GW - <u>32</u>

GENERAL CORRESPONDENCE

YEAR(S):

3/06 -> 1/13/06

OCD Agenda Items- By Carl Chavez March 28, 2006

OCD Follow Up Items from September 8, 2005 Site Inspection Ciniza Refinery Meeting March 28, 2006

Post September 8, 2005 Inspection Follow Up Items

- 1. Dennis Fuhs of Fuhs Construction plans to be onsite Jan. 3rd to clean up banks on aeration lagoons 1 & 2 as well as evaporation ponds 1 and 2. He will also build a berm around the LPG bullet tanks and light natural gasoline tanks NE side of the refinery by the RR Loading Rack. When those two projects are complete he will take care of the mounds of soil east of the Central OCD landfarm. During the November 10, 2005 storm water inspection meeting with NMED and the OCD follow up meeting, the OCD also required a berm around the refinery process area to prevent process area drainage from impacting storm water drainage areas. Have all of the berms for the above areas been completed? Jim Lieb's email msg. of 3/2/06, indicated Fuh's Trucking had completed 70% of cleanup of the ALs and EPs. What is the status of cleanup at ALs and EPs?
- 2. What is the status of the chopper pump? According to Jim Lieb, on 3/2/06, it was installed and is working fine. Giant had already planned to install a chopper pump before the OCD 9/8/05 site inspection right? Explain why the new chopper pump in the NAPI was needed and how it improves Giant's treatment system?
- 3. Is the secondary containment system (SCS) at the NAPIS holding? From the Nov. 10, 2005 meeting, Giant indicated that there had been some fluctuation in fluid level in the SCS, but lately the level had remained constant at 1 ft. of head. Giant felt the primary and secondary containment systems inside and outside the NAPI have integrity. *OCD is concerned about the integrity of the secondary containment system because there may be a hydrogeologic connection between the water table aquifer and SCS. This could result in the potential for leaking contaminants to discharge to the surface and/or migrate via groundwater beneath the refinery property. The above was noticed after Giant had attempted to patch cracks in the NAPIS and had installed a secondary containment liner system beneath the NAPIS; however, Giant is now detecting 1 foot of water in the secondary containment system beneath the NAPI.*
- 4. On 2/10/06, Jim Lieb measured the in-flow to AL1 from the OAPI at 4.12 gpm. Is Giant routinely monitoring flow rates over time to its treatment system? This should help in the Pilot Plant Effluent Study and in the day-to-day assessment of the treatment system's loading and capacity.
- 5. During the Nov. 10, 2005 meeting, the OCD discussed concerns about the Pilot Station Effluent (PSE) discharging directly into AL1 w/o treatment. The OCD was concerned about PSE overloading the treatment system. The OCD requested sampling of the PSE; i.e., BOD, COD, TPH, 8260, 8270, 8310, etc. From the requested sampling, BOD and COD levels were found to be elevated; however, BTEX, etc. were within RCRA standards. The OCD requested an interpretation of the analytical data results from Giant.

OCD Agenda Items- By Carl Chavez March 28, 2006

The OCD also requested that Giant sample EP1 weekly for BOD/COD and determine the volume flow rate from the PSE, refinery process water, determine hazardous constituent concentrations, and estimate loading to the current treatment system to compare with the total capacity of the current treatment system. If loading exceeds it's treatment capacity, then Giant needs to undertake actions to operate within its treatment capacity. *Giant responded with its Pilot Plant Effluent Summary and requested further study of its treatment system in a report to be submitted in July 2006. The OCD approved the request with some other conditions. To get a handle on its current treatment system capacity efficiency, OCD had inquired to Giant if it would consider analytical testing for phenol at the influent and effluent to the ALs and % reduction. What does Giant think?*

- 6. Request for reduced frequency of BOD & COD sampling at EP1 from weekly to monthly in EP1? How will this affect Pilot Plant Effluent Study? From Section 20(3) of the OCD permit, Giant samples the pilot plant effluent for TCLP and BOD on a quarterly basis with 24 hour reporting and immediate corrective action if RCRA Standards are exceeded. Also, is Giant amenable to Phenol sampling of influent and effluent from ALs 1 & 2? OCD first mentioned it after reviewing Giant's "Pilot Plant Effluent Summary" and more recently in the response to a verbal message from Steve Morris of Giant requesting reduced BOD/COD sampling frequency at AL2 or EP1.
- 7. Per section 20(3) of the permit, is Giant also monitoring for RCRA TCLP constituents at the PSE? If so, have levels always been below RCRA Standards? Please provide all historical RCRA quarterly monitoring data to the OCD from Pilot Plant effluent into AL1 per section 20(3) of the OCD permit.

Process vs. Storm Water Drain

- 1. Has Giant isolated all of the contact areas from storm water or non-contact areas on the site? See OCD's e-mail dated Nov. 21, 2005 and Dec. 20, 2005 to Ed. Riege of Giant. What is the status of oil, TPH, etc., in the OAPIS from weekly monitoring? Is benzene still being detected in the OAPIS? If so, at what concentration?
- 2. Vector Arizona Inc. was supposed to be onsite all week (11/28/2005 12/2/2005) to put together the storm water/process water site map (Steve Morris Nov. 29, 2005 msg.). Did Vector evaluate the storm/process water drainage near the FCC Unit and within Refinery Processing area(s)? What if anything was done to test for leakage into the drainage line into the OAPIS by Vector or Giant?
- 3. Does Giant understand NMED Inspector Richard Powell's November 10, 2005 storm water declaration that any drains within the refinery process area are considered process drains. Also on this date, the OCD indicated that Giant needs to route contaminated or contact water from the OAPIS to a benzene stripper before it can be discharged into aeration lagoon #1 (AL1). We need to agree that the drain referred to as a storm drain is really a process drain? Second, regardless of its use as a process drain or storm drain, the influent into the drainage system needs to be known. Third, if the drain is used as a

OCD Agenda Items- By Carl Chaves March 28, 2006

process drain, effluent must be properly treated through a benzene stripper or other acceptable treatment system before discharge into the aeration lagoons. Fourth, if the drain is used as a storm drain, then all influent from refinery process drainage must be plugged or eliminated from the drain and storm water drainage should be routed to a nearby storm water run-off area and not into the ALs.

- 4. On 11/15/05, the OCD sent Giant an e-mail requirement for Giant to address the OAPIS, since there appears to be another point source(s) migrating into the OAPIS from the storm water drain (really a process drain) within the FCC and Process Unit. Giant indicated it is working to investigate the source(s) of contamination. Ed Riege indicated in an e-mail msg. dated 11/29/05, in response to an OCD e-mail dated 11/15/05 where the OCD stated it does not think that Giant has isolated and eliminated the source(s) of oil or hazardous waste accumulation at the OAPIS that Vector Engineering started their site survey on storm water/process water yesterday, November 28, 2005. Vector's report was supposed to be due the end of December and Giant's goal "will be to find and eliminate all sources of oil in the drainage system to the OAPIS." On 12/9/05, Steve Morris indicated by e-mail that Vector Arizona Inc. completed the field portion of the storm water site map on December 2, 2005 and that Vector plans to have the first draft to us in a couple of weeks. The OCD may have received Vector's report in Giant's response to NMED's Storm Water Inspection? Is Vector's report in Giant's Storm Water Inspection response to NMED? Did Giant investigate the drainage system to the OAPIS in their report? The OCD was unaware that Giant still did not know the source(s) for contamination in the drainage system leading to the OAPIS until 3/8/06, the date of the telephone conference call with Giant and OCD/NMED. Where is Vector's survey on storm water/process water report expected by Giant to be completed at the end of December 2005? If Giant was unable to identify a source(s) for contamination in the OAPIS, why hasn't Giant followed up with OCD/NMED before 3/8/06 to determine a course of action for identifying sources of contamination into the OAPIS?
- 5. OCD/HWB has been concerned about hazardous wastes in contact with storm water at the OAPIS. On March 8, 2006, a telephone conference call was held between Giant, NMED and the OCD, to discuss routing OAPIS effluent into the NAPIS at $\leq 1 - 2$ gpm with a discharge bypass to go directly into ALs upon exceedence of the flow rate conditions. The OCD discovered that Giant still had not identified the source(s) of contamination into the OAPIS during the call. Giant indicated it was going to place 6 to 10 plugs near the compressor/ blower and FCC Unit to plug sewer drains. Any overflow into sewer drains would discharge into the NAPIS through the process drain network. Giant had already plugged off the drain near the sulfur recovery unit 2 weeks ago. Giant agreed during the call to provide a commitment with procedures and schedule of how to find and isolate leaks from refinery process area into the drain leading into the OAPIS. The HWB/OCD wants a commitment to eliminate process water from leaking into the storm water drain or system and monitor it by 3/28/06, the date of the next meeting at the Ciniza Refinery. The OCD/HWB does not want the OAPIS to become a storm water containment system. Also, the OCD/HWB learned that the new storm water (really a process water drain) drainage system beneath the refinery process area drains into the OAPIS, while the rest of the older process water drainage system discharges into

OCD Agenda Items- By Carl Chavez March 28, 2006

the NAPIS, benzene strippers, and then into the ALs. According to OCD/HWB, the drainage system tied into the OAPIS is actually a process drain. The OCD/HWB recommended die tracing and/or pressure testing of the storm water system. Dye placed in process water could be traced into storm water system feeding into the OAPIS and Giant indicated the test could be done during the upcoming turn around at the refinery. According to Wayne Price of OCD, the goal should be to separate storm water and process water drainage systems so storm water does not discharge and flood aeration lagoons unless it is contaminated. If Giant can identify a source(s) into the storm water drain and eliminate it or them, then no F-037 listed waste will be in storm water and there would be no violation to OCD/HWB regulations. However, there is still a fundamental nomenclature issue when Giant calls the drainage system under the refinery process unit and FCC unit a storm drain when it may actually need to be called a process drain by definition, unless Giant can eliminate process water from entering the drain. There may be other options like collecting storm water in a large nearby tank, testing it, and discharging it into the storm drain if it meets WQSs. Giant said the large tank(s) is too far away to do this. The goal is to keep OAPIS effluent out of the ALs if it is NOT contaminated and there is not discharge or leaks from process water into the drainage system. In the interim, Giant should route Low flow from the OAPIS into the NAPIS for proper treatment before discharging into the ALs. Second, if due to flow rates Giant cannot discharge OAPIS effluent into the NAPIS for treatment, it should install a benzene stripper to treat OAPIS effluent before routing it to the ALs. The OCD/HWB is concerned about hazardous waste(s) (F-037) in contact with storm water at the OAPIS.

6. *What is the* Status of Giant's compliance with the NMED's Storm water letter dated December 19, 2005 stemming from the Nov. 10, 2005 Storm Water Inspection by Richard Powell?

Miscellaneous Items

1. What is the status of Giant Refinery's RO Reject Water fire pit request? Giant had last indicated that the pit request is ongoing with permeability test results in hand, etc.

Storm Water Pollution Prevention Plan

Annex 13 - Stormwater Pollution Prevention Plan

Revision 3: 4/28/04



Annex 13 Appendix C

Storm Water Pollution Prevention Plan

Annex 13 - Storm. ater Pollution Prevention Plan

Revision 3

4/28/04



Giant Ciniza Refinery

Annex 13 Appendix C

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Giant Ciniza Refinery

Annex 13 Appendix C

1



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

Commitment for Resolution of

API Separator Storm Water Issues

Giant Industries, Inc. – Ciniza Refinery

March 28, 2006

Introduction

The Giant Industries, Inc. Ciniza Refinery (Ciniza) has separate process waste water and storm water sewers in its refinery processing area. The storm water sewer system was installed in 1996. The process waste water sewer system dates back to 1957. Until fairly recently, the process waste water sewer and storm water sewer systems flowed into a single API separator. In October 2004, the process sewer system was tied into a new API separator (NAPIS) while the storm sewer system remained tied into the original API separator (OAPIS) which currently serves as a storm water collection/separator.

Ciniza is concerned about entry of water through the storm sewer system into the OAPIS during dry weather conditions. Ciniza has installed a pump to divert a small quantity of dry weather flow from the OAPIS into the NAPIS. Ciniza wants to assure that there is not a cross connection somewhere between the process sewer and storm sewer systems which is enabling water to enter the storm sewer system and the OAPIS and that there are no locations where dry weather flow is entering surface drains into the storm water sewer system. If any exist, the connections will be plugged.

Ciniza has recently discussed the issue with the Oil Conservation Division and New Mexico Environment Department, Hazardous Waste Bureau. Most recently, during a conference call with OCD and NMED on March 8, 2006, it was mutually agreed that Ciniza would prepare a Commitment including a schedule for submittal to OCD and NMED on March 28, 2006.

Corrective Action Plan

During the conference call with OCD and NMED on March 8, 2006, it was mutually agreed that performing a dye trace study to identify possible cross connections would be a good idea to pursue. Ciniza will bid out the dye trace study to a consulting and

engineering company. A request for proposal was sent out to URS Corporation and Trihydro Corporation on March 16, 2006. Ciniza will conduct the study during the upcoming refinery turn-around in April. The study will also identify locations where dry weather flow potentially could enter the storm sewer through surface drains and block them off to prevent the water entering the storm water sewer system.

Once Ciniza has eliminated the small amount of dry weather flow from the storm sewer system, Ciniza will pipe/route the non-hazardous storm water flows into an unused pond for temporary holding. The unused pond (dry) is the pond that Ciniza recently discussed with OCD in 2005 for use as a fire water reservoir. The pond has more than sufficient capacity (greater than 1 million gallons of water) to hold a large storm runoff event. Ciniza believes the pond would serve as an excellent choice for a surge holding reservoir for storm water and so should be included in this Commitment.

The pond itself consists of two cells; one cell is currently being used for sewage effluent and is 1/3 the size of the second cell. The second cell is larger and, to the best of our knowledge, has never been used for sewage effluent or other uses. Ciniza would use the second cell as the storm water retention basin. The cells are separated by an earthen berm measuring 15-18' at its base. The earthen berm will be re-built and strengthened prior to the use of the second cell. The dimensions of the berm are approximately 20' bottom X 10' top X 10" ASL. The soil composition is the same as our other ponds (clay) which is several feet thick with negligible permeability (as demonstrated from our other ponds).

Ciniza has procedures and policy in place to isolate contaminants from storm water. The dye trace study and storm sewer blocking activities that Ciniza will conduct will improve the isolation of contaminants from storm water by preventing contaminants from getting into the storm water sewer system. In addition, Ciniza would install a liner and piezoelectric leak detection system in the pond.

Ciniza proposes to run piping from the storm water/fire water pond to the evaporation ponds. If the storm water was ever contaminated with oil, the oil-contaminated storm water would be skimmed off of the pond by a vacuum truck. Use of the pond will render the OAPIS no longer necessary for storm water management so Ciniza will remove the OAPIS from service and decommission it after the pond is prepared.

During the conference call, OCD mentioned that clean storm water can be routed directly to the evaporation ponds. If more storm water is retained than is needed for fire suppression, the excess storm water would only be discharged to the evaporation pond after it is tested and shown to be clean. During the first couple storm events that require Ciniza to release water from the pond, Ciniza will test the discharge to show there is no contamination. During subsequent releases of storm water to the evaporation ponds, Ciniza will use visual observations for detection of contamination.

Schedule

Action Item:

- 1. Conduct Dye Trace Study:
- 2. Interim Progress Report to OCD/NMED:
- 3. Block off storm sewer drains
- 4. Install piping to pond:
- 6. Interim Progress Report to OCD/NMED:
- 7. Install liner and leak detection in pond:
- 8. Remove OAPIS from service:
- 9. Final Progress Report to OCD/NMED:

Completion Date:

Refinery Turn-around in April 2006 May 15, 2006 July 30, 2006 August 10, 2006



	NEW OIL WATER SEPARATOR									
			SECO	ONDAR)			T INSPE	CTIONS	S	
		STAR	T DEPTH T	O BOTTOM	OF SECON	DARY CON	TAINMENT	EQUALS	- 13.25 FEET	
	WATER									
	LAYER				ETHYL		XYLENES,			
	THICKNESS		BENZENE	TOLUENE	BENZENE	MTBE	TOTAL			
DATE	(FEET)	COMMENTS	(ug/L)	(ug/L)	(<u>ug</u> /L)	(ug/L)	(ug/L)			
10/1/2004	*	* See attache	d inspection	report dated	1 10/14/05					
10/14/2004	0.17									
11/18/2004	1.15									
12/16/2004	1.75									· .
1/21/2005	3.25			···	<u> </u>			1		
2/15/2005	3.35	SAMPLED	1.1	0.9	0.62	l	5.7			
3/17/2005	3.53									
4/11/2005	3.65	-								
5/3/2005	3.95	4								
6/10/2005	3.9	4								
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8/3/2005		SAMPLED	150	130	ND	1000	<u> </u>			
9/29/2005	6.8		1 100	100		1000	0			
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10/4/2005	5.5				ine water ne		iny sale abo			
10/5/2005	0.15	This was just	vacuumed c	ut now. Wa	ter taken out	about 10 b	arrels			-
10/12/2005	0.1	Continuous p	umping of be	elow grade t	ank.					
10/18/2005		Air driven pun	np removing	all water bu	at one inch o	n the bottor	n while repai	rs are bein	a made to s	eparator.
10/26/2005		Air driven pun	np removing	all water bu	t one inch o	n the botton	n while repai	rs are bein	ig made to s	eparator.
11/2/2005	1					•	•		•	•
11/9/2005	1	1								
11/15/2005	1.2									
11/21/2005	1.4									
11/23/2005	1.55	After measuri	ng, all water	was pumpe	ed out.					
11/25/2005	0.22	ļ								
11/28/2005	0.35	4								
12/7/2005	0.65	1								
12/14/2005	0.8									
12/19/2005	1.2	ļ								
12/28/2005	1.8									
1/4/2006	1.95									
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1/10/2000	2.25	· ·								
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2/22/2006	3.2									
3/6/2006	3,35									
3/11/2006	3.3									
3/16/2006	3.55	1								

Ed Riege

From:	John Laurent
Sent:	Tuesday, February 28, 2006 1:01 PM
То:	Ed Riege
Cc:	Jim Hallock
Subject:	Liners Info

Attachments:

Sump Liner Case Study; Old API Separator Lining System; API Secondary Liner Repair

Ed,

Attached are two e-mails I received. Nilex seems to have their act together. I also attached Jim's e-mail for the repairs to the existing liner on the new API. The main reason we need to wait for warm weather is the liner material is similar to a vinyl liner you would put in a portable pool. When it gets cold the material is brittle. Once the excavation is done around the liner at the new API there will be dirt that has to be cleaned off the liner first. If it is cold this will be difficult to do. Also applying the patches to brittle material will be difficult and lessens the chance of sealing the leaks.

My suggestion is you work with Nilex to come do the old API. If they do come, then we could get the new API excavated and they could also patch that liner while they are here. I would also want them to do a vacuum test on the new liner they install and the old liner they patch to make sure we do not have any leaks. They may be more expensive then local people but with them maybe we can avoid having to revisit problems with liners due to the installation techniques and testing Nilex does.

John

Sump Liner Case Old API Separator Study Lining Syste...

ld API Separator API Secondary Lining Syste... Liner Repair



API Secondary Liner Repair VLDPE ? HOPE? No Securi

The new API secondary liner is made from a 40 mil polyethylene material welded at the seams. The leak detection port is located at the southwest end of the new API pit and is approximately 14 ft. deep. The maximum depth of the water in the liner is approximately 36", which indicates the hole in the secondary liner is not higher than 36" above the bottom of the liner. Please follow the following recommended steps in repairing the new liner:

- 1. Excavate the entire south end of the new API and shore the excavation in accordance with the appropriate OSHA regulations. The liner should be exposed to the bottom of the API on all three sides of the sludge collection pit. Extreme caution must be taken in excavating around the weir box and the liner!
- 2. A water sump must also be included in the excavation to drain any ground water to a specified area so it can be pumped out of the excavation. Install a temporary sump pump after an adequate water sump has been excavated.
- 3. Temporarily fill the liner with dyed water to approximately 3 ft. of depth. Special care must be taken to properly support the secondary liner to eliminate the possibility of damaging the liner during this step.
- 4. Inspect the liner carefully for any discoloration in any water around the excavated area to locate possible leak areas in the liner.
- 5. After the leaks have been located, drain the liner and dry the area around the leak. Repair the liner in accordance with the suppliers recommended procedures. The ambient temperature must be above 50 deg. F during all repairs. Special care must be taken if the ambient temperature is below 50 deg. F.
- 6. After all leaks have been located and repaired, fill in the excavation and recompact the fill material according to GI standards.

It is highly recommended the liner be repaired during the spring or summer time periods and not during the cold winter months due to safety considerations. It would be extremely difficult to enclose the excavation since it will be so large and keep it heated above 50 degrees F so the repairs can be made.



ENGINEERING + CONSTRUCTION + MAINTENANCE + "Quality Industrial Services for the 21st Century"

Refiniva process Arec

March 2, 2006

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Giant Refining Co. Refinery Road I-40 Jamestown, NM

Attention: Ed Riege

Reference: Demolition and installation of New Curb Ciniza Refinery

Ref-Chem is pleased to submit this Budgetary Price for the above referenced project. The scope consists of the demolition of some existing curb, and installing 1,000 LF of new curb. Our bid is based on our verbal discussions and walk through with Giant Refining, and the Ref-Chem's attached Cost of Work Basis.

Estimated cost of demo \$ 6,000 Estimated cost to install new curb \$78,500 (Includes equipment) \$ Total \$84,500

We appreciate the opportunity to provide our services for Giant Refining, and look forward to working with you on this project. If you have questions concerning this proposal, or require more information, please call Joe Martinez at (432) 332-8531 or (432) 413-2938.

Sincerely,

Joe Martinez Project Manager

Attachments

REF-CHEM, L.P.

P.O. Box 2588 • Odessa, TX 79760 1128 S. Grandview • Odessa, TX 79761 (432) 332-8531 • Fax: (432) 332-3325

P.O. Box 262507 • Houston, TX 77207 120 N. Munger • Pasadena, TX 77506 (713) 477-4471 • Fax: (713) 477-6456

Demolition and installation of New Curb Ciniza Refinery Ref-Chem's Proposal COST OF WORK BASIS, 3/02/2006

- 1. Our proposal is based on working a 50-hour workweek.
- 2. We have not included the handling or disposal of material that could be deemed contaminated or hazardous. Our proposed schedule does not allow for any delays due to removal of contaminated soils.
- 3. Construction Schedule delays beyond our control will be considered as extra work. Delays on getting daily work permits to start work, plant upsets, materials and drawings provided by others, etc., will be invoiced as extra work.
- 4. Our proposal is based on hand and mechanical excavation for the foundation, as discussed. Backfill is based on reusing the same materials excavated. Should Ref-Chem encounter underground obstructions such as solid rock or abandoned piping, the removal cost if required shall be considered extra work. The client is responsible for identifying and locating underground lines before any excavation begins.
- 5. Giant Refining will furnish all materials.
- 6. Electrical work, painting, site work, etc., are not included in this budgetary price.
- 7. Ref-Chem has included the equipment required to perform this work.
- 8. New Mexico Gross Receipt Sales Tax, are not included in this price.



GIRNT

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

March 24, 2006

Ms. Hope Monzeglio Project Leader Permits Management Program New Mexico Environment Department Hazardous Waste Bureau 2905 Rodeo Park Drive East, Bldg 1 Santa Fe, New Mexico 87505

SUBJECT: INFORMATION REQUEST FOR AERATION LAGOON AND API SEPARATOR FLOW RATE AND CAPACITY GIANT REFINING COMPANY, CINIZA REFINERY HWB-GRCC-MISC

Dear Ms. Monzeglio:

In response to your letter on the same subject, Giant Industries, Inc. - Ciniza Refinery hereby provides the capacity and flow rate data that you requested. The information is provided below:

a. The average flow rate of effluent discharged by the new API separator on a daily, weekly and monthly basis:

The most recent measurements show the total flow of effluent from Pond 2 at the permanent V-notch weir at 123 gpm. On the same day, Giant also measured the flow from the boiler plant where it enters the Pond 2 at the temporary V-notch weir at 22 gpm. Subtracting the boiler plant flow from the overall flow provides the flow from the aeration lagoons to Pond 1 = 123 gpm - 22 gpm = 101 gpm.

Subtracting the Pilot Station sanitary flow (8 gpm) from the flow from the aeration lagoons to Pond 1 then provides the flow of effluent from the new API separator = 101 gpm - 8 gpm = 93 gpm.

Daily flow = 93 gpm x 60 min/hr x 24 hr/day = 133,920 gpd Weekly flow = 133,920 gpd x 7 days/week = 937,440 gpw Monthly flow = 937,440 gpw x 4 weeks/month = 3.75 Mgm

b. The maximum capacity (volume) of each of the aeration lagoons 1 and 2:

Depth measurements of the lagoons were recently taken. Based on the recent measurements, the capacity of the ponds are:

Aeration lagoon l = 0.36 acre x 43,560 sq ft/acre x $\frac{3}{4}$ x 4.5 ft x 7.48 gal/cu ft = 395,900 gallons (approx) Aeration lagoon 2 = 0.56 acre x 43,560 sq ft/acre x $\frac{3}{4}$ x 4.5 ft x 7.48 gal/cu ft = 615,800 gallons (approx) Ms. Hope Monzeglio Page 2 of 2

c. The average daily flow (volume) currently passing through the aeration lagoons to evaporation pond 1:

The gpm value for the aeration lagoon flow rate was calculated in the determination of the flow rate in a. = 101 gpm

Daily flow = 101 gpm x 60 min/hr x 24 hr/day = 145,440 gpd

d. The maximum flow rate that the aeration lagoons can effectively treat:

Based on aerator size and hp rating, the maximum treatment capacity of both lagoons combined is 1,500 pounds per day of BOD. Based on an average BOD influent of 700 mg/l this correlates to:

 $1500 \text{ lbs/day x } 2.2 \text{ kg/lb x } 10^6 \text{ mg/kg x } 1 \text{ l/700 mg x } 1 \text{ gal/3.785 } 1 = 1.24 \text{ MGD}$

e. The maximum capacity (volume of waste water that the New API separator can treat:

The new API separator was designed to treat 300 gpm of waste water total. It consists of two bays each of which can treat a maximum of 150 gpm for a total of 300 gpm.

f. The average volume of waste water that is treated by the new API separator on a daily, weekly and monthly basis:

The average amount of slop oil generated on a daily basis is approximately 5,500 gpd. This is the daily average amount sent to the NAPIS. The total amount of waste water on a daily basis also includes the waste water component. The waste water component was determined in a. at 133,920 gpd. Therefore, the total volume treated by the NAPIS is the sum of the two waste streams = 5,500 gpd + 133,920 gpd = 139,420 gpd.

Daily flow = 139,420 gpd Weekly flow = 139,420 gpd x 7 days/week = 937,440 gpw Monthly flow = 937,440 gpw x 4 weeks/yr = 3.75 Mgm

If you have any questions regarding the information provided in this letter, please contact me at (505) 722-0227.

Sincerely

Jim Lieb Environmental Engineer Giant Industries, Inc. – Ciniza Refinery

Cc: Ed Riege Steve Morris Ed Rios





COVER LETTER

Wednesday, March 08, 2006

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

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

RE: NMED Monthly Water Samples

Order No.: 0602238

Dear Steve Morris:

Hall Environmental Analysis Laboratory received 4 sample(s) on 2/24/2006 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



4901 Hawkins NE^{II} Suite DI Albuquerque, NM 87109 505.345.3975 I Fax 505.345.4107 www.hallenvironmental.com

CLIENT: Giant Refining Co				Lab Orde	r: 0602238
Project: NMED Monthly Wa	ter Samples				
Lab ID: 0602238-01			Collection	Date: 2/23/20	006 8:00:00 AM
Client Sample ID: AL-2 to EP-1			M	atrix: AQUE	OUS
Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE	Ē				Analyst: SCC
Diesel Range Organics (DRO)	52	3.0	mg/L	1	2/28/2006 10:08:02 AM
Motor Oil Range Organics (MRO)	ND	15	mg/L	1	2/28/2006 10:08:02 AM
Sur: DNOP	137	58-140	%REC	1	2/28/2006 10:08:02 AM
					Analysis NCO
Casalian Bango Organice (CBO)	24	. 10	ma/1	20	Analyst: Nob
	2.4	70 7.110		20	3/0/2000 11:39:39 AN
	110	19.1-110	7ªREU	20	3/0/2000 11:39:39 AM
EPA METHOD 7470: MERCURY					Analyst: CMC
Mercury	0.0017	0.00020	mg/L	1	3/2/2006
EPA 6010: TOTAL RECOVERABLE M	ETALS				Analyst: CMC
Arsenic	0.028	0.020	mg/L	1	3/6/2006 12:16:52 PM
Barium	0.16	0.020	mg/L	1	3/6/2006 12:16:52 PM
Cadmium	ND	0.0020	mg/L	1	3/6/2006 12:16:52 PM
Chromium	0.0094	0.0060	mg/L	1	3/6/2006 12:16:52 PM
Lead	ND	0.0050	mg/L	1	3/6/2006 12:16:52 PM
Selenium	ND	0.050	mg/L	1	3/6/2006 12:16:52 PM
Silver	ND	0.0050	mg/L	1	3/6/2006 12:16:52 PM
EPA METHOD 8260B: VOLATILES					Analyst: KTM
Benzene	120	50	µg/L	50	3/2/2006
Toluene	160	50	µg/L	50	3/2/2006
Ethylbenzene	ND	50	µg/L	50	3/2/2006
Methyl lert-butyl ether (MTBE)	1100	50	µg/L	50	3/2/2006
1,2,4-Trimethylbenzene	ND	50	µg/L	50	3/2/2006
1,3,5-Trimethylbenzene	ND	50	µg/L	50	3/2/2006
1,2-Dichloroethane (EDC)	ND	50	μg/L	50	3/2/2006
1,2-Dibromoethane (EDB)	ND	50	μg/L	50	3/2/2006
Naphihalene	ND	100	μg/L	50	3/2/2006
1-Melhylnaphthalene	ND	200	µg/L	50	3/2/2006
2-Melhylnaphihalene	ND	200	µg/L	50	3/2/2006
Acelone	4600	500	µg/L	50	3/2/2006
Bromobenzene	ND	50	μg/L	50	3/2/2006
Bromochloromethane	ND	50	µg/L	50	3/2/2006
Bromodichloromethane	ND	50	μg/L	50	3/2/2006
Bromoform	ND	50	µg/L	50	3/2/2006

Date: 08-Mar-06

E

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Qualifiers:

E Value above quantitation rangeJ Analyte detected below quantitation limits

S Spike Recovery outside accepted recovery limits

Value exceeds Maximum Contaminant Level

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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Date: 08-Mar-06

CLIENT:	Giant Refining Co				Lab Order:	0602238
Project:	NMED Monthly Water	Samples				
EPA METHOD	8260B: VOLATILES					Analyst: KTM
Bromomethane	2	ND	100	µg/L	50	3/2/2006
2-Bulanone		680	500	µg/L	50	3/2/2006
Carbon disulfid	e	ND	500	μg/L	50	3/2/2006
Carbon Tetract	nloride	ND	100	µg/L	50	3/2/2006
Chlorobenzene	9	ND	50	µg/L	50	3/2/2006
Chloroethane		ND	100	µg/L	50	3/2/2006
Chloroform		ND	50	µg/∟	50	3/2/2006
Chloromethane	9	ND	50	µg/∟	50	3/2/2006
2-Chlorotoluen	e	ND	50	μg/L	50	3/2/2006
4-Chlorotoluen	e	ND	50	µg/L	50	3/2/2006
cis-1,2-DCE		ND	50	μg/L	50	3/2/2006
cis-1,3-Dichlor	opropene	ND	50	µg/L	50	3/2/2006
1,2-Dibromo-3-	-chloropropane	ND	100	µg/L	50	3/2/2006
Dibromochloro	melhane	ND	50	µg/∟	50	3/2/2006
Dibromometha	ne	ND	100	µg/L	50	3/2/2006
1,2-Dichlorobe	nzene	ND	50	µg/L	50	3/2/2006
1,3-Dichlorobe	nzene	ND	50	μg/L	50	3/2/2006
1,4-Dichlorobe	nzene	ND	50	μg/L	50	3/2/2006
Dichlorodifluor	omethane	ND	50	hð\r	50	3/2/2006
1,1-Dichloroeth	nane	ND	100	µg/L	50	3/2/2006
1,1-Dichloroeth	nene	ND	50	µg/L	50	3/2/2006
1,2-Dichloropro	opane	ND	50	µg/L	50	3/2/2006
1,3-Dichloropro	opane	ND	50	µg/L	50	3/2/2006
2,2-Dichloropro	opane	NÐ	100	µg/L	50	3/2/2006
1,1-Dichloropro	opene	ND	50	μg/L	50	3/2/2006
Hexachlorobut	adiene	ND	100	µg/L	50	3/2/2006
2-Hexanone		ND	500	μg/L	50	3/2/2006
Isopropylbenze	епе	ND	50	µg/L	50	3/2/2006
4-Isopropyltolu	iene	NĎ	50	µg/L	50	3/2/2006
4-Methyl-2-per	lanone	ND	500	µg/L	50	3/2/2006
Methylene Chl	oride	ND	150	µg/L	50	3/2/2006
n-Butylbenzen	e	ND	50	µg/L	50	3/2/2006
n-Propylbenze	пе	ND	50	µg/L	50	3/2/2006
sec-Butylbenze	ene	ND	100	μg/L	50	3/2/2006
Styrene		ND	50	µg/L	50	3/2/2006
tert-Butylbenze	ene	ND	50	µg/L	50	3/2/2006
1,1,1,2-Tetract	hloroethane	ND	50	μg/L	50	3/2/2006
1,1,2,2-Tetract	hloroethane	ND	50	μg/L	50	3/2/2006
Tetrachloroeth	еле (РСЕ)	ND	50	μg/L	50	3/2/2006
Irans-1,2-DCE	· ·	ND	50	μg/L	50	3/2/2006
Irans-1,3-Dichl	loropropene	ND	50	µg/L	50	3/2/2006
1,2,3-Trichloro	benzene	ND	50	μα/L	50	3/2/2006
1,2,4-Trichloro	benzene	ND	50	μα/L	50	3/2/2006
1 1 1-Trichloro	elhane	ND	50	, <u></u>		3/3/3008

Qualifiers: * Value exceeds Maximum Contaminant Level

J

Е Value above quantitation range В Analyte detected in the associated Method Blank

Analyte detected below quantitation limits

Spike Recovery outside accepted recovery limits S

Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit

н



Date: 08-Mar-06

CLIENT: Project:	Giant Refining Co NMED Monthly Wate	r Samples			Lab Order:	0602238
EPA METHOD	8260B: VOLATILES					Analyst: KTM
1,1,2-Trichlord	pethane	ND	50	µg/L	50	3/2/2006
Trichloroether	ie (TCE)	ND	50	µg/L	50	3/2/2006
Trichlorofluoro	methane	ND	50	μg/L	50	3/2/2006
1,2,3-Trichlord	propane	ND	100	µg/L	50	3/2/2006
Vinyl chloride		ND	50	µg/L	50	3/2/2006
Xylenes, Total	1	98	50	µg/L	50	3/2/2006
Sun: 1,2-Di	chloroelhane-d4	103	69.9-130	%REC	50	3/2/2006
Surr: 4-Bron	moßuorobenzene	90.5	71.2-123	%REC	50	3/2/2006
Surr: Dibror	nofluoromethane	102	57.3-135	%REC	50	3/2/2006
Surr. Tolue:	ne-d8	92.8	81.9-122	%REC	50	3/2/2006

Qualifiers:

Value exceeds Maximum Contaminant Level

- Ε Value above quantitation range J
- Spike Recovery outside accepted recovery limits S
- Analyte detected below quantitation limits
- в Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

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Hall Envi	ronmental Analy	sis Labora		Date: 08-Mar-06			
CLIENT: Project:	Giant Refining Co NMED Monthly Wa	ter Samples			Lab Order:	0602238	
Lab ID:	0602238-02			Collection	Date: 2/23/200	5 7:30:00 AM	
Chent Sample	EID: UAPIS			IV.	latrix: AQUEU	72	
Analyses		Result	PQL	Qual Units	DF	Date Analyzed	
	8015B: DIESEL RANG	E				Analyst: SCC	
Diesel Range	Organics (DRO)	2.8	1.0	mg/L	1	2/28/2006 10:40:46 AM	
Motor Oil Rang	ge Organics (MRO)	ND	5.0	mg/L	1	2/28/2006 10:40:46 AM	
Surr: DNOP)	114	58-140	%REC	1	2/28/2006 10:40:46 AM	
	0 8015B: GASOLINE RA	NGE				Analyst: NSB	
Gasoline Rang	ge Organics (GRO)	0.80	0.25	mg/L	5	3/3/2006 12:24:11 PM	
Sur: BFB		101	79.7-118	%REC	5	3/3/2006 12:24:11 PM	
) 8310. PAHS					Analyst: JMP	
Naphthalene		290	25	ua/L	10	3/7/2006 2:21:22 PM	
1-Melhylnanhi	Ihalene	ND	2.5	ua/L	1	3/7/2006 3:09:22 PM	
2-Melbylnaphi	ihalene	ND	2.5	ua/L	1	3/7/2006 3:09:22 PM	
Acenaphthyler	ne	ND	2.5	ug/L	1	3/7/2006 3:09:22 PM	
Acenaphthene	2	ND	2.5	ua/L	. 1	3/7/2006 3:09:22 PM	
Fluorene	-	ND	0.80	ua/L	1	3/7/2006 3:09:22 PM	
Phenanthrene	1	ND	0.60	µg/L	1	3/7/2006 3:09:22 PM	
Anthracene		ND	0.60	μg/L	1	3/7/2006 3:09:22 PM	
Fluoranthene		ND	0.30	μg/L	1	3/7/2006 3:09:22 PM	
Pyrene		0.32	0.30	μg/L	1	3/7/2006 3:09:22 PM	
- Benz(a)anthra	icene	ND	0.020	µg/L	1	3/7/2006 3:09:22 PM	
Chrysene		ND	0.20	µg/L	1	3/7/2006 3:09:22 PM	
Benzo(b)fluora	anthene	ND	0.050	µg/L	1	3/7/2006 3:09:22 PM	
Benzo(k)fluora	anthene	ND	0.020	µg/L	1	3/7/2006 3:09:22 PM	
Benzo(a)pyrei	ne	ND	0.020	µg/L	1	3/7/2006 3:09:22 PM	
Dibenz(a,h)ar	ithracene	ND	0.040	µg/L	1	3/7/2006 3:09:22 PM	
Benzo(g,h,i)p	erylene	ND	0.030	μg/L	1	3/7/2006 3:09:22 PM	
Indeno(1,2,3-	cd)pyrene	ND	0.080	µg/L	1	3/7/2006 3:09:22 PM	
Surr: Benzo	o(e)pyrene	89.2	54-102	%REC	1	3/7/2006 3:09:22 PM	
EPA METHO	D 7470: MERCURY					Analyst: CMC	
Mercury		ND	0.00020	mg/L	1	3/2/2006	
EPA 6010: TO	OTAL RECOVERABLE M	IETALS				Analyst: CMC	
Arsenic		0.033	0.020	mg/L	1	3/6/2006 12:20:49 PM	
Barium		0.29	0.020	mg/L	1	3/6/2006 12:20:49 PM	
Cadmium		ND	0.0020	- mg/L	1	3/6/2006 12:20:49 PM	
Chromium		0.0081	0.0060	mg/L	1	3/6/2006 12:20:49 PM	
Qualifiers:	* Value exceeds Maximur	n Contaminant Lev	/e]	B Analyi	e detected in the assoc	iated Method Blank	
	E Value above quantitation	n range		H Holdin	g times for preparatio	n or analysis exceeded	
	J Analyte detected below	quantitation limits		ND Not De	tected at the Reportin	g Limit	

 J
 Analyte detected below quantitation limits

 S
 Spike Recovery outside accepted recovery limits

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CLIENT: Gian Project: NME	t Refining Co D Monthly Water Sat	nples			Lab Order:	0602238
EPA 6010: TOTAL REC	OVERABLE METAL	S				Analyst: CMC
Lead		ND	0.0050	mg/L	1	3/6/2006 12:20:49 PM
Selenium		ND	0.050	mg/L	1	3/6/2006 12:20:49 PM
Silver		ND	0.0050	mg/L	1	3/6/2006 12:20:49 PM
EPA METHOD 8260B:	VOLATILES					Analyst: KTM
Benzene		ND	5.0	µg/L	5	3/7/2006
Toluene		ND	5.0	μg/L	5	3/7/2006
Ethylbenzene		ND	5.0	μg/L	5	3/7/2006
Methyl tert-butyl ether (N	ITBE)	8.4	5.0	µg/L	5	3/7/2006
1,2,4-Trimethylbenzene		12	5.0	µg/L	5	3/7/2006
1,3,5-Trimethylbenzene		31	5.0	µg/L	5	3/7/2006
1,2-Dichloroethane (EDC	;)	ND	5.0	μg/L	5	3/7/2006
1,2-Dibromoethane (EDE	3)	ND	5.0	μg/L	5	3/7/2006
Naphthalene		12	10	µg/L	5	3/7/2006
1-Methylnaphlhalene		98	20	µg/L	5	3/7/2006
2-Methylnaphlhalene		60	20	μg/L	5	3/7/2006
Acetone		99	50	µg/L	5	3/7/2006
Bromobenzene		ND .	5.0	µg/L	5	3/7/2006
Bromochloromethane		ND	5.0	µg/L	5	3/7/2006
Bromodichloromethane		ND	5.0	µg/L	5	3/7/2006
Bromoform		ND	5.0	µg/L	5	3/7/2006
Bromomelhane		ND	10	µg/L	. 5	3/7/2006
2-Butanone		ND	50	µg/L	5	3/7/2006
Carbon disulfide		ND	50	µg/L	5	3/7/2006
Carbon Tetrachloride		ND	10	μg/L	5	3/7/2006
Chlorobenzene		ND	5.0	µg/L	5	3/7/2006
Chloroethane		ND	10	ug/L	5	3/7/2006
Chloroform		ND	5.0	ug/L	5	3/7/2006
Chloromethane		ND	5.0	ug/L	5	3/7/2006
2-Chlorotoluene		ND	5.0	ua/L	5	3/7/2006
4-Chlorotoluene		ND	5.0	ua/L	5	3/7/2006
cis-1.2-DCE		ND	5.0	μα/L	5	3/7/2006
cis-1 3-Dichlorooropene		ND	5.0	19/L	5	3/7/2006
1 2-Dibromo-3-chloropro	nane	ND	10	μα/l	5	3/7/2006
Dibromochloromethane	F	ND	5.0	19/1	5	3/7/2006
Dibromomethane		ND	10	1113/1	5	3/7/2006
1 2-Dichlombenzene		ND	50	μη/i	5	3/7/2006
1.3-Dichlorobenzene		ND	5.0	up/l	5	3/7/2006
1.4-Dichlorobenzene		ND	5.0	pg/2 ug/l	5	3/7/2006
Dichlorodifluoromethane		ND	5.0	10/1 10/1	5	3/7/2006
1 1-Dichlamethane		סא	10	10/l	5	3/7/2006
1, I-Dichlomethene			50	pgrc un/l	5	3/7/2006
1, Public Contractor		סאי	5.0	pg/c ug/l	с К	3/7/2000
1.2-Dichloropropage		ND	5.0	Pg/L	5	3/7/2000
1'2-DICHOIOIDDAHG		NU	5.0	μθις Γ	5	J11/2000

Date: 08-Mar-06

Qualifiers: * Value exceeds Maximum Contaminant Level

> Е Value above quantitation range

В Analyte detected in the associated Method Blank Н Holding times for preparation or analysis exceeded

Analyte detected below quantitation limits J

Spike Recovery outside accepted recovery limits S

ND Not Detected at the Reporting Limit

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Date: 08-Mar-06

CLIENT: Project:	Giant Refining Co NMED Monthly Water	Samples			Lab Order:	0602238
EPA METHOD	8260B: VOLATILES					Analyst: KTM
2,2-Dichloropro	opane	ND	10	μg/L	5	3/7/2006
1,1-Dichloropro	opene	ND	5.0	µg/L	5	3/7/2006
Hexachlorobut	adiene	ND	10	μg/L	5	3/7/2006
2-Hexanone		ND	50	µg/L	5	3/7/2006
Isopropylbenze	але	ND	5.0	µg/L	5	3/7/2006
4-Isopropyltolu	ene	ND	5.0	µg/L	5	3/7/2006
4-Methyl-2-per	ntanone	ND	· 50	µg/L	5	3/7/2006
Methylene Chl	oride	ND	15	µg/L	5	3/7/2006
n-Butylbenzen	e	7.5	5.0	µg/L	5	3/7/2006
n-Propylbenze	ne	ND	5.0	µg/L	5	3/7/2006
sec-Bulylbenzo	ene	ND	10	µg/L	5	3/7/2006
Styrene		ND	5.0	µg/L	5	3/7/2006
tert-Butylbenze	ene	ND	5.0	μg/L	5	3/7/2006
1,1,1,2-Tetracl	nloroethane	ND	5.0	µg/L	5	3/7/2006
1,1,2,2-Tetracl	nloroethane	ND	5.0	µg/L	5	3/7/2006
Tetrachloroeth	ene (PCE)	ND	5.0	µg/L	5	3/7/2006
trans-1,2-DCE		NÐ	5.0	µg/L	5	3/7/2006
trans-1,3-Dichl	огоргорепе	ND	5.0	µg/L	5	3/7/2006
1,2,3-Trichloro	benzene	ND	5.0	µg/L	5	3/7/2006
1,2,4-Trichloro	benzene	ND	5.0	µg/L	5	3/7/2006
1,1,1-Trichloro	ethane	ND	5.0	µg/L	5	3/7/2006
1,1,2-Trichloro	ethane	ND	5.0	µg/L	5	3/7/2006
Trichloroethen	e (TCE)	ND	5.0	µg/L	5	3/7/2006
Trichlorofluoro	methane	ND	5.0	µg/L	5	3/7/2006
1,2,3-Trichloro	propane	ND	10	µg/L	5	3/7/2006
Vinyl chloride		ND	5.0	µg/L	5	3/7/2006
Xylenes, Total		25	5.0	µg/L	5	3/7/2006
Surr: 1,2-Di	chloroethane-d4	95.6	69.9-130	%REC	5	3/7/2006
Surr: 4-Bror	nofluorobenzene	98.6	71.2-123	%REC	5	3/7/2006
Surr: Dibron	nofluoromethane	96.3	57.3-135	%REC	5	3/7/2006
Surr: Toluer	ne-d8	90.8	81.9-122	%REC	5	3/7/2006

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 Res Project: NMED N	fining Co fonthly Water Samples			Lab Orde	r: 0602238
Lab ID: 06022	38-03		Collection Da	te: 2/23/20	06 8:30:00 AM
Client Sample ID: NAPIS	5		Matri	ix: AQUE	วบร
Analyses	Result	PQL Q	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIES	SEL RANGE				Analyst: SCC
Diesel Range Organics (DRO) 140	3.0	ma/L	1	2/28/2006 11:13:30 AM
Motor Oil Range Organics (M	RO) ND	15	ma/L	1	2/28/2006 11:13:30 AM
Sur. DNOP	123	58-140	%REC	1	2/28/2006 11:13:30 AM
EPA METHOD 8015B: GAS					Analyst: NSB
Gasoline Rance Organics (GR	RO) 50	2.5	ma/L	50	3/3/2006 12:55:09 PM
Surr: BFB	100	79.7-118	%REC	50	3/3/2006 12:55:09 PM
EPA METHOD 8260B: VOL	ATILES				Analyst: KTM
Benzene	15000	1000	uo/L	1000	3/7/2006
Toluene	9800	1000	uo/L	1000	3/7/2006
Ethylbenzene	610	100	µa/L	100	3/2/2006
Methyl tert-butyl elher (MTBE) 19000	1000	μα/L	1000	3/7/2006
1.2.4-Trimethylbenzene	690	100	ug/L	100	3/2/2006
1,3,5-Trimethylbenzene	250	100	ug/L	100	3/2/2006
1,2-Dichloroethane (EDC)	ND	100	μg/L	100	3/2/2006
1,2-Dibromoethane (EDB)	ND	100	μg/L	100	3/2/2006
Naphthalene	410	200	µg/L	100	3/2/2006
1-Methylnaphthalene	ND	400	μg/L	100	3/2/2006
2-Methylnaphthalene	ND	400	µg/L	100	3/2/2006
Acelone	19000	10000	µg/L	1000	3/7/2006
Bromobenzene	ND	100	μg/L	100	3/2/2006
Bromochloromethane	ND	100	μg/L	100	3/2/2006
Bromodichloromethane	ND	100	μα/L	100	3/2/2006
Bromoform	ND	100	μg/L	100	3/2/2006
Bromomelhane	ND	200	но Уд/L	100	3/2/2006
2-Butanone	4400	1000	μg/L	100	3/2/2006
Carbon disulfide	ND	1000	µg/L	100	3/2/2006
Carbon Tetrachloride	ND	200	µg/L	100	3/2/2006
Chlorobenzene	ND	100	µg/∟	100	3/2/2006
Chloroethane	ND	200	µg/L	100	3/2/2006
Chloroform	ND	100	µg/L	100	3/2/2006
Chloromelhane	ND	100	μg/L	100	3/2/2006
2-Chlorotoluene	ND	100	μg/L	100	3/2/2006
4-Chlorotoluene	ND	100	µg/L	100	3/2/2006
cis-1,2-DCE	ND	100	hð\r	100	3/2/2006
cis-1,3-Dichloropropene	ND	100	µg/L	100	3/2/2006
1,2-Dibromo-3-chloropropane	ND	200	µg/L	100	3/2/2005

Date: 08-Mar-06

S Spike Recovery outside accepted recovery limits

E Value above quantitation range

J

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Date: 08-Mar-06

CLIENT:	Giant Refining Co				Lab Order:	0602238
Project:	NMED Monthly Water	Samples				
EPA METHOD	0 8260B: VOLATILES					Analyst: KTM
Dibromochloro	omethane	ND	100	μg/L	100	3/2/2006
Dibromometha	ane	ND	200	µg/L	100	3/2/2006
1,2-Dichlorobe	enzene	ND	100	µg/L	100	3/2/2006
1,3-Dichlorobe	enzenē	ND	100	µg/L	100	3/2/2006
1,4-Dichlorobe	enzene	ND	100	µg/L	100	3/2/2006
Dichlorodifluo	romelhane	ND	100	µg/L	100	3/2/2006
1,1-Dichloroet	hane	ND	200	µg/L	100	3/2/2006
1,1-Dichloroet	ihene	ND	100	µg/L	100	3/2/2006
1,2-Dichloropr	ropane	ND	100	µg/L	100	3/2/2006
1,3-Dichloropr	ropane	ND	100	µg/L	100	3/2/2006
2,2-Dichlorop	ropane	ND	200	µg/L	100	3/2/2006
1,1-Dichloropi	ropene	ND	100	µg/L	100	3/2/2006
Hexachlorobu	tadiene	ND	200	µg/L	100	3/2/2006
2-Hexanone		ND	1000	µg/L	100	3/2/2006
Isopropylbenz	ene	ND	100	µg/L	100	3/2/2006
4-Isopropyitol	uene	ND	100	µg/L	100	3/2/2006
4-Methyl-2-pe	ntanone	ND	1000	µg/∟	100	3/2/2006
Methylene Ch	londe	ND	300	µg/L	100	3/2/2006
n-Butylbenzer	ne	120	100	µg/L	100	3/2/2006
n-Propylbenze	ene	100	100	µg/L	100	3/2/2006
sec-Butylbenz	zene	ND	200	µg/L	100	3/2/2006
Styrene		ND	100	µg/L	100	3/2/2006
tert-Butylbenz	zene	ND	100	µg/L	100	3/2/2006
1,1,1,2-Telrad	chloroethane	ND	100	· μg/L	100	3/2/2006
1,1,2,2-Telrad	chloroethane	ND	100	μg/L	100	3/2/2006
Tetrachloroet	hene (PCE)	ND	100	μg/L	100	3/2/2006
Irans-1,2-DCI	E	ND	100	µg/L	100	3/2/2006
Irans-1,3-Dich	nloropropene	ND	100	µg/L	100	3/2/2006
1,2,3-Trichlor	obenzene	ND	100	µg/L	100	3/2/2006
1,2,4-Trichlor	obenzene	ND	100	µg/L	100	3/2/2006
1,1,1-Trichlor	oethane	ND	100	μg/L	100	3/2/2006
1,1,2-Trichlor	oelhane	ND	100	µg/L	100	3/2/2006
Trichloroelhe	ne (TCE)	ND	100	µg/L	100	3/2/2006
Trichlorofluor	omelhane	ND	100	µg/L	100	3/2/2006
1,2,3-Trichlor	opropane	ND	200	µg/L	100	3/2/2006
Vinyl chloride	!	ND	100	µg/L	100	3/2/2006
Xylenes, Tota	al	3900	100	µg/L	100	3/2/2006
Surr: 1,2-D	Dichloroethane-d4	103	69.9 - 130	%REC	100	3/2/2006
Surr: 4-Bro	omofluorobenzene	89.7	71.2-123	%REC	100	3/2/2006
Surr: Dibro	mofluoromethane	103	57.3-135	%REC	100	3/2/2006
Surr: Tolue	ene-d8	89.5	81.9-122	%REC	100	3/2/2006

Qualifiers:

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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 Analy	sis Labora		Date: 08-Mar-06			
CLIENT: Giant Refining Co Project: NMED Monthly Wa	iter Samples			Lab Order	r: 0602238	
Lab ID: 0602238-04	<u></u>		Collecti	on Date: 2/23/20	06 8:45:00 AM	
Client Sample ID: Pilot TC				Matrix: AQUE	DUS	
Analyses	Result	PQL	Qual Units	DF	Date Analyzed	
EPA METHOD 8015B: DIESEL RANG	E				Analyst: SCC	
Diesel Range Organics (DRO)	7.0	3.0	mg/L	1.	2/28/2006 11:46:00 AM	
Motor Oil Range Organics (MRO)	ND	15	mg/L	1	2/28/2006 11:46:00 AM	
Surr: DNOP	135	58-140	%REC	1	2/28/2006 11:46:00 AM	
EPA METHOD 8015B: GASOLINE RA	NGE				Analyst: NSB	
Gasoline Range Organics (GRO)	0.067	0.050	mg/L	1	3/3/2006 1:23:18 PM	
Sur: BFB	99.8	79.7-118	%REC	1	3/3/2006 1:23:18 PM	
EPA METHOD 7470: MERCURY					Analyst: CMC	
Mercury	ND	0.00020	mg/L	1	3/2/2006	
EPA 6010: TOTAL RECOVERABLE N	IETALS				Analyst: CMC	
Arsenic	ND	0.020	mg/L	1	3/6/2006 12:24:46 PM	
Barium	0.039	0.020	mg/L	1	3/6/2006 12:24:46 PM	
Cadmium	ND	0.0020	mg/L	1	3/6/2006 12:24:46 PM	
Chromium	ND	0.0060	mg/L	1	3/6/2006 12:24:46 PM	
Lead	ND	0.0050	mg/L	1	3/6/2006 12:24:46 PM	
Selenium	ND	0,050	mg/L	1	3/6/2006 12:24:46 PM	
Silver	ND	0.0050	mg/L	1	3/6/2006 12:24:46 PM	
EPA METHOD 8260B: VOLATILES					Analyst: KTM	
Benzene	ND	1.0	µg/L	1	3/2/2006	
Toluene	3.1	1.0	µg/L	1	3/2/2006	
Ethylbenzene	ND	1.0	µg/L	1	3/2/2006	
Methyl tert-butyl ether (MTBE)	ND	1.0	µg/L	1	3/2/2006	
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1	3/2/2006	
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1	3/2/2006	
1,2-Dichloroethane (EDC)	ND	1.0	µg/L	1	3/2/2006	
1,2-Dibromoethane (EDB)	ND	1.0	µg/L	1	3/2/2006	
Naphihalene	ND	2.0	µg/L	1	3/2/2006	
1-Methylnaphthalene	ND	4.0	µg/L	1	3/2/2006	
2;Methylnaphthalene	ND	4.0	µg/L	1	3/2/2006	
Acelone	200	10	µg/L	1	3/2/2006	
Bromobenzene	ND	1.0	µg/L	1	3/2/2006	
Bromochloromethane	ND	1.0	µg/L	1	3/2/2006	
Bromodichloromethane	ND	1.0	µg/L	1	3/2/2006	
Bromoform	ND	1.0	μg/L	1	3/2/2006	

Value exceeds Maximum Contaminant Level ٠

> Ε Value above quantitation range

Analyte detected below quantitation limits J

Spike Recovery outside accepted recovery limits S

B Analyte detected in the associated Method Blank

Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

9/29

Qualifiers:



Date: 08-Mar-06

CLIENT: Project:	Giant Refining Co NMED Monthly Water	Samples		:	Lab Order:	0602238
EPA METHOD	8260B: VOLATILES					Analyst: KTM
Bromomethan	e	ND	2.0	µg/L	1	3/2/2006
2-Butanone		ND	10	, υ μα/L	1	3/2/2006
Carbon disulfic	de	ND	10	μg/L	1	3/2/2006
Carbon Tetrac	hloride	ND	2.0	μg/L	1	3/2/2006
Chlorobenzen	е	ND	1.0	μg/L	1	3/2/2006
Chloroethane		ND	2.0	µg/L	1	3/2/2006
Chioroform		4.0	1.0	µg/L	1	3/2/2006
Chloromethan	e	ND	1.0	µg/L	1	3/2/2005
2-Chlorotoluer	ne	ND	1.0	µg/L	1	3/2/2006
4-Chlorotoluer	ne	ND	1.0	µg/L	1	3/2/2006
cis-1,2-DCE		ND	1.0	µg/L	1	3/2/2006
cis-1,3-Dichlor	ropropene	ND	1.0	µg/L	1	3/2/2006
1,2-Dibromo-3	l-chloropropane	ND	2.0	µg/L	1	3/2/2006
Dibromochlor	omethane	ND	1.0	μg/L	1	3/2/2006
Dibromometha	ane	ND	2.0	µg/L	1	3/2/2006
1,2-Dichlorobe	enzene	ND	1.0	µg/L	1	3/2/2006
1,3-Dichlorobe	enzene	ND	1.0	µg/L	1	3/2/2006
1,4-Dichlorobe	enzene	ND	1.0	µg/L	1	3/2/2006
Dichlorodifluor	romelhane	ND	1.0	µg/∟	1	3/2/2006
1,1-Dichloroet	hane	ND	2.0	µg/L	1	3/2/2006
1,1-Dichloroet	hene	ND	1.0	µg/L	1	3/2/2006
1,2-Dichloropr	ropane	ND	1.0	µg/L	1	3/2/2006
1,3-Dichloropr	ropane	ND	1.0	µg/L	1	3/2/2006
2,2-Dichloropr	ropane	ND	2.0	μg/L	1	3/2/2006
1,1-Dichloropr	ropene	ND	1.0	µg/L	. 1	3/2/2006
Hexachlorobu	tadiene	ND	2.0	µg/L	1	3/2/2006
2-Hexanone		ND	10	µg/L	1	3/2/2006
Isopropylbenz	ene	ND	1.0	µg/L	1	3/2/2006
4-Isopropyltol	uene	1.7	1.0	µg/L	1	3/2/2006
4-Melhyl-2-pe	ntanone	ND	10	µg/L	1	3/2/2006
Melhylene Ch	loride	ND	3.0	μg/L	1	3/2/2006
n-Butylbenzer	ne	ND	1.0	µg/L	1	3/2/2006
n-Propylbenze	ene	ND	1.0	µg/L	1	3/2/2006
sec-Butylbenz	tene	ND	2.0	µg/L	1	3/2/2006
Styrene		ND	1.0	µg/L	1	3/2/2006
tert-Butylbenz	ene	ND	1.0	µg/L	1	3/2/2006
1,1,1,2-Telrac	chloroethane	ND	1.0	µg/L	1	3/2/2006
1,1,2,2-Tetrac	chloroelhane	ND	1.0	µg/L	1	3/2/2006
Tetrachloroell	hene (PCE)	ND	1.0	µg/L	1	3/2/2006
trans-1,2-DCE		ND	1.0	µg/L	1	3/2/2006
trans-1,3-Dich	nioropropene	ND	1.0	µg/L	1	3/2/2006
1,2,3-Trichlon	obenzene	ND	1.0	µg/L	1	3/2/2006
1,2,4-Trichlor	obenzene	ND	1.0	µg/L 	1	3/2/2006
1,1,1-Trichlor	oelnane	ND	1.0	µg/L	1	3/2/2006

Qualifiers: * Value exceeds Maximum Contaminant Level

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- E Value above quantitation range
 - 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



Date: 08-Mar-06

CLIENT: Project:	Giant Refining Co NMED Monthly Water	Samples			Lab Order:	0602238
EPA METHOD	0 8260B: VOLATILES					Analyst: KTM
1,1,2-Trichlord	pethane	ND	1.0	µg/L	1	3/2/2006
Trichloroether	ne (TCE)	ND	1.0	µg/L	1	3/2/2006
Trichlorofluoro	omethane	ND	1.0	µg/L	1	3/2/2006
1,2,3-Trichlord	opropane	ND	2.0	µg/L	1	3/2/2006
Vinyl chloride	•	ND	1.0	µg/L	1	3/2/2006
Xylenes, Total	1	ND	1.0	µg/L	1	3/2/2006
Surr: 1,2-Di	ichloroethane-d4	103	69.9-130	%REC	1	3/2/2006
Surr: 4-Bros	molluorobenzene	90.6	71.2-123	%REC	1	3/2/2006
Surr: Dibroi	mofluoromelhane	103	57.3-135	%REC	1	3/2/2006
Surr: Tolue	ne-d8	91.0	81.9-122	%REC	1	3/2/2006

Qualifiers:

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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

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

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

STANDARD

Assalgai Analytical Laboratories, Inc.

Certificate of Analysis

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

Client:	HALL ENVI	RONM	ENTAL										
Project:	0602238												
Order:	0602539	HAL	03	Receipt:	02-24-06	•	William P.	Blava: Presidi	ant of Assaig	al Analytical Lab	oratories, in	c.	
Sample:	0602238-01	C/AL-	2 TO EP-	1		Collected:	02-23-0	06 8:00:00	By:				
Matrix:	AQUEOUS						.						
									Dilution	Detection		Prep	Run
QC Group	Run Sec	quence	CAS #		Analyte	Res	sult	Units	Factor	Limit	Code	Date	Date
0602539-00	101A		EPA 405.1	Biochemi	cal Oxygen Demar	d				By:	мкм		
BOD06026	WC.2005	.531.15	10-26-4	Bioche	mical Oxygen Dema	and 5	50	mg/L	1	2	1	02-24-06	03-01-05

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 miscallaneous workorder information or foonotes will appear below.

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

The percent recoveries of the LCS and LCSD are outside of QA/QC criteria (low). This should be taken into account when reviewing the data.

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Hall Environmental /	Analysis Laboratory			Date: 08-Mar-06
CLIENT: Giant Refi	ning Co		ANALYTICAL QC SUP	MMARY REPORT
Work Order: 0602238 Project: NMED Ma	onthly Water Samples		TestCode: 80	15DRO_W
Sample ID: MB-9869	SampType: MBLK	TestCode: 8015DRO_W Units: mg/L	Prep Date: 2/27/2006	RunNo: 18412 Scono: 454270
Client ID: 22222 Analyte	Batch IU: 9869 Result	lestivo: Swauto PQL SPK value SPK Ref Val	Anarysis Date: 42002000 %REC LowLimit HighLimit RPD Ref Val	veryou: 2012/00
Diesel Range Organics (DRO) Motor Oli Range Organics (MRO	ON (0	1.0 5.0		
Sample ID: LCS-9869 Client ID: ZZZZZ	SampType: LCS Batch ID: 9869	TestCode: 8015DRO_W Units: mg/L TestNo: SW8015	Prep Date: 2/27/2006 Analysis Date: 2/28/2006	RunNo: 18412 SeqNo: 454271
Analyle	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Diesel Range Organics (DRO)	6.746	1.0 5 0	135 81.2 149	
Sample ID: LCSD-9869	SampType: LCSD	TestCode: 8015DRO_W Units: mg/L	Prep Date: 2/27/2006	RunNo: 18412
C Client ID: ZZZZ	Batch ID: 9869	TestNo: SW8015	Analysis Date: 2/28/2006	SeqNo: 454272
5 Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Diesel Range Organics (DRO)	6.353	1.0	127 81.2 149 6.746	6.00 23

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xceeded J Analyte detected below quantitation limits S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded
 R RPD outside accepted recovery limits

E Value above quantitation range ND Not Detected at the Reporting Limit

Qualifiers:

Page I
CLIENT: Giant Refini	ing Co		ANALYTICAL QC SU	MMARY REPORT
Project: NMED Mon	tthly Water Samples		TestCode: 8	015GR0_W
Sample ID: 5ML RB-2 Client ID: ZZZZZ	SampType: MBLK Batch ID: R18480	TestCode: 8015GRO_W Units: mg/L TestNo: SW8015	Prep Date: Analysis Date: 3/4/2006	RunNo: 18480 SegNo: 456357
Analyte	Result	PQL SPK vatue SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLImit Qual
Gasoline Range Organics (GRO)	DN	0.050		
Sample ID: 5ML RB Client ID: ZZZZZ	SampType: MBLK Batch ID: R18489	TestCode: 8015GRO_W Units: mg/L TestNo: SW8015	Prep Date: Analysis Date: 3/6/2006	RunNa: 18489 SeqNa: 456575
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Gasoline Range Organics (GRO)	DN	0.050		
Sample ID: 2.5UG GRO LCS-2 Client ID: ZZZZ	SampType: LCS Batch ID: R18480	TestCode: 8015GRO_W Units: mg/L TestNo: SW8015	Prep Date: Analysis Date: 3/4/2006	RunNo: 18480 SeqNo: 456358
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
B Gasoline Range Organics (GRO)	0.4520	0.050 0.5 0	90.4 82.6 114	
6 Sample ID: 2.5UG GRO LCS Client ID: 22222	SampType: LCS Batch ID: R18489	TestCode: 8015GRO_W Units: mg/L TestNo: SW8015	Prep Date: Analysis Date: 3/6/2006	RunNo: 18489 SeqNo: 456577
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Gasoline Range Organics (GRO)	0.4980	0.050 0.5 0	99.6 82.6 114	

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Analyte detected below quantitation limits Spike Recovery outside accepted recovery limits

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Holding times for preparation or analysis exceeded RPD outside accepted recovery limits нч

Not Detected at the Reporting Limit Value above quantitation range ⊔ N

Qualifiers:

Page 2

CLIENT: Giant R Work Order: 060733	efining Co					ANALY	TICAL QC S	UMMARY REPORT	
Project: NMED	o Monthly Water Samples						TestCode:	8310_W	J
Sample ID: MB-9862	SampType: MBLK	TestCode	: 8310_W	Units: µg/L		Prep Date:	2/28/2006	RunNo: 18497	
Client (D: ZZZZ	Batch ID: 9882	TestNo	: SW8310	(SW3510C)		Analysis Date:	3/7/2006	SeqNo: 456803	
Analyte	Result	Par	SPK value	SPK Ref Val	%REC	LowLimit F	iighLimit RPD Ref Va	I %RPD RPDLimit Qual	—
Naphthalene	QN	2.5							i
1-Methylnaphthalene	QN	2.5							
2-Methylnaphthalene	QN	2.5							
Acenaphthylene	ON	2.5							
Acenaphthene	QN	2.5							
Fluorene	QN	0.80							
Phenanthrene	ON	0.60							
Anthracene	DN	0.60							
Fluoranthene	ON	0:30							
Pyrene	QN	0.30							
Benz(a)anthracene	DN	0.020							
Lhrysene	QN	0.20							
UT Benzo(b)fluoranthene	QN	0.050							
Benzo(k)fluoran(hene)	QN	0.020							
G Benzo(a)pyrene	DN	0.020							
Dibenz(a,h)anthracene	ON	0.040							
Benzo(g,h,l)perylene	QN	0:030							
Indena(1,2,3-cd)pyrene	QN	0.080			:				
Sample ID: LCS-9882	SampType: LCS	TestCode	8310_W	Units: µg/L		Prep Date:	2/28/2006	RunNo: 18497	1[
Client ID: ZZZZ	Batch ID: 9882	TestNo	SW8310	(SW3510C)		Analysis Date:	3/7/2006	SeqNo: 456814	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit RPD Ref Va	%RPD RPDLimit Qual	
Naphthalene	26.50	2.5	4	Ð	66.2	34.8	97.4		٦
1-Methylnaphthalene	27.27	2.5	40.1	ο	68.0	34.7	100		
2-Methylnaphthalene	25.31	2.5	40	D	63.3	35	98.1		
Acenaphthylene	26.17	2.5	40.1	0	65.3	48.3	95.1		
Acenaphthene	27.51	2.5	40	a	68.8	45	95		
Fluorene	2.870	0.80	4.01	o	71.6	46.8	93.4		
Phenanthrene	1.590	0.60	2.01	O	79.1	48.7	104		
Qualifiers: E Value abe ND Not Deter	ve quantitation range sted at the Reporting Limit		H Holding R RPD ou	g times for preparation tside accepted recover	n or analysi: ery limits	exceeded	J Analyte detecte S Spike Recovery	d below quantitation limits outside accepted recovery limits	

Page 3

n Nominis Co 238					ANALY	/TICAL	, QC SU	MMAR	Y REPC	RT
thly Water Samples						Tes	tCode: 8	310_W		
SampType: LCS	TestCode: 8	310_W	Units: µg/L		Prep Date	: 2/28/2006		RunNo: 18	1497	
Batch ID: 9882	TestNo: S	SW8310	(SW3510C)		Analysis Date	: 3/7/2006		SeqNo; 45	i6814	
Result	PQL SF	oK value	SPK Ref Val	%REC	LowLimit	HighLimit Rf	PD Ref Val	%RPD	RPDLimit	Qual
1.490	0.60	2.01	0	74.1	47.5	102				
3.520	0.30	4.01	a	87.8	46.3	108				
3.770	0.30	4.01	O	94.0	43.8	109				
0.3600	0.020	0.401	0	89.8	40.3	115				
1.860	0.20	2.01	D	92.5	42.6	107				
0.4400	0.050	0.501	a	87.8	48.6	107				
0.2200	0.020	0.25	0	88.0	23.3	136				
0.2000	0.020	0.251	0	79.7	33.4	117				
0.4300	0.040	0.501	0	85.8	27.3	139				
0.4400	0.030	0.5	o	88.0	38.2	117				
0.8530	0.080	1.002	o	85.1	39.9	125				
SampType: LCSD	TestCode: 8	1310_W	Units: µg/L		Prep Date	: 2/28/2006		RunNo: 18	1497	
Batch ID: 9882	TestNo: S	SW8310	(SW3510C)		Analysis Date	: 3/7/2006		SeqNo: 45	16839	
Result	PQL SF	PK value	SPK Ref Val	%REC	LowLimit	HighLimlt RI	PD Ref Val	WRPD	RPDLimit	Qual
27.23	2.5	40	O	68.1	34.8	97.4				
25.84	2.5	40.1	O	64.4	34.7	100				
25.32	2.5	40	Ö	63.3	35	98.1				
28.29	2.5	40.1	0	70.5	48.3	95.1				
27.25	2.5	40	Q	68.1	45	95				
2.840	0.80	4.01	0	. 70.8	46.8	93.4				
1.560	0.60	2.01	0	77.6	48.7	104				
1.520	0.60	2.01	D	75.6	47.5	102				
3.160	0.30	4.01	D	78.8	46.3	108				
3.210	0.30	4.01	O	80.0	43.8	109				
0.3100	0.020	0.401	0	77.3	40.3	115				
1.630	0.20	2.01	Ð	81.1	42.6	107				
0.3900	0.050	0.501	D	77.8	48.6	107				
0.1900	0.020	0.25	٥	76.0	23.3	136				
uantitation range		Holding	g times for preparatio	n or analysi	papaaxa s	J Ana	lyte detected b	oelow quantitati	ion limits	
	Y	2 22 2		Piller - Lo				And a second second		

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CLIENT:	Giant Refining Co
Work Order:	0602238
Project:	NMED Monthly Water Samples

ANALYTICAL QC SUMMARY REPORT

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TestCode: 8310_W

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Sample ID: LCSD-9882	SampType: LCSD	TestCo	le: 8310_W	Units: µg/L		Prep Da	le: 2/28/2006	RunNo: 184	161	
Client ID: ZZZZ	Batch ID: 9882	Test	lo: SW8310	(SW3510C)		Analysis Da	le: 3/7/2006	SeqNo: 45(3839	
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimlt · RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(a)pyrene	0.1700	0.020	0.251	D	67.7	33.4	117			
Dibenz(a,h)anthracene	0.3900	0.040	0.501	o	77.8	27.3	139			
Benzo(g,h,i)perylene	° 0.3700	0:030	0.5	Ō	74.0	38.2	117			
Indeno(1,2,3-cd)pyrene	0.7800	0.080	1.002	0	77.8	39.9	125			

Holding times for preparation or analysis exceeded RPD outside accepted recovery limits нч Not Detected at the Reporting Limit Value above quantitation range ωQ Qualifiers:

Page J

Analyte detected below quantitation limits Spike Recovery outside accepted recovery limits

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CLIENT: Work Order:	Giant Refin	ing Co					ANALY	TICAL (QC SUI	AMARY	K REPO	RT
Project:	NMED Moi	nthly Water Samples				:		TestC	Code: H	G_CTW		
Sample ID: MB-99	05	SampType: MBLK	TestCoc	le: HG_CTW	Units: mg/L		Prep Date	: 3/2/2006		RunNo: 184	154	
Client ID: ZZZZ		Batch ID: 9905	Testh	lo: SW7470	(SW7470)		4nalysis Dat∈	: 3/2/2006		SeqNo: 455	5693	-
Analyte		Result	Pal	SPK value	SPK Ref Val	%REC	LawLimit	HighLimit RPD) Ref Val	%RPD	RPDLImit	Quat
Mercury		DN	0.00020									
Sample ID: LCS-99	905	SampType: LCS	TestCoc	le: HG_CTW	Units: mg/L		Prep Date	: 3/2/2006		RunNo: 184	154	
Client ID: ZZZZ		Batch ID: 9905	Test	lo: SW7470	(SW7470)	-	Analysis Date	:: 3/2/2006		SeqNo: 455	5694	
Analyte		Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD) Ref Val	%RPD	RPDLimit	Qual
Mercury		0.004476	0.00020	0.005	0	89.5	80	120				
Sample ID: LCSD-	9905	SampType: LCSD	TestCoo	le: HG_CTW	Units: mg/L		Prep Date	: 3/2/2006		RunNo: 184	154	
Client ID: ZZZZ		Batch ID: 9905	TestN	lo: SW7470	(SW7470)	4	Analysis Date	: 3/2/2006		SeqNo: 455	202	
Analyte		Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit RPD) Ref Val	%КРD	RPDLímít	Qual
Mercury		0.004543	0.00020	0.005	0	90.9	80	120 0	.004476	1.48	•	

