovery limits	

HALL ENVIRONMENTAL  
 attn: ANDY FREEMAN  
 4901 HAWKINS NE, SUITE D  
 ALBUQUERQUE NM 87109-4372

Explanation of codes	
B	Analyte Detected in Method Blank
E	Result is Estimated
H	Analyzed Out of Hold Time
N	Tentatively Identified Compound
S	Subcontracted
1-9	See Footnote

STANDARD

Assaigal Analytical Laboratories, Inc.

### Certificate of Analysis

All samples are reported on an "as received" basis, unless otherwise noted (i.e. - Dry Weight).

Client: HALL ENVIRONMENTAL  
 Project: 0603345  
 Order: 0603760 HAL03 Receipt: 03-31-06

William P. Blava: President of Assaigal Analytical Laboratories, Inc.

Sample: 0603345-01D/PILOT EFF Collected: 03-30-06 9:45:00 By:  
 Matrix: AQUEOUS

QC Group	Run Sequence	CAS #	Analyte	Result	Units	Dilution Factor	Detection Limit	Code	Prep Date	Run Date
0603760-0001A			EPA 405.1 Biochemical Oxygen Demand					By: NJL		
BOD06041	WC.2006.856.15	10-26-4	Biochemical Oxygen Demand	886	mg/L	1	2		03-31-06	04-05-06

Unless otherwise noted, all samples were received in acceptable condition and all sampling was performed by client or client representative. Sample result of ND indicates Not Detected, ie result is less than the sample specific Detection Limit. Sample specific Detection Limit is determined by multiplying the sample Dilution Factor by the listed Reporting Detection Limit. All results relate only to the items tested. Any miscellaneous workorder information or footnotes will appear below.

Analytical results are not corrected for method blank or field blank contamination.

CLIENT: Giant Refining Co  
 Work Order: 0603345  
 Project: NMED Mntly & OCD Qily Samp 3/30/06

**ANALYTICAL QC SUMMARY REPORT**

TestCode: 8015DRO\_W

Sample ID: MB-10106	SampType: MBLK	TestCode: 8015DRO_W	Units: mg/L	Prep Date: 4/3/2006	RunNo: 18797						
Client ID: ZZZZZ	Batch ID: 10106	TestNo: SW8015		Analysis Date: 4/3/2006	SeqNo: 466527						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel Range Organics (DRO) ND 1.0  
 Motor Oil Range Organics (MRO) ND 5.0

Sample ID: LCS-10106	SampType: LCS	TestCode: 8015DRO_W	Units: mg/L	Prep Date: 4/3/2006	RunNo: 18797						
Client ID: ZZZZZ	Batch ID: 10106	TestNo: SW8015		Analysis Date: 4/3/2006	SeqNo: 466528						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel Range Organics (DRO) 6.125 1.0 5 0 123 81.2 149

Sample ID: LCSD-10106	SampType: LCSD	TestCode: 8015DRO_W	Units: mg/L	Prep Date: 4/3/2006	RunNo: 18797						
Client ID: ZZZZZ	Batch ID: 10106	TestNo: SW8015		Analysis Date: 4/3/2006	SeqNo: 466578						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel Range Organics (DRO) 5.983 1.0 5 0 120 81.2 149 6.125 2.36 23

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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

CLIENT: Giant Refining Co  
 Work Order: 0603345  
 Project: NMED Mntly & OCD Qtly Samp 3/30/06

## ANALYTICAL QC SUMMARY REPORT

TestCode: 8015GRO\_W

Sample ID: 5ML REAGENT BLA	SampType: MBLK	TestCode: 8015GRO_W	Units: mg/L	Prep Date:	RunNo: 18874						
Client ID: ZZZZZ	Batch ID: R18874	TestNo: SW8015		Analysis Date: 4/7/2006	SeqNo: 468349						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline Range Organics (GRO)                      ND                      0.050

Sample ID: 5ML REAGENT BLA	SampType: MBLK	TestCode: 8015GRO_W	Units: mg/L	Prep Date:	RunNo: 18885						
Client ID: ZZZZZ	Batch ID: R18885	TestNo: SW8015		Analysis Date: 4/10/2006	SeqNo: 468621						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline Range Organics (GRO)                      ND                      0.050

Sample ID: 2.5UG GRO LCS	SampType: LCS	TestCode: 8015GRO_W	Units: mg/L	Prep Date:	RunNo: 18874						
Client ID: ZZZZZ	Batch ID: R18874	TestNo: SW8015		Analysis Date: 4/7/2006	SeqNo: 468350						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline Range Organics (GRO)                      0.5440                      0.050                      0.5                      0                      109                      82.6                      114

Sample ID: 2.5UG GRO LCS	SampType: LCS	TestCode: 8015GRO_W	Units: mg/L	Prep Date:	RunNo: 18885						
Client ID: ZZZZZ	Batch ID: R18885	TestNo: SW8015		Analysis Date: 4/10/2006	SeqNo: 468622						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline Range Organics (GRO)                      0.5300                      0.050                      0.5                      0                      106                      82.6                      114

Sample ID: 2.5UG GRO LCSD	SampType: LCSD	TestCode: 8015GRO_W	Units: mg/L	Prep Date:	RunNo: 18885						
Client ID: ZZZZZ	Batch ID: R18885	TestNo: SW8015		Analysis Date: 4/10/2006	SeqNo: 468623						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline Range Organics (GRO)                      0.5200                      0.050                      0.5                      0                      104                      82.6                      114                      0.53                      1.90                      8.39

<b>Qualifiers:</b> E Value above quantitation range ND Not Detected at the Reporting Limit	H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits	J Analyte detected below quantitation limits S Spike Recovery outside accepted recovery limits
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CLIENT: Giant Refining Co  
 Work Order: 0603345  
 Project: NMED Mntly & OCD Qtly Samp 3/30/06

## ANALYTICAL QC SUMMARY REPORT

TestCode: 8270\_W

Sample ID: MB-10111	SampType: MBLK	TestCode: 8270_W	Units: µg/L	Prep Date: 4/3/2006	RunNo: 18907						
Client ID: ZZZZZ	Batch ID: 10111	TestNo: SW8270C	(SW3510)	Analysis Date: 4/12/2006	SeqNo: 469635						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	ND	10									
Acenaphthylene	ND	10									
Aniline	ND	20									
Anthracene	ND	10									
Azobenzene	ND	10									
Benz(a)anthracene	ND	15									
Benzo(a)pyrene	ND	15									
Benzo(b)fluoranthene	ND	15									
Benzo(g,h,i)perylene	ND	10									
Benzo(k)fluoranthene	ND	10									
Benzoic acid	ND	50									
Benzyl alcohol	ND	20									
Bis(2-chloroethoxy)methane	ND	10									
Bis(2-chloroethyl)ether	ND	15									
Bis(2-chloroisopropyl)ether	ND	15									
Bis(2-ethylhexyl)phthalate	ND	15									
4-Bromophenyl phenyl ether	ND	10									
Butyl benzyl phthalate	ND	15									
Carbazole	ND	10									
4-Chloro-3-methylphenol	ND	20									
4-Chloroaniline	ND	20									
2-Chloronaphthalene	ND	10									
2-Chlorophenol	ND	10									
4-Chlorophenyl phenyl ether	ND	15									
Chrysene	ND	15									
Di-n-butyl phthalate	ND	10									
Di-n-octyl phthalate	ND	15									
Dibenz(a,h)anthracene	ND	10									
Dibenzofuran	ND	10									
1,2-Dichlorobenzene	ND	10									
1,3-Dichlorobenzene	ND	10									

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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

CLIENT: Giant Refining Co  
 Work Order: 0603345  
 Project: NMED Mtly & OCD Qtly Samp 3/30/06

## ANALYTICAL QC SUMMARY REPORT

TestCode: 8270\_W

Sample ID: MB-10111	SampType: MBLK	TestCode: 8270_W	Units: µg/L	Prep Date: 4/3/2006	RunNo: 18907
Client ID: ZZZZZ	Batch ID: 10111	TestNo: SW8270C	(SW3510)	Analysis Date: 4/12/2006	SeqNo: 469635

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,4-Dichlorobenzene	ND	10									
3,3'-Dichlorobenzidine	ND	15									
Diethyl phthalate	ND	10									
Dimethyl phthalate	ND	10									
2,4-Dichlorophenol	ND	10									
2,4-Dimethylphenol	ND	10									
4,6-Dinitro-2-methylphenol	ND	50									
2,4-Dinitrophenol	ND	50									
2,4-Dinitrotoluene	ND	10									
2,6-Dinitrotoluene	ND	10									
Fluoranthene	ND	10									
Fluorene	ND	10									
Hexachlorobenzene	ND	10									
Hexachlorobutadiene	ND	10									
Hexachlorocyclopentadiene	ND	10									
Hexachloroethane	ND	10									
Indeno(1,2,3-cd)pyrene	ND	10									
Isophorone	ND	10									
2-Methylnaphthalene	ND	10									
2-Methylphenol	ND	15									
3+4-Methylphenol	ND	20									
N-Nitrosodi-n-propylamine	ND	10									
N-Nitrosodimethylamine	ND	10									
N-Nitrosodiphenylamine	ND	10									
Naphthalene	ND	10									
2-Nitroaniline	ND	50									
3-Nitroaniline	ND	50									
4-Nitroaniline	ND	20									
Nitrobenzene	ND	10									
2-Nitrophenol	ND	15									
4-Nitrophenol	ND	50									

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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

CLIENT: Giant Refining Co  
 Work Order: 0603345  
 Project: NMED Mntly & OCD Qtly Samp 3/30/06

# ANALYTICAL QC SUMMARY REPORT

TestCode: 8270\_W

Sample ID: MB-10111	SampType: MBLK	TestCode: 8270_W	Units: µg/L	Prep Date: 4/3/2006	RunNo: 18907						
Client ID: ZZZZZ	Batch ID: 10111	TestNo: SW8270C	(SW3510)	Analysis Date: 4/12/2006	SeqNo: 469635						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Pentachlorophenol	ND	50									
Phenanthrene	ND	10									
Phenol	ND	10									
Pyrene	ND	15									
Pyridine	ND	30									
1,2,4-Trichlorobenzene	ND	10									
2,4,5-Trichlorophenol	ND	10									
2,4,6-Trichlorophenol	ND	15									

Sample ID: LCS-10111	SampType: LCS	TestCode: 8270_W	Units: µg/L	Prep Date: 4/3/2006	RunNo: 18903						
Client ID: ZZZZZ	Batch ID: 10111	TestNo: SW8270C	(SW3510)	Analysis Date: 4/11/2006	SeqNo: 469567						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

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Acenaphthene	64.06	10	100	0	64.1	11	123				
4-Chloro-3-methylphenol	120.3	20	200	0	60.2	15.4	119				
2-Chlorophenol	104.8	10	200	0	52.4	12.2	122				
1,4-Dichlorobenzene	46.16	10	100	0	46.2	16.9	100				
2,4-Dinitrotoluene	71.60	10	100	0	71.6	13	138				
N-Nitrosodi-n-propylamine	58.62	10	100	0	58.6	9.93	122				
4-Nitrophenol	89.78	50	200	0	44.9	-20.5	87.4				
Pentachlorophenol	147.3	50	200	0	73.6	-0.355	114				
Phenol	61.38	10	200	0	30.7	7.53	73.1				
Pyrene	65.36	15	100	0	65.4	12.6	140				
1,2,4-Trichlorobenzene	52.00	10	100	0	52.0	17.4	98.7				

Sample ID: LCSD-10111	SampType: LCSD	TestCode: 8270_W	Units: µg/L	Prep Date: 4/3/2006	RunNo: 18903						
Client ID: ZZZZZ	Batch ID: 10111	TestNo: SW8270C	(SW3510)	Analysis Date: 4/11/2006	SeqNo: 469570						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Acenaphthene	65.06	10	100	0	65.1	11	123	64.06	1.55	30.5	
--------------	-------	----	-----	---	------	----	-----	-------	------	------	--

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

CLIENT: Giant Refining Co  
 Work Order: 0603345  
 Project: NMED Mntly & OCD Qtly Samp 3/30/06

## ANALYTICAL QC SUMMARY REPORT

TestCode: 8270\_W

Sample ID: LCSD-10111	SampType: LCSD	TestCode: 8270_W	Units: µg/L	Prep Date: 4/3/2006	RunNo: 18903						
Client ID: ZZZZZ	Batch ID: 10111	TestNo: SW8270C	(SW3510)	Analysis Date: 4/11/2006	SeqNo: 469570						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4-Chloro-3-methylphenol	123.3	20	200	0	61.6	15.4	119	120.3	2.45	28.6	
2-Chlorophenol	116.4	10	200	0	58.2	12.2	122	104.8	10.5	107	
1,4-Dichlorobenzene	54.84	10	100	0	54.8	16.9	100	46.16	17.2	62.1	
2,4-Dinitrotoluene	70.20	10	100	0	70.2	13	138	71.6	1.97	14.7	
N-Nitrosodi-n-propylamine	64.04	10	100	0	64.0	9.93	122	58.62	8.84	30.3	
4-Nitrophenol	92.74	50	200	0	46.4	12.5	87.4	89.78	3.24	36.3	
Pentachlorophenol	143.8	50	200	0	71.9	3.55	114	147.3	2.35	49	
Phenol	66.90	10	200	0	33.4	7.53	73.1	61.38	8.61	52.4	
Pyrene	64.96	15	100	0	65.0	12.6	140	65.36	0.614	16.3	
1,2,4-Trichlorobenzene	51.70	10	100	0	51.7	17.4	98.7	52	0.579	36.4	

18/22

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

CLIENT: Giant Refining Co  
 Work Order: 0603345  
 Project: NMED Mntly & OCD Qtly Samp 3/30/06

## ANALYTICAL QC SUMMARY REPORT

TestCode: HG\_CTW

Sample ID: MB-10119	SampType: MBLK	TestCode: HG_CTW	Units: mg/L	Prep Date: 4/4/2006 <sup>3</sup>	RunNo: 18829
Client ID: ZZZZZ	Batch ID: 10119	TestNo: SW7470	(SW7470)	Analysis Date: 4/5/2006	SeqNo: 467172
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Mercury ND 0.00020

Sample ID: LCS-10119	SampType: LCS	TestCode: HG_CTW	Units: mg/L	Prep Date: 4/4/2006	RunNo: 18829
Client ID: ZZZZZ	Batch ID: 10119	TestNo: SW7470	(SW7470)	Analysis Date: 4/5/2006	SeqNo: 467173
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Mercury 0.004770 0.00020 0.005 0 95.4 80 120

19/22

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

CLIENT: Giant Refining Co  
 Work Order: 0603345  
 Project: NMED Mntly & OCD Qtly Samp 3/30/06

# ANALYTICAL QC SUMMARY REPORT

TestCode: METALS\_TOTAL

Sample ID: MB-10143	SampType: MBLK	TestCode: METALS_TO	Units: mg/L	Prep Date: 4/8/2006	RunNo: 18898						
Client ID: ZZZZZ	Batch ID: 10143	TestNo: SW6010A		Analysis Date: 4/11/2006	SeqNo: 468949						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Silver ND 0.0050

Sample ID: LCS-10143	SampType: LCS	TestCode: METALS_TO	Units: mg/L	Prep Date: 4/8/2006	RunNo: 18898						
Client ID: ZZZZZ	Batch ID: 10143	TestNo: SW6010A		Analysis Date: 4/11/2006	SeqNo: 468950						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Silver 0.4908 0.0050 0.5 0 98.2 80 120

Sample ID: LCS-10143	SampType: LCS	TestCode: METALS_TO	Units: mg/L	Prep Date: 4/8/2006	RunNo: 18898						
Client ID: ZZZZZ	Batch ID: 10143	TestNo: SW6010A		Analysis Date: 4/11/2006	SeqNo: 468965						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	0.5072	0.020	0.5	0	101	80	120
Barium	0.4720	0.020	0.5	0	94.4	80	120
Cadmium	0.4770	0.0020	0.5	0	95.4	80	120
Chromium	0.4800	0.0060	0.5	0	96.0	80	120
Lead	0.4760	0.0050	0.5	0	95.2	80	120
Selenium	0.4500	0.050	0.5	0	90.0	80	120

20/22

<b>Qualifiers:</b>	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

CLIENT: Giant Refining Co  
 Work Order: 0603345  
 Project: NMED Mtly & OCD Qtly Samp 3/30/06

**ANALYTICAL QC SUMMARY REPORT**

TestCode: 8260\_W

Sample ID: 100ng lcs	SampType: LCS	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 18824						
Client ID: ZZZZZ	Batch ID: R18824	TestNo: SW8260B		Analysis Date: 4/4/2006	SeqNo: 467040						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Benzene	20.05	1.0	20	0	100	79.2	130				
Toluene	19.07	1.0	20	0	95.3	81.5	118				
Chlorobenzene	20.94	1.0	20	0	105	81.2	132				
1,1-Dichloroethene	18.70	1.0	20	0	93.5	65.5	134				
Trichloroethene (TCE)	20.53	1.0	20	0	103	67	131				

21/22

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

Sample Receipt Checklist

Client Name GIANTREFIN

Date and Time Received:

3/31/2006

Work Order Number 0603345

Received by AT

Checklist completed by

Signature

Date

3/31/06

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? 2° 4° C ± 2 Acceptable  
If given sufficient time to cool.