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Not Detected at the Reporting Limit Value above quantitation range : шQ Qualifiers:

Page 6

Analyte detected below quantitation limits Spike Recovery outside accepted recovery limits

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Holding times for preparation or analysis exceeded RPD outside accepted recovery limits

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18/29

CLIENT: G	iant Refining Co			-		ANALY	FICAL QC SI	JIMMARY	REPO	RT
Project: N	002200 MED Monthly Water Samples						TestCode:	METALS_T	OTAL	
Sample ID: MB-9915 Cilent ID: ZZZZZ	SampType: MBLK Batch ID: 9915	TestCo	de: METALS_TO U	nits; mg/L		Prep Date: Analysis Date:	3/3/2006 3/6/2006	RunNo: 1848 SeqNo: 4564	13	
Analyte	Result	Par	SPK value SPK F	Ref Val	%REC	LawLimit Hi	ghLimit RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	QN	0.020								
Barium Cadmium		0.020 0.0020								
Chromium	a	0.0060								
Lead	QN	0.0050								
Selenium	ON CIN	0.050	·							
Cilver	<u>p</u>	00000								
Sample ID: LCS-9915	SampType: LCS	TestCor	de: METALS_TO U	nlts: mg/L		Prep. Date:	3/3/2006	RunNo: 1848	E	
Client ID: ZZZZ	Batch ID: 9915	Test	Vo: SW6010A			Analysis Date:	3/6/2006	SeqNo: 4564	121	
Analyte	Result	Pal	SPK value SPK F	tef Val	%REC	LowLimit Hi	ghLimit RPD Ref Val	ОЧЯ%	RPDLimit	Qual
6 Arsenic	0.5621	0.020	0.5	0	112	80	120			
2 Barium	0.4882	0.020	0.5	0	97.6	80	120			
6 Cadmium	0.5037	0.0020	0.5	0	101	80	120			
Chromium	0.4889	0.0060	0.5	0	97.8	80	120			
Lead	0.4994	0.0050	0.5	0	99.9	80	120			
Selenium	0.5433	0.050	0.5	o	109	80	120			
Silver	0,4980	0:0050	0.5	0	99.6	80	120			
Sample ID: LCSD-991	5 SampType: LCSD	TestCo	de: METALS_TO U	nits: mg/L		Prep Date:	3/3/2006	RunNo: 1848	13	
Client ID: ZZZZ	Batch ID: 9915	Test	4o: SW6010A			Analysis Date:	3/6/2006	SeqNo: 4564	22	
Analyte	Result	Pal	SPK value SPK F	tef Val	%REC	LowLimit Hi	ghLimit RPD Ref Val	047%	RPDLimit	Qual
Arsenic	0.5479	0.020	0.5	0	110	80	120 0.5621	2.56	20	
Barium	0.4847	0.020	0.5	0	96.9	80	120 0.4882	0.706	20	
Cadmium	0.5021	0.0020	0.5	0	100	80	120 0.5037	0.313	20	·
Chromium	0.4881	0.0060	0.5	0	97.6	80	120 0.4889	0.166	20	
Lead	0.4988	0.0050	0.5	D	99.8	80	120 0.4994	0.111	20	
Selenium	0.5338	0.050	0.5	0	107	80	120 0.5433	1.77	20	
Qualifiers: E V ND N	alue above quantitation range or Detected at the Reporting 1 imit		H Holding times	for preparation	t or analysis	exceeded	J Analyte detected	below quantitation	limits	
5	ט הכוכטוכת או וווכ אראסונוווץ בחווווו			ocebica leanvei	אווווונ ע		ס אואכ אפנטעפוא נ	oulside accepted rei	covery limits	Ponda 7

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ENT:	Giant Ref	ining Co					ANAL	VTICA	r qc su	MMARY	REPO	RT
Order: :t:	0602238 NMED M	fonthly Water Samples						Ĩ	sstCode: N	AETALS_T	OTAL	
le ID: LCSD	-9915	SampType: LCSD Batch ID: 9915	TestCoc TestN	te: METALS_TO Io: SW6010A	Units: mg/L	4	Prep Date Analysis Date	a: 3/3/2006 a: 3/6/2006		RunNo: 1841 SeqNo: 456	83 422	
œ.		Result	Pal	SPK value SPk	t Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
		0.4954	0.0050	0.5	0	99.1	8	120	0.498	0.530	20	
	Value above Not Detecte	s quantitation range d nt the Renortine Limit		H Holding time R RPD outside	s for preparation	or analysis	exceeded	ַלּט יייע יייע	mlyte detected b	elow quantitation	n limits	
						2		3	אואס ואטרטירטן טו	ווצוחב מככבלובה זב	נוווווי גומאסט	Page

LBVT: Citat Refinise Co. of Order. SamOrber Marty REPORT of Order. MALYTICAL QC SUMMARY REPORT of Order. MALYTICAL QC SUMMARY REPORT of Order. March Marty Mater Samples model. March Marty Mater Samples model. March Marty Mater Samples model. March Mater March model. March March <	all Environmental	Analysis Laborator	y				Date: 08-Mar-06	
opc: NICE Monthly Vac Snaple File Terr Code: Slop Slop Slop Slop Moli Holi	JENT: Giant Re ork Order: 0602238	fining Co			ANALY	VTICAL QC SU	IMMARY REPO	RT
Clic Samplyser RLM TextConic. 2280, Molice Manyas Date: Manyas Cuai:	oject: NMED N	Aonthly Water Samples				TestCode: 8	3260_W	
out Table Table Table Server	ample (D: 5mL rb	SampType: MBLK	TestCode: 8260	W Units: µg/L	Prep Date	3:	RunNo: 18457	
alge Real PCI SYK reite SYK Reit Val SSK Reit Va	ient ID: ZZZZ	Batch ID: R18457	TestNo: SW8	260B	Analysis Date	3/2/2006	SeqNo: 455862	
Constant ND 10 10 Level ND 10 10 Ubitation ND 10 10 Vol unbulgence ND 10 10 Chinomethane (EDC) ND 10 10 C	lalyte	Result	PQL SPK V	alue SPK Ref Val	%REC LowLimit	HighLimit RPD Ref Val	%RPD RPDLImit	Qual
use 10 10 Vibrates 10 10 Vibrates ND 10 Obtornethare (ED) ND 10 Obtornethare (ED) ND 10 Obtornethare (ED) ND 10 Obtornethare ND 10 Attributes ND 1 Attributes ND 1 Attributes ND 1 Attributes ND 1 Attributes <t< td=""><td>nzene</td><td>P</td><td>1.0</td><td></td><td></td><td></td><td></td><td></td></t<>	nzene	P	1.0					
Mile relative ND 10 10 Myllerkere ND 10 10 Af Threthylbercane ND 10 10 Octoonontare (EDS) ND 10 10 Obtoonontare (EDS) ND 10 10 Obtoonontare (EDS) ND 10 10 Obtoonontare (EDS) ND 10 10 Obtoonotare (EDS) ND 10 10 Octoonotare (EDS) ND 10 10 Obtoonotare (EDS) ND 10 10	luene	QN	1.0					
(4) Intellyy direct (MTE) ND 10 (4) Intellyy direct (MTE) ND 10 (4) Intellyy direct (MTE) ND 10 (5) Fintellyy direct (MTE) ND 10 (5) Fintellyy direct (MTE) ND 10 (5) Fintellyy direct (MTE) ND 10 (5) Fintelly direct (DE) ND 10 (10) Obtorontatione ND 40 (10) Obtorontatione ND 10 (11) Obtorontatione ND 10 (11) Obtorontatione ND 10 (11) Obtorontatione ND 10 (11) Obtorontatione ND 10 (12) Obtorontatione ND 10 (12) Obtorontatione ND 10 (12) Obtorontatione ND 10 (12) Obtorontatione ND 10 (13) Obtorotatione ND 10 (14) Obtorotatione ND 10 (14) Obtorotatione ND 10 (14) Obtorotatione ND 10 <td>iylbenzene</td> <td>an</td> <td>1.0</td> <td></td> <td></td> <td></td> <td></td> <td></td>	iylbenzene	an	1.0					
(4.11meltyberation ND (10 (10 (11) (5.11meltyberation ND 10 10 10 (5.11meltyberation ND 10 10 10 10 (6.11meltyberation ND 10 10 10 10 10 (6.11meltyberation ND 10 10 10 10 10 10 (6.11melt	thy tert-butyl ether (MTBE)	an	1.0					
5-Timethylenzere N 10 5-Timethylenzere N 10 Obtonethane (EO) N 10 Obtonethane (EO) N 20 Obtonethane (EO) N 20 Obtonethane (EO) N 20 Obtonethane (EO) N 20 Obtonethane N 20 Eth N 10 Eth 10 10 Eth N 10 Eth N 10 Eth 10 <td>,4-Trimethylbenzene</td> <td>Q</td> <td>1.0</td> <td></td> <td></td> <td></td> <td></td> <td></td>	,4-Trimethylbenzene	Q	1.0					
Ochlonoethare (ED) ND 10 Oblonoethare (ED) ND 10 Oblonoethare (ED) ND 10 Othoratiane ND 10 Oblocatiane ND 10 10 Oblocatiane ND 10 10	,5-Trimethylbenzene	DZ	1.0					
Othonorethane ND 10 10 Othonorethane ND 20 1 Othonorethane ND 40 1 eity/naphthatene ND 10 10 eity/naphthatene ND 10 10 eity/naphthatene ND 10 10 eity/naphthatene ND 10 10 molechioromethane ND 10 10	-Dichloroethane (EDC)	QN	1.0					
Intelere ND 2.0 ethynaphratene ND 4.0 ethynaphratene ND 10 ethynaphratene ND 10 offer ND 10 ethynaphratene ND 10 ethynaphratene ND 10 ethynaphratene ND 10 ethynaphratene ND 10 ethologonalitane ND 10 ethologo	-Dibromoethane (EDB)	GN	1.0					
det/up/naphthalene ND 4.0 det/yinaphthalene ND 4.0 distribution ND 1.0 modenzene ND 1.0 moden ND 1.0 moden ND 1.0 moden ND 1.0 moden 1.0 1.0 modenzene ND 1.0 1.0 modenzene ND 1.0 1.0 modenzene ND 1.0 1.0 modenzene ND 1.0 <td>phthalene</td> <td>DN</td> <td>2.0</td> <td></td> <td></td> <td></td> <td></td> <td></td>	phthalene	DN	2.0					
ieity/naphtalene ND 40 ieity/naphtalene ND 10 icitie 10 icitie	fethylnaphthalene	מא	4.0					
One ND 10 Andom 10 10 10 Andom 10	lethylnaphthalene	QN	4.0					
molenzare ND 10 10 modifilormethane ND 10 modifilormethane ND 10 modifilormethane ND 10 10 modifilormethane ND 10 modifilormethane ND 10 20	stone	QN	10					
mochloromethane ND 10 modchloromethane ND 10 modchloromethane ND 10 monethane ND 10 monethane ND 10 monethane ND 10 monethane ND 10 bon disultide ND 10 bon disultide ND 20 bon disultide ND 10 bon disting accepted recovery limits N Analyte detected below quantitation limits	mabenzene	ON	1.0					
modelnoromethane ND 10 moden ND 10 monelhane ND 20 monelhane ND 10 utanome ND 10 bon ferabloride ND 10 bon ferabloride ND 20 bon ferabloride ND 20 bon ferabloride ND 10 bonolularene ND 10 13-Dichloropropene ND 10 12-DDE ND 10 12-DDE ND 10 13-Dichloropropene	mochloromethane	QN	1.0					
molum ND 1.0 monethane ND 2.0 unance ND 10 unance ND 10 unance ND 10 unance ND 10 unance ND 2.0 unance ND 2.0 unance ND 2.0 constraine ND 1.0 constraine secored in the Rooring unu	modichloromethane	QN	1.0					
momethane ND 2.0 ufarone ND 10 bon disulfide ND 10 bon disulfide ND 2.0 bon Tetrachoride ND 1.0 bon Tetrachoride ND 1.0 bon disulficiencial ND 1.0 bon disulficiencial ND 1.0 contractere ND 1.0 contractered at the Reporting Limit R RPD outside accepted recovery limits	moform	Q	1.0					
Under Under Den disultide ND 10 bon faultide ND 10 bon faultide ND 20 bon faultide ND 20 bon faultide ND 10 brorolouene ND 10 horolouene ND 10 1.3-Dictor 10 10 1.3-Dictor 10 10 1.3-Dictor 20 10 1.3-Dictor 10 10 1.3-Dictor 10 10 1.3-Dictor 10 10 1.3-Dictor 10 10	momelhane	ON	2.0					
bon disulfde ND 10 bon Tetrachloride ND 20 bon Tetrachloride ND 20 oroehane ND 10 oroehane ND 20 oroehane ND 20 oroehane ND 10 offoroehane ND 10 1.2-Othoropropene	ulanone	Q	10					
Den Tetractionide ND 2.0 Den Tetractionide ND 1.0 oroethane ND 2.0 oroethane ND 2.0 oroform ND 1.0 oroform ND ND oroform ND ND	bon disulfide	ON	10					
arobertzene ND 1.0 arobertzene ND 2.0 aroform ND 1.0 aroform ND 1.0 aroforne ND 1.0 horotoluene ND 1.0 horotoluene ND 1.0 1.2-DCE ND 1.0 1.2-DCE ND 1.0 1.2-DCE ND 1.0 1.2-DCE ND 1.0 1.3-Dibloropropene ND 1.3-Dibloropropene ND 1.4-DCE ND 1.5-DCE ND 1.6-DCD ND 1.6-DCD ND 1.7-DCE ND 1.8-DCD ND 1.9-DCD ND 1.10-DCD ND 1.10-DCD ND 1.10-DCD ND 1.10-DCD ND	bon Tetrachloride	ON	2.0					
ordefhane ND 2.0 ordorm ND 1.0 ordornethane ND 1.0 hlorotoluene ND 1.0 hlorotoluene ND 1.0 hlorotoluene ND 1.0 1.3-Dicknopropene ND 1.0 1.3-Dicknopropene ND 1.0 1.3-Dicknopropene ND 2.0 1.3-Dicknopropene ND 2.0 Dirkono-3-chloropropene ND 2.0 Dirkono-3-chloropropene ND 2.0 1.3-Dicknopropene ND 2.0 Dirkono-3-chloropropene ND 2.0 Dirkono	orobenzene	QN	1.0					
aroform All condutane ND 1.0 Norotoluene ND 1.0 ND 1.0 ND 1.0 ND 1.0 ND Not betered at the Reporting Limit ND Not Detected at the Reporting Limit ND ND N	oroethane	QN	2.0					
oromethane ND 1.0 Horotoluene ND 1.0 Horotoluene ND 1.0 1.2-DCE ND 1.0 1.3-Dichloropropene ND 1.0 1.3-Dichloropropene ND 1.0 Dibromo-3-chloropropane ND 2.0 Dibromo-3-chloropropane ND 2.0 1.6 Dibromo-3-chloropropane ND 2.0 Dibromo-3-chloropropane ND 2.0 Dibromo-3-chloropropan	aroform	ON	1.0					
Inforotoluene ND 1.0 Inforotoluene ND 1.0 1.2-DCE ND 1.0 1.3-Dichloropropene ND 1.0 1.3-Dichloropropene ND 1.0 1.3-Dichloropropene ND 2.0 Dibromo-3-chloropropane ND 2.0 Infifers: E Value above quantitation range ND Not Detected at the Reporting Limit R RD Not Detected at the Reporting Limit R	oromethane	Q	1.0					
Horotoluene ND 1.0 1.2-DCE ND 1.0 1.3-Dichloropropene ND 1.0 1,3-Dichloropropene ND 1.0 Olbromo-3-chloropropane ND 2.0 Olbromo-3-chloropropane ND 2.0 Ilfifers: E Value above quantitation range ND Not Detected at the Reporting Limit R	hiorotoluene	QN	1.0					
1,2-DCE ND 1.0 1,3-Dichloropropene ND 1.0 1,3-Dichloropropene ND 1.0 Olbromo-3-chloropropane ND 2.0 Ilfiers: E Value above quantitation range ND Not Detected at the Reporting Limit R Page	hiorotoluene	OZ	1.0					
1,3-Dichloropropene ND 1.0 Olbromo-3-chloropropane ND 2.0 Olbromo-3-chloropropane ND No Ilfifers: E Value above quantitation limits ND Not Detected at the Reporting Limit R	1,2-DCE	an	1.0					
Olbromo-3-chloropropane ND 2.0 Ulfiters: 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	1,3-Dichloropropene	DN	1.0					
lifiers: È 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 PD outside accepted recovery limits S Spike Recovery outside accepted recovery limits	Olbromo-3-chloropropane	QN	2.0					
ND Not Detected at the Reporting Limit R. RPD outside accepted recovery limits S. Spike Recovery outside accepted recovery limits	lifiers; È Value abov	e quantitation range	H	folding times for preparation	n or analysis exceeded	J Analyte detected b	clow quantitation limits	-
Pare	ND Not Detect	ed at the Reporting Limit	R	LPD outside accepted recove	ary limits	Spike Recovery ou	Itside accepted recovery limits	
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CLIENT: Giant Re.	fining Co			ANALY	TICAL QC SU	JMMARY REPOR	[-
Project: NMED N	1001 Mater Samples				TestCode: 8	3260_W	
Sample ID: 5mL rb	SampType: MBLK	TestCode: 8260_V	V Units: µg/L	Prep Date: Analysis Date	3/2/2006	RunNo: 18457 SeaNo: 455862	
					. Statz000 Hinhi imit RPD Ref Val		
Analyte	Result	PQL SPK Vall	Je SPK Kel Val		אפרעבוו אריט אשו אשו		
Dibromochloromethane	ON .	1.0					
Dibromomethane	QN	2.0					
1,2-Dichlorobenzene	QN	1.0					
1,3-Dichlorobenzene	QN	1.0					
1,4-Dichlorobenzene	ON	1.0					
Dichlorodifluoromethane	QN	1.0					
1,1-Dichloroethane	Q	2.0					
1.1-Dichloroethene	Q	1.0					
1,2-Dichloropropane	Q	1.0					
1,3-Dichloropropane	Q	1.0					
2,2-Dichloropropane	Q	2,0					
1.1-Dichloropropene	QN	1.0					
C Hexachlorobutadiene	ON	2.0					
2-Hexanone	QN	1					
S Isopropylbenzene	QN	1.0					
4-Isopropyltaluene	<u>n</u>	1.0					
4-Methyl-2-pentanone	Q	10					
Methylene Chloride	D	3.0					
n-Butylbenzene	DN	1.0					
n-Propylbenzene	QN	1.0					
sec-Butylbenzene	QN	2.0					
Styrene	QN	1.0					
tert-Butylbenzene	Q	1.0					
1,1,1,2-Tetrachloroethane	Q	1.0					
1,1,2,2-Tetrachloroethane	DZ	1.0					
Tetrachloroethene (PCE)	QN	1.0					
Irans-1,2-DCE	Q	1.0					
trans-1,3-Dichloropropene	ON	1.D					
1,2,3-Trichlorobenzene	ON	1.D					
1,2,4-Trichlorobenzene	QN	1.0					
1,1,1-Trichloroethane	Q	1.0					
Qualifiers: E Value abov	e quantitation range	он н	lding times for preparation	t or analysis exceeded	J Analyte detected	below quantitation limits	
ואט טעו אט	נם זו אוב ויכאטווואל הווואי		ר סוזנצומב מככבלונת ובהחאב	בווחון עז	a spike kecovery or	utside accepted recovery limits	r
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CLIENT: Giant Refi Work Orden: 0607279	ning Co			AN	ALYTICAL QC	SUMMARY REPORT	<u> </u>
Project: NMED M	onthly Water Samples				TestCode	8260_W	
Sample ID: 5mL rb	SampType: MBLK	TestCode: 8260_M	/ Units: µg/L	Pre	p Date:	RunNo: 18457	
Cilent ID: ZZZZ	Batch ID: R18457	TestNo: SW826(JB	Analysi	is Date: 3/2/2006	SeqNo: 455862	
Analyte	Result	PQL SPK valu	e SPK Ref Val	%REC LOWL	Imit HighLimit RPD Ref V	al %RPD RPDLimit Qu	al
1,1,2-Trichloroethane	an	1.0					
Trichlaroethene (TCE)	QN	1.0					
Trichlorofluoromethane	DN	1.0					
1,2,3-Trichloropropane	Q	2.0					
Vinyl chloride	QN	1.0					
Xylenes, Total	QN	1.0					
Sample ID: 5mL rb	SampType: MBLK	TestCode: B260_M	/ Units: µg/L	Pre	p Date:	RunNo: 18474	<u> </u>
Client ID: ZZZZZ	Batch ID: R18474	TestNo: SW8260)B	Analysi	s Date: 3/3/2006	SeqNo: 456180	
Analyte	Result	PQL SPK valu	e SPK Ref Val	%REC LowLl	imit HighLimit RPD Ref V	al %RPD RPDLimit Qu	<u>a</u>
N Benzene	QN	1.0					
G Toluene	QN	1.0					
<pre>C Ethylbenzene</pre>	ON	1.0					
O Methyl tert-butyl ether (MTBE)	ON	1.0					
1,2,4-Trimethylbenzene	QN	1.0					
1,3,5-Trimethylbenzene	QN	1.0					
1,2-Dichloroethane (EDC)	ON	1.0					
1,2-Dibromoethane (EDB)	Q	1.0					
Naphthalene	Q	2.0					
1-Methylnaphthalene	QN	4.0					
2-Methyinaphthalene	QN	4.0					
Acelone	QN	10					
Bromobenzene	ON	1.0					
Bromochtoromethane	g	1.0					
Bromodichloromethane	Q	1.0					
Bramofarm	Q	1.0					
Bromomethane	QN	2.0					
2-Butanone	QN	10					
Carbon disulfide	QN	10					
	•						
Qualifiers: E Value above	quantitation range	Hold H	ding times for preparation	or analysis exceed	ed J Analyte detect	ed below quantitation limits	
את ואטו המובמובה	I at the keponing Limit	א אוי) outside accepted recover	ry limits	S Spike Recover	y outside accepted recovery limits	

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Monthly fuer Sample TartCut: StanDut Simple 1: Sample 2: Sample 3: TartCut: Sample 3: Simple 1: Sample 3: Sample 3: TartCut: Sample 3: Simple 1: Sample 3: Sample 3: TartCut: Sample 3: Amoth Sample 3: Sample 3: TartCut: Sample 3: Sample 3: Amoth Sample 3: Sample 3: Sample 3: Sample 3: Sample 3: Amoth Sample 3: Sample 3: Sample 3: Sample 3: Sample 3: Amoth Sample 3: Sample 3: Sample 3: Sample 3: Sample 3: Amoth Sample 3: Sample 3: Sample 3: Sample 3: Sample 3: Condentance N Sample 3: Sample 3: Sample 3: Sample 3: Condentance N Sample 3: Sample 3: Sample 3: Sample 3: Condentance N Sample 3: Sample 3: Sample 3: Sample 3: Condentance N <td< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></td<>								
Sample (C) Sample (C) Sample (C) Sample (C) Runko:	Project: NMED	o Monthly Water Samples				TestCode: {	3260_W	
Mayle Real Q2 SPY Rat Via Sector Doubling Sector Doubl	Sample ID: 5mL rb Client ID: 77777	SampType: MBLK Batch ID: R18474	TestCode: 826 TestNo: SW	io_W Units: µg/L B260B	Prep Date: Analvsis Date	3/3/2006	RunNo: 18474 SenNo: 456180	
Carter Transforde N0 2.0 Carter Transforde N0 1.0 Choorensee N0 1.0 2.0	Analyte	Result	POL SPK	value SPK Ref Val	%REC LowLimit Hic	phLimit RPD Ref Val	%RPD RPDLimit	Quaf
Clionobrene N 1 Clionobrene N 2 Clionobrene N 1 Science	Carbon Tetrachloride	Q	2.0					
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sec-Butylbenzene ND 2.0 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	n-Propylbenzene	ON	1.0					
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	ND Not Deter	sted at the Reporting Limit	œ	RPD sutcide accented recove	in limite	C Culla Deconaria		

Qual Qual ANALYTICAL QC SUMMARY REPORT Spike Recovery outside accepted recovery limits RPDLimit %RPD RPDLimit Analyte detected below quantitation limits SeqNo: 456180 SeqNo: 456977 RunNo: 18474 RunNo: 18502 047% TestCode: 8260_W LowLimit HighLimit RPD Ref Val LowLimit HighLimit RPD Ref Val Analysis Date: 3/7/2006 Analysis Date: 3/3/2006 ~ vi Prep Date: Prep Date: Holding times for preparation or analysis exceeded %REC %REC RPD outside accepted recovery limits Units: µg/L Units: µg/L SPK Ref Val SPK Ref Val TestNo: SW8260B SPK value TestNo: SW8260B SPK value FestCode: 8260_W festCode: 8260_W тĸ 0.1 1.0 2. 0.1 2.0 5. 5 Б Ч Ъ 0. 0.1 0. 0.1 <u>0</u> 0.1 0.1 0. 0. 0.1 1.0 NMED Monthly Water Samples Batch ID: R18474 Batch ID: R18502 Result g Result SampType: MBLK SampType: MBLK Not Detected at the Reporting Limit Value above quantitation range Giant Refining Co 0602238 Methyl tert-butyl ether (MTBE) trans-1,3-Dichloropropene I,1,1,2-Tetrachloroethane I,1,2,2-Tetrachloroethane ,2-Dichloroethane (EDC) I,2-Dibromoethane (EDB) Tetrachloroethene (PCE) 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene 1,2,3-Trichlorobenzene C Trichlorofluoromethane I,2,4-Trichlorobenzene 1,2,3-Trichloropropane
 Vinyl chloride 1,1,2-Trichloroethane Trichloroethene (TCE) Sample ID: 5mL rb-b 1,1,1-Trichloroethane Sample ID: 5mL rb шQ 22222 22222 lert-Butylbenzene Work Order: Irans-1,2-DCE Xylenes, Total Ethylbenzene Naphthalene **CLIENT**: Client ID: Qualifiers: Client ID: Project: Benzene Analyte Styrene Foluene Analyte

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CLIENT:	Giant Refining Co					ANALA	TICAL OC SU	JMMARY REPORT
Work Order: Project:)602238 NMED Monthly Water Samples						TestCode:	8260_W
Sample ID: 100ng Ic Client ID: ZZZZZ	is SampType: LCS Batch ID: R18457	TestCo	te: 8260_W Vo: SW8260B	Units: µg/L		Prep Date Analysis Date	: 3/2/2006	RunNo: 18457 SeqNo: 455863
Analyte	Result	Par	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit Qual
Benzene	19.75	1.0	20	o	98.7	79.2	130	
Toluene	18.63	1.0	20	D	93.2	81.5	118	
Chlorobenzene	19.31	1.0	20	0	96.6	81.2	132	
1,1-Dichloroethene	19,44	1.0	20	0	97.2	65.5	134	
Trichloroethene (TCI	3) 18.19	1.0	20	o	91.0	67	131	
Sample ID: 100ng Io	s SampType: LCS	TestCo	ie: 8260_W	Units: µg/L		Prep Date	•••	RunNo: 18474
Client ID: ZZZZ	Batch ID: R18474	Test	4o: SW8260B			Analysis Date	: 3/3/2006	SeqNo: 456181
Analyte	Result	POL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit Qual
Benzene	19.74	1.0	20	o	98.7	79.2	130	
k, Toluene	17.72	1.0	20	0	88.6	81.5	118	
co Chlorobenzene	18.95	1.0	20	a	94.8	81.2	132	
V 1.1-Dichloroethene	18.87	1.0	20	Ð	94.3	65.5	134	
Trichloroethene (TCI	E) 18.60	1.0	20	0	93.0	67	131	
Sample ID: 100ng k	s SampType: LCS	TestCo	de: 8260_W	Units: µg/L		Prep Date		RunNo: 18502
Client ID: ZZZZ	Batch ID: R18502	Test	4a: SW8260B			Analysis Date	: 3/7/2006	SeqNo: 456978
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLImit Qual
Benzene	19.19	1.0	20	0	95.9	79.2	130	
Toluene	18.39	1.0	20	ð	91.9	81.5	118	
Chlorobenzene	19.84	1.0	20	O	99.2	81.2	132	
1,1-Dichloroethene	19.77	1.0	20	0	98.8	65.5	134	
Trichloroethene (TCI	5) . 18.19	1.0	20	o	90.9	67	131	
Qualifiers: E	Value above quantitation range		H Holdir	ig times for preparatic	on or analysi	s exceeded	J Analyte detected	below quantitation limits

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Page 8

Analyte detected below quantitation limits Spike Recovery outside accepted recovery limits

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Holding times for preparation or analysis exceeded RPD outside accepted recovery limits

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Value above quantitation range Not Detected at the Reporting Limit шQ

Hall Environmental Analysis Laboratory

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	Sample	Receipt Ch	ecklist		
Client Name GIANTREFIN			Date and Time	Received:	2/24/2006
Work Order Number 0602238			Received by	AT	
Checklist completed by J. <u>A. Hell</u> Signature	RCD	a la U Date	68		
Matrix	Carrier name	<u>UPS</u>			
Shipping container/cooler in good condition?		Yes 🗹		Not Present	
Custody seals intact on shipping container/coole	r?	Yes 🗹	No 🗔	Not Present	Not Shipped
Custody seals intact on sample bottles?	· ·	Yes 🗌	No 🗹	N/A [ב
Chain of custody present?		Yes 🗹	No 🗔		
Chain of custody signed when relinquished and i	eceived?	Yes 🗹	No \Box		
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 subr	nitted 🗋	Yes 🗹	No 🗆	
Water - pH acceptable upon receipt?		Yes 🗹		N/A 🗌	
Container/Temp Blank temperature?		3°	4° C ± 2 Accepta If given sufficient	ble time to cool.	
COMMENTS:					
Client contacled	Date contacted:		Pers	on conlacted	
Contacted by:	Regarding				
Comments:					
				······	
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Corrective Action		-,			
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HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D	Tel. 505.345.3975 Fax 505.345.4107				vr N) 32) 32)	esiO/ses	5992 9992 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	+ 381 r08 bo 02 bo 03 bo 808 bo 808 bo 808 bo 800 i i 208 bo 800 i i 200 i i 200 i i 200 i i 200 i i 200 i i 200 i i 200 i i 200 i i 200 i 200 i 20 i 2	M + X3T8 M +	X X X	X X X X	×	X X X					House Russi
GA/ OC Package: Std 🔲 Level 4 🗍 Other:	Project Name: NMED 912-1214	Water Samples	Project #:		Project Manager:	Stand, MORTIS	Sampler: Storing Miny ris	Sample Temperature:	Number/Volume HgCl ₂ HNO ₃ HEAL No.	Mar 236	-2	M	h-					Received By Asignature 1143 Rec Albert Linux 212300 Received By: (Signature)
CHAIN-OF-CUSTODY RECORD	Client: Citurt Rofining	Company - Prifiza	Address: ROILTR, 03, RAX 7	Enerthup, NM 87301			Phone #: 505-722-3933	Fix#: 505-722-0210	Date Time Matrix Sample I.D. No.	1-23-06 0800 H2 O AL-2 ZEP-1	51740 " offo "	1) OB30 12 NAPIS	11 0845 11 Pilot TC					2306 Time: Relinquished By: (Signature) Date: Time: Relinquished By: (Signature)

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BILL RICHARDSON GOVERNOR



Hazardous Waste Bureau 2905 Rodeo Park Drive East, Building 1 Santa Fe, New Mexico 87505-6303 Telephone (505) 428-2500 2006 MAR 20 Fax (505) 428-2567 www.nmenv.slate.nm.us



RON CURRY SECRETARY

DERRITH WATCHMAN-MOORE DEPUTY SECRETARY

CERTIFIED MAIL RETURN RECEIPT REQUESTED

March 13, 2006

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

SUBJECT: APPROVAL WITH MODIFICATIONS 2004 ANNUAL GROUNDWATER REPORT GIANT REFINING COMPANY, CINIZA REFINERY EPA ID NO. NMD000333211 HWB-GRCC-05-001

Dear Mr. Riege:

The New Mexico Environment Department (NMED) has completed its review of the *Oil Conservation Division 2004 Annual Groundwater Report* (Report), dated August 2005, submitted on behalf of Giant Refining Company, Ciniza Refinery (the Permittee). NMED only reviewed the information presented in Sections 6.0-13.0, 21.A, 21.E, 21.F, Appendix A, and Appendix B pertaining to groundwater monitoring. NMED hereby approves the Report with modifications as listed in this letter. NMED has determined this Report contains some technical deficiencies that must be corrected in all future groundwater monitoring reports. The Permittee must adhere to all requirements established in this letter in addition to the requirements established in the *Approval with Modifications Giant Ciniza Refinery 2003 OCD Annual Reports GW-32* (Approval Letter), issued by NMED to the Permittee, dated June 1, 2005.

Ed Riege Giant Refining Company Ciniza March 13, 2006 Page 2

The following are the deficiencies identified in the Report:

1. June 1, 2005 Approval Letter, Item No. 18, Discharge Permit Condition 16.A.iii, states "[a]n annual water table potentiometric elevation map using the water table elevation of the ground water in all refinery monitor wells. A corrected water table elevation shall be determined for all wells containing phase-separated hydrocarbons. The map shall show well locations, pertinent site features, and the direction and magnitude of the hydraulic gradient."

The *Alluvium/Chinle Group Interface Water Levels* map provided in Section 10 of the Report does not provide contours for groundwater flow directions. In addition, groundwater elevations measured in monitoring wells located in the northwest corner (BW-1B, BW-2B, BW-2b, SMW-4....) were not used to generate potentiometric surface contours. The Permittee must include these features on water table potentiometric surface elevation maps provided in future groundwater reports or provide an explanation for omitting the contours on the map.

- 2. June 1, 2005 Approval Letter, Item No.10, Discharge Permit Condition 16.A.i required a description of the sample collection procedures and field methods. The methods and procedures are not discussed in the Report. Future groundwater monitoring reports must provide a section that describes the sample collection procedures and other field methods used during that sampling event.
- 3. The Permittee must refer to the June 1, 2005 Approval Letter, Items No. 14 c, d, and e summarized below:
 - a. Include a section describing field sample collection and handling procedures, equipment calibrations, decontamination procedures, and collection and management of investigation derived wastes.
 - b. Provide a table summarizing well data derived from well depth to water/product measurements from the well casing rims. The water/product levels must be measured to an accuracy of 0.01 foot. The Permittee shall calculate water table elevations by subtracting the depth to water from the surveyed well casing rim elevations. The table shall provide water elevation data for each well. The column headings shall include: measurement date, well identification, well casing elevation, total well depth, depth to SPH, SPH thickness, depth to water, groundwater elevation, and corrected water table elevation (if SPH are present). The data presented in the table can then be applied to the annual water table

Ed Riege Giant Refining Company Ciniza March 13, 2006 Page 3

potentiometric elevation and product thickness maps for each ground water monitoring event.

- 4. Section 6.0 of the Report contains the Groundwater Monitoring Plan; item No. 6, which states "Waste water from Pilot Travel Center and Truck Stop Facility...." The Permittee must revise the wording to ensure the reader views the Truck Stop Facility as part of the Pilot Travel Center and that one sample is collected from this area. As it currently reads, it could be interpreted that a sample is collected from the Travel Pilot Center and another sample is collected from the Truck Stop Facility.
- 5. The Table of Contents of the Report, Section 16.0 is missing Permit Condition 21 F. *Summary of Discovery of New Groundwater Contamination*, which is combined with Permit Condition 21E. Permit Condition 21.F identifies contamination present in BW-3C as probably due to drilling, sampling, or lab contamination. In future reports, such statements must be justified by describing why drilling, sampling or lab contamination is thought to be the source of contamination and not a result of a release.
- 6. Section 9.0 of the Report provides analytical results for Well # 4, designated as *Well #4 SDWA/Iyanbito*. The collection of this sample was not connected with the groundwater sampling event. In future groundwater monitoring reports, the Permittee must highlight laboratory data not collected during the groundwater monitoring event and provide an explanation why the sample(s) was not collected during the scheduled monitoring.
- 7. Section 13 of the Report provides the data for hydrocarbon thickness and volume of product recovered. The presentation of the data is unclear because the data is recorded in feet and inches while the titles of the columns specify only feet or inches and not both. Future groundwater monitoring reports must provide the SPH thickness measurements in feet to an accuracy of 0.01 foot and provide accurate titles.
- 8. Well identification must be consistent throughout the report on analytical reports, reporting tables, and on maps. For example, wells labeled PW-2 and PW-4 on the maps are labeled well #2 and well #4 in the analytical reports and reporting tables. This must be corrected in future groundwater reports.
- 9. The Permittee shall discuss in future groundwater monitoring reports any deviations to approved sampling activities or provide an explanation why sampling was not conducted. Some analytical data appears to be missing from this Report. The following is a list of the discrepancies related to monitoring of the wells in the Report:

Ed Riege Giant Refining Company Ciniza March 13, 2006 Page 4

- a. Section 8 states GWM-1 was analyzed for general chemistry, VOC, SVOC, BTEX, MTBE, and RCRA metals. However, only BTEX and MTBE data were provided in Section 9, containing the tables and analytical reports.
- b. Section 8.0 states that PW-2 was analyzed for cyanide. The analytical results for cyanide were not provided in Section 9.

All future groundwater monitoring reports must follow all requirements included in this letter and also the requirements listed in the original Approval Letter. In September 2005, after the Report was submitted, the Permittee submitted a *Response Letter*, *HWB-GRCC-04-001* dated September 26, 2005 that included revisions to the *OCD Discharge Renewal Application*. The Permittee must also adhere to all revisions submitted in that *Response Letter* in future groundwater monitoring reports.

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

Sincerely,

Hope Mongifio

Hope Monzeglio Project Leader Permits Management Program

HM/sv

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

file: Reading File and GRCC 2006 File

Chavez, Carl J, EMNRD

From: Jim Lieb [jlieb@giant.com] Sent: Wednesday, March 15, 2006 2:44 PM

To: Monzeglio, Hope, NMENV; Chavez, Carl J, EMNRD

Cc: Ed Riege; Steve Morris; Johnny Sanchez

Subject: Sewer Excavation Update

Hope/Carl:

Due to the snow this last weekend and the earlier rain last week the soil here is very muddy and makes it unsafe for working around the sewer excavation. Now, with the dry weather here the last couple of days, the area around the excavation is beginning to dry up. Hence, I was just informed that, baring any additional significant precipitation, the excavation will be a go for this Friday. Our plans are to take samples as per your request and as I marked on the diagrams I emailed to you a while back. I have attached the diagrams to this email for easy access by you.

If you have any questions on this, please contact me at 722-3227.

Jim Lieb Environmental Engineer Giant - Ciniza Refinery

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.





Chavez, Carl J, EMNRD

From: Jim Lieb [jlieb@giant.com]

Sent: Friday, March 10, 2006 3:27 PM

To: Chavez, Carl J, EMNRD; Foust, Denny, EMNRD; Price, Wayne, EMNRD; Monzeglio, Hope, NMENV

Cc: Steve Morris; Ed Riege

Subject: Weekly Update for Week of March 6, 2006

Hello All:

Steve Morris is out today so in his absence I am preparing the weekly update today.

1. We have determined the average flow from the NAPIS to Aeration Lagoon 1 on a daily (133,900 gpd), weekly (937,400 gpw), and monthly (28.12 MG per month) based on 93 gpm as determined by the following information:

Total flow from Pond 2 out = 123 gpm. Flow from boiler plant directly to Pond 2 = 22 gpm. This gives us the flow from pond 1 to pond 2 as 101 gpm. That should be close to the flow from the Aeration Lagoons to Pond 1.

The flow from the Travel Center to Aeration Lagoon 1 = 8 gpm. If we subtract that from the 101gpm. we should have the approximate flow from the NAPIS thru the benzene strippers into Aeration Lagoon 1 as 93 gpm.

This is the information requested in question a. and f. in the NMED-HWB letter of February 23, 2006. We are working on answers for the remaining questions in the letter. I thought it would be nice to get this information to you as we get it.

2. The pumping of water from the OAPIS to the NAPIS is working fine.

I have attached the Hall Environmental Analysis Lab report for the Evaporation Pond #2 BOD and COD sampling. If you have any questions please contact me at (505) 722-3227 and I will do my best to answer them. Steve is expected to return this Monday.

Sincerely,

Jim Lieb Environmental Engineer Giant-Ciniza

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COVER LETTER

Thursday, March 09, 2006

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

RE: Evap Pond #2 Inlet Week of 3-2-06

Dear Ed Riege:

Order No.: 0603046

Hall Environmental Analysis Laboratory received 1 sample(s) on 3/3/2006 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

	Explanation of codes
В	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

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

STANDARD

Assaigai Anaiytical Laboratories, inc.

Certificate of Analysis

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

HALL ENVI	RONMEN	ITAL									
0603046											
0603089	HAL03		Receipt: 03-03-06		Willam	P. Blava: Preside	int of Assaig	ai Analytical Lab	oratories, In	c	
0603046-01	A/EVAP I	POND	#2 INLET	Collected:	03-0	2-06 9:30:00	By:				
AQUEOUS							· · · · · · · · · · · · · · · · · · ·				
Run Seq	Vence	CAS #	Analyte	Re	sult	Units	Dilution Factor	Detection Limit	Code	Prep Date	Run Date
001A	EP	PA 405.1	Biochemical Oxygen Deman	d				By:	мкм		
WC.2006.	596.13	10-26-4	Biochemical Oxygen Dema	nd 6	15	mg/L	1	2		03-03-06	6 03-08-06
0603046-01	B/EVAP	POND	#2 INLET	Collected:	03-0	2-06 9:30:00	By:				
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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 foonotes will appear below.

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

Chavez, Carl J, EMNRD

To: smorris@giant.com

Cc: Ed Riege; Price, Wayne, EMNRD

Subject: Reduced Frequency of BOD & COD Sampling in Evap. Ponds

Stephen:

Good morning. I am in receipt of your verbal request from yesterday regarding the reduced frequency of weekly sampling and analyses for BOD and COD in the effluent of aeration lagoon #2 (AL2). The sampling was required by the OCD to evaluate the effectiveness of Giant's treatment system based on problems stemming from a joint OCD/Hazardous Waste Bureau inspection conducted on September 8, 2005 at the Ciniza Refinery.

The Oil Conservation Division (OCD) would be receptive to changing the sampling to be commensurate with the OCD's February 22, 2006 e-mail message to Mr. Ed. Riege of Giant regarding the Pilot Station Effluent Summary provided it does not interfere with the Pilot Station Effluent Study that Giant is currently working on.

In addition, the OCD would like phenol to be monitored at the influent and effluent of AL1 and the effluent of AL2. Phenol has been commonly monitored in refinery treatment systems to evaluate it's overall efficiency. Giant would also need to monitor all aerators in the ALs to document that they are all functioning as designed in accordance with an operation and maintenance schedule. The OCD believes that this would be most condusive to assessing Giant's ongoing treatment capacity and Giant's ability to assess the capacity of it's treatment system. The above would also assist Giant in the preparation of the "Pilot Station Effluent" Study that is due in July 2006.

Let me know what Giant thinks about this. We may be able to agree on a semi-monthly sampling schedule to start. 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: <u>CarlJ.Chavez@state.nm.us</u> Website: <u>http://www.emnrd.state.nm.us/ocd/</u> (Pollution Prevention Guidance is under "Publications")



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



RON CURRY SECRETARY

DERRITH WATCHMAN-MOORE DEPUTY SECRETARY

CERTIFIED MAIL RETURN RECEIPT REQUESTED

March 6, 2006

Darrell Moore Navajo Refining Company 501 East Main Street, P.O. Drawer 159 Artesia, New Mexico 88210

9

SUBJECT: APPROVAL WITH MODIFICATIONS GROUNDWATER MONITORING REPLACEMENT WORK PLAN NAVAJO REFINING COMPANY EPA ID No. NMD048918817 HWB-NRC-05-001

Dear Mr. Moore:

As requested by Navajo Refining Company, the New Mexico Environment Department (NMED) conferred with the New Mexico Oil Conservation Division (OCD) and together generated an updated list of well locations for groundwater monitoring and sampling. The revised monitoring locations and sampling requirements are established in the attached Table. NMED requires Navajo Refining Company (the Permittee) to replace the January 17, 2005 Groundwater Monitoring Work Plan. The replacement plan must include all requirements listed in this Approval with Modifications letter. The replacement work plan shall be implemented following NMED's review and approval. The replacement work plan are as follows:

1. The Permittee must submit drilling logs and well construction diagrams in accordance with the Post Closure Care Permit (Permit), Section 4.7.6.a.

Darrell Moore Navajo Refining Company March 6, 2006 Page 2 of 2

2. The Permittee must submit a revised Groundwater Monitoring Work Plan in accordance with the format described in Appendix E as stated in Section 4.7.6.b of the Permit.

3

- 3. The Permittee must follow the sampling requirements established in the attached Table. The table is a comprehensive list that satisfies both NMED and OCD sampling requirements.
- 4. Semi-Annual groundwater monitoring event must be completed no more than 30 days prior to the start of the irrigation season but no later than April 30 of each year and no later than 30 days after the conclusion of the irrigation season or November 15 of each year. The Permittee must use sampling methods approved by the NMED and OCD.
- 5. Any figures that contain monitoring well name changes as a result of the combination of maps; must include the original well name in parenthesis below the newly assigned name. An explanation must be provided in the legend.
- 6. Groundwater monitoring activities and all future revised groundwater monitoring work plans must adhere to the sampling requirements outlined in Appendix C (Sampling Methods and Procedures) and Appendix D (Chemical Analytical Procedures) of the Permit.
- 7. The Groundwater Monitoring Work Plan must address the management of investigation derived waste.
- 8. The following field parameters must be collected from all wells sampled during each monitoring event: temperature, specific conductivity, pH, dissolved oxygen (DO), and oxidation-reduction potential (ORP).
- 9. The Permittee must measure the depth to water (DTW) and depth to product (DTP) if present, in all monitoring and recovery wells during each sampling event regardless of whether samples are collected from the wells. All measurements shall be recorded to the nearest 0.01 foot. The Permittee need not collect samples for chemical analysis from wells containing separate phase hydrocarbons (SPH).

Darrell Moore Navajo Refining Company March 6, 2006 Page 3 of 3

The Permittee must conduct all monitoring and sampling activities in accordance with their RCRA Permit. The Permittee must submit the replacement Groundwater Monitoring Work Plan to NMED on or before June 5, 2006.

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

Sincerely,

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Bope Monzeptio

Hope Monzeglio Project Leader Hazardous Waste Bureau

 $\mathbf{H}\mathbf{M}$

Attachment

cc: *J. Kieling, NMED HWB *D. Cobrain, NMED HWB W. Price, NMOCD C. Chavez, NMOCD D. Whaley, NRC L. King, EPA 6PD-N

Reading File and NRC 2006 File *denotes electronic copy

Navajo Refining Company Table 1 March 6, 2006 Page 1 of 20 Table 1 Navajo Refinery Company Monitoring Schedule

Monitoring Well ID	Sampling Frequency	Water Quality Parameters	Analytical Analytical Suite	vpproximate Vell location
MW-1R	Semi - annual	pH, Cond, Temp, ORP, DO	EPA Method 8260 (VOCs), EPA Method 8015B (DRO), EPA Wethod 8310 (SVOCs), Priority Pollutant Metals, major cations & anions. nitrates/nitrites	V. of the EPs
MW-2A ¹	Semi - annual	pH, Cond, Temp, ORP, DO	EPA Method 8021B plus MTBE (BTEX); EPA Method 8310 W. (SVOCs), As, Pb, Cr, EPA Method 8015B (GRO, DRO), major cations & anions, nitrates/nitrites	V. of the EPs
MW-3 ¹	Semi - annual	pH, Cond, Temp, ORP, DO	EPA Method 8021B plus MTBE (BTEX), EPA Method 8310 S. (SVOCs), As, Pb, Cr, EPA Method 8015B (GRO, DRO), major cations & anions, nitrates/nitrites	. of EP 1 & 2
MW-4A ¹	Semi - annual	pH, Cond, Temp, ORP, DO	EPA Method 8021B plus MTBE (BTEX), EPA Method 8310 S. (SVOCs), As, Pb, Cr, EPA Method 8015B (GRO, DRO), major cations & anions, nitrates/nitrites	. of EP 1 & 2
MW-5A ¹	Semi - 3 annual	pH, Cond, Temp, ORP, DO	EPA Method 8021B plus MTBE (BTEX), EPA Method 8310 S. (SVOCs), As, Pb, Cr, EPA Method 8015B (GRO, DRO), major cations & anions, nitrates/nitrites	. of EP 2

The Analyte list for EPA Method 8260 must include MTBE

- Point of Compliance well monitoring under RCRA Post Closure Care Permit

 1a = Ground water monitoring wells at the locations of the compliance points

²= Recovery Wells must be sampled if they do not contain measurable phase-separated hydrocarbons

³ = Semi-Annual groundwater monitoring event must be completed no more than 30 days prior to the start of the irrigation season but no later than April 30 of each year and no later than 30 days after the conclusion of the irrigation season or November 15 of each year

⁴ = Annual groundwater monitoring event must be conducted in the spring.

⁵ = New monitoring wells installed during the SWMU/AOC Group 1 Corrective Action Investigation

Note: All Recovery Trenches and all wells with phase-separated hydrocarbons (PSH's) must be checked at a minimum of once per month and recorded on a spreadsheet. The data must be presented in table form containing all of the recovery wells, date inspected, product thickness measured to .01 of a foot, and amount of product/water recovered. If product is observed in a monitoring well, recovery well or trench, then appropriate steps must be taken to recover product using the best available technology. This information must be provided in the annual groundwater report. 4

Navajo Refining Company Table 1 March 6, 2006 Page 2 of 20

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Monitoring Well ID	Sampling Frequency	Water Quality Parameters	Analytical Suite	Approximate Well location
MW-6A ¹	Semi - annual ³	pH, Cond, Temp, ORP, DO	EPA Method 8021B plus MTBE (BTEX), EPA Method 8310 (SVOCs), As, Pb, Cr, EPA Method 8015B (GRO, DRO), major cations & anions, nitrates/nitrites	S. of EP 1
MW-7A ¹	Semi - annual ³	pH, Cond, Temp, ORP, DO	EPA Method 8021B plus MTBE (BTEX), EPA Method 8310 (SVOCs), As, Pb, Cr, EPA Method 8015B (GRO, DRO), major cations & anions, nitrates/nitrites	S. of EP 3 Replacement of MW-7
8-WM	Semi - annual ³	pH, Cond, Temp, ORP, DO	EPA Method 8260 (VOCs), EPA Method 8015B (DRO), EPA Method 8310 (SVOCs), Priority Pollutant Metals, major cations & anions, nitrates/nitrites	TMD, S. of E. draw btw B and H Rd
MW-10 ^{1a}	Semi - annual ³	pH, Cond, Temp, ORP, DO	EPA Method 8021B plus MTBE (BTEX), EPA Method 8310 (SVOCs), As, Pb, Cr, EPA Method 8015B (GRO, DRO), major cations & anions, nitrates/nitrites	S. of EPs
MW-11A ^{1a}	Semi - annual ³	pH, Cond, Temp, ORP, DO	EPA Method 8021B plus MTBE (BTEX), EPA Method 8310 (SVOCs), As, Pb, Cr, EPA Method 8015B (GRO, DRO), major cations & anions, nitrates/nitrites	N. of U.S. Hwy 82 btw B & H Rd
MW-15 ^{1a}	Semi - annual ³	pH, Cond, Temp, ORP, DO	EPA Method 8021B plus MTBE (BTEX), EPA Method 8310 (SVOCs), As, Pb, Cr, EPA Method 8015B (GRO, DRO), major cations & anions, nitrates/nitrites	W. of EP 1

The Analyte list for EPA Method 8260 must include MTBE

¹= Point of Compliance well monitoring under RCRA Post Closure Care Permit

^{1a} = Ground water monitoring wells at the locations of the compliance points

²= Recovery Wells must be sampled if they do not contain measurable phase-separated hydrocarbons

³ = Semi-Annual groundwater monitoring event must be completed no more than 30 days prior to the start of the irrigation season but no later than April 30 of each year and no later than 30 days after the conclusion of the irrigation season or November 15 of each year

⁴ = Annual groundwater monitoring event must be conducted in the spring.

⁵ = New monitoring wells installed during the SWMU/AOC Group 1 Corrective Action Investigation

Note: All Recovery Trenches and all wells with phase-separated hydrocarbons (PSH's) must be checked at a minimum of once per month and recorded on a spreadsheet. The data must be presented in table form containing all of the recovery wells, date inspected, product thickness measured to .01 of a foot, and amount of product/water recovered. If product is observed in a monitoring well, recovery well or trench, then appropriate steps must be taken to recover product using the best available technology. This information must be provided in the annual groundwater report.

Navajo Refining Company Table 1 March 6, 2006 Page 3 of 20

Monitoring Well ID	Sampling Frequency	Water Quality Parameters	Analytical Suite	pproximate /ell location
MW-16	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8015B (DRO), EPA E. c	. of H Rd and
	annual ³	ORP, DO	Method 8310 (SVOCs), Priority Pollutant Metals, major cations S. c	of E draw
			& anions, nitrates/nitrites	
MW-18 ^{1a}	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8015B (GRO, DRO), N. J	. Portion of
	annıal 3	ORP, DO	EPA Method 8310 (SVOCs), Priority Pollutant Metals, major Ref	efinery E. of
			cations & anions, nitrates/nitrites the	e NCL
MW-18A 1a	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8015B (DRO), EPA S. c	ofEPs
	annual 3	ORP, DO	Method 8310(SVOC), Priority Pollutant Metals, major cations &	
			anions, nitrates/nitrites	
MW-20	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8015B (DRO), EPA E. c	of B. Rd, S.
	annial 3	ORP, DO	Method 8310(SVOC), Priority Pollutant Metals, major cations & of I	f E. draw
			anions, nitrates/nitrites	
MW-21	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8015B (DRO), EPA S. c	of E. draw,
	annial 3	ORP, DO	Method 8310 (SVOCs), Priority Pollutant Metals, major cations btw	w B & H Rd.
			& anions, nitrates/nitrites	
MW-22A 1a	Semi -	pH, Cond, Temp,	EPA Method 8021B plus MTBE (BTEX), EPA Method 8310 S. c	of EPs
	annual 3	ORP, DO	(SVOCs), As, Pb, Cr, EPA method 8015B (GRO, DRO), major	
			cations & anions, nitrates/nitrites	

The Analyte list for EPA Method 8260 must include MTBE

¹= Point of Compliance well monitoring under RCRA Post Closure Care Permit

 I^{a} = Ground water monitoring wells at the locations of the compliance points

²= Recovery Wells must be sampled if they do not contain measurable phase-separated hydrocarbons

³ = Semi-Annual groundwater monitoring event must be completed no more than 30 days prior to the start of the irrigation season but no later than April 30 of each year and no later than 30 days after the conclusion of the irrigation season or November 15 of each year

4 = Annual groundwater monitoring event must be conducted in the spring.

⁵ = New monitoring wells installed during the SWMU/AOC Group 1 Corrective Action Investigation

must be presented in table form containing all of the recovery wells, date inspected, product thickness measured to .01 of a foot, and amount of product/water recovered. If product is observed in a monitoring well, recovery well or trench, then appropriate steps must be taken to recover product using the best available technology. This information must be Note: All Recovery Trenches and all wells with phase-separated hydrocarbons (PSH's) must be checked at a minimum of once per month and recorded on a spreadsheet. The data provided in the annual groundwater report. Ú.

Navajo Refining Company Table 1 March 6, 2006 Page 4 of 20

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Monitoring	Sampling	Water Quality	Analytical	Approximate
Well ID	Frequency	Parameters		Well Jocarion
MW-23	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8015B (DRO), EPA	W. of TEL
	annıal 3	ORP, DO	Method 8310 (SVOCs), Priority Pollutant Metals, major cations	
			& anions, nitrates/nitrites	
MW-25	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8015B (DRO), EPA	S. of EP, W. of
	annia] 3	ORP, DO	Method 8310 (SVOCs), Priority Pollutant Metals, major cations	Pecos River, E.
	amma		& anions, nitrates/nitrites	of H Rd.
MW-26	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8015B (DRO), EPA	S. of EP, W. of
	annial 3	ORP, DO	Method 8310 (SVOCs), Priority Pollutant Metals, major cations	Pecos River, E.
	aiminai		& anions, nitrates/nitrites	of H Rd.
MW-27	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8015B (DRO), EPA	E. of H Rd and
	annial 3	ORP, DO	Method 8310 (SVOCs), Priority Pollutant Metals, major cations	S. of E. draw
	mnimm		& anions, nitrates/nitrites	
MW-28	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8015B (DRO), EPA	E. of the SE.
	annial 3	ORP, DO	Method 8310 (SVOCs), Priority Pollutant Metals, major cations	Tank Farm Area
	mninm		& anions, nitrates/nitrites	
MW-29	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8015B (DRO), EPA	In refinery N. of
	annial 3	ORP, DO	Method 8310 (SVOCs), Priority Pollutant Metals, major cations	TEL
			& anions, nitrates/nitrites	

The Analyte list for EPA Method 8260 must include MTBE

¹= Point of Compliance well monitoring under RCRA Post Closure Care Permit

 1a = Ground water monitoring wells at the locations of the compliance points

²= Recovery Wells must be sampled if they do not contain measurable phase-separated hydrocarbons

³ = Semi-Annual groundwater monitoring event must be completed no more than 30 days prior to the start of the irrigation season but no later than April 30 of each year and no later than 30 days after the conclusion of the irrigation season or November 15 of each year

⁴ = Annual groundwater monitoring event must be conducted in the spring.

⁵ = New monitoring wells installed during the SWMU/AOC Group 1 Corrective Action Investigation

Note: All Recovery Trenches and all wells with phase-separated hydrocarbons (PSH's) must be checked at a minimum of once per month and recorded on a spreadsheet. The data must be presented in table form containing all of the recovery wells, date inspected, product thickness measured to .01 of a foot, and amount of product/water recovered. If product is observed in a monitoring well, recovery well or trench, then appropriate steps must be taken to recover product using the best available technology. This information must be provided in the annual groundwater report.

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Monitoring	Sampling	Water Quality	Analytical	Approximate
Well ID	Frequency	Parameters	Suite to the second	Well-location
MW-39	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8015B (DRO), EPA N	N. of the TEL
	annial 3	ORP, DO	Method 8310 (SVOCs), Priority Pollutant Metals, major cations	
	Impini		& anions, nitrates/nitrites	
MW-41	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8015B (DRO), EPA	N. of the TEL
	annial 3	ORP, DO	Method 8310 (SVOCs), Priority Pollutant Metals, major cations	
	mmm		& anions, nitrates/nitrites	
MW-42	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8015B (DRO), EPA	N. of the TEL
	annial 3	ORP, DO	Method 8310 (SVOCs), Priority Pollutant Metals, major cations	
			& anions, nitrates/nitrites	
MW-43	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8015B (DRO), EPA	NW. of the TEL
	annial 3	ORP, DO	Method 8310 (SVOCs), Priority Pollutant Metals, major cations	
	main		& anions, nitrates/nitrites	
MWY_45 1a	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8015B (DRO), EPA E	E. of Refinery,
	annıal 3	ORP, DO	Method 8310 (SVOCs), Priority Pollutant Metals, major cations S	S. of E draw
			& anions, nitrates/nitrites	
MW-46	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8015B (DRO), EPA E	E. of Refinery,
	annial 3	ORP, DO	Method 8310 (SVOCs), Priority Pollutant Metals, major cations S	S. of E draw
			& anions, nitrates/nitrites	

The Analyte list for EPA Method 8260 must include MTBE

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^{1a} = Ground water monitoring wells at the locations of the compliance points

²= Recovery Wells must be sampled if they do not contain measurable phase-separated hydrocarbons

 3 = Semi-Annual groundwater monitoring event must be completed no more than 30 days prior to the start of the irrigation season but no later than April 30 of each year and no later than 30 days after the conclusion of the irrigation season or November 15 of each year

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⁵ = New monitoring wells installed during the SWMU/AOC Group 1 Corrective Action Investigation

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Well ID Rr MW-48 Ser ann				
MW-48 Ser ann	squency	Parameters		Well location
ann	ni -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8015B (DRO), EPA	S. of SE Tank
	11al 3	ORP, DO	Method 8310 (SVOCs), Priority Pollutant Metals, major cations	farm Area
			& anions, nitrates/nitrites	
MW-40 ^{1a} Ser	ni -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8015B (GRO, DRO),	E. of Refinery,
		ORP, DO	EPA Method 8310 (SVOCs), Priority Pollutant Metals, major	midpoint btw E.
	Inni		cations & anions, nitrates/nitrites	draw and U.S.
				Hwy 82
MW-50 Ser	ni -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8015B (DRO), EPA	W. of Refinery,
uu		ORP, DO	Method 8310 (SVOCs), Priority Pollutant Metals, major cations	E. of U.S. Hwy
			& anions, nitrates/nitrites	285 and N. of
				U.S. Hwy 82
MW-52 Sen	ni -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8015B (DRO), EPA	S. of the
uue	¹¹³¹ 3 (ORP, DO	Method 8310 (SVOCs), Priority Pollutant Metals, major cations	Refinery, S. of
<u> </u>			& anions, nitrates/nitrites	U.S Hwy 82
MW-53 ^{1a} Sen	ni -	pH, Cond, Temp,	EPA Method 8021B plus MTBE (BTEX), EPA Method 8310	W. of Refinery
	¹¹³	ORP, DO	(SVOCs), EPA Method 8015B (DRO), As, Pb, Cr, major cations	btw U.S. Hwy
			& anions, nitrates/nitrites	285 and RR
				tracks

The Analyte list for EPA Method 8260 must include MTBE

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²= Recovery Wells must be sampled if they do not contain measurable phase-separated hydrocarbons

³ = Semi-Annual groundwater monitoring event must be completed no more than 30 days prior to the start of the irrigation season but no later than April 30 of each year and no later than 30 days after the conclusion of the irrigation season or November 15 of each year

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Monitoring	Sampling	Water Quality	Analytical	Approximate
Well ID	Frequency	Parameters	Suite is set of the set	Well location
MW_54A 1a	Semi -	pH, Cond, Temp,	EPA Method 8021B plus MTBE (BTEX), EPA Method 8310 N	NW. of NCL
	annual 3	ORP, DO	(SVOCs), EPA Method 8015B (DRO), As, Pb, Cr, major cations	
			& anions, nitrates/nitrites	
MW-55 1a	Semi -	pH, Cond, Temp,	EPA Method 8021B plus MTBE (BTEX), EPA Method 8310 E	E. of NCL
	annıal 3	ORP, DO	(SVOCs), EPA Method 8015B (DRO), As, Pb, Cr, major cations	
			& anions, nitrates/nitrites	
MW/_56 1a	Semi -	pH, Cond, Temp,	EPA Method 8021B plus MTBE (BTEX), EPA Method 8310 N	NE of the
OC- AA TAT	annial 3	ORP, DO	(SVOCs), EPA Method 8015B (DRO), As, Pb, Cr, major cations R	Refinery
			& anions, nitrates/nitrites	
MW-58	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8015B (DRO), EPA S	S. of U.S. Hwy
	annial 3	ORP, DO	Method 8310 (SVOCs), Priority Pollutant Metals, major cations 8.	82 and W. of B
			& anions, nitrates/nitrites	Rd
MW/61 5	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8310 (SVOCs), EPA S	SW of TEL
	annia 3	ORP, DO	Method 8015B (GRO, DRO), Priority Pollutant Metals, major	
	mmmm		cations & anions, nitrates/nitrites	
5 cy-70	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8310 (SVOCs), EPA S	SW of TEL
70- M M	annual 3	ORP, DO	Method 8015B (GRO, DRO), Priority Pollutant Metals, major	
			cations & anions, nitrates/nitrites	

The Analyte list for EPA Method 8260 must include MTBE

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Monitoring Wall ID	Sampling Frequency	Water Quality Parameters	Analytical Suite	Approximate Well location
MW-63 ⁵	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8310 (SVOCs), EPA	SW of TEL
	annual ³	ORP, DO	Method 8015B (GRO, DRO), Priority Pollutant Metals, major cations & anions, nitrates/nitrites	
MW-64 ⁵	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8310 (SVOCs), EPA	In Refinery
	annual ⁵	ORP, DO	Method 8013B (GKO, DKO), Priority Pollutant Metals, major cations & anions, nitrates/nitrites	area, n. 01 U.S. HWY 82
MWN 65 5	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8310 (SVOCs), EPA	S. of the SE
	annial 3	ORP, DO	Method 8015B (GRO, DRO), Priority Pollutant Metals, major	Tank Farm Area
			cations & anions, nitrates/nitrites	
2 YVX 66 5	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8310 (SVOCs), EPA	E. of the SE
	annial 3	ORP, DO	Method 8015B (GRO, DRO), Priority Pollutant Metals, major	Tank Farm Area
	mnium		cations & anions, nitrates/nitrites	
MW 67 ⁵	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8310 (SVOCs), EPA	E. of the Diesel
	annıal 3	ORP, DO	Method 8015B (GRO, DRO), Priority Pollutant Metals, major	Tank Farm Area
	mnim		cations & anions, nitrates/nitrites	
MW-68	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8015B (DRO), EPA	S. of E draw,
	annıal 3	ORP, DO	Method 8310 (SVOCs), Priority Pollutant Metals, major cations	btw D and H
			& anions, nitrates/nitrites	Rd.

The Analyte list for EPA Method 8260 must include MTBE

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Note: All Recovery Trenches and all wells with phase-separated hydrocarbons (PSH's) must be checked at a minimum of once per month and recorded on a spreadsheet. The data must be presented in table form containing all of the recovery wells, date inspected, product thickness measured to .01 of a foot, and amount of product/water recovered. If product is observed in a monitoring well, recovery well or trench, then appropriate steps must be taken to recover product using the best available technology. This information must be provided in the annual groundwater report.

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Monitoring	Sampling	Water Quality	Analytical	Approximate
Well ID	Frequency	Parameters	Sulferences and the second of the second	Well location
NTW 70 1a	Semi -	pH, Cond, Temp,	EPA Method 8021B plus MTBE (BTEX); EPA Method 8310	S. of Eps;
0/ - M M	3	ORP, DO	(SVOCs), As, Pb, Cr, EPA Method 8015B (GRO, DRO), major	Renamed from
	annua		cations & anions, nitrates/nitrites	MW-19
KWB-1A	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8015B (DRO), EPA	S. of E draw,
	annial 3	ORP, DO	Method 8310 (SVOCs), Priority Pollutant Metals, major cations	W. of B Rd.
			& anions, nitrates/nitrites	
KWB-1C	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8310 (SVOCs),	S. of E draw,
	annia] 3	ORP, DO	Priority Pollutant Metals, major cations & anions,	W. of B Rd.
			nitrates/nitrites	
KWB-P2	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8015B (DRO), EPA	E. of D Rd, N.
	annial 3	ORP, DO	Method 8310 (SVOCs), Priority Pollutant Metals, major cations	of U.E. Hwy 82
	Impirim		& anions, nitrates/nitrites	
KWB-2R	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8015B (DRO), EPA	S. of U.S. Hwy
	annial 3	ORP, DO	Method 8310 (SVOCs), Priority Pollutant Metals, major cations	82 on G.G.
	amma		& anions, nitrates/nitrites	Armstrong &
				Son

The Analyte list for EPA Method 8260 must include MTBE

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Monitoring Well ID	Sampling Frequency	Water Quality Parameters	Analyticat Suite	Approximate Well location
KWB-3R	Semi - . 3	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8015B (DRO), EPA Method 8310 (SVOCs) Priority Pollutant Metals, major cations	Replacement well for KWB-
	annual		& anions, nitrates/nitrites	3A. S. of U.S.
				Hwy 82 btw B
				& D Rd.
KWB-4	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8015B (DRO), EPA	N. of U.S. Hwy
	annual 3	ORP, DO	Method 8310 (SVOCs), Priority Pollutant Metals, major cations	82, W. of B Rd.
			& anions, nitrates/nitrites	
KWB-5	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8015B (DRO), EPA	N. of U.S. Hwy
	annial 3	ORP, DO	Method 8310 (SVOCs), Priority Pollutant Metals, major cations	82, W. of B Rd.
			& anions, nitrates/nitrites	
KWB-6	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8015B (DRO), EPA	N. of U.S. Hwy
	annial 3	ORP, DO	Method 8310 (SVOCs), Priority Pollutant Metals, major cations	82, W. of B Rd.
	mnim		& anions, nitrates/nitrites	
KWB-7	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8015B (DRO), EPA	N. of U.S. Hwy
	annia]	ORP, DO	Method 8310 (SVOCs), Priority Pollutant Metals, major cations	82 btw B & D
	mnimm		& anions, nitrates/nitrites	Rd
KWB-8	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8015B (DRO), EPA	N. of U.S. Hwy
	annial 3	ORP, DO	Method 8310 (SVOCs), Priority Pollutant Metals, major cations	82 btw B & D
			& anions, nitrates/nitrites	Rd.

The Analyte list for EPA Method 8260 must include MTBE

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Monitoring	Sampling	Water Quality	Analytical	Approximate
Well ID	Frequency	Parameters	Suite	Well location
KWB-9	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8015B (DRO), EPA	S. of U.S. Hwy
	annial 3	ÔRP, DO	Method 8310 (SVOCs), Priority Pollutant Metals, major cations	82, E. of B Rd.
	mmmm		& anions, nitrates/nitrites	
KWB-10	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8015B (DRO), EPA	E. of Refinery,
	3	ORP, DO	Method 8310 (SVOCs), Priority Pollutant Metals, major cations	S. of E. draw,
	ailluai	.	& anions, nitrates/nitrites	N. of U.S. Hwy
	_			82
KWB-11A	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8015B (DRO), EPA	N. of U.S. Hwy
	3	ORP, DO	Method 8310 (SVOCs), Priority Pollutant Metals, major cations	82 btw B & D
	amman		& anions, nitrates/nitrites	Rd
KWB-12A	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8015B (DRO), EPA	S. of U.S. Hwy
	3	ORP, DO	Method 8310 (SVOCs), Priority Pollutant Metals, major cations	82, E. of B Rd.
	amman		& anions, nitrates/nitrites	
KWB-13	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8015B (DRO), EPA	S. of U.S. Hwy
	annial 3	ORP, DO	Method 8310 (SVOCs), Priority Pollutant Metals, major cations	82, W. of B Rd
	annia		& anions, nitrates/nitrites	
NP-1	Semi -	pH, Cond, Temp,	EPA Method 8021B plus MTBE (BTEX)	S. of E. draw,
	annual ³	ORP, DO		W. of B Rd.

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Monitoring Well ID	Sampling Frequency	Water Quality Parameters	Analytical Suite	Approximate Well location
NP-2	Semi - annual ³	pH, Cond, Temp, ORP, DO	EPA Method 8021B plus MTBE (BTEX)	Directly E. of B Rd., S. of E draw
NP-3	Semi - annual ³	pH, Cond, Temp, ORP, DO	EPA Method 8260 (VOCs), EPA Method 8015B (DRO), EPA Method 8310 (SVOCs), Priority Pollutant Metals, major cations & anions, nitrates/nitrites	Directly N. of E. draw, NE. of B Rd.
NP-5	Semi - annual	pH, Cond, Temp, ORP, DO	EPA Method 8260 (VOCs), EPA Method 8015B (DRO), EPA Method 8310 (SVOCs), Priority Pollutant Metals, major cations & anions, nitrates/nitrites	S. of Richey Rd, N. of E. Draw, W. of B Rd.
9-4N	Semi - annual	pH, Cond, Temp, ORP, DO	EPA Method 8260 (VOCs), EPA Method 8015B (DRO), EPA Method 8310 (SVOCs), Priority Pollutant Metals, major cations & anions, nitrates/nitrites	S. of E. draw, W. of B Rd.
NP-7	Semi - annual ³	pH, Cond, Temp, ORP, DO	EPA Method 8260 (VOCs), EPA Method 8015B (DRO), EPA Method 8310 (SVOCs), Priority Pollutant Metals, major cations & anions, nitrates/nitrites	S. of E draw, btw D & H Rd.
NP-9	Semi – annual ³	pH, Cond, Temp, ORP, DO	EPA Method 8260 (VOCs), EPA Method 8015B (DRO), EPA Method 8310 (SVOCs), Priority Pollutant Metals, major cations & anions, nitrates/nitrites	S. of Richey Rd, N. of E. Draw, W. of B Rd.

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Monitoring	Sampling	Water Quality	Analytical	Approximate Vall Incation
Well-LU	Frequency	Parameters		TANTANA TAL
OCD 1 1a	Semi –	pH, Cond, Temp,	EPA Method 8021B plus MTBE (BTEX), EPA Method 8310 N	VW. of EP 6
1-000	annial 3	ORP, DO	(SVOCs), As, Pb, Cr, EPA Method 8015B (GRO, DRO), major	
	mnimn		cations & anions, nitrates/nitrites	
	Semi –	pH, Cond, Temp,	EPA Method 8021B plus MTBE (BTEX), EPA Method 8310 N	V. of EP 6
47-000	annial 3	ORP, DO	(SVOCs), As, Pb, Cr, EPA Method 8015B (GRO, DRO), major	
			cations & anions, nitrates/nitrites	
000 3 1a	Semi –	pH, Cond, Temp,	EPA Method 8021B plus MTBE (BTEX), EPA Method 8310 N	VE. of EP 6
- -	annual 3	ORP, DO	(SVOCs), As, Pb, Cr, EPA Method 8015B (GRO, DRO), major	
	mninp		cations & anions, nitrates/nitrites	
	Semi –	pH, Cond, Temp,	EPA Method 8021B plus MTBE (BTEX), EPA Method 8310 N	VE. of EP 6
	3	ORP, DO	(SVOCs), As, Pb, Cr, EPA Method 8015B (GRO, DRO), major	
	TUTTU		cations & anions, nitrates/nitrites	
ocn s la	Semi –	pH, Cond, Temp,	EPA Method 8021B plus MTBE (BTEX), EPA Method 8310 N	VE of EP-6
C-000	annial 3	ORP, DO	(SVOCs), As, Pb, Cr, EPA Method 8015B (GRO, DRO), major	
	mmmp		cations & anions, nitrates/nitrites	
000 6 1a	Semi –	pH, Cond, Temp,	EPA Method 8021B plus MTBE (BTEX), EPA Method 8310 E.	E. of EP-6
	annial 3	ORP, DO	(SVOCs), As, Pb, Cr, EPA Method 8015B (GRO, DRO), major	-
	mmmm		cations & anions, nitrates/nitrites	

The Analyte list for EPA Method 8260 must include MTBE

¹= Point of Compliance well monitoring under RCRA Post Closure Care Permit

 1a = Ground water monitoring wells at the locations of the compliance points

²= Recovery Wells must be sampled if they do not contain measurable phase-separated hydrocarbons

³ = Semi-Annual groundwater monitoring event must be completed no more than 30 days prior to the start of the irrigation season but no later than April 30 of each year and no later than 30 days after the conclusion of the irrigation season or November 15 of each year

 4 = Annual groundwater monitoring event must be conducted in the spring. 5 = New monitoring wells installed during the SWMU/AOC Group 1 Corrective Action Investigation

Note: All Recovery Trenches and all wells with phase-separated hydrocarbons (PSH's) must be checked at a minimum of once per month and recorded on a spreadsheet. The data must be presented in table form containing all of the recovery wells, date inspected, product thickness measured to .01 of a foot, and amount of product/water recovered. If product is observed in a monitoring well, recovery well or trench, then appropriate steps must be taken to recover product using the best available technology. This information must be provided in the annual groundwater report. ÿ,

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Navajo Refining Company Table 1 March 6, 2006 Page 14 of 20

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Monitoring	Sampling	Water Quality	Analytical	Approximate
Well ID	Frequency	Parameters	Suite and the second	Well location
OCD-7A ¹	Semi –	pH, Cond, Temp,	EPA Method 8021B plus MTBE (BTEX), EPA Method 8310	SE. of EP-6
	annial 3	ORP, DO	(SVOCs), As, Pb, Cr, EPA Method 8015B (GRO, DRO), major	Replacement
			cations & anions, nitrates/nitrites	well for OCD-
				7AR
	Semi –	pH, Cond, Temp,	EPA Method 8021B plus MTBE (BTEX), EPA Method 8310	SE. of EP 3
	annijal 3	ORP, DO	(SVOCs), As, Pb, Cr, EPA Method 8015B (GRO, DRO), major	
			cations & anions, nitrates/nitrites	
NCI -32	Semi –	pH, Cond, Temp,	EPA Method 8021B plus MTBE (BTEX), EPA Method 8310	NW. Portion of
	annual 3	ORP, DO	(SVOCs), EPA Method 8015B (DRO), As, Pb, Cr, major cations	the Refinery
			& anions, nitrates/nitrites	
NCI -33 1	Semi –	pH, Cond, Temp,	EPA Method 8021B plus MTBE (BTEX), EPA Method 8310	NW. Portion of
	annual 3	ORP, DO	(SVOCs), EPA Method 8015B (DRO), As, Pb, Cr, major cations	the Refinery
			& anions, nitrates/nitrites	
NCI -34 1	Semi –	pH, Cond, Temp,	EPA Method 8021B plus MTBE (BTEX), EPA Method 8310	NW. Portion of
	annial 3	ORP, DO	(SVOCs), EPA Method 8015B (DRO), As, Pb, Cr, major cations	the Refinery
			& anions, nitrates/nitrites	
NCI -44 1	Semi –	pH, Cond, Temp,	EPA Method 8021B plus MTBE (BTEX), EPA Method 8310	NW. Portion of
	annual 3	ORP, DO	(SVOCs), EPA Method 8015B (DRO), As, Pb, Cr, major cations	the Refinery
			& anions, nitrates/nitrites	

The Analyte list for EPA Method 8260 must include MTBE

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Navajo Refining Company Table 1 March 6, 2006 Page 15 of 20

Monitoring	Sampling	Water Quality	Analytical	Approximate
Well ID	Frequency	Parameters	Suite	Well location
NCT_40 1a	Semi –	pH, Cond, Temp,	EPA Method 8021B plus MTBE (BTEX), EPA Method 8310	NW. Portion of
	annial 3	ORP, DO	(SVOCs), EPA Method 8015B (DRO), As, Pb, Cr, major cations	the Refinery
			& anions, nitrates/nitrites	
TEL 1	Semi –	pH, Cond, Temp,	EPA Method 8021B plus MTBE (BTEX), EPA Method 8310	NE. Portion of
1-771	annial 3	ORP, DO	(SVOCs), As, Pb, Cr, EPA Method 8015B (GRO, DRO), major	the Refinery
	main		cations & anions, nitrates/nitrites	
<u>ты 1</u>	Semi -	pH, Cond, Temp,	EPA Method 8021B plus MTBE (BTEX), EPA Method 8310	NE. Portion of
7-7171	annial 3	ORP, DO	(SVOCs), As, Pb, Cr, EPA Method 8015B (GRO, DRO), major	the Refinery
	mainm		cations & anions, nitrates/nitrites	
TEL 2 1	Semi -	pH, Cond, Temp,	EPA Method 8021B plus MTBE (BTEX), EPA Method 8310	NE. Portion of
C-7171 1	annial 3	ORP, DO	(SVOCs), As, Pb, Cr, EPA Method 8015B (GRO, DRO), major	the Refinery
			cations & anions, nitrates/nitrites	
TEI _ 1a	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8015B (GRO, DRO),	NE. Portion of
	annial 3	ORP, DO	EPA Method 8310 (SVOCs), Priority Pollutant Metals, major	the Refinery
-			cations & anions, nitrates/nitrites	
RW-1 ²	Annual 4	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8310 (SVOCs),	³ North Portion
	(Spring of	ORP, DO	Priority Pollutant Metals, major cations & anions,	of the Refinery
	each year)		nitrates/nitrites	

The Analyte list for EPA Method 8260 must include MTBE

¹= Point of Compliance well monitoring under RCRA Post Closure Care Permit

 $I^a = Ground$ water monitoring wells at the locations of the compliance points

²= Recovery Wells must be sampled if they do not contain measurable phase-separated hydrocarbons

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Monitoring Well ID	Sampling Frequency	Water Quality Parameters	Analytical Suite	Approximate Well-location
RW-2	Annual 4 (Spring of each year	pH, Cond, Temp, ORP, DO	EPA Method 8260 (VOCs), EPA Method 8310 (SVOCs), Priority Pollutant Metals, major cations & anions, nitrates/nitrites	³ North Portion of the Refinery
RW-3 ²	Annual 4 (Spring of each year	pH, Cond, Temp, ORP, DO	EPA Method 8260 (VOCs), EPA Method 8310 (SVOCs), Priority Pollutant Metals, major cations & anions, nitrates/nitrites	³ North Portion of the Refinery
RW-4 ²	Annual (Spring of each year	pH, Cond, Temp, ORP, DO	EPA Method 8260 (VOCs), EPA Method 8310 (SVOCs), Priority Pollutant Metals, major cations & anions, nitrates/nitrites	³ South Portion of the Refinery
RW-5 ²	Annual ⁴ (Spring of each year	pH, Cond, Temp, ORP, DO	EPA Method 8260 (VOCs), EPA Method 8310 (SVOCs), Priority Pollutant Metals, major cations & anions, nitrates/nitrites	³ South Portion of the Refinery
RW-6 ²	Annual ⁴ (Spring of each year	pH, Cond, Temp, ORP, DO	EPA Method 8260 (VOCs), EPA Method 8310 (SVOCs), Priority Pollutant Metals, major cations & anions, nitrates/nitrites	³ South Portion of the Refinery
RW-7 ²	Annual ⁴ (Spring of each year	pH, Cond, Temp, ORP, DO	EPA Method 8260 (VOCs), EPA Method 8310 (SVOCs), Priority Pollutant Metals, major cations & anions, nitrates/nitrites	³ North Portion of the Refinery

The Analyte list for EPA Method 8260 must include MTBE

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Navajo Refining Company Table 1 March 6, 2006 Page 17 of 20

Monitoring	Sampling	Water Quality		Approximate
Well ID	Frequency	Parameters		Well location
RW-8 ²	Annual 4	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8310 (SVOCs),	³ North Portion
	(Spring of	ORP, DO	Priority Pollutant Metals, major cations & anions,	of the Refinery
	each year		nitrates/nitrites	
RW-9 ²	Annual 4	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8310 (SVOCs),	³ North Portion
\	(Spring of	ORP, DO	Priority Pollutant Metals, major cations & anions,	of the Refinery
	each year		nitrates/nitrites	
RW-10 ²	Annual 4	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8310 (SVOCs),	³ North Portion
	(Snring of	ORP, DO	Priority Pollutant Metals, major cations & anions,	of the Refinerv
	each year		nitrates/nitrites	
RW-11 ²	Annual 4	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8310 (SVOCs),	³ Directly W. of
	(Snring of	ORP, DO	Priority Pollutant Metals, major cations & anions,	B Rd.
	each year		nitrates/nitrites	
RW-12	Annial 4	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8310 (SVOCs),	³ Directly W of
21	Suring of	ORP, DO	Priority Pollutant Metals, major cations & anions,	B Rd.
	each year		nitrates/nitrites	
RW-13 ²	Annual 4	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8310 (SVOCs),	³ Directly W. of
	(Spring of	ORP, DO	Priority Pollutant Metals, major cations & anions, nitrates/nitrites	B Rd.
	each year			

The Analyte list for EPA Method 8260 must include MTBE

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Navajo Refining Company Table 1 March 6, 2006 Page 18 of 20

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Monitoring	Sampling	Water Quality	Analytical	Approximate
Well ID	Frequency	Parameters		Well location
RW-14 ²	Annual ⁴	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8310 (SVOCs),	³ Directly W. of
	(Spring of	ORP, DO	Priority Pollutant Metals, major cations & anions,	B Rd.
	each year		nitrates/nitrites	
RW-15 ²	Annual ⁴	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8310 (SVOCs),	³ South Portion
	(Spring of each vear	ORP, DO	Priority Pollutant Metals, major cations & anions, nitrates/nitrites	of the Refinery
RW-16 ²	Annual 4	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8310 (SVOCs),	3 North Portion
	Snring of	ORP, DO	Priority Pollutant Metals, major cations & anions,	of the Refinerv
	each year		nitrates/nitrites	
RW-17 ²	Annual ⁴	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8310 (SVOCs),	3 North Portion
	(Spring of	ORP, DO	Priority Pollutant Metals, major cations & anions,	of the Refinery
	each year		nitrates/nitrites	
RW-18 ²	Annual ⁴	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8310 (SVOCs),	³ S. of E draw
	(Spring of	ORP, DO	Priority Pollutant Metals, major cations & anions,	& W. of B Rd.
	each year		nitrates/nitrites	
RA 313	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8310 (SVOCs),	N. of U.S. Hwy
	annual ³	ORP, DO	Priority Pollutant Metals, major cations & anions,	82, W. of B Rd.
			nitrates/nitrites	

The Analyte list for EPA Method 8260 must include MTBE

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Navajo Refining Company Table 1 March 6, 2006 Page 19 of 20

Monitoring	Sampling	Water Quality	Analytical	Approximate
Well ID	Frequency	Parameters	SURGE THE REPORT OF A DESCRIPTION OF A D	VY CHI JULALIUII
RA 314	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8310 (SVOCs),	N. of U.S. Hwy
	annial 3	ORP, DO	Priority Pollutant Metals, major cations & anions,	82, W. of B Rd.
			nitrates/nitrites	
RA 3723	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8310 (SVOCs),	N. of U.S. Hwy
	annial 3	ORP, DO	Priority Pollutant Metals, major cations & anions,	82, W. of B Rd.
			nitrates/nitrites	
RA 3156	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8310 (SVOCs),	S. of U.S. Hwy
	3 annual	ORP, DO	Priority Pollutant Metals, major cations & anions,	82 and E. of B
			nitrates/nitrites	Rd.
RA 3353	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8310 (SVOCs),	S. of U.S. Hwy
	annial 3	ORP, DO	Priority Pollutant Metals, major cations & anions,	82 and E. of B
			nitrates/nitrites	Rd
RA 4196	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8310 (SVOCs),	N. of U.S. Hwy
	3	ORP, DO	Priority Pollutant Metals, major cations & anions,	82 and E. of B
	alliuda		nitrates/nitrites	Rd
RA 4798	Semi -	pH, Cond, Temp,	EPA Method 8260 (VOCs), EPA Method 8310 (SVOCs),	E. of B Rd, N.
	annial 3	ORP, DO	Priority Pollutant Metals, major cations & anions,	of
			nitrates/nitrites	U. S. Hwy 82

The Analyte list for EPA Method 8260 must include MTBE

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Navajo Refining Company Table 1 March 6, 2006 Page 20 of 20

Monitoring	Sampling	Water Quality	Analytical
Well ID	Erequency	Parameters	Suite Well location
Larue well	Semi - annual ³	pH, Cond, Temp, ORP, DO	EPA Method 8260 (VOCs), EPA Method 8310 (SVOCs), Priority Pollutant Metals, major cations & anions, nitrates/nitrites

Table date: March 6, 2006.

N = North; S = South; E = East; W = West; NE = Northeast; NW = Northwest; SW = Southwest; SE = Southeast; Btw = between

B Rd = Bolton Road; H Rd = Haldeman Road; D Rd = Dirt Road; Hwy = highway;

EP = Evaporation Ponds; TMD = Three Mile Ditch; E. draw = Eagle Draw;

NCL = North Colony Landfarm; TEL = Tetra Ethyl Lead Impoundment

DO = dissolved oxygen; ORP = oxygen reduction potential; temp = temperature; Cond = specific conductivity

VOCs - volatile organic compounds; SVOCs - semi volatile organic compounds; DRO - diesel range organics,

BTEX - benzene, toluene, ethylbenzene, xylene; MTBE - Methyl Tertiary-Butyl Ether

The Analyte list for EPA Method 8260 must include MTBE

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Chavez, Carl J, EMNRD

From: Jim Lieb [jlieb@giant.com]

Sent: Monday, March 06, 2006 8:42 AM

To: Monzeglio, Hope, NMENV; Chavez, Carl J, EMNRD

Cc: Ed Riege; Ed Rios; Steve Morris; Johnny Sanchez; Jim Hallock

Subject: Clean up of Sewer Excavation Slop Oil Spill

Hope and Carl:

Per your request for Giant to sample the process sewer slop oil spill that occurred in the excavation, I have prepared a figure showing the spill area with proposed sampling locations. I have shown the spill area within the excavation with a dark line showing the limits of spill. The spill was limited to within the shelf areas. Giant proposes to sample at 6 locations as shown on the figure. We will excavate the spill contaminated soil and take the samples. Samples will be delivered to Hall Environmental Analysis Laboratory in Albuquerque under chain of custody. At request of NMED the samples will be sampled for EPA Method 8021B for BTEX, EPA Method 8015B for GRO and DRO (DRO must cover the range from C10 to C36).

Ciniza expects the excavation of the contaminated soils will begin today. Because this is an active construction and process area we cannot leave open the excavation. Due to safety concerns of leaving an open hole area inside an active process area Ciniza will backfill with clean overburden after excavation of the oil-contaminated soil. We could not begin excavation till now because of on-going construction work in the excavation area to the east of the contaminated zone.

I have included a figure showing the location of the excavation area within the refinery. It is adjacent to the sulfur recovery unit building which I have shown on both figures including an arrow showing north.

Please let me know if the proposed sampling locations are acceptable to NMED.

Sincerely,

Jim Lieb Environmental Engineer Giant - Ciniza Refinery jlieb@giant.com (505) 722-3227

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Chavez, Carl J, EMNRD

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From: Jim Lieb [jlieb@giant.com]

Sent: Thursday, March 02, 2006 1:02 PM

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

Subject: Ciniza Weekly Update Weeks of 1/31/06, 2/9/06 and 2/15/06

Steve Morris is out this week so in his absence I am preparing the weekly updates today.

Updates:

- 1. As of yesterday, Fuhs Trucking has completed 70% of cleanup of the aeration lagoons and evaporation ponds.
- 2. The chopper pump installation was completed and has been operating very well.
- Last week Steve took a snapshot reading from a temporary flow measuring device (90 degree notch) at the inlet of evaporation pond 2 and got a flow of 21/2 inches in the notch which correlates to a flow of 21.7 gpm based on Cameron Hydraulic curve chart.
- 4. On 2/10/06, Steve used a bucket and stopwatch to get a snapshot measurement of the flow entering aeration lagoon 1 from the OAPIS. He measured 1.6 gallons at 23.3 seconds which correlates to 4.12 gpm.
- 5. Ciniza has contracted Vector Arizona to provide options and engineering for the installation of a liner and leak detection system in the OAPIS.

I have attached Hall Environmental Analysis Lab reports the weeks of 1/31/06, 2/9/06 and 2/15/06. Samples were taken on 2/23/06 for the OAPIS and Pond #2 Inlet but the results have not as yet been received from Hall. If you have any questions please contact me at (505) 722-3227 and I will do my best to answer them. Steve is expected to return this Monday.

Sincerely,

Jim Lieb Environmental Engineer Giant-Ciniza

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COVER LETTER

Friday, February 10, 2006

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

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

RE: Pond #1 Inlet for BOD

Dear Steve Morris:

Order No.: 0602040

Hall Environmental Analysis Laboratory received 1 sample(s) on 2/3/2006 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

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

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

STANDARD

Assaigai Analytical Laboratories, Inc.

Certificate of Analysis

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

Client:	HALL ENVI	RONMI	ENTAL										
Project:	0602040												
Order:	0602079	HALC)3	Receipt:	02-03-06		William	P. Biava: Presid	lent of Assaig	ai Analytical Labo	oratories, In	C.	
Sample:	POND #1 IN	ILET			<u> </u>	Collected:	02-0	2-06 8:00:00	By:				
Matrix:	AQUEOUS												
									Dilution	Detection		Prep	Run
QC Group	Run Seq	uence	CAS #		Analyte	Res	ult	Units	Factor	Limit	Code	Date	Date
0602079-00	001A		EPA 405.1	Biochemic	cal Oxygen Demand					By:	мкм		
BOD06016	WC.2006.	321.16	10-26-4	Biocher	mical Oxygen Demand	64	0	mg/L	1	2	1	02-03-06	02-08-06

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 foonotes will appear below.

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

The percent recoveries of the LCS and the LCSD are outside of QA/QC criteria (low). This should be taken into account when reviewing the data.

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Hall Environmental Analysis Laboratory

	Sample i	Rece	eipt Ci	hecklist			
Client Name GIANTREFIN				Date and Time	Received:	2	2/3/2006
Work Order Number 0602040				Received by	LMM		
Checklist completed by XDe. Hellik	B	0)	Date	06			
Matrix	Carrier name	UPS	i				
Shipping container/cooler in good condition?		Yes		No 🗌	Not Present		
Custody seals intact on shipping container/cooler?	?	Yes	\checkmark	No 🗔	Not Present	Not Shipped	
Custody seals intact on sample bottles?		Yes		No 🗹	N/A		
Chain of custody present?		Yes	\checkmark	No 🗔			
Chain of custody signed when relinquished and re	ceived?	Yes	\checkmark	No 🗆			
Chain of custody agrees with sample labels?		Yes	\checkmark	No 🗔			
Samples in proper container/bottle?		Yes	✓	No 🗌			
Sample containers intact?		Yes	\checkmark	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 subm	itted		Yes	No 🗔		
Water - pH acceptable upon receipt?		Yes		No 🗔	N/A 🗹		
Container/Temp Blank temperature?			3°	4° C ± 2 Accepta If given sufficient	ble time to cool.		
COMMENTS:							
Client contacted	Date contacted:				on contacted	 	
Contacted by:	Regarding					 	
Comments:						 	
	····					 	
	·					 	
Corrective Action						 	
<u></u>						 	

ALL ENVIRONMENTAL NALYSIS LABORATORY 901 Hawkins NE, Suite D buquerque, New Mexico 87109 1. 505.345.3975 Fax 505.345.4107 ww.hallenvironmental.com	3310 (PVA or PAH) Arions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄) Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄) BS608 (VOA) BS608 (VOA) BS70 (Semi-VOA) BCOD		
			Remarks: Rue
QA / QC Package: Std □ Level 4 □ Other: Project Name: Project #:	Project Manager: Sampler: Sample Temperature: Number/Volume HgCL, HNO		Redeived By: Kignatura)
F-CUSTODY RECORD	Matrix Sample I.D. No.	2 H2 9 Por H1 Mal 2	Relinquished By: (Signature) Relinquished By: (Signature)
CHAIN-OI	Phone #: Fax #: Date Inne	2/2/06 082	2-2-06 Time: Date: Time:

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COVER LETTER

Friday, February 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 Week of 2-3-2006

Dear Steve Morris:

Order No.: 0602039

Hall Environmental Analysis Laboratory received 1 sample(s) on 2/3/2006 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

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

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

STANDARD

Assaigai Analytical Laboratories, Inc.

Certificate of Analysis

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

Client:	HALL	. ENVIRON	MENTAL										
Project:	0602	039											
Order:	06020	081 HA	L03	Receipt:	02-03-06		Willia	m P. Biava: Preside	nt of Assaiga	i Analytical Labo	oratories, In	c.	
Sample:	PON	D 2 INLET				Collected:	02-	02-06 8:30:00	By:	<u></u>			<u> </u>
Matrix:	AQU	EOUS											
QC Group		Run Sequenc	e CAS#		Analyte	Res	suit	Units	Dilution Factor	Detection Limit	Code	Prep Date	Run Date
0602081-00	001A		EPA 405.	Biochemi	cal Oxygen Demand					By:	МКМ		
BOD06016	۱	WC.2006.321.17	10-26-4	Bioche	mical Oxygen Demand	j 44	19	mg/L	1	2	1	02-03-06	02-08-06
0602081-00	001B		EPA 410.	I Chemical	Oxygen Demand					By:	MKM		
WCOD06010	٥ ١	WC.2006.293.8	C-004	Chem	nical Oxygen Demand	14	80	mg/L	1	10		02-06-06	02-06-06

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, 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 foonotes will appear below.

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

The percent recoveries of the LCS and the LCSD are outside of QA/QC criteria (low). This should be taken into account when reviewing the data.

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Hall Environmental Analysis Laboratory

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	Sample	Rece	eipt Che	ecklist			
Client Name GIANTREFIN				Date and Time	Received:	:	2/3/2006
Work Order Number 0602039				Received by	LMM		
Checklist completed by <u>Heel</u> Signature	Aas		Q/3/ Date	<u> </u>			
Matrix	Carrier name	UPS					
Shipping container/cooler in good condition?		Yes			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 red	ceived?	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	\checkmark	No 🗔			
All samples received within holding time?		Yes		No 🗔			
Water - VOA vials have zero headspace?	No VOA vials subm	itted		Yes	No 🗌		
Water - pH acceptable upon receipt?		Yes		No 🗔	N/A 🗌		
Container/Temp Blank temperature?			3°	4° C ± 2 Accepta	ble		
COMMENTS				n given sumolem	time to cool.		
Client contacted D	ate contacted:			Pers	on contacted	 	
Contacted by: R	egarding					 	
Comments:							
Corrective Action						 	

HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D Albuquerque, New Mexico 87109 Tel. 505.345.3975 Fax 505.345.4107 www.hallenvironmental.com		MB's (8021) H (Gasoline ((Gas/Diesel)))))))))))))))))))	1 1 1 1 1 1 1 1 1 1 1 1 1 1	Image: New York Image	X				Remarks: Rue R
QA/QC Package: Std □ Level 4 □ Other: Project Name: for d # 2 In let Wark of 2-3-2006	Project #: "	Project Manager:	Sample Temperature: 3	Number/Volume HgCl ₂ HND ₃ CC C C C C C C C C C C C C C C C C C	1				Received By: (Signature)
CHAIN-OF-CUSTODY RECORD	Falling NM 87301	Dhone #	Fax#: 505-722-3833	Date Time Matrix Sample I.D. No.	2/2/06 0830//20 Pord 2 Inlet				Date: Time: Relinquished By: (Signature) Z-2-96

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COVER LETTER

Friday, February 24, 2006

Ed Riege Giant Refining Co Rt. 3 Box 7 Gallup, NM 87301 TEL: (505) 722-3833

FAX (505) 722-0210

RE: Pond 2 Inlet Week of 2-15-2006

Dear Ed Riege:

Order No.: 0602160

Hall Environmental Analysis Laboratory received 1 sample(s) on 2/16/2006 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,

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

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

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

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 ENVI	RONM	ENTAL													
Project:	0602160															
Order:	0602348	HAL	03	Receipt:	02-16-06	Wittam P. Blava: President of Assaigal Amplytical Laboratories, Inc.										
Sample:	0602160-01	A/PON	ID #2 INL	ET	(Collected: (02-15-0	6 10:15:	00 By:	·····						
Matrix:	AQUEOUS						<u></u>									
QC Group	Run Seq	uence	CAS #		Analyte	Resul	1	Units	Dilution Factor	Detection Limit	Code	Prep Date	Run Date			
0502348-0	001A		EPA 405.1	Blochemi	cal Oxygen Demand					By:	МКМ					
BOD06023	WC.2006.	453.6	10-26-4	Bloche	nical Oxygen Demand	676		mg/L	1	2	1	02-17-06	02-22-06			
Sample:	0602160-01	B/PON	ID #2 INL	ET		Collected:	02-15-0	6 10:15:	00 By:							
Matrix:	AQUEOUS															
00.0	Dun See		040 #		A 1. de	Domi		11-14-	Dilution	Detection	Code	Prep	Run			
ac croup	Hun bei	uence	UA5 #	•••••	Anaiyie	nesu		Units	Factor	Limit	0008	Date	Uate			
0602348-0	002A		EPA 410.1	Chemical	Oxygen Demand				•	By:	MKM					
WCOD0601	2 WC.2006.	437,12	C-001	Cham	ical Oxygen Demand	1490		mg/L	1	10		02-21-06	02-21-06			
14-1		-														

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 Ditution Factor by the listed Reporting Detection Limit. All results retate only to the items tested. Any miscellaneous workorder information or foonotes will appear below.

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

The percent recovery of the LCS is outside of QA/QC criteria (low). This should be taken into account when reviewing the data.

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Hall Environmental Analysis Laboratory

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	Sample	Rece	eipt Ch	ecklist			
Client Name GIANTREFIN	\bigcirc			Date and Time	Received:	2/*	6/2006
Work Order Number 0602160	()			Received by	AT		
Checklist completed by	Im		Dale	_2//	6/06		
Matrix	Carrier name	UPS	:				
Shipping container/cooler in good condition?		Yes			Not Present		
Custody seals intact on shipping container/coole	r?	Yes			Not Present	Not Shipped	
Cuslody seals intact on sample bottles?		Yes		No 🗹	N/A		
Chain of custody present?		Yes	\mathbf{V}	No 🗖			
Chain of custody signed when relinquished and r	ecelved?	Yes	\checkmark				
Chain of custody agrees with sample labels?		Yes	\checkmark				
Samples in proper container/bottle?		Yes					
Sample containers intact?		Yes		No 🗀			
Sufficient sample volume for Indicated test?		Yes					
All samples received within holding time?		Yes	V	No 🗔			
Water - VOA vials have zero headspace?	No VOA vials subm	itted	\checkmark	Yes 🗋	No 💭	l	
Water - pH acceptable upon receipt?		Yes	\checkmark	No 🗔	N/A []		
Container/Temp Blank temperature?			5°	4° C ± 2 Acceptal	ble		
				lf given sufficient	time to cool.		
COMMENTS:							
		·					
	Data application			Born			
Cliem contacted	Date contacted:			Feist	on contacteo		
Contacted by:	Regarding						
Comments:						18 haus - Miller Mar - 16	
					المراجع والمراجع المراجع المراجع المراجع المراجع		
			. <u></u>				
Corrective Action							
······································	ananan kacaman sati katik di manangar ka jara katika ka sati						

HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D Abuquerque, New Mexico 87109 Tel. 505.345.3455 Fex 505.345.4107 www.hallenvironmental.com	Image: Second State	is liek
$\begin{array}{c c} \mathbb{Q}A & \mathbb{Q}C \text{ Package:} \\ \mathbb{Q}A & \mathbb{Q}C \text{ Package:} \\ \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C \\ \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C \\ \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C \\ \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C \\ \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C \\ \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C \\ \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C \\ \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C \\ \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C \\ \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C \\ \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C \\ \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C \\ \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C \\ \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C \\ \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C \\ \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C \\ \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C \\ \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C \\ \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C \\ \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C \\ \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C \\ \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C \\ \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C \\ \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C \\ \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C \\ \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C \\ \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C \\ \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C \\ \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C \\ \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C \\ \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C \\ \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C \\ \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C & \mathbb{Q}C \\ \mathbb{Q}C & \mathbb{Q}C \\ \mathbb{Q}C & Q$	Project #: Project Manager: Sampler: Sample Tamperature: Number/Volume HgCl, HNO, Amber/Volume HgCl, HNO, Amber/Volume HgCl, HNO, Amber/Volume HgCl, HNO, Amber/Volume	Received By: (Signature)
CHAIN-OF-CUSTODY RECORD	\mathcal{P} a lup, \mathcal{M} \mathcal{S}	Date: Time: Relinquished By: (Signature) Z-15 16,7 b 2000000000000000000000000000000000000



COVER LETTER

Friday, February 17, 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 2-10-2006

Dear Steve Morris:

Order No.: 0602103

Hall Environmental Analysis Laboratory received 1 sample(s) on 2/10/2006 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

	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						
-9	See Footnote						

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

STANDARD

Assaigai Analytical Laboratories, Inc.

Certificate of Analysis

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

Client:	HALL ENVI	RONMI	ENTAL												
Project:	0602103														
Order:	0602228	HALC)3	Receipt:		William P. Blava: President of Assaigal Analytical Laboratories, Inc.									
Sample:	0602103-01	A/PON	D #2 INL	ET		Collected	: 02-0	6-09 7:30:00	By:						
Matrix:	AQUEOUS					SR9789									
QC Group	Run Seq	uence	CAS#		Analyte	Re	sult	Units	Dilution Factor	Detection Limit	Code	Prep Date	Run Date		
0602228-00	001A		EPA 405.1	Biochemi	cal Oxygen Dema	and				By:	мкм				
BOD06020	WC.2006.	387.13	10-26-4	Bioche	mical Oxygen Den	nand 6	58	mg/L	1	2		02-10-06	02-15-06		
Sample:	0602103-01	B/PON	ID #2 INL	ET		Collected	: 02-0	06-09 7:30:00	By:			,			
Matrix:	AQUEOUS														
									Dilution	Detection		Prep	Run		
QC Group	Run Seq	uence	CAS #		Analyte	Re	sult	Units	Factor	Limit	Code	Date	Date		
0602228-0	002A		EPA 410.1	Chemical	Oxygen Demand	l				By:	мкм				
WCOD0601	t WC.2006.	348.6	C-004	Chen	ilcal Oxygen Demi	and 2	860	mg/L	10	10		02-13-06	02-13-06		

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 foonotes will appear below.

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

Hall Environmental Analysis Laboratory

Sample Receipt Checklist							
Client Name GIANTREFIN			Date and Time	Received:	2/10/2006		
Work Order Number 0602103			Received by	LMM			
	Kud	2/10/- Date	<u>ว6</u>				
Matrix	Carrier name <u>L</u>	IPS					
Shipping container/cooler in good condition?	Y	′es 🗹	No 🗆	Not Present			
Custody seals intact on shipping container/cooler	7 Y	′es 🗹	No 🗔	Not Present	Not Shipped		
Custody seals intact on sample bottles?	Y	'es 🗌	No 🗹	N/A			
Chain of custody present?	Ŷ	′es 🗹	No 🗔				
Chain of custody signed when relinquished and re	ceived? Y	′es 🗹	Νο				
Chain of custody agrees with sample labels?	٢	res 🗹	No 🗆				
Samples in proper container/bottle?	Y	′es 🗹					
Sample containers intact?	Y	′es 🗹	No 🗖				
Sufficient sample volume for indicated test?	Y	es 🗹	No 🗆				
All samples received within holding time?	٢	res 🗹	No 🗆				
Water - VOA vials have zero headspace?	No VOA vials submitt	ied 🗹	Yes 🗌	No 🗔			
Water - pH acceptable upon receipt?	١	res 🗹	No 🗔	N/A 🗆			
Container/Temp Blank temperature?		3°	4° C ± 2 Accepta If given sufficient	ble time to cool.			
COMMENTS:							
Client contacted	Date contacted:		Pers	on contacted			
Contacted by:	Regarding						
Comments:							
				an de la comptante e la comptante e la comptante de la comptante de la comptante de la comptante de la comptant			
			un della C. M. and And Manusching, and agriculture agriculture of				
			1-10-7				
Corrective Action							

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Imlet Imlet HEALNO. DECORIDE	selcile &
	P P
	gnatu
Dther: Dther: Project Name: Project #: Sampler: Sampler: Number/Volume	Received
ODV AECORD Lining Environ Environ Environ Sample I.D. No. Sample I.D. No.	ad By: (Signature)
CCST CUST	Relinquish
IN S S B S S S S S S S S S S S S S S S S	Time: 00906
	2/9/06



COVER LETTER

Tuesday, February 28, 2006

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

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

RE: OAPIS Effluent Week of 2/15/06

Dear Ed Riege:

Order No.: 0602161

Hall Environmental Analysis Laboratory received 1 sample(s) on 2/16/2006 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,

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

CLIENT:	Giant Refining Co			Clie	nt Sample ID:	OAPIS	
Lab Order:	0602161			Ca	llection Date:	2/15/200)6 10:00:00 AM
Project:	OAPIS Effluent Weel	k of 2/15/06		D	ate Received:	2/16/200)6
Lab ID:	0602161-01				Matrix:	AQUEC	US
Analyses		Result	PQL	Qual U	nits	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE				···		Analyst: SCC
Diesel Range O	rganics (DRO)	3.7	1.0	m	g/L	1	2/24/2006 5:04:46 PM
Motor Oil Range	e Organics (MRO)	ND	5.0	m	ے م/لے	1	2/24/2006 5:04:46 PM
Surr: DNOP	,	127	58-140	%	REC	1	2/24/2006 5:04:46 PM
EPA METHOD	8015B: GASOLINE RAN	GE					Analysi: NSB
Gasoline Range	Organics (GRO)	3.1	2.0	m	a/L	40	2/20/2006 4:34:54 PM
Surr: BFB		108	79.7-118	%	REC	40	2/20/2006 4:34:54 PM
EPA METHOD	8310: PAHS						Analyst: JMP
Naphthalene		340	25	цс	ı/L	10	2/24/2006 1:41:44 PM
1-Methylnaphth	аlеле	ND	2.5	μα	, 1/L	1	2/23/2006 8:05:57 PM
2-Methvinaphth	alene	24	2.5	μ	, 1/L	1	2/23/2006 8:05:57 PM
Acenaphthylene	9	ND	2.5	μ	-]/L	1	2/23/2006 8:05:57 PM
Acenaphthene		3.4	2.5	μα	- 1/L	1	2/23/2006 8:05:57 PM
Fluorene		5.6	0.80	μ	- 1/L	1	2/23/2006 8:05:57 PM
Phenanthrene		6.9	6.0	μς	- g/L	10	2/24/2006 1:41:44 PM
Anthracene		ND	0.60	μ	- g/L	1	2/23/2006 8:05:57 PM
Fluoranthene		0.33	0.30	μ	- g/L	1	2/23/2006 8:05:57 PM
Pyrene		0.60	0.30	μ	- g/L	1	2/23/2006 8:05:57 PM
Benz(a)anthrac	ene	0.060	0.020	μ	g/L	1	2/23/2006 8:05:57 PM
Chrysene		0.20	0.20	μg	g/L	1	2/23/2006 8:05:57 PM
Benzo(b)fluorar	nihene	ND	0.050	рq	g/L	1	2/23/2006 8:05:57 PM
Benzo(k)fluorar	nthene	0.050	0.020	μ	g/L	1	2/23/2006 8:05:57 PM
Benzo(a)pyrene	e	ND	0.020	μ	g/L	1	2/23/2006 8:05:57 PM
Dibenz(a,h)anti	hracene	ND	0.040	μ	g/L	1	2/23/2006 8:05:57 PM
Benzo(g,h,i)per	ylene	ND	0.030	hi	g/L	1	2/23/2006 8:05:57 PM
Indena(1,2,3-co	d)pyrene	ND	0.080	μ	g/L	1	2/23/2006 8:05:57 PM
Surr: Велzo(e)pyrene	76.5	54 -102	%	REC	1	2/23/2006 8:05:57 PM
EPA METHOD	7470: MERCURY						Analyst: CMC
Mercury		ND	0.00020	m	ıg/L	1	2/18/2006
EPA 6010: TO	TAL RECOVERABLE ME	TALS					Analyst: NMC
Arsenic		ND	0.020	п	ig/L	1	2/21/2006 12:38:18 PM
Barium		0.23	0.020	ព	ig/L	1	2/21/2006 9:44:13 AM
Cadmium		ND	0.0020	п	ıg/∟	1	2/21/2006 9:44:13 AM
Chromium		0.0085	0.0060	n	ng/L	1	2/21/2006 9:44:13 AM
Lead		ND	0.0050	n	ng/L	1	2/21/2006 12:38:18 PM

J Analyte detected below quantitation limits

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Spike Recovery outside accepted recovery limits

ND Not Detected at the Reporting Limit

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Page 1 of 3

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Hall Environmenta	l Analysis Laborat	Date	Date: 28-Feb-06				
CLIENT: Giant Ref Lab Order: 0602161 Project: OAPIS E Lab ID: 0602161-	ining Co ffluent Week of 2/15/06 01		Client Sample ID Collection Date Date Received Matrix	: OAPI : 2/15/2 : 2/16/2 : AQUI	OAPIS 2/15/2006 10:00:00 AM 2/16/2006 AQUEOUS		
Analyses	Result	PQL	Qual Units	DF	Date Analyzed		
EPA 6010: TOTAL RECOVE	RABLE METALS		······································		Analyst: NMO		
Selenium Silver	ND ND	0.050 0.0050	mg/L mg/L	1 1	2/24/2006 10:30:09 AM 2/21/2006 9:44:13 AM		
EPA METHOD 8260B: VOL	ATILES				Analyst: KTM		
Benzene	210	10	µg/L	10	2/20/2006		
Toluene	320	10	μg/L	10	2/20/2006		
Ethylbenzene	21	10	µg/L	10	2/20/2006		
Melhyl tert-butyl ether (MTBE)) 18	10	µg/L	10	2/20/2006		
1,2,4-Trimethylbenzene	76	10	µg/L	10	2/20/2006		
1,3,5-Trimethylbenzene	47	10	µg/L	10	2/20/2006		
1,2-Dichloroethane (EDC)	ND	10	hā\r	10	2/20/2006		
1,2-Dibromoethane (EDB)	ND	10	µg/L	10	2/20/2006		
Naphlhalene	52	20	µg/L	10	2/20/2006		
1-Melhylnaphthalene	100	40	µg/L	10	2/20/2006		
2-Melhylnaphthalene	110	40	µg/L	10	2/20/2006		
Acelone	130	100	µg/L	10	2/20/2006		
Bromobenzene	ND	10	µg/L	10	2/20/2006		
Bromochloromethane	ND	10	µg/L	10	2/20/2006		
Bromodichloromethane	ND	10	μg/L	10	2/20/2006		
Bromoform	ND	10	µg/L	10	2/20/2006		
Bromomethane	ND	20	µg/L	10	2/20/2006		
2-Butanone	ND	100	µg/L	10	2/20/2006		
Carbon disulfide	ND	100	µg/L	10	2/20/2006		
Carbon Tetrachloride	ND	20	µg/L	10	2/20/2006		
Chlorobenzene	ND	10	µg/L	10	2/20/2006		
Chloroethane	ND	20	μg/L	10	2/20/2006		
Chloroform	ND	10	μg/L	10	2/20/2005		
Chloromethane	ND	10	μg/L	10	2/20/2006		
2-Chlorotoluene	ND	10	μg/L	10	2/20/2006		
4-Chlorotoluene	ND	10	µg/L	10	2/20/2006		
cis-1,2-DCE	ND	10	μg/L	10	2/20/2006		
cis-1,3-Dichloropropene	ND	10	μg/L	10	2/20/2006		
1,2-Dibromo-3-chloropropane	ND ND	20	μg/L	10	2/20/2006		
Dibromochloromethane	ND	10	µg/L	10	2/20/2006		
Dibromomethane	ND	20	µg/L	10	2/20/2006		
1,2-Dichlorobenzene	ND	10	µg/L	10	2/20/2006		
1,3-Dichlorobenzene	ND	10	hð\r	10	2/20/2006		
1,4-Dichlorobenzene	ND	10	µg/L	10	2/20/2006		
Dichlorodifluoromethane	ND	10	µg/L	10	2/20/2006		
1,1-Dichloroethane	ND	20	μg/L	10	2/20/2006		

Qualifiers: ٠ Value exceeds Maximum Contaminant Level

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E Value above quantitation range в Analyte detected in the associated Method Blank

Analyte detected below quantitation limits 1

S Spike Recovery outside accepted recovery limits Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit
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Hall Envir	onmental Analysi	is Laborat	ory		Date:	28-50	<i>D-U</i> 0
CLIENT:	Giant Refining Co			C	lient Sample ID:	OAPI	S
Lab Order:	0602161				Collection Date:	2/15/2	2006 10:00:00 AM
Project:	OAPIS Effluent Weel	د of 2/15/06			Date Received:	2/16/2	006
lah ID:	0602161-01				Matrix:	AQUI	EOUS
	0002101-01						n all data and all non-static tables and a subject tables a
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8260B: VOLATILES						Analyst: KT
1,1-Dichloroeth	тепе	ND	10		µg/L	10	2/20/2006
1,2-Dichloropro	opane	ND	10		µg/L	10	2/20/2006
1,3-Dichloropro	opane	DN	10		µg/L	10	2/20/2006
2,2-Dichloropr	орапе	ND	20		μg/L	10	2/20/2006
1,1-Dichloropri	opene	ND	10		µg/L	10	2/20/2006
Hexachlorobul	ladiene	ND	20		μg/L	10	2/20/2006
2-Hexanone		ND	100		µg/L	10	2/20/2006
Isopropylbenzo	ene	ND	10		µg/L	10	2/20/2006
4-isopropyltolu	Jene	ND	10		µg/L	10	2/20/2006
4-Methyl-2-per	ntanone	ND	100		µg/L	10	2/20/2006
Methylene Chl	loride	ND	30		µg/L	10	2/20/2006
n-Butylbenzen	le	ND	10		µg/L	10	2/20/2006
n-Propylbenze	ene	ND	10		µg/L	10	2/20/2006
sec-Butylbenz	ene	ND	10		hð\r	10	2/20/2006
Styrene		ND	10		µg/L	10	2/20/2006
tert-Butylbenz	еле	ND	10		µg/L	10	2/20/2006
1,1,1,2-Tetrac	hloroethane	ND	10		µg/L	10	2/20/2006
1.1.2.2-Tetrac	hloroethane	ND	10		µg/L	10	2/20/2006
Tetrachloroeth	nene (PCE)	ND	10		µg/L	10	2/20/2006
trans-1.2-DCE		ND	10		μg/L	10	2/20/2006
trans-1.3-Dich	loropropene	ND	10		µg/L	10	2/20/2006
1.2.3-Trichlor	obenzene	ND	10		µg/L	10	2/20/2006
1.2.4-Trichlor	obenzene	ND	10		µg/L	10	2/20/2006
1.1.1-Trichlon	pelhane	ND	10		µg/L	10	2/20/2006
1.1.2-Trichlor	oethane	ND	10		µg/L	10	2/20/2006
Trichloroethe	ne (TCE)	ND	10		μg/L	10	2/20/2006
Trichlorofluor	omelhane	ND	10		µg/L	10	2/20/2006
1.2.3-Trichlon		ND	20		μα/L	10	2/20/2006
Vinvl chloride		ND	10		µg/L	10	2/20/2006
Xvienes, Tota	al	690	10		µg/L	10	2/20/2006
Surr 1 2-D)ichloroethane•d4	104	69.9-130		%REC	10	2/20/2006
Surr 4-Bro	mofluorobenzene	98.7	71.2-123		%REC	10	2/20/2006
Sur Dibro	mofluormmeihane	106	57.3-135		%REC	10	2/20/2006
Sur Tolus	ane.d8	96.7	81.9-122		%REC	10	2/20/2006
Surr: Tolue	ene-d8	96.7	81.9-122		%REC	10	2/20/2006

Qualifiers:

- Value exceeds Maximum Contaminant Level *
- E Value above quantitation range

Analyte detected below quantitation limits J

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

Spike Recovery outside accepted recovery limits

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Laboratory
Analysis
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Giant Refining Co

0602161

Work Order: CLIENT:

Date: 28-Feb-06

Date: 20-1-60-	
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ANALYTICAL QC SUMMARY REPORT

Oual Oual %RPD RPDLimit %RPD RPDLimit SeqNo: 453163 SeqNo: 453164 SeqNo: 453165 RunNo: 18367 RunNo: 18367 RunNo: 18367 TestCode: 8015DRO W LowLimit HighLimit RPD Ref Val LowLimit HighLimit RPD Ref Val Prep Date: 2/21/2006 Analysis Date: 2/22/2006 Prep Date: 2/21/2006 Analysis Date: 2/22/2006 Prep Date: 2/21/2006 Analysis Date: 2/22/2006 149 **B1.2** %REC %REC 109 TestCode: 8015DRO_W Units: mg/L TestCode: 8015DRO_W Units: mg/L TestCode: 8015DRO_W Units: mg/L 0 SPK Ref Val SPK Ref Val SPK value SPK value ŝ TestNo: SW8015 TestNo: SW8015 TestNo: SWB015 Pal . 0. 5.0 ğ 1.0 OAPIS Effluent Week of 2/15/06 Result <u>9</u> 9 Result 5.474 SampType: MBLK SampType: LCSD Batch ID: 9825 Batch ID: 9825 Batch ID: 9825 SampType: LCS Motor Oil Range Organics (MRO) Dlesel Range Organics (DRO) Diesel Range Organics (DRO) Sample ID: LCSD-9825 Sample ID: LCS-9825 Sample ID: MB-9825 Client ID: ZZZZ 27777 A lient ID: ZZZZ Client ID: Project: Analyte Analyte

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Diesel Range Organics (DRO)

%RPD RPDLimit

LowLimit HighLimit RPD Ref Val

%REC

SPK value SPK Ref Val

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Result

Spike Recovery outside accepted recovery limits Analyte detected below quantitation limits

RPD outside accepted recovery limits н ч

Not Detected at the Reporting Limit Value above quantitation range Q ш Qualifiers:

Holding times for preparation or analysis exceeded

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CLIENT: Giant Refining Co Work Order: 0602161

ANALYTICAL QC SUMMARY REPORT

Project: OAPIS Effl	uent Week of 2/15/06						T	estCode: 8	015GRO_V	>	
Sample ID: 5ML RB Client ID: 22222	SampType: MBLK Batch ID: R18338	TestCoc TestN	te: 8015GRO	W Unlts: mg/L		Prep Da Analysís Dal	te: 2/20/20	90	RunNo: 183 SeqNo: 452	38 346	
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	QN	0.050									
Sample ID: 2.5UG GRO LCS Client ID: ZZZZZ	SampType: LCS Batch ID: R18338	TestCoc	le: 8015GRO_ Io: SW8015	_W Units: mg/L		Prep Dal Analysis Dat	le: 2/20/201	06	RunNo: 183 SeqNo: 452	38 347	
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.4920	0.050	0.5	0	98.4	82.6	114				
Sample ID: 2.5UG GRO LCSD Client ID: ZZZZZ	SampType: LCSD Balch ID: R18338	TestCoc TestN	le: 8015GRO	_W Units: mg/L		Prep Dal Analysis Dat	le: e: 2/20/201	06	RunNa: 183 SeqNo: 452	38 348	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPOLimit	Qual
u 1 / iasoline Range Organics (GRO) G	0.4700	0.050	0.5	ā	94.0	82.6	114	0.492	4.57	8.39	

Spike Recovery outside accepted recovery limits Analyte detected below quantitation limits - v Holding times for preparation or analysis exceeded RPD outside accepted recovery limits щч E Value above quantitation range ND Not Detected at the Reporting Limit í ł Qualifiers:

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CLIENT: Giant Ref	ining Co			ANALYTICAL QC SU	IMMARY REPORT
Project: 0APIS E	Auent Week of 2/15/06			TestCode: 8	310_W
Sample ID: MB-9801	SampType: MBLK	TestCode: 8310_W	Units: µg/L	Prep Date: 2/17/2006	RunNo: 18380
Client ID: ZZZZ	Batch ID: 9801	TestNo: SW8310	(SW3510C)	Analysis Date: 2/23/2006	SeqNo: 453446
Anaiyte	Result	PQL SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Naphthalene	Q	2.5			
1-Methylnaphthalene	DN	2.5			
2-Methylnaphthalene	QN	2.5			
Acenaphthylene	QN	2.5			
Acenaphthene	QN	2.5			
Fluorene	QN	0.80			
Phenanthrene	QN	0.60			
Anthracene	QN	0.60			
Fluoranthene	QN	0.30			
Pyrene	QN	0.30			
Benz(a)anthracen e	QN	0.020			
Chrysene	Q	0.20			
D enzo(b)fluoranthene	QN	0.050			
enzo(k)fluoranthene	QN	0.020			
J. enzo(a)pyrene	QN	0.020			
Dibenz(a,h)anthracene	QN	0.040			
Benzo(g,h,i)perylene	QN	0.030			
Indeno(1,2,3-cd)pyrene	9	0.080			
Sample ID: MB-9785	SampType: MBLK	TestCode: 8310_W	Units: µg/L	Prep Date: 2/15/2006	RunNo: 18380
Client ID: ZZZZ	Batch ID: 9785	TestNo: SWB310	(SW3510C)	Analysis Date: 2/23/2006	SeqNo: 453453
Analyte	Result	PQL SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLImit Qual
Naphthalene	DN	2.5			
1-Methylnaphthalene	DN	2.5			
2-Methylnaphthalene	QN	2.5			
Acenaphthylene	QN	2.5			
Acenaphthene	DN	2.5			
Fluorene	QN	0.80			
Phenanthrene	Q	0.60			
· · · · · · · · · · · · · · · · · · ·				t the second	 11
Quantiers: E Value abuvi ND Not Detecte	t at the Reporting Limit		intride accepted recove	ry firmits concence S Spike Recovery pu	uside accemted recovery limits

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CLIENT: Gíant Refining Co Work Order: 0602161

ANALYTICAL QC SUMMARY REPORT

Work Order: 0602161 Project: OAPIS E	ffluent Week of 2/15/06						TestCode:	3310_W		
Sample ID: MB-9785	SampType: MBLK	TestCod	e: 8310_W	Units: µg/L		Prep Date	: 2/15/2006	RunNo: 18380		
Client ID: ZZZZ	Batch ID: 9785	TestN	o: SWB310	(SW3510C)		Analysis Date	: 2/23/2006	SeqNo: 453453		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLim	Qual	
Anthracene	QN	0.60								
Fluoranthene	QN	0.30								
Pyrene	QN	0.30								
Benz(a)anthracene	QN	0.020								
Chrysene	QN	0.20								
Benzo(b)fluoranthene	DN	0.050								
Benzo(k)fluoranthene	QN	0,020								
Benzo(a)pyrene	QN	0.020								
Dibenz(a,h)anthracene	DN	0.040								
Benzo(g,h,i)perylene	DN	0:030								
Indeno(1,2,3-cd)pyrene	QN	0.080								
Z ample ID: LCS-9801	SampType: LCS	TestCod	e: 8310_W	Units: µg/L		Prep Date	: 2/17/2006	RunNa: 18380		
1 :ilent ID: ZZZZ	Batch ID: 9801	TestN	o: SW8310	(SW3510C)		Analysis Date	: 2/23/2006	SeqNo: 453447		
Analyte	Result	POL	SPK value	SPK Ref Val	%REC	LowLimit h	HighLimit RPD Ref Val	%RPD RPDLimi	Qual	
Naphthalene	22.76	2.5	40	0	56.9	34.8	97.4			_
1-Methylnaphthalene	22.85	2.5	40.1	0	57.0	34.7	100			
2-Methylnaphthalene	22.32	2.5	40	o	55.8	35	98.1			
Acenaphthylene	24.16	2.5	40.1	0	60.2	48.3	95.1			
Acenaphthene	23.38	2.5	40	D	58.4	45	95			
Fluorene	2.320	0.80	4.01	D	57.9	46.8	93.4			
Phenanthrene	1.310	0.60	2.01	D	65.2	48.7	104			
Anthracene	1.230	0.60	2.01	0	61.2	47.5	102			
Fluoranthene	2.570	0.30	4.01	0	64.1	46.3	108			
Pyrene	2.690	0:30	4.01	O	67.1	43.8	109			
Benz(a)anthracene	0.2600	0.020	0.401	0	64.8	40.3	115			
Chrysene	1.370	0.20	2.01	0	68.2	42.6	. 107			
Benzo(b)fluoranthene	0.3100	0.050	0.501	0	61.9	48.6	107			
Benzo(k)fluoranthene	0.1600	0.020	0.25	0	64.0	23.3	136			
							in Monde en Anna			
Qualifiers: E Value abov	e quantitation range		H Holdir	ig times for preparatio	n or analysi	s exceeded	J Analyte detected	celow quantitation limits		
ND Not Detecti	ed at the Reporting Limit		R RPD 0	utside accepted recovi	ery limits		S Spike Recovery o	utside accepted recovery lim	15	

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CLIENT: Giant Ref	ining Co					ANALY	TICAL QC SU	JMMARY REPC	RT	
Work Order: 0602161 Project: OAPIS E	ffluent Week of 2/15/06						TestCode:	3310_W		
Sample ID: LCS-9801	SampType: LCS	TestCod	e: 8310_W	Units: µg/L		Prep Date	3: 2/17/2006	RunNo: 18380		
Client ID: ZZZZ	Batch ID: 9801	TestN	o: SW8310	(SW3510C)	-	Analysis Date	s: 2/23/2006	SeqNo: 453447		
Analyte	Result	Pat	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual	
Benzo(a)ovrene	0.1700	0.020	0.251	O	67.7	33.4	117			
Dibenz(a,h)anthracene	0.3400	0.040	0.501	o	67.9	27.3	139			
Benzo(g,h,l)perylene	0.3600	0.030	0.5	00	72.0 85 1	38.2 34 q	117 125			
Indeno(1,2,3-cd)pyrene	0,2020	0.00	300.1	>						
Sample ID: LCS-9785	SampType: LCS	TeslCod	e: 8310_W	Units: µg/L		Prep Date	3: 2/15/2006	RunNo: 18380		
Client ID: ZZZZ	Batch ID: 9785	TestN	o: SW8310	(SW3510C)		Analysis Date	e: 2/23/2006	SegNo: 453454		
Analyte	Result	POL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual	
Nanhthalene	24.25	2.5	40	Q	60.6	34.8	97.4			
1-Methylaohthalene	24.06	2.5	40.1	0	60.0	34.7	100			
2-Methvinaphthalene	23.56	2.5	40	0	58.9	35	98.1			
cenaphthylene	26.32	2.5	40.1	0	65.6	48.3	95.1			
	25.79	2.5	40	0	64.5	45	95			
C1 Fluorene	2.670	0.80	4.01	D	66.6	46.8	93.4			
Phenanthrene	1.430	0.60	2.01	a	71.1	48.7	104			
Anthracene	1.480	0.60	2.01	G	73.6	47.5	102			
Fluoranthene	3.100	0:30	4.01	0	77.3	46.3	108			
Pyrene	3.150	0:30	4.01	0	78.6	43.8	109			
Benz(a)anthracene	0.3000	0.020	0.401	0	74.8	40.3	115			
Chrysene	1.540	0.20	2.01	0	76.6	42.6	107			
Benzo(b)fluoranthene	0.3900	0.050	0.501	0	77.8	48.6	107			
Benzo(k)Iluoranthene	0.1900	0.020	0.25	0	76.0	23.3	136			
Benzo(a)pyrene	0.2000	0.020	0.251	0	79.7	33.4	117			
Dibenz(a,h)anthracene	0.4000	0.040	0.501	Đ	79.8	27.3	139			
Benza(a.h.i)perylene	0.4200	0:030	0.5	0	84.0	38.2	117			
Indeno(1,2,3-cd)pyrene	0.7800	0:080	1.002	0	77.8	39.9	125			

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Qualifiers:

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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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E Value above quantitation range ND Not Detected at the Reporting Limit

• Giant Refining Co 0602161 Work Order: CLIENT:

ANALYTICAL QC SUMMARY REPORT

TestCode: 8310 W

Project: OAPIS Ef	Muent Week of 2/15/06						Tesi	tCode: 8	310_W		
Sample ID: LCSD-9801	SampType: LCSD	TestCoc	le: 8310_W	Units: pg/L		Prep Dat	e: 2/17/2006		RunNa: 183	80	
Client ID: ZZZZ	Batch ID: 9801	Testh	lo: SW8310	(SW3510C)		Analysis Dat	e: 2/23/2006		SeqNa: 453	448	
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RF	D Ref Val	%RPD	RPDLimit	Qual
Naphthalene	24.66	2.5	40	0	61.6	34.B	97.4	22.76	8.01	32.1	
1-Methylnaphthalene	23.80	2.5	40.1	Ð	59.4	34.7	100	22.85	4.07	32.7	
2-Methylnaphthalene	23.36	2.5	40	Q	58.4	35	98.1	22.32	4.55	34	
Acenaphthytene	24.98	2.5	40.1	0	62.3	48.3	95.1	24.16	3.35	38.8	
Acenaphthene	24.39	2.5	40	0	61.0	45	95	23.38	4.23	38.6	
Fluorene	2.420	0.80	4.01	0	60.3	46.8	93.4	2.32	4.22	39.3	
Phenanthrene	1.270	0.60	2.01	0	63.2	48.7	104	1.31	3.10	25	
Anthracene	1.300	0.60	2.01	0	64.7	47.5	102	1.23	5.53	23.9	
Fluoranthene	2.720	0.30	4.01	0	67.8	46.3	108	2.57	5.67	15.7	
Pyrene	2.860	0.30	4.01	σ	71.3	43.8	109	2.69	6.13	15.3	
Benz(a)anthracene	0.2800	0.020	0.401	o	69.8	40.3	115	0.26	7,41	119	
Chrysene	1.400	0.20	2.01	0	69.7	42.6	107	1.37	2.17	16.6	
6 enzo(b)fluoranthene	0.3200	0.050	0.501	Ð	63.9	48.6	107	0.31	3.17	21.7	
enzo(k)fluoranthene	0.1700	0.020	0.25	Ð	68.0	23.3	136	0.16	6.05	19.4	
ປີ enzo(a)pyrene	0.1900	0.020	0.251	0	75.7	33.4	117	0.17	11.1	16.7	
Dibenz(a,h)anthracene	0.3500	0.040	0.501	0	6.93	27.3	139	0.34	2.90	17.3	
Benza(g,h,i)peryiene	0.3800	0.030	0.5	0	76.0	38.2	117	0.36	5.41	118	
Inderro(1,2,3-cd)pyrene	0.6920	0.080	1.002	o	69.1	39.9	125	0.652	5.95	17.7	

Analyte detected below quantitation limits Spike Recovery outside accepted recovery limits - s Holding times for preparation or analysis exceeded RPD outside accepted recovery limits <u>т</u> 2 E Value above quantitation range ND Not Detected at the Reporting Limit Qualifiers:

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CLIENT:	Giant Refining Co			
Work Order:	0602161			

ANALYTICAL QC SUMMARY REPORT

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Project: OAPIS Ef	ffluent Week of 2/15/06						Ţ	stCode: H	IG_CTW		
Sample ID: MB-9809 Client ID: ZZZZZ	SampType: MBLK Batch ID: 9809	TestCo	de: HG_CTW lo: SW7470	Units: mg/L (SW7470)		Prep Dat Analysis Dat	te: 2/18/200	6 6	RunNo: 163 SeqNo: 451	309 1593	
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LawLimit	HighLimit F	אס Ref Val	%RPD	RPDLimit	Qual
Mercury	QN	0.00020									
Sample ID: LCS-9809 Client ID: ZZZZZ	SampType: LCS Batch ID: 9809	TestCor	le: HG_CTW lo: SW7470	Units: mg/L (SW7470)		Prep Dat Analysis Dat	le: 2/18/2001 le: 2/18/2001	o ف	RunNo: 183 SeqNo: 451	109 1594	
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit F	RPD Ref Val	048%	RPDLimit	Oual
Mercury	0.004414	0.00020	0.005	o	88.3	80	120				
Sample ID: LCSD-9809 Client ID: ZZZZ	SampType: LCSD Batch ID: 9809	TestCor Testh	le: HG_CTW lo: SW7470	Units: mg/L (SW7470)		Prep Dat Analysis Dat	le: 2/18/2000	5 6	RunNo: 183 SeqNo: 451	607 607	
	Result	Par	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit F	RPD Ref Val	%RPD	RPDLimit	Qual
Ancan 0 / 15	0.004654	0.00020	0.005	D	93.1	80	120	0.004414	5.30	o	

Analyte detected below quantitation limits Spike Recovery outside accepted recovery limits ы г со

Holding times for preparation or analysis exceeded RPD outside accepted recovery limits нч

E Value above quantitation range ND Not Detected at the Reporting Limit

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Qualifiers:

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CLIENT: Giant R	efining Co				ANALY	TICAL OC SU	MMARY REPORT	<u> </u>
Wark Order: 0602161 Project: OAPIS	Effluent Week of 2/15/06					TestCode: M	tetals_total	
Sample ID: MB-9812	SampType: MBLK	TestCode: METALS	_TO Units: mg/L		Prep Date:	2/20/2006 2/20/2006	RunNo: 18340 Scono: 452357	
Cutent ID: ZZZZZ Analyte	Batch I.J. 9812 Result	PQL SPK value	sPK Ref Val	%REC	nalysis vale: LowLimit Hiç	zi z i rzuwo jh Limit RPD Ref Val	seynu: 432301 %RPD RPDLimit Qu	a
Arsenic Lead	ON N	0.0050 0.0050]
Sample ID: MB-9812 Client ID: ZZZZZ	SampType: MBLK Batch ID: 9812	TestCode: METALS, TestNo: SW6010A	TO Units: mg/L	▲	Prep Date: nalysis Date:	2/20/2006 2/21/2006	RunNo: 18340 SeqNo: 452382	
Analyte	Result	PQL SPK value	SPK Ref Val	%REC	LowLimit Hig	jhLimit RPD Ref Val	%RPD RPDLimit Qu	a
Barlum Cadmlum Chromium Sllver	<u>5555</u>	0.020 0.0020 0.0060 0.0050						
1 iample 1D: MB-9812 1 ilent 1D: ZZZZ	SampType: MBLK Batch ID: 9812	TestCode: METALS TestNo: SW6010A	TO Units: mg/L	₹	Prep Date: nalysis Date:	2/20/2006 2/24/2006	RunNo: 18381 SeqNa: 453458	
U Analyte	Result	POL SPK value	SPK Ref Val	%REC	LowLimit Hig	jhLimit RPD Ref Val	%RPD RPDLimit Qu	a
Seletituit Samolo ID: 1 C. 0812	SamoTune: LCS	TastCode: METALS	TO Unite: mult		Pren Date'	912012006	RunMo: 18340	
Client ID: ZZZZ	Batch ID: 9812	TestNo: SW6010A		Ā	nalysis Date:	2/21/2006	SeqNo: 452368	
Analyte	Result	PQL SPK value	SPK Ref Val	%REC	LowLimit Hig	hLimit RPD Ref Val	%RPD RPDLimit Qu	a,
Arsenic Lead	0.5139 0.4770	0.020 0.5 0.0050 0.5	a o	103 95.4	80 80	120 120		
Sample ID: LCS-9812 Client ID: ZZZZZ	SampType: LCS Batch ID: 9812	TestCode: METALS	TO Units: mg/L	Ā	Prep Date: nalysis Date:	2/20/2006 2/21/2006	RunNo: 18340 SeqNo: 452383	
Analyte	Result	PQL SPK value	SPK Ref Val	%REC	LowLimit Hig	hLimit RPD Ref Val	%RPD RPDLimit Qu	al
Banium	0.4819	0.020 0.5	0	96.4	80	120		
Qualifiers: E Value abs ND Not Detec	ive quantitation range :ted at the Reporting Limit	H Holdi R RPD	ng times for preparation c outside accepted recovery	r analysis e limits	xceeded	J Analyte detected be S Spike Recovery out	elow quantitation limits tside accepted recovery limits	

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CLIENT:	Giant Ref	ining Co					ANAL.	VTICAL.	OC SII	MMARY RI	F.POR'	[
Work Order:	0602161											4
Project:	OAPIS EI	ffluent Week of 2/15/06						Tes	tCode: N	AETALS_TOT.	AL	
Sample ID: LCS- Client ID: ZZZ2	-9812 '2	SampType: LCS Batch ID: 9812	TestCor	de: METALS lo: SW6010A	_TO Units: mg/L		Prep Date Analysis Date	3: 2/20/2006 3: 2/21/2006		RunNo: 18340 SeqNo: 452383		
Analyte		Result	POL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimlt RF	'D Ref Val	%RPD RPD	Limit Ot	
Cadmium Chromium Silver		0.4881 0.4750 0.4972	0.0020 0.0060 0.0050	0.5 0.5 0.5	0.0003001 0 0	97.6 95.0 99.4	80 80 80 80 80	120 120 120				
Sample ID: LCS- Client ID: ZZZZ	-9812 'Z	SampType: LCS Batch ID: 9812	TestCoc TestN	ie: METALS. io: SW6010A	TO Units: mg/L		Prep Date Analysis Date	1: 2/20/2006 1: 2/24/2006		RunNo: 18381 SeqNo: 453459		
Analyte		Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RF	D Ref Val	%RPD RPD	Limit Qı	lau
Selenium		0.5094	0.050	0.5	0	102	B	120				
Sample ID: LCSI	D-9812 'Z	SampType: LCSD Batch ID: 9812	TestCoc TestN	le: METALS lo: SW6010A	_TO Units: mg/L		Prep Date Analysis Date	2/20/2006 2/21/2006		RunNo: 18340 SeqNo: 452369		
1 / 5		Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RF	D Ref Val	%RPD RPD	Limit Ou	 ਬ੍
сл Arsenic Lead		0.4947 0.4747	0.020 0.0050	0.5 0.5	0 0	98.9 94.9	80 80	120 120	0.5139 0.477	3.80 0.500	20 20	
Sample ID: LCSI Client ID: ZZZZ	0-9812 'Z	SampType: LCSD Batch ID: 9812	TestCoc TestN	le: METALS	TO Units: mg/L		Prep Date Analysis Date	1: 2/20/2006 1: 2/21/2006		RunNo: 18340 SeqNo: 452384		
Analyte		Result	POL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RP	'D Ref Val	%RPD RPD	Limit Qu	jei I
Barlum Cadmium Chromlum Silver		0.4693 0.4811 0.4689 0.4689	0.020 0.0020 0.0060 0.0050	0.5 0.5 0.5 0.5	0 0.0003001 0 0	93.9 96.2 93.8 96.7	8888	120 120 120	0.4819 0.4881 0.475 0.475 0.4972	2.66 1.45 1.31 2.79	20 20 20	
Sample ID: LCSI Client ID: ZZZZ	0-9843 .Z	SampType: LCSD Batch ID: 9812	TestCod TestN	le: METALS 10: SW6010A	TO Units: mg/L		Prep Date Analysis Date	: 2/20/2006 : 2/24/2006		RunNo: 18381 SeqNo: 453460		
Analyte		Result	Pat	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RP	D Ref Val	%RPD RPD	Limit Qu	ler
Qualifiers: E	 Value above D Not Detector 	e quantitation range d at the Reporting Limit		H Holdi R RPD	ng times for preparatio putside accepted recove	n or analysis ary limits	execeded	J Anal S Spike	yte detected b * Recovery out	clow quantitation limit tside accepted recovery	s y timits	

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Spike Recovery outside accepted recovery limits

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CLIENT:	Giant Refir	ing Co					ANALY	TICAL (QC SU	MMARY	REPOI	ζŢ
Project:	OAPIS Eff	luent Week of 2/15/06						Test(Code: N	IETALS_T0	TAL	{
Sample ID: LCSD Client ID: ZZZZ	-9843	SampType: LCSD Batch ID: 9812	TestCoc TestN	ie: Metals_ 10: Sw6010A	TO Units: mg/L		Prep Date: Analysis Date:	2/20/2006 2/24/2006		RunNo: 1838 SeqNo: 4534	- 6	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit F	lighLimit RPC) Ref Val	NRPD 1	SPDLimit	Qual
Selenium		0.5043	0.050	0.5	0	101	80	120	0.5094	1.01	20	
Sample ID: 06021 Client ID: 0APIS	61-01CMS	SampType: MS Batch ID: 9812	TestCod TestN	le: METALS_ lo: SW6010A	TO Units: mg/L		Prep Date: Analysis Date:	2/20/2006 2/21/2006		RunNo: 1834 SeqNo: 4523	0 5	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit F	lighLimit RPC) Ref Val	%RPD	sPOLimit	Qual
Arsenic Lead		0.5293 0.4680	0.020 0.0050	0.5 0.5	0.005597 0	105 93.6	75 75	125 125				
Sample (D: 06021 Client ID: OAPK	61-01CMS	SampType: MS Batch ID: 9812	TestCod TestN	ie: METALS	TO Units: mg/L		Prep Date: Analysis Date:	2/20/2006 2/21/2006		RunNo: 1834 SeqNo: 4523	2 4	
alyte 13		Result	Par	SPK value	SPK Ref Val	%REC	LowLimit F	lighLimit RPC	D Ref Val	%RPD	RPDLimit	Qual
L 1 J Cadmium Chromium Silver		0.7100 0.4903 0.4685 0.5081	0.020 0.0020 0.0060 0.0050	0.5 0.5 0.5	0.2273 0 0.008463 0	96.5 98.1 92.0 102	75 75 75 75	125 125 125 125				
Sample ID: 06021 Client ID: OAPIS	61-01C MS	SampType: MS Batch ID: 9812	TestCod TestN	e: METALS_ o: SW6010A	TO Units: mg/L		Prep Date: Analysis Date:	2/20/2006 2/24/2006		RunNo: 1838 SeqNo: 4534	0	
Analyte		Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit F	lighLimit RPC) Ref Val	%RPD F	RPDLimit (Qual
Selenium		0.4766	0.050	0.5	0	95.3	75	125	0	0	0	
Sample ID: 06021 Client ID: OAPIS	61-01CMSD	SampType: MSD Batch ID: 9812	TestCod TestN	e: Metals_ o: Sw6010A	TO Units: mg/L		Prep Date: Analysis Date:	2/20/2006 2/21/2006		RunNo: 1834(SeqNo: 4523)		
Analyte		Result	Par	SPK value	SPK Ref Val	%REC	LowLimit H	ighLimit RPC) Ref Val	%RPD F	RPDLimit (
Arsenic Lead	, 1997, 1	0.5157 0.4590	0.020 0.0050	0.5 0.5	0.005597 D	102 91.8	75 75	125 125	0.5293 0.468	2.60 1.93	20 20	
Qualifiers: E ND	Value above (Not Detected	quantitation range at the Reporting Limit		H Holdin R RPD o	g times for preparation utside accepted recove	ı or analysis ry limits	exceeded	J Analy S Spike	le detected by Recovery out	ctow quantitation side accepted rec	imits overy fimits	

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ANALYTICAL QC SUMMARY REPORT

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Project: OAPIS Eft	luent Week of 2/15/06						L	estCode:	METALS_1	FOTAL	
Sample ID: 0602161-01CMSD	SampType: MSD	TestCoc	ie: METALS	TO Units: mg/L		Prep Dat	e: 2/20/20	06	RunNo: 18:	340	
Client ID: OAPIS	Batch ID: 9812	Test	lo: SW6010A			Analysis Dat	e: 2/21/20	06	SeqNo: 45	2395	
Analyte	Result	Par	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.7175	0.020	0.5	0.2273	98.0	75	125	0.71	1.05	20	
Cadmium	0.4908	0.0020	0.5	0	98.2	75	125	0.4903	0.116	20	
Chromium	0.4702	0.0060	0.5	0.008463	92.4	75	125	0.4685	0.359	20	
Silver	0.5055	0.0050	0.5	0	101	75	125	0.5081	0.503	20	
Sample ID: 0602161-01C MSD	SampType: MSD	TestCoc	le: METALS_	TO Units: mg/L		Prep Dat	e: 2/20/20	06	RunNo: 183	381	
Client ID: OAPIS	Balch ID: 9812	TestN	lo: SW6010A			Analysis Dat	e: 2/24/201	06	SeqNo: 453	3466	
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.4848	0:050	0.5	0	0.78	75	125	0.4766	1.71	20	

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Analyte detected below quantitation limits Spike Recovery outside accepted recovery limits - s Holding times for preparation or analysis exceeded RPD outside accepted recovery limits

Not Detected at the Reporting Limit Value above quantitation range

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Qualifiers:

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· · · · · · · · · · · · · · · · · · ·	Sample Receipt Ch	ecklist		
Client Name GIANTREFIN	. 7	Date and Time	Received:	2/16/2006
Work Order Number 0602161		Received by	AT	
Checklist completed by	Dale	ک	116/04	
Matrix Carr	ier name <u>UPS</u>			
Shipping container/cooler in good condition?	Yes 🗹		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 🗹			
Chain of cuslody agrees with sample labels?	Yes 🗹	No 🗆		
Samples in proper container/bottle?	Yes 🗹			
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 \Box	N/A	
Container/Temp Blank temperature?	5°	4° C ± 2 Accepta	able t time to cool.	
COMMENTS:				
			======	
Client contacted Date cont	acied:	Pers	ion contacted	
Contacted by: Regarding]			
Comments:				
Corrective Action				

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COVER LETTER

Friday, February 17, 2006

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

RE: NMED Monthly Water Samples 1/31/2006

Dear Steve Morris:

Order No.: 0602041

Hall Environmental Analysis Laboratory received 4 sample(s) on 2/3/2006 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

Date: 17-Feb-06

CLIENT:	Giant Refining Co
Project:	NMED Monthly Water Samples 1/31/2006
Lab Order:	0602041

CASE NARRATIVE

Analytical Comments for METHOD 8015GRO_W, SAMPLE 0602041-01A: Elevated surrogate due to matrix interference. Analytical Comments for METHOD 8015DRO_W, SAMPLE 0602041-01A: DNOP not recovered due to dilution