COMMENTS:

-----

Client contacted \_\_\_\_\_ Date contacted: \_\_\_\_\_ Person contacted \_\_\_\_\_

Contacted by: \_\_\_\_\_ Regarding \_\_\_\_\_

Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Corrective Action \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

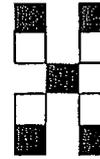
# CHAIN-OF-CUSTODY RECORD

Client: Giant Refining Company - Cimiza  
 Address: Route 3 Box 7 Gallup, NM 87301

Phone #: 505 7223833  
 Fax #: 505 7220210

QA/QC Package:  
 Std  Level 4   
 Other: \_\_\_\_\_  
 Project Name: NMED Quarterly and QCD Quarterly Water samples 3-30-2006  
 Project #:

Project Manager: Steve Morris  
 Sampler: Steve Morris  
 Sample Temperature: 2°



**HALL ENVIRONMENTAL ANALYSIS LABORATORY**  
 4901 Hawkins NE, Suite D  
 Albuquerque, New Mexico 87109  
 Tel. 505.345.3975 Fax 505.345.4107  
 www.hallenvironmental.com

## ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative		HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals Total	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	BOD	Air Bubbles or Headspace (Y or N)	
					HgCl <sub>2</sub>	HNO <sub>3</sub>																
3/30/06	0945	H <sub>2</sub> O	Pilot Eff.				0603345-1			X					X			X	X	X		
"	1010	"	NAPIS Eff.				-2			X								X				
"	1039	"	AL-2 to EP-1				-3			X					X			X				

Date: 3/31/06 Time: 0905 Relinquished By: (Signature) [Signature]  
 Received By: (Signature) [Signature]  
 Date: \_\_\_\_\_ Time: \_\_\_\_\_ Relinquished By: (Signature) \_\_\_\_\_  
 Received By: (Signature) 3/31/06

Remarks: Rush  
OAPIS Had no flow.

**Chavez, Carl J, EMNRD**

---

**From:** Price, Wayne, EMNRD  
**Sent:** Wednesday, April 19, 2006 7:56 AM  
**To:** Chavez, Carl J, EMNRD; 'Johnny Sanchez'  
**Subject:** RE: Giant needs your approval

OCD Santa Fe approves if the District office approves. Please contact Mr. Denney Foust. If the District office approves then please place this approval in your Discharge Plan file.

---

**From:** Chavez, Carl J, EMNRD  
**Sent:** Tuesday, April 18, 2006 2:18 PM  
**To:** Johnny Sanchez  
**Cc:** Price, Wayne, EMNRD  
**Subject:** RE: Giant needs your approval

Johnny:

I am in receipt of your e-mail with information. I will respond after reviewing the information in a timely manner. 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/>  
(Pollution Prevention Guidance is under "Publications")

---

**From:** Johnny Sanchez [mailto:[JohnnyS@giant.com](mailto:JohnnyS@giant.com)]  
**Sent:** Tuesday, April 18, 2006 1:44 PM  
**To:** Chavez, Carl J, EMNRD  
**Subject:** Giant needs your approval

The Giant Ciniza Refinery requests your approval to dispose of Tank Scale cleanout from Tank 339 to NM Regional Solid Waste Authority Landfill near Thoreau, NM. This material consists of sandblast media and rusty scale from tank. There are no oils. Enclosed are files of lab results and correspondence from Giant to Steve Barela. Please advise as per your approval.

Thanks  
[johnnys@giant.com](mailto:johnnys@giant.com)  
505-722-0231

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4/19/2006

**From:** Johnny Sanchez  
**Sent:** Thursday, April 06, 2006 10:01 AM  
**To:** 'srbarela@starband.net'

**Attachments:** Tank 339 Scale TCLP 1-25-06.pdf; Tank 339 3-27-06.pdf  
Steve,

Hi again, I need confirmation to send about 80 yards of material from Tank 339 Scale. Attached are the lab results which look OK now. I will be needing 2 roll-offs. Please let me know.

505-722-0231

**From:** Johnny Sanchez

**Sent:** Tuesday, April 11, 2006 3:53 PM

**To:** 'srbarela@starband.net'

**Subject:** RE: Need Acceptance Approval Letter

Steve, I need an Acceptance Approval Letter from you on the 80 yards of material from Tank 339 Scale. Giant has to send a copy to OCD of Acceptance Approval.

Thanks

---

**From:** Steve Barela [mailto:srbarela@starband.net]

**Sent:** Tuesday, April 11, 2006 1:57 PM

**To:** 'Johnny Sanchez'

**Subject:** RE:

Johnny, sorry I did not respond earlier. I've been gone for a week. I believe there are two containers at your facility now? If not please advise and let us know when you need them.

---

**From:** Johnny Sanchez [mailto:JohnnyS@giant.com]

**Sent:** Thursday, April 06, 2006 9:01 AM

**To:** 'srbarela@starband.net'

**Subject:**

Steve,

Hi again, I need confirmation to send about 80 yards of material from Tank 339 Scale. Attached are the lab results which look OK now. I will be needing 2 roll-offs. Please let me know.

505-722-0231

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**From:** Steve Barela [srbarela@starband.net]  
**Sent:** Monday, April 17, 2006 12:27 PM  
**To:** 'Johnny Sanchez'  
**Subject:** material

April 12, 2006

Johnny Sanchez  
Giant Refinery

Johnny, per our e-mails, the Northwest New Mexico Regional Solid Waste Authority Landfill will accept the 80 yards of material from Tank 339 Scale.

Please advise as to when you would like the containers delivered.

Sincerely,

Steve R. Barela

COVER LETTER

Monday, April 03, 2006

Ed Riege  
Giant Refining Co  
Rt. 3 Box 7  
Gallup, NM 87301

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

RE: Tank 339 Scale

Order No.: 0603305

Dear Ed Riege:

Hall Environmental Analysis Laboratory received 1 sample(s) on 3/28/2006 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

AZ license # AZ0682  
ORELAP Lab # NM100001



# Hall Environmental Analysis Laboratory

Date: 03-Apr-06

CLIENT: Giant Refining Co  
 Lab Order: 0603305  
 Project: Tank 339 Scale  
 Lab ID: 0603305-01

Client Sample ID: TK 339 Scale  
 Collection Date: 3/22/2006 2:15:00 PM  
 Date Received: 3/28/2006  
 Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>MERCURY, TCLP LEACHED</b>						Analyst: CMC
Mercury	ND	0.020		mg/L	1	3/30/2006
<b>VOLATILES BY 8260B/1311</b>						Analyst: KTM
Benzene	ND	0.50		mg/L	1	3/30/2006
2-Butanone	ND	10		mg/L	1	3/30/2006
Carbon Tetrachloride	ND	0.50		mg/L	1	3/30/2006
Chlorobenzene	ND	100		mg/L	1	3/30/2006
Chloroform	ND	6.0		mg/L	1	3/30/2006
1,4-Dichlorobenzene	ND	7.5		mg/L	1	3/30/2006
1,2-Dichloroethane (EDC)	ND	0.50		mg/L	1	3/30/2006
1,1-Dichloroethene	ND	0.70		mg/L	1	3/30/2006
Hexachlorobutadiene	ND	0.50		mg/L	1	3/30/2006
Tetrachloroethene (PCE)	ND	0.70		mg/L	1	3/30/2006
Trichloroethene (TCE)	ND	0.50		mg/L	1	3/30/2006
Vinyl chloride	ND	0.20		mg/L	1	3/30/2006
Surr: 1,2-Dichloroethane-d4	100	69.9-130		%REC	1	3/30/2006
Surr: 4-Bromofluorobenzene	89.9	71.2-123		%REC	1	3/30/2006
Surr: Dibromofluoromethane	98.2	73.9-134		%REC	1	3/30/2006
Surr: Toluene-d8	94.0	81.9-122		%REC	1	3/30/2006

Qualifiers: \* Value exceeds Maximum Contaminant Level  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit

CLIENT: Giant Refining Co  
 Work Order: 0603305  
 Project: Tank 339 Scale

**ANALYTICAL QC SUMMARY REPORT**

TestCode: HG\_TCLP

Sample ID: MB-10090	SampType: MBLK	TestCode: HG_TCLP	Units: mg/L	Prep Date: 3/30/2006	RunNo: 18770						
Client ID: ZZZZZ	Batch ID: 10090	TestNo: SW7470	(SW7470)	Analysis Date: 3/30/2006	SeqNo: 465968						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury ND 0.020

Sample ID: LCS-10090	SampType: LCS	TestCode: HG_TCLP	Units: mg/L	Prep Date: 3/30/2006	RunNo: 18770						
Client ID: ZZZZZ	Batch ID: 10090	TestNo: SW7470	(SW7470)	Analysis Date: 3/30/2006	SeqNo: 465969						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.004770 0.0020 0.005 0 95.4 80 120

2 / 4

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

CLIENT: Giant Refining Co  
 Work Order: 0603305  
 Project: Tank 339 Scale

**ANALYTICAL QC SUMMARY REPORT**

TestCode: 8260TCLP

Sample ID: Ics-10073	SampType: LCS	TestCode: 8260TCLP	Units: mg/L	Prep Date: 3/28/2006	RunNo: 18760						
Client ID: ZZZZZ	Batch ID: 10073	TestNo: SW8260B (SW1311)		Analysis Date: 3/30/2006	SeqNo: 465780						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	22.91	0.50	20	0	115	51.1	171				
Chlorobenzene	23.52	15	20	0	118	36.1	191				
1,1-Dichloroethene	21.19	0.70	20	0	106	49.1	162				
Trichloroethene (TCE)	21.09	0.50	20	0	105	41.2	166				

3 / 4

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

Sample Receipt Checklist

Client Name GIANTREFIN

Date and Time Received:

3/28/2008

Work Order Number 0603305

Received by LMM

Checklist completed by Lisa Halekova  
Signature

3/28/08  
Date

Matrix \_\_\_\_\_ Carrier name UPS

- 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? 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

Monday, February 06, 2006

Johnny Sanchez  
Giant Refining Co  
Rt. 3 Box 7  
Gallup, NM 87301

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

RE: Tank 339 Scale 1-25-06

Order No.: 0601272

Dear Johnny Sanchez:

Hall Environmental Analysis Laboratory received 1 sample(s) on 1/27/2006 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

AZ license # AZ0682  
ORELAP Lab # NM100001



4901 Hawkins NE ■ Suite D ■ Albuquerque, NM 87109  
505.345.3975 ■ Fax 505.345.4107  
www.hallenvironmental.com

**Hall Environmental Analysis Laboratory**

Date: 06-Feb-06

CLIENT: Giant Refining Co  
Project: Tank 339 Scale 1-25-06  
Lab Order: 0601272

**CASE NARRATIVE**

---

Method 6010 Soil: Low recovery for Cr in 0601272-1 MS/MSD. Possible matrix inconsistency. Unable to recover Se in 0601272-1 MS/MSD. Possible interference from matrix. IN46-06013

**Hall Environmental Analysis Laboratory**

Date: 06-Feb-06

CLIENT: Giant Refining Co  
 Lab Order: 0601272  
 Project: Tank 339 Scale 1-25-06  
 Lab ID: 0601272-01

Client Sample ID: Tank 339 Scale  
 Collection Date: 1/25/2006 2:00:00 PM  
 Date Received: 1/27/2006  
 Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	5.0		mg/Kg	50	2/2/2006 9:53:57 PM
Benzene	14	2.5		mg/Kg	50	2/2/2006 9:53:57 PM
Toluene	160	2.5		mg/Kg	50	2/2/2006 9:53:57 PM
Ethylbenzene	80	2.5		mg/Kg	50	2/2/2006 9:53:57 PM
Xylenes, Total	470	2.5		mg/Kg	50	2/2/2006 9:53:57 PM
Surr: 4-Bromofluorobenzene	115	87.5-115		%REC	50	2/2/2006 9:53:57 PM
<b>EPA METHOD 7471: MERCURY</b>						Analyst: CMC
Mercury	150	33		mg/Kg	1000	1/27/2006
<b>EPA METHOD 6010B: SOIL METALS</b>						Analyst: NMO
Arsenic	ND	12		mg/Kg	5	2/2/2006 10:48:44 AM
Barium	95	0.49		mg/Kg	5	2/2/2006 10:48:44 AM
Cadmium	ND	0.49		mg/Kg	5	2/2/2006 10:48:44 AM
Chromium	75	1.5		mg/Kg	5	2/2/2006 10:48:44 AM
Lead	1.2	1.2		mg/Kg	5	2/2/2006 10:48:44 AM
Selenium	ND	12		mg/Kg	5	2/2/2006 10:48:44 AM
Silver	ND	1.2		mg/Kg	5	2/2/2006 10:48:44 AM

*Called HALL 3-3-06  
 Rm TELP Mercury*

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

Hall Environmental Analysis Laboratory

Date: 06-Feb-06

CLIENT: Giant Refining Co  
 Work Order: 0601272  
 Project: Tank 339 Scale I-25-06

ANALYTICAL QC SUMMARY REPORT

TestCode: 8021BTEX\_S

Sample ID: MB-9699	SampType: MBLK	TestCode: 8021BTEX_S	Units: mg/Kg	Prep Date: 2/1/2006	RunNo: 18141						
Client ID: ZZZZZ	Batch ID: 9699	TestNo: SW8021	(SW5035)	Analysis Date: 2/2/2006	SeqNo: 447429						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

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

Sample ID: LCS-9699	SampType: LCS	TestCode: 8021BTEX_S	Units: mg/Kg	Prep Date: 2/1/2006	RunNo: 18141						
Client ID: ZZZZZ	Batch ID: 9699	TestNo: SW8021	(SW5035)	Analysis Date: 2/2/2006	SeqNo: 447430						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

3 / 7

Benzene	0.3558	0.050	0.372	0	95.6	85.6	116				
Toluene	1.725	0.050	1.78	0	96.9	82.4	120				
Ethylbenzene	0.5558	0.050	0.554	0	100	86.4	111				
Xylenes, Total	1.615	0.050	1.64	0	98.5	78.4	125				

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

CLIENT: Giant Refining Co  
 Work Order: 0601272  
 Project: Tank 339 Scale 1-25-06

**ANALYTICAL QC SUMMARY REPORT**

TestCode: HG\_CTS

Sample ID: MB-9667	SampType: MBLK	TestCode: HG_CTS	Units: mg/Kg	Prep Date: 1/27/2006	RunNo: 18067						
Client ID: ZZZZ	Batch ID: 9667	TestNo: SW7471	(SW7471)	Analysis Date: 1/27/2006	SeqNo: 445282						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury ND 0.033

Sample ID: LCS-9667	SampType: LCS	TestCode: HG_CTS	Units: mg/Kg	Prep Date: 1/27/2006	RunNo: 18067						
Client ID: ZZZZ	Batch ID: 9667	TestNo: SW7471	(SW7471)	Analysis Date: 1/27/2006	SeqNo: 445283						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.1773 0.033 0.1667 0 106 80 120

4/7

Qualifiers: E Value above quantitation range  
 ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded  
 R RPD outside accepted recovery limits

J Analyte detected below quantitation limits  
 S Spike Recovery outside accepted recovery limits

CLIENT: Giant Refining Co  
 Work Order: 0601272  
 Project: Tank 339 Scale 1-25-06

**ANALYTICAL QC SUMMARY REPORT**

TestCode: METALS\_SOIL

Sample ID: MB-9686	SampType: MBLK	TestCode: METALS_SOI	Units: mg/Kg	Prep Date: 1/31/2006	RunNo: 18132						
Client ID: ZZZZZ	Batch ID: 9686	TestNo: SW6010A		Analysis Date: 2/2/2006	SeqNo: 447002						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	ND	2.5									
Barium	ND	0.10									
Cadmium	ND	0.10									
Chromium	ND	0.30									
Lead	ND	0.25									
Selenium	ND	2.5									
Silver	ND	0.25									

Sample ID: LCS-9686	SampType: LCS	TestCode: METALS_SOI	Units: mg/Kg	Prep Date: 1/31/2006	RunNo: 18132						
Client ID: ZZZZZ	Batch ID: 9686	TestNo: SW6010A		Analysis Date: 2/2/2006	SeqNo: 447003						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

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Arsenic	24.38	2.5	25	0	97.5	80	120				
Barium	23.14	0.10	25	0	92.6	80	120				
Cadmium	23.61	0.10	25	0.03418	94.3	80	120				
Chromium	23.55	0.30	25	0	94.2	80	120				
Lead	22.84	0.25	25	0	91.4	80	120				
Selenium	22.73	2.5	25	0	90.9	80	120				
Silver	24.04	0.25	25	0	96.2	80	120				

Sample ID: LCSD-9686	SampType: LCSD	TestCode: METALS_SOI	Units: mg/Kg	Prep Date: 1/31/2006	RunNo: 18132						
Client ID: ZZZZZ	Batch ID: 9686	TestNo: SW6010A		Analysis Date: 2/2/2006	SeqNo: 447004						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	24.40	2.5	25	0	97.6	80	120	24.38	0.0648	20	
Barium	22.81	0.10	25	0	91.2	80	120	23.14	1.43	20	
Cadmium	23.63	0.10	25	0.03418	94.4	80	120	23.61	0.0975	20	
Chromium	23.36	0.30	25	0	93.4	80	120	23.55	0.811	20	
Lead	22.62	0.25	25	0	90.5	80	120	22.84	0.945	20	
Selenium	23.32	2.5	25	0	93.3	80	120	22.73	2.55	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

CLIENT: Giant Refining Co  
 Work Order: 0601272  
 Project: Tank 339 Scale 1-25-06

## ANALYTICAL QC SUMMARY REPORT

TestCode: METALS\_SOIL

Sample ID: LCSD-9686	SampType: LCSD	TestCode: METALS_SOI	Units: mg/Kg	Prep Date: 1/31/2006	RunNo: 18132						
Client ID: ZZZZZ	Batch ID: 9686	TestNo: SW6010A		Analysis Date: 2/2/2006	SeqNo: 447004						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Silver	23.83	0.25	25	0	95.3	80	120	24.04	0.902	20	
--------	-------	------	----	---	------	----	-----	-------	-------	----	--

Sample ID: 0601272-01B MS	SampType: MS	TestCode: METALS_SOI	Units: mg/Kg	Prep Date: 1/31/2006	RunNo: 18132						
Client ID: Tank 339 Scale	Batch ID: 9686	TestNo: SW6010A		Analysis Date: 2/2/2006	SeqNo: 447021						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	28.16	12	24.15	6.719	88.8	75	125				
Cadmium	23.79	0.48	24.15	0.2438	97.5	75	125				
Chromium	91.21	1.4	24.15	75.34	65.7	75	125				S
Lead	23.05	1.2	24.15	1.237	90.3	75	125				
Selenium	ND	12	24.15	0	0	75	125				S
Silver	21.98	1.2	24.15	0	91.0	75	125				

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Sample ID: 0601272-01B MSD	SampType: MSD	TestCode: METALS_SOI	Units: mg/Kg	Prep Date: 1/31/2006	RunNo: 18132						
Client ID: Tank 339 Scale	Batch ID: 9686	TestNo: SW6010A		Analysis Date: 2/2/2006	SeqNo: 447022						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	29.55	12	24.74	6.719	92.3	75	125	28.16	4.80	30	
Cadmium	24.34	0.49	24.74	0.2438	97.4	75	125	23.79	2.29	30	
Chromium	90.42	1.5	24.74	75.34	60.9	75	125	91.21	0.874	30	S
Lead	23.23	1.2	24.74	1.237	88.9	75	125	23.05	0.762	30	
Selenium	ND	12	24.74	0	0	75	125	0	0	30	S
Silver	22.74	1.2	24.74	0	91.9	75	125	21.98	3.41	30	

Qualifiers: E Value above quantitation range  
 ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded  
 R RPD outside accepted recovery limits

J Analyte detected below quantitation limits  
 S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name GIANTREFIN

Date and Time Received:

1/27/2006

Work Order Number 0601272

Received by LMM

Checklist completed by Lisa Heeler  
Signature

1/27/06  
Date

Matrix

Carrier name UPS

- 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? Yes  No
- No VOA vials submitted  Yes  No
- Water - pH acceptable upon receipt? Yes  No  N/A

Container/Temp Blank temperature? 3° 4° C ± 2 Acceptable  
If given sufficient time to cool.