Date: 17-Feb-06

CLIENT: C Project: N	iant Refining Co IMED Monthly Water	Samples 1/3	1/2006		L	ab Order:	0602041
Lab ID:	0602041-01			(Collection Date	: 1/31/200	6 11:30:00 AM
Client Sample ID:	AL-2 to EP-1				Matrix	: AQUEO	US
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 801	5B: DIESEL RANGE						Analyst: SCC
Diesel Range Organ	ics (DRO)	1300	150		mg/L	50	2/7/2006 7:19:43 PM
Molor Oil Range Org	anics (MRO)	ND	750		mg/L	50	2/7/2006 7:19:43 PM
Surr: DNOP		0	58-140	S	%REC	50	2/7/2006 7:19:43 PM
EPA METHOD 801	5B: GASOLINE RANG	E					Analyst: NSB
Gasoline Range Org	anics (GRO)	9.7	1.0		mg/L	20	2/6/2006 11:08:34 PM
Surr: BFB		218	79.7-118	S	%REC	20	2/6/2006 11:08:34 PM
EPA METHOD 747	0: MERCURY						Analyst: CMC
Mercury		0.012	0.0010		mg/L	5	2/15/2006
EPA 6010: TOTAL	RECOVERABLE MET	ALS					Analyst: NMO
Arsenic	-	ND	0.020		mg/L	1	2/9/2006 2:12:38 PM
Barium		0.53	0.020		mg/L	1	2/9/2006 2:12:38 PM
Cadmium		ND	0.0020		mg/L	1	2/9/2006 2:12:38 PM
Chromlum		0.014	0.0060		mg/L	1	2/9/2006 2:12:38 PM
Lead		0.017	0.0050		mg/L	1	2/9/2006 2:12:38 PM
Selenium		ND	0.050		mg/L	1	2/9/2006 2:12:38 PM
Silver		ND	0.0050		mg/L	1	2/9/2006 2:12:38 PM
EPA METHOD 826	0B: VOLATILES						Analyst: KTM
Benzene		410	100		µg/L	100	2/9/2006
Toluene		1000	100		µg/L	100	2/9/2006
Ethylbenzene		ND	100		µg/L	100	2/9/2006
Methyl tert-butyl eth	er (MTBE)	ND	100		µg/L	100	2/9/2006
1,2,4-Trimethylbenz	ene	290	100		µg/L	100	2/9/2006
1,3,5-Trimethylbenz	ene	ND	100		havr	100	2/9/2006
1.2-Dichloroelhane	(EDC)	ND	100		µg/L	100	2/9/2006
1,2-Dibromoethane	(EDB)	ND	100		hð\r	100	2/9/2006
Naphinalene		320	200		µg/L	100	2/9/2006
1-Methylnaphthalen	18	NU	400		µg/L	100	2/9/2006
2-ivieinyinaphthalen	18	540	400		μg/L	100	2/9/2006
Remoberer		4000	1000		μg/L	100	2/3/2000
Bromophloromether	b o		100		hðir Nail	100	2/3/2000
Bromodiablacemail			100		ygre ug/l	100	2/3/2000
Bromoform			. 100		un/l	100	2/9/2006
DIGHIOIQEIN		NU	100		P8.c	100	210/2000

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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Date: 17-Feb-06

CLIENT: Project:	Gianı Refining Co NMED Monthly Wate	r Samples 1/31/	2006		Lab Order:	0602041
EPA METHOD	8260B: VOLATILES					Analyst: KTM
Bromomethane	8	ND	200	µg/L	100	2/9/2006
2-Butanone		ND	1000	µg/L	100	2/9/2006
Carbon disulfic	te	ND	1000	µg/L	100	2/9/2006
Carbon Tetrac	hloride	ND	200	µg/L	100	2/9/2006
Chlorobenzene	9	ND	100	µg/L	100	2/9/2006
Chloroethane		ND	200	µg/L	100	2/9/2006
Chloroform		ND	100	µg/L	100	2/9/2006
Chloromethan	e	ND	100	µg/L	100	2/9/2006
2-Chiorotoluer	ne	ND	100	µg/L	100	2/9/2006
4-Chlorotoluer	ne	ND	100	μ g/ Ι.	100	2/9/2006
cis-1,2-DCE		ND	100	µg/L	100	2/9/2006
cis-1,3-Dichlor	ropropene	ND	100	µg/L	100	2/9/2006
1,2-Dibromo-3	I-chloropropane	ND	200	μg/L	100	2/9/2006
Dibromochloro	omethane	ND	100	µg/L	100	2/9/2006
Dibromometha	ane	ND	200	µg/L	100	2/9/2006
1,2-Dichlorobe	enzene	ND	100	μg/L	100	2/9/2006
1,3-Dichlorobe	enzene	ND	100	µg/L	100	2/9/2006
1,4-Dichlorob	enzene	ND	100	µg/L	100	2/9/2006
Dichlorodifiuo	romethane	ND	100	µց/∟	100	2/9/2006
1,1-Dichloroel	lhane	ND	200	µg/L	100	2/9/2006
1,1-Dichloroel	thene	ND	100	μg/L	100	2/9/2006
1,2-Dichlorop	ropane	ND	100	µg/L	100	2/9/2006
1,3-Dichlorop	ropane	ND	100	µg/L	100	2/9/2006
2,2-Dichlorop	ropane	ND	200	µg/L	100	2/9/2006
1,1-Dichlorop	ropene	ND	100	µg/L	100	2/9/2006
Hexachlorobu	Itadiene	ND	200	µg/L	100	2/9/2006
2-Hexanone		ND	1000	µg/L	100	2/9/2006
Isopropylbena	zene	ND	100	µg/L	100	2/9/2006
4-Isopropyitol	luene	ND	100	µg/L	100	2/9/2006
4-Methyl-2-pe	entanone	ND	1000	µg/L	100	2/9/2006
Methylene Cl	nloride	ND	300	µg/L	100	2/9/2006
n-Butylbenze	ne	ND	100	µg/L	100	2/9/2006
n-Propylbenz	ene	ND	100	µg/L	100	2/9/2006
sec-Butylben	zene	ND	100	µg/L	100	2/9/2006
Styrene		ND	100	µg/L	100	2/9/2006
tert-Butylben:	zene	ND	100	µg/L	100	2/9/2006
1,1,1,2-Telra	chloroelhane	ND	100	µg/L	100	2/9/2006
1,1,2,2-Tetra	chloroethane	ND	100	µg/L	100	2/9/2006
Tetrachloroel	lhene (PCE)	ND	100	µg/L	100	2/9/2006
trans-1,2-DC	E	ND	100	µg/L	100	2/9/2006
trans-1,3-Dic	hloropropene	ND	100	µg/L	100	2/9/2006
1,2,3-Trichlo	robenzene	ND	100	µg/L	100	2/9/2006
1,2,4-Trichlo	robenzene	ND	100	µg/L	100	2/9/2006
1.1.1-Trichlo	roethane	ND	100	µg/L	100	2/9/2006

Qualifiers: * Value exceeds Maximum Contaminant Level

Е

Value exceeds maximum condition

B Analyte detected in the associated Method Blank

Value above quantitation range

J Analyte detected below quantitation limits

S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

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CLIENT: Project:	Giant Refining Co NMED Monthly Water	Samples 1/	31/2006		Lab Order:	0602041
EPA METHOD	8260B: VOLATILES					Analyst: KTM
1,1,2-Trichloro	elhane	ND	100	µg/L	100	2/9/2006
Trichloroethen	e (TCE)	ND	100	μg/L	100	2/9/2006
Trichlorofluoro	methane	ND	100	μg/L	100	2/9/2006
1,2,3-Trichloro	propane	ND	200	μg/L	100	2/9/2006
Vinyl chloride		ND	100	μg/L	100	2/9/2006
Xylenes, Total		610	100	µg/L	100	2/9/2006
Surr: 1,2-Die	chloroethane-d4	101	69.9-130	%REC	100	2/9/2006
Surr. 4-Bron	nofluorobenzene	117	71.2-123	%REC	100	2/9/2006
Surr: Dibron	nofluoromethane	104	57.3-135	%REC	100	2/9/2006
Surr. Toluer	ne-d8	100	81.9-122	%REC	100	2/9/2006

Date: 17-Feb-06

 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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Date: 17-Feb-06

CLIENT:Giant Refining CoProject:NMED Monthly Water Samples 1/31/2006

Lab Order: 0602041

Lab ID:	0602041-02		<u></u>	Collection D	ate: 1/31/20	006 11:00:00 AM
Client Sample ID:	OAPIS			Ma	trix: AQUE	ous
Analyses		Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 801	5B: DIESEL RANG	E				Analyst: SCC
Diesel Range Organ	ics (DRO)	- 2.1	1.0	mg/L	1	2/7/2006 7:52:31 PM
Motor Oil Range Or	ganics (MRO)	ND	5.0	mg/L	1	2/7/2006 7:52:31 PM
Surr: DNOP		119	58-140	%REC	1	2/7/2006 7:52:31 PM
EPA METHOD 801	5B: GASOLINE RA	NGE				Analyst: NSB
Gasoline Range Or	anics (GRO)	7.2	2.0	mg/L	40	2/7/2006 12:08:45 AM
Sur: BFB	,, ,,	108	79.7-118	%REC	40	2/7/2006 12:08:45 AM
EPA METHOD 831	0: PAHS					Analyst: JMP
Naphthalene		170	12	µg/L	5	2/16/2006 4:59:04 PM
1-Methylnaphthalen	e	38	2.5	μg/L	1	2/13/2006 2:47:46 PM
2-Methyinaphthalen	e	7.1	2.5	μg/L	1	2/13/2006 2:47:46 PM
Acenaphthylene		ND	2.5	μ g /L	1	2/13/2006 2:47:46 PM
Acenaphthene		6.0	2.5	μg/L	1	2/13/2006 2:47:46 PM
Fluorene		3.2	0.80	µg/L	1	2/13/2006 2:47:46 PM
Phenanthrene		2.0	0.60	μg/L	1	2/13/2006 2:47:46 PM
Anthracene		ND	0.60	μg/L	1	2/13/2006 2:47:46 PM
Fluoranthene		0.31	0.30	hð\r	1	2/13/2006 2:47:46 PM
Pyrane		0.57	0.30	μg/L	1	2/13/2006 2:47:46 PM
- Benz(a)anthracene		D.070	0.020	μg/L	1	2/13/2006 2:47:46 PM
Chrysene		0.22	0.20	µg/L	1	2/13/2006 2:47:46 PM
Benzo(b)fluoranthe	ne	ND	0.050	μg/L	1	2/13/2006 2:47:46 PM
Benzo(k)fluoranthei	ne	0.020	0.020	μg/L	1	2/13/2006 2:47:46 PM
Benzo(a)pyrene		0.030	0.020	µg/L	1	2/13/2006 2:47:46 PM
Dibenz(a,h)anthrac	ene	ND	0.040	µg/L	1	2/13/2006 2:47:46 PM
Benzo(a.h.i)pervlen	e	ND	0.030	μg/L	1	2/13/2006 2:47:46 PM
Indeno(1,2,3-cd)py	rene	ND	0.080	µg/L	1	2/13/2006 2:47:46 PM
Surr: Benzo(e)py	rene	72.2	54-102	%REC	1	2/13/2006 2:47:46 PM
EPA METHOD 747	0: MERCURY					Analyst: CMC
Mercury		ND	0.00020	mg/L	1	2/15/2006
EPA 6010: TOTAL	RECOVERABLE	METALS				Analyst: NMO
Arsenic		0.022	0.020	mg/L	1	2/9/2006 2:17:08 PM
Barium		0.12	0.020	mg/L	1	2/9/2006 2:17:08 PM
Cadmium		ND	0.0020	mg/L	1	2/9/2006 2:17:08 PM
Chromium		0.011	0.0060) mg/L	1	2/9/2006 2:17:08 PM
Qualifiers: *	Value exceeds Maxim	im Contaminant Lev	vel	B Analyte	detected in the a	issociated Method Blank
E	Value above quantitation	on range		H Holding	times for prepar	ation or analysis exceeded
I	Analyte detected below	quantitation limits		ND Not Det	ected at the Rep	orting Limit
S	Spike Recovery outside	accepted recovery	limits			

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CLIENT. Cin-	the Definition Co					
Project: NME	D Monthly Water Si	amples 1/3	1/2006		Lab Order:	0602041
			<u> </u>			······································
EPA 6010: TOTAL REC	OVERABLE METAI	_S				Analysi: NMO
Selection		ND	0.0050	mg/L	1	2/9/2006 2:17:08 PM
Selenium			0.050	mg/L	1	2/9/2006 2:17:08 PM
511761		ND	0.0050	mg/L	1	2/9/2006 2:17:08 PM
EPA METHOD 8260B: \	OLATILES					Analyst: KTM
Benzene		880	20	μg/L	20	2/9/2006
Toluene		1500	20	μg/L	20	2/9/2006
Elhylbenzene		ND	20	µg/L	20	2/9/2006
Methyl tert-butyl ether (M	TBE)	ND	20	µg/L	20	2/9/2006
1,2,4-Trimethylbenzene		120	20	µg/L	20	2/9/2006
1,3,5-Trimethylbenzene		66	20	µg/L	20	2/9/2006
1,2-Dichloroelhane (EDC))	ND	20	µg/L	20	2/9/2006
1,2-Dibromoethane (EDB)	ND	20	µg/Ľ	20	2/9/2006
Naphthalene		46	40	µg/L	20	2/9/2006
1-Methylnaphthalene		81	80	µg/L	20	2/9/2006
2-Methylnaphthalene		84	80	µg/L	20	2/9/2006
Acelone		ND	200	μg/L	20	2/9/2006
Bromobenzene		ND	20	µg/L	20	2/9/2006
Bromochloromelhane		ND	20	µg/L	20	2/9/2006
Bromodichloromelhane		ND	20	µg/L	20	2/9/2006
Bromoform		ND	20	μg/L	20	2/9/2006
Bromomethane		ND	40	µg/L	20	2/9/2006
2-Butanone		ND	200	µg/L	20	2/9/2006
Carbon disulfide		ND	200	µg/L	20	2/9/2006
Carbon Tetrachloride		ND	40	µg/L	20	2/9/2006
Chlorobenzene		ND	20	µg/L	20	2/9/2006
Chloroethane		ND	40	µg/L	20	2/9/2006
Chloroform		ND	20	µg/L	20	2/9/2006
Chloromethane		ND	20	μg/L	20	2/9/2006
2-Chlorotoluene		ND	20	µg/L	20	2/9/2006
4-Chlorotoluene		ND	20	µg/L	20	2/9/2006
cis-1,2-DCE		ND	20	ug/L	20	2/9/2006
cis-1,3-Dichloropropene		ND	20	µg/L	20	2/9/2006
1,2-Dibromo-3-chloroprop	bane	ND	40	µg/L	20	2/9/2006
Dibromochloromethane		ND	20	ug/L	20	2/9/2006
Dibromomethane		ND	40	µg/L	20	2/9/2006
1,2-Dichlorobenzene		ND	20	µg/L	20	2/9/2006
1,3-Dichlorobenzene		ND	20	µg/L	20	2/9/2006
1,4-Dichlorobenzene		ND	20	µg/L	20	2/9/2006
Dichlorodifluoromethane		ND	20	μg/L	20	2/9/2006
1,1-Dichloroethane		ND	40	µg/L	20	2/9/2006
1,1-Dichloroethene		ND	20	μg/L	20	2/9/2006
1,2-Dichloropropane		ND	20	µg/L	20	2/9/2006
1,3-Dichloropropane		ND	20	μg/L	20	2/9/2006

Date: 17-Feb-06

* Value exceeds Maximum Contaminant Level Е

Qualifiers:

Value above quantitation range

В

J Analyte detected below quantitation limits S

Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Spike Recovery outside accepted recovery limits

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CLIENT: Project:	Giant Refining Co NMED Monthly Wa	ter Samples 1/3			 Lab Order:	0602041
EPA METHOD	8260B: VOLATILES					Analyst: KTM
2,2-Dichloropr	opane	ND	40	µg/L	20	2/9/2006
1,1-Dichloropr	opene	ND	20	µg/L	20	2/9/2006
Hexachlorobu	ladiene	ND	40	μg/L	20	2/9/2006
2-Hexanone		ND	200	µg/L	20	2/9/2006
Isopropylbenz	ene	ND	20	µg/L	20	2/9/2006
4-Isopropylloli	иеле	ND	20	μg/L	20	2/9/2006
4-Methyl-2-pe	nlanone	ND	200	µg/L	20	2/9/2006
Melhylene Ch	loride	ND	60	µg/L	20	2/9/2006
n-Bulyibenzer	ıe	ND	20	µg/L	20	2/9/2006
n-Propylbenze	ene	ND	20	µg/L	20	2/9/2006
sec-Butylbenz	ene	ND	20	μg/L	20	2/9/2006
Styrene		ND	20	µg/L	20	2/9/2006
tert-Butylbenz	ene	ND	20	μg/L	20	2/9/2006
1.1.1.2-Tetrac	chloroethane	ND	20	µg/L	20	2/9/2006
1.1.2.2-Tetrad	chloroethane	ND	20	µg/L	20	2/9/2006
Tetrachloroet	hene (PCE)	ND	20	µg/L	20	2/9/2006
trans-1.2-DCE		ND	20	µg/L	20	2/9/2006
Irans-1,3-Dich	nioropropene	ND	20	µg/L	20	2/9/2006
1.2.3-Trichlor	obenzene	ND	20	µg/L	20	2/9/2006
1,2,4-Trichlor	obenzene	ND	20	µg/L	20	2/9/2006
1,1,1-Trichlor	oethane	ND	20	µg/L	20	2/9/2006
1,1,2-Trichlor	oethane	ND	20	µg/L	20	2/9/2006
Trichloroethe	ne (TCE)	ND	20	µg/L	20	2/9/2006
Trichlorofluor	omelhane	ND	20	μg/L	20	2/9/2006
1.2.3-Trichlor	opropane	ND	40	µg/L	20	2/9/2006
Vinyl chloride		ND	20	µg/L	20	2/9/2006
Xylenes, Tota	al	1500	20	µg/L	20	2/9/2006
Surr: 1.2-D)ichloroethane-d4	102	69.9-130	%REC	20	2/9/2006
Surr: 4-Bro	omofluorobenzene	98.4	71.2-123	%REC	20	2/9/2006
Surr: Dibro	omofluoromethane	104	57.3-135	%REC	20	2/9/2006
Surr: Tolu	ene-d 8	95.9	81.9-122	%REC	20	2/9/2006

Date: 17-Feb-06

-Qualifiers:

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Value exceeds Maximum Contaminant Level

- E Value above quantitation range
- Analyte detected below quantitation limits J
- Spike Recovery outside accepted recovery limits S
- В Analyte detected in the associated Method Blank

Holding times for preparation or analysis exceeded н

ND Not Detected at the Reporting Limit

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Date: 17-Feb-06

CLIENT: Giant Refining Co Project: NMED Monthly Water Samples 1/31/2006 Lab Order: 06

0602041

Lab 1D: 0602041-03			Collection Date:	1/31/20	006 1:00:00 PM
Client Sample ID: NAPIS			Matrix:	AQUE	OUS
Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE					Analyst: SCC
Diesel Range Organics (DRO)	120	3.0	mg/L	1	2/7/2006 8:25:34 PM
Motor Oil Range Organics (MRO)	ND	15	mg/L	1	2/7/2006 8:25:34 PM
Surr: DNOP	112	58-140	%REC	1	2/7/2006 8:25:34 PM
EPA METHOD 8015B: GASOLINE RANGE					Analyst: NSB
Gasoline Range Organics (GRO)	12	5.0	mg/L	100	2/7/2006 12:38:45 AM
Surr: BFB	113	79.7-118	%REC	100	2/7/2006 12:38:45 AM
EPA METHOD 8260B: VOLATILES					Analyst: KTM
Benzene	3200	50	μg/L	50	2/9/2006
Toluene	2900	50	µg/L	50	2/9/2006
Elhylbenzene	150	50	µg/L	50	2/9/2006
Methyl tert-bulyl ether (MTBE)	5100	50	μg/L	50	2/9/2006
1,2,4-Trimethylbenzene	260	50	µg/L	50	2/9/2006
1,3,5-Trimethylbenzene	58	50	µg/L	50	2/9/2006
1,2-Dichloroelhane (EDC)	ND	50	μg/L	50	2/9/2006
1,2-Dibromoethane (EDB)	ND	50	µg/L	50	2/9/2006
Naphthalene	240	100	µg/L	50	2/9/2006
1-Methylnaphlhalene	240	200	μg/L	50	2/9/2006
2-Methylnaphthalene	350	200	µg/L	50	2/9/2006
Acelone	11000	2000	µg/L	200	2/9/2006
Bromobenzene	ND	50	μg/L	50	2/9/2006
Bromochloromethane	ND	50	µg/L	50	2/9/2006
Bromodichloromethane	ND	50	μ g/L	50	2/9/2006
Bromoform	ND	50	µg/L	50	2/9/2006
Bromomelhane	ND	100	μg/L	50	2/9/2006
2-Butanone	2500	500	μg/L	50	2/9/2006
Carbon disulfide	ND	500	µg/L	50	2/9/2006
Carbon Tetrachloride	ND	100	µg/L	50	2/9/2006
Chlorobenzene	ND	50	µg/L	50	2/9/2006
Chloroethane	ND	100	µg/L	50	2/9/2006
Chloroform	ND	50	μg/L	50	2/9/2006
Chloromethane	ND	50	μg/L	50	2/9/2006
2-Chlorotoluene	ND	50	µg/L	50	2/9/2006
4-Chlorotoluene	ND	50	μg/L	50	2/9/2006
cis-1,2-DCE	ND	50	µg/L	50	2/9/2006
cis-1,3-Dichloropropene	ND	50	μg/L	50	2/9/2006
1.2-Dibromo-3-chloropropane	ND	100	µg/L	50	2/9/2006

* Value exceeds Maximum Contaminant Level

Qualifiers:

E Value above quantitation range

J Analyte detected below quantitation limits

B Analyte detected in the associated Method Blank
 Holding times for preparation or analysis exceeded

ow quantitation limits N

S Spike Recovery outside accepted recovery limits

ND Not Detected at the Reporting Limit

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Date: 17-Feb-06

CLIENT: Project:	Giant Refining Co NMED Monthly W	ater Samples 1/3	1/2006		Lab Order:	0602041
EPA METHOD	8260B. VOLATILES	·····				Analysi: KTM
Dibromochloro	methane	ND	50	ua/L	50	2/9/2006
Dibromometha	ine	ND	100	ua/L	50	2/9/2006
1.2-Dichlorobe	nzene	ND	50	ug/L	50	2/9/2006
1.3-Dichlorobe	nzene	ND	50	µg/L	50	2/9/2006
1.4-Dichlorobe	nzene	ND	50	µg/L	50	2/9/2006
Dichlorodifiuor	omethane	ND	50	µg/L	50	2/9/2006
1,1-Dichloroeth	hane	ND	100	µg/L	50	2/9/2006
1.1-Dichloroetl	hene	ND	50	μg/L	50	2/9/2006
1,2-Dichloropr	opane	ND	50	μg/L	50	2/9/2006
1,3-Dichloropre	opane	ND	50	µg/L	50	2/9/2006
2,2-Dichloropr	opane	ND	100	µg/L	50	2/9/2006
1.1-Dichloropr	opene	ND	50	µg/L	50	2/9/2006
Hexachlorobul	ladiene	ND	100	μg/L	50	2/9/2006
2-Hexanone		ND	500	µg/L	50	2/9/2006
Isopropylbenz	ene	ND	50	µg/L	50	2/9/2006
4-Isopropyllolu	Jene	ND	50	μg/L	50	2/9/2006
4-Methyl-2-per	ntanone	ND	500	µg/L	50	2/9/2006
Methylene Chl	loride	ND	150	µg/L	50	2/9/2006
n-Butyibenzen	e	ND	50	µg/L	50	2/9/2006
n-Propylbenze	ene	ND	50	. µg/L	50	2/9/2006
sec-Butylbenz	ene	ND	50	µg/L	50	2/9/2006
Styrene		ND	50	µg/L	50	2/9/2006
tert-Butylbenz	ene	ND	50	μg/L	50	2/9/2006
1,1,1,2-Tetrac	hloroethane	ND	50	μg/L	50	2/9/2006
1,1,2,2-Tetrac	hioroethane	ND	50	μg/L	50	2/9/2006
Tetrachloroeth	nene (PCE)	ND	50	ug/L	50	2/9/2006
Irans-1,2-DCE		ND	50	µg/L	50	2/9/2006
Irans-1,3-Dich	loropropene	ND	50	µg/L	50	2/9/2006
1,2,3-Trichlord	obenzene	ND	50	µg/L	50	2/9/2006
1,2,4-Trichlord	obenzene	ND	50	µg/L	50	2/9/2006
1,1,1-Trichlord	pelhane	ND	50	μg/L	50	2/9/2006
1,1,2-Trichloro	pelhane	ND	50	µg/L	50	2/9/2006
Trichloroether	ne (TCE)	ND	50	μg/L	50	2/9/2006
Trichlorofluoro	omethane	ND	50	µg/L	50	2/9/2006
1,2,3-Trichlord	оргорапе	ND	100	µg/L	50	2/9/2006
Vinyl chloride		ND	50	µg/L	50	2/9/2006
Xylenes, Tota	1	1000	50	µg/L	50	2/9/2006
Surr: 1,2-D	ichloroelhane-d4	106	69.9-130	%REC	50	2/9/2006
Surr: 4-Bro	mofluorobenzene	114	71.2-123	%REC	50	2/9/2006
Surr: Dibroi	mofluoromelhane	110	57.3-135	%REC	50	2/9/2006
Surr: Tolue	ne-d8	98.3	B1.9-122	%REC	50	2/9/2006

Qualifiers:

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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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Date: 17-Feb-06

CLIENT: Giant Refining Co Project: NMED Monthly Water Samples 1/31/2006 Lab Order: 0602041

Lab ID: 06	02041-04			Collecti	on Date: 1/31/2	006 2:00:00 PM
Client Sample ID: Pi	lot TC				Matrix: AQUI	EOUS
Analyses		Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B:	DIESEL RANGE					Analyst: SCC
Diesel Range Organics (i	DRO)	14	1.0	mg/L	1	2/7/2006 9:31:39 PM
Motor Oil Range Organic	s (MRO)	ND	5.0	mg/L	1	2/7/2006 9:31:39 PM
Surr: DNOP		139	58-140	%REC	1	2/7/2006 9:31:39 PM
EPA METHOD 8015B:	GASOLINE RAN	GE				Analyst: NSB
Gasoline Range Organic	s (GRO)	ND	0.050	mg/L	1	2/7/2006 1:08:51 AM
Surr: BFB		109	79.7-118	%REC	1	2/7/2006 1:08:51 AM
EPA METHOD 7470: M	ERCURY					Analyst: CMC
Mercury		ND	0.00020	mg/L	1	2/15/2006
EPA 6010: TOTAL REG	COVERABLE ME	TALS				Analyst: NMO
Arsenic		ND	0.020	mg/L	1	2/9/2006 2:21:04 PM
Barium		0.024	0.020	mg/L	1	2/9/2006 2:21:04 PM
Cadmium		ND	0.0020	mg/l_	1	2/9/2006 2:21:04 PM
Chromium		ND	0.0060	mg/L	1	2/9/2006 2:21:04 PM
Lead		ND	0.0050	mg/L	1	2/9/2006 2:21:04 PM
Selenium		ND	0.050	mg/L	1	2/9/2006 2:21:04 PM
Silver		ND	0.0050	mg/L	1	2/9/2006 2:21:04 PM
EPA METHOD 8260B:	VOLATILES					Analyst: KTM
Benzene		ND	1.0	μg/L	1	2/9/2006
Toluene		1.5	1.0	μ g /L	1	2/9/2006
Ethylbenzene		ND	1.0	µg/L	1	2/9/2006
Melhyl tert-butyl ether (N	ATBE)	ND	1.0	hđ/r	1	2/9/2006
1,2,4-Trimethylbenzene		ND	1.0	hð\r	1	2/9/2006
1,3.5-Trimethylbenzene		ND	1.0	µg/L	1	2/ 9 /2006
1,2-Dichloroethane (ED)	C)	ND	1.0	µg/L	1	2/9/2006
1,2-Dibromoethane (ED	B)	ND	1.0	µg/L	1	2/9/2006
Naphthalene		ND	2.0	µg/L	1	2/9/2006
1-Methylnaphthalene		ND	4.0	μg/L	1	2/9/2006
2-Methylnaphthalene		ND	4.0	ւ ից/Լ	1	2/9/2006
Acelone		180	10	μg/L	1	2/9/2006
Bromobenzene		ND	1.0	μg/L	1	2/9/2006
Bromochloromethane		ND	1.0	μg/L	1	2/9/2006
Bromodichloromethane		ND	1.0	µg/L	1	2/9/2006
Bromoform		ND	1.0) µg/L	1	2/9/2006

Qualifiers: * Value exceeds Maximum Contaminant Level

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- 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

Date: 17-Feb-06

CLIENT: Project:	Giant Refining Co NMED Monthly Wa	nter Samples 1/31/	2006	<u> </u>	Lab Order:	0602041
EPA METHOD	8260B: VOLATILES					Analysi: KTM
Bromomethane	9	ND	2.0	µg/L	1	2/9/2006
2-Butanone		ND	10	µg/L	1	2/9/2006
Carbon disulfid	e	ND	10	µg/L	1	2/9/2006
Carbon Tetract	nforide	ND	2.0	µg/L	1	2/9/2006
Chlorobenzene		ND	1.0	μg/L	1	2/9/2006
Chloroethane		ND	2.0	µg/L	1	2/9/2006
Chloroform		2.5	1.0	μg/L	. 1	2/9/2006
Chloromethane	3	ND	1.0	µg/L	1	2/9/2006
2-Chlorotoluen	6	ND	1.0	µg/L	1	2/9/2006
4-Chlorololuen	e	ND	1.0	µg/L	1	2/9/2006
cis-1,2-DCE		ND	1.0	hð/r	1	2/9/2006
cis-1,3-Dichloro	opropene	ND	1.0	µg/L	1	2/9/2006
1,2-Dibromo-3-	-chloropropane	ND	2.0	µg/L	1	2/9/2006
Dibromochioro	methane	ND	1.0	μg/L	1	2/9/2006
Dibromomelha	ne	ND	2.0	µg/L	1	2/9/2006
1,2-Dichlorobe	nzene	ND	1.0	µg/L	1	2/9/2006
1,3-Dichlorobe	nzene	ND	1.0	μg/L	1	2/9/2006
1,4-Dichlorobe	nzene	ND	1.0	µg/L	1	2/9/2006
Dichlorodifluor	omelhane	ND	1.0	µg/L	1	2/9/2006
1,1-Dichloroeth	ane	ND	2.0	hā\r	1	2/9/2006
1,1-Dichloroeth	nene	ND	1.0	µg/L	1	2/9/2006
1,2-Dichloropro	opane	ND	1.0	µg/L	1	2/9/2006
1,3-Dichloropro	opane	ND	1.0	µg/L	1	2/9/2006
2,2-Dichloropro	opane	ND	2.0	μg/L	1	2/9/2006
1,1-Dichloropro	opene	ND	1.0	µg/L	1	2/9/2006
Hexachlorobut	adiene	ND	2.0	µg/L	1	2/9/2006
2-Hexanone		ND	10	μg/L	1	2/9/2006
Isopropylbenze	ene	ND	1.0	µg/L	1	2/9/2006
4-Isopropyllolu	ene	1.1	1.0	µg/L	1	2/9/2006
4-Melhyl-2-per	lanone	ND	10	μg/L	1	2/9/2006
Methylene Chi	oride	ND	3.0	µg/L	1	2/9/2006
n-Butylbenzen	e	ND	1.0	µg/L	1	2/9/2006
n-Propylbenze	ne	ND	1.0	µg/L	1	2/9/2006
sec-Bulylbenze	ene	ND	1.0	µg/L	1	2/9/2006
Styrene		ND	1.0	µg/L	1	2/9/2006
tert-Butylbenze	ene	ND	1.0	μg/L	1	2/9/2006
1,1,1,2-Tetract	nloroethane	ND	1.0	µg/L	1	2/9/2006
1,1,2,2-Tetraci	hloroethane	ND	1.0	μg/ L	1	2/9/2006
Tetrachloroeth	ene (PCE)	ND	1.0	μg/L	1	2/9/2006
trans-1,2-DCE		ND	1.0	µg/L	1	2/9/2006
trans-1,3-Dichl	oropropene	ND	1.0	µg/L	1	2/9/2006
1,2,3-Trichloro	benzene	ND	1.0	µg/L	1	2/9/2006
1,2,4-Trichloro	benzene	ND	1.0	µg/L	1	2/9/2006
1,1,1-Trichloro	ethane	ND	1.0	µg/L	1	2/9/2006

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

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Date: 17-Feb-06

CLIENT: Project:	Giant Refining Co NMED Monthly Water	Samples 1/	31/2006		Lab Order:	0602041	
EPA METHOD	8260B: VOLATILES					Analyst: KTM	
1,1,2-Trichlord	pelhane	ND	1.0	µg/L	1	2/9/2006	
Trichloroether	ne (TCE)	ND	1.0	µg/L	1	2/9/2006	
Trichlorofluore	imethane	ND	1.0	μg/L	1	2/9/2006	
1,2,3-Trichlord	propane	ND	2.0	µg/L	1	2/9/2006	
Vinyl chloride		ND	1.0	µg/L	1	2/9/2006	
Xylenes, Total	1	ND	1.0	μg/L	1	2/9/2006	
Surr. 1,2-Di	chloroethane-d4	95.0	69. 9 -130	%REC	1	2/9/2006	
Surr: 4-Bror	molluorobenzene	107	71.2-123	%REC	1	2/9/2006	
Surr: Dibror	mofluoromethane	99.6	57.3-135	%REC	1	2/9/2006	
Surr. Tolue	ne-d8	97.3	81.9-122	%REC	1	2/9/2006	

Qualifiers:

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

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NMED Monthly Water Samples 1/31/2006 **Giant Refining Co** 0602041 Work Order: CLIENT: Project:

ANALYTICAL QC SUMMARY REPORT TestCode: 8015DRO_W

Date: 17-Feb-06

Sample ID: MB-9709	SampType: MBLK	TestCode: 8015	DRO_W Units: mg/L		Prep Dat	e: 2/6/2006	RunNo: 1	8170	
Client ID: ZZZZ	Batch ID: 9709	TestNo: SW81	115	4	nalysis Dat	e: 2/7/2006	SeqNo: 4	47883	
Analyte	Result	POL SPK VI	alue SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref	/al %RPC	D RPDLimit	Qual
Diesel Range Organics (DRO) Motor Oil Range Organics (MRO)	<u>0</u> 0	1.0 5.0							
Sample ID: LCS-9709	SampType: LCS	TestCode: 8015	DRO_W Units: mg/L		Prep Dat	e: 2/6/2006	RunNo: 1	8170	
Client ID: ZZZZ	Batch ID: 9709	TestNo: SWB	115	٩	nalysis Dat	e: 2/7/2006	SeqNo: 4	47884	
Analyte	Result	PQL SPK v	alue SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref	/al %RPC	D RPDLimit	Qual
Diesel Range Organics (DRO)	5.945	1.0	5 0	119	81.2	149			
Sample ID: LCSD-9709	SampType: LCSD	TestCode: 8015	DRO_W Units: mg/L		Prep Dat	a: 2/6/2006	RunNo: 1	8170	
C Client ID: ZZZZ	Batch ID: 9709	TestNo: SW8(15	٩	nalysis Dat	a: 2/7/2006	SeqNo: 4	47885	
Z Analyte	Result	POL SPK ve	ilue SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref	/al %RPC	D RPDLimit	Qual
Diesel Range Organics (DRO)	5.781	1.0	5	116	81.2	149 5.5	45 2.8() 23	

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Spike Recovery outside accepted recovery limits

Analyte detected below quantitation limits

Holding times for preparation or analysis exceeded RPD outside accepted recovery limits I Z

E Value above quantitation range ND Not Detected at the Reporting Limit

Qualifiers:

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NMED Monthly Water Samules 1/31/2006 Giant Refining Co 0602041 Work Order: **CLIENT:** Project:

ANALYTICAL QC SUMMARY REPORT

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TestCode: 8015GRO_W

	unity water Jampics 17.	0007/10	-						1		
Sample ID: 5ML RB Client ID: 77777	SampType: MBLK Batch ID: R18160	TestCod	e: 8015GRO	W Units: mg/L		Prep Date	: 2/6/2006		RunNo: 181 SeaNo: 447	69 863	
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit 1	lighLimit RPC) Ref Val	«RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	QN	0.050									
Sample ID: 2.5UG GRO LCS Client ID: ZZZZZ	SampType: LCS Batch ID: R18169	TestCod TestN	e: 8015GRO o: SW8015	W Units: mg/L		Prep Date Vnalysis Date	: 2/6/2006		RunNo: 181 SeqNa: 447	69 864	
Analyte	Result	POL	SPK value	SPK Ref Val	%REC	LowLimit h	tighLimit RPD) Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.4920	0.050	0.5	0	98.4	82.6	114				
Sample ID: 2.5UG GRO LCSD	SampType: LCSD	TestCod	e: 8015GRO	W Units: mg/L		Prep Date:			RunNo: 181	69	
Client (D: ZZZZ	Batch ID: R18169	TestN	o: SW8015		*	Inalysis Date:	2/7/2006		SeqNo: 447	865	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit h	lighLimit RPD	l Ref Val	%RPD	RPDLimit	Qual
A Gasoline Range Organics (GRO)	0.4860	0.050	0.5	0	97.2	82.6	114	0.492	1.23	8.39	
23											

E Value above quantitation range ND Not Detected at the Reporting Limit

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Spike Recovery outside accepted recovery limits

Analyte detected below quantitation limits

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RPD outside accepted recovery limits

Holding times for preparation or analysis exceeded Ξĸ

Qualifiers:

Antronome TestCode: S110_M Prover Unter: Number Manufactore TestCode: S110_M Prover Unter: Stant/Prover Stripter (121,000 TestCode: S110_M Prover Unter: Stant/Prover Stripter (121,000 TestCode: S110_M Prover Unter: Stant/Prover Stripter (121,000 TestCode: S110_M Output Prover Unter RestOre S110_M Member Stripter (121,000 TestCode: S110_M Antiped Stripter Stant/Prover Stripter (121,000 TestCode: S110_M Member Stripter (121,000 TestCode: S110_M Antiped Stripter RestM Prover Stripter (121,000 TestCode: S110_M Member Stripter (121,000 Stant/Prover (121,000 Stant/Prover Stripter (121,	CLIENT: Gian	. Refining Co				ANALYTIC	CAL QC SU	IMMARY REPC)RT
Sample (C) Mark (C) TestCode: TestCode: <thtestcode:< th=""> <thtestcode:< th=""> <tht< td=""><td>Project: NME</td><td>Ja I D Monthly Water Samples 1/</td><td>31/2006</td><td></td><td></td><td></td><td>TestCode: 8</td><td>3310_W</td><td></td></tht<></thtestcode:<></thtestcode:<>	Project: NME	Ja I D Monthly Water Samples 1/	31/2006				TestCode: 8	3310_W	
Client (D. Zizzz Bach (D. Flague Flague Standing Calibly Calibry Calibly Calibry <	Samole (D: MB-9712	SampTvpe: MBLK	TestCode: 8310 W	Units: µg/L		Prep Date: 2/6/	2006	RunNo: 18291	
Andyle Read PQL Erk value SPRCE Low Limit High Limit Rob Limit	Client ID: ZZZZ	Batch ID: 9712	TestNo: SW8310	(SW3510C)	4	Analysis Date: 2/13	1/2006	SeqNo: 450970	
Werthmeter Networksprinter ND 25 Verteringentingen 00 25 Farone 00 26 Farone 00 030 Farone 00 030 Farone 00 030 Farone 00 030 Farone 0 030 Farone 0 030 Farone 0 030 Secondynameter 0 0 </th <th>Analyte</th> <th>Result</th> <th>PQL SPK value</th> <th>sPK Rei Val</th> <th>%REC</th> <th>LowLimit HighLin</th> <th>nit RPD Ref Val</th> <th>%RPD RPDLimit</th> <th>Qual</th>	Analyte	Result	PQL SPK value	sPK Rei Val	%REC	LowLimit HighLin	nit RPD Ref Val	%RPD RPDLimit	Qual
- Montynchineter Americanicer ID 23 Americanicer 10 26 Ploanithere 10 26 Ploanithere 10 20 Second/horithere 10 20 Second/horithere <td>Naphthalene</td> <td>QN</td> <td>2.5</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Naphthalene	QN	2.5						
Antivitabilitation ID 23 Accompliant ID 25 Antivitation ID 25 Antivitation ID 26 Antintintenee ID 27	1-Methyinaphthalene	QN	2.5						
Accesspholyene NO 25 Accesspholyene NO 25 Process NO 26 Process Process NO 26 Process NO 26 Process NO 26 Process NO 26 NO 26 NO 26 Process NO 0.0 0.0 0.0 26 NO 26 Process NO 0.0 0.0 0.0 0.0 0.0 0.0 Process Process NO 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Process Proces Pro	2-Methylnaphthalene	QN	2.5						
Consistination ND 25 Pranchine ND 0.80 Pranchine ND 0.80 Antresine ND 0.30 Pranchine ND 0.30 Antresine ND 0.30 Pranchine ND 0.30 Antresine ND 0.30 Pranchine ND 0.30	Acenaphthylene	UN	2.5						
Functional Ambuention	Acenaphthene	QN	2.5						
Prenantnere Funcantine ND 0.66 Funcantine ND 0.30 Funcantine ND 0.30 Private ND 0.30 Private <td< td=""><td>Fluorene</td><td>ON</td><td>0.80</td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	Fluorene	ON	0.80						
Antrocene ND 0.80 Funcanthere ND 0.30 Prese Prese Prese Pres Prese Prese Samptyse ND 0.30 Samptyse Prese Prese Samptyse CLCS-FIT Best/J Prese Analyse Date Zrit/Zro06 Res/Drini Quali Samptyse Zrit	Phenanthrene	ND	0.60						
Functionational Presidential Brazighantintzerie ND 0.30 0.30 0.30 Brazighantintzerie ND 0.30 0.30 Brazighantintzerie ND 0.30 0.30 Brazighantintzerie ND 0.30 0.30 Stravjenie ND 0.30 0.300 Stravjenie ND 0.30 0.300 Stravjenie ND 0.300 Stravjenie ND 0.300 Stravjenie ND 0.300 Brazigh, Jjenytene ND 0.300 341 971 Kanpie 2.55 4.01 6.01 36.3 36.1 Analysis brazigh, Jjenytene 2.33 2.5 4.01 97.4 307.4 Analysis acotatat 2.3 4.3	Anthracene	QN	0.60						
Pyres N0 0.30 2 Trysters N0 0.20 2 Process(hluoranthere N0 0.20 2 Prot 2 Proces	Fluoranthene	ND	0.30						
Benzdolanthracene N0 0.22 2mycene N0 0.22 2mycene N0 0.20 Amycene Samycen Samycen Amycene Samycen Samycen Amycen	Pyrene	GN	0.30						
Chrysene ND 0.20 3-aerod(b)ucarthene ND 0.030 3-aerod(b)ucarthene ND 0.020 3-aerod(b)uperviene ND 0.030 Denratial hanthracene ND 0.030 Barod(1,2,3-cd)prene ND 0.030 Analyse LCS Test/cost saro, W Unlist, µg/L Prap Date: 21322006 Run/or: 13291 Sample ID: ZZZZ Batch ID: 9712 Test/cost Swa310 (SW3510C) Analysis Date: 2132006 Seq/N: 450973 Analyte ZZZZ Batch ID: 9712 Test/cost Swa310C) SW3510C) Analytis Date: 2132006 Seq/N: 450973 Analyte ZZZ4 Au3 SARE LowLint HgD.Imit: RPD Infinit RPD Infinit RPD Infinit Analyte ZZ34 Au3 SARE	Benz(a)anthracene	QN	0.020						
3 Barcolo)lluoranthene ND 0.020 3 Parcolo)lluoranthene ND 0.020 3 Parcolo)lluoranthene ND 0.020 Denre(1,1,3-rd)pyrene ND 0.030 Barcolo)lluoranthene ND 0.030 Barcolo)lluoranthene ND 0.040 Barcolo)lluoranthene ND 0.030 Barcolo)lluoranthene ND 0.030 Analysis Batch ID: 9712 TestNot: Swa310 (SW3510C) Analysis Date: 2/13/2006 SeqNo: 18291 Analyte Proc SMM WR SMM MMR Pro Date: 2/13/2006 SeqNo: 450973 Analyte Proc SMM SMM SMM Proc SMM SRM MMR Analyte Proc SMM MMR Pro Date: 2/13/2006 SeqNo: Analysis Date: 2/13/20	Chrysene	QN	0.20						
Samoologniture ND 0.020 Democipytree ND 0.030 Bencipytree ND 0.030 Bencipytree ND 0.030 Bencipytree ND 0.030 Gencip/Instructure ND 0.030 Bencipytree ND 0.030 Gencip/Instructure ND 0.030 Indeno(1.2.3-c1)pervine ND 0.030 Indeno(1.2.3-c1)pervine ND 0.030 Indeno(1.2.3-c1)pervine ND 0.030 Indeno(1.2.3-c1)pervine ND 0.030 Sample ID: 2722 Batch ID: 3712 TestNo: SW3510C Analysis Date: Vnaphlaene 2.315 Z 40 NREC LowUmit <rpd ref="" td="" val<=""> %RPD Ref Val Vnaphlaene 2.319 2.5 40.1 0 5 96.1 Amelytaphthalene 2.319 2.5 40.1 0 6 9 Amelytaphthalene 2.5 40.1 0 6 9 6 <</rpd>	പ്പ 3enzo(b)fluoranthene	QN	0.050						
Districtione ND D.022 Districtione ND 0.020 Districtione ND 0.040 Bencial Interval ND 0.030 Districtione ND 0.030 Bencial Interval ND 0.030 Districtione ND 0.030 Marking Each D Data 26/2006 RunNo: 18291 Bencial Interval SampType: LCS TestIon: 9712 TestIon: 58310 Junits: pg/L Prep Date: 26/2006 RunNo: 18291 SampType: Result PCL SPK Ref Val %/REC LowLimit HighLimit RPD Limit RDI Markinaphthalene 23319 2.5 401 0 55.4 33 56.1 Activabithalene 2.35.7 2.5 40.1 0 55.4 35.9 56.1 Activabithalene 2.35.7 2.5 40.1 0 55.4 35.9 56.1 Activabithalene 2.36 0.0 0 55.4	🔨 3enzo(k)fluoranthene	QN	0.020						
Diberta ND 0.040 Beno(j.1.)berviene ND 0.030 Beno(j.1.)berviene ND 0.030 Beno(j.1.)berviene ND 0.030 Beno(j.1.)berviene ND 0.030 Beno(j.1.2.3-cd)prene ND 0.030 Beno(j.1.2.3-cd)prene ND 0.030 Beno(j.1.2.3-cd)prene ND Units: µg/L Prep Date: 2/32006 RunNo: 18291 Batch ID: 9712 TestiNo: SW3310 Units: µg/L Prep Date: 2/32006 RunNo: 18291 Analyse E Analyse E Analysis Date: 2/32006 RunNo: 18291 Analyse SampType: CS 400 N 9/4 9/4 Analyse 23.55 2.5 400 0 53.4 33.7 100 Analyse 2.3.19 2.5 40.1 0 53.4 35.5 53.5 Analyse 2.3.3 3.3.7 100 53.4 35.5 53.5 53.5 53.	W Benzo(a)pyrene	QN	0.020						
Benzolg.h.lperylere ND 0.030 Indenol1.2.3-cd/pyrene ND 0.030 Sample ID: LCS-9712 SampType: LCS TestCode: 871_M Unlis: µg/L Prep Date: 26/2006 Runko: 13291 Sample ID: LCS-9712 SampType: LCS TestCode: 871_M Unlis: µg/L Prep Date: 21/3/2006 SeqNo: 450973 Sample ID: ZZZZ Batch ID: 9712 TestCode: 871_M Unlis: µg/L Prep Date: 21/3/2006 SeqNo: 450973 Analyse ID: 27ZZ Batch ID: 9712 TestCode: 871_M Unlis: µg/L Prep Date: 21/3/2006 SeqNo: 450973 Analyse ID: 27ZZ Batch ID: 9712 7 941 9/REC LowLIMI HiD/Imit RPD Ref Val %RPD RPDI.Imit Oual Analyse Date 23.19 2.5 4.01 0 55.4 34.7 100 Analyse Date 2.5.5 4.01 0 55.4 35.7 100 Accmaphthalene 2.5.5 4.01 0 55.4 35.7 100 Accmaphthalene 2.	Dibenz(a.h)anthracene	QN	0.040						
Indeno(1.2.3-cd)pyrentND0.080Sample (D: LCS-9712)Samplype: LCSTestCode: 8310_WUnlis: µg/LFrep Date:2/13/2006RunNo: 18291Client (D: ZZZZBaltch (D: 9712)TestNo: SW0310(SW03510C)Analysis Date:2/13/2006SeqNo: 450973Client (D: ZZZZBaltch (D: 9712)TestNo: SW0310(SW03510C)Analysis Date:2/13/2006SeqNo: 450973AnalysisBaltch (D: ZZZZ)Baltch (D: 9712)TestNo: SW0310(SW03510C)Analysis Date:2/13/2006SeqNo: 450973AnalysisResultPCLSPK Ref Val%RECLowLinitHighLinitRPD Ref Val%RPDRPDLinitOualAnalysis23.552.540.1056.433.4397.4100Analysis Date:2/13/2006SeqNo: 450973Analysis2.402.540.1056.43396.140.100Analysis2.52.540.1061.346.893.4Analysis2.52.540.1061.346.893.4Analysis2.52.540.1061.346.893.4Analysis2.52.540.1061.346.893.4Analysis2.52.540.1061.346.893.4Ananythalene2.400.602.01061.346.893.4Ananythalene2.52.52.52.540.1061.3<	Benzo(g,h,i)perylene	QN	0.030						
Sample ID:LCS-9712SampType:LCSTestCode:B310_WUnits:JpgLFrep Date:Z15/2006RunNu:18291Client ID:ZZZZBatch ID:9712TestNo:SW3310(SW3310C)Analysis Date:2/13/2006SeqNo:450973AnalyteResultPQLSPK valueSPK Ref Val%RECLowLimitRPD ReD ReD LimitQualityAnalyte23.552.540058.934.897.497.4Naphthalene23.192.540.1057.834.71001.Methytnaphthalene23.192.540.1056.43598.1Acanaphthalene23.192.540.1067.834.897.4Acanaphthalene23.192.540.1067.834.897.4Acanaphthalene23.192.540.1065.43598.1Acanaphthalene24.300.804.01065.398.1Acanaphthalene24.300.602.01061.346.893.4Acanaphthene24.300.602.01061.346.893.4Acanaphthene2.400061.346.893.495.1Acanaphthene2.400061.346.893.4Ploarene2.4500.6002.01061.346.8Ploarene2.4600.6002.01061.395.1	Indeno(1.2.3-cd)pyrene	QN	0.080						
	Sample ID: LCS-9712	SampType: LCS	TestCode: 8310_W	Units: µg/L		Prep Date: 2/6/2	2006	RunNa: 18291	
AnalyteResultPQLSPK rel ValueSPK Ref Val $\%$ RECLowLimitHighLimitRPD Ref Val $\%$ RPDRPD LimitQualNaphthalene23.552.5540056.334.897.41001. Methynaphthalene23.192.540056.434.897.41002. Methynaphthalene23.192.540.1057.834.71002. Methynaphthalene23.192.540.1056.43598.1Acenaphthene22.542.540.1066.43595.1Acenaphthene24.302.540.1061.345.895.1Acenaphthene2.4600.804.01061.345.895.1Fluorene2.4500.802.010.061.345.895.1Phenaltrene1.2900.602.01061.345.895.1Phenaltrene1.2900.602.01064.248.746.8MultifersFNot Detected tectored tect	Client ID: ZZZZ	Batch ID: 9712	TestNo: SWB310	(SW3510C)	4	nalysis Date: 2/13	/2006	SeqNo: 450973	
Naphthalene 23.55 2.5 40 0 58.9 34.8 97.4 1-Melryinaphthalene 23.19 2.5 40.1 0 57.8 34.7 100 2-Melryinaphthalene 23.19 2.5 40.1 0 56.4 35.7 100 2-Melryinaphthalene 22.54 2.5 40.1 0 56.4 35 96.1 2-Melryinaphthalene 22.5.07 2.5 40.1 0 56.4 35 96.1 Acenaphthene 24.30 2.5 40.1 0 62.5 48.3 95.1 Acenaphthene 2.460 0.80 4.01 0 61.3 46.8 93.4 Fluorene 1.290 0.80 2.01 0 64.2 48.7 104 Phenanthrene 1.290 0.80 2.01 0 64.2 48.7 104 Phenanthrene 1.1290 0.80 2.01 0 64.2 48.7 104 Phen	Analyte	Result	PQL SPK value	SPK Ref Val	%REC	LowLimit HighLim	iit RPD Ref Val	%RPD RPDLimit	Oual
1-MelryInaphthalene 23.19 2.5 40.1 0 57.8 34.7 100 2-MelryInaphthalene 22.54 2.5 40 0 56.4 35 98.1 2-MelryInaphthalene 22.54 2.5 40 0 56.4 35 98.1 Acenaphthylene 25.07 2.5 40.1 0 62.5 48.3 95.1 Acenaphthylene 2.450 0.80 4.01 0 61.3 45.6 95.1 Acenaphthree 2.460 0.80 4.01 0 61.3 46.8 95.4 Fluorene 2.460 0.60 2.01 0 61.3 46.8 93.4 Phenathrene 1.290 0.60 2.01 0 64.2 48.7 104 No Detected at the Reporting Limit R Pholding times for preparation or analysis exceeded J Analyte detected helow quantitation timits No Detected at the Reporting Limit R Pholding times for preparation or analysis exceeded J Analyte detected helow quantitation timits	Naphthalene	23.55	2.5 40	0	58.9	34.8 97.	4		
2-Methylnaphthalene 22.54 2.5 40 0 56.4 35 98.1 Acenaphthylene 25.07 2.5 40.1 0 62.5 48.3 95.1 Acenaphthylene 24.30 2.5 40.1 0 60.8 45 95 Acenaphthene 24.30 2.5 40.1 0 61.3 45.6 95 Fluorene 24.30 2.6 40.1 0 61.3 45.6 95 Phenathrene 2.460 0.80 4.01 0 61.3 46.8 93.4 Phenathrene 1.290 0.60 2.01 0 64.2 48.7 104 Value above quantitation range H Holding times for preparation or analysis exceeded J Analyte detected helow quantitation limits ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits	1-Melhyinaphthalene	23.19	2.5 40.1	0	57.8	34.7 10	0		
Acenaphthylene 25.07 2.5 40.1 0 62.5 48.3 95.1 Acenaphthene 24.30 2.5 40 0 60.8 45 95 Fluorene 24.30 2.5 40 0 61.3 46.8 93.4 Phenanthrene 1.290 0.60 2.01 0 64.2 48.7 104 Phenanthrene 1.290 0.60 2.01 0 64.2 48.7 104 Value above quantitation range H Holding times for preparation or analysis exceeded J Analyte detected helow quantitation limits ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits	2-Methylnaphthalene	22.54	2,5 40	0	56.4	35 98.	*		
Acenaphhene 24.30 2.5 40 0 60.8 45 95 Fluorene 2.460 0.80 4.01 0 61.3 46.8 93.4 Phenarthrene 1.290 0.60 2.01 0 64.2 48.7 104 Qualifiers: E Value above quantitation range H Holding times for preparation or analysis exceeded J Analyte detected helow quantitation limits ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits	Acenaphthylene	25.07	2.5 40.1	0	62.5	48.3 95.	***		
Fluorene 2.460 0.80 4.01 0 61.3 46.8 93.4 Phenanthrene 1.290 0.60 2.01 0 64.2 48.7 104 Qualifiers: E Value above quantitation range H Holding times for preparation or analysis exceeded J Analyte detected helow quantitation limits ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits	Acenaphthene	24.30	2.5 40	0	60.8	45 9	5		
Phenanthrene 1.290 0.60 2.01 0 64.2 48.7 104 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	Fluorene	2.460	0.80 4.01	0	61.3	46.8 93.	4		
Qualifiers: E Value above quantitation range H Holding times for preparation or analysis exceeded J Analyte detected helow quantitation limits ND NO Detected at the Reporting Limit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits	Phenanthrene	1.290	0.60 2.01	0	64.2	48.7 10	4		
ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits	Oualifiers: E Value	above quantitation range	PloH H	ing times for preparation	n or analysis	exceeded J	 Analyte detected h	elow quantitation limits	
	ND Not Di	etected at the Reporting Limit	R RPD	outside accepted recover	ery limits	S	Spike Recovery ou	itside accepted recovery limits	
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 CLIENT:
 Giant Refining Co

 Work Order:
 0602041

 Project:
 NMED Monthly Water Samples 1/31/2006

ANALYTICAL QC SUMMARY REPORT

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TestCode: 8310_W

Sample ID: LCS-9712	SampType: LCS	TestCor	le: 8310_W	Units: µg/L		Prep Dat	e: 2/6/2006	RunNo: 18291	
Client ID: ZZZZ	Balch ID: 9712	Test	la: SWB310	(SW3510C)		Anatysis Dat	e: 2/13/2006	SeqNo: 450973	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimi	t Oual
Anthracene	1.330	0.60	2.01	D	66.2	47.5	102		
Fluoranthene	2.730	0.30	4.01	0	68.1	46.3	108		
Pyrene	2.700	0.30	4.01	0	67.3	43.8	109		
Benz(a)anthracene	0.2800	0.020	0.401	0	69.8	40.3	115		
Chrysene	1.350	0.20	2.01	0	67.2	42.6	107		
Benzo(b)fluoranthene	0.3300	0.050	0.501	o	62.9	48.6	107		
Benzo(k)fluoranthene	0.1700	0.020	0.25	0	68.0	23.3	136		
Benzo(a)pyrene	0.1800	0.020	0.251	0	71.7	33.4	117		
Dibenz(a.h)anthracene	0.3300	0.040	0.501	a	65.9	27.3	139		
Benzo(g,h,i)perylene	0.3600	0.030	0.5	0	72.0	38.2	117		
Indeno(1,2,3-cd)pyrene	0.7650	0.080	1.002	O	76.3	39.9	125		

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Analyte detected below quantitation limits Spike Recovery outside accepted recovery limits

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H Holding times for preparation or analysis exceeded
 R RPD outside accepted recovery limits

Qualifiers: E Value above quantitation range ND Not Detected at the Reporting Limit 5 Jor o Bad

NMED Monthly Water Samples 1/31/2006 **Giant Refining Co** 0602041 Work Order: CLIENT: Project:

ANALYTICAL QC SUMMARY REPORT

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TestCode: HG_CTW

Sample ID: MB-9774	SampType: MBLK	TestCod	B: HG_CTW	Units: mg/L		Prep Date	e: 2/15/200	36	RunNo: 182	73	
Client ID: ZZZZ	Batch ID: 9774	TestN	o: SW7470	(SW7470)	-	Analysis Dalı	e: 2/15/20(J 6	SegNo: 450	1494	
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	QN	0.00020									
Sample ID: LCS-9774	SampType: LCS	TestCodi	B: HG_CTW	Units: mg/L		Prep Date	a: 2/15/200)G	RunNo: 182	13	
Client ID; ZZZZ	Batch ID: 9774	TestN	o: SW7470	(SW7470)	-	Analysis Dat	e: 2/15/20() 6	SeqNo: 450	495	
Analyte	Result	POL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Vat	048%	RPDLimit	Qual
Mercury	0.004592	0.00020	0.005	Ð	91.8	80	120				

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нч E Value above quantitation range
 ND Not Detected at the Reporting Limit

Qualifiers:

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- Holding times for preparation or analysis exceeded RPD outside accepted recovery limits

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- Spike Recovery outside accepted recovery limits

- Analyte detected helow quantitation limits

CLIENT:	Giant Refining Co					ANAL	YTICAI	L QC SU	MMARY	REPO	RT
work Urder: Project:	0002041 NMED Monthly Water Samples 1.	/31/2006					Te	stCode: N	AETALS_1	OTAL	
Sample ID: MB-972	9 SampType: MBLK	TestCoc	le: Metals_1	ro Units: mg/L		Prep Date	e: 2/8/2006		RunNo: 182	104	
Client ID: ZZZZ	Batch ID: 9729	Testh	lo: SW6010A			Analysis Dati	e: 2/9/2006		SeqNo: 448	1810	
Analyte	Result	Pal	SPK value	SPK Reî Val	%REC	LowLimit	HighLimit F	RPD Ref Val	%RPD	RPDLimit	Oual
Arsenic	QN	0.020									
Barium	QN	0.020									
Cadmium	QN	0.0020									
Chromium	QN	0.0060									
Lead	QN	0.0050									
Selenium	QN	0.050									
Silver	QN	0.0050									
Sample ID: LCS-97	29 SampType: LCS	TestCoc	le: METALS_1	ro Units: mg/L		Prep Date	e: 2/8/2006		RunNo: 182	04	
Citent ID: ZZZZZ	Balch ID: 9729	Testh	lo: SW6010A			Analysis Dat	e: 2/9/2006		SeqNo: 448	811	
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit F	RPD Ref Val	ОЧЯ%	RPDLimit	Qual
8 Arsenic	0.5173	0.020	0.5	0	103	80	120				
- Jarium	0.4809	0.020	0.5	0.0004845	96.1	80	120				
S Cadmium	0.4939	0.0020	0.5	0	98.8	80	120				
Chromium	0.4842	0.0060	0.5	0	96.8	80	120				
Lead	0.4799	0.0050	0.5	0	96.0	80	120				
Selenium	0.4987	0.050	0.5	0	29,7	80	120				
Silver	0.5003	0.0050	0.5	Q	100	80	120				
Sample ID: LCSD-9	729 SampType: LCSD	TestCod	e: METALS_1	ro Units: mg/L		Prep Date	e: 2/8/2006		RunNo: 182	04	
Client fD: ZZZZ	Batch ID: 9729	TestN	io: SW6010A			Analysis Dati	e: 2/9/2006		SeqNo: 448	812	
Analyte	Result	Par	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit F	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5084	0.020	0.5	Q	102	BO	120	0.5173	1.73	20	
Barium	0.4860	0.020	0.5	0.0004845	97.1	80	120	0.4809	1.06	20	
Cadmium	0.4907	0.0020	0.5	•	98.1	80	120	0.4939	0.644	20	
Chromium	0.4869	0.0060	0.5	0	97.8	80	120	0.4842	0.986	20	
Lead	0.4790	0.0050	0.5	Ö	95.8	80	120	0.4799	0.178	20	
Selenium	0.4941	0.050	0.5	o	98.8	80	120	0.4987	0.928	20	
Qualifiers: Ê	Value above quantitation range Not Concord of the Denomine 1 init		H Holdin	g times for preparation	n or analysi timits	s exceeded	L An Sui	alyte detected h ike Recovery ou	ielow quantitatio ueide accented e	a limits crower limits	
2	אסן ספוברוכם מו וזוכ וצבאסווווול בשוווי		2				2			P(2 Jo Q 2

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CLIENT:	Giant Refining Co
Vork Order:	0602041
roject:	NMED Monthly Water Samples 1/31/2006

ANALYTICAL QC SUMMARY REPORT

TestCode: METALS_TOTAL

Sample ID: LCSD-9729	SampType: LCSD	TestCoo	le: METALS	TO Units: mg/L		Prep Dat	e: 2/8/2006		RunNo: 182	204	
Client ID: ZZZZ	Batch (D: 9729	Testh	lo: SW6010A		4	Inalysis Dat	e: 2/9/2006		SeqNo: 448	3812	
Analyte	Result	Par	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Quai
Silver	0.5066	0.0050	0.5	0	101	80	120	0.5003	1.26	20	

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Analyte detected below quantitation limits Spike Recovery outside accepted recovery limits - v

Holding times for preparation or analysis exceeded RPD outside accepted recovery limits нч

E Value above quantitation range ND Not Detected at the Reporting Limit

Qualifiers:

Hall Enviror	imental Analysis Laboratory
CLIENT:	Giant Refining Co
Work Order:	0602041
Project:	NMED Monthly Water Samples 1/3 1/2006

Date: 17-Feb-()6

NALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample IU: 5mL rb-b	Sampiype: MBLK	IestCo	de: 8260_W	Units: pg/L	_	Prep Uate:			KUNNO: 182	60	
Client ID: ZZZZ	Batch ID: R18209	Test	40: SW82608	-	Ana	Ilysis Date:	2/9/20	06	SeqNo: 448	981	
Analyte	Result	Par	SPK value	SPK Ref Val	%REC Lo	wLimit Hi	ghLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	QN	0. 1									
Toluane	QN	1.0									
Ethylbenzene	QN	1.0									
Methyl tert-butyl ether (MTBE)	R	1.0									
1,2,4-Trimethylbenzene	QN	1.0									
1,3,5-Trimethylbenzene	Q	1.0									
1,2-Dichloroethane (EDC)	Q	1.0									
1.2-Dibromoethane (EDB)	QN	1.0									
Naphthalene	R	2.0									
1-Methylnaphthalene	QN	4.D									
2-Methylnaphthalene	QN	4.D									
/ Acetone	QN	0 1									
C Bromobenzene	QN	1.0									
Bromochloromethane	QN	1.0									
Bromodichloromethane	QN	1.0									
Bromoform	QN	1.0									
Bromomethane	Q	2.0									
2-Butanone	QN	10									
Carbon disulfide	QN	5									
Carbon Tetrachloride	ON	2.0									
Chlorobenzene	QN	1.0									
Chloroethane	ON	2.0									
Chlaroform	QN	1.0									
Chloromethane	ΩN	1.0									
2-Chlorotoluene	QN	1.0									
4-Chlarotoluene	QN	1.0									
cis-1,2-DCE	QN	1.0									
cis-1.3-Dichloropropene	QN	1.0									
1,2-Dibromo-3-chloropropane	ND	2.0									
, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,			- 35 1 - 19	- - - -				•		ŗ	
Qualifiers: E value apove y	uantitation range			If times for preparation	or analysis exc	eeded		Analyte detected het	ow quantitation	limits	
ND Not Detected t	at the Reporting Limit		к крио	nutside accepted recover	y limits		s	Spike Recovery outs	ide accepted rec	covery limits	

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CLIENT: Giant R	efining Co				7	ANALYT	ICAL QC SI	JMMARY REPO	RT
Project: NMED	l Monthlv Water Samples 1/3	1/2006					TestCode:	8260_W	
Sample ID: 5mL rb-b	SampType: MBLK	TestCod	e: 8260_W	Units: µg/L		Prep Date:		RunNo: 18209	
Client ID: ZZZZZ	Batch ID: R18209	TestN	o: SW8260B		A	nalysis Date: 2	<i>\</i> 9/2006	SeqNo: 448981	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit High	Limit RPD Ref Val	%RPD RPDLimit	Ouai
Dibromochloromethane	ą	1.0							
Dibromomethane	an	2.0							
1,2-Dichlorobenzene	QN	1.0							
1,3-Dichlorobenzene	QN	1.0							
1,4-Dichlorobenzene	QN	1.0							
Dichlorodifluoromethane	QN	1.0							
1,1-Dichloroethane	QN	2.0							
1,1-Dichloroethene	ON	1.0							
1,2-Dichloropropane	QN	1.0							
1,3-Dichloropropane	QN	1.0							
2,2-Dichloropropane	QN	2.0							
1,1-Dichloropropene	ON	1.0							
T Hexachlorobutadiene	QN	2.0							
C 2-Hexanone	QN	6							
sopropylbenzene	ON	1.0							
4-Isopropyltoluene	ON	1.0							
4-Methyl-2-pentanone	QN	9							
Methylene Chloride	QN	3.0							
п-Butylbenzene	QN	1.0							
n-Propylbenzene	ON	1.0							
sec-Bulyibenzene	GN	1.0							
Styrene	DN	D. 1							
tert-Bulylbenzene	ND	1.0							
1,1,1,2-Tetrachloroethane	ON	1.0							
1,1,2,2-Tetrachloroethane	QN	1.0							
Tetrachloroethene (PCE)	QN	1.0							
trans-1,2-DCE	QN	1.0							
trans-1,3-Dichloropropene	ON	1.0							
 2,3-Trichlorobenzene 	QN	1.0							
1,2,4-Trichlorobenzene	<u>ON</u>	1.0							
1,1,1-Trichloroethane	QN	1.0							
Qualifiers: E Value abo	ove quantitation range		H Holding	g times for preparation	i or analysis e	xccdcd	J Analyte detected	below quantitation limits	
ND Not Detec	sted at the Reporting Limit		R RPD ou	straide accepted recove	ry limits		S Spike Recovery a	utside accepted recovery fimits	
								C	

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Giant Refining Co 0602041 Work Order: CLIENT:

ANALYTICAL QC SUMMARY REPORT

Project: NMED	Monthly Water Samples 1/3	11/2006									
Sample ID: 5mL rb-b	SampType: MBLK	TestCod	le: 8260_W	Units: µg/L		Prep Date			RunNo: 1821	6(
Client ID: ZZZZ	Batch ID: R18209	TestN	lo: SW8260B			Analysis Date	: 2/9/200	G	SeqNo: 448!	381	
Analyte	Result	Par	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	047%	RPDLimit	Qual
1,1,2-Trichloroethane	QN	1.0									
Trichloraethene (TCE)	QN	1.0									
Trichlorofluoromethane	QN	1.0									
1,2,3-Trichloropropane	QN	2.0									
Vinyl chloride	an	1.0									
Xyienes, Total	QN	1.0									
Sample ID: 100ng lcs	SampType: LCS	TestCod	e: 8260_W	Units: µg/L		Prep Date			RunNa: 182(6	
Client ID: ZZZZ	Batch ID: R18209	TestN	o: SW8260B		,	Analysis Date	: 2/9/200	5	SeqNo: 4485	182	
Analyte	Result	POL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	ИКРD	RPDLimit	Qual
, Benzene	22.54	1.0	20	0	113	79.3	136				
C Taluene	20.83	1.0	20	o	104	65.5	123				
Chlorobenzene	21.50	1.0	20	a	108	80.3	134				
1.1-Dichlaroelhene	22.89	1.0	20	o	114	65.5	134				
Trichloroethene (TCE)	21.51	1.0	20	0	108	85.6	119				
Sample ID: 100ng lcsd	SampType: LCSD	TestCod	e: 8260_W	Units: µg/L		Prep Date			RunNo: 1820	6	
Client ID: ZZZZ	Batch ID: R18209	TestN	o: SW8260B		-	Analysis Date	: 2/9/2006	ç	SeqNo: 4485	83	
Analyte	Result	Par	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.29	1.0	20	O	106	81.4	130	22.54	5.68	11	
Toluene	21.23	1.0	20	۵	106	65.5	123	20.83	1.89	12.2	
Chlorobenzene	21.02	1.0	20	0	105	80.3	134	21.5	2.26	12	
1,1-Dichloroethene	21.18	1.0	20	0	106	65.5	134	22.89	7.76	19.3	
Trichloroethene (TCE)	20.76	1.0	20	0	104	75.8	110	21.51	3.57	15.5	

Page 3 of 3

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Spike Recovery outside accepted recovery limits J Analyte detected below quantitation limits
 S Spike Recovery outside accepted recovery lit

Holding times for preparation or analysis exceeded RPD outside accepted recovery limits

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E Value above quantitation range ND Not Detected at the Reporting Limit

Qualifiers:

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name GIANTREF	IN	•	•	Date and Time	Received:	2/3	3/2006
Work Order Number 060	02041			Received by	LMM		
Checklist completed by	Liber Hall	Kudd	2/3 Date	108			
Matrix		Carrier name	<u>UPS</u>				
Shipping container/cooler	in good condition?		Yes 🗹	No 🗔	Not Present		
Custody seals intact on sl	hipping container/cooler?		Yes 🗹	No 🗖	Not Present	Not Shipped	
Custody seals intact on s	ample bottles?		Yes 🗌	No 🗹	N/A Ĺ		
Chain of custody present	?		Yes 🗹	No 🗌			
Chain of custody signed v	when relinquished and red	ceived?	Yes 🗹	No 🗔			
Chain of custody agrees	with sample labels?		Yes 🗹	No 🗖			
Samples in proper contail	ner/bottle?		Yes 🗹	No 🗔			
Sample containers intact	?		Yes 🗹	No 🗔			
Sufficient sample volume	for indicated test?		Yes 🗹	No 🗔			
All samples received with	nin holding time?		Yes 🗹	No 🗔			
Water - VOA vials have z	ero headspace?	No VOA vials subm	nitted 🔲	Yes 🗹	No 🗆		
Water - pH acceptable up	oon receipt?		Yes 🗹	No 🗆	N/A		
Container/Temp Blank te	mperature?		3°	4° C ± 2 Accepta If given sufficient	ible time to cool		
COMMENTS:							
<u> </u>							
Client contacted		Date contacted:		Pers	on contacled		
Contacted by:	F	Regarding	. и				
Comments:				, 			
						····· ·· ·	• •• •
				anna anna an anna an anna an an an an an			
•email	· · - · · · · · · · · · · · · ·						
	······································						
Corrective Action					····	· - · · · · · · ·	

23/23

HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D Albuquenque, New Mexico 87109 Tel. 505.345.3975 Fax 505.345.4107 www.hallenvironmental.com	(1 300) 8 000 4 100 4 100 (1 300) 8 000 4 100 4 100 (1 300) 80 150 (GasyDiesel) (1 800 400 80 10 (1 80 400 504.1) (1 80 400 504.1) (1 80 400 50 (1 80 80 (1 80	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	merks: Kuch
QA/QC Package: Std Level 4 Other: Project Name: NMED gNEn ZNG Water Stamples /-3/-2006 Project #:	Project Manager: Sampler: The All All All All All All All All All Al		Received By: (Signature)
CHAIN-OF-CUSTODY RECORD Client Coloring States of Control Control	Fax #: 505.722-5853 Fax #: 505.722-5853 Date Time Matrix Sample I.D. No.	1-31-06 1130 120 120 12-27-EPU 1) 1300 1) NAPTS 1) 1400 1) 126275 1) 1400 1) 126275 10 1400 1) 126277 10 1400 1) 126275 10 1400 10 1000 10 1400 10 140000000000000000000000000000000000	2-2-06 0700 Clare by congrammer of Control Date: Time: Relinquished By: (Signature)

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COVER LETTER

Wednesday, March 01, 2006

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

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

RE: OAPIS Effluent Week of 2-10-2006

Dear Steve Morris:

Order No.: 0602104

Hall Environmental Analysis Laboratory received 1 sample(s) on 2/10/2006 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 Albuquergue, NM 87109 505.345.3975 Fax 505.345.4107 www.hallenvironmental.com

Hall Enviror	mental Analysis Laboratory	Date: 01-Mar-06
CLIENT:	Giant Refining Co	
Project:	OAPIS Effluent Week of 2-10-2006	CASE NARRATIVE
Lab Order:	0602104	

EPA Method 8310: The LCSD has RPD data that is slightly outside of the standard limits. All percent recoveries were within acceptable limits.

Hall Envir	onmental Analysi	is Laborat	tory	Date:	01-M	ar-06
CLIENT:	Giant Refining Co			Client Sample ID:	OAPI	S
Lab Order:	0602104			Collection Date:	2/9/20	006 8:00:00 AM
Project:	OAPIS Effluent Week	of 2-10-2006		Date Received	2/10/2	2006
	0(00104.01	01 2 10 2000		Motriv		FOUS
	0602104-01					
Analyses		Result	PQL Q	Qual Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE					Analyst: SCC
Diesel Range O	Organics (DRO)	5.5	1.0	mg/L	1	2/16/2006 12:01:10 AM
Motor Oil Range	e Organics (MRO)	ND	5.0	mg/L	1	2/16/2006 12:01:10 AM
Surr: DNOP		124	58-140	%REC	1	2/16/2006 12:01:10 AM
EPA METHOD	8015B: GASOLINE RANG	GE				Analyst: NSB
Gasoline Range	e Organics (GRO)	4.1	1.0	mg/L	20	2/11/2006 3:54:35 AM
Surr: BFB		105	79.7-118	%REC	20	2/11/2006 3:54:35 AM
EPA METHOD	8310: PAHS					Analyst: JMP
Naphthalene		230	25	µg/L	10	2/24/2006 12:53:42 PM
1-Melhylnaphth	alene	ND	2.5	µg/L	1	2/23/2006 11:18:00 PM
2-Methylnaphth	alene	4.2	2.5	µg/L	1	2/23/2006 11:18:00 PM
Acenaphthylene	9	ND	2.5	µg/L	1	2/23/2006 11:18:00 PM
Acenaphthene		ND	2.5	µg/L	1	2/23/2006 11:18:00 PM
Fluorene		ND	0.80	μg/L	1	2/23/2006 11:18:00 PM
Phenanthrene		2.2	0.60	µg/L	1	2/23/2006 11:18:00 PM
Anthracene		ND	0.60	µg/L	1	2/23/2006 11:18:00 PM
Fluoranthene		0.35	0.30	µg/L	1	2/23/2006 11:18:00 PM
Pyrene		0.75	0.30	µg/L	1	2/23/2006 11:18:00 PM
Benz(a)anthrac	ene	0.060	0.020	µg/L	1	2/23/2006 11:18:00 PM
Chrysene		0.23	0.20	µg/L	1	2/23/2006 11:18:00 PM
Benzo(b)fluorar	nthene	ND	0.050	µg/L	1	2/23/2006 11:18:00 PM
Benzo(k)fluorar	nihene	0.020	0.020	µg/L	1	2/23/2006 11;18:00 PM
Benzo(a)pyreni	8	ND	0.020	μg/L	1	2/23/2006 11:18:00 PM
Dibenz(a,h)anli	hracene	0.040	0.040	µg/L	1	2/23/2006 11:18:00 PM
Benzo(g,h,i)per	гуlеле	ND	0.030	µg/L	1	2/23/2006 11:18:00 PM
Indeno(1,2,3-ca	d)pyrene	ND	0.080	1)eq	1	2/23/2006 11:18:00 PM
Surr: Benzo((e)pyrene	69.4	54-102	%REC	1	2/23/2006 11:18:00 PM
EPA METHOD	7470: MERCURY					Analyst: CMC
Mercury		ND	0.00020	mg/L	1	2/15/2006
EPA 6010: TO	TAL RECOVERABLE ME	TALS				Analyst: NMC
Arsenic		ND	0.020	mg/L	1	2/17/2006 10:19:42 AM
Barium		0.22	0.020	mg/L	1	2/17/2006 10:19:42 AM
Cadmium		ND	0.0020	mg/L	1	2/17/2006 10:19:42 AM
Chromium		0.0090	0.0060	mg/L	1	2/17/2006 10:19:42 AM
Lead		ND	0.0050	mg/L	1	2/17/2006 10:19:42 AM

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

Page 1 of 3

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Hall Envir	onmental Analys	is Laborat	tory	D	ate:	01-М	ar-06
CLIENT: Lab Order: Project: Lab ID:	Giant Refining Co 0602104 OAPIS Effluent Week 0602104-01	of 2-10-2006		Client Sample Collection D Date Receiv Mat	ID: ate: /ed: rix:	OAPI 2/9/20 2/10/2 AQUI	S 906 8:00:00 AM 2006 EOUS
Analyses		Result	PQL	Qual Units		DF	Date Analyzed
EPA 6010: TOT	AL RECOVERABLE ME	TALS					Analyst NMO
Selenium		ND	0.050	ma/L		1	2/17/2006 10:19:42 AM
Silver		ND	0.0050	mg/L		1	2/17/2006 10:19:42 AM
EPA METHOD	8260B: VOLATILES						Analysi: KTM
Benzene		340	50	ua/L		50	2/19/2006
Toluene		610	50	ug/L		50	2/19/2006
Ethylbenzene		ND	50	μg/L		50	2/19/2006
Methyl tert-butyl	l ether (MTBE)	ND	50	ua/L		50	2/19/2006
1.2.4-Trimethylt	Jenzene	95	50	ua/L		50	2/19/2006
1.3.5-Trimethvit	enzene	60	50	ua/L		50	2/19/2006
1.2-Dichloroetha	ane (EDC)	ND	50	ua/L		50	2/19/2006
1.2-Dibromoeth:	ane (EDB)	ND	50	µg/l.		50	2/19/2006
Naphthalene	()	ND	100	uo/L		50	2/19/2006
1-Methvinaphth;	alene	ND	200	µg/= µo/l.		50	2/19/2008
2-Methvinaphth	alene	ND	200	uo/l.		50	2/19/2008
Acelone		ND	500	uo/L		50	2/19/2006
Bromobenzene		ND	50	га/= uo/L		50	2/19/2006
Bromochlorome	Ithane	ND	50	19/1		50	2/19/2006
Bromodichlorom	nethane	ND	50	uo/l		50	2/19/2006
Bromoform		ND	50	F3/⊂		50	2/19/2006
Bromomethane		ND	100	r9- ua/l		50	2/19/2006
2-Butanone		ND	500	19/L		50	2/10/2006
Carbon disulfide	9	ND	500	P9/2		50	2/10/2006
Carbon Teirach	loride	ND	100	P9/-		50	2/10/2006
Chlorohenzene			50	10/l		50	2/10/2006
Chloroethane		ND	100			50	2/10/2006
Chloroform		ND	50	р <u>а</u> /с ио/1		50	2/10/2000
Chloromethane		NO	50	µ9/L		50	2/10/2006
2-Chlorotoluene	•		50	pg/c ug/l		50	2/19/2000
4-Chlorotoluene		ND	50	29/E		50	2/10/2006
cis-1.2-DCE	·		50	un/i		50	2/10/2006
cis-1.3-Dichloro	dronene		50	µg/L		50	2/10/2006
1.2-Dibromo-3-r	chloropropane	ND	100	uo/l		50	2/19/2006
Dibromochlorom	nelhane	ND	50	uo/L		50	2/19/2006
Dibromomelhan	18	ND	100	uo/!_		50	2/19/2006
1.2-Dichloroben	zene	ND	50	µg/L		50	2/19/2006
1.3-Dichloroben	zene	ND	50	ua/L		50	2/19/2006
			-•				
1,4-Dichloroben	zene	ND	50	ug/L		50	2/19/2006
1,4-Dichloroben Dichlorodifluoro	izene methane		50 50	μg/L μg/L		50 50	2/19/2006 2/19/2006

Qualifiers: * Value exceeds Maximum Contaminant Level

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E Value above quantitation range

anutation range

Analyte detected below quantitation limits

limits ND Not Detected at t

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

Page 2 of 3

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Hall Enviro	onmental Analysi	is Laborat	ory	I	Date:	01-Ma	ur-06
CLIENT:	Giant Refining Co			Client Sample	e ID:	OAPI	S
Lab Order:	0602104			Collection I	Date:	2/9/20	06 8:00:00 AM
Project.	OAPIS Effluent Week	of 2-10-2006		Data Reco	ivad	2/10/2	006
I -t. ID.	0/02104 01	01 10 2000		Date Rece	triv.		
Lab ID:	0602104-01		· · ···				
Analyses		Result	PQL (Qual Units		DF	Date Analyzed
EPA METHOD 8	260B: VOLATILES						Analyst: KTM
1,1-Dichloroether	пе	ND	50	µg/L		50	2/19/2006
1,2-Dichloropropa	ane	ND	50	µg/L		50	2/19/2006
1,3-Dichloropropa	ane	ND	50	µg/L		50	2/19/2006
2,2-Dichloropropa	але	ND	100	µg/L		50	2/19/2006
1,1-Dichloroprop	ene	ND	50	µg/L		50	2/19/2006
Hexachlorobutad	iene	ND	100	µg/L		50	2/19/2006
2-Hexanone		ND	500	µg/L		50	2/19/2006
Isopropyibenzeni	8	ND	50	µg/L		50	2/19/2006
4-isopropyltoluen	18	ND	50	µg/L		50	2/19/2006
4-Methyl-2-penta	none	ND	500	µg/L		50	2/19/2006
Methylene Chlori	de	ND	150	µg/L		50	2/19/2006
n-Butylbenzene		ND	50	µg/L		50	2/19/2006
n-Propylbenzene	ł	ND	50	µg/L		50	2/19/2006
sec-Butylbenzen	e	ND	50	µg/L		50	2/19/2006
Styrene		ND	50	µg/L		50	2/19/2006
tert-Butylbenzen	9	ND	50	µg/L		50	2/19/2006
1,1,1,2-Tetrachio	roethane	ND	50	µg/L		50	2/19/2006
1,1,2,2-Tetrachlo	proethane	ND	50	µg/L		50	2/19/2006
Tetrachloroethen	ie (PCE)	ND	50	µg/L		50	2/19/2006
trans-1,2-DCE		ND	50	µg/L		50	2/19/2006
trans-1,3-Dichlor	opropene	ND	50	µg/L		50	2/19/2006
1,2,3-Trichlorobe	inzene	ND	50	µg/L		50	2/19/2006
1,2,4-Trichlorobe	enzene	ND	50	μg/L		50	2/19/2006
1,1,1-Trichloroet	hane	ND	50	ug/L		50	2/19/2006
1,1,2-Trichloroet	hane	ND	50	μg/L		50	2/19/2006
Trichloroethene	(TCE)	ND	50	ug/L		50	2/19/2006
Trichlorofluorom	ethane	ND	50	μg/L		50	2/19/2006
1.2.3-Trichloropr	ooane	ND	100	μα/L		50	2/19/2006
Viovi chloride		ND	50	µa/L		50	2/19/2006
Xvienes, Total		810	50	µg/≃		50	2/19/2006
Surr: 1.2-Dich	loroethane-d4	96.6	69.9-130	%REC		50	2/19/2006
Sur: 4-Bromo	fluorobenzene	104	71.2-123	%REC		50	2/19/2006
Surr: Dibromo	lluoromethane	96.1	57.3-135	%REC		50	2/19/2006
Surr: Toluene	-dB	103	81.9-122	%REC		50	2/19/2006

Qualifiers:

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- E Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits

Value exceeds Maximum Contaminant Level

- В Analyte detected in the associated Method Blank
- н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 3 of 3

Laboratory
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Date: 01-Mar-06

Giant Refining Co 0602104 Work Order: **CLIENT:**

TestCode: 8015DRO_W

ANALYTICAL QC SUMMARY REPORT

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Project: OAPIS Eff	tuent Week of 2-10-2006						TestCode:	8015DRO_W		
Sample ID: MB-9756 Client ID: ZZZZZ	SampType: MBLK Batch ID: 9756	TestCod	e: 8015DRO o: SW8015	W Units: mg/L		Prep Date Analysis Date	: 2/13/2006 : 2/15/2006	RunNo: 1823 SeqNo: 4507	15 13	
Analyte	Result	Par	SPK value	SPK Ref Val	%REC	LowLimit 1	HighLimit RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO) Motor Oil Range Organics (MRO)	ON N	1.0 5.0								
Sample ID: LCS-9756 Client ID: ZZZZZ	SampType: LCS Batch ID: 9756	TestCod TestN	e: 8015DRO 0: SW8015	W Units: mg/L		Prep Date: Analysis Date:	2/13/2006 2/15/2006	RunNo: 1823 SeqNo: 4507	15 14	
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit ¹	HighLimit RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.134	1.0	G	٥	103	B1.2	149			
Sample ID: LCSD-9756 0771ent ID: ZZZZ	SampType: LCSD Batch ID: 9756	TestCod TestN	e: 8015DRO o: SW8015	W Units: mg/L		Prep Date: Analysis Date:	2/13/2006 2/15/2006	RunNo: 1823 SeqNo: 4507	13	
C malyte	Result	Par	SPK value	SPK Ref Val	%REC	LowLimit F	lighLimit RPD Ref Val	%RPD	RPDLimlt	Qual
Diesel Range Organics (DRO)	4.902	1.0	S	0	98.0	81.2	149 5.134	4.63	23	

Spike Recovery outside accepted recovery limits Analyte detected helow quantitation limits **-** 3 Holding times for preparation or analysis exceeded RPD outside accepted recovery limits нк E Value above quantitation range ND Not Detected at the Reporting Limit

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Qualifiers:

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CLIENT:	Giant Refining Co
Work Order:	
Project:	OAPIS Effluent Week of 2-10-2006 TestCode: 8015GRO_W

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Project: OAPIS	Effluent Week of 2-10-200	16					TestCode:	8015GRO_W	
Sample ID: 5ML RB	SampType: MBLK	TestCol	je: 8015GRO	W Units: mg/L		Prep Dati	ä	RunNo: 18225	
Client ID: ZZZZ	Batch ID: R18225	Test	Vo: SW8015			Analysis Dat	e: 2/10/2006	SeqNa: 449272	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
Gasoline Range Organics (Gi	d) ND	0.050							
Sample ID: 2.5UG GRO LCS	SampType: LCS	TestCot	1e: 8015GRO	_w Units: mg/L		Prep Dati	ö	RunNo: 18225	
Cilent ID: ZZZZ	Batch ID: R18225	Testh	Jo: SW8015		-	Analysis Dati	e: 2/10/2006	SeqNo: 449273	
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
Gasoline Range Organics (GF	30) 0.5140	0.050	0.5	0	103	82.6	114		

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- s Holding times for preparation or analysis exceeded RPD outside accepted recovery limits нĸ

Analyte detected below quantitation limits Spike Recovery outside accepted recovery limits

Not Detected at the Reporting Limit Value above quantitation range щQ Qualifiers:

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CLIENT: Gian	t Refining Co				ANALY	TICAL QC SU	JMMARY REPORT	
Work Urder: 0602 Project: OAF	104 IS Effluent Week of 2-10-200	6				TestCode:	8310_W	
Sample (D: MB-9801	SampType: MBLK	TestCode	: 8310_W	Units: µg/L	Prep Date	: 2/17/2006	RunNo: 18380	
Client ID: ZZZZZ	Batch ID: 9801	TestNo	: SW8310	(SW3510C)	Analysis Date	: 2/23/2006	SeqNo: 453446	-
Analyte	Result	POL	SPK value	SPK Ref Val	%REC LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit Qual	
Naphthalene	QN	2.5						
1-Methylnaphthalene	ON	2.5						
2-Methylnaphthalene	ND	2.5						
Acenaphthylene	UN	2.5						
Acenaphthene	ON	2.5						
Fluorene	QN	0.80						
Phenanthrene	ND	0.60						
Anthracene	QN	0.60						
Fluoranthene	UN	0.30						
Pyrene	QN	0.30						
Benz(a)anthracene	ND	0.020						
Chrysene	DN	0.20						
A 3enzo(b)fluoranthene	QN	0.050						
	ON	0.020						
J ¹ denzo(a)pyrene	ON	0.020						
Dibenz(a,h)anthracene	UN	0,040						
Benzo(g,h,i)perylene	UN	0.030						
Indeno(1,2,3-cd)pyrene	2	0.080						[
Sample ID: MB-9785	SampType: MBLK	TestCode:	B310_W	Units: µg/L	Prep Date	2/15/2006	RunNo: 18380	
Client ID: ZZZZ	Batch ID: 9785	TestNo	SW8310	(SW3510C)	Analysis Date	2/23/2006	SeqNo: 453453	
Analyte	Result	POL	SPK value	SPK Ref Val	%REC LawLimit H	lighLimit RPD Ref Val	%RPD RPDLimit Qual	
Naphihalene	QN	2.5						1
1-Methylnaphthalene	QN	2.5						
2-Methyinaphthalene	QN	2.5						
Acenaphthylene	QN	2.5						
Acenaphthene	DN	2.5						
Fluorene	ON	0.80						
Phenanthrene	QN	0.60						
Qualifiers: E Value	above quantitation range		H Holdin	g times for preparation	or analysis exceeded	J Analyte detected	below quantitation limits	
ND Not C	letected at the Reporting Limit		R RPD of	utside accepted recover	ry limits	S Spike Recovery c	utside accepted recovery limits	

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CLIENT: Giant Refining Co Work Order: 0602104

ANALYTICAL QC SUMMARY REPORT

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Project: OAPIS	Effluent Week of 2-10-200	5					TestCode	:: 8310_W			
Sample ID: MB-9785	SampType: MBLK	TestCoo	le: 8310_W	Units: µg/L		Prep Date:	2/15/2006	RunNo	: 18380		
Client ID: ZZZZ	Batch ID: 9785	Test	lo: SW8310	(SW3510C)		Analysis Date:	2/23/2006	SeqNo	: 453453		
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit H	IghLimit RPD Ref	Val %F	PD RPD	oLimit 0	Juat
Anthracene	Q	0.60									
Fluoranthene	QN	0:30									
Pyrene	Q	0.30									
Benz(a)anthracene	Q	0.020									
Chrysene	Q	0.20									
Benzo(b)fluoranthene	QN	0.050									
Benzo(k)fluoranthene	QN	0.020									
Benzo(a)pyrene	ON	0.020									
Dibenz(a,h)anthracene	QN	0.040									
Benzo(g,ħ,i)perylene	ON	0:030									
Indeno(1,2,3-cd)pyrene	Q	0.080									
co sample ID: LCS-9801	SampType: LCS	TestCoc	le: 8310_W	Units: pg/L		Prep Date:	2/17/2006	RunNo	18380		
L Slient ID: ZZZZ	Batch ID: 9801	Testh	o: SW8310	(SW3510C)		Analysis Date:	2/23/2006	SeqNo	453447		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit H	ighLimit RPD Ref	Val %F	RPD RPD	lLimit C	lal
Naphthalene	22.76	2.5	40	D	56.9	34.8	97.4				
1-Methylnaphthalene	22.85	2.5	40.1	Ö	57.0	34.7	100				
2-Methylnaphthalene	22.32	2.5	40	Ð	55.8	35	98.1				
Acenaphthylene	24.16	2.5	40.1	0	60.2	48.3	95.1				
Acenaphthene	23.38	2.5	40	0	58.4	45	95				
Fluorene	2.320	0.80	4.01	0	57.9	46.8	93.4				
Phenanthrene	1.310	0.60	2.01	O	65.2	48.7	104				
Anthracene	1.230	0.60	2.01	Ó	61.2	47.5	102				
Fluoranthene	2.570	0.30	4.01	O	64.1	46.3	108				
Pyrane	2.690	0.30	4.01	0	67.1	43.8	109				
Benz(a)anthracene	0.2600	0.020	0.401	0	64.8	40.3	115				
Chrysene	1.370	0.20	2.01	0	68.2	42.6	107				
Benzo(b)fluoranthene	0.3100	0.050	0.501	0	61.9	48.6	107				
Benzo(k)fluoranthene	0.1600	0.020	0.25	0	64.0	23.3	136				
Qualifiers: E Value abo	ve quantitation range		H Holdin	g times for preparatio	n or analysis	exceeded	J Analyte dete	cted below quan	titation limi	IJ	
ND Not Detec	ted at the Reporting Limit		R RPD o	utside accepted recovi	ery limits		S Spike Recov	ery outside acce	pted recover	y limits	

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CLIENT: G	iant Refining Co					ANAL	YTICAI	L QC SI	JMMAR	Y REPC	JRT
Project: 0.	APIS Effluent Week of 2-10-20	06					Te	stCode: {	8310_W		
Sample ID: LCSD-980	1 SampType: LCSD	TestCo	de: 8310_W	Units: µg/L		Prep Da	le: 2/17/2006		RunNo: 18:	380	
Client ID: ZZZZ	Batch ID: 9801	Test	No: SW8310	(SW3510C)		Analysis Da	le: 2/23/2006	10	SegNo: 45;	3448	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit F	RPD Ref Val	UGRPD	RPDLimit	Qual
Naphthalene	24.66	2.5	4	0	61.6	34.8	97.4	22.76	8.01	32.1	
1-Methylnaphthalene	23.80	2.5	40.1	0	59.4	34.7	100	22.85	4.07	32.7	
2-Methylnaphthalene	23.36	2.5	40	0	58.4	35	98.1	22.32	4.55	34	
Acenaphthylene	24.98	2.5	40.1	0	62.3	48.3	95.1	24.16	3.35	38.8	
Acenaphthene	24.39	2.5	40	0	61.0	45	95	23.38	4.23	38.6	
Fluarene	2.420	0.80	4.01	0	60.3	46.8	93.4	2.32	4.22	39.3	
Phenanthrene	1.270	0.60	2.01	0	63.2	48.7	104	1.31	3.10	25	
Anthracene	1.300	0.60	2.01	0	64.7	47.5	102	1.23	5.53	23.9	
Fluoranthene	2.720	0.30	4.01	0	67.8	46.3	108	2.57	5.67	15.7	
Pyrene	2.860	0.30	4.01	D	71.3	43.8	109	2.69	6.13	15.3	
Benz(a)anthracene	0.2800	0.020	0.401	0	69.8	40.3	115	0.26	7.41	119	
Chrysene	1.400	0.20	2.01	0	69.7	42.6	107	1.37	2.17	16.6	
3enzo(b)fluoranthene	0.3200	0.050	0.501	0	63.9	48.6	107	0.31	3.17	21.7	
Jenzo(k)fluoranthene	0.1700	0.020	0.25	0	68.0	23.3	136	0.16	6.06	19.4	
G1 3enzo(a)pyrene	0.1900	0.020	0.251	0	75.7	33.4	117	0.17	11.1	16.7	
Dibenz(a,h)anthracene	0.3500	0.040	0.501	0	66.9	27.3	139	0.34	2.90	17.3	
Benzo(g,h,i)perylene	0.3800	0.030	0.5	o	76.0	38.2	117	0.36	5.41	118	
Indeno(1,2,3-cd)pyrene	0.6920	0.080	1.002	0	69.1	39.9	125	0.652	5.95	17.7	
Sample ID: LCSD-978:	s SampType: LCSD	TestCo	de: 8310_W	Units: µg/L		Prep Dat	e: 2/15/2006		RunNo: 183	180	
Client ID: ZZZZ	Batch ID: 9785	Test	4o: SWB310	(SW3510C)	-	Analysis Dat	e: 2/23/2006		SeqNo: 453	1455	
Analyte	Result	PQL	SPX value	SPK Ref Val	%REC	LawLimit	HighLimit R	PD Ref Val	Q47%	RPDLimit	Qual
Naphthalene	16.55	2.5	40	0	41.4	34.8	97.4	24.25	37.7	32.1	۲ د
1-Methylnaphthalene	17.15	2.5	40.1	0	42.8	34.7	100	24.06	33.5	32.7	ď
2-Methylnaphthalene	16.72	2.5	40	0	41.8	35	98.1	23.56	34.0	34	
Acenaphthylene	20.10	2.5	40.1	0	50.1	48.3	95.1	26.32	26.8	38.8	
Acenaphthene	19.67	2.5	40	a	49.2	45	95	25.79	26.9	38.6	
Fluorene	2.100	0.80	4.01	0	52.4	46.B	93.4	2.67	23.9	39.3	
Phenanthrene	1.150	0.60	2.01	0	57.2	48.7	104	1.43	21.7	25	
OuchBarry F Vn	lue above quantitation conce		H Holdin	a timer for menoratio	similare an e	habaarua	- V	 		1	
	ur aport quantum ungu 1 Datastad at tha Danorting 1 imit			g tultes tut preparatu	ll Ur aunitais limite	י בצרבבחבה		India usuana	onennanne voise		
	ו הכוככוכם מו חוב עבלהויווות בווווני		S NICO	pisiut accepted tecove			nde o	Ke Kecovery al	uiside accepted n	ecovery limits	

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Spike Recovery outside accepted recovery limits

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OAPIS Effluent Week of 2-10-2006 **Giant Refining Co** 0602104 Work Order: CLIENT: Project:

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TestCode: 8310_W

ANALYTICAL QC SUMMARY REPORT

Sample ID: LCSD-9785	SampType: LCSD	TestCot	Je: 8310_W	Units: µg/L		Prep Dat	e: 2/15/20	06	RunNo: 18;	80		
Client ID: ZZZZ	Batch ID: 9785	Testh	4o: SW8310	(SW3510C)		Analysis Dal	e: 2/23/20	06	SeqNo: 45	3455		
Analyte	Result	Par	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Anthracene	1.180	0.60	2.01	0	58.7	47.5	102	1.48	22.6	23.9		
Fluoranthene	2.620	0.30	4.01	0	65.3	46.3	108	3.1	16.8	15.7	æ	
Pyrene	2.590	0.30	4.01	0	64.E	43.B	109	3.15	19.5	15.3	æ	
Benz(a)anthracene	0.2400	0.020	0.401	0	59.9	40.3	115	0.3	22.2	119		
Chrysene	1.260	0.20	2.01	0	62.7	42.6	107	1.54	20.0	16.6	œ	
Benzo(b)fluoranthene	0.3100	0.050	0.501	0	61.9	48.6	107	0.39	22.9	21.7	œ	
Benzo(k)fluoranthene	0.1600	0.020	0.25	o	64.0	23.3	136	0.19	17.1	19.4		
Benzo(a)pyrene	0.1700	0.020	0.251	Ō	67.7	33.4	117	0.2	16.2	16.7		
Dibenz(a,h)anthracene	0.3300	0.040	0.501	0	65.9	27.3	139	0.4	19.2	17.3	œ	
Benzo(g,h,i)perylene	0.3500	0.030	0.5	o	70.0	38.2	117	0.42	18.2	118		
Indeno(1,2,3-cd)pyrene	0.6300	0.080	1.002	0	62.9	39.9	125	0.78	21.3	17.7	a	
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Spike Recovery outside accepted recovery limits J Analyte detected below quantitation limits
 S Spike Recovery outside accepted recovery li

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Holding times for preparation or analysis exceeded RPD outside accepted recovery limits нĸ

Not Detected at the Reporting Limit Value above quantitation range

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Qualifiers:

Giant Refining Co ; 0602104 Work Order: **CLIENT:**

ANALYTICAL QC SUMMARY REPORT

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TestCode: HG CTW

Project:	OAPIS Effluent Week of 2-10-20	306					Ţ	sstCode: H	G_CTW		
Sample ID: MB-977 Client ID: ZZZZ	14 SampType: MBLK Batch ID: 9774	TestCoc	Ja: HG_CTW Jo: SW7470	Units: mg/L (SW7470)		Prep Dat Analysis Dat	e: 2/15/200 e: 2/15/200	9 9	RunNo: 182 SeqNo: 450	73 494	
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	047%	RPDLimit	Quat
Mercury	ON	0.00020							:		
Sample ID: LCS-97	74 SampType: LCS Balth ID: 6774	TestCor	Je: HG_CTW	Units: mg/L		Prep Dat	e: 2/15/200		RunNo: 182	73 404	
Analyte	Result	POL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	KPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.004592	0.00020	0.005	0	91.8	80	120				

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Spike Recovery outside accepted recovery limits Analyte detected below quantitation limits -- v Holding times for preparation or analysis exceeded RPD outside accepted recovery limits нж ! E Value above quantitation range ND Not Detected at the Reporting Limit Value above quantitation range : ! . Qualifiers:

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CLIENT: Giant Refi	ning Co					ANAL	VTICAI	. QC SU	MMARY	/ REPO	RT
Project: 0APIS Ef	fluent Week of 2-10-2006						Te	stCode: N	AETALS_1	OTAL	
Sample ID: MB-9790	SampType: MBLK	TestCod	e: METALS_T	O Units: mg/L		Prep Date	a: 2/16/2006	9	RunNo: 183	05	
Client ID: ZZZZ	Batch ID: 9790	TestN	o: SW6010A			Analysis Date	: 2/17/2000		SeqNo: 451	487	
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit F	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	Q	0.020									
Barium	QN	0.020									
Cadmium	Q	0.0020									
Chromium	ÛN	0.0060									
Lead	Q	0.0050									
Selenium	Q	0.050									
Silver	QN	0.0050									
Sample ID: LCS-9790	SampType: LCS	TestCod	e: METALS_T	O Units: mg/L		Prep Date	: 2/16/2000		RunNo: 183	05	
Client ID: ZZZZ	Balch ID: 9790	TestN	o: SW6010A			Analysis Date	a: 2/17/2006		SeqNo: 451	488	
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit F	RD Ref Val	048%	RPDLimit	Qual
W trsenic	0.5078	0.020	0.5	Þ	102	8	120				
L Jarium	0.4677	0.020	0.5	0	93.5	80	120				
U.Cadmium	0.4914	0.0020	0.5	0	98.3	80	120				
Chromium	0.4802	0.0060	0.5	0	96.0	80	120				
Lead	0.4686	0.0050	0.5	0	93.7	80	120				
Selenium	0.4994	0.050	0.5	0	99.9	80	120				
Silver	0.4998	0.0050	0.5	0.001836	99.6	8	120				
Sample ID: LCSD-9790	SampType: LCSD	TestCod	e: METALS_T	O Units: mg/L		Prep Date	: 2/16/2006		RunNo: 183	05	
Client ID: ZZZZ	Batch ID: 9790	TestN	o: SW6010A		-	Analysis Date	a: 2/17/2006		SeqNo: 451	489	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	PD Ref Val	04PD	RPDLimit	Qual
Arsenic	0.5035	0.020	0.5	0	101	80	120	0.5078	0.848	20	
Barium	0.4740	0.020	0.5	0	94.8	80	120	0.4677	1.34	20	
Cadmium	0.4902	0.0020	0.5	0	98.0	8	120	0.4914	0.239	20	
Chromium	0.4776	0.0060	0.5	0	95.5	80	120	0.4802	0.533	20	
Lead	0.4659	0.0050	0.5	0	93.2	8	120	0.4686	0.589	20	
Selenium	0.5076	0:050	0.5	0	102	80	120	0.4994	1.63	20	
Qualifiers: È Value above ND Not Detected	e quantitation range A at the Reporting Limit		Holding RPD out	times for preparation taide accented recover	1 or analysis rv limite	exceeded	J An S Sni	alyte detected b ke Recovery ou	elow quantitation tside accented re	n limits soverv limits	
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Qual ANALYTICAL QC SUMMARY REPORT %RPD RPDLimit TestCode: METALS_TOTAL SeqNo: 451489 RunNo: 18305 LowLimit HighLimit RPD Ref Val Analysis Date: 2/17/2006 Prep Date: 2/16/2006 %REC TestCode: METALS_TO Units: mg/L SPK Ref Val TestNo: SW6010A SPK value Pol OAPIS Effluent Week of 2-10-2006 Result SampType: LCSD Batch ID: 9790 **Giant Refining Co** 0602104 Sample ID: LCSD-9790 Client ID: ZZZZ Work Order: **CLIENT:** Project: Analyte

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Spike Recovery outside accepted recovery limits Analyte detected below quantitation limits

Holding times for preparation or analysis exceeded RPD outside accepted recovery limits н ч

Value above quantitation range

Not Detected at the Reporting Limit

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Qualifiers:

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	Sample	Receipt Che	cklist				
Client Name GIANTREFIN			Date and Time	Received:		2/	10/2006
Work Order Number 0602104	1		Received by	LMM			
		- 2/10/0 Date	20				
Matrix	Carrier name	UPS					
Shipping container/cooler in good condition?		Yes 🗹		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 r	eceived?	Yes 🗹	No 🗆				
Chain of custody agrees with sample labels?		Yes 🗹	No 🗆				
Samples in proper container/bottle?		Yes 🗹	Νο				
Sample containers intact?		Yes 🗹					
Sufficient sample volume for indicated test?		Yes 🗹	No 🗋				
All samples received within holding time?		Yes 🗹					
Water - VOA vials have zero headspace?	No VOA vials subn	nitted 🗌	Yes 🗹	No 🗍			
Water - pH acceptable upon receipt?		Yes 🗹	No 🗔	N/A 🗌			
Container/Temp Blank temperature?		3°	4° C ± 2 Accepta	ble time to cool,			
COMMENTS:							
							===:
Client contacted	Date contacted:		Pers	on contacted	<u></u>		
Contacted by:	Regarding	<u></u>					
Comments:							
	an an an an an an an an an an an an an a						

Corrective Action							
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EX + WTBE + TMB's (8021) EX + MTBE + TPH (Gasoline Only)	818 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	
GA/GC Package: GA/GC Package: Std □ Level 4 □ Other: Differ: Project Name: Differ: Project #: Manager: Project Manager: Manual Sampler: Manual Sampler: Sampler: Number/Volume Preservative	Numuci, vuonice HgCl ₂ HN0.3 CODIOL HgCl Hargeved Buy (Bign)Aturne)	AVXX ION KINULUCION Received By: (Signature)
CHAIN-OF-CUSTODY RECORD Client: Cant Refining Address: Randa Refining Address: Rever - Ciniga Address:	2/2/06 2800 H= 0 0A PTS PIE Reinquished By: (Signature)	2/9/ 96 0700 Contraction Date: Time: Relinquished By: (Signature)

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, February 28, 2006 1:01 PM
To: Monzeglio, Hope, NMENV; Foust, Denny, EMNRD; Price, Wayne, EMNRD
Subject: FW: 2/25/06 spill

FYI.

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

From: Jim Lieb [mailto:jlieb@giant.com] Sent: Tuesday, February 28, 2006 12:12 PM To: Chavez, Carl J, EMNRD Subject: RE: 2/25/06 spill

Carl:

I did some further checking here. The spilled material is not crude oil but is slop oil from the desalter unit. I thought it was crude because Steve M. had it written down as crude in his report. The desalter is designed to be hard piped to the sewer system. The slop oil from the desalter is blown down periodically into the sewer system otherwise the desalter would malfunction. The slop oil is then skimmed off at the API and sent back into the refinery process.

I revised the form and am having it signed and will email it to you all.

Jim

From: Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us] Sent: Tuesday, February 28, 2006 8:54 AM To: Jim Lieb Cc: Monzeglio, Hope, NMENV Subject: RE: 2/25/06 spill

Jim:

Ok. Yes, 5% will work and Hope Monzeglio thinks it is ok to use 5%. Please make sure the volumes are not equal in future reporting. Please resubmit the report with the new recovered volume and the clarification on the cause of problem with explanation for why crude oil is present in the sewer line. This helps us to understand whether Giant may have a crude oil leak in its sewer line system, etc. 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: <u>CarlJ.Chavez@state.nm.us</u> Website: <u>http://www.emnrd.state.nm.us/ocd/</u>

(Pollution Prevention Guidance is under "Publications")



From: Jim Lieb [mailto:jlieb@giant.com]
Sent: Tuesday, February 28, 2006 8:53 AM
To: Chavez, Carl J, EMNRD
Cc: Ed Riege; Monzeglio, Hope, NMENV; Foust, Denny, EMNRD; Price, Wayne, EMNRD
Subject: RE: 2/25/06 spill

Carl:

The spilled material was crude oil that was in the sewer pipe.

In preparing the form I assumed that the oil was all pumped out. On second thought some oil may have been absorbed by the clay. So I will make an estimate that up to 5 % was absorbed = 0.05×1680 gallons = 84 gallons. Hence the amount recovered is estimated as 1680- 84 = 1596 gallons.

The asterisks were already on the form I have. They do not mean anything.

I will revise the form and re-submit to you and Denny and Hope.

I apologise for any confusion this may have caused. I did'nt mean to be inaccurate.

Sincerely,

Jim Lieb Environmental Engineer

From: Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]
Sent: Tuesday, February 28, 2006 7:44 AM
To: Jim Lieb; Monzeglio, Hope, NMENV
Cc: Ed Riege; Price, Wayne, EMNRD; denny.faust@state.nm.us
Subject: RE: 2/25/06 spill

Jim:

Good morning. The phone message I received on 2/25/06 from Steve Morris of Giant indicated that the release was a crude oil release; however, your report seems to indicate that the release occurred from a sewer line that may have contained oily refinery water. Was the release crude oil or oily water?

Another point of concern from the report is the volume of the release in comparison to the volume recovered. The volumes should not be equal and the concern is that Giant is not accurately recording the true volume recovered on the C-141. Please resubmit the C-141 with the correct volume and cause of problem information. Lastly, is there any reason for the asterisk denoted on the form? 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) 476-3492 E-mail: <u>Carl J.Chavez@state.nm.us</u> Website: <u>http://www.emnrd.state.nm.us/ocd/</u> (Pollution Prevention Guidance is under "Publications") Sent: Monday, February 27, 2006 5:09 PM To: Monzeglio, Hope, NMENV Cc: Ed Riege; Price, Wayne, EMNRD; Chavez, Carl J, EMNRD; denny.faust@state.nm.us Subject: RE: 2/25/06 spill

Hope:

I have prepared a Release Notification and Corrective Action form (Form C-141) for the spill. I will put a hard copy with original signature to you and provide the required 2 copies to the OCD district office in Aztec.

Sincerely,

Jim Lieb

From: Monzeglio, Hope, NMENV [mailto:hope.monzeglio@state.nm.us]
Sent: Monday, February 27, 2006 11:34 AM
To: Jim Lieb; Ed Riege
Cc: Chavez, Carl J, EMNRD; Cobrain, Dave, NMENV; WPRICE@state.nm.us
Subject: RE: 2/25/06 spill

Jim

Thank you for the follow up. NMED would like Giant to collect confirmation soil samples upon excavating to clean soil in the excavation area which the crude spill occurred in. The size of the excavation will determine the number of samples you will need to collect. The samples should be analyzed for EPA Method 8021B for BTEX, EPA Method 8015B for GRO and DRO extended covering the carbon range C32-C36.

Call me with any questions. 505-428-2545

Hope

From: Jim Lieb [mailto:jlieb@giant.com] Sent: Monday, February 27, 2006 12:16 PM To: Monzeglio, Hope, NMENV Cc: Chavez, Carl J, EMNRD; Ed Riege Subject: RE: 2/25/06 spill

Hope:

We are planning to excavate the contaminated soil and place it into 40 yard boxes from Enichem. The boxes will be kept covered with rain repellent tarps. The boxes will be kept on site pending approval by Enichem for disposal as hazardous waste at a permitted TSDF. If Enichem does not have boxes available, we will place the excavated soil onto plastic tarp material and construct an enclosing berm surrounding the soil. I will keep you informed which method of accumulation is used. We will excavate to clean soil based on visual and olfactory observations.

I performed calculation on constituents in the spilled material and have determined that the spilled crude contained an RQ of benzene (80 pounds) and xylene (166 pounds). I reported this information to the NRC today at approx. 11:45 am.

If you have any questions, please contact me by email or at (505) 722-3227 or Ed Riege at (505) 722-3217. Sincerely,

Jim Lieb Environmental Engineer

From: Ed Riege Sent: Monday, February 27, 2006 8:28 AM To: 'Monzeglio, Hope, NMENV' Cc: Jim Lieb Subject: RE: 2/25/06 spill

Page 4 of 5

Hope,

After the contaminated soil is removed there will be no further excavation. Jim is researching the options on the plans for the contaminated soil and will get back with you. We are not sure whether to go with drums or plastic in a bermed area and then ship off site for disposal.

Thanks Ed

> -----Original Message----- **From:** Monzeglio, Hope, NMENV [mailto:hope.monzeglio@state.nm.us] **Sent:** Monday, February 27, 2006 8:18 AM **To:** Ed Riege **Subject:** 2/25/06 spill

Ed

I received the message from Steve this morning about the spill. I have a few questions pertaining to the spill. Is Giant still excavating the area where the spill occurred after the contaminated soil is removed? What are Giants plans for the contaminated soil.

Thanks

Hope

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

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Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD

Sent: Tuesday, February 28, 2006 8:04 AM

To: 'Jim Lieb'; Monzeglio, Hope, NMENV

Cc: Ed Riege; Price, Wayne, EMNRD; denny.faust@state.nm.us

Subject: RE: 2/25/06 spill

Jim:

Good morning. The phone message I received on 2/25/06 from Steve Morris of Giant indicated that the release was a crude oil release; however, your report seems to indicate that the release occurred from a sewer line that may have contained oily refinery water. Was the release crude oil or oily water?

Another point of concern from the report is the volume of the release in comparison to the volume recovered. The volumes should not be equal and the concern is that Giant is not accurately recording the true volume recovered on the C-141. Please resubmit the C-141 with the correct volume information. 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: <u>CarlJ.Chavez@state.nm.us</u> Website: <u>http://www.emnrd.state.nm.us/ocd/</u> (Pollution Prevention Guidance is under "Publications")

From: Jim Lieb [mailto:jlieb@giant.com]
Sent: Monday, February 27, 2006 5:09 PM
To: Monzeglio, Hope, NMENV
Cc: Ed Riege; Price, Wayne, EMNRD; Chavez, Carl J, EMNRD; denny.faust@state.nm.us
Subject: RE: 2/25/06 spill

Hope:

I have prepared a Release Notification and Corrective Action form (Form C-141) for the spill. I will put a hard copy with original signature to you and provide the required 2 copies to the OCD district office in Aztec.

Sincerely,

Jim Lieb

From: Monzeglio, Hope, NMENV [mailto:hope.monzeglio@state.nm.us]
Sent: Monday, February 27, 2006 11:34 AM
To: Jim Lieb; Ed Riege
Cc: Chavez, Carl J, EMNRD; Cobrain, Dave, NMENV; WPRICE@state.nm.us
Subject: RE: 2/25/06 spill

Jim

Thank you for the follow up. NMED would like Giant to collect confirmation soil samples upon excavating to clean soil in the excavation area which the crude spill occurred in. The size of the excavation will determine the number of samples you will need to collect. The samples should be analyzed for EPA Method 8021B for BTEX, EPA Method 8015B for GRO and DRO extended covering the carbon range C32-C36.

Call me with any questions. 505-428-2545

Hope

From: Jim Lieb [mailto:jlieb@giant.com] Sent: Monday, February 27, 2006 12:16 PM To: Monzeglio, Hope, NMENV Cc: Chavez, Carl J, EMNRD; Ed Riege Subject: RE: 2/25/06 spill

Hope:

We are planning to excavate the contaminated soil and place it into 40 yard boxes from Enichem. The boxes will be kept covered with rain repellent tarps. The boxes will be kept on site pending approval by Enichem for disposal as hazardous waste at a permitted TSDF. If Enichem does not have boxes available, we will place the excavated soil onto plastic tarp material and construct an enclosing berm surrounding the soil. I will keep you informed which method of accumulation is used. We will excavate to clean soil based on visual and olfactory observations.

I performed calculation on constituents in the spilled material and have determined that the spilled crude contained an RQ of benzene (80 pounds) and xylene (166 pounds). I reported this information to the NRC today at approx. 11:45 am.

If you have any questions, please contact me by email or at (505) 722-3227 or Ed Riege at (505) 722-3217. Sincerely,

Jim Lieb Environmental Engineer

From: Ed Riege Sent: Monday, February 27, 2006 8:28 AM To: 'Monzeglio, Hope, NMENV' Cc: Jim Lieb Subject: RE: 2/25/06 spill

Hope,

After the contaminated soil is removed there will be no further excavation. Jim is researching the options on the plans for the contaminated soil and will get back with you. We are not sure whether to go with drums or plastic in a bermed area and then ship off site for disposal. Thanks

Ed

-----Original Message----- **From:** Monzeglio, Hope, NMENV [mailto:hope.monzeglio@state.nm.us] **Sent:** Monday, February 27, 2006 8:18 AM **To:** Ed Riege **Subject:** 2/25/06 spill

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Thanks

Hope

Hope Monzeglio Environmental Specialist

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

Form C-141 Revised October 10, 2003

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

Lease No.

1220 South St. Francis Dr. Santa Fe, NM 87505

Release Notification and Corrective Action

	OPERATOR	🛛 Initial Report	Final Report
Name of Company Giant Refining – Ciniza Refinery	Contact Jim Lieb		
Address I-40, Exit 39, Jamestown NM 87347	Telephone No. 505-722-3227		
Facility Name Ciniza Refinery	Facility Type Oil refinery		
			· · · ·

Surface Owner Giant Industries, Inc.

LOCATION OF RELEASE

Mineral Owner Giant Industries, Inc.

Unit LetterSectionTownshipRangeFeet from theNorth/South LineFeet from theEast/West LineCounty23 & 3315N15W15WFeet from theNorth/South LineFeet from theEast/West LineCounty

Latitude <u>35°29'30"</u> Long

Longitude <u>108°24'40"</u>

NATURE OF RELEASE

Type of Release Crude oil	Volume of Release 1,680 gallons	Volume Re	covered 1,680	
Source of Release Main sewer line	Date and Hour of Occurrence	Date and H	our of Discovery 2/24/06	
	2/24/06 1900 hours	1900 hours	-	
Was Immediate Notice Given?	If YES, To Whom? National Resp	onse Center (I	Ms. Rawls)	
🛛 Yes 🗌 No 🗌 Not Required	OCD- Carl Chavez		,	
	NMED – Hope Monzeglio			
By Whom? Steve Morris, within 24 hours of spill	Date and Hour 2/25/06 at 1100 he	ours		
Was a Watercourse Reached?	If YES, Volume Impacting the Wat	ercourse.		
🗌 Yes 🖾 No				
If a watercourse was impacted, Describe Fully.*				
Describe Cause of Problem and Remedial Action Taken *				
Contractors working in sever line excavation inadvertently caused a ston	nlug to become loose which allowed	oil in nine to i	elesse Spill oil was	
immediately numbed out of excavation	plug to become loose which allowed		elease. Spin on was	
minodiatory pumpor out or excuration.				
Describe Area Affected and Cleanup Action Taken *	······································			
Excavation in refinery facility. All of the spill was confined to the excava	tion None of the spill impacted surfa	ace waters T	he spilled material was	
immediately vacuumed up into a vac truck and spill material was put back	c into refinery process system	100 11013. 1	ne spined material was	
	t mo retifiery process system.			
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 n	otifications and perform corrective ac	tions for relea	ses which may endanger	
public health or the environment. The acceptance of a C-141 report by th	e NMOCD marked as "Final Report"	does not relie	ve the operator of liability	
should their operations have failed to adequately investigate and remediat	e contamination that pose a threat to g	round water,	surface water, human health	
or the environment. In addition, NMOCD acceptance of a C-141 report d	oes not relieve the operator of response	sibility for con	npliance with any other	
federal, state, or local laws and/or regulations.	· ·	•		
Δ	OIL CONSERV	ATION I	DIVISION	
Signature: Strend - the				
	Approved by District Supervisor:			
Printed Name: STANWEY DIJISHER				
Title: US MAN	Approval Date:	Expiration D	ate:	
(TURD Q LUANT IN				
E-mail Address: SHOHAK @ ONANI. Con	Conditions of Approval:		Attached	
Data 2 127/11 Phone 702-0203				

Chavez, Carl J, EMNRD

To: Cc: Subject: Leavitt, Marcy, NMENV Menetrey, Karen, NMENV Accepted: FW: NPDES meeting follow-up

Marcy:

I can make it if you think that OCD should be represented at this meeting. If not, the only thing I would bring up is the request by a stakeholder for more OCD cost, FTE, estimated projects information of the OCD.

Karen Menetrey and I agreed the info. request has already been addressed by the OCD; however, Karen Menetrey was unable to update the Internet before the meeting. Karen agreed to add a sentence or two in OCD's PD at the end of OCD's tally of facility types with estimated numbers.

The OCD would like to have the following sentences added by Karen: "The OCD Program is subject to ongoing Federal storm water regulatory changes related to oil and gas facilities; consequently, the exact number of storm water facilities cannot be estimated at this time. In addition, due to the phase-in approach of the state in seeking complete Primacy, the number of FTEs and costs are expected to increase over time as more responsibilities are untertaken."

Thank you.

Chavez, Carl J, EMNRD

From:	Monzeglio, Hope, NMENV
Sent:	Monday, February 27, 2006 12:34 PM

To: Jim Lieb; Ed Riege

Cc: Chavez, Carl J, EMNRD; Cobrain, Dave, NMENV; Price, Wayne, EMNRD

Subject: RE: 2/25/06 spill

Jim

Thank you for the follow up. NMED would like Giant to collect confirmation soil samples upon excavating to clean soil in the excavation area which the crude spill occurred in. The size of the excavation will determine the number of samples you will need to collect. The samples should be analyzed for EPA Method 8021B for BTEX, EPA Method 8015B for GRO and DRO extended covering the carbon range C32-C36.

Call me with any questions. 505-428-2545

Hope

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Jim Lieb Environmental Engineer

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Ed

-----Original Message-----

From: Monzeglio, Hope, NMENV [mailto:hope.monzeglio@state.nm.us]

Sent: Monday, February 27, 2006 8.10 AM To: Ed Riege Subject: 2/25/06 spill

Ed

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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

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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.nmeny.state.nm.us



RON CURRY SECRETARY

DERRITH WATCHMAN-MOORE DEPUTY SECRETARY

CERTIFIED MAIL RETURN RECEIPT REQUESTED

February 23, 2006

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

SUBJECT: INFORMATION REQUEST FOR AERATION LAGOON AND API SEPARATOR FLOW RATE AND CAPACITY GIANT REFINING COMPANY, CINIZA REFINERY NMED ID No. NMD000333211 HWB-GRCC-MISC

Dear Mr. Riege:

The New Mexico Environment Department (NMED) is requesting Giant Refining Company, Ciniza Refinery (the Permittee) provide NMED with the following information:

- a. The average flow-rate of effluent discharged by the "New" API separator on a daily, weekly and monthly basis,
- b. The maximum capacity (volume) of each of the aeration lagoons 1 and 2,
- c. The average daily flow (volume) currently passing through the aeration lagoons to evaporation pond 1,
- d. The maximum flow rate that the aeration lagoons can effectively treat,





Mr. Riege Giant Refining Company Ciniza February 23, 2006 Page 2

- e. The maximum capacity (volume) of wastewater that the "New" API separator can treat and,
- f. The average volume of wastewater that is treated by the "New" API separator on a daily, weekly, and monthly basis.

The information must be submitted to NMED on or before March 24, 2006.

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

Sincerely,

Hope Mangelto

Hope Monzeglio Project Leader Permits Management Program

HM

- cc: *D. Cobrain, NMED HWB W. Price, OCD Santa Fe Office C. Chavez, OCD Santa Fe Office D. Foust, OCD Aztec Office S. Morris, GRCC J. Lieb, GRCC
- File: Reading File and GRCC 2006 File * Denotes electronic copy

Chavez, Carl J, EMNRD

From: Sent: To: Cc:

Subject:

Chavez, Carl J, EMNRD Wednesday, February 22, 2006 11:37 AM 'Ed Riege' Monzeglio, Hope, NMENV; Price, Wayne, EMNRD; Foust, Denny, EMNRD; Steve Morris; Price, Wayne, EMNRD RE: Pilot Station Effluent Summary

Ed:

Good morning. The OCD has reviewed your e-mail related to the above subject with attachments dated February 2, 2006, in response to the OCD's e-mail dated December 28, 2005.

The OCD notices that the letter dated December 12, 1986, references a 1970 publication and the algorithms with assumptions appear valid; however, in future evaluations of the treatment system, there should be more current waste water treatment models available to evaluate Giant's treatment system capacity. Giant may want to consider using current modeling methods in the evaluation of its treatment system.

Giant used flow rates from the travel center and refinery in its calculations of 50,400 gpd and 117,800 gpd, respectively. However, the more recent flow rates from the February 2, 2006 letter are actually around 7,200 gpd, and 151,200 gpd, respectively. The total combined flow rate in 1986 compared to 2006 is 168,200 versus 158,400 respectively; however, the [BOD] is much higher today than in 1986. The OCD notices that flow rates do not reflect maximum flow capacities from the travel center or refinery. Also, the OCD assumes that Cells # 1 and 2 appear to correspond with Aeration Lagoons 1 and 2 (ALs 1 & 2).

As mentioned by Giant, the loading from the OAPI and NAPI was not reflected in the 1986 letter. More recently, the NMED- HWB has required that the OAPI effluent be routed to the NAPI Unit for treatment, based on organic contamination in the influent to the OAPI Unit, which is routed untreated into AL1, and this may also need to be considered in future calculations. Why is the flow rate from the travel center so low, i.e., 5 gpm, and is this the average flow rate? In addition, the OCD is concerned about Giant's ability to increase its treatment capacity, since the refinery has been operating at about 1/2 its treatment capacity; however, at 1/2 capacity, the BOD loading appears to be within the scope of the 1986 letter. What will happen at maximum flow capacities from the travel center and refinery at present day [BOD]?

Consequently, the OCD is in agreement with Giant's February 2, 2006 letter to determine if there are actually any issues with the BOD loading and the ability of Giant's treatment system to handle capacities. More specifically, the OCD is concerned about Giant's treatment system and its ability to handle current and maximum flow capacities. For example, Giant should be looking at maximum flow rates with concentration assumptions from historical sampling of [BOD], etc. Giant should confirm that all aerators in the ALs are functioning as designed and have been and are in operation or fully functional today. If not, the OCD would like to know what operation and maintenance problems associated with the aeration system are, if any.

In addition, for a more current assessment of Giant's treatment capacity, the OCD would like to request that Giant consider monitoring the AL influent and effluent for [Phenol] to determine the % reduction of Phenol. Perhaps Phenol concentrations can be monitored at the influent and effluent of AL1 and at the effluent of AL2? What does Giant think about this? Phenol has been commonly monitored in refinery treatment systems to evaluate the overall efficiency of the treatment system.

The OCD agrees with the consideration in the December 12, 1986 letter about the consideration of several water conservation projects. Have any water conservation projects been implemented at Ciniza?

Finally, July 2006 is acceptable to the OCD. We look forward to receipt of your findings and the consideration of our questions and concerns provided above. 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
Website: http://www.emnrd.state.nm.us/ocd/ (Pollution Prevention Guidance is under
"Publications")

-----Original Message----From: Ed Riege [mailto:eriege@giant.com] Sent: Thursday, February 02, 2006 8:38 AM To: Chavez, Carl J, EMNRD Cc: Monzeglio, Hope, NMENV; Price, Wayne, EMNRD; Foust, Denny, EMNRD; Steve Morris Subject: Pilot Station Effluent Summary

<< 0117081617 001.pdf>> <<RESPONSE LETTER OCD BOD jan06.doc>>

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2

February 2, 2006

Mr. Carl Chavez NM Oil Conservation Division 1220 South St. Francis Drive Santa Fe, NM 87505

Dear Mr. Chavez:

In response to your e-mail dated December 28, 2005, Giant Industries, Inc., Ciniza Refinery (Ciniza), has examined the contribution from the Pilot Station Effluent (PSE) to the aeration lagoon with respect to biological oxygen demand (BOD) and other constituents. As you may remember, the Pilot Station was previously known as the Travel Center and was owned and operated by Giant Industries.

In order to determine the anticipated loading from the PSE, we first looked at the history of the relationship between the refinery and the station and then at the discharges that were anticipated from the facility. The travel center was under construction in 1986 and on December 12, 1986, Bob McClenahan, the Environmental Coordinator for Giant, wrote to Richard Stamets, the Director of New Mexico Oil Conservation Division (NMOCD), to notify him of the construction and the additional discharges to the aeration basin from the facility (see Attachment 1).

In 1986, the design flow from the Travel Center was 35 gallons per minute at a BOD₅ value of 200 mg/L. This amounted to about 85 pounds per day loading to the system. Also at that time, the refinery load was 700 mg/L BOD at about 82 gallons per minute, resulting in approximately 690 pounds of BOD per day.

The biokinetic data and subsequent calculations for refinery wastewaters in the 1986 letter stated that the BOD removal rate coefficient (K_e) was 0.0004 to 0.0009 L/mg-hr, the sludge synthesis coefficient (Y) was 0.35 to 0.46 pounds sludge per pound BOD_r, the O₂ demand for synthesis (a') was 0.91 to 1.06, and the O₂ demand for endogenous respiration (b) was 0.16 to 0.21. Based on these numbers and an average lagoon temperature in summer of 24°C, the following numbers were calculated:

	Cell #1	Cell #2
Volume (Mgal)	0.51	0.85
BOD removal summer (Lbs)	1353	135
O ₂ demand (lbs/hr)	70	24

As you are aware, current conditions are slightly different – the contribution to the aeration lagoons from the Pilot Station is much less in volume but higher in concentration. The average flow to the aeration lagoon from the Pilot Station is approximately 5 gallons per minute and BOD samples ranged from 504 mg/L to 10,500 mg/L during 2005. This has resulted in a BOD loading ranging from 30 to 630 pounds per day.

If the refinery load is approximately 700 mg/L at an average flow of 105 gpm, the loading would be 882 pounds per day. This would mean the total loading could be as high as 1,330 pounds

per day from sources, the refinery and the PSE. This number is almost the exact loading calculated in 1986.

Samples taken at the inlet to aeration lagoon (AL) 2 on January 6, 2006 had a BOD concentration of 369 mg/l, which is 300 mg/L higher than the calculations in 1986. The flows from AL 1 to AL 2 will be dependent upon evaporation from AL 1 and any additional flows to either the new API unit or the oil-water separator to AL 1. Because of this, calculations to determine loading and BOD removal rates at AL 1 are incomplete. However, it does appear that the loading to AL 1 is no greater than that initially predicted in 1986.

Because there is a unique relationship between Ciniza and the Pilot Station, we would like to take some time to determine if there actually is an issue, since the total BOD loading for the facility is within the original anticipated design for the existing number of aeration units and lagoons. In order to close the loop Giant would like to fill in some of the data gaps and obtain the following information:

- BOD going into aeration lagoon 1 (per stream or an aggregate number);
- BOD exiting aeration lagoon 2;
- Flow rate between aeration lagoon 1 and aeration lagoon 2; and
- Total water reporting to aeration lagoon 1 including the API and stormwater separator units.
- Work with operations and engineering to determine what the anticipated increase in flow rate will be due to increase in production.

We have also followed through with the sampling requested in your e-mail on November 30, 2005 and found that the effluent from the travel center does not exceed the RCRA toxicity standards as the quarterly sampling also indicates.

We propose to continue our investigation and, if we determine that the load placed on our AL by the PSE is too great, we would like the opportunity to work with our neighbor to find a costeffective and acceptable solution for both of us. Since the winter months actually require the greater amount of oxygen, and we are more than half way through the winter, we request additional time to work on this problem and come to a mutually acceptable resolution within a nine-month period. In July 2006 we propose to send you documentation of our findings and any plans to remedy the loading, as appropriate and necessary.

Please let me know your thoughts on the data presented and our proposal.

Sincerely,

Ed Riege


ROUTE 3, BOX 7 • GALLUP, NEW MEXICO 87301 (505) 722-3833 • TWX 910-981-0504

December 12, 1986

Richard L. Stamets Director NMOCD P.O. Box 2088 Land Office Building Santa Fe, NM 87501

RE: Addition to Giant's Ciniza Refinery Discharge Plan, GW-32

Dear Mr. Stamets:

As your staff is aware, Giant is building a new Travel Center near our Refinery. We would like to use the new Aeration Basin for biological treatment of the waste water generated from that facility. Enclosed are some pertinent data related to this proposed addition.

The facility is scheduled to commence operations in May of 1987. Waste streams will be generated at four general locations: the truck service area, the truck fuel center, the R.V. dump station, and the main building, which houses restaurants, showers and restroom facilities. Each of these sources will run through at least one 2,000 gallon septic tank for solids and grease removal, in addition to some biological treatment. The waste water will gravity flow from the septic tanks to a lift station. The lift station is designed to pump the water to the Parchell flume at the inlet of the aeration basin (pond #1). The system is designed to gravity flow to pond #9, in case of mechanical problems. (See attached sewer layout for details).

The designed flow from the Travel Center is 35 GPM (50,400 GPD), at a BOD5 value of 200 mg/l. This will result in 85 pounds per day of BOD being treated. The refinery organic load was calculated to be 700 mg/l BOD at 117,800 GPD, or 690 #/day BOD. The total anticipated load to the basin therefore is 775 #/day at 168,200 GPD. The aeration equipment (See Appendix A attached) is designed to provide oxygen for up to 1500 #/day of BOD and result in an annualize average evaporation rate of 16,300 GPD (11.3 GPM). The net increase in water to our evaporation ponds would be 34,100 GPD. Utilizing the equations from Table 6-1 (enclosed) of our Discharge plan application report, the total yearly discharge would increase by 12.4 million gallons (MG), for a total of

A Division of CELENED Industries, Inc. "Loving lorward with the Southwest" Richard L. Stamets December 12, 1936 Page 2

71.2 MG/yr (218.6 AF/yr). Using the calculated pond evaporation capacity of 228.6 AF/yr, results in a conservative pan evaporation rate capacity of 105%. It should be noted that by lake evaporation rates, the pond's capacity is calculated to be 156%. However, due to the marginal amount of calculated excess capacity, several water conservation projects are being considered.

I hope this provides you with adequate information on this proposed change. If you have any questions, please don't hesitate to call me.

Sincerely,

Bor Mullustat

Bob McClenahan, Jr. Environmental Coordinator Giant Refining Company

RLM:ds

Enclosures

cc:

Carl Shook Trent Thomas, Geoscience Consultants, Ltd. Carlos Guerra, Giant Industries Frank Chavez, OCD, Aztec, NM



		TABLE 6-1				
	WATER BALANCE FOR EVAPORATION PONDS -					
MONTH	PRECIP. (IN.)	PAN EVAP. (IN.)	DIFFERENCE (IN.			
Jan	.56	.38	+.18			
Feb	.50	.50	0.00			
Mar	.61	.84	23			
Apr	.43	2.05	-1.62			
May	.43	3.82	-3.39			
June	.52	5.81	-5.29			
July	1.83	7.11	-5.28			
Aug	1.65	5.92	-4.27			
Sep	.99	3.89	-2.90			
Oct	1.17	2.03	86			
Nov	.62	.70 01.6%	08			
Dec	.68	.39	+.29			
	9.99	33.44	-23.45			

Average discharge = 161,000 gallons/day

Yearly Discharge = 365 days x 161,000 gallons/day = 58,765,000 gallons/year

58,765,000 gallons/year x 1 Acre-Foot/325,742 gallons = 180.4 AF/year

Net Pond Evaporation = 23.45 in/year = 1.954 ft/year

Pond Evaporative Capacity = 117 Acres x 1.954 ft/year = 228.6 AF/year

Relative Capacity = $\frac{228.6 \text{ AF/year}}{180.4 \text{ AF/year}}$ = 127%

TC 50, 400

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		DLUMETRICS TOTAL CE	VOLUHE (C 99,76 152,16: 152,16:	702,240	
		SLUDGE POND VC TRIAL #3 JULY 18 1986	7(0.51M5) 31,464 8(0.85405) 31,464 8(0.8545) 39,164 3 100,384	8 • 171,012	
		PONI PONI	68,29 112,99 149,91	531,22	
	386	TOP OF FREEBOARD CONTOUR AREA (SF	16,770 20,754 51,753	OTALS:	
	RECEIVED AUS 1 4 1	TOP OF POILD CONTOUR AREA (SF)	14,694 18,410 48,631	VOLUME T	
		BOTTOM ELEV Area (SF)	10,521 12,141 34,402		
		SPILL	100.0 96.0 96.0	· ·	
		BOTTON ELEV	93.0 87.0 86.0		
	TOPFS	DIAL PLEV	92.0 86.0 85.0		
* .	SIDES	TOP C	-		
		AL	opendix A	•	

The following biokinetic data for refinery wastewaters are taken from Reference #1: a. BOD Removal Rate Coefficient, $(K_e) = 0.0004$ to 0.0009 L/mg-hr

b. Sludge Synthesis Coefficient, (Y) = 0.35 - 0.46 lbs. Sludge/lb. BOD, -

c. O_2 Demand for Synthesis, (a') = 0.91-1.06

d. O_2 Demand for Endogenous Respiration, (b') = 0.16-0.21

Since the above data are based on a bench scale experimental study in the laboratory, 20°C (68°F) temperature will be assumed.

<u>Cell #1:</u> Lagoon Temperature: 24°C* (Summer) Lagoon Temperature: 13.5°C* (Winter) *REFER TO COMPUTER PRINTOUT FOR COOLING CALCULATIONS. Correct BOD Removal Rate Coefficient, K_e for temperature,

 $K_{e_{T}\circ C} = K_{e_{20}\circ C} \times 1.04^{(T-20\circ C)}$

= 0.00065 L/mg-hr (Avg.) x 1.04^{25-20}

= 0.0008 L/mg-hr (Summer)

= 0.019 L/mg-day

 $K_{e_{winter}} = 0.00065 \text{ L/mg-hr} \times 1.04^{13.5-20}$

 $= 0.0005 \, L/mg - day$

= 0.012 L/mg-day

Basin Volume = 0.51 MG

REFER TO COMPUTER PRINTOUT TRIAL ERROR MLVSS v BODr NOTE : Summer conditions control. $BOD_5 \text{ removal} = |714 \text{ mg/l} - 70 \text{ mg/l} = 644 \text{ mg/l}$ lbs BOD_5 removed = 644 mg/l (8.34) 0.252 MGD = 1353 lbs dav Maximum 0_2 Demand = a' (BOD removal) + b' (Ibs MLVSS) lbs MLVSS = 245 mg/1 x 0.5 MG x 8.34 = 1022 lbs MLVSS lbs $0_2 = 1.06 \frac{1 \text{ bs } 0.0}{1 \text{ b BOD}_r} (1353 \text{ lbs } \frac{\text{BOD}}{\text{day}}) + 0.21 \frac{1}{\text{day}}$ (1022 lbs) dav = 1649 lbs 02 day

= 70 lbs/hr REFER TO COMPUTER PRINTOUT FOR FIELD 0_2 TRANSFER RATE CALCULATIONS. Three (3) - 15HP Aqua Jet aerators with anti-erosion assemblies in Cell are recommended.

<u>Cell #2:</u>

Lagoon Temperature = 22.3°C* (Summer) Lagoon Temperature = 4.9°C* (Winter) *REFER TO COMPUTER PRINTOUT FOR COOLING CALCULATIONS Bas in Volume = 0.85 MG

Summer:

REFER TO COMPUTER PRINTOUT TRIAL ERROR MLVSS vs BOD_r . BOD₅ removal = 70 mg/l - 6 mg/l = 64 mg/l lbs BOD₅ removed = 64 mg/l (8.34) 0.252 MGD

= 135 lbs/day

Winter:

BOD₅ removal = 109 mg/l - 12 mg/l = 97 mg/l lbs BOD₅ removed = 97 mg/l (8.34) 0.252 MGD = 204 lbs/day

Winter removal requires largest oxygen supply.

1bs MLVSS = 248 mg/1 x 0.85 MG x 8.34

= 1758 lbs MLVSS

 $1bs \ 0_2 = 1.06 \ \frac{lbs}{lb} \ \frac{0_2}{0} (204 \ \frac{lbs}{day}) + 0.21 \ \frac{1}{day} (1758 \ \frac{lbs}{day})$

 $= 585 \frac{1bs 0_2}{day}$ $= 24 \frac{1bs 0_2}{pr}$



Two (2) - 15 HP Aqua-Jet aerators with anti-erosion assemblies in Cell #2 are recommended.

NOTE: An effluent TSS level of = 300 mg/l should be expected. If the level of discharge is not acceptable, a settling pond (2-3 day will be required.

Also using two - 15 HP aerators in Cell #2 should produce an effluent D.O. level of about 5 mg/l based on the information given. Refer to computer printout.

Reference:

 Ronald L. Dickenson; John T. Giboney; "Stabilization of Refinery Wastewaters with the Activated Sludge Process: Determination of Design Parameters"; A paper presented at 25th Industrial Waste Conference at the Purdue University, Lafayette, Indiana, May 1970.

SEC/sp 10/22/86





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



6E I RON CURRY BJ 9002

DERRITH WATCHMAN-MOORE DEPUTY SECRETARY

CERTIFIED MAIL RETURN RECEIPT REQUESTED

February 21, 2006

Ed Riege Environmental Superintendent Giant Ciniza Refining Company Route 3 Box 71 Gallup, New Mexcio 87301

SUBJECT: RESPONSE TO APPROVAL WITH MODIFICATIONS TO THE 2003 OCD ANNUAL REPORT GW-32 RESPONSE LETTER GIANT REFINING COMPANY, CINIZA REFINERY EPA ID NO. NMD000333211 HWB-GRCC-04-001

Dear Mr. Riege:

The New Mexico Environment Department has completed its review of the document titled *Response Letter, HWB-GRCC-04-001* to the 2003 OCD Annual Report GW-32 dated September 26, 2005 submitted on behalf of Giant Refining Company, Ciniza Refinery (the Permittee). The Permittee must address all requirements and revisions identified in the comments below and apply them to future groundwater monitoring reports.

1. Response letter, Comment # 12 states, "[t] his page was revised, see (Attachment 8). The term low was deleted and the reference to OCD wells (mistake) was changed to OW. The request to sample OW 14 on a semiannual basis was added to Section 9 of the renewal application."

NMED Comment: It appears the sampling of well OW-14 on a semi annual basis was not changed in the table provided in Section 9, No. 4. The Permittee must revise the table under the Frequency Column for Well OW-14 to semi-annual.

Mr. Ed Riege Giant Ciniza Refining Company February 21, 2006 Page 2 of 2

> Comment # 20 states "In 2003 product recovered from RW-1 was 17.3 gallons, RW-5 was 3,250 mls of product, and RW-6 had 9,050 ml of product recovered. Giant Personnel measured the volume....."

NMED Comment: The next groundwater report must be consistent when reporting the units for the volume of product measured. If the Permittee uses an abbreviation such as ml or mls, the abbreviation must also be defined. The Permittee must report the volume of product in gallons.

3. Attachment 1, which contains the revisions to the OCD Discharge Plan Renewal Application, the first block of the last row in the Table in Section 9.0, page 9-4 is empty and must be revised to include the Northeast OCD Landfarm. The Permittee shall refer to the email dated December 6, 2005 from Ed Riege to Hope Monzeglio titled "Groundwater Plan in the discharge permit."

Please call me at 505-428-2545 if have questions regarding this letter.

Sincerely,

Hope Mangelo

Hope Monzeglio Project Leader Hazardous Waste Bureau

HM

- cc: *D. Cobrain, NMED HWB W. Price, OCD C. Chavez, OCD D. Foust, OCD Aztec Office S. Morris, GRCC J.Lieb, GRCC
 - File: Reading and GRCC 2006 *denotes electronic copy



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

DERRITH WATCHMAN-MOORE DEPUTY SECRETARY

CERTIFIED MAIL RETURN RECEIPT REQUESTED

February 3, 2006

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

SUBJECT: OLD API SEPARATOR EFFLUENT GIANT REFINING COMPANY, CINIZA REFINERY EPA NO. NMD000333211 HWB-GRCC-MISC

Dear Mr. Riege:

The New Mexico Environment Department (NMED) is requiring Giant Refining Company, Ciniza Refinery (Permittee) to route all effluent discharging from the "Old" API separator to the "New" API separator prior to entry into the aeration lagoons. Weekly effluent sampling results, collected during the month of December 2005 from the "Old" API separator, detected benzene at hazardous concentrations, exceeding 500 parts per billion.

The "Old" API separator was closed and removed from service on October 6, 2004 and converted for use for storm water drainage only in December 2004. After the conversion, the Permittee stated the "Old" API Separator would not receive refinery process wastewater. Based on the available information, it appears the "Old" API Separator is still receiving refinery process wastewater containing benzene at hazardous concentrations and potentially F037 and F038 listed waste. The "Old" API separator no longer functions as an API separator; therefore, cannot receive refinery process wastewater or store hazardous waste. The use of the "Old" API Separator must also comply with all state and federal agency regulations and the current use does not comply with the Oil Conservation Division's (OCD) discharge permit.

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

The Permittee has not provided definitive information pinpointing the source of hazardous constituents entering the "Old" API separator. The Permittee must route all of the "Old" API separator effluent to the "New" API separator. The Permittee may propose an alternate resolution that will treat the "Old" API separator effluent prior to entering the aeration lagoons. The re-routing of the effluent must be accomplished by May 1, 2006 or an alternate proposal must be submitted to NMED no later than April 17, 2006. This proposal must also be approved by OCD.

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

Sincerely,

Hope Mongato

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

File: Reading 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

DERRITH WATCHMAN-MOORE DEPUTY SECRETARY

CERTIFIED MAIL RETURN RECEIPT REQUESTED

February 3, 2006

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

SUBJECT: REVISED SAMPLING SCHEDULE FOR AERATION LAGOON EFFLUENT GIANT REFINING COMPANY, CINIZA REFINERY EPA NO. NMD000333211 HWB-GRCC-MISC

Dear Mr. Riege:

Based on analytical data provided by Giant Refining Company, Ciniza Refinery (Permittee), the New Mexico Environment Department (NMED) is revising the sampling requirements that were established in NMED's letter dated December 13, 2005 titled *Modified Sampling Schedule American Petroleum Institute Separator (API)*. The attached table illustrates a change in the frequency of effluent sample collection from AL-2 to EP-1. The attached table, titled *Giant Ciniza Refinery Sampling Schedule Resulting from The API Separator Spill* dated Revision 1 February 1, 2006, shall replace the previous table dated December 16, 2005.