COMMENTS:

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Client contacted \_\_\_\_\_ Date contacted: \_\_\_\_\_ Person contacted \_\_\_\_\_

Contacted by: \_\_\_\_\_ Regarding \_\_\_\_\_

Comments: \_\_\_\_\_

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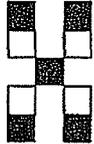
Corrective Action \_\_\_\_\_

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# CHAIN-OF-CUSTODY RECORD

QA/QC Package:  
 Std  Level 4   
 Other: \_\_\_\_\_



**HALL ENVIRONMENTAL ANALYSIS LABORATORY**  
 4901 Hawkins NE, Suite D  
 Albuquerque, New Mexico 87109  
 Tel. 505.345.3975 Fax 505.345.4107  
 www.hallenvironmental.com

Client: *Giant Refining Company - Linde*  
 Address: *Route 3 Box 7 Gallup, NM 87301*  
 Phone #: *505 722 3233*  
 Fax #: *505 722 0210*

Project Name: *Tank 339 scale 1-25-06*  
 Project #: \_\_\_\_\_  
 Project Manager: *Steve Morris*  
 Sampler: *Steve Morris*  
 Sample Temperature: *3°*

## ANALYSIS REQUEST

BTEX + MTBE + <del>PAHs</del> (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EOB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals <i>Total</i>	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles or Headspace (Y or N)
X							X					

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative		HEAL No.
					HgCl <sub>2</sub>	HNO <sub>3</sub>	
<i>1-25-06</i>	<i>1400</i>	<i>gasoline</i>	<i>Tank 339 scale</i>	<i>2</i>			<i>0601212-1</i>

Date: *1-26-06* Time: *0900* Relinquished By: (Signature) *Steve Morris*  
 Received By: (Signature) *Die Holmsted* 10:15  
 Date: \_\_\_\_\_ Time: \_\_\_\_\_ Relinquished By: (Signature) \_\_\_\_\_  
 Received By: (Signature) \_\_\_\_\_

Remarks: *RUSH*



COVER LETTER

Monday, March 13, 2006

Johnny Sanchez  
Giant Refining Co  
Rt. 3 Box 7  
Gallup, NM 87301

TEL: (505) 722-0231  
FAX (505) 722-0210

RE: Tank 339 Scale 1-25-06

Order No.: 0601272

Dear Johnny Sanchez:

Hall Environmental Analysis Laboratory received 1 sample(s) on 1/27/2006 for the analyses presented in the following report.

This report is an addendum to the report dated February 6, 2006. TCLP Hg has been added to this report. 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



**Hall Environmental Analysis Laboratory**

Date: 13-Mar-06

**CLIENT:** Giant Refining Co  
**Project:** Tank 339 Scale 1-25-06  
**Lab Order:** 0601272

**CASE NARRATIVE**

---

TCLP Mercury was analyzed past the EPA holding time at the clients request.

**Hall Environmental Analysis Laboratory**

Date: 13-Mar-06

CLIENT: Giant Refining Co  
 Lab Order: 0601272  
 Project: Tank 339 Scale 1-25-06  
 Lab ID: 0601272-01

Client Sample ID: Tank 339 Scale  
 Collection Date: 1/25/2006 2:00:00 PM  
 Date Received: 1/27/2006  
 Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	5.0		mg/Kg	50	2/2/2006 9:53:57 PM
Benzene	14	2.5		mg/Kg	50	2/2/2006 9:53:57 PM
Toluene	160	2.5		mg/Kg	50	2/2/2006 9:53:57 PM
Ethylbenzene	80	2.5		mg/Kg	50	2/2/2006 9:53:57 PM
Xylenes, Total	470	2.5		mg/Kg	50	2/2/2006 9:53:57 PM
Surr: 4-Bromofluorobenzene	115	87.5-115		%REC	50	2/2/2006 9:53:57 PM
<b>EPA METHOD 7471: MERCURY</b>						Analyst: CMC
Mercury	150	33		mg/Kg	1000	1/27/2006
<b>MERCURY, TCLP LEACHED</b>						Analyst: CMC
Mercury	ND	0.020	H	mg/L	1	3/8/2006

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                ND Not Detected at the Reporting Limit  
 S Spike Recovery outside accepted recovery limits

CLIENT: Giant Refining Co  
 Work Order: 0601272  
 Project: Tank 339 Scale 1-25-06

**ANALYTICAL QC SUMMARY REPORT**

TestCode: 8021BTEX\_S

Sample ID: MB-9699	SampType: MBLK	TestCode: 8021BTEX_S	Units: mg/Kg	Prep Date: 2/1/2006	RunNo: 18141						
Client ID: ZZZZZ	Batch ID: 9699	TestNo: SW8021	(SW5035)	Analysis Date: 2/2/2006	SeqNo: 447429						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

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

Sample ID: LCS-9699	SampType: LCS	TestCode: 8021BTEX_S	Units: mg/Kg	Prep Date: 2/1/2006	RunNo: 18141						
Client ID: ZZZZZ	Batch ID: 9699	TestNo: SW8021	(SW5035)	Analysis Date: 2/2/2006	SeqNo: 447430						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Benzene	0.3558	0.050	0.372	0	95.6	85.6	116				
Toluene	1.725	0.050	1.78	0	96.9	82.4	120				
Ethylbenzene	0.5558	0.050	0.554	0	100	86.4	111				
Xylenes, Total	1.615	0.050	1.64	0	98.5	78.4	125				

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

CLIENT: Giant Refining Co  
 Work Order: 0601272  
 Project: Tank 339 Scale 1-25-06

## ANALYTICAL QC SUMMARY REPORT

TestCode: HG\_CTS

Sample ID: MB-9667	SampType: MBLK	TestCode: HG_CTS	Units: mg/Kg	Prep Date: 1/27/2006	RunNo: 18067						
Client ID: ZZZZZ	Batch ID: 9667	TestNo: SW7471	(SW7471)	Analysis Date: 1/27/2006	SeqNo: 445282						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury ND 0.033

Sample ID: LCS-9667	SampType: LCS	TestCode: HG_CTS	Units: mg/Kg	Prep Date: 1/27/2006	RunNo: 18067						
Client ID: ZZZZZ	Batch ID: 9667	TestNo: SW7471	(SW7471)	Analysis Date: 1/27/2006	SeqNo: 445283						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.1773 0.033 0.1667 0 106 80 120

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Qualifiers: E Value above quantitation range  
 ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded  
 R RPD outside accepted recovery limits

J Analyte detected below quantitation limits  
 S Spike Recovery outside accepted recovery limits





**Price, Wayne, EMNRD**

**From:** Price, Wayne, EMNRD  
**Sent:** Wednesday, April 12, 2006 1:21 PM  
**To:** 'Steve Morris'; Chavez, Carl J, EMNRD; Cobrain, Dave, NMENV; Monzeglio, Hope, NMENV  
**Cc:** Ed Riege; Jim Lieb; Johnny Sanchez; Perrin, Charlie, EMNRD; Foust, Denny, EMNRD  
**Subject:** RE: Evap. Pond #2 bank material.

Dear Mr. Morris, Mr. Riege, and Mr. Lieb:

OCD is in receipt of the pond #2 bank soil samples. The DRO ranges from 64,000 mg/kg to 200,000 mg/kg. Please note in the discharge plan approval letter dated June 23, 2004 last paragraph and sentence; Please be advised that all exposed pits, including lined pits and open top tanks (exceeding 16 feet in diameter) shall be screened, netted, or otherwise *rendered non-hazardous to wildlife including migratory birds.*

The discharge plan application did not specifically request that oily discharges to the evaporation ponds would be part of the operation.

The oily discharge is considered a waste and condition # 13 does not allow oily waste to be disposed of in the evaporation ponds.

(#13. Waste Disposal: All wastes will be disposed of at an OCD approved facility. Only oilfield exempt shall be disposed of down Class II injection wells. Non-exempt oilfield wastes that are non-hazardous may be disposed of at an OC approved facility upon proper waste determination per 40 CFR Part 261. Any waste stream that is not listed in the discharge permit will be approved by OCD on a case-by-case basis.)

*This waste stream was not approved.* Please note that Section 3104. of the regulations requires that "where permit has been approved, discharges must be consistent with the terms and conditions of the permit. Giant is deficient in the fact that it has allowed non-approved waste to be discharged and remain in the evaporation ponds which may endanger migratory birds.

Therefore, OCD hereby orders Giant Ciniza to take immediate actions to remove the oily waste from the pond banks in order to protect migratory birds and other wildlife. The waste may be stocked piled on site for a maximum of 6 months until Giant receives approval for final disposal.

*Failure to remove oily soil from the banks by May 31, 2006 will be reason for OCD to issue a Notice of Violation.*

This E-mail authorizes Giant to take immediate emergency response actions. Please provide a weekly report of the operations to Carl Chavez-OCD until deemed complete by OCD.

Please be advised that OCD requirement stated herein does not relieve the owner/operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

**From:** Steve Morris [mailto:smorris@giant.com]  
**Sent:** Wednesday, April 12, 2006 10:23 AM  
**To:** Chavez, Carl J, EMNRD; Cobrain, Dave, NMENV; Monzeglio, Hope, NMENV; Price, Wayne, EMNRD  
**Cc:** Ed Riege; Jim Lieb; Johnny Sanchez

4/12/2006

**Subject:** Evap. Pond #2 bank material.

The lab analysis from the samples taken at the waters edge of pond #2 is attached.

The Diesel Range Organics appear to be the main item of concern. Due to the difficulty in getting equipment into the area, we would like to add enzymes to the inlet water and raise the level of the pond a couple of inches.

In doing this, I believe we could eliminate the DRO without disturbing the surrounding areas.

During my daily inspections of the ponds, I have not seen any evidence of free hydrocarbon or sheen on the surface of pond #2.

If you have any questions or concerns please give me a call at 505-722-0258.

Thanks, Steve Morris

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**GIANT**

Giant Refining Company  
Route 3, Box 7  
Gallup, NM 87301

April 12, 2006

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

RE: Old API Separator Effluent  
Giant Refining Company, Ciniza Refinery  
EPA No. NMD000333211  
HWB-GRCC-MISC

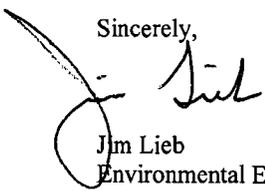
Dear Ms. Monzeglio:

In order to prevent dry weather flow from entering the aeration lagoons untreated, Giant installed a pump at the old API oil water separator (OAPIS) in early March 2006 to pump the dry weather flow to the new API oil water separator for treatment. The pump was installed on about March 3, 2006. A trial period of approximately a week and a half followed during which adjustments were made to ensure the pump could keep up with the flow on a consistent basis. The pump has proved itself capable of handling flows from the OAPIS since the completion of the trial period.

On March 28, 2006 Giant submitted a Commitment to NMED-HWB and OCD that contained plans for a dye trace study and storm sewer blocking element for eliminating dry weather flow to the storm sewers in the process area. The dye trace study is anticipated to be completed in April 2006 and storm sewer blocking of cross connections or other connections to the sewer will be completed by June 1, 2006. Once the storm sewer inputs of dry weather flow have been eliminated, we are looking at routing the storm water to a pond that will serve double duty as storm water retention and as an emergency fire water supply for the refinery. Re-routing of the storm water is anticipated to be completed by July 30, 2006. The OAPIS will then be decommissioned.

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

Sincerely,

  
Jim Lieb  
Environmental Engineer  
Giant Refining - Ciniza Refinery

Cc: Ed Rios  
Ed Riege

**Price, Wayne, EMNRD**

**From:** Price, Wayne, EMNRD  
**Sent:** Wednesday, April 12, 2006 1:21 PM  
**To:** 'Steve Morris'; Chavez, Carl J, EMNRD; Cobrain, Dave, NMENV; Monzeglio, Hope, NMENV  
**Cc:** Ed Riege; Jim Lieb; Johnny Sanchez; Perrin, Charlie, EMNRD; Foust, Denny, EMNRD  
**Subject:** RE: Evap. Pond #2 bank material.

Dear Mr. Morris, Mr. Riege, and Mr. Lieb:

OCD is in receipt of the pond #2 bank soil samples. The DRO ranges from 64,000 mg/kg to 200,000 mg/kg. Please note in the discharge plan approval letter dated June 23, 2004 last paragraph and sentence; Please be advised that all exposed pits, including lined pits and open top tanks (exceeding 16 feet in diameter) shall be screened, netted, or otherwise *rendered non-hazardous to wildlife including migratory birds.*

The discharge plan application did not specifically request that oily discharges to the evaporation ponds would be part of the operation.

The oily discharge is considered a waste and condition # 13 does not allow oily waste to be disposed of in the evaporation ponds.

(#13. Waste Disposal: All wastes will be disposed of at an OCD approved facility. Only oilfield exempt shall be disposed of down Class II injection wells. Non-exempt oilfield wastes that are non-hazardous may be disposed of at an OC approved facility upon proper waste determination per 40 CFR Part 261. Any waste stream that is not listed in the discharge permit will approved by OCD on a case-by-case basis.)

*This waste stream was not approved.* Please note that Section 3104. of the regulations requires that "whe permit has been approved, discharges must be consistent with the terms and conditions of the permit Giant is deficient in the fact tl has allowed non-approved waste to be discharged and remain in the evaporation ponds which may endanger migratory birds.

Therefore, OCD hereby orders Giant Ciniza to take immediate actions to remove the oily waste from the pond banks in order to protect migratory birds and other wildlife. The waste may be stocked piled on site for a maximum of 6 months until Giant receives approval for final disposal.

**Failure to remove oily soil from the banks by May 31, 2006 will be reason for OCD to issue a Notice of Violation.**

This E-mail authorizes Giant to take immediate emergency response actions. Please provide a weekly report of the operations to Carl Chavez-OCD until deemed complete by OCD.

Please be advised that OCD requirement stated herein does not relieve the owner/operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

**From:** Steve Morris [mailto:smorris@giant.com]  
**Sent:** Wednesday, April 12, 2006 10:23 AM  
**To:** Chavez, Carl J, EMNRD; Cobrain, Dave, NMENV; Monzeglio, Hope, NMENV; Price, Wayne, EMNRD  
**Cc:** Ed Riege; Jim Lieb; Johnny Sanchez

4/12/2006

**Subject:** Evap. Pond #2 bank material.

The lab analysis from the samples taken at the waters edge of pond #2 is attached.

The Diesel Range Organics appear to be the main item of concern. Due to the difficulty in getting equipment into the area, we would like to add enzymes to the inlet water and raise the level of the pond a couple of inches.

In doing this, I believe we could eliminate the DRO without disturbing the surrounding areas.

During my daily inspections of the ponds, I have not seen any evidence of free hydrocarbon or sheen on the surface of pond #2.

If you have any questions or concerns please give me a call at 505-722-0258.

Thanks, Steve Morris

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**Chavez, Carl J, EMNRD**

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**From:** Chavez, Carl J, EMNRD  
**Sent:** Wednesday, April 12, 2006 9:51 AM  
**To:** 'Jim Lieb'  
**Cc:** Monzeglio, Hope, NMENV; Cobrain, Dave, NMENV; Price, Wayne, EMNRD; Foust, Denny, EMNRD  
**Subject:** RE: Storm water/Firewater Pond project (SWFPP)

Jim:

After discussing your request for a boiler plate report with Wayne Price of OCD, the OCD can only direct you to contact a Geotechnical Professional Engineer for the proper pond design and engineering report to submit to the HWB/OCD. You have the OCD's recommended pond design with an earlier e-mail with some concerns.

Denny Foust had the following comments:

Carl:

I think the issue with the firewater pond is if you feel comfortable with the TDS of water going to the firewater pond. If stormwater is going to the pond an overflow must be in place which will skim any floating contaminates from the pond. With storm water going to the firewater pond, sooner or later a release from the refinery will go into the storm drains and plans to recover the release from the firewater pond must be in place.