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

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

Sincerely,

1 dope Monzetto

Hope Monzeglio Project Leader Permits Management Program

HM

Attachment

cc: *D. Cobrain, NMED HWB W. Price, OCD C. Chavez, OCD S. Morris, GRCC D. Foust, OCD

File: Reading 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	Monthly	EPA Method 8260, EPA Method 8015B must include $C_6 - C_{10}$ and C_{10} - C_{36} 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 (Note: OCD sampling requirement is weekly)	EPA Method 8260, EPA Method 8310, RCRA 8 Metals (totals); EPA Method 8015B must include C_6 - C_{10} and C_{10} - C_{36} carbon ranges * Monthly – sample same analytical analysis as above, see *Note section at the bottom of the table	Measure product thickness on surface water on a weekly basis and after every rain event. Report data on the first of every month via email Sampling frequency will be evaluated after receipt of three months analytical results by NMED
Effluent from Pilot Gas Station to the Aeration Lagoon	Monthly	EPA method 8260, RCRA 8 Metals (totals); EPA Method 8015B must include C ₆ -C ₁₀ and C ₁₀ -C ₃₆ carbon ranges	Sampling frequency will be evaluated after receipt of three months analytical results by NMED
Effluent from New API separator	Monthly	EPA method 8260, EPA Method 8015B must include $C_6 - C_{10}$ and C_{10} - C_{36} carbon ranges	Sampling frequency will be evaluated after receipt of three months analytical results by NMED

*Note: Monthly effluent samples from AL-2 to EP-1, the New API separator, the Old API separator, and the Pilot Truck Stop discharge must be collected on the same day and analyzed for EPA method 8260 and EPA Method 8015B ($C_6 - C_{10}$ and $C_{10} - C_{36}$). Effluent samples from AL2-EP-1, Old API separator, and the Pilot Station must also be analyzed for RCRA Metals (totals).

Table date: Revision 1 February 1, 2006.

The revised sampling is in response to the August 2005 spill from the breakdown of the new API separator.

February 2, 2006

4

Mr. Carl Chavez NM Oil Conservation Division 1220 South St. Francis Drive Santa Fe, NM 87505

Dear Mr. Chavez:

In response to your e-mail dated December 28, 2005, Giant Industries, Inc., Ciniza Refinery (Ciniza), has examined the contribution from the Pilot Station Effluent (PSE) to the aeration lagoon with respect to biological oxygen demand (BOD) and other constituents. As you may remember, the Pilot Station was previously known as the Travel Center and was owned and operated by Giant Industries.

In order to determine the anticipated loading from the PSE, we first looked at the history of the relationship between the refinery and the station and then at the discharges that were anticipated from the facility. The travel center was under construction in 1986 and on December 12, 1986, Bob McClenahan, the Environmental Coordinator for Giant, wrote to Richard Stamets, the Director of New Mexico Oil Conservation Division (NMOCD), to notify him of the construction and the additional discharges to the aeration basin from the facility (see Attachment 1).

In 1986, the design flow from the Travel Center was 35 gallons per minute at a BOD_5 value of 200 mg/L. This amounted to about 85 pounds per day loading to the system. Also at that time, the refinery load was 700 mg/L BOD at about 82 gallons per minute, resulting in approximately 690 pounds of BOD per day.

The biokinetic data and subsequent calculations for refinery wastewaters in the 1986 letter stated that the BOD removal rate coefficient (K_e) was 0.0004 to 0.0009 L/mg-hr, the sludge synthesis coefficient (Y) was 0.35 to 0.46 pounds sludge per pound BOD_r, the O₂ demand for synthesis (a') was 0.91 to 1.06, and the O₂ demand for endogenous respiration (b) was 0.16 to 0.21. Based on these numbers and an average lagoon temperature in summer of 24°C, the following numbers were calculated:

	Cell #1	Cell #2
Volume (Mgal)	0.51	0.85
BOD removal summer (Lbs)	1353	135
O ₂ demand (lbs/hr)	70	24

As you are aware, current conditions are slightly different – the contribution to the aeration lagoons from the Pilot Station is much less in volume but higher in concentration. The average flow to the aeration lagoon from the Pilot Station is approximately 5 gallons per minute and BOD samples ranged from 504 mg/L to 10,500 mg/L during 2005. This has resulted in a BOD loading ranging from 30 to 630 pounds per day.

If the refinery load is approximately 700 mg/L at an average flow of 105 gpm, the loading would be 882 pounds per day. This would mean the total loading could be as high as 1,330 pounds

per day from sources, the refinery and the PSE. This number is almost the exact loading calculated in 1986.

Samples taken at the inlet to aeration lagoon (AL) 2 on January 6, 2006 had a BOD concentration of 369 mg/l, which is 300 mg/L higher than the calculations in 1986. The flows from AL 1 to AL 2 will be dependent upon evaporation from AL 1 and any additional flows to either the new API unit or the oil-water separator to AL 1. Because of this, calculations to determine loading and BOD removal rates at AL 1 are incomplete. However, it does appear that the loading to AL 1 is no greater than that initially predicted in 1986.

Because there is a unique relationship between Ciniza and the Pilot Station, we would like to take some time to determine if there actually is an issue, since the total BOD loading for the facility is within the original anticipated design for the existing number of aeration units and lagoons. In order to close the loop Giant would like to fill in some of the data gaps and obtain the following information:

- BOD going into aeration lagoon 1 (per stream or an aggregate number);
- BOD exiting aeration lagoon 2;
- Flow rate between aeration lagoon 1 and aeration lagoon 2; and
- Total water reporting to aeration lagoon 1 including the API and stormwater separator units.
- Work with operations and engineering to determine what the anticipated increase in flow rate will be due to increase in production.

We have also followed through with the sampling requested in your e-mail on November 30, 2005 and found that the effluent from the travel center does not exceed the RCRA toxicity standards as the quarterly sampling also indicates.

We propose to continue our investigation and, if we determine that the load placed on our AL by the PSE is too great, we would like the opportunity to work with our neighbor to find a costeffective and acceptable solution for both of us. Since the winter months actually require the greater amount of oxygen, and we are more than half way through the winter, we request additional time to work on this problem and come to a mutually acceptable resolution within a nine-month period. In July 2006 we propose to send you documentation of our findings and any plans to remedy the loading, as appropriate and necessary.

Please let me know your thoughts on the data presented and our proposal.

Sincerely,

Ed Riege



ROUTE 3, BOX 7 • GALLUP, NEW MEXICO 87301 (505) 722-3833 • TWX 910-981-0504

December 12, 1986

Richard L. Stamets Director NMOCD P.O. Box 2088 Land Office Building Santa Fe, NM 87501

RE: Addition to Giant's Ciniza Refinery Discharge Plan, GW-32

Dear Mr. Stamets:

As your staff is aware, Giant is building a new Travel Center near our Refinery. We would like to use the new Aeration Basin for biological treatment of the waste water generated from that facility. Enclosed are some pertinent data related to this proposed addition.

The facility is scheduled to commence operations in May of 1987. Waste streams will be generated at four general locations: the truck service area, the truck fuel center, the R.V. dump station, and the main building, which houses restaurants, showers and restroom facilities. Each of these sources will run through at least one 2,000 gallon septic tank for solids and grease removal, in addition to some biological treatment. The waste water will gravity flow from the septic tanks to a lift station. The lift station is designed to pump the water to the Parchell flume at the inlet of the aeration basin (pond #1). The system is designed to gravity flow to pond #9, in case of mechanical problems. (See attached sewer layout for details).

The designed flow from the Travel Center is 35 GPM (50,400 GPD), at a BOD5 value of 200 mg/l. This will result in 85 pounds per day of BOD being treated. The refinery organic load was calculated to be 700 mg/l BOD at 117,800 GPD, or 690 #/day BOD. The total anticipated load to the basin therefore is 775 #/day at 168,200 GPD. The aeration equipment (See Appendix A attached) is designed to provide oxygen for up to 1500 #/day of BOD and result in an annualize average evaporation rate of 16,300 GPD (11.3 GPM). The net increase in water to our evaporation ponds would be 34,100 GPD. Utilizing the equations from Table 6-1 (enclosed) of our Discharge plan application report, the total yearly discharge would increase by 12.4 million gallons (MG), for a total of

Richard L. Stamets December 12, 1986 Page 2

71.2 MG/yr (218.6 AF/yr). Using the calculated pond evaporation capacity of 228.6 AF/yr, results in a conservative pan evaporation rate capacity of 105%. It should be noted that by lake evaporation rates, the pond's capacity is calculated to be 156%. However, due to the marginal amount of calculated excess capacity, several water conservation projects are being considered.

I hope this provides you with adequate information on this proposed change. If you have any questions, please don't hesitate to call me.

Sincerely,

Bro mullinda

Bob McClenahan, Jr. Environmental Coordinator Giant Refining Company

RLM:ds

Enclosures

cc: Carl Shook Trent Thomas, Geoscience Consultants, Ltd. Carlos Guerra, Giant Industries Frank Chavez, OCD, Aztec, NM



TABLE 6-1 WATER BALANCE FOR EVAPORATION PONDS MONTH PRECIP. (IN.) PAN EVAP. (IN.) DIFFERENCE (IN.) Jan .56 .38 +.18 .50 Feb .50 0.00 .84 Mar -.23 .61 Apr .43 2.05 -1.62 3.82 May .43 -3,39 .52 5.81 Junė -5.29 Julý 1.83 7.11 -5.28 1.65 5.92 -4.27 Aug .99 3.89 Sep -2.90 2.03 30:63 Oct 1.17 -.86 a1,6% Nov .62 .70 -.08 Dec .68 .39 +.29 9.99 33.44 -23.45 Average discharge = 161,000 gallons/day Yearly Discharge = 365 days x 161,000 gallons/day = 58,765,000 gallons/year 170 58,765,000 gallons/year x 1 Acre-Foot/325,742 gallons = 180.4 AF/year Net Pond Evaporation = 23.45 in/year = 1.954 ft/year Pond Evaporative Capacity = 117 Acres x 1.954 ft/year = 228.6 AF/year Relative Capacity = 228.6 AF/yearĦ 127% 180.4 AF/year TC 50, 400 51 -----

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		TUHETRICS TOTAL CELL	VOLUHE (CF) 99,761 152,162 450,117	702,240	
	· · · · · · · · · · · · · · · · · · ·	FLUDGE POND VO RIAL 13 ULY 18 1986 FREEDOARD	VOLUME (CF) MG) 11,464 MG) 39, 164 100, 384	• 171,012	
		J J POND VOLUME (CF)	68,297(0.51 112,998(0.65 349,933	531,228	
	186	TOP OF FREEBOARD CONTOUR AREA (SF)	16,770 20,754 51,753	otals:	
	RECEIVED AUG 1 4 19	TOP OF POILD CONTOUR AREA (SF)	14,694 18,410 48,631	Vоluhe Т	
- *	· · · · · · · · · · · · · · · · · · ·	BOTTOM ELEV Area (sf)	10,521 12,141 34,402		
		SPILL ELEV	100.0 96.0 96.0		
		BOTTOM ELEV	93.0 87.0 86.0	.	
	LOPES = 2:1-	F DIKE = 10' DRAIN POINT ELEV	92.0 86.0 85.0	·	
	SIDES	LOP 0	opendix A	-	•

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The following biokinetic data for refinery wastewaters are taken from Reference #1: BOD Removal Rate Coefficient, $(K_e) = 0.0004$ to 0.0009 L/mg-hr а. Sludge Synthesis Coefficient, (Y) = 0.35 - 0.46 lbs. Sludge/Ib. BOD_n-. ь. O_2 Demand for Synthesis, $(a^{\prime}) = 0.91-1.06$ c. O_2 Demand for Endogenous Respiration, (b') = 0.16-0.21 d. Since the above data are based on a bench scale experimental study in th laboratory, 20°C (68°F) temperature will be assumed. <u>Cell #1:</u> Lagoon Temperature: 24°C* (Summer) Lagoon Temperature: 13.5°C* (Winter) *REFER TO COMPUTER PRINTOUT FOR COOLING CALCULATIONS. Correct BOD Removal Rate Coefficient, Ke for temperature, $K_{e_{T}\circ C} = K_{e_{20}\circ C} \times 1.04^{(T-20\circ C)}$ = 0.00065 L/mg-hr (Avg.) x 1.04²⁵⁻²⁰ $= 0.0008 \, L/mg-hr$ (Summer) = 0.019 L/mg-day $K_{e_{winter}} = 0.00065 \text{ L/mg-hr} \times 1.04^{13.5-20}$

= 0.0005 L/mg-day

= 0.012 L/mg-day

Basin Volume = 0.51 MG

REFER TO COMPUTER PRINTOUT TRIAL ERROR MLVSS v BODr NOTE: Summer conditions control. BOD5 removal = 714 mg/l - 70 mg/l = 644 mg/l 1bs BOD5 removed = 644 mg/l (8.34) 0.252 MGD = 1353 lbs day Maximum 0₂ Demand = a' (BOD removal) + b' (1bs MLVSS) 1bs MLVSS = 245 mg/l x 0.5 MG x 8.34 = 1022 lbs MLVSS 1bs 0₂ = 1.06 lbs 0₂ 1bs 0₂ = 1.06 lbs 0₂ 1bs 0₂ = 1.06 lbs 0₂ = 1649 lbs 0₂ = 70 lbs/hr REFER TO COMPUTER PRINTOUT FOR FIELD 0₂ TRANSFER RATE CALCULATIONS.

Three (3) - 15HP Aqua Jet aerators with anti-erosion assemblies in Cell are recommended.

<u>Celi #2:</u>

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Lagoon Temperature = 22.3°C* (Summer)
Lagoon Temperature = 4.9°C* (Winter)
*REFER TO COMPUTER PRINTOUT FOR COOLING CALCULATIONS
Bas in Volume = 0.85 MG
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Summer:

REFER TO COMPUTER PRINTOUT TRIAL ERROR MLVSS vs BOD_r . BOD₅ removal = 70 mg/l - 6 mg/l = 64 mg/l lbs BOD₅ removed = 64 mg/l (8.34) 0.252 MGD

= 135 lbs/day

Winter:

BOD₅ removal = 109 mg/l - 12 mg/l = 97 mg/l lbs BOD₅ removed = 97 mg/l (8.34) 0.252 MGD = 204 lbs/day

Winter removal requires largest oxygen supply. 1bs MLVSS = 248 mg/l x 0.85 MG x 8.34 = 1758 lbs MLVSS 1bs 0₂ = 1.06 $\frac{1bs}{1b}$ 0₂ (204 $\frac{1bs}{Cay}$) + 0.21 $\frac{1}{day}$ (1758 $\frac{1bs}{Cay}$) = 585 $\frac{1bs}{day}$ = 24 $\frac{1bs}{ay}$

REFER TO COMPUTER PRINTOUT FOR FTR CALCULATIONS.

Two (2) - 15 HP Aqua-Jet aerators with anti-erosion assemblies in Cell #2 are recommended.

NOTE :

An effluent TSS level of = 300 mg/l should be expected. If the level of discharge is not acceptable, a settling pond (2-3 day will be required.

Also using two - 15 HP aerators in Cell #2 should produce an effluent D.O. level of about 5 mg/l based on the information given. Refer to computer printout.

Reference:

 Ronald L. Dickenson; John T. Giboney; "Stabilization of Refinery Wastewaters with the Activated Sludge Process: Determination of Design Parameters"; A paper presented at 25th Industrial Waste Conference at the Purdue University, Lafayette, Indiana, May 1970.

SEC/sp 10/22/86



ROUTE 3 BOX 7 GALLUP NEW MEXICO 87301

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

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January 30, 2006

Certified Mail # 7005 0390 0004 3145 6753

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:

Enclosed please find a copy of the response to the written inspection report you provided for the Ciniza refinery inspection on November 10, 2005. This response is designed to respond to and clarify some of the preliminary observations set forth in the Inspection Report and to set forth efforts by Giant to properly manage effluents regulated under Part 419 and stormwater discharges within the Multi-Sector permit.

Giant appreciates the suggestions for improvement of its written SWPPP and has, where appropriate, incorporated those suggestions into a newly revised SWPPP. With respect to some of the comments, it appears the inspection report comments seek modifications at the Ciniza Refinery over and above what is required for MSGP 200 Compliance. Where those comments make sense as a good practice, Giant has included them in the attached SWPPP revision.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. January 30, 2006 Page 2

Thank you for this opportunity to respond with additional information.

Sincerely,



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

Enclosure-2

Response to NPDES Compliance Inspection Report Giant Refining Company/Ciniza Refinery NPDES Permit # NMR05B157, November 10, 2005

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On November 10, 2005, there was an inspection that focused on the Ciniza Refinery's management of stormwater and compliance with appropriate EPA regulatory programs for stormwater discharge. A written inspection report (hereinafter the "Inspection Report") prepared by Mr. Richard E. Powell of the Surface Water Quality Bureau of the New Mexico Environment Department set forth a number of preliminary observations regarding the status of NPDES stormwater compliance by the Ciniza Refinery, which utilizes NPDES Permit # NMR05B157 (the October 30, 2000 Multi-Sector General Permit for Industrial Activities) for the occasional discharge of "industrial stormwater." This response is designed to respond to and clarify some of the preliminary observations set forth in the Inspection Report and to set forth efforts by Giant to properly manage effluents regulated under Part 419 and stormwater discharges within the Multi-Sector permit. Giant is committed to meeting the NPDES requirements and goals of appropriate stormwater management, takes its obligations seriously, and sincerely appreciates the opportunity to respond with additional information.

I. OVERVIEW OF CINIZA REFINERY WASTEWATER AND STORMWATER MANAGEMENT

As an overview, it is important to remember this refinery, in operation since the late 1950s, is located in a relatively arid region of New Mexico. While precipitation does infrequently occur, much of it often can be managed on-site, without any discharge to a water of the United States. The purview of the NPDES program is a discharge, namely an addition of a pollutant that reaches a water of the U.S. through a point source. If there is no regulated discharge, no NPDES permit is required.

Over the years since the enactment of the initial 1970 Army Corps federal permit program for discharges into waters of the U.S. and their tributaries (which became the NPDES permit program in 1972), the Ciniza Refinery has taken a number of significant measures to assure compliance with surface water quality protection requirements. Properly operated and maintained, these measures keep the Ciniza Refinery in compliance with NPDES requirements.

Today, there are three types of stormwater at the Ciniza Refinery that theoretically could discharge to a water of the United States, if not otherwise managed or controlled to avoid such discharges. The first type of stormwater is "contaminated runoff," as regulated under the technology-based effluent limitations adopted in 1985. 40 C.F.R. Part 419. This is managed in a "zero discharge" system that has been constructed, maintained and operated so as to keep process wastewater (and "contaminated runoff") from reaching a water of the U.S. The second type of stormwater is "stormwater discharge associated with industrial activity," as defined in 40 C.F.R.

Section 122.26 (b)(14), exclusive of the "contaminated runoff" already regulated under Part 419.¹ It is permissible to discharge such industrial stormwater pursuant to the 2000 MSGP, although the Ciniza Refinery generally manages its industrial stormwater for no discharge as well, except in the case of significant precipitation events that would cause the retention facilities' capacity to be exceeded. After significant precipitation events, valves are opened to discharge such industrial stormwater. (There are concrete barriers with valves that discharge to a drainage running across a portion of the property to Outfall 2; there is also a valve system at Outfall 1). The third type of stormwater at this facility is unregulated stormwater. This is stormwater that neither meets the definition of Part 419 contaminated runoff nor 122.26 (b)(14) "stormwater discharge associated with industrial activity." The 1987 Clean Water Act amendments and subsequent EPA regulations make it clear that this stormwater is not, at least at present, subject to NPDES requirements (so long as it is not commingled with other regulated forms of stormwater).

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The Ciniza Refinery also maintains and implements an aggressive Integrated Contingency Plan. In the event of a minor spill, the source of a spill is isolated, the spill is contained, and cleanup occurs. A vacuum truck with an 80 bbl capacity is kept operational in the Maintenance Yard as just one of the ICP's precautionary measures to prevent spills from creating problems. As part of the standard operating procedures in the ICP, process surveillance rounds are conducted during each shift. Process equipment, vessels, tanks, piping, and grounds are visually inspected for signs of abnormal conditions, leakage and spills. Spills are immediately reported to the Shift Supervisor and response action is initiated.

¹Unless commingled, these two types of "CWA-regulated" stormwater are managed under separate NPDES regulatory programs, with "contaminated runoff" discharges being regulated under the traditional NPDES process wastewater discharge program and the "stormwater discharge associated with industrial activity" being regulated under the NPDES stormwater discharge program, which can include use of the 2000 MSGP.

In brief, Giant operates and maintains a "zero discharge" retention system that has been constructed to manage Part 419 process wastewater and "contaminated runoff" without an NPDES permit. Part 419 regulated effluent is managed in "zero discharge" retention impoundments.² At the time of the November 10, 2005 inspection referenced in the Inspection Report, no discharges of "contaminated runoff" (or process wastewater) regulated under Part 419 were occurring. All process wastewater and any associated "contaminated runoff" was being directed into the "zero discharge" system on that date, as is the standard operating procedure at the Ciniza Refinery every day. As a result of Giant's operation and maintenance of the "zero discharge" retention system for all process wastewater and "contaminated runoff" as that term is defined in Part 419, no NPDES permit for Part 419 regulated effluent is required at the Ciniza Refinery. Building, maintaining and operating a "zero discharge" NPDES treatment system eliminates the need for that type of NPDES permit.

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As presently operated by Giant, "industrial stormwater"³ (not under Part 419) generally will not discharge from the Ciniza Refinery. It is captured initially in an industrial stormwater management retention system. In contrast to the "zero discharge" system for Part 419 regulated effluents, some "industrial stormwater" occasionally must be discharged after a significant precipitation event but only from two stormwater basins (controlled by valve systems) that drain to the areas known as Outfall 1 and Outfall 2. The Ciniza Refinery manages its regulated "industrial stormwater" from the Outfall 1 and Outfall 2 basins in a separate stormwater retention system that does not have sufficient capacity to hold all the "industrial stormwater" volumes that may infrequently result during significant precipitation events. <u>Giant has obtained coverage</u> under the 2000 MSGP to allow such discharges of "industrial stormwater" for those infrequent occasions when its "industrial stormwater" retention capacity for those two basins is exceeded.

On the November 10, 2005 inspection date, there were no such volumes of "industrial stormwater" at the Ciniza Refinery, and there were no discharges of any "industrial stormwater" of the type sought to be covered by the 2000 MSGP. Before any discharge occurs from the Ciniza Refinery "industrial stormwater" retention systems for the Outfall 1 and Outfall 2 basins, the opening of specific valves⁴ in the retention system must occur. All valves were closed on

³This term of "industrial stormwater" excludes the "contaminated runoff" regulated under Part 419.

⁴"Contaminated runoff" covered under Part 419 is not discharged on those infrequent occasions when it is necessary to open valves and discharge some MSGP "industrial

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²Federal programs to permit discharges (additions of pollutants) to waters of the United States, started with Executive Order 11574 in 1970, which led to the 1970 establishment of the Refuse Act Permit Program regulations (the "RAPP"), the forerunner of the NPDES permit. The Ciniza Refinery began to make a number of structural, maintenance and operational modifications to keep process wastewater (and what became Part 419 "contaminated runoff") from being discharged to a water of the United States, resulting in the zero discharge system it currently maintains and operates.

November 10, 2005. The facility was not discharging. No illegal discharges were occurring at the facility. There were no discharges whatsoever on November 10, 2005.

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II.The Ciniza Refinery's Response to the Federal Permit Requirement for
Process Wastewater/"Contaminated Runoff" Discharges (Effluents
Regulated Under Part 419) Has Been to Design, Construct, Maintain and
Operate a "Zero Discharge" Retention System For All Part 419 Effluent
Streams. As a Result, No NPDES Permit is Required for Part 419 Discharges
at the Ciniza Refinery.

The Inspection Report focuses on stormwater issues, and properly points out that, today, regulated stormwater discharges at petroleum refineries may be under Part 419 or they may be under the "industrial stormwater" program that took effect in the 1990s (after the Congressional amendments of the Clean Water Act in 1987). This portion of the response focuses on the management of Part 419 process wastewater and "contaminated runoff."

<u>A series of federal regulatory developments</u>, beginning with the initial 1970 Refuse Act Permit Program (run by the Army Corps with EPA assistance), then followed by the Congressional adoption of the NPDES permit requirement in 1972, and the EPA efforts starting in 1973 to adopt technology based regulations governing "contaminated runoff" (Part 419) from petroleum refineries, resulted in the determination in the 1970s by the Ciniza Refinery to manage its process wastewater (and the stormwater that meets the definition of "contaminated runoff" under Part 419) in a zero discharge retention system. Giant continues to maintain and operate this zero discharge system for process wastewater and "contaminated runoff," regularly inspecting (on a weekly basis) the condition of the retention system and the freeboard (remaining capacity). Records are kept of each such inspection. This zero discharge retention system has a demonstrated track record of effectively handling all Part 419regulated effluent. The retention system has been highly successful over the past 30-plus years with respect to preventing discharges of Part 419 effluent is necessary.

stormwater." Giant directs all Part 419 "contaminated runoff" into the zero-discharge retention system, not into the "industrial stormwater" detention system which has these valves.

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As far back as the early 1970s, the Ciniza Refinery designed and constructed a "zero discharge" system, which it subsequently has maintained, upgraded at times and continuously operated, to appropriately handle process wastewater and "contaminated runoff" as defined under Part 419.⁵ The recent Inspection Report, however, incorrectly implied that the Ciniza Refinery directs "contaminated runoff" regulated under the Part 419 program into the detention system for "industrial stormwater." To the contrary, Part 419 "contaminated runoff" is directed to the zero discharge retention system, set up and maintained since the 1970s to respond to the process wastewater NPDES requirements (for which the technology based limitations are set forth in Part 419).

⁵After the 1987 CWA amendments regulated additional "industrial stormwater," a stormwater detention system was utilized to keep the bulk of that additional "industrial stormwater" on-site as well, although occasional discharges are necessary from the retention system when its capacity is exceeded by a significant precipitation event.

To fully understand how Part 419 "contaminated runoff" is regulated, and properly managed at the Ciniza Refinery, it is helpful to review the history of regulatory developments that impacted the Ciniza Refinery's management of stormwater. The review is also helpful to clarify exactly what is defined as "contaminated runoff" subject to Part 419. These regulatory developments logically led the Ciniza Refinery to the design, construction, regular maintenance and operation of an NPDES-compliant "zero discharge" retention system for Part 419 regulated effluent streams (including process wastewater and "contaminated runoff").⁶

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The relevant regulatory history begins with a federal mandate in 1970 that an oil refinery, such as the Ciniza Refinery, may no longer discharge into a water of the United States (or its tributaries) unless a federal permit was obtained to assure the pollution would not be unduly harmful. These initial federal efforts to require a permit for discharges of wastewater from industrial facilities such as this oil refinery utilized the authority of the Rivers and Harbors Act (also known as the Refuse Act), administered by the Army Corps of Engineers. Earth Day and public concerns led Richard Nixon not only to create the U.S. Environmental Protection Agency in 1970, it also led to his 1970 issuance of Executive Order 11574.

"<u>Executive Order 11574</u> initiated the Section 13 (R&H Act of 1899) permit program known as the **Refuse Act Permit Program (RAPP) for controlling all discharges into navigable waters and their tributaries.** RAPP administered by Corps with oversight and decision authority by EPA."

Summary of History of Army Corps Regulatory Programs (prepared by the Army Corps) at page 1; on the Internet at http://www.usace.army.mil/inet/functions/cw/cecwo/reg/reghist.pdf. (Bold emphasis added.)

In 1972, Congress enacted the Clean Water Act requiring NPDES permits for facilities adding pollutants to federally protected waters through a point source, which continued the regulation of discharges to navigable waters and their tributaries but moved the permit program from the Army Corps of Engineers to EPA (with the exception of 404 dredge and fill discharges, for which permitting authority was kept in the Army Corps). The new NPDES permits were more detailed in terms of what was to be included, and specifically required technology-based effluent limitations (TBELs) and, where necessary to assure attainment with water quality standards for the receiving waters, water-quality based effluent limitations (WQBELs).⁷

⁷The extent to which the NPDES permit program would address stormwater discharges

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⁶As discussed in the next section of this response, the Congressional mandate to regulate "industrial stormwater" in 1987 led to the decision by the Ciniza Refinery to utilize the general permit (currently the 2000 MSGP) for those few occasions when a discharge of "industrial stormwater" (**not "contaminated runoff"**) might be required out of the stormwater detention system that was constructed. This "industrial stormwater" detention system (and occasional discharges from it) should not be confused with the zero discharge retention system for Part 419 regulated process wastewater and "contaminated runoff."

For the Ciniza Refinery, these efforts [first (in 1970) by the Army Corps to regulate industrial discharges into navigable waters and their tributaries (the RAPP permit program) and then by EPA in the newly created NPDES program (as continued with EPA's subsequent twelve year effort to develop the Part 419 TBEL regulations for the petroleum refining sector)] sent a fairly clear signal that, at a minimum, process wastewater would have to be captured in order to meet discharge limitations for these new permits.

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The Ciniza Refinery knew it would have to capture all process wastewater and any other similarly-regulated effluent (including co-mingled stormwater) in order to treat it to discharge standards. Because of the location in an arid climate zone in which evaporation greatly exceeded precipitation, the Ciniza Refinery decided to construct and operate not just a detention system to allow treatment prior to discharge, but an appropriately sized retention system that would allow no discharge. The arid climate allowed the use of evaporative treatment and/or water recycling in a zero discharge system to be implemented by the Ciniza Refinery.

While a series of ponds designed to detain all process wastewater already existed at the facility, the Ciniza Refinery built additional ponds in the early 1970s to hold and retain (without discharge) all process wastewater, and later what EPA would finally define as "contaminated runoff" under the Part 419 regulations in 1985. Ponds 11, 12A and 12B specifically were added to create additional holding capacity for the retention system, enabling the refinery to go to zero discharge treatment of process wastewater and what would later become defined as "contaminated runoff."

Given the size of refinery operations and the amount of product being processed, these new ponds 11, 12A and 12B were required to meet the goal of a "zero discharge" NPDES facility with respect to the process wastewater (and the other associated effluents [i.e., "contaminated runoff"] that eventually became regulated under Part 419 in 1985). Although the Ciniza Refinery has changed ownership since its original construction in 1957 and since it built additional retention capacity to achieve zero discharge, the new owner maintains and operates that zero discharge system to this date. Since Giant, the current owner, acquired the Ciniza Refinery, it has regularly maintained and operated this retention system so as to maintain the "zero discharge" status for Part 419 regulated effluent.

from industrial facilities was unclear for the first 15 years of the CWA, and eventually would be resolved by the issuance of some technology-based effluent limitations that did address stormwater and then by the development of a new industrial stormwater discharge program in the 1990s, consistent with the clarifying direction of the 1987 CWA amendments.
EPA's efforts to regulate stormwater in the 1970s and 1980s involved a number of different regulatory initiatives, most of which ended up in litigation over issues of scope and legality. With respect to petroleum refining, EPA did make early efforts to begin regulating at least some highly contaminated runoff from process areas as far back as 1973. Eventually, this regulatory effort resulted in the 1985 regulation of "contaminated runoff" under Part 419 and later, in 1992, the regulation of "stormwater discharge associated with industrial activity" under Section 122.26.

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While the Part 419 regulations setting discharge quality limitations for "contaminated runoff" did not become finally effective until 1985, the <u>EPA efforts</u> to regulate "process wastewater" also <u>sought to address some contaminated runoff at petroleum refineries at least as far back as 1973</u>, when studies done by contractors led to the first proposal of Part 419 effluent limitations. 38 Fed. Reg. 34542 (December 14, 1973). In the May 9, 1974 Federal Register, EPA regulations were made effective that required NPDES TBELs for the petroleum refining point source category to address some runoff as well as process wastewater. In a final rule that initially created 40 C.F.R. Part 419, that 1974 regulation addressed "runoff" (defined as the "flow of storm water") and provided a method for determining TBEL limits that was based on "storm flow (**process area runoff**) which is treated in the main treatment system." It also provided a TBEL for "[a]ll additional storm runoff (from tank fields and non-process areas), that has been segregated from the main waste stream for discharge. "See, i.e., 39 Fed. Reg. at 16564 (May 9, 1974). EPA stated in the preamble, that in response to comments on the earlier draft rule, it had divided storm runoff as follows:

"The handling of storm runoff was reevaluated and the run-off from a refinery was broken down further to consider tankfield runoff, process area runoff, and other noncontaminated runoff. This reevaluation also considered the treatment of marginally contaminated runoff. (See "Development Document," Section VII.)

As a result of this evaluation, a limit of 35 mg/l TOC and 15 mg/l oil and grease (both maximums) was set for both tankfield runoff and other uncontaminated runoff. (This is changed from 15 mg/l of TOC and no visible sheen). The limits for contaminated runoff should remain the same."

39 Fed. Reg at 16560 (May 9, 1974). Thus, as far back as 1973 and 1974, there were efforts to have Part 419 address some runoff, which was divided into "contaminated runoff" and "tankfield runoff and other uncontaminated runoff." Stringent discharge limits were set for process wastewater and "contaminated runoff," and the remaining "tankfield and other uncontaminated runoff" had far less stringent limits that generally would not require capture and treatment at a facility like the Ciniza Refinery.

The Ciniza Refinery had already been reengineered towards the zero discharge goal for the process wastewater and contaminated runoff. EPA's effort to regulated uncontaminated runoff was contested by the American Petroleum Institute.

Following these legal challenges by the American Petroleum Institute and others with respect to these initial TBELs for the petroleum refining sector (and the coverage of both the contaminated runoff [which had to be captured and treated] and the tankfield and uncontaminated runoff [which generally did not have to be captured and treated]), EPA solicited additional comments on modifying the Part 419 regulations to eliminate some of these problems. A variety of regulatory modifications were sought.

On May 20, 1975, EPA modified the Part 419 regulations again. 40 Fed. Reg. 29139 (May 20, 1975). Some of the preamble statements in that rulemaking relate to EPA's efforts to develop a properly legal regulatory program that would address some stormwater:

"In the draft contractor's report the flows from the refineries were broken down into three categories: 1) process water, 2) storm runoff, and 3) once-through cooling water. The process waters included: waters which come into direct contact with a product, intermediate, or raw material; contaminated storm runoff; and cooling tower blowdown. Process waters were considered to require treatment, and were to be segregated and discharged separately from clean storm runoff and once-through cooling water which were presumed to be uncontaminated."

40 Fed. Reg. at 21940. EPA then discussed the proposed and final new regulation's treatment of stormwater:

"The proposed regulation differed from the contractor's report in several respects. The definition of process water remained the same, except that an added allocation was given for ballast water and contaminated stormwater, over and above the basic allocation. In addition, concentration limits were set for both clean stormwater and once-through cooling water. These changes meant that the basic pollutant allocation was not actually based on process water flows, and the contaminated storm runoff, ballast, clean storm runoff and once-through cooling water each received separate allocations.

In the promulgated regulations, ... the previous definitions of different types of waste streams (process water, ballast water, etc.) were retained. EPA has not modified the contractor's original approach to identifying flows used in the calculation of BAT limitations."

40 Fed. Reg. at 21941.

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These indicated EPA's mid-1970s approach to regulating refinery stormwater under Part 419. The EPA and its contractor were taking the position in the development of these regulations that there was one set of requirements for "contaminated runoff" that appeared to be based on "storm flow (process area runoff) which is treated in the main treatment system" (as originally stated at 39 Fed. Reg. 16564 (May 9, 1974); and also "[a]ll additional storm runoff (from tank fields and non-process areas), that has been segregated from the main waste stream for discharge." Id.

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A review of the preamble language from 1975 confirmed that storm runoff that commingled with process water would be regulated like process water because it passed through the treatment system as well:

"the flows from the refineries were broken down into three categories: 1) process water, 2) storm runoff, and 3) once-through cooling water. The process waters included: waters which come into direct contact with a product, intermediate, or raw material; contaminated storm runoff; and cooling tower blowdown. Process waters were considered to require treatment, and were to be segregated and discharged separately from clean storm runoff and once-through cooling water which were presumed to be uncontaminated."

40 Fed. Reg. at 29140 (May 20, 1975) (Emphasis added). Included in the clean storm runoff category would be stormwater that might come from an area of the refinery where petroleum material might be present, but its method of handling kept the stormwater clean (i.e, it did not have contact with the process materials or process wastewater).

"Clean storm runoff" would occur, for example, if the petroleum material were inside a tank or pipe and not exposed to the stormwater during a precipitation event. This was apparent from EPA's use of language such as the following:

"The handling of storm runoff was reevaluated.... As a result of this evaluation, a limit of 35 mg/l TOC and 15 mg/l oil and grease (both maximums) was set for both tankfield runoff and other uncontaminated runoff. (This is changed from 15 mg/l of TOC and no visible sheen). The limits for contaminated runoff should remain the same."

39 Fed. Reg at 16560 (May 9, 1974).

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Thus, the Ciniza Refinery naturally had to look at controlling stormwater in two different ways: first, determine what stormwater would become contaminated through contact with petroleum materials or process wastewaters at the facility such that EPA would consider that "contaminated runoff" as having to meet process wastewater limits achievable by handling that water through a wastewater treatment system; second, look at the remaining stormwater in other areas (where petroleum might be managed but was prevented from contacting the precipitation by the physical integrity of the containing tank or pipe or perhaps a roofed structure with a separate drainage system away from the process area) where such stormwater would be considered "clean" or in EPA's words could be "presumed to be uncontaminated." Again, the zero discharge retention system at the Ciniza Refinery, with the new ponds constructed and properly maintained, was managed in such a way as to handle the stormwater that was contaminated by contact with petroleum materials or commingled with process wastewaters.

The legality of EPA's authority to regulate runoff, including "uncontaminated runoff," was disputed by industry, along with other alleged deficiencies challenged in the Part 419

litigation. The 1975 modifications did not resolve adequately all of the industry concerns and the court challenge continued. Although by this time the Ciniza Refinery was managing process wastewater and co-mingled contaminated runoff in a zero discharge system in the spirit of these Part 419 regulations, the Part 419 stormwater regulations adopted in 1974 and 1975 did not survive the legal challenges.

The litigation challenges to this Part 419 regulatory effort by EPA to develop TBEL regulations for petroleum refineries stormwater resulted in an invalidation of the Part 419 effort to regulate stormwater and a remand to EPA by the court. *American Petroleum Institute v. EPA*, 540 F. 2d 1023 (10th Cir. 1976). On October 18, 1982, EPA formally withdrew the Part 419 storm water effluent limitations that had been promulgated on May 9, 1974. See 47 Fed. Reg. 46434 (October 18, 1982).⁸ Once again, more litigation ensued, resulting in another settlement agreement in which EPA agreed to propose "effluent limitations guidelines for contaminated storm water runoff." 49 Fed. Reg. at 34152 (August 28, 1984). (EPA was no longer proposing any limits for "uncontaminated runoff.")

Thus, in 1984, EPA proposed changes to the Part 419 regulations that, once again, would address "contaminated runoff." EPA again observed the question of what stormwater was and was not regulated under technology based requirements in NPDES permits was highly confusing:

"In the October 18, 1982 rulemaking the Agency withdrew storm water effluent limitations guidelines for BPT, BAT and NSPS because they were remanded by the U.S. Court of Appeals in *American Petroleum Institute v. EPA*, 540 F.2d 1023 (10th Cir. 1976).

Since that remand there has been some confusion on the part of permit writers and others as to whether storm water runoff ('runoff') effluent limitations should be contained in permits. There are two kinds of such runoff, i.e., contaminated and uncontaminated. The purpose of this rulemaking is to establish BPT, BCT and BAT effluent limitations guidelines for contaminated storm runoff.

* * *

In today's proposal, EPA is defining contaminated runoff, for purposes of these regulations only, to be runoff which comes into contact with any raw material, intermediate product, finished product, by-product, or waste product located on petroleum refinery property. Any other storm water runoff at a refinery is considered uncontaminated. . . .

Contaminated runoff constitutes an additional source of pollution which must be managed during periods of precipitation along with process wastewater from refinery operations. <u>The regulations being proposed today do not establish numerical effluent limitations for uncontaminated runoff</u>. Effluent limitations, including but not limited to

⁸Nevertheless, the Ciniza Refinery had already engineered its facility to contain process wastewater and what EPA appeared to be referring to in the overturned regulations as "contaminated runoff."

allocations, for uncontaminated runoff may be established by the permit writer based on his/her professional judgment."

49 Fed. Reg. at 34154 (August 28, 1984)(underlined emphasis added).

Thus, in 1984 (as later finalized as the final Part 419 regulations in 1985), EPA was continuing the concept that there would be two kinds of discharged stormwater from a petroleum refinery, that which was contaminated because it had directly contacted process materials (the precipitation "came into contact with" the raw material or the product or the waste product) and that discharged stormwater that was uncontaminated by direct contact with such materials (such as that in an area where all petroleum materials were kept segregated from contact with storm water so that the runoff was previously identified by EPA as presumably clean).⁹ The former would have to be captured and treated along with

Roughly contemporaneous with EPA's issuance of the Part 419 effluent limitations in 1985 was its issuance of updated Part 110 spill reporting regulations that sought to clarify which oil spills would have to be reported under Part 110 and which ones were considered to be covered under Part 402. In the March 11, 1985 proposed rule amending Section 311 oil spill reporting [40 C.F.R. Part 110], EPA clarified which spills are handled under the NPDES permit reporting for a facility with an NPDES permit and, conversely, which would be handled under Section 311 and the Part 110 oil spill reporting procedure. Here, in 1985, EPA was proposing new amendments to 40 C.F.R. Part 110 to incorporate the 1978 CWA Congressional clarification as to which oil spills get handled under an NPDES permit as opposed to under Section 311 of the CWA. See, generally, 50 Fed. Reg. 9776 (March 11, 1985). [Obviously, if a spill is under Part 110, it is not subject to 402 and thus neither is that spill nor any contacting runoff subject to Part 419.]

EPA headquarters set forth (in this March, 1985 Federal Register preamble) the following instructive guidance:

In addition to changing the harmful quantity language in the 1978 amendments to the CWA, Congress also modified the definition of "discharge" in section 311 (a)(1) to exclude from Section 311 coverage three types of discharges that are subject to the Section 402 National Pollutant Discharge Elimination System (NPDES) and Section 309 enforcement provisions. Specifically, Congress provided that the following discharges be excluded from section 311 coverage: (A) discharges in compliance with a permit under section 402 of this Act,

⁹It was certainly EPA's apparent position in 1985 that only in those areas in which petroleum was managed regularly so that it would come into contact with stormwater that Part 419 effluent limitations would apply to that "contaminated runoff" and that such "contaminated runoff" would now have to be permitted under Section 402. It would be completely incorrect to read Part 419 as covering any effluent from any location where a petroleum spill might ever occur. It only covered those process areas where petroleum would regularly contact stormwater such that it was "contaminated runoff," not any place an accidental spill might occur.

(B) discharges resulting from circumstances identified and reviewed and made a part of the public record with respect to a permit issued or modified under section 402 of this Act, and subject to a condition in such permit, and (C) continuous or anticipated intermittent discharges from a point source, identified in a permit or permit application under section 402 of this Act, which are caused by events occurring within the scope of relevant operating or treatment systems.

The basis for this specific exclusion stems from the uncertainty under the old statute as to whether and to what extent discharges from facilities with NPDES permits were subject to the provisions of section 311. Senator Stafford, a principal sponsor of the amendment to section 311, explained the general nature of the changes:

* * *we are attempting to draw a line between the provisions of the act under sections 301, 304, 402 regulating chronic discharges and 311 dealing with spills. At the extremes it is relatively easy to focus on the difference but it can become complicated. The concept can be summarized by stating that those discharges of pollutants that a reasonable man would conclude are associated with permits, permit conditions, the operation of treatment technology and permit violations would result in 402/309 sanctions; those discharges of pollutants that a reasonable man would conclude are episodic or classical spills not intended or capable of being processed through the permitted system and outfall would result in the application of section 311. (124 **Congressional Record** 37683 (1978)).

More specifically, Senator Stafford related that "the changes make it clear that discharges, from a point source permitted under section 402 which are associated with manufacturing and treatment, are to be regulated under Sections 402 and 309. 'Spill' situations will be subject to section 311, however, regardless of whether they occur at a facility with a 402 permit" (124 **Congressional Record** 37683 (1978)).

50 Fed. Reg. at 9777.

In the April, 1987 final rule adopting these Section 311 changes to 40 C.F.R. Part 110, EPA again spoke to the clear and complete distinction that Congress mandated in the 1978 Congressional amendment on CWA spill reporting [a spill is either to be reported under section 311 or under the facility's NPDES permit, but 311 and 402 are meant to be mutually exclusive]:

Congress intended this amendment to clarify which section of the CWA governs discharges of oil and hazardous substances from point sources holding NPDES permits. Foreseeable or chronic point source discharges that are permitted under section 402, and that are either due to causes associated with the manufacturing or other commercial activities in which the discharger is engaged or due to the operation of the treatment facilities required by the NPDES permit, are to be regulated under the NPDES program. "Classic spill" situations are subject to the requirements of section 311. Such spills are governed by section 311 even where the discharger holds a valid and effective NPDES permit under section 402.

the process wastewater.

52 Fed. Reg. 10712, 10714 (April 2, 1987).

This history of what is under Part 402 (and, thus potentially covered under Part 419) versus what is under Section 311 also supports the conclusion that in 1985 EPA and Congress did not take the position that the mere possibility of a spill in a particular area made all of the runoff from that area that contacted such a spill into Part 419 regulated effluent under an NPDES (402) permit.

<u>Whether or not the stormwater was regulated hinged not on whether it was in a particular</u> area of the refinery, but instead on whether it contacted the process raw or waste materials or any petroleum product. (This was the specific and unambiguous, plain language expressly chosen to define "contaminated runoff" in Part 419.) If not, it was uncontaminated runoff that would be regulated only if commingled with regulated Part 419 process wastewater/contaminated stormwater or if the permit writer, in the course of writing the permit, chose to so regulate it.¹⁰

EPA sought, however, to discourage the routing of uncontaminated water (i.e., from a tank or pipe area where no contact occurred) into the same treatment system as the process wastewater and contaminated runoff, believing it to be a far sounder environmental practice to discharge that uncontaminated stormwater separately:

"These proposed regulations do not address uncontaminated runoff which is discharged through the process wastewater treatment facility. This is because the Agency believes that introducing uncontaminated runoff to the process wastewater treatment system may result in the discharge of an increased mass of pollutants to the environment compared to the mass of pollutants discharged if no uncontaminated runoff were present in the process wastewater treatment system. Therefore, the Agency does not want to encourage this practice on a national basis."

49 Fed. Reg at 34155. Here EPA was encouraging refineries to take stormwater that did not come into direct contact with petroleum process materials, as opposed to precipitation on the actual process area where it would actually contact petroleum materials (or petroleum waste), and not to put that uncontaminated stormwater into the same system as the Part 419 stormwater.

In the 1985 preamble to the final Part 419 regulations, EPA made this point again (in responding to various comments on the 1984 proposed Part 419 regulations):

"[C]larifications were requested on the Agency's definition of contaminated runoff and its intentions to include only water which comes into direct contact with raw materials or petroleum products (i.e., exposed or spilled oil) or to extend its coverage to runoff from storage areas or tank farms where, ideally, no direct contact occurs.

The Agency's intent in promulgating storm water runoff limitations is to provide a mechanism for the control of storm water when this waste stream is, or is very likely to

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¹⁰The legality of EPA addressing stormwater that was uncontaminated and not comingled at an industrial facility was questionable, until Congress clarified this issue in the 1987 CWA amendments and EPA developed the resulting definition of regulated "stormwater discharge associated with industrial activity" at Section 122.26(b)(14).

be, contaminated by direct contact with raw, intermediate or final products. The collection and treatment of storm water runoff that is uncontaminated can be costly and burden the refinery's wastewater treatment system. For this reason, the Agency wishes to encourage refineries which segregate uncontaminated storm water runoff from contaminated wastewater streams to continue this practice."

50 Fed. Reg. at 28522 (July 12, 1985)(bold emphasis added). **EPA was clearly telling** the petroleum refining sector, including the **Ciniza Refinery**, **not to route stormwater that did not become contact-contaminated into the same treatment system with the process wastewater**, but that EPA preferred instead that such water be discharged elsewhere. [Two years later, Congress would (in the 1987 CWA amendments) direct EPA to provide an altogether different approach for regulating such stormwater at industrial facilities, which today is embodied in 40 C.F.R. Section 122.26.]

After these Part 419 regulations were promulgated, the stormwater flows at the Ciniza Refinery were such that **stormwater that did come into contact with petroleum materials** was directed, along with the process wastewaters, **into the zero discharge wastewater treatment** system of retention ponds and basins constructed and operated to assure that Part 419 regulated effluents directed into this system would not discharge. The EPA was still expressly stating that uncontaminated stormwater (any stormwater that had not come into contact with the petroleum raw materials, intermediate or final products or petroleum waste) should generally not be commingled if possible, and that such presumably uncontaminated water was not subject to any numeric effluent limitations under Part 419.

As discussed below in the section on discharges of "industrial stormwater" regulated under Section 122.26, a second retention system is set up to hold that "industrial stormwater" without discharge as well, except when it is determined the holding capacity (not engineered for all of the runoff from large storm events) will be exceeded. Such discharges of industrial stormwater from these valved systems will occur in the summer monsoon rains, and occasionally in a big spring rain event. At that time, a decision is made to open the 122.26 "industrial stormwater" retention system valves to allow valved discharge in the areas denominated as Outfalls 1 and 2.

In the event a problem occurs with the zero discharge stormwater management system for retaining Part 419 regulated effluents, and either process wastewater or "contaminated runoff" that had contacted petroleum materials escaped this zero discharge system, that does not mean it would then discharge to a "water of the U.S." in violation of the CWA. The process wastewater or Part 419 "contaminated runoff" would then go into the 122.26 "industrial stormwater" retention system, which does not discharge unless valves are opened. In such a situation involving an unintended escape of Part 419 effluents from the main zero discharge retention system, these Part 419 effluents would then be captured in the "industrial stormwater" retention system, cleaned up and, as appropriate, placed into oil recovery units or into the zero discharge WWTU retention system. The Ciniza Refinery thus has a redundancy built in to its control of

Part 419 effluents to keep it zero discharge, even if a problem with the main zero discharge containment system occurs.

The Ciniza Refinery continues to manage all Part 419 process wastewater and "contaminated runoff" (as defined and then clarified by the foregoing regulatory history and relevant preambles for the twelve year history of the Part 419 regulations) in its zero discharge retention system, consistent with EPA's 1985 regulations, and should not need an NPDES permit for Part 419 effluents as a result of the operational and maintenance protocols which successfully maintain this system as zero discharge.

III.The Ciniza Refinery Generally Manages "Storm Water Discharge Associated
With Industrial Activity" [or "Industrial Stormwater"] As Appropriate
Under The New EPA Regulatory Program Arising From the 1987 Clean
Water Act Amendments and 40 C.F.R. Section 122.26. Only Two Areas at
the Refinery Have "Industrial Stormwater" (Not Commingled With
"Contaminated Runoff") That Occasionally Must Be Discharged from A
Separate Storm Water Retention System By Opening Valves (for Outfalls 1
or 2) When Precipitation Events Exceed Retention Capacity.

In 1987, Congress amended the Clean Water Act, in part to help resolve some of EPA's administrative and legal difficulties (as shown by numerous court challenges) in seeking to regulate stormwater discharges. The 1987 Water Quality Act required EPA first (by October 1, 1992) to regulate storm water discharges "associated with industrial activity."¹¹ EPA set forth that definition of what was a "stormwater discharge associated with industrial activity" in 40 C.F.R. 122.26(b)(14) and it was discussed at some length at 55 Fed. Reg. 48007-15 (Nov. 16, 1990).

The new "industrial stormwater" program was not intended to cover discharges already under a TBEL regulation, like Part 419 "contaminated runoff," but it took what EPA previously had described as "clean" or "uncontaminated runoff" from industrial areas at petroleum refineries which did not have "contact" with the Part 419 petroleum materials and subjected that noncontact stormwater (i.e., from tank farms, roofed areas, and other locations where stormwater fell in an industrial area) to this new program.

The 1990 stormwater regulations that EPA developed for this new "industrial stormwater" program then defined what portions of a facility with a listed SIC code are considered to have industrial activity, such as industrial plant yards, material handling sites, refuse sites, shipping and receiving areas, manufacturing buildings, material storage areas for raw

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¹¹Included by Congress in the list of SIC industries considered to have industrial stormwater discharges were facilities classified as SIC code 29, which covers petroleum refineries.

material, intermediate and finished products. 40 C.F.R. Section 122.26(b)(14).¹²

The approach to determining what was regulated was different in the new "industrial stormwater" program as well. In the Part 419 program, the determination of whether runoff was regulated turned on whether the stormwater "comes into contact with" petroleum products, raw materials or petroleum waste products. In this new "industrial stormwater" program, it was not the contact with materials that made the stormwater regulated, it was the area at the industrial facility on which the stormwater fell that determined if it was regulated.

The sweep of the new "industrial stormwater" provisions clearly covered many areas of the Ciniza refinery whenever such stormwater in that area did not come into contact with raw material, intermediate or finished product or petroleum waste. Thus stormwater that had never contacted any petroleum materials (thus not "contaminated runoff" under Part 419) would still require a permit for discharge under this new regulatory program if it met the definition of a "stormwater discharge associated with industrial activity" in 40 C.F.R. Section 122.26(b)(14). While EPA in 1985 had clearly and expressly encouraged petroleum refineries not to commingle such "industrial stormwater" with the "process wastewater" and "contaminated runoff" already regulated under Part 419, now this new "industrial stormwater" program would require a separate permit for discharge under Section 122.26.

55 Fed. Reg. at 48009.

¹²In response to a comment, EPA specifically stated:

[&]quot;[T]ank farms at industrial facilities are included. Tank farms are in existence to store products and materials created or used by the facility. Accordingly they are directly related to manufacturing processes."

"Industrial stormwater" at the Ciniza Refinery typically falls into two categories: (1) that which does not discharge at all, and thus is not regulated¹³; and (2) that which is handled in stormwater drainage basins that have retention systems, but must occasionally discharge when the holding capacity is exceeded.¹⁴ There are two such basins, which discharge to the areas denominated as Outfall 1 and Outfall 2. It is this latter category of occasionally discharged "industrial stormwater" that is subject to the MSGP requirements. This is the only regulated "industrial stormwater" at the Ciniza Refinery under 122.26.

Much of the 122.26 regulated "industrial stormwater" is directed into initially routed to retention containments. Giant generally manages such regulated "industrial stormwater" in this "industrial stormwater" retention systems (prior to discharge at the Outfall 1 or Outfall 2 locations) to prevent discharge except in the case of a significant precipitation event. Such a precipitation event could cause the holding capacity of this "industrial stormwater" retention system to be exceeded. When necessary, valves are opened and "industrial stormwater" discharged at the locations at the Ciniza Refinery denominated in its Stormwater Pollution Prevention Plan as Outfalls 1 and 2.

¹⁴There is one location on the north and east side of the LPG tank farm area where some stormwater can flow to the drainage leading to Outfall 2 without passing through the valved retention system. As a result of the concern about this expressed in the Inspection Report, even though Giant is unaware of any stormwater from that area being discharged after a spill in this one portion of the tank farm, Giant has budgeted, engineered and contracted for full containment of this area so it will become zero discharge for stormwater.

¹³This category does not include "contaminated runoff" directed into the zero-discharge system for managing Part 419 effluent. It includes runoff from industrial areas that happen to drain into other "no outlet" areas where the stormwater either percolates or evaporates, but does not discharge to a "water of the United States."

Because the Ciniza Refinery did have a few areas where uncontaminated stormwater occurs that meets the definition of a "stormwater discharge associated with industrial activity" in 40 C.F.R. 122.26(b)(14), the Ciniza Refinery would have some "industrial stormwater" that could require a permit for discharge under this newer program.¹⁵

In 1992, the first 122.26 permit coverage requirement for discharge of this "industrial stormwater" took effect. Giant (the owner of the Ciniza Refinery at that time) properly filed a Notice of Intent for discharge coverage under the baseline industrial Storm Water General Permit. By Permit Coverage Notice from EPA dated December 31, 1992, Giant received a confirmation of authorization under NPDES storm water permit number NM00A172 for discharges in New Mexico from the Ciniza Refinery. Giant continues to manage its occasional discharges of 122.26 "industrial stormwater" under the available general stormwater permits. Since this program took effect, Giant has sought to manage its "industrial stormwater" in basins that have retention capacity allowing discharges to be limited to just a few times in a year, at most.¹⁶

The 1992 baseline industrial general permit eventually was replaced by a Multi-Sector General Permit. Today, for the occasional 122.26 discharge of industrial stormwater, Giant utilizes the 2000 MSGP (NPDES Permit # NMR05B157) to authorize such occasional discharges of "industrial stormwater" when its retention capacity is exceeded. [Part 419

¹⁶As previously mentioned, there is one portion of the LPG tank farm area that drains towards Outfall No. 2 without first going through the "industrial stormwater" retention system. That is in the process of being converted to a zero discharge area with the construction of new berms to prevent stormwater from that area from reaching the Outfall 2 drainage. Giant personnel are not aware of any spills in that area that have contaminated storm discharges.

¹⁵Unless stormwater "comes into contact with any raw material, intermediate product, finished product, byproduct or waste product" located at the Giant refinery, it does not meet the definition of "contaminated runoff" and thus is not under Part 419.

"contaminated runoff" is not discharged when the valves are opened.¹⁷]

The October 30, 2000 Multi-sector General Permit under which the Ciniza Refinery is currently operating states in pertinent part:

"6.I. Sector I - Oil and Gas Extraction and Refining6.I.1. Covered Storm Water Discharges

The requirements in Part 6.I apply to storm water discharges associated with industrial activity from Oil and Gas Extraction and Refining facilities as identified by the SIC Codes specified under Sector I in Table 1-1 of Part 1.2.1.

* * *

6.I.3. Limitations on Coverage

6.I.3.1. *Prohibition of Storm Water Discharges*. This permit does not authorize contaminated storm water discharges from petroleum refining or drilling operations that are subject to nationally established BAT or BPT guidelines found at 40 C.F.R. Parts 419 and 435, respectively. Note: most contaminated discharges at petroleum refining and drilling facilities <u>are subject to these effluent guidelines and are not eligible for</u> coverage by this permit.

6.I.3.2. *Prohibition of Non-Storm Water Discharges.* Not authorized by this permit: discharges of vehicle and equipment washwater, including tank cleaning operations."

65 Fed. Reg. at 64830 (Oct. 30, 2000)(bold emphasis added).

The 2000 MSGP correctly is pointing out that it is the "contamination" as that term is defined in Part 419 that makes the discharge covered by Part 419, not the area of the facility from which it comes.

This 2000 Multi-Sector Permit indicates "<u>most contaminated</u> discharges" are not eligible for discharge under the MSGP, because <u>most such discharges meet the definition of</u> "contaminated runoff" under Part 419. <u>If the industrial stormwater does not contact the</u> <u>requisite petroleum materials so as to meet the Part 419 term "contaminated runoff," it</u> <u>remains runoff eligible for discharge under the MSGP</u>. Thus, the 2000 MSGP says there will be some contaminated runoff (as long as its not the Part 419 definition of "contaminated"),

¹⁷As noted in Section 1.2.3.4 of the 2000 MSGP, discharges subject to effluent limitations under Part 419 are not authorized.

contaminated not by contact with the types of petroleum materials that make it Part 419 regulated, but by something else, as well as uncontaminated stormwater, that can be discharged pursuant to the 2000 MSGP. Giant does not manage its Part 419 "contaminated runoff" in discharges from Outfalls 1 and 2, but it does occasionally discharge 122.26 eligible "industrial stormwater" (which may also contain some contaminants, as long as they don't come from contact with Part 419 petroleum materials or product waste) at the Ciniza Refinery. These 122.26 discharges only occur after significant precipitation events (pursuant to the MSGP), when Giant opens the valves because its 122.26 "industrial stormwater" retention capacity is exceeded.

Giant generally manages its petroleum raw materials, its intermediate petroleum product, its finished petroleum product and its petroleum byproducts and waste products so as to minimize stormwater contact. As previously noted, in those areas where stormwater has a significant likelihood of contacting the petroleum product, byproduct or waste, or any raw material, the flow of that stormwater is routed to a "zero discharge" system that includes the recapture of such petroleum materials in an oil-water separator prior to management of the remaining effluent in a pond system operated to be "zero discharge" to waters of the United States. This is an appropriate wastewater treatment system built, maintained and operated by the Ciniza Refinery in order to meet CWA requirements with respect to Part 419 (covering both process wastewater and any runoff that gets contaminated through contact with petroleum raw materials, products, byproducts or waste.)

To the extent there is a concern that a spill or accidental loss of petroleum product, byproduct, waste or raw material could inadvertently occur in an area that might drain to the contained 122.26 retention areas with valves that could discharge to the areas denominated as Outfalls 1 and 2, it would be cleaned up and appropriately removed before there was a 122.26 stormwater discharge. Giant (as a matter of policy) would not open the valves to discharge such contaminated waters.

First, it is noteworthy that spill events of any significance at the Ciniza Refinery are extremely uncommon and unlikely. There have been no reportable spills under Part 110. A spill prevention containment and countermeasures program is designed to prevent spills, and an aggressive Integrated Contingency Plan assures prompt detection and cleanup of spills.¹⁸ In

"All petroleum storage tanks are located within full encirclement earthen containment dikes constructed of low permeability soil. All basins are sized to contain the maximum volume of the largest tank within the dike, plus an additional freeboard height of at least 6 inches.... Precipitation is infrequent and stormwater trapped within diked areas typically evaporates. Spills are removed via vacuum trucks or portable pumping systems. Recovered material is transferred to a slop tank or the WWTU [zero discharge wastewater treatment unit that retains all Part 419 wastewater], as appropriate....

¹⁸ As noted in the April 12, 2005 SWPPP, there are a variety of leak and spill controls, including the following:

addition, the Clean Air Act requires that the refinery maintain an LDAR (leak detection and repair) program, which requires monitoring, inspection and recordkeeping for equipment in VOC and HAP service. These programs make it unlikely that precipitation will have the requisite contact with the types of petroleum materials that are the factual predicate for Part 419 regulation.

Second, even in the case of an unanticipated upset condition, however, Giant can capture, remove and prevent any such petroleum product, byproduct, waste or raw materials from being discharged. By keeping the valves closed and by engaging in appropriate spill response and cleanup prior to the opening of the valves for purposes of discharging "industrial stormwater," stormwater in that area would be cleaned up along with the spilled petroleum materials. Thus, aside from the general direction of runoff from the process areas and areas where it is "contaminated" to the zero discharge system that Giant has implemented, in the event petroleum were released into basins that drain towards Outfalls 1 and 2, Giant under its ICP can capture and clean up such petroleum materials and any associated runoff prior to "industrial stormwater" discharge.¹⁹

Giant has developed and implemented a Storm Water Pollution Prevention Plan. As a general rule, all regulated areas of the refinery are operated and designed to have all stormwater contained. Part 419 "contaminated runoff" is directed, as noted in the earlier discussion, into the zero discharge retention system. "Industrial stormwater" (from areas regulated under 122.26 but not "contaminated" as defined under Part 419) generally is directed into a stormwater retention system.²⁰ In order for this "industrial stormwater" from the Ciniza Refinery to reach a water of the United States (i.e, the Rio Puerco nearby), Giant must affirmatively open valves in detention containment areas to permit the stormwater to discharge (i.e., into the areas referred to as Outfalls 1 and 2).²¹

Spilled material which accumulates in any retention basin is removed via portable skimmers and pumps, and then transferred to either a slop tank or the WWTU, as appropriate."

Best Management Practice #4: Leak and Spill Controls.

¹⁹As explained in some detail earlier, Giant manages Part 419 "contaminated runoff" by directing it to a different wastewater treatment retention system that it manages for zero discharge.

²⁰Once again, the only exception is the north and east portion of the LPG tank farm area, and this has now already been engineered and contracted for full stormwater containment.

²¹If, by circumstance, an industrial spill of petroleum materials or other Part 419 regulated byproducts or raw materials into the "industrial stormwater" detention system occurred, Giant

The Ciniza Refinery is designed, constructed, maintained and operated such that only appropriate "industrial stormwater" (not "contaminated runoff") is to be present in the detention system when any of the valves are opened to allow "industrial stormwater" discharge in the areas known as Outfalls 1 and 2.

IV. Ciniza Response to Inspector's Specific Concerns: Introduction

As noted in the last paragraph of the Inspection Report, Giant brought its two highest ranking on-site officials to the closing conference after the inspection: General Manager Ed Rios; and Operations Manager Stan Fisher. Also at the debriefing session were Ed Riege and Steve Morris, top experienced members of the Ciniza Refinery environmental team. Giant takes its compliance obligations and the advice of regulatory staff after an inspection with appropriate respect. We are grateful for the professional courtesy of regulatory staff in providing the closing conference.

Immediately after the inspection closing conference, Giant retained a stormwater consultant to assist with updating and improving its stormwater pollution prevention plan.

When it received the written Inspection Report, Giant addressed the inspector's concerns. These concerns in the written Inspection Report consists of four unnumbered sections (one with three subparts), totaling five single spaced pages, accompanied by a cover letter dated December 19, 2005. The sections in the Inspection Report are entitled as follows (with a numbering system added for easy reference):

1) "Introduction"

2) "Permit Status: Overall rating of 'Unsatisfactory' "

3) "Storm Water Pollution Prevention Plan (SWPPP)"

Subpart a) "Pollution Prevention Team: Overall rating of 'Marginal' "

Subpart b) "Description of Potential Pollutant Sources: Overall rating of 'Marginal' " Subpart c) "Description of Appropriate Measures and Controls: Overall rating of "Unsatisfactory"

would clean up any such materials (and water contacting such materials). Giant typically would not open the detention system valves to allow such spills to reach the Rio Puerco or other water of the U.S.

4) "Annual Site Compliance Evaluation Reports: Overall rating of 'Unsatisfactory' "

With respect to the "Introduction," the only substantive statement that warrants any response is that the "inspection included an assessment of the potential co-mingling of "contaminated runoff" as defined under 40 C.F.R. Part 419.11 and ineligible for coverage under the MSGP, with storm water discharges that are eligible."

Giant has taken this concern extremely seriously, and undertook a lengthy review of the development of the Part 419 regulations and the EPA guidance on what is properly considered "contaminated runoff" to double-check its interpretation on this issue. As noted several times by EPA itself in the course of the rulemaking, this area can be misunderstood. Giant had detailed its position and rationale at great length herein, both to make sure Giant itself understands the regulations correctly and to facilitate a mutual understanding with the regulatory authorities as to what is appropriate management of Part 419 "contaminated runoff." Giant is very interested in compliance with these regulations, and never had a problem on this issue with any previous inspections.

Giant's position on this issue has already been outlined above, and Giant believes it has implemented an entirely reasonable interpretation of Part 419 as applied to the facts of its facility, and that its system of zero discharge that it has constructed and endeavored to maintain is fundamentally a good one, consistent with the goals and requirements of the Clean Water Act.

As previously noted, Giant believes it appropriately manages "contaminated runoff" in a zero discharge system, and, on those rare occasions when the Ciniza Refinery does discharge (i.e., by opening the valves to areas denominated as Outfalls 1 and 2), only "industrial stormwater" is discharged and no "contaminated runoff." Giant has taken the inspector's complaint very seriously, has carefully researched guidance on how EPA intended to define and interpret the term Part 419 "contaminated runoff" and believes it has adopted a sensible and logical protocol to manage Part 419 effluents without discharge.

Nevertheless, Giant has gone back and updated its SWPPP, and has designed/implemented some additional barrier systems to maintain even more stormwater in a "zero discharge" retention system in its efforts to be fully responsive to the Inspection Report. While these improvements will add redundant levels to assure that no Part 419 "contaminated runoff" is discharged, the existing system has been highly effective in keeping Part 419 regulated effluents from discharging. The Ciniza Refinery, on those rare occasions when it discharges, does not discharge Part 419 effluent, but only "industrial stormwater" pursuant to 122.26.

The remaining sections of the Inspection Report (2, 3a, 3b, 3c and 4) are discussed in separate sections below. A number of suggestions made by the Inspection Report have resulted in changes in the Ciniza Refinery's efforts to keep stormwater clean, and Giant is grateful for the

regulatory assistance. Giant's goal is to comply with the requirements and, as suggested in several places by the inspector, to go above and beyond basic legal requirements to further isolate stormwater from potential contamination at the Ciniza Refinery.

V. The Finding of "Unsatisfactory" Permit Status Was Improperly Based, as Noted in the Inspection Report, on the Alleged Documented "Contaminated Runoff" Assessment. The Ciniza Refinery Does Not Commingle Part 419 "Contaminated Runoff" with any "Industrial Stormwater" That Is Discharged To the Outfall 1 or 2 Locations.

Giant is understandably concerned and very chagrined about the statement in the Inspection Report that indicates as follows:

Permit Status: Overall rating of "Unsatisfactory"

There are a total of seven paragraphs in this section that follow this tentative "Unsatisfactory" conclusion by the inspector. The very last paragraph reveals the basis for the overall "Unsatisfactory" rating on "**Permit Status**" and is quoted here in pertinent part:

"Since most of the time available to conduct this inspection was spent doing the above documented "contaminated runoff" assessment, only a cursory, and after the fact review of the SWPPP, was completed."

In other words, the basis of the "Unsatisfactory" **Permit Status** was the perceived commingling of "contaminated runoff" regulated under Part 419 with "industrial stormwater" that the inspector felt was being discharged. To put it another way, <u>the inspector based the "unsatisfactory"</u> <u>determination on what he perceived to be a serious problem of "contaminated runoff" being discharged pursuant to the MSGP at the Outfalls 1 or 2 locations.</u>

The inspector's concern with this issue was such that the entire third paragraph in this section of the Inspection Report was emphasized in bold, and is quoted in its entirety below:

"Section 301 (a) of the Federal Water Pollution Act states that "Except as in compliance with this section and sections 302, 306, 307, 318, 402 and 404 of this Act, the discharge of any pollutant by any person shall be unlawful." Since this facility does not have (and has apparently never had) NPDES permit coverage for discharges of process wastewater or contaminated runoff, all past and continuing, discharges have been (are) in apparent violation of Section 301 of the Clean Water Act, 33 U.S.C. § 1311."

The inspector apparently thought that the Ciniza Refinery was discharging Part 419 "contaminated runoff" to a water of the United States without an NPDES permit, and thus made the "unsatisfactory" permit status finding. First, there were no discharges occurring on the date of the inspection. There was no precipitation event, there was plenty of capacity remaining in the detention system, and no industrial stormwater valves were opened. The Part 419 retention system, of course, was not discharging either (as it is managed as a zero discharge system).

Second, as noted previously in this response, Giant believes it has appropriately set up a system that keeps all process wastewater and "contaminated runoff" in its zero discharge retention system. Since it designed, constructed, maintains and operates this retention system to be zero discharge, there should be no problem whatsoever that no NPDES permit exists for the zero discharge portion of this system where Part 419 process wastewater and "contaminated runoff" is directed.

Thus, the "unsatisfactory" finding on **Permit Status** seems unwarranted as the inspector perhaps unfairly assumed that "contaminated runoff" is being directed to the "industrial stormwater" detention system and that Part 419 "contaminated runoff" is being discharged through valves at the Outfall 1 or 2 locations. This is not the case.²²

Giant has struggled to determine the rationale for this seemingly unfair conclusion by the inspector that Part 419 effluent is being discharged and believes it stems from a misreading of a sentence in the 1998 MSGP preamble. In the first paragraph of this Permit Status section of the Inspection Report are three sentences, the first which correctly quotes the definition of Part 419 "contaminated runoff" and the second and third which appear to be quotes taken from a preamble to the 1998 Multi-Sector Stormwater Permit notice in the September 30, 1998 Federal Register. It is the first of these two sentences from the 1998 MSGP preamble that the inspector apparently based his "unsatisfactory" determination upon, for that single sentence seemingly caused him to conclude stormwater from certain geographic areas at the facility necessarily had to be "contaminated runoff," even if that stormwater never contacted petroleum materials.

However, since Part 419 is clear on its face that the prerequisite for Part 419 regulation of stormwater is the "contact" with "raw material, intermediate product, finished product, by-product or waste product" produced by the petroleum refining process, and since the preambles to the various iterations of the Part 419 regulations show that the Ciniza Refinery's interpretation of Part 419 "contaminated runoff" and its management of such "contaminated runoff" in a zero

²²As of the November 10, 2005 date the inspector was at the facility, there was no discharge of any kind whatsoever occurring, so this was not a case of actual discharge observed. It was, in the inspector's mind, a logical deduction that an improper discharge of Part 419 "contaminated runoff" must have occurred in the past and would occur again in the future at the Outfall 1 or 2 locations. While understandable given the single misleading sentence in the 1998 MSGP preamble relied upon by the inspector, that sentence ambiguously characterizes the scope of Part 419 coverage. The Ciniza Refinery does not discharge Part 419 effluent when it is maintaining, operating and managing its retention and detention systems properly.

discharge system is appropriate, the inspector's determination based on his interpretation of a single sentence in the 1998 MSGP preamble is unfair as applied to the Ciniza Refinery.

The second paragraph in the **Permit Status** section of the Inspection Report then proceeds to unfairly penalize the Ciniza Refinery based on that single ambiguous sentence from the 1998 MSGP preamble (ignoring the express language in the Part 419 definition of "contaminated runoff" that first requires that runoff "contact," with "raw material, intermediate product, finished product, by-product or waste product" in order for the runoff to meet the Part 419 definition of "contaminated"). As a result of, first, not applying the plain requirement of "contact" before finding an area had "contaminated runoff" and, second, of misapplying one ambiguous sentence in a preamble on the 1998 MSGP in a manner which clearly contradicts the regulatory history of Part 419 development as well as the plain language of the Part 419 "contaminated runoff" definition, this inspector appears to have unfairly assigned a permit status of "unsatisfactory." While it is apparent how he reached the conclusion that illegal Part 419 discharges were occurring and was troubled that the Ciniza Refinery did not have an NPDES permit for Part 419 discharges, unfortunately, that "unsatisfactory" Permit Status finding was based on a misunderstanding of the scope of Part 419 coverage. Hopefully, Giant's lengthy exploration of the Part 419 coverage in the first part of this response appropriately resolves the ambiguity in the 1998 MSGP preamble sentence at issue.

To specifically understand how this unfortunate misunderstanding arose, it is useful to review in greater detail the specific sentence in the November 10, 2005 Inspection Report relied upon by the inspector, and to review the source for that sentence, the 1998 MSGP preamble in the Federal Register.

The first paragraph in this **Permit Status** portion of the Inspection Report consists of three sentences. The first correctly quotes the definition of "contaminated runoff" from Part 419 of the regulations. As noted, runoff must "come into contact" with petroleum product, byproduct, waste product or raw material before it is considered to be "contaminated runoff."