The HWB/OCD discussed the fire water pond yesterday and aside from a water conservation concern, it does not feel that this should interfere with Giant's plan to construct the evaporation pond. We need to know about all of the influent that will be routed into the pond with analytical data, etc. 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/>  
(Pollution Prevention Guidance is under "Publications")

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**From:** Jim Lieb [mailto:[jlieb@giant.com](mailto:jlieb@giant.com)]  
**Sent:** Friday, April 07, 2006 7:12 AM  
**To:** Chavez, Carl J, EMNRD  
**Subject:** RE: Storm water/Firewater Pond project (SWFPP)

Carl:

The test method as far as I can determine based on an email that James Romero had sent you was the method EM 110-2-1906 which is I understand from reviewing past emails between him and you is an OCD accepted method.

Regarding the three samples for the permeability test, I asked Steve Morris. He told me that the three samples were from the same boring and averaged together.

Please contact me if you need additional testing to meet OCD's requirements.

We will be sending out water samples of boiler and RO reject water and will provide the results in the engineering plan. By the way, would you happen to have a template engineering plan I could refer to in preparing Giant's?

Regards,

4/12/2006

Jim Lieb  
 Environmental Engineer  
 Giant Industries, Inc. -Ciniza Refinery  
[jl Lieb@giant.com](mailto:jl Lieb@giant.com)  
 505-722-0227

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**From:** Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]  
**Sent:** Thursday, April 06, 2006 8:50 AM  
**To:** Jim Lieb  
**Subject:** RE: Storm water/Firewater Pond project (SWFPP)

Jim:

Hi. A few questions related to the permeability testing data. What test method was used to determine the coefficient of permeability? Where are the sample locations of the other 2 soil samples relative to the diagram? 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/>  
 (Pollution Prevention Guidance is under "Publications")

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**From:** Jim Lieb [mailto:jl Lieb@giant.com]  
**Sent:** Thursday, April 06, 2006 7:27 AM  
**To:** Chavez, Carl J, EMNRD  
**Subject:** RE: Storm water/Firewater Pond project (SWFPP)

Carl

Thank you for the OCD's guidance/recommendations. I will discuss them with Ed Riege when he returns next week. By the way, a copy of the permeability and boring logs was attached to the email I sent. I am including them again with this email for your convenience.

Best Regards  
 Jim Lieb

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**From:** Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]  
**Sent:** Tuesday, April 04, 2006 12:58 PM  
**To:** Jim Lieb  
**Cc:** Ed Riege; Monzeglio, Hope, NMENV; Price, Wayne, EMNRD; Cobrain, Dave, NMENV; Foust, Denny, EMNRD  
**Subject:** RE: Storm water/Firewater Pond project (SWFPP)

Jim:

Good afternoon. In response to your questions about the Storm water/Firewater Pond Project (SWFPP), the OCD has the following responses.

- 1) After reviewing OCD's Ciniza Refinery file, the OCD never received the actual permeability tests and boring log information that was requested from Mr. Romero for the fire pond. He was in the process of soil sample collection, permeability analyses, and providing soil boring lithologic information to the OCD/HWB to consider as part of its fire water pond proposal. This information is needed to help determine whether the clay barrier will be sufficient for secondary containment.
- 2) The OCD recommends a leak detection sump within the pond at the lowest elevation along its perimeter. The OCD's

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experience with piezoelectric detection systems is that moisture has a tendency to activate and indicate that there is a leakage problem, but doesn't help in understanding the location and magnitude of leakage, etc. A sump will help to monitor fluid levels, determine the leakage rate, allow for removal and repair options, etc.

Similar to the OCD's requirement for analytical data from the RO reject water in Giant's original request for a fire water pond, the OCD also requires analytical data for the boiler water and any other fluids routed to the pond in order to understand the quality of water, liner chemical compatibility, characterization of a potential point source for contamination, etc., and general water quality of the fluids that will be stored and potentially be used to suppress fire.

3) No, a Form C-144 does not need to be submitted, since the facility is already permitted by the OCD; however, a major modification is required to address a major change to the permit. The OCD is working to provide Giant with a letter that may identify other items for inclusion in the major modification to help Giant avoid increased expenses of having to submit multiple major modifications to its permit. However, Giant reserves the option to address the SWFPP as one major modification at this time and then submit other major modifications to its permit at a later date at additional expense(s).

4) Yes, an engineering plan is required similar to proposed Rule 50B(4) in order for the OCD to review and approve the major modification to the permit.

5) While the OCD considers 30-mil PVC to be a very good liner, there are circumstances where it would not be the liner of choice by the OCD. PVC liners do not fare well under direct exposure to ultra violet radiation, and generally would not last more than 3 years in direct sunlight. Sunlight may not be of concern if the PVC is shielded or special sunlight resistant PVC is used; however, a 30-mil LLDPE or equivalent liner may be more appropriate based on the circumstances, chemicals of concern, etc. (please refer to an attached document with general liner comparisons).

Let me know if Giant plans to submit one major modification for the SWFPP. The OCD is working on a letter that may identify other modifications that may be addressed in one major modification. 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/>  
 (Pollution Prevention Guidance is under "Publications")

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**From:** Jim Lieb [mailto:jl Lieb@giant.com]  
**Sent:** Friday, March 31, 2006 9:46 AM  
**To:** Chavez, Carl J, EMNRD  
**Cc:** Ed Riege; Monzeglio, Hope, NMENV  
**Subject:** Storm water/Firewater Pond project

Carl:

I am working on the storm water/fire water pond project and need to touch bases with you on OCD's requirements for use of the pond as a storm water/fire water pond. I have some of James Romero's old emails to you and based on my reading of the emails I believe he had supplied the permeability and soil boring log sheets to you back in September 2005. I have attached a scanned copy of the Precision Engineering results to my email. I have reviewed the OCD's rules under 19.15.2.50 for Pits and Below Grade tanks and see that 19.15.2.50B(1) refers to a form C-144 application to discharge into a pit.

My questions are:

1. Is the soil boring and permeability data acceptable to OCD as documentation that the clay barrier under the pond is sufficient that the low permeability clay will suffice as the secondary containment barrier with a single liner with leak detection is acceptable? I have the guidance on Pit Leak Detection that you provided to James Romero. Giant will follow this guidance.
2. Since we will install a leak detection system (piezoelectric) and the primary liner, then I assume the boiler salt content and RO reject water issues are moot?

4/12/2006

3. Need we complete the form C-144 and submit it to OCD?
4. Is the Engineering Plan in 19.15.2.50 B (4) required for this project?
5. 19.15.2.50 C.(2)(c) specifies a liner of at least 30 mils and manufactured of PVC or other equivalent material that meets or exceeds the ASTM standards for PVC. Giant will follow this specification.

If there is anything else I need to be aware of to obtain OCD's approval to use the existing pond as a fire water/storm water retention pond, please let me know.

Regards,  
Jim Lieb  
Environmental Engineer  
Giant- Ciniza Refinery  
[jl Lieb@giant.com](mailto:jl Lieb@giant.com)  
505-722-0227

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**Chavez, Carl J, EMNRD**

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**From:** Steve Morris [smorris@giant.com]  
**Sent:** Monday, April 10, 2006 11:08 AM  
**To:** Chavez, Carl J, EMNRD; Monzeglio, Hope, NMENV; Cobrain, Dave, NMENV; Price, Wayne, EMNRD  
**Cc:** Jim Lieb; Ed Riege  
**Subject:** North East OCD Landfarm 1st Quarter 2006 samples.

The soil sample taken on 3/29/2006 from the Northeast OCD Landfarm #137 had 3700 mg/Kg Diesel Range Organics. This is one of two quarterly samples for the first quarter of 2006.

It would appear that I made an error with regard to the collection of this sample.

I would like to resample the same location to verify that.

If you have any questions, please let me know.

Thanks,

Steve Morris

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# Hall Environmental Analysis Laboratory

Date: 07-Apr-06

CLIENT: Giant Refining Co  
 Lab Order: 0603348  
 Project: Northeast OCD Landfarm 1st Qtr 2006  
 Lab ID: 0603348-01

Client Sample ID: NE Landfarm #54-1st Qtr  
 Collection Date: 3/29/2006 9:30:00 AM  
 Date Received: 3/31/2006  
 Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: SCC
Diesel Range Organics (DRO)	180	10		mg/Kg	1	4/6/2006 11:38:43 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/6/2006 11:38:43 PM
Surr: DNOP	98.9	60-124		%REC	1	4/6/2006 11:38:43 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	ND	50		mg/Kg	10	4/5/2006 9:26:55 PM
Surr: BFB	107	79-128		%REC	10	4/5/2006 9:26:55 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	1.0		mg/Kg	10	4/5/2006 9:26:55 PM
Benzene	ND	0.50		mg/Kg	10	4/5/2006 9:26:55 PM
Toluene	ND	0.50		mg/Kg	10	4/5/2006 9:26:55 PM
Ethylbenzene	ND	0.50		mg/Kg	10	4/5/2006 9:26:55 PM
Xylenes, Total	ND	0.50		mg/Kg	10	4/5/2006 9:26:55 PM
Surr: 4-Bromofluorobenzene	100	84.4-117		%REC	10	4/5/2006 9:26:55 PM

Qualifiers: \* Value exceeds Maximum Contaminant Level  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit



COVER LETTER

Friday, April 07, 2006

Steve Morris  
Giant Refining Co  
Rt. 3 Box 7  
Gallup, NM 87301

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

RE: Northeast OCD Landfarm 1st Qtr 2006

Order No.: 0603348

Dear Steve Morris:

Hall Environmental Analysis Laboratory received 2 sample(s) on 3/31/2006 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,

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

AZ license # AZ0682  
ORELAP Lab # NM100001



CLIENT: Giant Refining Co  
 Work Order: 0603348  
 Project: Northeast OCD Landfarm 1st Qtr 2006

**ANALYTICAL QC SUMMARY REPORT**

TestCode: 8015DRO\_S

Sample ID: MB-10113	SampType: MBLK	TestCode: 8015DRO_S	Units: mg/Kg	Prep Date: 4/4/2006	RunNo: 18818						
Client ID: ZZZZZ	Batch ID: 10113	TestNo: SW8015		Analysis Date: 4/5/2006	SeqNo: 467263						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10									
Motor Oil Range Organics (MRO)	ND	50									

Sample ID: LCS-10113	SampType: LCS	TestCode: 8015DRO_S	Units: mg/Kg	Prep Date: 4/4/2006	RunNo: 18818						
Client ID: ZZZZZ	Batch ID: 10113	TestNo: SW8015		Analysis Date: 4/5/2006	SeqNo: 467264						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	41.47	10	50	0	82.9	67.4	117				

Sample ID: LCSD-10113	SampType: LCSD	TestCode: 8015DRO_S	Units: mg/Kg	Prep Date: 4/4/2006	RunNo: 18818						
Client ID: ZZZZZ	Batch ID: 10113	TestNo: SW8015		Analysis Date: 4/5/2006	SeqNo: 467265						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	38.68	10	50	0	77.4	67.4	117	41.47	6.97	17.4	

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

Date: 07-Apr-06

CLIENT: Giant Refining Co  
 Lab Order: 0603348  
 Project: Northeast OCD Landfarm 1st Qtr 2006  
 Lab ID: 0603348-02

Client Sample ID: NE Landfarm #137-1st Qtr  
 Collection Date: 3/29/2006 9:45:00 AM  
 Date Received: 3/31/2006  
 Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: SCC
Diesel Range Organics (DRO)	3700	100		mg/Kg	10	4/7/2006 12:11:44 AM
Motor Oil Range Organics (MRO)	ND	500		mg/Kg	10	4/7/2006 12:11:44 AM
Surr: DNOP	94.4	60-124		%REC	10	4/7/2006 12:11:44 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	ND	50		mg/Kg	10	4/5/2006 9:54:53 PM
Surr: BFB	115	79-128		%REC	10	4/5/2006 9:54:53 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	1.0		mg/Kg	10	4/5/2006 9:54:53 PM
Benzene	ND	0.50		mg/Kg	10	4/5/2006 9:54:53 PM
Toluene	ND	0.50		mg/Kg	10	4/5/2006 9:54:53 PM
Elhylbenzene	ND	0.50		mg/Kg	10	4/5/2006 9:54:53 PM
Xylenes, Total	ND	0.50		mg/Kg	10	4/5/2006 9:54:53 PM
Surr: 4-Bromofluorobenzene	103	84.4-117		%REC	10	4/5/2006 9:54:53 PM

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

CLIENT: Giant Refining Co  
 Work Order: 0603348  
 Project: Northeast OCD Landfarm 1st Qtr 2006

## ANALYTICAL QC SUMMARY REPORT

TestCode: 8021BTEX\_S

Sample ID: MB-10098	SampType: MBLK	TestCode: 8021BTEX_S	Units: mg/Kg	Prep Date: 3/31/2006	RunNo: 18842						
Client ID: ZZZZZ	Batch ID: 10098	TestNo: SW8021	(SW5035)	Analysis Date: 4/5/2006	SeqNo: 467531						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

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

Sample ID: LCS-10098	SampType: LCS	TestCode: 8021BTEX_S	Units: mg/Kg	Prep Date: 3/31/2006	RunNo: 18842						
Client ID: ZZZZZ	Batch ID: 10098	TestNo: SW8021	(SW5035)	Analysis Date: 4/5/2006	SeqNo: 467532						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Methyl tert-butyl ether (MTBE)	0.4064	0.10	0.4	0	102	65	132				
Benzene	0.4721	0.050	0.452	0	104	85.6	116				
Toluene	1.859	0.050	1.62	0	115	82.4	120				
Ethylbenzene	0.4260	0.050	0.456	0	93.4	86.4	111				
Xylenes, Total	2.002	0.050	1.8	0	111	78.4	125				

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

CLIENT: Giant Refining Co  
Work Order: 0603348  
Project: Northeast OCD Landfarm 1st Qtr 2006

## ANALYTICAL QC SUMMARY REPORT

TestCode: 8015GRO\_S

Sample ID: MB-10098	SampType: MBLK	TestCode: 8015GRO_S	Units: mg/Kg	Prep Date: 3/31/2006	RunNo: 18842						
Client ID: ZZZZ	Batch ID: 10098	TestNo: SW8015	(SW5035)	Analysis Date: 4/5/2006	SeqNo: 467547						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0									

4 / 6

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

# CHAIN-OF-CUSTODY RECORD

Client: Giant Refining Company - Anisa  
 Address: Route B Box 7 Gallup, NM 87301

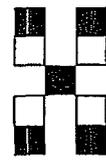
QA/QC Package:  
 Std  Level 4   
 Other: \_\_\_\_\_

Project Name: North east OCD Landfarm 1<sup>st</sup> Qtr. 2006  
 Project #: \_\_\_\_\_

Project Manager: Steve Morris

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

Sampler: Steve Morris  
 Sample Temperature: 2



**HALL ENVIRONMENTAL ANALYSIS LABORATORY**  
 4901 Hawkins NE, Suite D  
 Albuquerque, New Mexico 87109  
 Tel. 505.345.3975 Fax 505.345.4107  
 www.hallenvironmental.com

## ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative		HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	PCRA 8 Metals	Anions (F, Cl, NO <sub>2</sub> , NO <sub>3</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles or Headspace (Y or N)	
					HgCl <sub>2</sub>	HNO <sub>3</sub>															
3-29-06	0930	Soil	NE Landfarm #54-1 <sup>st</sup> Qtr.	2			0603348-1	X	X												
3-29-06	0945	Soil	NE Landfarm #137-1 <sup>st</sup> Qtr.	2			-2	X	X												

Date: 3/31/06 Time: 0910 Relinquished By: (Signature) Steve Morris  
 Received By: (Signature) [Signature] 3/31/06  
 Date: \_\_\_\_\_ Time: \_\_\_\_\_ Relinquished By: (Signature) \_\_\_\_\_  
 Received By: (Signature) \_\_\_\_\_ 0910

Remarks: \_\_\_\_\_

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name GIANTREFIN

Date and Time Received:

3/31/2006

Work Order Number 0603348

Received by AT

Checklist completed by

*[Handwritten Signature]*

Date

3/31/06

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 checked="" type="checkbox"/>	Yes <input type="checkbox"/>	No <input 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:

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Client contacted \_\_\_\_\_ Date contacted: \_\_\_\_\_ Person contacted \_\_\_\_\_

Contacted by: \_\_\_\_\_ Regarding \_\_\_\_\_

Comments: \_\_\_\_\_

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Corrective Action \_\_\_\_\_

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**Chavez, Carl J, EMNRD**

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**From:** Jim Lieb [jlieb@giant.com]  
**Sent:** Friday, April 07, 2006 2:52 PM  
**To:** Cobrain, Dave, NMENV; Monzeglio, Hope, NMENV; Price, Wayne, EMNRD; Foust, Denny, EMNRD; Chavez, Carl J, EMNRD  
**Cc:** Ed Riege; Ed Rios; Steve Morris  
**Subject:** Update on Aerators

All:

As of this afternoon, both of the two aerators in the second lagoon are up and running.

Regards,

Jim Lieb  
Giant – Ciniza Refinery

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**Chavez, Carl J, EMNRD**

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**From:** Chavez, Carl J, EMNRD  
**Sent:** Friday, April 07, 2006 8:31 AM  
**To:** 'Jim Lieb'  
**Cc:** Foust, Denny, EMNRD; Cobrain, Dave, NMENV; Monzeglio, Hope, NMENV; Price, Wayne, EMNRD  
**Subject:** RE: Storm water/Firewater Pond project (SWFPP)

Jim:

Good morning. I'll check and get back with you by Monday on the sample or template engineering plan you requested. We may have engineering plans from the NW New Mexico (i.e., Benson-Montin-Greer) and I will check with Denny Foust. However, before we get rolling on this, and from our most recent meeting, the HWB/OCD needs to consider the ramifications of mixing fresh stormwater (non-contact) with process water (boiler water) or any other waste effluent that may be contemplated by Giant in the pond. Originally, the OCD was considering only RO reject water in the fire water pond; however, now it appears that stormwater from the OAPIS drainage system and boiler water are to be routed into the pond.

As you are aware, Giant and the State have been discussing the separation of stormwater from process water in the refining process, and now we're contemplating mixing fresh water with boiler water in an evaporation pond for potential fire water use. From a water conservation standpoint, it would seem that stormwater would be routed into the storm drain for eventual recharge of fresh groundwater. Would Giant still construct the pond if the OCD required that the stormwater be routed into the storm drainage system and not to the pond? Perhaps Giant could route boiler water and RO reject water into the pond instead? What does Giant think about this? 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/>  
(Pollution Prevention Guidance is under "Publications")

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**From:** Jim Lieb [mailto:[jlieb@giant.com](mailto:jlieb@giant.com)]  
**Sent:** Friday, April 07, 2006 7:12 AM  
**To:** Chavez, Carl J, EMNRD  
**Subject:** RE: Storm water/Firewater Pond project (SWFPP)

Carl:

The test method as far as I can determine based on an email that James Romero had sent you was the method EM 110-2-1906 which is I understand from reviewing past emails between him and you is an OCD accepted method.

Regarding the three samples for the permeability test, I asked Steve Morris. He told me that the three samples were from the same boring and averaged together.

Please contact me if you need additional testing to meet OCD's requirements.

We will be sending out water samples of boiler and RO reject water and will provide the results in the engineering plan. By the way, would you happen to have a template engineering plan I could refer to in preparing Giant's?

Regards,

Jim Lieb  
Environmental Engineer

4/7/2006

Giant Industries, Inc. –Ciniza Refinery  
[jlieb@giant.com](mailto:jlieb@giant.com)  
505-722-0227

---

**From:** Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]  
**Sent:** Thursday, April 06, 2006 8:50 AM  
**To:** Jim Lieb  
**Subject:** RE: Storm water/Firewater Pond project (SWFPP)

Jim:

Hi. A few questions related to the permeability testing data. What test method was used to determine the coefficient of permeability? Where are the sample locations of the other 2 soil samples relative to the diagram? 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/>  
(Pollution Prevention Guidance is under "Publications")

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**From:** Jim Lieb [mailto:jlieb@giant.com]  
**Sent:** Thursday, April 06, 2006 7:27 AM  
**To:** Chavez, Carl J, EMNRD  
**Subject:** RE: Storm water/Firewater Pond project (SWFPP)

Carl

Thank you for the OCD's guidance/recommendations. I will discuss them with Ed Riege when he returns next week. By the way, a copy of the permeability and boring logs was attached to the email I sent. I am including them again with this email for your convenience.

Best Regards  
Jim Lieb

---

**From:** Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]  
**Sent:** Tuesday, April 04, 2006 12:58 PM  
**To:** Jim Lieb  
**Cc:** Ed Riege; Monzeglio, Hope, NMENV; Price, Wayne, EMNRD; Cobrain, Dave, NMENV; Foust, Denny, EMNRD  
**Subject:** RE: Storm water/Firewater Pond project (SWFPP)

Jim:

Good afternoon. In response to your questions about the Storm water/Firewater Pond Project (SWFPP), the OCD has the following responses.

- 1) After reviewing OCD's Ciniza Refinery file, the OCD never received the actual permeability tests and boring log information that was requested from Mr. Romero for the fire pond. He was in the process of soil sample collection, permeability analyses, and providing soil boring lithologic information to the OCD/HWB to consider as part of its fire water pond proposal. This information is needed to help determine whether the clay barrier will be sufficient for secondary containment.
- 2) The OCD recommends a leak detection sump within the pond at the lowest elevation along its perimeter. The OCD's experience with piezoelectric detection systems is that moisture has a tendency to activate and indicate that there is a leakage problem, but doesn't help in understanding the location and magnitude of leakage, etc. A sump will help to monitor fluid levels,

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determine the leakage rate, allow for removal and repair options, etc.

Similar to the OCD's requirement for analytical data from the RO reject water in Giant's original request for a fire water pond, the OCD also requires analytical data for the boiler water and any other fluids routed to the pond in order to understand the quality of water, liner chemical compatibility, characterization of a potential point source for contamination, etc., and general water quality of the fluids that will be stored and potentially be used to suppress fire.

3) No, a Form C-144 does not need to be submitted, since the facility is already permitted by the OCD; however, a major modification is required to address a major change to the permit. The OCD is working to provide Giant with a letter that may identify other items for inclusion in the major modification to help Giant avoid increased expenses of having to submit multiple major modifications to its permit. However, Giant reserves the option to address the SWFPP as one major modification at this time and then submit other major modifications to its permit at a later date at additional expense(s).

4) Yes, an engineering plan is required similar to proposed Rule 50B(4) in order for the OCD to review and approve the major modification to the permit.

5) While the OCD considers 30-mil PVC to be a very good liner, there are circumstances where it would not be the liner of choice by the OCD. PVC liners do not fare well under direct exposure to ultra violet radiation, and generally would not last more than 3 years in direct sunlight. Sunlight may not be of concern if the PVC is shielded or special sunlight resistant PVC is used; however, a 30-mil LLDPE or equivalent liner may be more appropriate based on the circumstances, chemicals of concern, etc. (please refer to an attached document with general liner comparisons).

Let me know if Giant plans to submit one major modification for the SWFPP. The OCD is working on a letter that may identify other modifications that may be addressed in one major modification. 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  
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 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/>  
 (Pollution Prevention Guidance is under "Publications")

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**From:** Jim Lieb [mailto:[jlieb@giant.com](mailto:jlieb@giant.com)]  
**Sent:** Friday, March 31, 2006 9:46 AM  
**To:** Chavez, Carl J, EMNRD  
**Cc:** Ed Riege; Monzeglio, Hope, NMENV  
**Subject:** Storm water/Firewater Pond project

Carl:

I am working on the storm water/fire water pond project and need to touch bases with you on OCD's requirements for use of the pond as a storm water/fire water pond. I have some of James Romero's old emails to you and based on my reading of the emails I believe he had supplied the permeability and soil boring log sheets to you back in September 2005. I have attached a scanned copy of the Precision Engineering results to my email. I have reviewed the OCD's rules under 19.15.2.50 for Pits and Below Grade tanks and see that 19.15.2.50B(1) refers to a form C-144 application to discharge into a pit.

My questions are:

1. Is the soil boring and permeability data acceptable to OCD as documentation that the clay barrier under the pond is sufficient that the low permeability clay will suffice as the secondary containment barrier with a single liner with leak detection is acceptable? I have the guidance on Pit Leak Detection that you provided to James Romero. Giant will follow this guidance.
2. Since we will install a leak detection system (piezoelectric) and the primary liner, then I assume the boiler salt content and RO reject water issues are moot?
3. Need we complete the form C-144 and submit it to OCD?
4. Is the Engineering Plan in 19.15.2.50 B (4) required for this project?

4/7/2006

5. 19.15.2.50 C.(2)(c) specifies a liner of at least 30 mils and manufactured of PVC or other equivalent material that meets or exceeds the ASTM standards for PVC. Giant will follow this specification.

If there is anything else I need to be aware of to obtain OCD's approval to use the existing pond as a fire water/storm water retention pond, please let me know.

Regards,  
Jim Lieb  
Environmental Engineer  
Giant- Ciniza Refinery  
[jl Lieb@giant.com](mailto:jl Lieb@giant.com)  
505-722-0227

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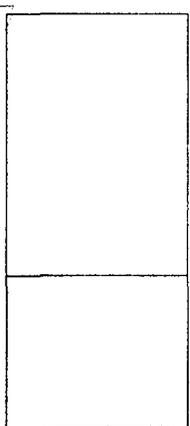
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4/7/2006

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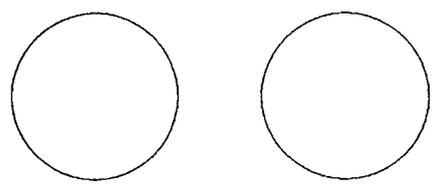
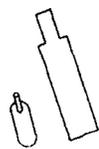
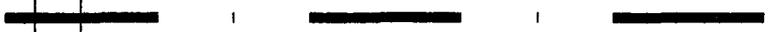
05-100-1



SWMU NO. 1

AL2

AL1



Sheet: 1 OF 5

Bore Point: SW Corner of Proposed  
 Fire Water Lagoon  
 Water Elevation: -98.2@TD,-27@1 hr  
 Boring No.: 05-100-1

**Precision Engineering, Inc.**  
 P.O. Box 422  
 Las Cruces, NM 88004  
 505-523-7674

File #: 05-100  
 Site: Giant-Ciniza  
 Elevation: EXISTING  
 Date: 9/24/2005

**Log of Test Borings**

LAB #	DEPTH	BLOW COUNT	PLOT	SCALE	MATERIAL CHARACTERISTICS	%M	LL	PI	CLASS.
					(MOISTURE, CONDITION, COLOR, ETC.)				
47872	0.0-5.0				<u>Clay</u> , Very Silty, Sandy, Very Fine, Dark Red, Wet, Firm				
				<u>2.5</u>	[2.5-3.0 hydraulic conductivity sample]				
	5.0-10.0			<u>5.0</u>	<u>Same As Above</u> , Wet, Soft				
				<u>7.5</u>					
	10.0-15.0			<u>10.0</u>	<u>Same As Above</u>				
	15.0-16.0			<u>15.0</u>	<u>Same As Above</u>				
	16.0-17.5				<u>Sand</u> , Very Fine, Very Clayey, Very Silty, Weak Water Bearing, Moderately Dense, Dark Red/Brown				
	17.5-21.5			<u>20.0</u>	<u>Clay</u> , Dark Red, Wet, Soft				
SIZE & TYPE OF BORING: 4 1/4" ID HOLLOW STEMMED AUGER						LOGGED BY: WHK			

Bore Point: SW Corner of Proposed  
Fire Water Lagoon  
Water Elevation:  
Boring No.: 05-100-1

P.O. Box 422  
Las Cruces, NM 88004  
505-523-7674

Site: Giant-Ciniza

Elevation: EXISTING

Date: 9/24/2005

**Log of Test Borings**

LAB #	DEPTH	BLOW COUNT	PLOT	SCALE	MATERIAL CHARACTERISTICS (MOISTURE, CONDITION, COLOR, ETC.)	%M	LL	PI	CLASS.
	21.5-22.1				Clay, Sandy, Dark Brown, Wet, Stiff				
	22.1-23.5				Clay, Hard, Red/Brown (Brighter than Above), Wet/Moist				
	23.5-25.1				<b>Pertrified Forest Formation</b> <b>Mudstone/Claystone</b> , Weathered, Some Grey/Green Reduction Spots, Generally Red/ Brown, Fissile to Crumbly, Damp/Moist				
	25.0-30.0			<u>25.0</u>	<b>Mudstone</b> , As Above, Few Reduction Spots, Damp/Dry				
	30.0-35.0			<u>30.0</u>	<u>Same As Above dry</u>				
	35.0-40.0			<u>35.0</u>	<u>Same As Above</u> dry				
	40.0-45.0			<u>40.0</u>	<u>Same As Above</u> , Brighter Red @ 44.5'-45.0', dry				
	41.5				siltstone/mudstone, dry, very dense, bright red brown				
SIZE & TYPE OF BORING: 4 1/4" ID HOLLOW STEMMED AUGER						LOGGED BY: WHK			

Sheet: 3 OF 5

Bore Point: SW Corner of Proposed  
Fire Water Lagoon  
Water Elevation:  
Boring No.: 05-100-1

Precision Engineering, Inc.  
P.O. Box 422  
Las Cruces, NM 88004  
505-523-7674

File #: 05-100  
Site: Giant-Ciniza

Elevation: EXISTING  
Date: 9/24/2005

**Log of Test Borings**

LAB #	DEPTH	BLOW COUNT	PLOT	SCALE	MATERIAL CHARACTERISTICS (MOISTURE, CONDITION, COLOR, ETC.)	%M	LL	PI	CLASS.
	45.0-50.0			<u>45.0</u>	<u>Mudstone/Siltstone</u> , Bright Red/Brown, Dry Very Dense				
	50.0-55.0			<u>50.0</u>	<u>Same As Above</u>				
	55.0-60.0			<u>55.0</u>	<u>Same As Above</u>				
	60.0-65.0			<u>60.0</u>	<u>Same As Above</u>				

SIZE & TYPE OF BORING: 4 1/4" ID HOLLOW STEMMED AUGER

LOGGED BY: WHK



Bore Point: SW Corner of Proposed  
 Fire Water Lagoon  
 Water Elevation:  
 Boring No.: 05-100-1

P.O. Box 422  
 Las Cruces, NM 88004  
 505-523-7674

Site: Giant-Ciniza

Elevation: EXISTING

Date: 9/24/2005

Log of Test Borings

LAB #	DEPTH	BLOW COUNT	PLOT	SCALE	MATERIAL CHARACTERISTICS (MOISTURE, CONDITION, COLOR, ETC.)	%M	LL	PI	CLASS.
				90.0	Upper Sonsela Member Continued (dry)				
				95.0					
	97.7-98.2				<b>Mudstone</b> , Hard, Dry, Green/Grey-White				
	98.2-101.6			100.0	<b>Sandstone</b> , Fine to Medium, Quartz Grains, Water Bearing, Hard, (Sonsela Member, Petrified Forest Formation, Chinle Group)				
	101.6			105.0	TD  Boring continuously sampled using 5' split barreled intrusion sampler. Boring closed using 10' of 3/8" TR-30 Pel Plug capped with 50' of 8% bentonite cement slurry and backfilled to the ground surface with cuttings.				
SIZE & TYPE OF BORING: 4 1/4" ID HOLLOW STEMMED AUGER						LOGGED BY: WHK			

## Inactive Well List

Total Well Count:34 Inactive Well Count:13 Since:1/11/2005

Printed On: Thursday, April 06 2006

District	API	Well	ULSTR	OCD Unit	OGRID	Operator	Lease Type	Well Type	Last Production	Formation/Notes	Status	E ii
2	30-015-05803	CEM FEDERAL #001	B-29-19S-31E	B	188152	TOM R CONE	F	O	03/2004			
2	30-015-05739	DONNELLY PAN AMERICAN #001Y	G-5 -19S-31E	G	188152	TOM R CONE	F	O	12/1987			
2	30-015-05765	FEDERAL 18 #001	2-18-19S-31E	E	188152	TOM R CONE	F	O	11/1997			
2	30-015-10228	FEDERAL 18 #002	K-18-19S-31E	K	188152	TOM R CONE	F	O	11/1997			
2	30-015-20146	FEDERAL 18 #003	H-18-19S-31E	H	188152	TOM R CONE	F	O	11/2001			
2	30-015-20226	FEDERAL 18 #004	G-18-19S-31E	G	188152	TOM R CONE	F	O	09/1997			
2	30-015-05597	NORTH SHUGART QUEEN UNIT #001	C-21-18S-31E	C	188152	TOM R CONE	F	O	10/2002			
2	30-015-05591	NORTH SHUGART QUEEN UNIT #004	E-21-18S-31E	E	188152	TOM R CONE	F	O	09/1988		T	4
2	30-015-05593	NORTH SHUGART QUEEN UNIT #005	F-21-18S-31E	F	188152	TOM R CONE	F	O	08/1978		T	4
2	30-015-05599	NORTH SHUGART QUEEN UNIT #007	L-21-18S-31E	L	188152	TOM R CONE	F	O	08/2001			
2	30-015-05586	NORTH SHUGART QUEEN UNIT #008	I-20-18S-31E	I	188152	TOM R CONE	F	O	09/1988		T	4
2	30-015-05587	NORTH SHUGART QUEEN UNIT #009	P-20-18S-31E	P	188152	TOM R CONE	F	O	08/1998			
2	30-015-05590	NORTH SHUGART QUEEN UNIT #010	M-21-18S-31E	M	188152	TOM R CONE	F	O	09/2002			

WHERE Ogrid:188152, County:All, District:All, Township:All, Range:All, Section:All, Production(months):15

**Chavez, Carl J, EMNRD**

---

**From:** Price, Wayne, EMNRD  
**Sent:** Tuesday, April 04, 2006 12:51 PM  
**To:** Cobrain, Dave, NMENV; Chavez, Carl J, EMNRD  
**Cc:** Monzeglio, Hope, NMENV  
**Subject:** RE: Ciniza Refinery Flow Meter Locations

Agree!!

---

**From:** Cobrain, Dave, NMENV  
**Sent:** Tuesday, April 04, 2006 12:34 PM  
**To:** Price, Wayne, EMNRD; Chavez, Carl J, EMNRD  
**Cc:** Monzeglio, Hope, NMENV  
**Subject:** RE: Ciniza Refinery Flow Meter Locations

Wayne,

HWB requests that the discharge rate from AL2 to EP1 be measured. Maybe instead of the EP1 to EP2 location. It should be the same rate but our water quality measurements for the treatment ponds effluent are at the AL2-EP1 discharge point and measuring the flow rate there would help with consistency. Thanks.

Dave

---

**From:** Price, Wayne, EMNRD  
**Sent:** Tuesday, April 04, 2006 11:59 AM  
**To:** Chavez, Carl J, EMNRD  
**Cc:** Cobrain, Dave, NMENV; Monzeglio, Hope, NMENV  
**Subject:** RE: Ciniza Refinery Flow Meter Locations

Attention: Dave Cobrain:

Dear Dave, this is where OCD is going to require flow meters at a minimum.

1. PSE (pilot station effluent) to AL1
2. NAPIS (new API separator) - Benzene Stripper to AL1
3. OAPIS (old API separator) to AL1
4. Boiler water to Evap Pond #2
5. Flow between Evap Pond #1 to Evap Pond #2.

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**From:** Chavez, Carl J, EMNRD  
**Sent:** Tuesday, April 04, 2006 11:14 AM  
**To:** Price, Wayne, EMNRD  
**Cc:** Cobrain, Dave, NMENV; Monzeglio, Hope, NMENV  
**Subject:** Ciniza Refinery Flow Meter Locations

Wayne:

Regarding your request for flow meter locations at the Ciniza Refinery, and from my notes and maps provided at our recent meeting, there appears to be options for flow meter locations required to help in the evaluation of overall loading to the treatment system and for general flow rate monitoring between ponds, etc. Flow rate locations options are provided below.