The second sentence in this first paragraph states that <u>"[m]ost areas at refineries are not</u> eligible for coverage under the MSGP including: raw material, intermediate product, by-product, final product, waste material, chemical and material storage areas; loading and unloading areas; transmission pipelines; and, processing areas." It is this second sentence that the inspector mistakenly interpreted to come to the conclusion that the Ciniza Refinery was improperly discharging Part 419 effluent without an NPDES permit.

The third sentence in this first paragraph of this portion of the Inspection Report then states: "[r]unoff that may be eligible for coverage, provided that discharges are not co-mingled with "contaminated runoff," include: vehicle and equipment storage, maintenance and refueling areas."

To find the source of that second sentence, we need to go back to 1998, when EPA

terminated the 1992 Baseline Industrial General Permit for Stormwater and issued an expanded Multi-Sector General Permit that now covered industrial stormwater discharges from petroleum refineries.

In seeking to provide cursory (shorthand) guidance as to what was "contaminated stormwater" under Part 419 as opposed to what was "industrial stormwater" under the Multi-Sector General Permit, the 1998 preamble for the Multi-Sector Permit stated:

"I. Storm Water Discharges Associated with Industrial Activity from Oil and Gas Extraction Facilities and Petroleum Refineries

Discharges Covered Under This Section (a) Coverage. * * *

This section also covers petroleum refineries listed under SIC code 2911. Contaminated storm water discharges from petroleum refining or drilling operations that are subject to nationally established BAT or BPT guidelines found at 40 C.F.R. 419 and 435 are not included.

Note that areas eligible for coverage at petroleum refineries will be very limited because the term "contaminated runoff," as defined under 40 C.F.R. 419.11, includes "** * runoff which comes into contact with any raw material, intermediate product, finished product, by-product or waste product located on petroleum refinery property." Areas at petroleum refineries which may be eligible for permit coverage, provided discharges from these areas are not co-mingled with "contaminated runoff," include vehicle and equipment storage, maintenance and refueling areas. <u>Most areas at refineries will not be eligible for coverage including : raw material, intermediate product, by-product, final product, waste material, chemical and material storage areas;, loading and unloading areas; transmission pipelines; and, processing areas."</u>

63 Fed. Reg. at 52484 (September 30, 1998) (underlined emphasis added).

The underlined sentence in this 1998 preamble could be read two ways:

(1) the way the Inspection Report did, which is that all stormwater in these areas would automatically come into contact with raw material, intermediate product, finished product, by-product or waste product so as to meet the definition of Part 419 "contaminated runoff," or,

(2) that <u>most</u> such areas will have the requisite Part 419 "contact" between runoff and petroleum materials, and thus the runoff would be "contaminated" and thus ineligible.²³

²³Even under this second interpretation, if an accidental spill of petroleum materials occurred at the facility somewhere, say if a truck overturned on the road out of the facility, and it happened to rain at exactly that moment, there is still a question as to whether the stormwater contacting such a spill makes this into a 402 permitted effluent, or if this is a classic type of spill

The latter reading is consistent with the plain language and regulatory history and preambles for Part 419, and is the appropriate reading.

not intended for 402 but for Section 311 of the CWA. The earlier discussion in the regulatory history of EPA's efforts to distinguish spills regulated under CWA Section 402 and the NPDES permit from spills regulated under CWA Section 311 suggests that the mere occurrence of a spill does not make stormwater that contacts it automatically subject to Part 419 effluent limitations. The first question to ask is whether this is a 402 covered spill or a 311 spill. Only if it is a 402 spill is it even potentially subject to Part 419 at all.

If, due to some management practice, the runoff in that area referred to in that 1998 MSGP preamble sentence [say an area in which some raw materials or finished petroleum product was stored] did not contact the requisite petroleum materials (the obvious example being a completely roofed area in which the stormwater in that area did not contact any petroleum materials, and so the stormwater would be from that geographic area of the refinery but clearly would not be Part 419 "contaminated runoff"), it would not be Part 419 "contaminated runoff." Nowhere in the history of the Part 419 regulations is there anything that suggests that stormwater that falls on an area with some petroleum material, even if that material is inside containers, inside a roofed structure, and therefore clearly not in contact, is automatically Part 419 "contaminated runoff." The opposite is true: there is no Part 419 "contaminated runoff" unless there is stormwater contact with the requisite materials.²⁴ It is not a geographic determination; instead, it is a materials-contact determination.

If the factual predicate of "contact" with "raw material, intermediate product, finished product, by-product or waste product" (required for Part 419 "contaminated runoff") does not occur, the precipitation could not be "contaminated" by contact such that it is subject to Part 419. With respect to the scope of Part 419, it is the plain language requiring actual contact, as explained through the regulatory history (including the Part 419 preambles) that is controlling, and not a single ambiguous sentence made in a preamble for the MSGP issuance in 1998.

As demonstrated by the lengthy review of the development of the Part 419 regulations, it

²⁴Even if stormwater contacts petroleum materials, it is not Part 419 stormwater if the petroleum came from a spill that is covered by 40 C.F.R. Part 110 and CWA Section 311 as opposed to the NPDES program. In 1985, EPA was intending to cover under Part 419 stormwater in areas with regular (not incidental) contact with petroleum materials.

is the actual contamination by contact²⁵ with petroleum materials (raw materials, intermediate or finished petroleum products or petroleum waste products) that can create Part 419 "contaminated runoff," not the location where the precipitation occurs.²⁶

²⁶In fact, in Part 419, EPA strongly encouraged refineries to manage their precipitation in all locations to keep it uncontaminated by contact and to not route such uncontaminated runoff it into wastewater treatment systems that were handling process waste water. To now take the position that any place where a facility might ever spill petroleum now required all stormwater in that area to be routed into the process wastewater treatment system would be the exact opposite of the EPA statements that stormwater in that generally uncontaminated area should NOT be routed into the same process wastewater treatment system.

²⁵The 1985 and 1987 preamble statements and the 1978 Congressional amendment to the CWA distinguishing incidental oil spills under Section 311 from oil spills that typically are through the NPDES (CWA 402) treatment system for process wastewater further indicates this must be some regularized contact, not just an incidental spill.

It is the Part 419 regulation itself that should be looked to for defining the scope of Part 419. Where there is ambiguity, it is the preambles to the Part 419 regulatory development previously discussed that provide further clarity. It is illogical to utilize a single, out of context and ambiguous sentence in a 1998 MSGP preamble, not written by someone who would have worked on the development of the Part 419 regulations, to overrule either the explicit language of the definition of "contaminated runoff" in Part 419, or the far more illuminating preambles to the relevant Part 419 regulations.²⁷

²⁷The 1998 Federal Register permit notice for the MSGP was not a regulation itself and thus could not change the 1985 adoption of Part 419. The single inartful sentence in a preamble to the 1998 notice of MSGP permit issuance simply cannot overrule the plain meaning of a Part 419 regulation nor should it carry any weight contrary to the preambles that accompanied the Part 419 regulatory development. The 2000 MSGP permit preamble fortunately does not repeat such misleading language, either in its authorization of allowable discharges or in its preamble. Simply put, a single sentence in a notice issuing the 1998 MSGP does not change the definition of what is "contaminated runoff" under Part 419.²⁸

²⁸In the one and only location in the "industrial stormwater" rules where EPA had been required to define contaminated runoff, not for purposes of Part 419, but for purposes of determining the scope of a different stormwater exemption for oil and gas extraction and production facilities, EPA took the position the stormwater was uncontaminated unless it had a 24 hour reportable quantity discharged with it. In this analogous situation, where EPA was interpreting what "contaminated by contact" with "raw material, intermediate products, finished byproduct or waste products" located at "oil and gas exploration, processing or treatment operations" for purposes of 40 C.F.R. Section 122.26(a)(2), EPA stated that stormwater is not "contaminated by contact" unless the stormwater has had a discharge of a reportable quantity under 40 C.F.R. Sections 117.21, 302.6 or 110.6 or else is sufficiently contaminated to contribute to an actual violation of a water quality standard. 54 Fed. Reg. 246 (Jan. 4, 1989). See 40 C.F.R. Section 122.26(c)(1)(iii). As recently noted in the Federal Register by EPA:

"[W]ith respect to oil or grease or hazardous substances, the determination of whether storm water is contaminated by contact with such materials, as established by the Administrator, shall take into consideration whether these materials are present in such storm water runoff in excess of reportable quantities under section 311 of the CWA or section 102 of CERCLA."

71 Fed. Reg. at 896 (Jan. 6, 2006)). Even if this were the appropriate definition of "contaminated runoff to use, the Ciniza Refinery would not be discharging "contaminated runoff" at Outfalls 1 or 2. The bottom line is that the appropriate definition of "contaminated runoff" for Part 419 purposes is the one at Part 419, and any clarification sought must be found in the preambles to that rulemaking, not in the preamble to a notice of general permit issuance for "industrial stormwater."

The second paragraph in the **Permit Status** section of the Inspection Report stated there are a "number of areas from which 'contaminated runoff' or co-mingled 'contaminated runoff' and storm water runoff appear to discharge...." The Inspection Report then identifies three areas where it alleges Part 419 "contaminated runoff" is being discharged (bold numbering and additional spacing below added for ease of reference):

"These include: [1] a fairly large area in the northeast part of the facility where some (most is contained) of the railcar loading/unloading facility and an LPG tank farm appear to drain either directly offsite or are commingled with storm water runoff directed to storm water outfall No. 2;

[2] the area along the south side of the main process area (north of the office complex) appears to co-mingle with storm water runoff directed to storm water outfall No. 1;

and [3] the area along the north side of the facility where some of the drainage from a scrap yard (from which discharges are likely eligible) appears to co-mingle with drainage from an adjacent (to the east) tank farm and then directed to storm water outfall No. 2."

Thus, it appears the Inspection Report finding of "unsatisfactory" is based on the understanding that in these three areas, stormwater does contact petroleum materials (triggering Part 419) and then is discharged to either Outfall 1 or 2 after a valve is opened. (It is indisputable no such discharge of any kind was occurring on the date of the inspection since there was no precipitation event and the valves had not been opened.)

With respect to the first concern that stormwater that has come into contact with petroleum materials such that Part 419 effluent is discharged from the railcar loading/unloading facility and an LPG tank farm, the Ciniza Refinery carefully manages the stormwater in that area to assure that no spilled petroleum materials and associated runoff are discharged from that area.

In the area at the railcar facility where spills may be likely to occur, a separate catchment system for any spills and any stormwater that would contact such spills is utilized to keep spills (and "contaminated runoff") at zero discharge in that area. This system is based on grate drains under the railroad tracks which captures the stormwater that falls in the immediate vicinity of the railroad. There are concrete stormwater barriers that prevent the stormwater from leaving this area. Spills in this area are, as is standard protocol, kept contained and cleaned up (along with any contacting "contaminated runoff") without discharge.²⁹ While it does not happen, even if a spill did escape this first concrete barrier catchment system, it would then encounter a berm

²⁹If runoff carried spills into the Rio Puerco, it likely would be a reportable event under Part 110 since the threshold for harmful quantities of oil under Part 110 is so low. The Ciniza Refinery has had no such reportable events, which is consistent with the management of stormwater to avoid discharge of Part 419 effluents.

system designed to keep such a spill from entering the standard 122.26 "industrial stormwater" retention system. On November 10, 2005, there was some damage to that berm. Thus, the second level of protection was somewhat compromised and this created concern on the part of the inspector. Still, the first barrier system was still fully operational. It was just a problem with the second redundant barrier in this railcar area that concerned the inspector, which has since been fixed. Even if the first concrete barrier and the second berm barrier is compromised in the railcar area, the spill from the railcar area would then be caught in the 122.26 "industrial stormwater" retention system in this area. At that point, a valve would have to be opened at this additional concrete barrier system before the spill could reach the water of the United States associated with Outfall No. 2. Thus, the inspector's two fold concerns are unwarranted [First, his concern is that the stormwater in this area should be considered Part 419 stormwater, which is not correct. Second, his concern was that a spill would, with associated stormwater, get into a water of the U.S., which is not the case due to a three barrier system protecting this railcar area where spills may occur.] Giant is appropriately upset that the second barrier in this three barrier system was compromised at the time of the inspection, but that did not result in a discharge of spilled material or associated stormwater from the railcar area.

In the areas further away from the railcar facility where spills are far less likely, only the single retention system control is utilized, along with a strong spill response plan, to assure that no spills (or runoff contacting such spills) will be discharged when the valves for a 122.26 "industrial stormwater" discharge are opened. Petroleum materials are unlikely to be spilled in this area, and any spills that occurred would be cleaned up prior to any 122.26 discharge of "industrial stormwater."

On the date of the inspection (November 10, 2005), perhaps the inspector was concerned that one of the berms in an additional catchment/berming system in an area where chemicals are loaded into railcars had been damaged as a result of vehicle traffic. While unlikely that runoff will be contaminated by contact with such unloaded chemicals in this area (not a process area), the Ciniza Refinery has sought to maintain an additional berm system to keep railcar area stormwater redundantly contained here. Such a redundant system protects in the event a precipitation event happened to occur right at the time unloading was occurring and a spill occurred. (It is unlikely such unloading would occur during the rainstorm, as staff would probably wait until the rain stopped.)

At no time, however, did a spill or any runoff that contacted a spill from this railcar area reach a water of the U.S. Hypothetically, had any runoff contacted a spill that occurred before the spill was cleaned up and then that runoff escaped the redundant catchment because the berm had been damaged by vehicle traffic, that runoff would have been caught in the "industrial stormwater" retention system and, if contaminated, appropriately removed prior to any opening of any valves for discharge. Giant agrees that it is entirely appropriate to repair that first berm compromised by vehicle traffic; there was no discharge of Part 419 regulated effluent at any time while it was compromised due to the redundancy of catchment systems maintained for such occurrences at the Ciniza Refinery. We are chagrined that the redundant berm in the railcar area

was compromised, but it did not result in any improper discharge. Since that inspection date, the berm was repaired.

With respect to the LPG tank farm area referred to by the inspector, the majority of this area drains to a zero discharge depression (sometimes referred to as a grassy swale). There is no discharge to a water of the U.S. from this drainage, and as such, no potential for NPDES regulation. On the other hand, the inspector may have been duly concerned that a smaller portion of this LPG tank farm area does drain towards the area denominated as Outfall No. 2. The storm runoff in this area is not captured.

First, Giant notes that it has not had spills in this northern/eastern area of the tank farm that have contaminated runoff discharged to waters of the United States. No reportable spill events have occurred. Second, Giant appreciates the inspector's concern that such a spill could occur. As a result, Giant has, subsequent to the inspection, engineered and contracted for the construction of a bermed system for this area to keep stormwater from this northern/eastern portion zero discharge. This should be constructed shortly, thus eliminating the spill's potential for contaminating stormwater that would be discharged into a water of the United States. Thus, the Ciniza Refinery does not believe accidental spills and certainly no Part 419 effluents will be discharged towards Outfall No.2 from this northern/eastern LPG tank farm area.

In the second area of concern noted by the inspector, the concern is that the "area along the south side of the main process area (north of the office complex) appears to co-mingle with storm water runoff directed to storm water outfall No. 1." In response, the Ciniza Refinery notes that it is aware that risk of a spill or leak occurring in the Process Area is high, and thus its system directs storm water in this Process Area into the zero discharge WWTU retention system. Generally, any precipitation that falls in this area is captured by drop inlets (gravity flow) to a piping system below through which it then flows into the zero discharge WWTU retention system. While gravity flow directs the stormwater in the Process Area into these drop inlets, a redundant system of curbing also generally assures that such stormwater would not leave the area even if the drop inlets somehow were plugged or otherwise not adequately draining the stormwater in this Process Area.

In the extremely unlikely situation that a spill (or "contaminated runoff") escaped the catchment system that keeps the Process Area zero discharge, this Part 419 effluent would then be caught within the 122.26 retention system and be cleaned up before valves were opened to discharge.

On November 10, 2005, the inspector may have been concerned with broken curbing in part of the zero discharge system for this Process Area. There was no problem with the drop inlets, which were all functioning as intended to drain this Process Area. The Ciniza Refinery has never had a problem with the drop inlets being sufficiently sized to handle even the precipitation flow (of even the largest storms) from the Process Area, and thus any Part 419 "contaminated runoff" from the Process Area gravity flows into the zero discharge WWTU retention system.

Even had Part 419 effluents drained out through the compromised curbing (which definitely did not occur on November 10, 2005), the redundant protections for this Process Area prevent any discharge to waters of the United States. Redundant protections are helpful and permit the Ciniza Refinery to make repairs, such as the one needed for this curbing, in an orderly fashion. Such a repair has been appropriately scheduled after the problem was noticed. Giant is grateful to the inspector for pointing out this appropriate action to be taken.

It is important to remember, even though there was compromised curbing and repair is appropriate, there were no discharges of Part 419 effluents to "waters of the U.S." from the Process Area. (Even had such Part 419 effluents escaped through any compromise in the zero discharge system, they would have been caught and cleaned up prior to any opening of valves to discharge "industrial stormwater" to Outfall No. 1.)

The third area of concern raised by the inspector related to "the area along the north side of the facility where some of the drainage from a scrap yard (from which discharges are likely eligible) appears to co-mingle with drainage from an adjacent (to the east) tank farm and then directed to storm water outfall No. 2." First, this tank area does not drain to a stormwater outfall area. The drainage from this area is to a depression (sometimes referred to as a grassy swale) that has no discharge at all to waters of the United States. All water in this depression evaporates. Nevertheless, Giant has engineered additional berms to be constructed which, when constructed, will even prevent additional stormwater even from reaching the zero discharge grassy swale depression. Tanks with secondary containment with enough freeboard also keep precipitation that would contact a spill contained. Even if a spill or runoff contacting such a spill could escape the these catchment systems, it would be captured in zero discharge grassy swale depression without discharge to a water of the United States.

While the **Permit Status** section predominantly bases its "unsatisfactory" finding on the concern that Part 419 "contaminated runoff" is being discharged (which was not occurring), it also raises legitimate concerns with respect to the inclusion of the documentation supporting the Endangered Species and Historic Places determinations for MSGP eligibility. This information inadvertently was not included in the 4/12/05 SWPPP revision and has been updated and incorporated in the new SWPPP. A copy of the relevant document is attached hereto as Attachment One.

VI.Giant Appreciates the Suggestions for Improvement of Its Written SWPPP
and Has, Where Appropriate, Incorporated Those Suggestions Into A Newly
Revised SWPPP. With Respect to Some of the Comments, It Appears the
Inspection Report Comments Seek Modifications at the Ciniza Refinery over
and Above What is Required for MSGP 2000 Compliance. Where Those
Comments Nevertheless Make Sense as A Good Practice, Giant Has Included
Them in the SWPPP Revision.

The Storm Water Pollution Prevention Plan (SWPPP) portion of the Inspection Report had three subsections. The first rated the "Pollution Prevention Team" only "marginal" because Giant did not make Mr. Riege a member of this team; the second subsection rated the "Description of Potential Pollutant Sources" only "marginal" even though the inspector specifically stated in writing in this Inspection Report subsection that "[t]he plan does a very thorough job of pollutant and pollutant source identification"; and the third subsection rated the "Description of Appropriate Measures and Controls" as "unsatisfactory."

Each subsection, after its title and overall rating, then references in bold a specific provision of the MSGP and then states in italics a paragraph which appears to be the inspector guidance for conducting an EPA stormwater inspection for MSGP compliance for that provision of the MSGP. Thereafter, in each subsection of this Inspection Report are a series of observations and suggestions made by the inspector.

Giant appreciates the suggestions for improvement made, and has carefully considered and, where appropriate, incorporated all of the suggestions into the revised SWPPP prepared with the assistance of a stormwater consultant after the review of the Inspection Report.

With respect to the omission of Mr. Riege on the **"Pollution Prevention Team"** in the April 12, 2005 SWPPP, Part 4.2.1 of the MSGP mandates neither that the facility environmental superintendent be a formal member of the SWPPP team nor that an individual such as Mr. Riege may not involve himself on such pollution prevention matters without being formally listed as a member of the team. With all due respect to Mr. Riege, the SWPPP already includes several highly capable individuals on the Pollution Prevention Team, including the Team Leader, Steve Morris (Environmental Engineer), who has been at the Ciniza Refinery significantly longer than Mr. Riege and who is also highly competent in environmental issues and is an appropriate representative of the environmental staff at the facility for this Team, and a deep, varied and experienced set of additional members from the facility that complement the environmental team leader. As EPA noted when it first developed the 1995 MSGP,

"When selecting members of the team, the plant manager should draw on the expertise of all relevant departments within the plant to ensure that all aspects of plant operations are considered when the plan is developed."

60 Fed. Reg. at 50815 (Sept. 29, 1995). In this case, the plant manager (Mr. Ed Rios) is also a member of the team, appointed a key member of the environmental staff to head the team. The team has then been rounded out with Mr. Stan Fisher (Operations Manager); Ted Gonzales (Maintenance Manager); John Laurent (Technical Services Manager); Tony Allen (Purchasing and Warehouse Manager), and Charley Arnold (Safety Manager). What each of these team members "brings to the table" is described in the SWPPP, and Giant therefore submits that this Pollution Prevention Team should be considered more than "marginal" in composition, simply because Mr. Riege is not a formal member. The Team is charged with the responsibility for the SWPPP, and it does regularly consult with and utilize Mr. Riege's services as well. Mr. Riege

has many other primary responsibilities, particularly air quality, but he does materially provide additional backup assistance to the Pollution Prevention Team.

Nothing in the regulations, the MSGP, or any preambles or other guidance indicates it is EPA's interpretation that a Pollution Prevention Team must include the Environmental Superintendent and not only an Environmental Engineer, nor does anything in the regulations, the MSGP or preambles or other guidance indicate there is anything improper about assistance on stormwater issues from an environmental superintendent if he (or she) is not listed on the Pollution Prevention Team may undertake duties such as a refinery, many people not listed on the Pollution Prevention Team may undertake duties to help maintain stormwater compliance. This should be encouraged.

Out of respect for the inspector's regard for Mr. Riege and the inspector's apparent conclusion this will enhance stormwater compliance, and because Mr. Riege has agreed, Giant has added the Environmental Superintendent as a member of the Pollution Prevention Team in the SWPPP revision that has been prepared since the November 10, 2005 inspection.

The second subsection rated the "Description of Potential Pollutant Sources" only "marginal," even though the inspector specifically states in writing in the last sentence of the first paragraph of his observations in this subsection that "[t]he plan does a very thorough job of pollutant and pollutant source identification." That same first paragraph of observations does, however, criticize the site map in the April 12, 2005 SWPPP as being insufficiently accurate in terms of its depiction of drainage areas and structural controls.

The site map in the April 12, 2005 SWPPP may not have been to scale with respect to everything shown on the map, but it met the basic requirements of the EPA regulations and associated guidance. EPA did not intend that regulated entities hire consultants to prepare engineering scale drawings and elevation contour maps to depict drainage and controls in substantially greater detail than in the April 12, 2005 SWPPP for the Ciniza Refinery. In fact, when EPA first developed the general permit requirement to require identification of pollutant sources, EPA responded to criticism that this was a costly new requirement in a manner clearly indicating it did not expect a facility to have to hire expensive consulting engineers for this portion of the SWPPP:

"The second component of the plan, description of pollutant sources, is achievable because it is based on the information that should generally either be readily available from the normal business practices at the facility (e.g. materials inventories) or from standard evaluations or observations."

57 Fed. Reg. at 41265 (Sept. 9, 1992). In fact, in 1992, EPA contemporaneously issued a guidance document it still utilizes today entitled "**Storm Water Management for Industrial Activities:** Developing Pollution Prevention Plans and Best Management Practices," (EPA 832-R-006; Sept. 1992), which includes illustrative figures (Figure 2.3 "Example Site Map" at page

facilities like the Ciniza Refinery on the level of detail required in the maps.³⁰ A comparison of EPA's illustration of what is an adequate site map with drainage and controls to the April 12, 2005 Ciniza Refinery SWPPP map shows that Giant's map has substantially more detail than the representative EPA template.³¹

Nevertheless, Giant did retain, after the inspection, an outside engineering and consulting firm to prepare, at substantial expense, a far more detailed map that not only meets the regulatory requirements (as did the old map), but includes all the additional details mentioned in the Inspection Report. Copies of those new maps are included with the SWPPP as Attachment 1.

Giant did conduct some monitoring which the inspector now claims should trigger various obligations under the MSGP, including a rewrite of the SWPPP and (in his opinion) the following:

"These elevated analytical results (as well as the results of the quarterly visual examinations) must be taken into consideration during the facility's 'Comprehensive Site Compliance Evaluation.' These results must be used, in part, to determine required amendments to the SWPPP to incorporate additional structural and non-structural controls as appropriate to eliminate or significantly minimize pollutants in storm water discharges so that these pollutant levels are reduced to below cut-off concentrations." (Bold emphasis added.)

³¹ "EPA expects that many facilities will have existing site maps indicating the major features of the facility or will be able to develop such maps based on site inspections. Plant managers or other employees should be readily able to develop descriptions of potential pollutant sources and use best professional judgement in evaluating the pollution potential of various activities. A prediction of the direction of flow can be based on site topography and simple observations of drainage patterns." 57 Fed. Reg. at 41271 (Sept. 9, 1992).

³⁰This 1992 guidance is still the current EPA guidance and can be found at the EPA stormwater current guidance publications webpage at the following location on the Internet : http://cfpub.epa.gov/npdes/docs.cfm?document_type_id=1&view=Policy%20and%20Guidance% 20Documents&program_id=6&sort=name.

water discharges so that these pollutant levels are reduced to below cut-off concentrations." (Bold emphasis added.)

According to this inspector, if a facility does monitoring, and they happen to exceed cutoff benchmark monitoring concentrations specified for some other sector, that then triggers a duty on the part of the industry sector doing such monitoring to make structural and non-structural changes to its facility **until it can now meet benchmark monitoring cutoff concentrations**.

This use of benchmark monitoring cutoffs to mandate additional controls is not what EPA intended:

"The benchmark concentrations are not effluent limitations and should not be interpreted or adopted as such. These values are merely levels which EPA has used to determine if a storm water discharge from any given facility merits further monitoring to insure that the facility has been successful in implementing a storm water pollution prevention plan."

60 Fed. Reg. at 50895 (Sept. 29, 1995).

Nevertheless, Giant appreciates the suggestions of the inspector that it take a close look at what additional steps it can take to reduce pollutant loading in those infrequent occasions that a 122.26 stormwater discharge actually occurs. A number of additional berming projects have been authorized to further segregate industrial activities from potential discharge and the 122.26 retention basins and the SWPPP rewrite has also included a variety of additional changes consistent with further pollution prevention.

The Inspection Report also notes that the location noted on the map as Outfall 2 is actually below the point where the valves from the "industrial stormwater" retention basin discharge into the drainage that runs across the Ciniza Refinery, carrying ephemeral flows across the Giant property. Visual examination of the stormwater always occurs at the valves, and the new maps show the actual outfall at this location. Outfall No.1 is appropriately located at the valved discharge location.

Giant visually monitors at each valved location before these stormwater valves are opened. Were oil present and visible, its spill response would be triggered and reporting requirements likely would apply if the valves were opened at that time. The inspector correctly pointed out that Giant was not keeping records of its visual inspections (which are quarterly required, although many quarters are zero discharge for "industrial stormwater") and has now changed its protocol to assure such records are being appropriately kept.

The third subsection on the Inspection Report's discussion of the "Stormwater Pollution Prevention Plan (SWPPP)" rated the "Description of Appropriate Measures and Controls" as "unsatisfactory." There are three problems listed in this subsection:
SWPPP. The inclusion of inspection reports in addressed in the new SWPPP.

With respect to the inspector's concern that cooling water mist be evaluated for harmful chemicals, the SWPPP does reference the determination to eliminate the chromate-causing chemicals from cooling water treatment as they were determined to be harmful. No new water treatment chemicals are allowed unless approved by environmental staff, who make that determination taking into account the potential water quality standards issues referenced in 4.4.2.3.

VII.With Respect to the Annual Site Compliance Evaluation Reports, Giant
Appreciates The General Comment in the Inspection Report That "These
Annual Evaluations Appear Very Thorough." With Respect to Comments
Suggesting Improvements to Be Made, Giant Has Carefully Evaluated Each
Such Comment and, Where Appropriate, Has Made Improvements.

The fourth and final section of the Inspection Report states as follows:

"Annual Site Compliance Evaluation Reports: Overall rating of 'Unsatisfactory.'

Part 4.9 of the permit states, in part, 'You must conduct facility inspections at least once a year. The inspections must be done by qualified personnel provided by you."

There are three complaints noted in the Inspection Report with respect to the Annual Site Compliance Evaluation Reports that apparently underlie the "unsatisfactory" finding:

- 1) The "apparent failure to incorporate changes dictated by the above-mentioned analytical sampling data;"
- 2) "[T]he staff conducting the evaluations apparently failed to observe, document, and properly address the areas that appear to produce discharges of 'contaminated runoff' from this facility;" and
- 3) "In addition, reports of these evaluations have not been signed and certified by a cognizant official or authorized representative per requirements in Parts 4.9.4 and 9.7.1 of the MSGP."

The first complaint was addressed in the preceding section. The benchmark monitoring cut off concentrations for other industry sectors are not effluent limitations on stormwater discharges for the Ciniza Refinery, and EPA expressly did not even include these concentrations as even enough to trigger monitoring in Sector I in the 2000 MSGP. This facility rarely

discharges, and it does not contribute to violations of water quality standards in the receiving streams. To now argue that these benchmark cutoff concentrations now become effluent limits that mandate additional stormwater control installation through the Annual Site Compliance Evaluation is overreaching.

On the other hand, as previously noted, Giant nevertheless took all of the inspector's suggestions into account in its latest SWPPP revision, providing the entire report to its consultant, and as a result Giant has designed, engineered and/or implemented additional controls.

The second complaint has also been addressed previously. The issue of Part 419 runoff has been carefully considered throughout the history of the Ciniza Refinery, and the contention that Part 419 effluent is being discharged (and therefore that this should have been rectified in the Annual Site Evaluation) is based on a misunderstanding of the regulations.

The third complaint is that the report was not signed and certified by an appropriate official. The report was signed by General Manager Ed Rios on December 22, 2004.

Chavez, Carl J, EMNRD

From: Sent: To: Cc: Subject: sadlier@attglobal.net Wednesday, January 04, 2006 4:46 PM Chavez, Carl J, EMNRD; geosynthetics@msn.com geosynthetics@msn.com Re: Liner Comparison Table Mil Thickness Question





Attachment LinersCompareFinal information..txt (7... 1.pdf (44 KB...

Dear Carl,

This paper gave a rather broad and qualitative comparison of the geomembrane types available at the time.

The precision of the comparison was not great such that thickness was not really a consideration. However we were clearly thinking in terms of the commonly available thickness of the different products e.g.

monolithic extruded PE 1.5 mm reinforced PP, CSPE, EIA etc 1.1 mm

The original paper is attached and you should note that it dates from 1997. Whilst some aspects are the same you should be aware that many of these products (or our perception of them) have developed further since then.

If you would like a proposal for a more current and perhaps more targeted comparison we would be pleased to assist.

Yours Faithfully

Mike Sadlier

> Dear Sir or Madam: > Could you tell me the mil thickness used for the liner comparison > table at the Internet website address below? > > Website Liner Comparison > http://www.geosynthetica.net/tech_docs/LinerComparison.asp > > 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 > Website: http://www.emnrd.state.nm.us/ocd/ (Pollution Prevention > Guidanceis under "Publications") > > > Confidentiality Notice: This e-mail, including all attachments is for

Chavez, Carl J, EMNRD

From:
Sent:
To:

Steve Morris [smorris@giant.com] Friday, January 27, 2006 11:34 AM Chavez, Carl J, EMNRD; Cobrain, Dave, NMENV; Foust, Denny, EMNRD; Ed Riege; Monzeglio, Hope, NMENV; Johnny Sanchez; Steve Morris; Price, Wayne, EMNRD Ciniza Weekly Update Week of 01/27/2006

Subject:





HALL7508 OAPISOHALL7509 OAPISO 10606.pdf (490 ... 11306.pdf (402 ...

1) During time periods when there are no storm events, the OAPIS has almost zero flow of water in to Aeration Lagoon #1. I will devise a way to measure this flow and include it in the weekly update as soon as I can. It would appear we have been sampling essentially the same stagnant water week after week.

2) We will be installing a 90 degree flow measuring device (notch) at the inlet of evaporation pond 2 on the water stream from the boiler plant. This will enable us to get better numbers on the flow rate out of the new API separator.

3) Work continues on the Chopper pump installation. The contractor will be working over the weekend on concrete and grout to allow these materials time to cure and minimize down time.

4) Lab analysis from weekly water samples received to date attached. <<HALL7508 OAPIS010606.pdf>> <<HALL7509 OAPIS011306.pdf>> If you have any questions please give me a call at 505-722-0258. Thanks, Steve Morris

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or its affiliates for any loss or damage arising in any way from their use.



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COVER LETTER

Wednesday, January 25, 2006

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

TEL: (505) 722-0258 FAX (505) 722-0210

RE: OAPIS Week of 1/6/2006

Dear Steve Morris:

Order No.: 0601055

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

Lall

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

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LIENT:	Giant Refining Co		· · · ·	Client Sample ID	: OAPI	s
ab Order:	0601055			Collection Date	1/4/20	- 106 2.30.00 PM
	OADIS Week of 1/6/20	06			. 114120	2.30.001 M
roject:	OAPIS week of 1/0/20	100		Date Received	: 1/6/20	06
lab 1D:	0601055-01			Matrix	: AQUI	EOUS
alyses		Result	Limit	Qual Units	DF	Date Analyzed
PA METHOD 8	015B: DIESEL RANGE					Analyst: SCC
Diesel Range Org	ganics (DRO)	1.2	1.0	mg/L	1	1/9/2006 6:56:04 PM
Motor Oil Range	Organics (MRO)	ND	5.0	mg/L	1	1/9/2006 6:56:04 PM
Surr: DNOP	-	119	58-140	%REC	1	1/9/2006 6:56:04 PM
DA METHOD 8						Analyst: MSP
Gasoline Range	Omanics (GRO)	21	0.50	mali	10	1/13/2006 11:39:59 AM
Sur RFP		106	70 7-119	WREC	10	1/13/2006 11-30-50 AM
3011. 666		100	79.7-110	MREC	10	115/2000 11.59.59 AW
EPA METHOD B	310: PAHS					Analyst: JMP
Naphthalene		200	12	μg/L	5	1/23/2006 4:19:23 PM
1-Methylnaphtha	lene	27	2.5	µg/L	1	1/16/2006 11:10:35 PM
2-Melhylnaphtha	lene	5.8	2.5	µg/L	1	1/16/2006 11:10:35 PM
Acenaphthylene		ND	2.5	µg/L	1	1/16/2006 11:10:35 PM
Acenaphthene		6.0	2,5	μg/L	1	1/16/2006 11:10:35 PM
Fluorene		7.0	0.80	μg/L	1	1/16/2006 11:10:35 PM
Phenanthrene		ND	0.60	μg/L	1	1/16/2006 11:10:35 PM
Anthracene		ND	0.60	μg/ L	1	1/16/2006 11:10:35 PN
Fluoranthene		ND	0.30	µg/L	1	1/16/2006 11:10:35 PM
Pyrene		0.51	0.30	μg/L	1	1/16/2006 11:10:35 PN
Benz(a)anthrace	ne	0.050	0.020	µg/L	1	1/16/2006 11:10:35 PN
Chrysene		ND	0.20	μg/L	1	1/16/2006 11:10:35 PM
Benzo(b)fluorant	hene	ND	0.050	µg/L	1	1/16/2006 11:10:35 PM
Benzo(k)fluorant	hene	0.040	0.020	μg/L	1	1/16/2006 11:10:35 PM
Benzo(a)pyrene		ND	0.020	µg/L	1	1/16/2006 11:10:35 PM
Dibenz(a,h)anth	racene	ND	0.040	ua/L	1	1/16/2006 11:10:35 PM
Benzo(o.h.i)perv	lene	ND	0.030	ua/L	1	1/16/2006 11:10:35 PM
Indeno(1.2.3-cd)	pyrene	ND	0.080	uo/L	1	1/16/2006 11:10:35 PM
Surr: Benzo(e)pyrene	90.0	54-102	%REC	1	1/16/2006 11:10:35 PM
						Analysis CBM
	HATU: WENGUKT		0.00020	mall	1	Analyst. UNIL
Mercury		NU	0.00020	mg/L	1	1/9/2006
EPA 6010: TOT	AL RECOVERABLE ME	TALS				Analyst: CM
Arsenic		ND	0.020	mg/L	1	1/16/2006 2:22:17 PM
Barium		0.23	0.020	mg/L	1	1/16/2006 2:22:17 PM
Cadmium		ND	0.0020	mg/L	1	1/16/2006 2:22:17 PM
Chromium		0.0093	0.0060	mg/L	1	1/16/2006 2:22:17 PM
Lood		ND	0.0050	mg/L	1	1/16/2006 2:22:17 PM

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Analyte detected below quantitation limits J

Spike Recovery outside accepted recovery limits S

ND Not Detected at the Reporting Limit

Page 1 of 3

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Hall Envir	onmental Analysi	is Labora	tory	Date:	25-Ja	n-06
CLIENT:	Giant Refining Co	· · · · · · · · · · · · · · · · · · ·	·· ·· ·	Client Sample ID:	OAPI	S
Dab Officer.		004		Conection Date:	1/4/20	000 2:30:00 PW
rroject:	UAPIS week of 1/6/2	006		Date Received:	1/6/20	2006
Lab ID:	0601055-01			Matrix:	AQUI	LOUS
Analyses		Result	Limit Qua	l Units	DF	Date Analyzed
EPA 6010: TO	TAL RECOVERABLE ME	TALS				Analyst: CMC
Selenium		ND	0.050	mg/L	1	1/16/2006 2:22:17 PM
Silver		ND	0.0050	mg/L	1	1/16/2006 2:22:17 PM
EPA METHOD	8260B: VOLATILES					Analyst: HLM
Benzene		190	10	µg/L	10	1/16/2006
Toluene		50	10	µg/L	10	1/16/2006
Ethylbenzene		ND	10	µg/L	10	1/16/2006
Melhyl tert-buty	yl ether (MTBE)	11	10	μg/L	10	1/16/2006
1,2,4-Trimethyl	lbenzene	47	10	µg/L	10	1/16/2006
1,3,5-Trimethyl	lbenzene	44	10	µg/L	10	1/16/2006
1,2-Dichloroeth	nane (EDC)	ND	10	μg/L	10	1/16/2006
1,2-Dibromoeth	hane (EDB)	ND	10	μ g/L	10	1/16/2006
Naphthalene		25	20	µg/L	10	1/16/2006
1-Methylnapht	halene	51	40	µg/L	10	1/16/2006
2-Methylnaphti	halene	53	40	µg/L	10	1/16/2006
Acetone		210	100	µg/L	10	1/16/2006
Bromobenzene	3	ND	10	µg/L	10	1/16/2006
Bromochlorom	ethane	ND	10	µg/L	10	1/16/2006
Bromodichloro	methane	ND	10	μg/L	10	1/16/2006
Bromaform		ND	10	µg/L	10	1/16/2006
Bromomethane	e	ND	20	μg/L	10	1/16/2006
2-Butanone		ND	100	μg/L	10	1/16/2006
Carbon disulfic	ie	ND	100	µg/L	10	1/16/2006
Carbon Tetrac	hloride	ND	20	μg/L	10	1/16/2006
Chlorobenzen	e	ND	10	μg/L	10	1/16/2006
Chloroethane		ND	20	µg/L	10	1/16/2006
Chloroform		ND	10	µg/L	10	1/16/2006
Chloromethan	e	ND	10	µg/L	10	1/16/2006
2-Chlorotoluer	าย	ND	10	µg/L	10	1/16/2006
4-Chlorotoluer	ne	ND	10	µg/L	10	1/16/2006
cis-1,2-DCE		ND	10	µg/L	10	1/16/2006
cis-1,3-Dichlor	ropropene	ND	10	µg/l_	10	1/16/2006
1,2-Dibromo-3	-chloropropane	ND	20	µg/L	10	1/16/2006
Dibromochloro	omelhane	ND	ťŨ	µg/L	10	1/16/2006
Dibromometha	ane	ND	20	µg/L	10	1/16/2006
1,2-Dichlorobe	enzene	ND	10	µg/L	10	1/16/2006
1,3-Dichlorobe	enzene	ND	10	µg/L	10	1/16/2006
1,4-Dichlorobe	enzene	ND	10	μg/L	10	1/16/2006
Dichlorodifluo	romelhane	ND	10	µg/L	10	1/16/2006
1,1-Dichloroel	thane	ND	20	μg/L	10	1/16/2006

Qualifiers: * Value exceeds Maximum Contaminant Level

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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 Envir	onmental Analysi	is Labora	tory	Dat	te: 25-Ja	an-06
CLIENT:	Giant Refining Co	· · · · ·	:	Client Sample I	D: OAP	IS
Lab Order:	0601055			Collection Dat	e: 1/4/2	006 2·30·00 PM
Project:	OAPIS Week of 1/6/2	006		Data Pagaina	a. 1/6/0	nnc
Lab ID.	0(01055.01			Date Receive Matri	u: 1/0/2 v- AOU	
	10-22-01		· · · · · • •			2003
Analyses		Result	Limit	Qual Units	DF	Date Analyzed
EPA METHOD	8260B: VOLATILES					Analyst: HLM
1,1-Dichloroeth	ene	ND	10	μg/L	10	1/16/2006
1,2-Dichloropro	рапе	ND	10	µg/L	10	1/16/2006
1,3-Dichloropro	pane	ND	10	µg/L	10	1/16/2006
2,2-Dichloropro	pane	ND	20	μg/L	10	1/16/2006
1,1-Dichloropro	pene	ND	10	μg/L	10	1/16/2006
Hexachlorobuta	adiene	ND	20	µg/L	10	1/16/2006
2-Hexanone		ND	100	µg/L	10	1/16/2006
Isopropylbenze	ne	ND	10	µg/L	10	1/16/2006
4-IsopropyItolu	ene	ND	10	µg/L	10	1/16/2006
4-Methyl-2-pen	tanone	ND	100	µg/L	10	1/16/2006
Methylene Chic	oride	ND	30	µg/L	10	1/16/2006
n-Butylbenzene	9	ND	10	µg/L	10	1/16/2006
n-Propylbenzer	ne	ND	10	μg/L	10	1/16/2006
sec-Butylbenze	ine	ND	10	µg/L	10	1/16/2006
Styrene		ND	10	µg/L	10	1/16/2006
tert-Butylbenze	ne	ND	10	µg/L	10	1/16/2006
1,1,1,2-Tetrach	loroethane	ND	10	µg/L	10	1/16/2006
1,1,2,2-Tetrach	loroethane	ND	10	µg/L	10	1/16/2006
Tetrachloroeth	ene (PCE)	ND	10	µg/L	10	1/16/2006
trans-1,2-DCE		ND	10	µg/L	10	1/16/2006
trans-1,3-Dichl	oropropene	ND	10	µg/L	10	1/16/2006
1,2,3-Trichlorol	benzene	ND	10	µg/L	10	1/16/2006
1,2,4-Trichlorol	benzene	ND	10	µg/L	10	1/16/2006
1,1,1-Trichloro	ethane	ND	10	µg/L	10	1/16/2006
1,1,2-Trichloro	ethane	ND	10	µg/L	10	1/16/2006
Trichloroethen	e (TCE)	ND	10	µg/L	10	1/16/2006
Trichlorofluoror	melhane	ND	10	µg/L	10	1/16/2006
1,2,3-Trichloro	propane	ND	20	µg/L	10	1/16/2006
Vinyl chloride		ND	10	μg/L	10	1/16/2006
Xylenes, Total		530	10	µg/L	10	1/16/2006
Surr: 1,2-Dic	chloroethane-d4	114	69.9-130	%REC	10	1/16/2006
Surr: 4-Bron	nofluorobenzene	103	71.2-123	%REC	10	1/16/2006
Surr: Dibron	nofluoromethane	116	73.9-134	%REC	10	1/16/2006
Surr: Toluen	ie-d8	96.2	81.9-122	%REC	10	1/16/2006

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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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Hall Er	

Date: 25-Jan-06

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ANALYTICAL QC SUMMARY REPORT

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CLIENT: Giant Refining Co Work Order: 0601055 Project: OAPIS Week of 1/6/2006

TestCode: 8015DRO_W

									1
Sample ID: MB-9535	SampType: MBLK	TestCode: 8015DRO	W Units: mg/L		Prep Date: 1/9/2006		RunNo: 17852		
Client ID: ZZZZ	Batch ID: 9535	TestNo: SWB015		Ar	ialysis Date: 1/9/2006		SeqNo: 438884		
Analyte	Result	PQL SPK value	SPK Ref Val	%REC I	-owLimit HighLimit RI	D Ref Val	%RPD RPDLimi	Qual	
Diesel Range Organics (DRO) Motor Qii Range Organics (MRO)	DN DN	1.D 5.0							
Sample ID: LCS-9535	SampType: LCS	TestCode: 8015DRO	W Units: mg/L		Prep Date: 1/9/2006		RunNo: 17852		<u> </u>
Client ID: ZZZZ	Batch ID: 9535	TestNo: SW8015		Ar	lalysis Date: 1/9/2006		SeqNo: 438885		
Analyte	Result	PQL SPK value	SPK Ref Val	%REC 1	-owLimit HighLimit RI	PD Ref Val	%RPD RPDLimi	Qual	
Diesel Range Organics (DRO)	5.740	1.0 5	O	115	81.2 149				1
Sample ID: LCSD-9535	SampType: LCSD	TestCode: 8015DRO	W Units: mg/L		Prep Date: 1/9/2006		RunNo: 17852		
+ Client ID: ZZZZ	Batch ID: 9535	TestNo: SWB015		Ar	alysis Date: 1/9/2006		SeqNo: 438886		
8 Analyte	Result	PQL SPK value	SPK Ref Val	%REC L	owLimit HighLimit Rf	oD Ref Val	%RPD RPDLimi	Qual	
Diesel Range Organics (DRO)	5.962	1.0 5	o	119	81.2 149	5.74	3.80 23		

Spike Recovery outside accepted recovery limits Analyte detected below quantitation limits ~ s Holding times for preparation or analysis exceeded ------RPD outside accepted recovery limits : ΞĽ • E Value above quantitation range ND Not Detected at the Reporting Limit Qualifiers:

Page 1 of 8

CLIENT: Giant Refin Work Order: 0601055	ning Co				·	ANAL	YTICA	L QC SU	MMAR	Y REPO	RT
Project: OAPIS We	ek of 1/6/2006						Ē	estCode: 8	015GRO_	w	
Sample ID: Reagent Blank 5ml Client ID: ZZZZ	SampType: MBLK Batch ID: R17890	TestCod TestN	ie: 8015GRO_W lo: SW8015	Units: mg/L	4	Prep Dati Inalysis Dati	e: E: 1/12/200	96	RunNo: 176 SeqNo: 439	890 9931	
Analyte	Result	POL	SPK value SP	'K Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	QN	0.050									
Sample ID: Reagent Blank 5ml Client ID: ZZZZ	SampType: MBLK Batch ID: R17915	TestCod TestN	1e: 8015GRO_W 1a: SW8015	Units: mg/L	•	Prep Date Inalysis Date	e: 5: 1/13/200	D 6	RunNo: 175 SeqNo: 440	915 0339	
Analyte	Result	Par	SPK value SP	'K Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	DN	0.050									
Sample ID: GRO Ics 2.5ug Client ID: ZZZZ	SampType: LCS Batch ID: R17890	TestCod TestN	te: 8015GRO_W lo: SW8015	Units: mg/L	×	Prep Date Inalysis Date	e: 3: 1/13/200	36	RunNo: 178 SeqNo: 439	890 9932	
Analyte	Result	POL	SPK value SP	'K Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
 V Gasoline Range Organics (GRO) 	0.4586	0:050	0.5	0	91.7	82.6	114				
8 Sample ID: GRO Ics 2.5ug Client ID: ZZZZ	SampType: LCS Batch ID: R17915	TestCod	la: 8015GRO_W o: SW8015	Units: mg/L		Prep Date Vnalysis Date	a: a: 1/13/200	16	RunNo: 175 SeqNo: 440	915 0340	
Analyte	Result	POL	SPK value SP	'K Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.4762	0.05D	0.5	0	95.2	82.6	114				

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Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

Page 2 of 8

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Qualificers: E Value above quantitation range ND Not Detected at the Reporting Limit

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CLIENT:	Giant Refining Co					ANALY	/TICAL QC SU	IMMAR	(REPOR	E
Work Urder:							TeetCode.	8310 W		
Project:	UAPIS Week of 1/6/2006						I ESICONE.	11-01-00		
Sample ID: MB-955	1 SampType: MBLK	TestCo	de: 8310_W	Units: µg/L		Prep Date	: 1/10/2006	RunNo: 179	74	
Client ID: ZZZZ	Batch ID: 9561	Test	4o: SW8310	(SW3510C)		Analysis Date	e: 1/16/2006	SeqNo: 441	634	
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	047%	RPDLimit Q	len
Naphthalene	QN	2.5								
1-Methylnaphthalen	GN ND	2.5								
2-Methylnaphthalen	DN DN	2.5								
Acenaphthylene	QN	2,5								
Acenaphthene	QN	2.5								
Fluorene	QN	0.80								
Phenanthrene	QN	0.60								
Anthracene	QN	0.60								
Fluoranthene	QN	0:30								
Ругеле	QN	0.30								
Benz(a)anthracene	QN	0.020								
Chrysene	QN	0.20								
Benzo(b)fluoranthen	le ND	0:050								
H Benzo(k)fluoranthen	BND	0.020								
oo Benzo(a)pyrene	Q	0.020								
Dibenz(a,h)anthrace	CN ND	0.040								
Benzo(g,h,i)perylens	QN	0.030								
Indeno(1,2,3-cd)pyri	SNB	0.080								
Sample ID: LCS-95.	51 SampType: LCS	TesiCot	Je: 8310_W	Units: µg/L		Prep Date	: 1/10/2006	RunNo: 179	74	
Client ID: ZZZZ	Batch ID: 9551	Test	lo: SW8310	(SW3510C)		Analysis Date	: 1/16/2006	SeqNo: 441	637	
Analyte	Result	POL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD	RPDLimit QI	lai
Naphthalene	14.94	2.5	20	o	74.7	34.8	97.4			
1-Methylnaphthalen	e 14.85	2,5	20.05	ο	74.1	34.7	100			
2-Methylnaphthalen	e 14.55	2.5	20	0	72.8	35	98.1			
Acenaphthylene	14.63	2.5	20.05	0	73.0	48.3	95.1			
Acenaphthene	15.05	2.5	20	0	75.2	45	95			
Fluorene	1.480	0.80	2.005	D	73.8	46.8	93.4			
Phenanthrene	0.8300	0.60	1.005	o	82.6	48.7	104			
							:			
Qualifiers: E	Value above quantitation range		H Holdin	g times for preparatio	n or analysi	s exceeded	J Analyte detected	below quantitation	n limits	
DN	Not Detected at the Reporting Limit		R RPD 0	utside nccepted recov	ery limits		S Spike Recovery o	utside accepted re	scovery limits	

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Page 3 of 8

CLIENT: Giant	Refining Co					ANALY	TICAL Q	c su	VIMAR	KEPO	RT
Project: 0API	cci S Week of 1/6/2006						TestCo	de: 83	M_018		
Sample ID: LCS-9551	SampType: LCS	TestCot	le: 8310_W	Units: µg/L		Prep Date	: 1/10/2006		RunNo: 179	174	
Client ID: ZZZZ	Batch ID: 9551	Testh	Jo: SW8310	(SW3510C)		Analysis Date	: 1/16/2006		SeqNo: 441	1637	
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit RPD R	ef Val	%RPD	RPDLimit	Qual
Anthracene	0.7900	0.60	1,005	D	78.6	47.5	102		•		
Fluoranthene	1.720	0.30	2.005	0	85.8	46.3	108				
Pyrene	1.820	0.30	2.005	ð	90.8	43.8	109				
Benz(a)anthracene	0.1800	0.020	0.2005	O	89.8	40.3	115				
Chrysene	0.9600	0.20	1.005	0	95.5	42.6	107				
Benzo(b)fluoranthene	0.2200	0.050	0.2505	0	87.8	48.6	107				
Benzo(k)fluoranthene	0.1100	0.020	0.125	o	88.0	23.3	136				
Benzo(a)pyrene	0.1100	0.020	0.125	0	88.0	33.4	117				
Dibenz(a,h)anthracene	0.2200	0.040	0.25	٥	88.0	27.3	139				
Benzo(g,h,i)perylene	0.2500	0.030	0.25	0	100	38.2	117				
Indeno(1,2,3-cd)pyrene	0.4770	0.080	0.501	D	95.2	39.9	125				
V Sample ID: LCSD-9551	SampType: LCSD	TestCoc	je: 8310_W	Units: µg/L		Prep Dale:	: 1/10/2006		RunNo: 179	74	
		Torth	0163/02	(CM/35400)		Analycic Data	. 1/16/2006		Cooke. 441	963	
		16591	0100000 :01	(nni cente)		albu sistipily			1 total 2011 http://	929	
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD R	ef Val	%RPD	RPDLimit	Qual
Naphthalene	14.42	2.5	20	0	72.1	34.8	97.4	14.94	3.54	32.1	
1-Methylnaphthalene	14.35	2.5	20.05	O	71.6	34.7	100	14.85	3.42	32.7	
2-Methylnaphthalene	14.20	2.5	20	o	71.0	35	98.1	14.55	2.43	34	
Acenaphthylene	14.36	2.5	20.05	0	71.6	48.3	95.1	14.63	1.83	38.8	
Acenaphthene	14.61	2.5	20	Đ	73.0	45	95	15.05	2.97	38.6	
Fluorene	1.440	0.80	2.005	0	71.8	46.8	93.4	1.48	2.74	39.3	
Phenanthrene	0.7600	0.60	1.005	o	75.6	48.7	104	0.83	8,81	25	
Anthracene	0.7700	0.60	1.005	Ċ	76.6	47.5	102	0.79	2.56	23.9	
Fluoranthene	1.610	0.30	2.005	0	80.3	46.3	108	1.72	6.61	15.7	
Pyrene	1.730	0.30	2.005	0	86.3	43.8	109	1.82	5.07	15.3	
Benz(a)anthracene	0.1600	0.020	0.2005	0	79.8	40.3	115	0.18	11.8	119	
Chrysene	0.8700	0.20	1.005	O	86.6	42.6	107	0.96	9.84	16.6	
Benzo(b)fluoranthene	0.2100	0.050	0.2505	D	83.8	48.6	107	0.22	4.65	21.7	
Benzo(k)fluoranthene	0.1000	0.020	0.125	٥	80.0	23.3	136	0.11	9.52	19.4	
							,				
Qualifiers: E Value	above quantitation range		H Holdin	g times for preparatic	n or analysi	s exceeded	J Analyte d	etected bul	low quantitation	n limits	
ND Not De	stected at the Reporting Limit		R RPDo	utside accepted recov	ery limits		S Spike Rec	overy outs	side accepted re	scovery limits	

Page 4 of 8

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OR			t au	× ۳	B	~			
k rep)74 1638	RPDLimi	16.	112	7.			
MMARY	310_W	RunNo: 179 SeqNo: 441	%RPD	16.7 4.65	8.33	4.04 40			
L QC SU	estCode: 8	φφ	RPD Ref Val	0.11 0.22	0.25	0.477			
TICA]	Ţ	 1/10/200 1/16/200 	HighLimit	117 139	117	125			
ANALY		Prep Date Analysis Date	LawLimit	33.4 27.3	38.2	G . GE			
			%REC	104 84.0	92.0	90.6			
		Units: µg/L (SW3510C)	SPK Ref Val	00	0	a			
•.		e: 8310_W o: SW8310	SPK value	0.125 0.25	0.25	0.501			
		TestCod TestN	Par	0.020 0.040	0.030	0.080			
ining Co	'eek of 1/6/2006	SampType: LCSD Batch ID: 9551	Result	0.1300 0.2100	0.2300	0.4540			
CLIENT: Giant Refi	Project: OAPIS W	Sample ID: LCSD-9551 Client ID: ZZZZZ	Analyte	Benzo(a)pyrene Dibenz(a,h)anthracene	Benza(g,h,l)perylene	Indeno(1,2,3-cd)pyrene			

st.

Page 5 of 8 J Analyte detected below quantitation limits S Spike Recovery outside accepted recovery limits

E Value above quantitation range ND Not Detected at the Reporting Limit

Holding times for preparation or analysis exceeded RPD outside accepted recovery limits

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Qualifiers:

CLIENT: Giant Refining Co Work Order: 0601055 Proiect: 0APIS Week of 1/6/2006

ANALYTICAL QC SUMMARY REPORT

TestCode: HG_CTW

Project: UAPIS W	eek of 1/6/2006						51	11			1
Sample ID: MB-9544 Client ID: ZZZZ	SampType: MBLK Batch ID: 9544	TestCod TestN	le: HG_CTW 10: SW7470	Units: mg/L (SW7470)		Prep Date Analysis Date	3: 1/9/2006 2: 1/9/2006		RunNo: 178 SeqNo: 438	48 823	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RI	D Ref Val	%RPD	RPDLimit	Qual
Mercury	QN	0.00020									
Sample ID: LCS-9544 Client ID: ZZZZZ	SampType: LCS Batch ID: 9544	TestCod TestN	le: HG_CTW lo: SW7470	Units: mg/L (SW7470)		Prep Date Analysis Date	e: 1/9/2006 e: 1/9/2006		RunNo: 178 SeqNo: 438	48 824	
Analyle	Result	POL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit Ri	D Ref Val	%RPD	RPDLimit	Qual
Mercury	0.004253	0.00020	0.005	0	85.1	80	120				
Sample ID: LCSD-9544 Client ID: ZZZZ	SampType: LCSD Batch ID: 9544	TestCod	le: HG_CTW lo: SW7470	Units: mg/L (SW7470)		Prep Date Analysis Date	a: 1/9/2006 a: 1/9/2006		RunNo: 178 SeqNo: 438	48 848	
Analyte	Result	POL	SPK value	SPK Ref Val	%REC	LawLimit	HighLimit RI	D Ref Val	%RPD	RPDLimit	Qual
Mercury	0.004311	0.00020	0.005	Q	86.2	80	120	0.004253	1.35	0	

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Page 6 of 8 Spike Recovery outside accepted recovery limits J Analyte detected below quantitation limits
 S Spike Recovery outside accepted recovery li Holding times for preparation or analysis exceeded RPD outside accepted recovery limits ----нч E Value above quantitation range ND Not Detected at the Reporting Limit

Qualifiers:

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Page 7 of 8 Qual Qual Oual Qual ANALYTICAL OC SUMMARY REPORT Spike Recovery outside accepted recovery limits %RPD RPDLimit %RPD RPDLimit RPDLimit RPDLimit TestCode: METALS_TOTAL Analyte detected below quantitation limits SeqNo: 439739 SeqNo: 440773 SeqNo: 439740 SeqNo: 440774 RunNo: 17885 RunNo: 17932 RunNo: 17885 RunNo: 17932 %RPD %RPD LowLimit HighLimit RPD Ref Val LowLimit HighLimit RPD Ref Val LowLimit HighLimit RPD Ref Val LowLimit HighLimit RPD Ref Val Analysis Date: 1/12/2006 Analysis Date: 1/16/2006 Analysis Date: 1/12/2006 Analysis Date: 1/16/2006 Prep Date: 1/9/2006 Prep Date: 1/9/2006 Prep Date: 1/9/2006 1/9/2006 120 S Prep Date: 8 Holding times for preparation or analysis exceeded %REC %REC %REC %REC 97.9 RPD outside accepted recovery limits TestCode: METALS_TO Units: mg/L Units: mg/L TestCode: METALS_TO Units: mg/L TestCode: METALS_TO Units: mg/L 0 SPK value SPK Ref Val SPK Ref Val SPK Ref Val SPK Ref Val TestCode: METALS_TO TestNo: SW6010A TestNo: SW6010A TestNo: SW6010A SPK value TestNo: SW6010A SPK value SPK value 0.5 I. ĸ 0.0020 0.0060 0.0050 0.0020 0.0060 0.0050 0.050 0.050 0.0050 ğ 0.0050 Ъ Раг 0.020 0.0050 g 0.020 0.020 Result Result Result 0.4894 Result SampType: MBLK SampType: MBLK Not Detected at the Reporting Limit Batch ID: 9536 Batch ID: 9536 Batch ID: 9536 Batch ID: 9536 SampType: LCS SampType: LCS OAPIS Week of 1/6/2006 Value above quantitation mage Giant Refining Co 0601055 Sample ID: LCS-9536 Sample ID: LCS-9536 Sample ID: MB-9536 Sample ID: MB-9536 ωQ 22222 Client ID: ZZZZ 22222 22222 Work Order: CLIENT: Arsenic Barium 8 Cadmium Chromium Qualifiers: Chromium Client ID: Project: Client ID: Cadmium Selenium Selenium Client ID: Analyte Analyle Analyte Arsenic Analyte Barium Silver Lead Lead Silver Lead

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CLIENT: Giant R	efining Co					ANAL	VTICA	L QC SU	MMAR	Y REPC	RT
Project: OAPIS	v Week of 1/6/2006						Te	stCode: N	IETALS_	rotal	
Sample ID: LCS-9536	SampType: LCS	TestCot	ie: METALS	ro Units: mg/L		Prep Da	te: 1/9/2006		RunNo: 17	932	
Client ID: ZZZZ	Batch ID: 9536	Test	lo: SW6010A			Anaiysis Da	te: 1/16/200	9	SeqNo: 44	0774	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	Ref Val	%RPD	RPDLImit	Qual
Arsenic	0.4853	0.020	0.5	0	97.1	80	120				
Barium	0.4613	0.020	0.5	Q	92.3	80	120				
Cadmium	0.4680	0.0020	0.5	0	93.6	80	120				
Chromium	0.4714	0.0060	0.5	0	94.3	80	120				
Lead	0.4601	0:0050	0.5	0	92.0	80	120				
Selenium	0.4684	0.050	0.5	0	93.7	80	120				
Silver	0.4791	0.0050	0.5	0.001109	95.6	80	120				
Sample ID: LCSD-9536	SampType: LCSD	TestCoc	ie: METALS_	ro Units: mg/L		Prep Da	te: 1/9/2006		RunNo: 17	885	
Client ID: ZZZZ	Batch ID: 9536	Testh	lo: SW6010A			Analysis Dai	te: 1/12/200	ß	SeqNo: 43	9741	
Апајуtе	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	Ref Val	%RPD	RPDLimit	Qual
Lead	0.4769	0.0050	0.5	0	95.4	80	120	0.4894	2.60	20	
C Sample ID: LCSD-9536	SampType: LCSD	TestCoo	le: METALS_	ro Units: mg/L		Prep Dai	le: 1/9/2006		RunNo: 17	932	
Client ID: ZZZZ	Batch ID: 9536	Testh	lo: SW6010A		~	Analysis Dai	le: 1/16/200	ω	SeqNo: 44	0775	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit F	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.4891	0.020	0.5	0	97.8	80	120	0.4853	0.775	20	
Barium	0.4627	0.020	0.5	0	92.5	80	120	0.4613	0.308	20	
Cadmium	0.4676	0.0020	0.5	Ð	93.5	80	120	0.468	0.0760	20	
Chramium	0.4741	0.0060	0.5	Ð	94.8	80	120 .	0.4714	0.582	20	
Lead	0.4560	0.0050	0.5	0	91.2	80	120	0.4601	0.907	20	
Selenium	0.4633	0.050	0.5	0	92.7	80	120	0,4684	1.11	20	
Silver	0.4795	0.0050	0.5	0.001109	95.7	80	120	0.4791	0.0776	20	

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J Analyte detected below quantitation fimits
 S Spike Recovery outside accepted recovery limits

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Holding times for preparation or analysis exceeded RPD outside accepted recovery limits

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E Value above quantitation range ND Not Detected at the Reporting Limit

Qualifiers:

Hall Environmental	Analysis Laborator	V					Date: 25-Jan-06	
CLIENT: Giant Ref Work Ordor: 0601055	ining Co				ANAL	YTICAL QC SI	UMMARY REPO	RT
Project: OAPIS W	eek of 1/6/2006					TestCode:	8260_W	
Sample ID: 5ml rb	SampType: MBLK	TestCode:	8260_W	Units: µg/L	Prep Date		RunNo: 17916	
Client ID: ZZZZ	Batch ID: R17916	TestNa:	SW8260B		Analysis Date	s: 1/13/2006	SeqNo: 440423	
Analyte	Result	Par	SPK value	SPK Ref Val	%REC LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Quał
Benzene	Q	1.0						
Toluene	QN	1.0						
Ethylbenzene	9	0. 1.0						
Methyl tert-butyl ether (MTBE)	ON I	1.0						
1,2,4-Trimethylbenzene		1.0						
1,2-UIGNIOTOE(NANE (EUC)		0. F						
Nanhthalane		0.0						
1-Methyloaohthalene	CN N	4.0						
	QN	4.0						
Z Acetone	QN	10						
1 Bromobenzene	Q	1.0						
8 Bromochloromethane	QN	1.0						
Bromodichloromethane	QN	1.0						
Bromolorm	ON	1.0						
Bromomethane	Q	2.0						
2-Butanone	Q	10						
Carbon disulfide	QN	10						
Carbon Tetrachtoride	ON	2.0						
Chlorobenzene	QN	1.0						
Chloroethane	QN	2.0						
Chlorafarm	Q	1.0						
Chloromethane	Q	1.0						
2-Chlarataluene	QN	1.0						
4-Chlorotaluene	ON	1.0						
cis-1,2-DCE	QN	1.0						
cis-1,3-Dichloropropene	QN	1.0						
1,2-Dibromo-3-chloropropane	QN	2.0						
				:				
Qualifiers: E Value above	: quantitation range		H Holdis	ng times for preparation	or analysis exceeded	J Analyte detected	below quantitation fimits	
ND Not Detecte	d at the Reporting Limit		R RPD o	utside accepted recover	y limits	S Spike Recovery o	outside accepted recovery limits	

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CLIENT: Gi	ant Refining Co				ANA]	LYTIC	AL QC SUI	MMARY REPO	RT
Work Urder: Uo Project: OA	01010 APIS Week of 1/6/2006						TestCode: 83	260_W	
Sample ID: 5ml rb	SampType: MBLK	TestCode:	8260_W	Units: µg/L	Prep C	ate:		RunNo: 17916	
Client iD: ZZZZ	Batch ID: R17916	TestNo:	SW8260B		Analysis D	ate: 1/13/.	2006	SeqNo: 440423	
Analyle	Result	POL	PK value	SPK Ref Val %	REC LowLim	t HighLimi	t RPD Ref Val	%RPD RPDLimit	Qual
Dibromochloromethane	Q	1.0							
Dibromomethane	DN	2.0							
1,2-Dichlorobenzene	QN	1.0							
1,3-Dichlorobenzene	QN	1.0							
1,4-Dichlorobenzene	ON	1.0							
Dichlorodifluoromethan.	e ND	1.0							
1,1-Dichloroethane	ON	2.0							
1,1-Dichloroethene	QN	1.0							
1,2-Dichloropropane	QN	1.0							
1.3-Dichloropropane	ON	1.0							
2,2-Dichloropropane	QN	2.0							
1,1-Dichloropropene	QN	1.0							
U Hexachlorobutadiene	ND	2.0							
2-Hexanone	ON	10							
co Isopropylbenzene	QN	1.0							
4-Isopropyltaluene	QN	1.0							
4-Methyl-2-pentanone	QN	10							
Methylene Chloride	QN	3.0							
n-Butylbenzene	ON	1.0							
n-Propylbenzene	QN	1.0							
sec-Butylbenzene	QN	1.0							
Styrene	QN	1.0							
tert-Butylbenzene	DN	1.0							
1,1,1,2-Tetrachloroetha	ND	1.0							
1,1,2,2-Tetrachloroetha	ND	1.0							
Tetrachloroethene (PCt	E) ND	1.0							
trans-1,2-DCE	QN	1.0							
trans-1,3-Dichloroprope	ND	1.0							
1,2,3-Trichlorobenzene	S	1.0							
1,2,4-Trichlorobenzene	GN	1.0							
1,1,1-Trichloroethane	QN	1.0							
0 tfiam. E V.	lue show quantitation more		H Holdin	p times for preparation or	annivsis exceeded	! — :	Analyte detected h	slow onantitation limits	
N QN NC	of Detected at the Reporting Limit		R RPD on	utside accepted recovery l	imits	un.	Spike Recovery ou	side accepted recovery limits	
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Page 3 of 6 Qual Qual ANALYTICAL QC SUMMARY REPORT Spike Recovery outside accepted recovery limits %RPD RPDLimit %RPD RPDLimit Analyte detected below quantitation limits SeqNo: 440538 SeqNo: 440423 RunNo: 17916 RunNo: 17921 TestCode: 8260_W LowLimit HighLimit RPD Ref Val %REC LowLimit HighLimit RPD Ref Vai Analysis Date: 1/13/2006 Analysis Date: 1/16/2006 S ~ Prep Date: Prep Date: Holding times for preparation or analysis exceeded -----%REC RPD outside accepted recovery limits Units: µg/L Units: µg/L SPK value SPK Ref Val SPK value SPK Ref Val TestNo: SW8260B TestNo: SWB260B TestCode: 8260_W TestCode: 8260_W нĸ 1.0 1.0 1.0 1.0 1.0 2.0 2.0 PoL 0.1 1.0 0.1 1.0 22 10 Ъ Batch ID: R17916 Result Result <u>9 9 9</u> 222 Batch ID: R17921 SampType: MBLK SampType: MBLK Not Detected at the Reporting Limit Value above quantitation range OAPIS Week of 1/6/2006 Giant Refining Co C Ethylbenzene Methyl tert-butyl ether (MTBE) 0601055 1,2-Dichloroethane (EDC) 1,2-Dibromoethane (EDB) 1,3,5-Trimethylbenzene 1,2,4-Trimethylbenzene Bromodichloromethane **Frichlorofluoromethane** 1.2.3-Trichloropropane Trichloroethene (TCE) Bromochloromethane 1, 1, 2-Trichloroethane 1-Methylnaphthalene 2-Methylnaphthalene Q ய Sample ID: 5ml rb Client ID: ZZZZ Sample ID: 5ml rb 22222 Carbon disulfide Bromobenzene Bromomethane Work Order: Xylenes, Total Vinyl chloride Naphthalene 2-Bulanone Bromoform Qualifiers: CLIENT: Client ID: Project: L Benzene anauloj 4 Analyte Acetone Analyte

						3260 W	
Project: OAPIS \	Week of 1/6/2006				l estCode:	1	
Samula ID. E.I. A	ComoTune: MDI K	TestCode: 8260 W	llaits: un/l	Prep Dafe:		RunNo: 17921	
				American Carlina A	- 14 E MODE	CN 440630	
Client ID: ZZZZ	Batch (D: R17921	lestNo: SWB260B		Analysis Date:		Seque: 440330	
Analyte	Result	PQL SPK value	SPK Ref Val	%REC LowLimit HI	ghLimit RPD Ref Val	%RPD RPDLimit	Qual
Carbon Tetrachloride	Ð	2.0					
Chlorobenzene	QN	1.0					
Chloroethane	QN	2.0					
Chlaroform	QN	1.0					
Chloromethane	QN	1.0					
2-Chloratatuene	Q	1.0					
4-Chloratoluene	ON	1.0					
cis-1.2-DCE	QN	1.0					
cis-1,3-Dichloropropene	QN	1.0					
1,2-Dibromo-3-chloropropane	Q	2.0					
Dibromochloromethane	QN	1.0					
Dibromomethane	DN	2.0					
U 1.2-Dichlorobenzene	QN	1.0					
1.1.3-Dichlorobenzene	QN	1.0			,		
00 1,4-Dichlorobenzene	QN	1.0					
Dichlorodifluoromethane	Q	1.0					
1,1-Dichloroethane	DN	2.0					
1,1-Dichloroethene	QN	1.0					
1,2-Dichloropropane	QN	1.0					
1,3-Dichloropropane	ON	1.0					
2.2-Dichloropropane	QN	2.0					
1.1-Dichloropropene	QN	1.0					
Hexachlorobutadiene	R	2.0					
2-Hexanone	Q	10					
Isopropylbenzene	â	1.0					
4-Isoprapyltoluene	a	1.0					
4-Methyl-2-pentanone	QN	10					
Methylene Chloride	QN	3.0					
n-Bulylbenzene	QN	1.0					
n-Propyibenzene	ON	1.0					
sec-Butylbenzene	QN	1.0					
Qualifiers: E Value abo	ove quantitation range	Holdin H	ig times for preparation (or analysis exceeded	J Analyte detected	below quantitation limits	
NU NOI DELEC	cied at the Keponing Limit		nisiue accepted tecuver		a aluve ivernite o	aline accepted recovery mmis	

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CLIENT: Giant R	sfining Co				ANALYTICAL Q	C SUMMARY REPORT
Work Order: 0601052					1	
Project: OAPIS	Week of 1/6/2006				TestCo	de: 8260_W
Sample ID: 5ml rb	SampType: MBLK	TestCode: 8260_W	Units: µg/L		Prep Dale:	RunNo: 17921
Client ID: ZZZZ	Batch ID: R17921	TestNo: SW8260B		-	Analysis Date: 1/16/2006	SeqNo: 440538
Analyte	Result	PQL SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD F	ef Val %RPD RPDLimit Qual
Styrene	QN	1.0				
tert-Butylbenzene	Q	1.0				
1,1,1,2-Tetrachloroethane	Q	1.0				
1,1,2,2-Tetrachloroethane	QN	1.0				
Tetrachloroethene (PCE)	QN	1.0				
Irans-1,2-DCE	QN	1.0				
trans-1,3-Dichloropropene	QN	1.0				
1,2,3-Trichlorobenzene	ΩN	1.0				
1,2,4-Trichlorobenzene	ON	1.0				
1,1,1-Trichloroethane	DN	1.0				
1,1,2-Trichloroethane	QN	1.0				
Trichlaroethene (TCE)	QN	1.0				
D Trichlorofluoromethane	ON	1.0				
/ 1,2,3-Trichloropropane	QN	2.0				
8 Vinyl chloride	QN	1.0				
Xylenes, Total	QN	1.0				
Sample ID: 100ng Ics	SampType: LCS	TestCode: 8260_W	Units: µg/L		Prep Date:	RunNo: 17916
Client ID: ZZZZ	Batch ID: R17916	TestNo: SWB260B		`	vnalysis Date: 1/13/2006	SeqNo: 440424
Analyte	Result	PQL SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD R	af Val %RPD RPDLimit Qual
Benzene	20.47	1.0 20	0	102	79.3 136	
-Toluene	20.09	1.0 20	Ð	100	65.5 123	
Chlarobenzene	20.51	1.0 20	0	103	80.3 134	
1,1-Dichloroethene	20.10	1.0 20	0	101	72.7 135	
Trichloroethene (TCE)	19.96	1.0 20	0	8,66	85.6 119	
Qualifiers: E Value abo ND Not Detec	ve quantitation range ted at the Reporting Limit	H Halding R RPD ou	g times for preparation Itside accepted recove	or analysis ry limits	exceeded J Analyte d S Spike Rec	steeted below quantitation limits overy outside accouted recovery limits
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ND Not Detected at the Reporting Limit