Options for flow meter monitoring locations in the evaluation of overall loading and evaluation of treatment system capacity are:

PSE (pilot station effluent) to AL1

4/4/2006

NAPIS (new API separator) - Benzene Stripper  
Benzene Stripper to AL1  
OAPIS (old API separator) to AL1  
OAPIS to NAPIS  
AL1 to AL2  
AL1 to EP1 (recall from the meeting that there is a bypass of AL2 into EP1)  
AL2 to EP1 (AL 1 typically flows into AL2)  
EP1 to EP2

Options for general flow meter monitoring of ponds are:

PSE (pilot station effluent) to Pond 9?  
Boiler water into EP2  
EP2-EP3  
EP2-EP6B  
EP2-EP7  
EP2-EP12B  
EP3-EP4  
EP4-EP5  
EP5-EP6A  
EP6A-EP9C  
EP7-EP8  
EP12B-EP12A  
EP12A-EP11  
EP11-EP TEMP1  
EP11-EP7  
EP7-EP8  
EP12A-EP TEMP2

There may be other locations that I have unintentionally omitted from the above listing. The flow monitoring locations above should help OCD/HWB to finalize our final flow meter monitoring location and frequency requests. 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/>  
(Pollution Prevention Guidance is under "Publications")

**Chavez, Carl J, EMNRD**

**From:** Jim Lieb [jlieb@giant.com]  
**Sent:** Friday, March 31, 2006 9:46 AM  
**To:** Chavez, Carl J, EMNRD  
**Cc:** Ed Riege; Monzeglio, Hope, NMENV  
**Subject:** Storm water/Firewater Pond project

Carl:

I am working on the storm water/fire water pond project and need to touch bases with you on OCD's requirements for use of the pond as a storm water/fire water pond. I have some of James Romero's old emails to you and based on my reading of the emails I believe he had supplied the permeability and soil boring log sheets to you back in September 2005. I have attached a scanned copy of the Precision Engineering results to my email. I have reviewed the OCD's rules under 19.15.2.50 for Pits and Below Grade tanks and see that 19.15.2.50B(1) refers to a form C-144 application to discharge into a pit.

My questions are:

1. Is the soil boring and permeability data acceptable to OCD as documentation that the clay barrier under the pond is sufficient that the low permeability clay will suffice as the secondary containment barrier with a single liner with leak detection is acceptable? I have the guidance on Pit Leak Detection that you provided to James Romero. Giant will follow this guidance. *Send in info, permeability & SPS.*
2. Since we will install a leak detection system (piezoelectric) and the primary liner, then I assume the boiler salt content and RO reject water issues are moot? *not necessary*
3. Need we complete the form C-144 and submit it to OCD? *Need estimate of cost? ... what other things will go off? NO reject.*
4. Is the Engineering Plan in 19.15.2.50 B (4) required for this project? *YES*
5. 19.15.2.50 C.(2)(c) specifies a liner of at least 30 mils and manufactured of PVC or other equivalent material that meets or exceeds the ASTM standards for PVC. Giant will follow this specification. *Will PVC be ok? ... PVC is reason, it's better than ...*

If there is anything else I need to be aware of to obtain OCD's approval to use the existing pond as a fire water/storm water retention pond, please let me know.

Regards,  
Jim Lieb  
Environmental Engineer  
Giant- Ciniza Refinery  
jlieb@giant.com  
505-722-0227

*major modifications  
to pavement & by pond*  
*submit major mod. that we are asking them to do w/ other SS  
have chosen to do as diff.*

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Proposed R50

a permit to construct or use a pit or below-grade tank at a downstream facility that is not permitted pursuant to water quality control commission rules ~~such as a refinery, gas plant, compressor station, brine facility, service company,~~ or at a surface waste management facility that is not permitted pursuant to ~~Section 711 of 19.15.9~~ 19.15.2.53 NMAC or ~~water quality control commission regulations~~ environmental improvement board rules. The operator shall use a form C-144, application to discharge into a pit or below-grade tank. The operator may submit the form separately or as an attachment to an application for a discharge permit, ~~best management practices,~~ surface waste management facility permit~~;~~ or other permit.

~~(b)~~ (2) ~~Drilling [or production] and work over pits. Operators shall indicate on form C-101 the location of all drilling and work over pits or whether they will use a closed loop system. Operators, however, are not required to obtain a permit pursuant to Subsection A of 19.15.2.50 NMAC.~~

(3) ~~Other pits. An operator shall apply to the appropriate district office of the division on form C-144 for a permit [for] to construct or use [of] a pit or below-grade tank in [drilling,] connection with production[;] or other operations not [otherwise identified] described in [Subparagraph (a),] Paragraph (1)[;] of Subsection B of 19.15.2.50 NMAC. [The operator shall apply for the permit on the application for permit to drill or on the sundry notices and reports on wells, or electronically as otherwise provided in this chapter. Approval of such form constitutes a permit for all pits and below grade tanks annotated on the form. A separate Form C-144 is not required.~~

~~(2)~~ (2) ~~General permit; individual permit. An operator may apply for a permit to use an individual pit or below grade tank, or may apply for a general permit applicable to a class of like facilities.~~

~~(3)~~ (3) ~~When filed.~~

~~(a)~~ (a) ~~New pits or new below grade tanks. After April 15, 2004, operators shall obtain a permit before constructing a pit or below grade tank.~~

~~(b)~~ (b) ~~Existing pits or new below grade tanks. For each pit or below grade tank in existence on April 15, 2004 that has not received an exemption after hearing as allowed by OCC Order R-3221 through R-3221D inclusive, the operator shall submit a notice not later than April 15, 2004 indicating either that use of the pit or below grade tank will continue or that such pit or below grade tank will be closed. If use of a pit or below grade tank is to be discontinued, discharge into the pit or use of the below grade tank shall cease not later than June 30, 2005. If use of a pit or below grade tank will continue, the operator shall file a permit application not later than September 30, 2004. If an operator files a timely, administratively complete application for continued use, use of the pit or below grade tank may continue until the division acts upon the permit application.]~~

(4) ~~Engineering design plan. An applicant for a permit for a pit other than a drilling or work over pit shall submit with the permit application a detailed engineering design plan, including operating and maintenance procedures, a closure plan and a hydrologic report that provides sufficient information and detail on the site's topography, soils, geology, surface hydrology and ground water hydrology, to enable the division to evaluate the pit's actual and potential effects on soils, surface water and ground water. The plan shall include detailed information on dike protection and structural integrity; leak detection, including an adequate fluid collection and removal system; liner specifications and compatibility; freeboard and overtopping prevention; nuisance and hazardous odors such as H<sub>2</sub>S; an emergency response plan, unless the pit is part of a facility that has an integrated contingency plan; type of waste stream, including chemical analysis; climatological factors, including freeze-thaw cycles; a monitoring and inspection plan; erosion control and any other pertinent information the division requests.~~

(5) ~~Review and approval. The division shall review all applications and may approve, deny or approve an application with conditions. If the division denies an application, or approves the application subject to conditions not expressly provided in 19.15 NMAC, the division shall notify the applicant by certified mail, return receipt requested, and the applicant shall have 10 days after receipt of such notification to request a formal hearing.~~

C. ~~Design, construction[;] and operational standards.~~

(1) ~~In general. [Pits] Operators shall design, construct and operate pits, sumps and below-grade tanks [shall be designed, constructed and operated] so as to contain liquids and solids to prevent contamination of fresh water and protect public health and the environment.~~

(2) ~~[Special requirements for pits] Pits.~~

(a) ~~Location. No pit shall be located in any watercourse, lakebed, sinkhole, [or] playa lake, wetland or wellhead protection area. [Pits adjacent to any such watercourse or depression shall be located safely above the ordinary high water mark of such watercourse or depression. No pit shall be located in any wetland.] The division may require additional protective measures for pits located in ground water sensitive areas [or wellhead protection areas].~~

(b) ~~Liners required.~~

(i) ~~Drilling [pits, workover] and work over pits. Each drilling pit or work over pit shall~~

contain, at a minimum, a single liner appropriate for the site's conditions ~~at the site~~. The liner shall be designed, constructed~~;~~ and maintained so as to prevent the contamination of fresh water, and protect public health and the environment. Pits used for air drilling operations or to vent or flare gas ~~gases~~ during other drilling or work over operations that are designed to allow liquids to drain to a separate lined pit do not require a liner.

(ii) ~~[Disposal or storage]~~ Other pits. Each pit other than a drilling or work over pit ~~[disposal pit (including, but not limited to, any separator pit, tank drain pit, evaporation pit, blowdown pit used in production activities, pipeline drip pit, or production pit) and each storage pit (including any brine pit, salt water pit, fluid storage pit for an LPG system, or production pit)]~~ shall contain, at a minimum, a primary and a secondary liner with leak detection appropriate to the site's conditions ~~at the site~~. Liners shall be designed, constructed~~;~~ and maintained so as to prevent the contamination of fresh water, and protect public health and the environment.

~~[(iii) Alternative liner media. The division may approve liners that are not constructed in accordance with division guidelines only if the operator demonstrates to the division's satisfaction that the alternative liner protects fresh water, public health, and the environment as effectively as those prescribed in division guidelines.]~~

(c) Liner specifications. All liners shall meet the following requirements.

(i) Liners for all drilling or work over pits shall be at least 12 mils (.012 inches or .305 millimeters) thick, and manufactured from PVC (Polyvinyl chloride), or other equivalent material that meets or exceeds the various ASTM standards for PVC. Liners for all pits other than drilling or work over pits shall be at least 30 mils (.030 inches or .762 millimeters) thick, and manufactured from PVC, or other equivalent material that meets or exceeds the various ASTM standards for PVC. All synthetic (geomembrane) liners shall have a hydraulic conductivity no greater than  $1 \times 10^{-9}$  centimeters per second.

(ii) Except as otherwise provided in Subparagraph (c) of Paragraph (2) of Subsection C of 19.15.2.50 NMAC, geomembrane liners shall be composed of an impervious, reinforced, synthetic material that is resistant to hydrocarbons, salts and acidic and alkaline solutions. Liner materials shall be resistant to ultraviolet light, or provisions shall be made to protect the material from the sun.

(iii) Liner compatibility shall comply with United States environmental protection agency method 9090A.

(iv) Every pit shall have a properly constructed foundation or firm, unyielding base, smooth and free of rocks, debris, sharp edges or irregularities to prevent rupture or tear of the liner; an adequate anchor trench; wall slopes not exceeding 3H:1V and adequate vent design. Liner seams shall be minimized and oriented up and down, not across a slope. Factory seams should be used where possible. Qualified personnel shall perform all field seaming.

(v) At any point of discharge into or suction from the lined pit, the liner shall be protected from the fluid force or mechanical damage.

(vi) Primary liners and single liners shall, in all cases, be constructed of a synthetic material.

(vii) A secondary liner may be a synthetic liner or an alternative liner approved by the division and certified by a professional engineer. Secondary liners constructed with compacted soil membranes, i.e., natural or processed clay and other soils, shall be at least three feet thick, placed in six-inch lifts and compacted to 95 percent of the material's Standard Proctor Density per ASTM D-698. Compacted soil membranes used in a liner shall undergo permeability testing in conformity with ASTM standards and methods approved by the division before and after construction. All compacted soil membranes shall have a hydraulic conductivity not greater than  $1 \times 10^{-8}$  centimeters per second. The operator shall submit results of pre-construction testing to the division for approval prior to construction.

~~[(e)]~~ (d) Leak detection. [A leak detection system shall be installed between the primary and secondary liner in each disposal or storage pit. The leak] Leak detection [system] systems shall be designed, installed~~;~~ and operated so as to prevent the contamination of fresh water, and protect public health and the environment. The operator shall notify the division at least ~~twenty-four~~ 72 hours prior to the primary liner's installation ~~[of the primary liner]~~ so that a division representative may inspect the leak detection system before it is covered. Leak detection shall not be required for single lined pits.

~~[(d)]~~ (e) Drilling and work over pits. Each drilling or work over pit shall be of an adequate size to assure that a supply of fluid is available and sufficient to confine oil, natural gas~~;~~ or water within its native strata. Only produced fluids may be disposed of into a pit. Operators shall maintain pits free of miscellaneous solid waste or debris. Hydrocarbon-based drilling fluids shall be contained in tanks made of steel or other division-approved material. Immediately after cessation of drilling or work over operations, the operator shall remove any visible or

**Chavez, Carl J, EMNRD**


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**From:** Monzeglio, Hope, NMENV  
**Sent:** Thursday, March 30, 2006 2:34 PM  
**To:** Price, Wayne, EMNRD; 'Jim Lieb'; Chavez, Carl J, EMNRD; Cobrain, Dave, NMENV; Foust, Denny, EMNRD  
**Cc:** 'Ed Rios'; 'Ed Riege'; 'Steve Morris'  
**Subject:** RE: Giant Ciniza PDA/SRU Excavation Pit Followup

NMED approves the backfilling of the excavated area as well.

---

**From:** Price, Wayne, EMNRD  
**Sent:** Thursday, March 30, 2006 11:41 AM  
**To:** Jim Lieb; Chavez, Carl J, EMNRD; Cobrain, Dave, NMENV; Monzeglio, Hope, NMENV; Foust, Denny, EMNRD  
**Cc:** Ed Rios; Ed Riege; Steve Morris  
**Subject:** RE: Giant Ciniza PDA/SRU Excavation Pit Followup

OCD approved of the backfilling of the excavated area at the meeting held on March 28, 2006.

---

**From:** Jim Lieb [mailto:jlieb@giant.com]  
**Sent:** Thursday, March 30, 2006 8:36 AM  
**To:** Price, Wayne, EMNRD; Chavez, Carl J, EMNRD; Cobrain, Dave, NMENV; Monzeglio, Hope, NMENV; Foust, Denny, EMNRD  
**Cc:** Ed Rios; Ed Riege; Steve Morris  
**Subject:** Giant Ciniza PDA/SRU Excavation Pit Followup

Good Morning All:

Yesterday morning, Steve Morris and I took samples from the walls of the excavation pit at the points of (based on visual observation) what appeared to be the highest contamination. We took samples from all four sides. The samples are being sent to Hall Environmental Lab for analysis for TPH (8015B), and BTEX (8021). I will forward the results to you as soon as I receive them from Hall.

I have attached for your review a copy of the analytical including metals for the sample we took from the bottom of the pit on Friday last week.

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

Regards,

Jim Lieb  
 Environmental Engineer  
 Giant – Ciniza Refinery  
 jlieb@giant.com

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**Chavez, Carl J, EMNRD**

---

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Regards,

Jim Lieb  
Environmental Engineer  
Giant – Ciniza Refinery  
jlieb@giant.com

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COVER LETTER

Wednesday, March 29, 2006

Ed Riege  
Giant Refining Co  
Rt. 3 Box 7  
Gallup, NM 87301

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

RE: Cleanup PDA/SRU Excavation Pit Sewer S

Order No.: 0603284

Dear Ed Riege:

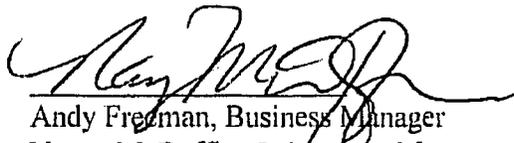
Hall Environmental Analysis Laboratory received 1 sample(s) on 3/24/2006 for the analyses presented in the following report.

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

AZ license # AZ0682  
ORELAP Lab # NM100001



# Hall Environmental Analysis Laboratory

Date: 29-Mar-06

CLIENT: Giant Refining Co  
 Lab Order: 0603284  
 Project: Cleanup PDA/SRU Excavation Pit Sewer Spill  
 Lab ID: 0603284-01

Client Sample ID: Cleanup PDA/SRU Excav Pit S3  
 Collection Date: 3/24/2006 1:30:00 PM  
 Date Received: 3/24/2006  
 Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						
						Analyst: SCC
Diesel Range Organics (DRO)	850	10		mg/Kg	1	3/27/2006 12:00:18 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/27/2006 12:00:18 PM
Surr: DNOP	79.7	60-124		%REC	1	3/27/2006 12:00:18 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						
						Analyst: NSB
Gasoline Range Organics (GRO)	ND	20		mg/Kg	4	3/27/2006 2:49:15 PM
Surr: BFB	117	79-128		%REC	4	3/27/2006 2:49:15 PM
<b>EPA METHOD 7471: MERCURY</b>						
						Analyst: CMC
Mercury	ND	0.033		mg/Kg	1	3/28/2006
<b>EPA METHOD 6010B: SOIL METALS</b>						
						Analyst: NMO
Arsenic	ND	25		mg/Kg	10	3/28/2006 12:43:36 PM
Barium	400	1.0		mg/Kg	10	3/28/2006 12:43:36 PM
Cadmium	ND	1.0		mg/Kg	10	3/28/2006 12:43:36 PM
Chromium	10	3.0		mg/Kg	10	3/28/2006 12:43:36 PM
Lead	5.4	2.5		mg/Kg	10	3/28/2006 12:43:36 PM
Selenium	ND	25		mg/Kg	10	3/28/2006 12:43:36 PM
Silver	ND	2.5		mg/Kg	10	3/28/2006 12:43:36 PM
<b>EPA METHOD 8270C: SEMIVOLATILES</b>						
						Analyst: BL
Acenaphthene	ND	0.20		mg/Kg	1	3/29/2006
Acenaphthylene	ND	0.20		mg/Kg	1	3/29/2006
Aniline	ND	0.20		mg/Kg	1	3/29/2006
Anthracene	ND	0.20		mg/Kg	1	3/29/2006
Azobenzene	ND	0.20		mg/Kg	1	3/29/2006
Benz(a)anthracene	ND	0.25		mg/Kg	1	3/29/2006
Benzo(a)pyrene	ND	0.20		mg/Kg	1	3/29/2006
Benzo(b)fluoranthene	ND	0.20		mg/Kg	1	3/29/2006
Benzo(g,h,i)perylene	ND	0.30		mg/Kg	1	3/29/2006
Benzo(k)fluoranthene	ND	0.50		mg/Kg	1	3/29/2006
Benzoic acid	ND	0.50		mg/Kg	1	3/29/2006
Benzyl alcohol	ND	1.0		mg/Kg	1	3/29/2006
Bis(2-chloroethoxy)methane	ND	0.50		mg/Kg	1	3/29/2006
Bis(2-chloroethyl)ether	ND	0.25		mg/Kg	1	3/29/2006
Bis(2-chloroisopropyl)ether	ND	0.50		mg/Kg	1	3/29/2006
Bis(2-ethylhexyl)phthalate	ND	0.20		mg/Kg	1	3/29/2006
4-Bromophenyl phenyl ether	ND	0.25		mg/Kg	1	3/29/2006

Qualifiers: \* Value exceeds Maximum Contaminant Level  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit

# Hall Environmental Analysis Laboratory

Date: 29-Mar-06

CLIENT: Giant Refining Co  
 Lab Order: 0603284  
 Project: Cleanup PDA/SRU Excavation Pit Sewer Spill  
 Lab ID: 0603284-01

Client Sample ID: Cleanup PDA/SRU Excav Pit S3  
 Collection Date: 3/24/2006 1:30:00 PM  
 Date Received: 3/24/2006  
 Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8270C: SEMIVOLATILES</b>						Analyst: BL
Butyl benzyl phthalate	ND	0.20		mg/Kg	1	3/29/2006
Carbazole	ND	0.20		mg/Kg	1	3/29/2006
4-Chloro-3-methylphenol	ND	0.20		mg/Kg	1	3/29/2006
4-Chloroaniline	ND	0.20		mg/Kg	1	3/29/2006
2-Chloronaphthalene	ND	0.20		mg/Kg	1	3/29/2006
2-Chlorophenol	ND	0.20		mg/Kg	1	3/29/2006
4-Chlorophenyl phenyl ether	ND	0.20		mg/Kg	1	3/29/2006
Chrysene	ND	0.20		mg/Kg	1	3/29/2006
Di-n-butyl phthalate	ND	0.50		mg/Kg	1	3/29/2006
Di-n-octyl phthalate	ND	0.50		mg/Kg	1	3/29/2006
Dibenz(a,h)anthracene	ND	0.25		mg/Kg	1	3/29/2006
Dibenzofuran	ND	0.50		mg/Kg	1	3/29/2006
1,2-Dichlorobenzene	ND	0.20		mg/Kg	1	3/29/2006
1,3-Dichlorobenzene	ND	0.20		mg/Kg	1	3/29/2006
1,4-Dichlorobenzene	ND	0.20		mg/Kg	1	3/29/2006
3,3'-Dichlorobenzidine	ND	0.20		mg/Kg	1	3/29/2006
Diethyl phthalate	ND	0.20		mg/Kg	1	3/29/2006
Dimethyl phthalate	ND	0.20		mg/Kg	1	3/29/2006
2,4-Dichlorophenol	ND	0.20		mg/Kg	1	3/29/2006
2,4-Dimethylphenol	ND	0.20		mg/Kg	1	3/29/2006
4,6-Dinitro-2-methylphenol	ND	0.50		mg/Kg	1	3/29/2006
2,4-Dinitrophenol	ND	0.50		mg/Kg	1	3/29/2006
2,4-Dinitrotoluene	ND	0.20		mg/Kg	1	3/29/2006
2,6-Dinitrotoluene	ND	0.20		mg/Kg	1	3/29/2006
Fluoranthene	ND	0.20		mg/Kg	1	3/29/2006
Fluorene	0.38	0.20		mg/Kg	1	3/29/2006
Hexachlorobenzene	ND	0.20		mg/Kg	1	3/29/2006
Hexachlorobutadiene	ND	0.20		mg/Kg	1	3/29/2006
Hexachlorocyclopentadiene	ND	0.25		mg/Kg	1	3/29/2006
Hexachloroethane	ND	0.50		mg/Kg	1	3/29/2006
Indeno(1,2,3-cd)pyrene	ND	0.20		mg/Kg	1	3/29/2006
Isophorone	ND	0.20		mg/Kg	1	3/29/2006
2-Methylnaphthalene	1.7	0.20		mg/Kg	1	3/29/2006
2-Methylphenol	ND	0.20		mg/Kg	1	3/29/2006
3+4-Methylphenol	ND	0.20		mg/Kg	1	3/29/2006
N-Nitrosodi-n-propylamine	ND	0.20		mg/Kg	1	3/29/2006
N-Nitrosodiphenylamine	ND	0.20		mg/Kg	1	3/29/2006
Naphthalene	0.36	0.20		mg/Kg	1	3/29/2006
2-Nitroaniline	ND	0.50		mg/Kg	1	3/29/2006
3-Nitroaniline	ND	0.50		mg/Kg	1	3/29/2006

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

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CLIENT: Giant Refining Co  
 Lab Order: 0603284  
 Project: Cleanup PDA/SRU Excavation Pit Sewer Spill  
 Lab ID: 0603284-01

Client Sample ID: Cleanup PDA/SRU Excav Pit S3  
 Collection Date: 3/24/2006 1:30:00 PM  
 Date Received: 3/24/2006  
 Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8270C: SEMIVOLATILES</b>						Analyst: BL
4-Nitroaniline	ND	0.25		mg/Kg	1	3/29/2006
Nitrobenzene	ND	0.20		mg/Kg	1	3/29/2006
2-Nitrophenol	ND	0.20		mg/Kg	1	3/29/2006
4-Nitrophenol	ND	0.20		mg/Kg	1	3/29/2006
Pentachlorophenol	ND	0.50		mg/Kg	1	3/29/2006
Phenanthrene	0.59	0.20		mg/Kg	1	3/29/2006
Phenol	0.89	0.20		mg/Kg	1	3/29/2006
Pyrene	ND	0.20		mg/Kg	1	3/29/2006
Pyridine	ND	0.50		mg/Kg	1	3/29/2006
1,2,4-Trichlorobenzene	ND	0.20		mg/Kg	1	3/29/2006
2,4,5-Trichlorophenol	ND	0.20		mg/Kg	1	3/29/2006
2,4,6-Trichlorophenol	ND	0.20		mg/Kg	1	3/29/2006
Surr: 2,4,6-Tribromophenol	98.9	35.5-141		%REC	1	3/29/2006
Surr: 2-Fluorobiphenyl	75.4	30.4-128		%REC	1	3/29/2006
Surr: 2-Fluorophenol	70.9	28.1-129		%REC	1	3/29/2006
Surr: 4-Terphenyl-d14	79.8	34.6-151		%REC	1	3/29/2006
Surr: Nitrobenzene-d5	68.2	26.5-122		%REC	1	3/29/2006
Surr: Phenol-d5	83.8	37.6-118		%REC	1	3/29/2006
<b>EPA METHOD 8260B: VOLATILES</b>						Analyst: KTM
Benzene	0.050	0.050		mg/Kg	1	3/27/2006
Toluene	ND	0.050		mg/Kg	1	3/27/2006
Ethylbenzene	ND	0.050		mg/Kg	1	3/27/2006
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	3/27/2006
1,2,4-Trimethylbenzene	0.26	0.050		mg/Kg	1	3/27/2006
1,3,5-Trimethylbenzene	0.059	0.050		mg/Kg	1	3/27/2006
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	3/27/2006
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	3/27/2006
Naphthalene	0.13	0.10		mg/Kg	1	3/27/2006
1-Methylnaphthalene	0.62	0.20		mg/Kg	1	3/27/2006
2-Methylnaphthalene	0.90	0.20		mg/Kg	1	3/27/2006
Acetone	ND	0.75		mg/Kg	1	3/27/2006
Bromobenzene	ND	0.050		mg/Kg	1	3/27/2006
Bromochloromethane	ND	0.050		mg/Kg	1	3/27/2006
Bromodichloromethane	ND	0.050		mg/Kg	1	3/27/2006
Bromoform	ND	0.050		mg/Kg	1	3/27/2006
Bromomethane	ND	0.10		mg/Kg	1	3/27/2006
2-Butanone	ND	0.50		mg/Kg	1	3/27/2006
Carbon disulfide	ND	0.50		mg/Kg	1	3/27/2006
Carbon tetrachloride	ND	0.10		mg/Kg	1	3/27/2006

Qualifiers: \* Value exceeds Maximum Contaminant Level  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit

# Hall Environmental Analysis Laboratory

Date: 29-Mar-06

CLIENT: Giant Refining Co  
 Lab Order: 0603284  
 Project: Cleanup PDA/SRU Excavation Pit Sewer Spill  
 Lab ID: 0603284-01

Client Sample ID: Cleanup PDA/SRU Excav Pit S3  
 Collection Date: 3/24/2006 1:30:00 PM  
 Date Received: 3/24/2006  
 Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8260B: VOLATILES</b>						Analyst: KTM
Chlorobenzene	ND	0.050		mg/Kg	1	3/27/2006
Chloroethane	ND	0.10		mg/Kg	1	3/27/2006
Chloroform	ND	0.050		mg/Kg	1	3/27/2006
Chloromethane	ND	0.050		mg/Kg	1	3/27/2006
2-Chlorotoluene	ND	0.050		mg/Kg	1	3/27/2006
4-Chlorotoluene	ND	0.050		mg/Kg	1	3/27/2006
cis-1,2-DCE	ND	0.050		mg/Kg	1	3/27/2006
cis-1,3-Dichloropropene	ND	0.050		mg/Kg	1	3/27/2006
1,2-Dibromo-3-chloropropane	ND	0.10		mg/Kg	1	3/27/2006
Dibromochloromethane	ND	0.050		mg/Kg	1	3/27/2006
Dibromomethane	ND	0.10		mg/Kg	1	3/27/2006
1,2-Dichlorobenzene	ND	0.050		mg/Kg	1	3/27/2006
1,3-Dichlorobenzene	ND	0.050		mg/Kg	1	3/27/2006
1,4-Dichlorobenzene	ND	0.050		mg/Kg	1	3/27/2006
Dichlorodifluoromethane	ND	0.050		mg/Kg	1	3/27/2006
1,1-Dichloroethane	ND	0.10		mg/Kg	1	3/27/2006
1,1-Dichloroethene	ND	0.050		mg/Kg	1	3/27/2006
1,2-Dichloropropane	ND	0.050		mg/Kg	1	3/27/2006
1,3-Dichloropropane	ND	0.050		mg/Kg	1	3/27/2006
2,2-Dichloropropane	ND	0.10		mg/Kg	1	3/27/2006
1,1-Dichloropropene	ND	0.050		mg/Kg	1	3/27/2006
Hexachlorobutadiene	ND	0.10		mg/Kg	1	3/27/2006
2-Hexanone	ND	0.50		mg/Kg	1	3/27/2006
Isopropylbenzene	ND	0.050		mg/Kg	1	3/27/2006
4-Isopropyltoluene	ND	0.050		mg/Kg	1	3/27/2006
4-Methyl-2-pentanone	ND	0.50		mg/Kg	1	3/27/2006
Methylene chloride	ND	0.15		mg/Kg	1	3/27/2006
n-Butylbenzene	ND	0.050		mg/Kg	1	3/27/2006
n-Propylbenzene	ND	0.050		mg/Kg	1	3/27/2006
sec-Butylbenzene	ND	0.050		mg/Kg	1	3/27/2006
Styrene	ND	0.050		mg/Kg	1	3/27/2006
tert-Butylbenzene	ND	0.050		mg/Kg	1	3/27/2006
1,1,1,2-Tetrachloroethane	ND	0.050		mg/Kg	1	3/27/2006
1,1,2,2-Tetrachloroethane	ND	0.050		mg/Kg	1	3/27/2006
Tetrachloroethene (PCE)	ND	0.050		mg/Kg	1	3/27/2006
trans-1,2-DCE	ND	0.050		mg/Kg	1	3/27/2006
trans-1,3-Dichloropropene	ND	0.050		mg/Kg	1	3/27/2006
1,2,3-Trichlorobenzene	ND	0.10		mg/Kg	1	3/27/2006
1,2,4-Trichlorobenzene	ND	0.050		mg/Kg	1	3/27/2006
1,1,1-Trichloroethane	ND	0.050		mg/Kg	1	3/27/2006

Qualifiers: \* Value exceeds Maximum Contaminant Level  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit

**Hall Environmental Analysis Laboratory**

Date: 29-Mar-06

CLIENT: Giant Refining Co  
 Lab Order: 0603284  
 Project: Cleanup PDA/SRU Excavation Pit Sewer Spill  
 Lab ID: 0603284-01

Client Sample ID: Cleanup PDA/SRU Excav Pit S3  
 Collection Date: 3/24/2006 1:30:00 PM  
 Date Received: 3/24/2006  
 Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8260B: VOLATILES</b>						Analyst: KTM
1,1,2-Trichloroethane	ND	0.050		mg/Kg	1	3/27/2006
Trichloroethene (TCE)	ND	0.050		mg/Kg	1	3/27/2006
Trichlorofluoromethane	ND	0.050		mg/Kg	1	3/27/2006
1,2,3-Trichloropropane	ND	0.10		mg/Kg	1	3/27/2006
Vinyl chloride	ND	0.050		mg/Kg	1	3/27/2006
Xylenes, Total	0.45	0.050		mg/Kg	1	3/27/2006
Surr: 1,2-Dichloroethane-d4	96.8	74.2-135		%REC	1	3/27/2006
Surr: 4-Bromofluorobenzene	101	72.9-143		%REC	1	3/27/2006
Surr: Dibromofluoromethane	97.7	76.9-138		%REC	1	3/27/2006
Surr: Toluene-d8	85.3	70-126		%REC	1	3/27/2006

Qualifiers: \* Value exceeds Maximum Contaminant Level  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit

CLIENT: Giant Refining Co  
 Work Order: 0603284  
 Project: Cleanup PDA/SRU Excavation Pit Sewer Spill

**ANALYTICAL QC SUMMARY REPORT**

TestCode: 8015DRO\_S

Sample ID: MB-10053	SampType: MBLK	TestCode: 8015DRO_S	Units: mg/Kg	Prep Date: 3/27/2006	RunNo: 18723						
Client ID: ZZZZZ	Batch ID: 10053	TestNo: SW8015		Analysis Date: 3/27/2006	SeqNo: 465040						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10									
Motor Oil Range Organics (MRO)	ND	50									

Sample ID: LCS-10053	SampType: LCS	TestCode: 8015DRO_S	Units: mg/Kg	Prep Date: 3/27/2006	RunNo: 18723						
Client ID: ZZZZZ	Batch ID: 10053	TestNo: SW8015		Analysis Date: 3/27/2006	SeqNo: 465047						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43.43	10	50	0	86.9	67.4	117				

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Sample ID: LCSD-10053	SampType: LCSD	TestCode: 8015DRO_S	Units: mg/Kg	Prep Date: 3/27/2006	RunNo: 18723						
Client ID: ZZZZZ	Batch ID: 10053	TestNo: SW8015		Analysis Date: 3/27/2006	SeqNo: 465048						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44.57	10	50	0	89.1	67.4	117	43.43	2.59	17.4	

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

CLIENT: Giant Refining Co  
 Work Order: 0603284  
 Project: Cleanup PDA/SRU Excavation Pit Sewer Spill

## ANALYTICAL QC SUMMARY REPORT

TestCode: 8015GRO\_S

Sample ID: MB-10052	SampType: MBLK	TestCode: 8015GRO_S	Units: mg/Kg	Prep Date: 3/24/2006	RunNo: 18733						
Client ID: ZZZZZ	Batch ID: 10052	TestNo: SW8015	(SW5035)	Analysis Date: 3/27/2006	SeqNo: 465288						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0									

Sample ID: LCS-10052	SampType: LCS	TestCode: 8015GRO_S	Units: mg/Kg	Prep Date: 3/24/2006	RunNo: 18733						
Client ID: ZZZZZ	Batch ID: 10052	TestNo: SW8015	(SW5035)	Analysis Date: 3/27/2006	SeqNo: 465289						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26.20	5.0	25	0	105	84	120				

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<b>Qualifiers:</b> E Value above quantitation range ND Not Detected at the Reporting Limit	H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits	J Analyte detected below quantitation limits S Spike Recovery outside accepted recovery limits
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CLIENT: Giant Refining Co  
 Work Order: 0603284  
 Project: Cleanup PDA/SRU Excavation Pit Sewer Spill

## ANALYTICAL QC SUMMARY REPORT

TestCode: 8270\_S

Sample ID: MB-10075	SampType: MBLK	TestCode: 8270_S	Units: mg/Kg	Prep Date: 3/28/2006	RunNo: 18759						
Client ID: ZZZZZ	Batch ID: 10075	TestNo: SW8270C	(SW3540)	Analysis Date: 3/29/2006	SeqNo: 465747						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.20									
Acenaphthylene	ND	0.20									
Aniline	ND	0.20									
Anthracene	ND	0.20									
Azobenzene	ND	0.20									
Benz(a)anthracene	ND	0.25									
Benzo(a)pyrene	ND	0.20									
Benzo(b)fluoranthene	ND	0.20									
Benzo(g,h,i)perylene	ND	0.30									
Benzo(k)fluoranthene	ND	0.50									
Benzolc acid	ND	0.50									
Benzyl alcohol	ND	1.0									
Bis(2-chloroethoxy)methane	ND	0.50									
Bis(2-chloroethyl)ether	ND	0.25									
Bis(2-chloroisopropyl)ether	ND	0.50									
Bis(2-ethylhexyl)phthalate	ND	0.20									
4-Bromophenyl phenyl ether	ND	0.25									
Butyl benzyl phthalate	ND	0.20									
Carbazole	ND	0.20									
4-Chloro-3-methylphenol	ND	0.20									
4-Chloroaniline	ND	0.20									
2-Chloronaphthalene	ND	0.20									
2-Chlorophenol	ND	0.20									
4-Chlorophenyl phenyl ether	ND	0.20									
Chrysene	ND	0.20									
Di-n-butyl phthalate	ND	0.50									
Di-n-octyl phthalate	ND	0.50									
Dibenz(a,h)anthracene	ND	0.25									
Dibenzofuran	ND	0.50									
1,2-Dichlorobenzene	ND	0.20									
1,3-Dichlorobenzene	ND	0.20									

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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

CLIENT: Giant Refining Co  
 Work Order: 0603284  
 Project: Cleanup PDA/SRU Excavation Pit Sewer Spill

## ANALYTICAL QC SUMMARY REPORT

TestCode: 8270\_S

Sample ID: MB-10075	SampType: MBLK	TestCode: 8270_S	Units: mg/Kg	Prep Date: 3/28/2006	RunNo: 18759						
Client ID: ZZZZZ	Batch ID: 10075	TestNo: SW8270C (SW3540)		Analysis Date: 3/29/2006	SeqNo: 465747						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

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Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,4-Dichlorobenzene	ND	0.20									
3,3'-Dichlorobenzidine	ND	0.20									
Diethyl phthalate	ND	0.20									
Dimethyl phthalate	ND	0.20									
2,4-Dichlorophenol	ND	0.20									
2,4-Dimethylphenol	ND	0.20									
4,6-Dinitro-2-methylphenol	ND	0.50									
2,4-Dinitrophenol	ND	0.50									
2,4-Dinitrotoluene	ND	0.20									
2,6-Dinitrotoluene	ND	0.20									
Fluoranthene	ND	0.20									
Fluorene	ND	0.20									
Hexachlorobenzene	ND	0.20									
Hexachlorobutadiene	ND	0.20									
Hexachlorocyclopentadiene	ND	0.25									
Hexachloroethane	ND	0.50									
Indeno(1,2,3-cd)pyrene	ND	0.20									
Isophorone	ND	0.20									
2-Methylnaphthalene	ND	0.20									
2-Methylphenol	ND	0.20									
3+4-Methylphenol	ND	0.20									
N-Nitrosodi-n-propylamine	ND	0.20									
N-Nitrosodiphenylamine	ND	0.20									
Naphthalene	ND	0.20									
2-Nitroaniline	ND	0.50									
3-Nitroaniline	ND	0.50									
4-Nitroaniline	ND	0.25									
Nitrobenzene	ND	0.20									
2-Nitrophenol	ND	0.20									
4-Nitrophenol	ND	0.20									
Pentachlorophenol	ND	0.50									

Qualifiers: E Value above quantitation range  
 ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded  
 R RPD outside accepted recovery limits

J Analyte detected below quantitation limits  
 S Spike Recovery outside accepted recovery limits

CLIENT: Giant Refining Co  
 Work Order: 0603284  
 Project: Cleanup PDA/SRU Excavation Pit Sewer Spill

## ANALYTICAL QC SUMMARY REPORT

TestCode: 8270\_S

Sample ID: MB-10075	SampType: MBLK	TestCode: 8270_S	Units: mg/Kg	Prep Date: 3/28/2006	RunNo: 18759						
Client ID: ZZZZZ	Batch ID: 10075	TestNo: SW8270C	(SW3540)	Analysis Date: 3/29/2006	SeqNo: 465747						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Phenanthrene	ND	0.20									
Phenol	ND	0.20									
Pyrene	ND	0.20									
Pyridine	ND	0.50									
1,2,4-Trichlorobenzene	ND	0.20									
2,4,5-Trichlorophenol	ND	0.20									
2,4,6-Trichlorophenol	ND	0.20									

Sample ID: LCS-10075	SampType: LCS	TestCode: 8270_S	Units: mg/Kg	Prep Date: 3/28/2006	RunNo: 18759						
Client ID: ZZZZZ	Batch ID: 10075	TestNo: SW8270C	(SW3540)	Analysis Date: 3/29/2006	SeqNo: 465748						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

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Acenaphthene	1.403	0.20	1.67	0	84.0	24	125				
4-Chloro-3-methylphenol	2.440	0.20	3.33	0	73.3	14.6	154				
2-Chlorophenol	2.003	0.20	3.33	0	60.1	13.3	149				
1,4-Dichlorobenzene	0.9267	0.20	1.67	0	55.5	23.6	118				
2,4-Dinitrotoluene	1.350	0.20	1.67	0	80.8	28	136				
N-Nitrosodi-n-propylamine	1.079	0.20	1.67	0	64.6	28	114				
4-Nitrophenol	2.838	0.20	3.33	0	85.2	13.1	150				
Pentachlorophenol	2.525	0.50	3.33	0	75.8	20.1	139				
Phenol	1.981	0.20	3.33	0	59.5	17.3	141				
Pyrene	1.233	0.20	1.67	0	73.8	29	131				
1,2,4-Trichlorobenzene	1.082	0.20	1.67	0	64.8	17.9	126				

Sample ID: LCSD-10075	SampType: LCSD	TestCode: 8270_S	Units: mg/Kg	Prep Date: 3/28/2006	RunNo: 18759						
Client ID: ZZZZZ	Batch ID: 10075	TestNo: SW8270C	(SW3540)	Analysis Date: 3/29/2006	SeqNo: 465749						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Acenaphthene	1.465	0.20	1.67	0	87.7	24	125	1.403	4.30	25	
4-Chloro-3-methylphenol	2.445	0.20	3.33	0	73.4	14.6	154	2.44	0.232	25	

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

CLIENT: Giant Refining Co  
 Work Order: 0603284  
 Project: Cleanup PDA/SRU Excavation Pit Sewer Spill

# ANALYTICAL QC SUMMARY REPORT

TestCode: 8270\_S

Sample ID: LCSD-10075	SampType: LCSD	TestCode: 8270_S	Units: mg/Kg	Prep Date: 3/28/2006	RunNo: 18759						
Client ID: ZZZZZ	Batch ID: 10075	TestNo: SW8270C	(SW3540)	Analysis Date: 3/29/2006	SeqNo: 465749						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Chlorophenol	2.046	0.20	3.33	0	61.4	13.3	149	2.003	2.14	25	
1,4-Dichlorobenzene	0.9390	0.20	1.67	0	56.2	23.6	118	0.9267	1.32	25	
2,4-Dinitrotoluene	1.445	0.20	1.67	0	86.5	28	136	1.35	6.80	25	
N-Nitrosodi-n-propylamine	1.049	0.20	1.67	0	62.8	28	114	1.079	2.85	25	
4-Nitrophenol	3.027	0.20	3.33	0	90.9	13.1	150	2.838	6.47	25	
Pentachlorophenol	2.456	0.50	3.33	0	73.8	20.1	139	2.525	2.77	25	
Phenol	2.015	0.20	3.33	0	60.5	17.3	141	1.981	1.70	25	
Pyrene	1.290	0.20	1.67	0	77.2	29	131	1.233	4.52	25	
1,2,4-Trichlorobenzene	1.142	0.20	1.67	0	68.4	17.9	126	1.082	5.43	25	

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Qualifiers: E Value above quantitation range  
 ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded  
 R RPD outside accepted recovery limits

J Analyte detected below quantitation limits  
 S Spike Recovery outside accepted recovery limits

CLIENT: Giant Refining Co  
 Work Order: 0603284  
 Project: Cleanup PDA/SRU Excavation Pit Sewer Spill

## ANALYTICAL QC SUMMARY REPORT

TestCode: HG\_CTS

Sample ID: MB-10069	SampType: MBLK	TestCode: HG_CTS	Units: mg/Kg	Prep Date: 3/28/2006	RunNo: 18740						
Client ID: ZZZZZ	Batch ID: 10069	TestNo: SW7471	(SW7471)	Analysis Date: 3/28/2006	SeqNo: 465430						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury	ND	0.033									
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Sample ID: LCS-10069	SampType: LCS	TestCode: HG_CTS	Units: mg/Kg	Prep Date: 3/28/2006	RunNo: 18740						
Client ID: ZZZZZ	Batch ID: 10069	TestNo: SW7471	(SW7471)	Analysis Date: 3/28/2006	SeqNo: 465431						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury	0.1507	0.033	0.1667	0	90.4	80	120				
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Sample ID: 0603284-01CMS	SampType: MS	TestCode: HG_CTS	Units: mg/Kg	Prep Date: 3/28/2006	RunNo: 18740						
Client ID: Cleanup PDA/SRU E	Batch ID: 10069	TestNo: SW7471	(SW7471)	Analysis Date: 3/28/2006	SeqNo: 465434						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury	0.1486	0.033	0.1548	0.01034	89.3	75	125				
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Sample ID: 0603284-01CMSD	SampType: MSD	TestCode: HG_CTS	Units: mg/Kg	Prep Date: 3/28/2006	RunNo: 18740						
Client ID: Cleanup PDA/SRU E	Batch ID: 10069	TestNo: SW7471	(SW7471)	Analysis Date: 3/28/2006	SeqNo: 465435						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury	0.1458	0.033	0.1598	0.01034	84.7	75	125	0.1486	1.94	20	
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<b>Qualifiers:</b> E Value above quantitation range ND Not Detected at the Reporting Limit	H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits	J Analyte detected below quantitation limits S Spike Recovery outside accepted recovery limits
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CLIENT: Giant Refining Co  
 Work Order: 0603284  
 Project: Cleanup PDA/SRU Excavation Pit Sewer Spill

# ANALYTICAL QC SUMMARY REPORT

TestCode: METALS\_SOIL

Sample ID: MB-10055	SampType: MBLK	TestCode: METALS_SOI	Units: mg/Kg	Prep Date: 3/27/2006	RunNo: 18737						
Client ID: ZZZZZ	Batch ID: 10055	TestNo: SW6010A		Analysis Date: 3/28/2006	SeqNo: 465366						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	ND	2.5									
Barium	ND	0.10									
Cadmium	ND	0.10									
Chromium	ND	0.30									
Lead	ND	0.25									
Selenium	ND	2.5									
Silver	ND	0.25									

Sample ID: LCS-10055	SampType: LCS	TestCode: METALS_SOI	Units: mg/Kg	Prep Date: 3/27/2006	RunNo: 18737						
Client ID: ZZZZZ	Batch ID: 10055	TestNo: SW6010A		Analysis Date: 3/28/2006	SeqNo: 465367						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

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Arsenic	25.65	2.5	25	0	103	80	120				
Barium	24.97	0.10	25	0.05813	99.6	80	120				
Cadmium	24.81	0.10	25	0	99.2	80	120				
Chromium	24.62	0.30	25	0	98.5	80	120				
Lead	23.85	0.25	25	0	95.4	80	120				
Selenium	24.25	2.5	25	0	97.0	80	120				
Silver	25.51	0.25	25	0	102	80	120				

Sample ID: LCSD-10055	SampType: LCSD	TestCode: METALS_SOI	Units: mg/Kg	Prep Date: 3/27/2006	RunNo: 18737						
Client ID: ZZZZZ	Batch ID: 10055	TestNo: SW6010A		Analysis Date: 3/28/2006	SeqNo: 465368						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	24.89	2.5	25	0	99.5	80	120	25.65	3.02	20	
Barium	24.44	0.10	25	0.05813	97.5	80	120	24.97	2.14	20	
Cadmium	24.93	0.10	25	0	99.7	80	120	24.81	0.487	20	
Chromium	24.71	0.30	25	0	98.9	80	120	24.62	0.394	20	
Lead	23.91	0.25	25	0	95.6	80	120	23.85	0.227	20	
Selenium	24.23	2.5	25	0	96.9	80	120	24.25	0.0572	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

CLIENT: Giant Refining Co  
 Work Order: 0603284  
 Project: Cleanup PDA/SRU Excavation Pit Sewer Spill

# ANALYTICAL QC SUMMARY REPORT

TestCode: METALS\_SOIL

Sample ID: LCSD-10055	SampType: LCSD	TestCode: METALS_SOI	Units: mg/Kg	Prep Date: 3/27/2006	RunNo: 18737						
Client ID: ZZZZ	Batch ID: 10055	TestNo: SW6010A		Analysis Date: 3/28/2006	SeqNo: 465368						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	25.04	0.25	25	0	100	80	120	25.51	1.85	20	

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Qualifiers: E Value above quantitation range  
 ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded  
 R RPD outside accepted recovery limits

J Analyte detected below quantitation limits  
 S Spike Recovery outside accepted recovery limits

CLIENT: Giant Refining Co  
 Work Order: 0603284  
 Project: Cleanup PDA/SRU Excavation Pit Sewer Spill

**ANALYTICAL QC SUMMARY REPORT**

TestCode: 8260\_S

Sample ID: lcs-10052	SampType: LCS	TestCode: 8260_S	Units: mg/Kg	Prep Date: 3/24/2006	RunNo: 18731						
Client ID: ZZZZZ	Batch ID: 10052	TestNo: SW8260B (SW5035)		Analysis Date: 3/28/2006	SeqNo: 465179						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Benzene	1.220	0.050	1	0	122	80.8	132				
Toluene	0.8183	0.050	1	0	81.8	72.1	126				
Chlorobenzene	0.8900	0.050	1	0	89.0	75.4	140				
1,1-Dichloroethene	0.8421	0.050	1	0	84.2	59	147				
Trichloroethene (TCE)	1.214	0.050	1	0	121	77.2	123				

Sample ID: lcsd-10052	SampType: LCSD	TestCode: 8260_S	Units: mg/Kg	Prep Date: 3/24/2006	RunNo: 18731						
Client ID: ZZZZZ	Batch ID: 10052	TestNo: SW8260B (SW5035)		Analysis Date: 3/28/2006	SeqNo: 465180						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

15 / 16	Benzene	1.141	0.050	1	0	114	80.8	132	1.22	6.64	20
	Toluene	0.9201	0.050	1	0	92.0	72.1	126	0.8183	11.7	20
	Chlorobenzene	0.9475	0.050	1	0	94.8	75.4	140	0.89	6.26	20
	1,1-Dichloroethene	0.7774	0.050	1	0	77.7	59	147	0.8421	7.99	20
	Trichloroethene (TCE)	1.151	0.050	1	0	115	77.2	123	1.214	5.39	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

Sample Receipt Checklist

Client Name GIANTREFIN

Date and Time Received:

3/24/2006

Work Order Number 0603284

Received by AT

Checklist completed by

Signature

*[Handwritten Signature]*

Date

3/24/06

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:

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Client contacted \_\_\_\_\_ Date contacted: \_\_\_\_\_ Person contacted \_\_\_\_\_

Contacted by: \_\_\_\_\_ Regarding \_\_\_\_\_

Comments: \_\_\_\_\_

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Corrective Action \_\_\_\_\_

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# CHAIN-OF-CUSTODY RECORD

QA/QC Package:

Std  Level 4

Other: \_\_\_\_\_

Client: **GIANT REFINING CO.  
CIMIZA**

Project Name: **CLEANUP PDA/SRU  
EXCAVATION PIT  
SEWER SPILL**

Address: **ROUTE 3, BOX 7  
GALLUP, NM 87301**

Project #: **0224061900**

Project Manager: **ED RIEGE**

Phone #: **505-722-3833**

Sampler: **STEVE MORRIS**

Fax #: **505-722-0210**

Sample Temperature: **4**



**HALL ENVIRONMENTAL  
ANALYSIS LABORATORY**  
4901 Hawkins NE, Suite D  
Albuquerque, New Mexico 87109  
Tel. 505.345.3975 Fax 505.345.4107  
www.hallenvironmental.com

## ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative			HEAL No.	BTX + MTBE + TMB's (8021)	BTX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO <sub>2</sub> , NO <sub>3</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / PCB's (8082)	8260B (VDA)	8270 (Semi-VDA)	Air Bubbles or Headspace (Y or N)		
					HgCl <sub>2</sub>	HNO <sub>3</sub>																	
3/24/06	1330	SOIL	CLEANUP PDA SRU EXCAVATION PIT S3	3x402				06032841															
								-1	X						X			X	X				

Date: 3/24/06

Time: 1600

Relinquished By: (Signature) *Steve Morris*

Received By: (Signature) *[Signature]*

Remarks: Rush 24 hr. - 8015 + 8260  
72 hr. - 8279 + 9 Metals

Date:

Time:

Relinquished By: (Signature)

Received By: (Signature) 3/24/06  
1600

**Chavez, Carl J, EMNRD**

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**From:** Chavez, Carl J, EMNRD  
**Sent:** Wednesday, March 29, 2006 8:15 AM  
**To:** 'Ed Riege'  
**Cc:** Price, Wayne, EMNRD  
**Subject:** Fire Variance Request to State Forester Instructions

Ed:

Good morning. I am writing to follow up with a recommendation to Giant Ciniza regarding our flare stack fire inspection yesterday afternoon. Oil and gas facilities with flare stacks may need to apply for an "Exception" with the Energy, Minerals and Natural Resources Department (EMNRD), Forestry Division (FD).

The FD issued a gas flare restriction on March 17, 2006. The restrictions apply to state land in about 26 counties in eastern, southwestern, central and north central New Mexico. The FD grants exceptions to flaring if the following conditions are met:

- \* At least one adult is on site with communications equipment adequate to reach county dispatch and the local fire department in the event of a fire. The individual should also be equipped with a shovel and a water backpack pump or other equipment to deliver water to suppress a fire.
- \* The local fire department and county dispatch are notified at least 24 hours in advance of anticipated releases that will result in flaring. If flaring is done by an automated system then the schedule of flaring should be provided to the local fire department and county dispatch.
- \* Unless the flaring is needed for safety purposes, it should not be done on days that are "red flag days" as determined by the National Weather Service or on days when the sustained wind is in excess of 25 mph.

The new rules are not a prohibition, but a restriction because companies can apply for exceptions to the rules. The restriction applies to non-Federal, non-municipal and non-tribal lands in 26 counties. For more information on the "exception" please refer to the link provided below.

EMNRD FD Variance or Exception Request Website  
<http://www.emnrd.state.nm.us/emnrd/forestry/restrictions/restrictions.cfm>

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/>  
(Pollution Prevention Guidance is under "Publications")