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'<u>+</u> **Giant Refining Co** 0601055 Work Order: CLIENT:

ANALYTICAL QC SUMMARY REPORT

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TestCode: 8260_W

Project:	OAPIS Week	: of 1/6/2006						TestCode: 8	260_W		
Sample ID: 100ng	l lcs	SampType: LCS	TestCod	le: 8260_W	Units: µg/L		Prep Dal	le:	RunNo: 17921		
Client ID: ZZZZ	2	Batch ID: R17921	TestN	lo: SW8260B		-	Analysis Da	te: 1/16/2006	SeqNo: 440539		
Analyte		Result	Par	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPD	DLimit C	Іпаі
Benzene		20.04	1.0	20	a	100	79.3	136			
Toluene		19.43	1.0	20	0	97.1	65.5	123			
Chlarobenzene		20.33	1.0	20	O	102	80.3	134			
1,1-Dichtoroethene	n	19.92	1.0	20	0	9.66	72.7	135			
Trichloroethene (T	CE)	18.98	1.0	20	0	94.9	85.6	119			

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J Analyte detected below quantitation limits S Spike Recovery outside accented مستمسن ا H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits

E Value above quantitation range ND Not Detected at the Reporting Limit

Qualifiers:

Spike Recovery outside accepted recovery limits

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Hall Environmental Analysis Laboratory

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-,	Sample	Rece	eipt Che	ecklist				
Client Name GIANTREFIN				Date and Time	Received:			1/6/2006
Work Order Number 0601055)			Received by	AT			
Checklist completed by Signature	-l-	10000	Dale	1141	66			
Matrix	Carrier name	UPS						
Shipping container/cooler in good condition?		Yes			Not Present			
Custody seals intact on shipping container/cooler?	I	Yes	\checkmark	No 🗔	Not Present		ot Shipped	
Custody seals intact on sample bottles?		Yes		No 🗹	N/A			
Chain of custody present?		Yes						
Chain of custody signed when relinquished and re	ceived?	Yes		No 🗔				
Chain of custody agrees with sample labels?		Yes		No 🔽				
Samples in proper container/bottle?		Yes						
Sample containers intact?		Yes						
Sufficient sample volume for indicated test?		Yes						
All samples received within holding time?		Yes		No 🗹				
Water - VOA vials have zero headspace?	No VOA vials subm	nitted		Yes 🗹	No 🗌	l		
Water - pH acceptable upon receipt?		Yes	\checkmark	Νο	N/A 🗌]		
Container/Temp Blank temperature?			7°	4° C ± 2 Acceptat	ble time to cool.			
COMMENTS:								
	-	• •• •						
Client contacted	Dale contacted:			Pers	on contacted			
Contacted by:	Regarding							
Comments:								
							-	
					······			
			••••••••		·····		-	
				· · · · · · · · · · · · · · · · · · ·				
Corrective Action	anna an ann ann ann ann an a' f st							
						., .		
							·····	

18/18

		Tell 505: 345: 3975 Fax 505: 345: 4107 www. Fallenvironmental.com			[Å]	10 ar 20,1) 32) 32)	:08) 2' eiO/266 9(0/266 9(0)26 2(0)2(- 11/18 - 11/18 - 11/18 - 11/18 - 11/18 - 11/18	+ 381 108 bc 108 bc 17 boo 08 boo 08 boo 100 , IC 865 100	M + X3T8 M + X3T8 M + X3T8 M TPH Meth FDB (Meth EDG (Meth R0B (Met	X X X X						Remarks:	
QA / OC Package: Std 🗖 Level 4 🗍	Other:	Project Name: OAPTS	liberts of 1-6-2096	Project #:		Project Manager:	Steve Minia	Sampler:	Sample Temperature:	Number/Volume H9Cl ₂ HNO ₃	10/00/055-1						Required By Kighneture) 1/6/66 @	Afeceived By: (Signatedre)
CHAIN. AE. FIICTANY DEFABR		Client: Sint Repairing	(maany - (iniza	Address: Route 3 Box 7	Fallup, Nrt 87321			Phone #: 225 722 5225	Fax#: 505722 0210	Date Time Matrix Sample I.D. No.	1-4-06 1430 H2O 0A PIS						Date: Time: Relinquished By: (Signature)	Date: Time: Retinduished By: (Bignature)

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COVER LETTER

Wednesday, January 25, 2006

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

RE: OAPIS Week of 1/13/06

Dear Ed Riege:

Order No.: 0601119

Hall Environmental Analysis Laboratory received 1 sample(s) on 1/13/2006 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,

100

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 Envir	onmental Analysi	s Labora	itory		Date:	25-Ja.	n-06
CLIENT:	Giant Refining Co			C	lient Sample 1D:	OAPI	S
Lab Order:	0601119				Collection Date:	1/11/2	2006 1:30:00 PM
Project:	OAPIS Week of 1/13/0	6			Data Received:	1/13/3	2004
ah ID.	0601110.01				Date Receiveu: Matrix:	AOUI	FOUS
Analyses		Result	Limit	Qual	Units	DF	Date Analyzed
PA METHOD	8015B: DIESEL RANGE						Analyst: SCC
Diesel Range C	Drganics (DRO)	4.6	3.0		mg/L	1	1/17/2006 9:40:35 AM
Motor Oil Rang	e Organics (MRO)	ND	15		mg/L	1	1/17/2006 9:40:35 AM
Surr: DNOP		128	58-140		%REC	1	1/17/2006 9:40:35 AM
PA METHOD	8015B: GASOLINE RANG	3E					Analyst: NSB
Gasoline Rang	e Organics (GRO)	6.0	2.0		mg/L	40	1/23/2006 1:50:24 PM
Surr: BFB	· · ·	105	79.7-118		%REC	40	1/23/2006 1:50:24 PM
	8310: PAHS						Analyst IMD
Nanhihalene	0010.1 ANO	190	12		uoli	5	1/23/2006 3-31-23 PM
1-Methylnanhth	nalene	FR SC	25		2915 110/1	1	1/18/2006 11:07:29 204
2-Methylnaphil	nalene	37	2.5		pg/c	1	1/18/2006 11:04:38 PM
Acenanhihvien	A		2.5		uo/l	1	1/18/2006 11:04:38 PM
Acenanhihene		ND	2.5		ug/l	1	1/18/2006 11:04:38 PM
Fluorene		77	0.80		μg/2 μg/1	1	1/18/2006 11:04:38 PM
Phenanthrene		59	0.60		pg/2	1	1/18/2006 11:04:38 PM
Anthracene		ND.	0.60		pg/2	1	1/18/2006 11:04:38 PM
Fluoranthene		0.30	0.30		µ9/L	1	1/18/2006 11:04:38 PM
Pyrene		0.52	0.30		μg/l.	1	1/18/2006 11:04:38 PM
Benz(a)anthrai	cene	0.060	0.020		ug/)	1	1/18/2006 11:04:38 PM
Chrysene		ND	0.20		ug/l	1	1/18/2006 11:04:38 PM
Benzo(b)fluora	inthene	0.080	0.050		μg/L	1	1/18/2006 11:04:38 PM
Benzo(k)fluora	nthene	0.050	0.020		µg/L	1	1/18/2006 11:04:38 PM
Benzo(a)ovren	e	0.050	0.020		но/L	1	1/18/2006 11:04:38 PM
Dibenz(a,h)ani	Ihracene	0.040	0.040		uo/l	1	1/18/2006 11:04:38 PM
Benzo(a.h.i)pe	rvlene	0.10	0.030		но/).	1	1/18/2006 11:04:38 PM
Indeno(1.2.3-c	d)ovrene	ND	0.080		ня.— ипЛ.	1	1/18/2006 11:04:38 PM
Surr: Benzo	(e)pyrene	77.9	54-102		%REC	1	1/18/2006 11:04:38 PM
	7470 MERCURY						Analyst: CMC
Mercury		ND	0.00020		mg/L	1	1/20/2006
EPA 6010: TO	TAL RECOVERABLE ME	TALS					Analysi: NMC
Arsenic		ND	0.020		mg/L	1	1/20/2006 10:39:37 AM
Barium		0.26	0.020		mg/L	1	1/20/2006 10:39:37 AM
Cadmium		ND	0.0020		mg/L	1	1/20/2006 10:39:37 AM
Chromium		0.0092	0.0060		mg/L	1	1/20/2006 10:39:37 AM
Lead		ND	0.0050		mg/L	1	1/20/2006 10:39:37 AN
Qualifiers:	* Value exceeds Maximum C	Contaminant Le	vel		B Analyte detected	l in the as	ssociated Method Blank
	E Value above quantitation ra	inge			H Holding times fo	or prepara	tion or analysis exceeded
	J Analyte detected below out	- intitation fimits		1	D Not Detected at	the Reno	rting Limit

S Spike Recovery outside accepted recovery limits

Page 1 of 3

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Hall Envir	onmental Analysi	s Labora	tory	Date	2: 25-Ja	n-06
CLIENT:	Giant Refining Co		······································	Client Sample II): OAPI	S 2006 1-20-00 PM
Drojest:	OADIS Week of 1/12/	2		Conection Date		2000 1130.00 PM
riojeci:	UAPIS WEEK UI 1/15/	<i>J</i> 0		Date Received	1: 1/1 <i>3/2</i>	2006
Lab ID:	0601119-01			Wiatris	: AQU	EOUS
Analyses		Result	Limit	Qual Units	DF	Date Analyzed
EPA 6010: TOT	AL RECOVERABLE ME	TALS				Analyst: NMO
Selenium		ND	0.050	mg/L	1	1/20/2006 10:39:37 AM
Silver		ND	0.0050	mg/L	1	1/20/2006 10:39:37 AM
EPA METHOD	8260B: VOLATILES					Analyst: HLM
Benzene		1000	50	ug/L	50	1/19/2006
Toluene		990	50	ug/L	50	1/19/2006
Ethvibenzene		ND	50	uo/L	50	1/19/2006
Methyl tert-buly	etber (MTBE)	ND	50	ug/L	50	1/19/2006
1.2.4-Trimethvlt	penzene	180	50	µa/L	50	1/19/2006
1.3.5-Trimethylt	penzene	82	50	ua/L	50	1/19/2006
1.2-Dichloroetha	ane (EDC)	ND	50	ug/L	50	1/19/2006
1.2-Dibromoeth	ane (EDB)	ND	50	ug/L	50	1/19/2006
Naohthalene	,	110	100	ua/L	50	1/19/2006
1-Methvinaphth	alene	ND	200	ug/L	50	1/19/2005
2-Methvinaphth	alene	ND	200	µg/L	50	1/19/2006
Acelone		ND	500	ua/L	50	1/19/2006
Bromobenzene		ND	50	µg/L	50	1/19/2006
Bromochlorome	Ihane	ND	50	μg/L	50	1/19/2006
Bromodichloron	nethane	ND	50	μg/L	50	1/19/2006
Bromoform		ND	50	μg/L	50	1/19/2006
Bromomethane		ND	100	μg/L	50	1/19/2006
2-Butanone		ND	500	μg/L	50	1/19/2006
Carbon disulfide	e	ND	500	µg/L	50	1/19/2006
Carbon Tetrach	loride	ND	100	µg/L	50	1/19/2006
Chlorobenzene		ND	50	µg/L	50	1/19/2006
Chloroethane		ND	100	µg/L	50	1/19/2006
Chloroform		ND	50	µg/L	50	1/19/2006
Chloromethane	1	ND	50	µg/L	50	1/19/2006
2-Chlorotoluene	9	ND	50	µg/L	50	1/19/2006
4-Chlorololuene	9	ND	50	µg/L	50	1/19/2006
cis-1,2-DCE		ND	50	µg/L	50	1/19/2006
cis-1,3-Dichlora	propene	ND	50	µg/L	50	1/19/2006
1,2-Dibromo-3-	chloropropane	ND	100	µg/L	50	1/19/2006
Dibromochloror	nethane	ND	50	µg/L	50	1/19/2006
Dibromometha	ne	ND	100	µg/L	50	1/19/2006
1,2-Dichlorober	nzene	ND	50	µg/L	50	1/19/2006
1,3-Dichlorober	nzene	NÐ	50	yg/L	50	1/19/2006
1,4-Dichlorober	nzene	ND	50	µg/L	50	1/19/2006
Dichlorodifluoro	omethane	ND	50	µg/L	50	1/19/2006
1,1-Dichloroeth	ane	ND	100	μg/L	50	1/19/2006

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

Page 2 of 3

Hall Envir	onmental Analysis	Laborat	tory	Date:	25-Ju	n-06
CLIENT:	Giant Refining Co		· · · · · · · · · · · · · · · · · · ·	Client Sample ID:	OAPI	S
Lab Order:	0601119			Collection Date:	1/11/2	2006 1:30:00 PM
Project.	OAPIS Week of 1/13/06	i		Date Received:	1/13/2	2006
				Matrix:	AOU	EOUS
Lab ID:	0001119-01					
Analyses		Result	Limit Qu	al Units	DF	Date Analyzed
EPA METHOD	8260B: VOLATILES					Anaiyst: HLM
1,1-Dichloroeth	ene	ND	50	µg/L	50	1/19/2006
1,2-Dichloropro	opane	ND	50	µg/L	50	1/19/2006
1,3-Dichloropro	opane	ND	50	µg/L	50	1/19/2006
2,2-Dichloropro	opane	ND	100	μg/L	50	1/19/2006
1,1-Dichloropre	opene	ND	50	µg/L	50	1/19/2006
Hexachlorobut	adiene	ND	100	μg/L	50	1/19/2006
2-Hexanone		ND	500	µg/L	50	1/19/2006
Isopropylbenze	ene	ND	50	μg/L	50	1/19/2006
4-Isopropyltolu	lene	ND	50	µg/L	50	1/19/2006
4-Methyl-2-per	ntanone	ND	500	µg/L	50	1/19/2006
Methylene Chl	loride	ND	150	µg/L	50	1/19/2006
n-Butylbenzen	e	NÐ	50	µg/L	50	1/19/2006
n-Propylbenze	ne	ND	50	րց/Լ	50	1/19/2006
sec-Butylbenz	ene	ND	50	µg/L	50	1/19/2006
Styrene		ND	50	µg/L	50	1/19/2006
tert-Butylbenz	ene	ND	50	µg/L	50	1/19/2006
1,1,1,2-Tetrac	hloroethane	ND	50	μg/L	50	1/19/2006
1,1,2,2-Tetrac	hloroethane	ND	50	µg/L	50	1/19/2006
Tetrachloroeth	nene (PCE)	ND	50	µg/L	50	1/19/2006
trans-1,2-DCE	E	ND	50	μg/L	50	1/19/2006
trans-1,3-Dich	lloropropene	ND	50	µg/L	50	1/19/2006
1,2,3-Trichlord	obenzene	ND	50	µg/L	50	1/19/2006
1,2,4-Trichlord	obenzene	ND	50	µg/L	50	1/19/2006
1,1,1-Trichlor	bethane	ND	50	µg/L	50	1/19/2006
1,1,2-Trichlor	oelhane	ND	50	µg/L	50	1/19/2006
Trichloroether	ne (TCE)	ND	50	µg/L	50	1/19/2006
Trichlorofluor	omethane	ND	50	μg/L	50	1/19/2006
1,2,3-Trichlor	оргорале	ND	100	µg/L	50	1/19/2006
Vinyl chloride		ND	50	μg/L	50	1/19/2006
Xylenes, Tota	at	970	50	µg/L	50	1/19/2006
Surr: 1,2-D	ichloroethane-d4	104	69.9-130	%REC	50	1/19/2006
Surr. 4-Bro	mofluorobenzene	110	71.2-123	%REC	50	1/19/2006
Surr: Dibro	mofluoromethane	93.2	73.9-134	%REC	50	1/19/2006
Surr: Tolue	ene-d8	99.9	81.9-122	%REC	50	1/19/2006

. Qualifiers: ÷

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

В Analyte detected in the associated Method Blank

- н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

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Date: 25-Jan-06

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OAPIS Week of 1/13/06 Giant Refining Co 0601119 Work Order: **CLIENT:** Project:

ANALYTICAL QC SUMMARY REPORT TestCode: 8015DRO_W

Sample ID: LCS-9583	SampType: LCS	TestCo	de: 8015DRO	W Units: mg/L		Prep Dat	e: 1/16/2006		RunNo: 17	928	
Client ID: ZZZZ	Batch ID: 9583	Test	Vo: SW8015		-	Analysis Dat	e: 1/16/2006		SegNo: 44	0598	
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD	Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO) Motor Oil Range Organics (MRO)	5.618 ND	1.0 5.0	ເມ	O	112	81.2	149				
Sample ID: LCSD-9583	SampType: LCSD	TestCo	de: 8015DRO	W Units: mg/L		Prep Dat	e: 1/16/2006		RunNo: 17	928	
Client ID: ZZZZZ	Batch ID: 9583	Test	Vo: SWB015		-	Analysis Dat	e: 1/16/2006		SeqNo: 44	0599	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD	Ref Val	%RPD	RPOLimit	Qual
Diesel Range Organics (DRO) Motor Oil Range Organics (MRO)	5.779 ND	1.0 5.0	ũ	0	116	81.2	149	5.618 0	2.82 0	23 0	

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

Qualifiers:

Page I of 8

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CLIENT: (Giant Refini	ing Co					ANAL	YTICA	L QC SU	MMAR	Y REPC	RT
Project: (JAPIS Wee	ik of 1/13/06						F	estCode: 8	015GRO_	Ŵ	-
Sample ID: 5ML RB Client ID: ZZZZ		SampType: MBLK Batch ID: R18017	TestCo	de: 8015GRO 40: SW8015	W Units: mg/l		Prep Dat Analysis Dat	e: 1/23/20	06	RunNo: 18 SeqNo: 44;	017 3323	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLImit	Qual
Gasoline Range Orga	inics (GRO)	QN	0.050									
Sample ID: 2.5UG GI	RO LCS	SampType: LCS	TestCoc	Je: 8015GRO	W Units: mg/l	1	Prep Dat			RunNo: 18(017	
Client ID: ZZZZ		Balch ID: R18017	Test	Vo: SW8015			Analysis Dat	e: 1/23/20	06	SeqNo: 44;	3324	
Analyte		Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	047%	RPDLimit	Qual
Gasoline Range Orga	inics (GRO)	0.4740	0.050	0.5	o	94.8	82.6	114				
Sample ID: 2.5UG GI	RO LCSD	SampType: LCSD	TestCoc	Je: 8015GRO	_W Units: mg/l		Prep Dat			RunNo: 180	117	
Cilent ID: ZZZZ		Batch ID: R18017	Test	4o: SW8015			Analysis Dat	e: 1/23/20(36	SeqNo: 443	3349	
Analyte		Result	Par	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1 Jasoline Range Orga	nics (GRO)	0.4840	0.050	0.5	0	96.8	82.6	114	0.474	2.09	8.39	

тоты из леколодияльные проведание получирование из политика. По и политика и политика политика и одна политика О приладитика из политика в политика воесполитика и политика политика политика и политика и политика политика по

-5/15

E Value above quantitation range ND Not Detected at the Reporting Limit Qualifiers:

Holding times for preparation or analysis exceeded RPD outside accepted recovery limits нч

J Analyte detected below quantitation limits
 S Spike Recovery outside accepted recovery limits

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CLIENT: G	iant Refining Co					ANAL	YTICAL Q	C SUI	MMARY REPC	DRT
Project: O.	01119 APIS Week of 1/13/06						TestCo	ode: 83	310_W	
Sample ID: MB-9599	SampType: MBLK	TestCode:	: 8310_W	Units: µg/L		Prep Dat	te: 1/17/2006		RunNo: 17999	
Client ID: ZZZZ	Batch ID: 9599	TestNo:	: SWB310	(SW351DC)		Analysis Dat	te: 1/18/2006		SeqNo: 442601	5
Analyte	Result	POL	SPK value	SPK Ref Val	%REC	LawLimit	HighLimit RPD F	Ref Val	%RPD RPDLimit	Qual
Naphthalene	ON	2.5								
1-Methylnaphthalene	ON	2.5								
2-Methylnaphthalene	QN	2.5								
Acenaphthylene	QN	2.5								
Acenaphthene	QN	2.5								
Fluorene	QN	0.80								
Phenanthrene	GN	0.60								
Anthracene	QN	0.60								
Fluoranthene	ON	0.30								
Pyrene	QN	0.30								
Benz(a)anthracene	QN	0.020								
Chrysene	ON	0.20								
Senzo(b)fluoranthene	GN	0.050								
H Jenzo(k)fluoranthene	QN	0.020								
Benzo(a)pyrene	ND	0.020								
Dibenz(a,h)anthracene	Q	0.040								
Benzo(g,h,i)perylene	QN	0.030								
Indeno(1,2,3-cd)pyrent	Q	0.080								
Sample ID: LCS-9599	SampType: LCS	TestCode:	: 8310_W	Units: µg/L		Prep Dat	te: 1/17/2006		RunNo: 17999	
Client ID: ZZZZ	Batch ID: 9599	TestNo:	: SW8310	(SW3510C)		Analysis Dat	te: 1/18/2006		SegNo: 442603	
Analyte	Result	Par	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD F	tef Val	%RPD RPDLimit	Qual
Naphthatene	24.23	2.5	40	0	60.6	34.8	97.4			
1-Methylnaphthalene	23.35	2.5	40.1	0	58.2	34.7	100			
2-Methylnaphthalene	23.08	2.5	40	0	57.7	35	98.1			
Acenaphthylene	25.00	2.5	40.1	0	62.4	48.3	95.1			
Acenaphthene	24.46	2.5	40	D	61.2	45	95			
Fluorene	2.490	0.80	4.01	o	62.1	46.8	93.4			
Phenanthrene	1.380	0.60	2.01	0	68.7	48.7	104			
				ť			-			
Qualifiers: E Vi MD ND	arue above quantitation range			g times lor preparatio	n or anaiysis and limite	exceeded	r contratyte	detected be	low quantitation limits	
	of Detected at the Keponing Linn		K Kruv	NCIDE accepted 1 ecovi			a apine re	covery one	side accepted recovery ilimits	

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			leuc														Dual																
	66	603	RPDLimit												66	504	RPDLimit	32.1	32.7	34	38.8	38.6	39.3	25	23.B	15.7	15.3	119	16.6	21.7	19.4	ı limits	covery limits
ſ	RunNo: 179	SegNo: 442	%RPD												RunNo: 1799	SeqNo: 4420	%RPD	3.05	3.99	4.12	2.58	3.34	3.16	0.727	4.38	7.49	3.96	3.51	10.4	8.45	5.71	slow quantitation	side accepted re
	j u	6	RPD Ref Val												6	Ģ	RPD Ref Val	24.23	23.35	23.08	25	24.46	2.49	1.38	1.34	2.7	2.72	0.28	1.37	0.34	0.17	alyte detected be	ike Recovery out
51	: 1/17/200	: 1/18/200	HighLimit	102	108	109	115	107	107	136	117	139	117	125	: 1/17/200	: 1/18/200	HighLimit	97.4	100	98.1	95.1	95	93.4	104	102	108	109	115	107	107	136	J Ar	s Sp
	Prep Date	Analysis Date	LowLimit	47.5	46.3	43.8	40.3	42.6	48.6	23.3	33.4	27.3	38.2	39.9	Prep Date	Analysis Date	LowLimit 1	34.8	34.7	35	48.3	45	46.8	48.7	47.5	46.3	43.8	40.3	42.6	48.6	23.3	exceeded	
		•	%REC	66.7	67.3	67.8	69.8	68.2	67.9	68.0	67.7	67.9	72.0	73.6			%REC	62.4	60.6	60.1	64.0	63.2	64.1	68.2	69.7	72.6	70.6	72.3	75.6	73.9	72.0	or analysis	ay limits
	Units: µg/L	(SW3510C)	SPK Ref Val	0	0	0	0	0	0	đ	o	0	0	¢	Units: µg/L	(SW3510C)	SPK Ref Val	Ģ	0	0	D	a	Ð	0	0	0	0	0	0	0	D	times for preparation	uside accepted recove
	e: 8310_W	o: SW8310	SPK value	2.01	4.01	4.01	0.401	2.01	0.501	D.25	0.251	0.501	0.5	1.002	e: 8310_W	o: SW8310	SPK value	40	40.1	40	40.1	40	4.01	2.01	2.01	4.01	4.01	0.401	2.01	0.501	0.25	H Holding	R RPD ou
	TestCod	TestN	PQL	0.60	0.30	0:30	0.020	0.20	0.050	0.020	0.020	0.040	0:030	0.080	TestCod	TestN	POL	2.5	2.5	2.5	2.5	2.5	0.80	0.60	0.60	0:30	0.30	0,020	0.20	0.050	0.020	I ,	
ck of 1/13/06	SampType: LCS	Batch ID: 9599	Result	1.340	2.700	2.720	0.2800	1.370	0.3400	0.1700	0.1700	0.3400	0.3600	0.7370	SampType: LCSD	Batch ID: 9599	Result	24.98	24.30	24.05	25.66	25.29	2.570	1.370	1.400	2.910	2.830	0.2900	1.520	0.3700	0.1800	tuantitation range	at the Reporting Limit
t: UAPIS We	e ID: LCS-9599	D: ZZZZ :01	۵	cene	nthene	•	i)anthracene	sne	(b)fluoranthene	(k)fluoranthene	(a)pyrene	r(a,h)anthracene	(a,h,i)perytene	(1,2,3-cd)pyrene	e ID: LCSD-9599	D: ZZZZ	ŋ	lalene	iyinaphthalene	lytnaphthalene	phthylene	phthene	Пе	nthrene	cene	nthene		t)anthracene	sne	(b)iluoranthene	(k)fluoranthene	ers: E Value above q	ND Not Detected
Projec	Sampli	Client	Analyte	Anthra	Fluorai	Pyrene	Benz(a	Chryse	Benzo	Benzo(Benzo(Dibenz	Benzo(Indena	7 iample	1 ; 1 ; 1 1	Analyti	Napht	1-Meth	2-Meth	Acena	Acena	Fluorei	Phena	Anthra	Fluorar	Pyrene	Benz(a	Chryse	Benzo(Benzo(Oualifi	•

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ANALYTICAL QC SUMMARY REPORT 1 M. K. M. M. M. Markana, and A. M. Markana, "A strain and a strain and the state of the strain o

> OAPIS Week of 1/13/06 **Giant Refining Co** 0601119 Work Order: CLIENT: Project:

TestCode: 8310_W

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Sample ID: LCSD-9599 Client ID: ZZZZ	SampType: LCSD Batch ID: 9599	TestCoc TestN	le: 8310_W lo: SW8310	Units: µg/L (SW3510C)		Prep Da Analysis Da	le: 1/17/20 le: 1/18/20	06 05	RunNa: 179 SeqNo: 442	199 1604	
Analyte	Result	POL	SPK value	SPK Ref Val	%REC	rawLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(a)pyrene	0.1800	0.020	0.251	0	71.7	33.4	117	0.17	5.71	16.7	
Dibenz(a,h)anthracene	0.3500	0.040	0.501	0	6.99	27.3	139	0.34	2.90	17.3	
Benzo(g,h,i)perylene	0.3900	0.030	0.5	o	78.0	38.2	117	0.36	8.00	118	
Indeno(1,2,3-cd)pyrene	0.7620	0.080	1.002	a	76.0	39.9	125	0.737	3.34	17.7	

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Spike Recovery outside accepted recovery limits Analyte detected below quantitation limits - vi Holding times for preparation or analysis exceeded RPD outside accepted recovery limits

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E Value above quantitation range ND Not Detected at the Reporting Limit

Qualifiers:

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Giant Refining Co 0601119 Work Order: CLIENT:

ANALYTICAL QC SUMMARY REPORT

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Hn CTW TostCode

Project: OAP	IS Week of 1/13/06						T	estCode: H	g_CTW			
Sample ID: MB-9625 Client ID: ZZZZZ	SampType: MBLK Batch ID: 9625	TestCo	de: Hg_CTW Vo: SW7470	Units: mg/L (SW7470)		Prep Dat	a: 1/20/20 e: 1/20/20	06 06	RunNo: 179 SeqNo: 442	89 1366		·
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Mercury	QN	0.00020										
Sample ID: LCS-9625 Client ID: ZZZZ	SampType: LCS Batch ID: 9625	TestCo Test	de: Hg_CTW Vo: SW7470	Units: mg/L (SW7470)		Prep Dati Analysis Dati	a: 1/20/20 a: 1/20/20	06 06	RunNo: 179 SeqNo: 442	89 1367		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	048%	RPDLimit	Qual	
Mercury	0.004124	0.00020	0.005	o	82.5	80	120					,

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Spike Recovery outside accepted recovery limits Analyte detected below quantitation limits 1 1 -, vi Holding times for preparation or analysis exceeded RPD outside accepted recovery limits нч E Value above quantitation range ND Not Detected at the Reporting Limit ; Qualifiers:

Qual Qual Qual ANALYTICAL QC SUMMARY REPORT Spike Recovery outside accepted recovery limits %RPD RPDLimit %RPD RPDLimit RPDLimit TestCode: METALS_TOTAL Analyte detected below quantitation limits SeqNo: 442110 SeqNo: 442102 SeqNo: 442101 RunNo: 17983 RunNo: 17983 RUnNo: 17983 %RPD 0.235 0.500 0.211 1.65 0.956 2.24 0.4652 0.4572 0.4433 LowLimit HighLimit RPD Ref Val HighLimit RPD Ref Val 0.4752 0.4712 0.4317 RPD Ref Val Analysis Date: 1/20/2006 Prep Date: 1/19/2006 Analysis Date: 1/20/2006 Analysis Date: 1/20/2006 Prep Date: 1/19/2006 1/19/2006 HighLimit 120 120 120 120 120 120 120 120 120 120 120 120 120 S Prep Date: LowLimit LowLimit 8 8 8 8 8 8 Holding times for preparation or analysis exceeded %REC %REC %REC 91.4 95.0 86.3 93.0 88.7 95.3 93.0 95.3 89.5 88.3 93.2 RPD outside accepted recovery limits 94.2 94.7 TestCode: METALS_TO Units: mg/L TestCode: METALS_TO Units: mg/L TestCode: METALS_TO Units: mg/L 000000 o 000 SPK value SPK Ref Val 0 ο SPK Ref Val SPK Ref Val TestNo: SW6010A TestNo: SW6010A TestNo: SW6010A SPK value 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 SPK value 0.5 0.5 0.5 ۲ Ξ Ъ 0.0050 0:050 0.050 0.0020 0.0060 0.050 0.0050 0.0060 0.0050 0.020 0.020 0.020 0.0020 0.020 Б g 0.020 0.020 0.0020 0.0060 0.0050 0.050 Result Result 0.4752 0.4433 0.4317 0.4649 0.4415 0.4712 0.4652 0.4572 Result 0.4662 0.4763 0.4476 0.4764 0.4736 SampType: MBLK SampType: LCSD Batch ID: 9615 Batch ID: 9615 Batch ID: 9615 Not Detected at the Reporting Limit SampType: LCS Value above quantitation range OAPIS Week of 1/13/06 **Giant Refining Co** 0601119 Sample ID: LCSD-9615 Sample ID: LCS-9615 Sample ID: MB-9615 шQ Client ID: ZZZZ Client ID: ZZZZ 22222 Work Order: CLIENT: Chromìum Cadmium Qualifiers: Chramium Chromium Cadmium Selenium Selenium Client ID: Project: Cadmium Selenium 1 Analyte / Vrsenic Analyte T Sarium Arsenic Barium Analyte Barium Arsenic Lead Silver Lead Silver Lead

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ANALYTICAL QC SUMMARY REPORT TestCode: METALS_TOTAL anna - Taiman an 's an anna a bhairteanna an an Anna an Anna ann an 'sann an 'sann an 'sann an 'sann an 's anna OAPIS Week of 1/13/06 Giant Refining Co 0601119 Work Order: CLIENT: Project:

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Sample ID: LCSD-9615	SampType: LCSD	TestCor	Je: METALS_	TO Units: mg/L		Prep Date:	1/19/2006		RunNo: 179	983	
Client ID: ZZZZ	Balch ID: 9615	Test	lo: SW6010A		4	Analysis Date:	1/20/2006		SeqNo: 442	2102	
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit F	fighLimit RPD	Ref Val	%RPD	RPDLimit	Qual
Silver	0.4772	0.0050	0.5	0	95.4	80	120	0.4764	0.179	20	

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Spike Recovery outside accepted recovery limits

Analyte detected below quantitation limits

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Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

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E Value above quantitation range ND Not Detected at the Reporting Limit

Qualifiers:

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Hall Environmental	Analysis Laborator	y							Date: 2	5-Jan-06		
CLIENT: Giant Refi	ning Co					ANAL	YTIC/	AL QC SU	IMMAR	Y REP	ORT	
Project: OAPIS W	eek of 1/13/06						-	FestCode: 8	1260_W			
Sample ID: 5ml rb	SampType: MBLK	TestCod	e: 8260_W	Units: µg/L		Prep Da	ä		RunNo: 17	879		
Client ID: ZZZZ	Batch ID: R17978	TestN	o: SW8260B		4	Analysis Dal	e: 1/19/2	006	SeqNo: 44	11974		
Analyte	Result	Par	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Benzene	Ð	1.0										
Toluene	P	1.0										
Ethylbenzene	QN	1.0										
Methyl tert-butyl ether (MTBE)	Q	1.0										
1,2,4-Trimethylbenzene	QN	1.0										
1,3,5-Trimethylbenzene	QN	1.0										
1,2-Dichloroethane (EDC)	DN	1.0										
1.2-Dibromoethane (EDB)	QN	1.0										
Naphthalene	QN	2.0										
1-Methylnaphthalene	QN	4.0										
	QN	4.0										
/ Acetone	QN	10										
Jromobenzene	a	1.0										
Bromochloromethane	QN	1.0										
Bromodichloromethane	DN	1.0										
Bromoform	DN	1.0										
Bromomethane	an	2.0										
2-Butanone	QN	₽										
Carbon disulfide	QN	10										
Carbon Tetrachloride	QN	2.0										
Chlorobenzene	DN	1.0										
Chloroethane	QN	2.0										
Chloroform	Q	1.0										
Chloromethane	Q	1.0										
2-Chiorotoluene	Q	1.0										
4-Chloratoluene	QN	1.0										
cis-1,2-DCE	QN	1.0										
cis-1,3-Dichloropropene	QN	1.0										
1,2-Dibromo-3-chloropropane	QN	2.0										
Onalifierc: E Value above	ouantitation range		H Holdin	g times for preparation	n or analysis	exceeded	~	Analvie detected b	elow auantitati	on fimits		
ND Not Detected	d at the Reporting Limit		R RPD 0	utside accepted recove	ery limits		S	Spike Recovery ou	Iside accepted	recovery limi	s	
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Odd: Dod: Light Prep Date: Kur/No: 17976 Kur/No: 17976 Schwo: Mail Mail	de: 8260_W Unit: Jpg.L Prep Date: RunNo: 17978 No: 5WK zölde SPK Ref Val %ARB/Si Date: 1/19/2006 SeeNo: 441974 SPK value SPK Ref Val %ARC LowLinit HighLinit RPD Ref Val %RPD RPDLinit Qual Million for the Second Second Poly and Second Poly Ambry Editor of Date of the Analysis exceeded J Ambry Editor of Ambry Editor of	Oct: S260_W Units: Hg/L Perg Date: N:1192006 R:n/N:1735 IND: SW2200 Analysis Date: 11192006 SeqNo: 41374 SPX value SPX retr Val %RC LowLinit HgnLinit RD Retr Val %RPU R Molding finans for proprintion or annitysis exceeded J Analysis detected below quantitation linits R R Po ouside accepted recovery linitis S Sikk Recovery ouside accepted recovery linitis S	
Sh vale Sh Ref Val McC Lowlmit RPD Ref Val MRP R PD Lev M Long Mark	SPK value SPK Ref Val %RFC LowLinit HighLinit RPD Ref Val %RPD RPDLinit Qual H H Olding times for preparation or embysis exceeded J Analyse desceeded blow quantitation limits	SPK value SPK far Val XFG LowUnit HghLinit RPD Rat Val KPD RPD Linit Qual H Höfding times för preparation or amlysis acceeded 0 Amlyre detected below quantitation linits R RPD ouside accepted treovery linits 5 Spike Kacovry ouside accepted treovery linits 5 Spike Kacovry ouside accepted treovery linits	
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	 H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits 	 H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits 	1.0
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	 H Holding times for preparation or analysis exceeded J Analyre detected below quantitation limits 	 H Holding times for preparation or analysis exceeded J Analyre detected below quantitation limits R PD outside accepted recovery limits S Spike Recovery outside accepted recovery limits 	<u>, o</u>
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	 H Holding times for preparation or analysis exceeded J Analyre detected below quantitation limits 	 H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits R RPD outside accepted recovery limits 	1.0
	 H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits 	 H Holding times for preparation or analysis exceeded J Analyse detected below quantitation limits R RPD outside accepted recovery limits 	1.0
	 H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits 	 H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits R RPD outside accepted recovery limits 	1.0
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	H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits	 H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits 	1.0
	H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits	H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits R PPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits	1.0

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ANALYTICAL QC SUMMARY REPORT a sea a sea a sea a sea a sea a sea a sea a sea a sea a sea a sea a sea a sea a sea a sea a sea a sea a sea a s

> Giant Refining Co 0601119 Work Order: CLIENT:

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Project: OAPIS W	/eek of 1/13/06						TestC	Code: 8	260_W		
Sample ID: 5ml rb	SampType: MBLK	TestCo	de: 8260_W	Units: µg/L		Prep Da	te: 		RunNo: 1797	3	
Analyte	Baich IU: K1797a Result		servezoue SPK value	SPK Ref Val	%REC	Analysis ud LowLimit	HighLimit RPD	i Ref Val	Sequer 44	r4 RPDLimit	Qual
1,1,2-Trichloroethane	QN	1.0									
Trichloroethene (TCE)	QN	1.0									
Trichlorofluoromethane	an	1.0									
1,2,3-Trichloropropane	DN	2.0									
Vinyl chloride	DN	1.0									
Xylenes, Total	Q	1.0									
Sample ID: 100ng lcs	SampType: LCS	TestCoo	le: 8260_W	Units: µg/L		Prep Dat	le:		RunNo: 1797	8	
Client ID: ZZZZ	Batch ID: R17978	Test	lo: SW8260B			Analysis Dal	te: 1/19/2006		SeqNo: 4419	75	
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD	Ref Val	%RPD F	RPDLimit	Qual
L Jenzene	19.34	1.0	20	0	96.7	79.3	136				
oluene - 4	20.12	1.0	20	o	101	65.5	123				
H Chlorabenzene	20.20	1.0	20	Ð	101	80.3	134				
U1,1-Dichloraethene	19.93	1.0	20	a	99.7	72.7	135				
Trichloroethene (TCE)	19.14	1.0	20	٥	95.7	85.6	119				

Holding times for preparation or analysis exceeded RPD outside accepted recovery limits нч

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Spike Recovery outside accepted recovery limits

Analyte detected below quantitation limits

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E Value above quantitation range ND Not Detected at the Reporting Limit

Qualifiers:

	Sample F	Rece	eipt Cheo	cklist			
Client Name GIANTREFIN				Date and Time	Received:	1/1	3/2006
Work Order Number 0601119				Received by	LMM		
Checklist completed by Lish Healt	Kes		1/13,5 Dale	-6			
Matrix	Carrier name	UPS					
Shipping container/cooler in good condition?		Yes		No 🗔	Not Present		
Custody seals intact on shipping container/coole	r?	Yes	V	Νο	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 relinguished and	received?	Yes	\checkmark	No 🗔			
Chain of custody agrees with sample labels?		Yes		No 🗌			
Samples in proper container/bottle?		Yes	\checkmark	No 🗔			
Sample containers intact?		Yes		Νο			
Sufficient sample volume for indicated test?		Yes	\checkmark	Na 🗆			
All samples received within holding time?		Yes		No \Box			
Water - VOA vials have zero headspace?	No VOA vials submi	tted		Yes 🗹	No 🗋		
Water - pH acceptable upon receipt?		Yes		No 🗌	N/A 🗌		
Container/Temp Blank temperature?			7° 4 Ii	l° C ± 2 Accepta f given sufficient	ble time to cool.		
COMMENTS:							
	Detropological						
	Date contacted:	••••		Pers	un contacteo	 	
Contacted by:	Regarding					 	
Comments:						 	
19. Vez a con con con con con con con con con con						 	
manga a an an anna agus an anna a da an anna agus ann an an Anna Anna an						 	
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Corrective Action						 	
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HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D Albuquerque, New Mexico 87109 Tel. 505.345.3975 Fax 505.345.4107 www.hallenvironmental.com	AMANSA Control (Yorking) s (8001 + 387M + X378 (yind) endines (Yorking) a Control (Yo		
Dther:	Project #: Project Manager: Enclot Manager: Sampler: Sample: Sample Lapperature Mumber/Volume HgCl ₂ HNO ₃	0621194-1	Received By: (Signature)
CHAIN-OF-CUSTODY RECORD	Address: Cart & San T Phone #: 505 722 3833 Fax #: 505 722 3833 Date Time Matrix Sample I.D. No.	7-11-64 1.326 HA O OAPIS 0 APIS 1.306 HA O OAPIS 0 APIS 1.306 HA O OAPIS 1.306	177-06 OGOD 477 Center Date: Time: Retinduished By: (Signature)

Chavez, Carl J, EMNRD

From: Sent: To: Subject: Monzeglio, Hope, NMENV Wednesday, January 25, 2006 3:55 PM Chavez, Carl J, EMNRD; Price, Wayne, EMNRD FW: OAPIS SKETCH

Correspondence with S. Morris about the Old API Separator. ----Original Message----From: Steve Morris [mailto:smorris@giant.com] Sent: Wednesday, January 25, 2006 3:44 PM To: Monzeglio, Hope, NMENV Subject: RE: OAPIS SKETCH

Hope,

I have been taking a clean empty 1 gallon distilled water bottle and dunking it in to the last portion of the water section of the OAPIS. As it is filled, I do get surface water. Once the gallon bottle is full, I fill the sample bottles right away.

The small trickle of water flows from the south side of the water section and I have been catching the sample on the north. The reason for that is that it is easier to reach the water from that side. I can, however, catch samples from right where the water exits the water section. (no problem)

During a storm event I could catch a sample of the water as it enters or exits the drain pipe. The snow we got today didn't amount to enough moisture to see a difference at the OAPIS. Hopefully we will get more tonight. If we do, would you like for me to catch a sample as it enters lagoon #1? Let me know if this helps. Thanx, Steve.

----Original Message----From: Monzeglio, Hope, NMENV [mailto:hope.monzeglio@state.nm.us] Sent: Wednesday, January 25, 2006 2:25 PM To: Steve Morris Subject: RE: OAPIS SKETCH

Steve

Thanks for the sketch. I figure email may be easier since we keep playing phone tag. I have questions on how you are collecting the effluent sample.

1. When you collect a sample for from the Old API separator are you taking a surface sample or scooping water from within the separator for a sample?

2. To clarify, the last few sampling events, was the sample collected from a point where effluent was flowing or trickling out of the Old API or from within the separator as stated in #1?

3. When you have a storm water event and you have effluent flowing out, are you able to obtain a sample from the flowing effluent coming out of the Old API or do you collect the sample from within the Old API?

I was not sure if there was a sample port at the X on the sketch. If you need clarification let me know.

Thanks

Норе

-----Original Message-----From: Steve Morris [mailto:smorris@giant.com] Sent: Wednesday, January 25, 2006 1:57 PM To: Monzeglio, Hope, NMENV Subject: OAPIS SKETCH

<<OAPIS.jpg>> Hi Hope, Here is a quick sketch of the OAPIS. The circled X is where I've been catching the samples. I'll give you a call, Thanx, Steve

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Month Month Wonth Month Month Month Month Manuth Manuth Manuth Month Mon

Old API Separator Sketch (January 25, 2006)

Chavez, Carl J, EMNRD

From:	Steve Morris [smorris@giant.com]
Sent:	Friday, January 20, 2006 10:57 AM
То:	Chavez, Carl J, EMNRD; Cobrain, Dave, NMENV; Foust, Denny, EMNRD; Ed Riege;
	Monzeglio, Hope, NMENV; Johnny Sanchez; Steve Morris; Price, Wayne, EMNRD
Subject:	Ciniza Weekly Update 01-20-06





HALL7368_POND2HALL7397_NMED1HALL7406_AL2EP0 IN010606.pdf (10... 22805.pdf (609 K... 10606.pdf (315 ...

1) Work has started preparing the oil sump at the

NAPIS for Chopper Pump installation. I will update everyone on this email distribution list as we get into the project and have a better picture of the completion date.

2) Ciniza Operations and Maintenance personnel continue to keep a close eye on the NAPIS and no unexpected problems are noted.

3) Attached are the water sample results I have received to date.

If you have any questions, please give me a call at 505-722-0258. Thanks, Steve Morris

<<HALL7368 POND2IN010606.pdf>> <<HALL7397 NMED122805.pdf>> <<HALL7406 AL2EP010606.pdf>>

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COVER LETTER

January 16, 2006

Steve Morris Giant Refining Co Rt. 3 Box 7 Gallup, NM 87301 TEL: (505) 722-0258 FAX (505) 722-0210

RE: Pond 2 Inlet Week of 1-6-2006

Order No.: 0601054

Dear Steve Morris:

Hall Environmental Analysis Laboratory received 1 sample on 1/6/2006 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

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

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

STANDARD

Assaigai Analytical Laboratories, Inc.

Certificate of Analysis

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

Client:	HALL E	NVIRONN	IENTAL										
Project:	0601054	4											
Order:	060113	2 HAL	03	Receipt:	01-06-06		William F	P. Blava: Presk	dent of Assaig	al Analytical Labo	oratories, in	<u>c.</u>	
Sample:	POND	2 INLET				Collected:	01-05	-06 8:30:0	O By:				
Matrix:	AQUEC	ous											
QC Group	Ru	n Sequence	CAS #		Analyte	Res	ult	Units	Dilution Factor	Detection Limit	Code	Prep Date	Run Date
0601132-00	001A		EPA 410.1	Chemical	Oxygen Demand					By:	МКМ		
WCOD06002	2 WC	.2006.47.2	C-004	Chem	ical Oxygen Demand	13	90	mg/L	1	10		01-09-06	01-09-06
0601132-00	001B		EPA 405.1	Biochemic	al Oxygen Demand					By:	мкм		
BOD06003	wc	.2006.73.11	10-26-4	Biocher	nical Oxygen Demand	36	i9	mg/L	1	2	1	01-06-06	01-11-06

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 foonotes will appear below.

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

The Laboratory Control Spike and the Laboratory Control Spike Duplicate recoveries for the Biochemical Oxygen Demand (BOD) batch of samples, analyzed for this work order, were 82.3% and 77.5% respectively. These recoveries are below the QC acceptance limits of 84.6-115.4% and are most likely due to a poor performing seed capsule used for this batch. Therefore, the above BOD data, may be potentially negatively biased to that extent. This should be taken into account when evaluating the data.

1

	Sample	Rece	eipt Ch	ecklist				
Client Name GIANTREFIN				Date and Time	Received:		. 1	/6/2006
Work Order Number 0601054	$\left(\right)$	1		Received by	AT	,		
Checklist completed by	A	<u></u>	Date		<u>1</u> /6	0	6	
Matrix	Carrier name	<u>UPS</u>						
Shipping container/cooler in good condition?		Yes		No 🗔	Not Present			
Custody seals intact on shipping container/cook	er?	Yes			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	\checkmark					
Chain of custody agrees with sample labels?		Yes		No 🗔				
Samples in proper container/bottle?		Yes		No 🗆				
Sample containers Intact?		Yes	\checkmark					
Sufficient sample volume for indicated test?		Yes	\checkmark					
All samples received within holding time?		Yes						
Water - VOA vials have zero headspace?	No VOA vials subr	nitted		Yes 🗹	No 🗌			
Water - pH acceptable upon receipt?		Yes		No 🗆	N/A 🗌			
Container/Temp Blank temperature?			7°	4° C ± 2 Accepta If given sufficient	ble time to cool.			
COMMENTS:								
Client contacted	Date contacted:			Pers	on contacted			
Contacted by:	Regarding						<u> </u>	
Comments:					·····		,	
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Corroctive Action	·······	,						
								

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COVER LETTER

January 17, 2006

5

Steve Morris Giant Refining Co Rt. 3 Box 7 Gallup, NM 87301 TEL: (505) 722-0258 FAX (505) 722-0210

RE: NMED Monthly Water Samples 12/28/05

Order No.: 0512322

Dear Steve Morris:

Hall Environmental Analysis Laboratory received 4 samples on 12/30/2005 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

Date: 17-Jan-06

---CLIENT: Giant Refining Co Client Sample ID: AL-2 to EP-1 Collection Date: 12/28/2005 9:30:00 AM Lab Order: 0512322 NMED Monthly Water Samples 12/28/05 **Project:** Lab ID: 0512322-01

Matrix: AQUEOUS

Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B	: DIESEL RANGE						Analyst: SCC
Diesel Range Organics	(DRO)	21	3.0		mg/L	1	1/4/2006 2:45:14 PM
Motor Oil Range Organ	ics (MRO)	ND	15		mg/L	1	1/4/2006 2:45:14 PM
Surr. DNOP	•	122	58-140		%REC	1	1/4/2006 2:45:14 PM
EPA METHOD 8015B	: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organ	ics (GRO)	ND	0.50	•	mg/L	10	1/9/2006 12:49:13 PM
Surr: BFB		105	79.7-118		%REC	10	1/9/2006 12:49:13 PM
EPA METHOD 8260B	: VOLATILES						Analyst: HLM
Benzene		50	10		µg/L	10	1/3/2006
Toluene		96	10		µg/L	10	1/3/2006
Elhylbenzene		ND	10		μg/L	10	1/3/2006
Methyl tert-butyl ether	(MTBE)	41	10		µg/L	10	1/3/2006
1,2,4-Trimethylbenzen	е	45	10		µg/L	10	1/3/2006
1,3,5-Trimethylbenzen	e	14	10		μ g /L	10	1/3/2006
1,2-Dichloroethane (El)C)	ND	10		µg/L	10	1/3/2006
1.2-Dibromoethane (El	DB)	ND	10		µg/L	10	1/3/2006
Naphthalene		140	20		µg/L	10	1/3/2006
1-Methylnaphthalene		260	40		µg/L	10	1/3/2006
2-Methylnaphthalene		330	40		µg/L	10	1/3/2006
Acetone		5100	1000		μg/L	100	12/31/2005
Bromobenzene		ND	10		μg/L	10	1/3/2006
Bromochloromethane		ND	. 10		ua/L	10	1/3/2006
Bromodichloromethan	e	ND	10		ua/L	10	1/3/2006
Bromoform	-	ND	10		ua/L	10	1/3/2006
Btomomethane		ND	20		μα/L	10	1/3/2006
2-Bulanne		1100	100		uall.	10	1/3/2006
Carbon disulfide		ND	100		ua/L	10	1/3/2006
Carbon Tetrachloride		ND	20		ua/L	10	1/3/2006
Chlorobenzene		14	10		10/L	10	1/3/2006
Chlorosibane		ND	20		ua/L	10	1/3/2006
Chloroform		ND	10		ua/L	10	1/3/2006
Chloromalbana			10		Ha/L	10	1/3/2006
2. Chlorotoluono			10		uo/l	10	1/3/2006
d Chlorotoluene			10		100/J	10	1/3/2006
		ND	10		un/l	10	1/3/2006
	20		10		uo/l	10	1/3/2006
			20		HB/F	10	1/3/2006
1,2-Dibtomo-3-Chioroj	propane		20		pgre uo/l	10	1/3/2006
Dipromochloromethar	18		10		pg/c vo/l	10	1/3/2006
Dibromomethane			20		µg/c ug/i	10	1/3/2000
1,2-Dichlorobenzene			10	1	իդեր հերեր	10	13/2000
1,3-Uichlorobenzene		UN	10		HANC	IV	10/2000
Qualifiers: ND	- Not Detected at the Repo	rting Limit			S - Spike Rec	covery outside acce	oted recovery limits
1-	Analyte detected below out	ntitution limi	te		R - RPD outs	side accented recove	av limits

B - Analyte detected in the associated Method Blank

1/25

E - Value above quantitation range

* - Value exceeds Maximum Contaminant Level

Page 1 of 11

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Date: 17-Jan-06

- - -

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CLIENT:Giant Refining CoLab Order:0512322Project:NMED Monthly Water Samples 12/28/05Lab ID:0512322-01

Client Sample ID: AL-2 to EP-1 Collection Date: 12/28/2005 9:30:00 AM

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
1,4-Dichlorobenzene	ND	10	μg/L	10	1/3/2006
Dichlorodifluoromethane	ND	10	μg/L	10	1/3/2006
1,1-Dichloroethane	ND	20	µg/L	10	1/3/2006
1,1-Dichloroethene	ND	10	µg/L	10	1/3/2006
1,2-Dichloropropane	ND	10	µg/L	10	1/3/2006
1,3-Dichloropropane	ND	10	μg/L	10	1/3/2006
2,2-Dichloropropane	ND	20	µg/L	10	1/3/2006
1,1-Dichloropropene	ND	10	µg/L	10	1/3/2006
Hexachlorobutadiene	ND	20	μg/L	10	1/3/2006
2-Hexanone	ND	100	µg/L	10	1/3/2006
Isopropylbenzene	ND	10	µg/L	10	1/3/2006
4-Isopropylloluene	ND	10	μg/L	10	1/3/2006
4-Methyl-2-pentanone	ND	100	µg/L	10	1/3/2006
Melhylene Chloride	ND	30	µg/L	10	1/3/2006
n-Bulylbenzene	ND	10	μg/L	10	1/3/2006
n-Propylbenzene	ND	10	μg/L	10	1/3/2006
sec-Butylbenzene	ND	10	µg/L	10	1/3/2006
Styrene	ND	10	μg/L	10	1/3/2006
tert-Butylbenzene	ND	10	µg/L	10	1/3/2006
1,1,1,2-Tetrachloroethane	ND	10	µg/L	10	1/3/2006
1,1,2,2-Tetrachioroelhane	ND	10	µg/L	10	1/3/2006
Tetrachloroethene (PCE)	ND	10	µg/L	10	1/3/2006
Irans-1,2-DCE	ND	10	µg/L	10	1/3/2006
trans-1,3-Dichloropropene	ND	10	µg/L	10	1/3/2006
1,2,3-Trichlorobenzene	ND	10	µg/L	10	1/3/2006
1,2,4-Trichlorobenzene	ND	10	µg/L	10	1/3/2006
1,1,1-Trichloroethane	ND	10	µg/L	10	1/3/2006
1,1,2-Trichloroelhane	ND	10	µg/ì_	10	1/3/2006
Trichloroethene (TCE)	ND	10	µg/L	10	1/3/2006
Trichlorolluoromethane	ND	10	μ g/L	10	1/3/2006
1,2,3-Trichloropropane	ND	20	µg/L	10	1/3/2006
Vinyl chloride	ND	10	µg/L	10	1/3/2006
Xylenes, Total	90	10	µg/L	10	1/3/2006
Surr: 1,2-Dichloroethane	-d4 98.1	69.9-130	%REC	10	1/3/2006
Surr: 4-Bromofluorobenz	ene 98.6	71.2-123	%REC	10	1/3/2006
Surr: Dibromofluorometh	ane 96.3	73.9-134	%REC	10	1/3/2006
Surr: Toluene-d8	96.5	81.9-122	%REC	10	1/3/2006
EPA METHOD 7470: ME	RCURY				Analyst: CMC
Mercury	0.013	0.00040	mg/L	2	1/3/2006
EPA 6010: TOTAL RECO	VERABLE METALS	B 600	,	4	Analyst: NMO
Arsenic	ND	0.020	n mg/L	1	1/4/2006 10:42:26 AM
Qualifiers: ND - Not	Detected at the Reporting Limit		S - Spike Ri	covery outside ac	cepted recovery limits
J - Analy	e detected below quantitation lin	nits	R - RPD ou	side accepted recr	overy limits
B - Analy	te detected in the associated Met	hod Blank	E - Value a	bove quantitation r	นกฎษ
* - Value	exceeds Maximum Contaminant	Level	125		Page 2 of 11

Date: 17-Jan-06

				11 I I I I		· · · · · · · · · · · · · · · · · · ·
CLIENT:	Giant Refining Co		Cl	ient Sample ID:	AL-2 10 I	EP-1
Lab Order:	0512322			Collection Date	: 12/28/2	005 9:30:00 AM
Project:	NMED Monthly Water Sam	ples 12/28/	05			
Lab ID:	0512322-01			Matrix	AQUE	OUS
Analyses	R	esult	POL Oua	l Units	DF	Date Analyzed

Analyses	Result	142 4	in onits		Dute Haury Sea
Barium	0.12	0.020	mg/L	1	1/4/2006 10:42:26 AM
Cadmium	ND	0.0020	mg/L	1	1/4/2006 10:42:26 AM
Chromium	0.014	0.0060	mg/L	1	1/4/2006 10:42:26 AM
Lead	0.0078	0.0050	mg/L	1	1/4/2006 10:42:26 AM
Selenium	ND	0.050	mg/L	1	1/4/2006 10:42:26 AM
Silver	ND	0.0050	mg/L	1	1/4/2006 10:42:26 AM

Qualifiers:

ND - Not Detected at the Reporting Limit

- J Analyte detected below quantitation limits
- B Analyte detected in the associated Method Blank
- * Value exceeds Maximum Contaminant Level
- S Spike Recovery outside accepted recovery limits
- R RPD outside accepted recovery limits
- E Value above quantitation range

Page 3 of 11

CLIENT:	Giant Refining Co		Cli	ent Sample ID: (DAPIS	Effluent
	NDAED Manthha Wate	- Complex 17	170105	Concention Date:	12/28/	2003 10:00:00 AM
Project:	NMED Monuly wate	r Samples 12	28/05	Matrix		
Lab ID:	0512322-02			Wattix:	AQUI	
Analyses		Result	PQL Qual	Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE					Analyst: SCC
Diesel Range (Organics (DRO)	4.5	3.0	mg/L	1	1/4/2006 3:18:00 PM
Motor Oil Rang	ge Organics (MRO)	ND	15	mg/L	1	1/4/2006 3:18:00 PM
Surr: DNOP		130	58-140	%REC	1	1/4/2006 3:18:00 PM
EPA METHOD	8015B: GASOLINE RAN	GE				Analyst: NSB
Gasoline Rang	je Organics (GRO)	9.4	5.0	mg/L	100	1/9/2006 1:19:52 PM
Surr: BFB		104	79. 7-1 18	%REC	100	1/9/2006 1:19:52 PM
EPA METHOD	8260B: VOLATILES					Analyst: HLM
Benzene		2100	100	µg/L	100	12/31/2005
Toluene		2300	100	µg/L	100	12/31/2005
Ethylbenzene		150	100	µg/L	100	12/31/2005
Methyl tert-but	yl ether (MTBE)	ND	100	µg/L	100	12/31/2005
1,2,4-Trimethy	lbenzene	250	100	μg/L	100	12/31/2005
1,3,5-Trimethy	Ibenzene	110	100	µg/L	100	12/31/2005
1,2-Dichloroet	hane (EDC)	ND	100	μg/L	100	12/31/2005
1,2-Dibromoet	hane (EDB)	NÐ	100	μg/L	100	12/31/2005
Naphthalene		ND	200	µg/L	100	12/31/2005
1-Methylnapht	halene	ND	400	µg/L	100	12/31/2005
2-Methylnapht	halene	ND	400	µg/L	100	12/31/2005
Acetone		ND	1000	µg/L	100	12/31/2005
Bromobenzen	e	ND	100	µg/L	100	12/31/2005
Bromochlorom	nethane	ND	100	µg/L	100	12/31/2005
Bromodichloro	omelhane	ND	100	µg/L	100	12/31/2005
Bromoform		ND	100	µg/L	100	12/31/2005
Bromomethan	e	ND	200	μg/L	100	12/31/2005
2-Butanone		ND	1000	µg/L	100	12/31/2005
Carbon disulfi	de	ND	1000	µg/L	100	12/31/2005
Carbon Tetrac	chloride	ND	200	μg/L	100	12/31/2005
Chlorobenzen	e	ND	100	µg/L	100	12/31/2005
Chloroethane		ND	200	µg/L	100	12/31/2005
Chloroform		ND	100	µg/L	100	12/31/2005
Chloromethar	ne	ND	100	µg/L	100	12/31/2005
2-Chlorotolue	ne	ND	100	µg/L	100	12/31/2005
4-Chloratolue	ne	ND	100	µg/L	100	12/31/2005
cis-1,2-DCE		ND	100	µg/L	10 0	12/31/2005
cis-1,3-Dichlo	ropropene	ND	100	μg/L	100	12/31/2005
1,2-Dibromo-3	3-chloropropane	ND	200	µg/L	100	12/31/2005
Dibromachior	omethane	ND	100	΄ μg/L	100	12/31/2005
Dibromometh	ane	ND	200	µg/L	100	12/31/2005
1,2-Dichlorob	enzene	ND	100	µg/L	100	12/31/2005
1,3-Dichlorob	enzene	ND	100	µg/L	100	12/31/2005
Qualifiers:	ND - Not Detected at the R	eporting Limit		S - Spike Recovery of	itside acc	epted recovery limits
	J - Analyte detected below	quantitation limi	ts	R - RPD outside acce	pted reco	very limits
	B - Analyte detected in the	associated Meth	nd Blank	E - Value above ouan	titation 17	mec

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* - Value exceeds Maximum Contaminant Level

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Date: 17-Jan-06

_____ CLIENT: Giant Refining Co Lab Order: 0512322 Project: Lab ID:

Client Sample ID: OAPIS Effluent Collection Date: 12/28/2005 10:00:00 AM

NMED Monthly Water Samples 12/28/05 0512322-02

Matrix: AQUEOUS

Analyses		Result	PQL	Qual L	Jnits	DF	Date Analyzed
1,4-Dichloroben	zene	ND	100	ч	g/L	100	12/31/2005
Dichlorodifluoro	methane	ND	100	μ	ig/L	100	12/31/2005
1,1-Dichloroetha	ine	ND	200	μ	ig/L	100	12/31/2005
1.1-Dichloroethe	ene	ND	100	μ	g/L	100	12/31/2005
1,2-Dichloroprop	pane	ND	100	μ	g/L	100	12/31/2005
1,3-Dichloroprop	ane	ND	100	μ	g/Ĺ	100	12/31/2005
2,2-Dichloroprop	bane	ND	200	μ	g/L	100	12/31/2005
1,1-Dichloroprop	pene	ND	100	μ	ig/L	100	12/31/2005
Hexachlorobuta	diene	ND	200	μ	ig/Ľ	100	12/31/2005
2-Hexanone		ND	1000	μ	g/L	100	12/31/2005
Isopropylbenzer	ne	ND	100	μ	- Ig/L	100	12/31/2005
4-Isopropyltolue	ne	ND	100	μ	ig/L	100	12/31/2005
4-Methyl-2-pent	anone	ND	1000	μ	ig/L	100	12/31/2005
Methylene Chlo	ride	ND	300	ц	ig/L	100	12/31/2005
n-Butylbenzene		ND	100	μ	g/L	100	12/31/2005
n-Propylbenzen	0	ND	100	μ	ig/L	100	12/31/2005
sec-Butylbenzer	ne	ND	100	μ	- ig/L	100	12/31/2005
Styrene		ND	100	μ	g/L	100	12/31/2005
tert-Butylbenzer	ne	ND	100	μ	- ıg/L	100	12/31/2005
1,1,1,2-Tetrachi	oroethane	ND	100	μ	ıg/L	100	12/31/2005
1,1,2,2-Tetrachl	oroethane	ND	100	Ч	ıg/L	100	12/31/2005
Tetrachloroethe	ne (PCE)	ND	100	μ	ıg/L	100	12/31/2005
trans-1,2-DCE		ND -	100	μ	ıg/L	100	12/31/2005
trans-1,3-Dichlo	propropene	ND	100	H	ıg/L	100	12/31/2005
1,2,3-Trichlorob	enzene	ND	100	٢	ig/L	100	12/31/2005
1,2,4-Trichlorob	enzene	ND	100	Ч	ıg/L	100	12/31/2005
1,1,1-Trichloroe	thane	ND	100	۴	ıg/L	100	12/31/2005
1,1,2-Trichloroe	ihane	ND	100	4	ıg/L	100	12/31/2005
Trichloroethene	(TCE)	ND	100	٢	ıg/L	100	12/31/2005
Trichlorofluoron	nethane	ND	100	ŀ	ıg/L	100	12/31/2005
1,2,3-Trichlorop	oropane	ND	200	F	ig/L	100	12/31/2005
Vinyl chloride		ND	100	ŀ	Jg/L	100	12/31/2005
Xylenes, Total		1900	100	۱ ۲	ıg/L	100	12/31/2005
Surr: 1,2-Did	hloroethane-d4	92.6	69.9-130	9	%REC	100	12/31/2005
Surr: 4-Brom	ofluorobenzene	94.9	71.2-123	9	%REC	100	12/31/2005
Surr: Dibrom	ofluoromelhane	96.6	73.9-134	9	%REC	100	12/31/2005
Sur: Tolueni	e-d8	95.7	81.9-122	0	%REC	100	12/31/2005
EPA METHOD	8310: PAHS						Analyst: JMP
Naphlhalene		680	· 13	t t	ıg/L	5	1/12/2006 5:01:54 PM
1-Melhylnaphth	alene	57	2.5	. L	- Jg/L	1	1/12/2006 1:56:10 AM
2-Methylnaphth	alene	25	2.5		- Jg/l.	1	1/12/2006 1:56:10 AM
Acenaphthylen	e	ND	2.5	1	_ Jg/L	1	1/12/2006 1:56:10 AM
Qualifiers:	ND - Not Detected at th	he Reporting Limit		s.	Spike Recov	ery outside acce	pted recovery limits
	J - Analyte detected be	- low quantitation limits	5	R -	- RPD outside	e accepted recove	ery limits

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

E - Value above quantitation range

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CLIENT:	Giant Refining Co
Lab Order:	0512322
Project:	NMED Monthly Water Samples 12/28/05
Lah ID•	0512322-02

Date: 17-Jan-06

Client Sample ID: OAPIS Effluent

Collection Date: 12/28/2005 10:00:00 AM

Lab ID:

512322-02

Matrix: AQUEOUS

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
Acenaphthene	ND	2.5	μg/L	1	1/12/2006 1:56:10 AM
Fluorene	7.2	0.80	µg/L	1	1/12/2006 1:56:10 AM
Phenanthrene	5.0	3.0	μg/L	5	1/12/2006 5:01:54 PM
Anlhracene	ND	0.60	µg/L	1	1/12/2006 1:56:10 AM
Fluoranthene	ND	0.30	µg/L	1	1/12/2006 1:56:10 AM
Pyrene	ND	0.30	µg/L	1	1/12/2006 1:56:10 AM
Benz(a)anthracene	ND	0.020	µg/L	1	1/12/2006 1:56:10 AM
Chrysene	ND	0.20	µg/L	1	1/12/2006 1:56:10 AM
Benzo(b)fluoranthene	ND	0.050	µg/L	1	1/12/2006 1:56:10 AM
Benzo(k)fluoranthene	0.020	0.020	μg/L	1	1/12/2006 1:56:10 AM
Benzo(a)pyrene	ND	0.020	µg/L	1	1/12/2006 1:56:10 AM
Dibenz(a,h)anthracene	ND	0.040	µg/L	1	1/12/2006 1:56:10 AM
Benzo(g,h,i)perylene	ND	0.030	µg/L	1	1/12/2006 1:56:10 AM
Indeno(1,2,3-cd)pyrene	ND	0.080	µg/L	1	1/12/2006 1:56:10 AM
Surr: Benzo(e)pyrene	71.3	54-102	%REC	1	1/12/2006 1:56:10 AM
EPA METHOD 7470: MERCURY					Analyst: CMC
Mercury	ND	0.00020	mg/L	1	1/3/2006
EPA 6010: TOTAL RECOVERABLE	/IETALS				Analyst: NMO
Arsenic	ND	0.020	mg/L	1	1/4/2006 10:46:24 AM
Barium	0.20	0.020	mg/L	1	1/4/2006 10:46:24 AM
Cadmium	ND	0.0020	mg/L	1	1/4/2006 10:46:24 AM
Chromium	0.0067	0.0060	mg/L	1	1/4/2006 10:46:24 AM
Lead	ND	0.0050	mg/L	1	1/4/2006 10:46:24 AM
Selenium	ND	0.050	mg/L	1	1/4/2006 10:46:24 AM
Silver	ND	0.0050	mg/L	1	1/4/2006 10:46:24 AM

.... Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

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R - RPD outside accepted recovery limits

E - Value above quantitation range

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CLIENT:

Lab ID:

Lab Order:

Date: 17-Jan-06

11.1 Giant Refining Co 0512322

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Client Sample ID: NAPIS Effluent

Collection Date: 12/28/2005 10:30:00 AM

Project: NMED Monthly Water Samples 12/28/05

> 0512322-03

Matrix: AQUEOUS

	Result	PQL	Qual	Units	Dŀ	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: SCC
Diesel Range Organics (DRO)	670	30		mg/L	10	1/5/2006 7:33:19 AM
Motor Oil Range Organics (MRO)	ND	150		mg/L	10	1/5/2006 7:33:19 AM
Surr: DNOP	88.8	58-140		%REC	10	1/5/2006 7:33:19 AM
EPA METHOD 8015B: GASOLINE RANG	E					Analyst: NSB
Gasoline Range Organics (GRO)	330	5.0		mg/L	100	1/9/2006 1:50:28 PM
Sur: BFB	120	79.7-118	5	%REC	100	1/9/2006 1:50:28 PM
EPA METHOD 8260B: VOLATILES						Analyst: HLM
Benzene	23000	1000		µg/L	1000	1/5/2006
Toluene	48000	1000		µg/L	1000	1/5/2006
Ethylbenzene	1400	100		µg/L	100	12/31/2005
Methyl tert-butyl ether (MTBE)	960	100		µg/L	100	12/31/2005
1,2,4-Trimethylbenzene	1100	100		µg/L	100	12/31/2005
1,3,5-Trimethylbenzene	340	100		µg/L	100	12/31/2005
1,2-Dichloroethane (EDC)	ND	100		µg/L	100	12/31/2005
1,2-Dibromoethane (EDB)	ND	100		µg/L	100	12/31/2005
Naphthalene	390	200		µg/L	100	12/31/2005
1-Methyinaphthalene	ND	400		μg/L	100	12/31/2005
2-Methylnaphthalene	430	400		μg/L	100	12/31/2005
Acelone	ND	1000		µg/Ļ	100	12/31/2005
Bromobenzene	ND	100		µg/L	100	12/31/2005
Bromochloromelhane	ND	100		µg/L	100	12/31/2005
Bromodichloromethane	ND	100		µg/L	100	12/31/2005
Bromoform	ND	100		µg/L	100	12/31/2005
Bromomethane	ND	200		µg/L	100	12/31/2005
2-Butanone	3800	1000		µg/L	100	12/31/2005
Carbon disulfide	ND	1000		µg/L	100	12/31/2005
Carbon Tetrachloride	ND	200		µg/L	100	12/31/2005
Chlorobenzene	ND	100		µg/L	100	12/31/2005
Chloroethane	ND	200		µg/L	100	12/31/2005
Chloroform	ND	100		µg/L	100	12/31/2005
Chloromethane	ND	100		µg/L	100	12/31/2005
2-Chlorotoluene	ND	100		μg/L	100	12/31/2005
4-Chlorotoluene	ND	100		µg/L	100	12/31/2005
cis-1,2-DCE	ND	100		μg/L	100	12/31/2005
cis-1,3-Dichloropropene	ND	100		µg/L	100	12/31/2005
1.2-Dibromo-3-chloropropane	ND	200		µg/L	100	12/31/2005
Dibromochloromethane	ND	100		ug/L	100	12/31/2005
Dibromomethane	ND	200		μg/L	100	12/31/2005
1,2-Dichlorobenzene	ND	100		μg/L	100	12/31/2005
1.3-Dichlorobenzene	ND	100	1	µg/L	100	12/31/2005

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

R - RPD outside accepted recovery limits

E - Value above quantitation range

* - Value exceeds Maximum Contaminant Level

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Date: 17-Jan-06

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CLIENT: Giant Refining Co 0512322 Lab Order: **Project:**

Client Sample ID: NAPIS Effluent Collection Date: 12/28/2005 10:30:00 AM

NMED Monthly Water Samples 12/28/05 Lab ID: 0512322-03

Matrix: AQUEOUS

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
1,4-Dichlorobenzene	ND	100	μg/L	100	12/31/2005
Dichlorodifluoromethane	ND	100	µg/l_	100	12/31/2005
1,1-Dichloroethane	ND	200	µg/L	100	12/31/2005
1,1-Dichloroethene	ND	100	µg/L	100	12/31/2005
1,2-Dichloropropane	ND	100	µg/L	100	12/31/2005
1,3-Dichloropropane	ND	100	µg/L	100	12/31/2005
2,2-Dichloropropane	ND	200	µg/L	100	12/31/2005
1,1-Dichloropropene	ND	100	µg/L	100	12/31/2005
Hexachlorobutadiene	ND	200	µg/L	100	12/31/2005
2-Hexanone	ND	1000	μg/L	100	12/31/2005
Isopropylbenzene	ND	100	µg/L	100	12/31/2005
4-Isopropyltoluene	ND	100	µg/L	100	12/31/2005
4-Methyl-2-pentanone	ND	1000	μg/L	100	12/31/2005
Methylene Chloride	ND	300	µg/L	100	12/31/2005
n-Bulylbenzene	ND	100	µg/L	100	12/31/2005
n-Propylbenzene	140	100	µg/L	100	12/31/2005
sec-Bulylbenzene	ND	100	μg/L	100	12/31/2005
Styrene	ND	100	μg/L	100	12/31/2005
tert-Butylbenzene	ND	100	μg/L	100	12/31/2005
1,1,1,2-Tetrachloroethane	ND	100	µg/L	100	12/31/2005
1,1,2,2-Tetrachloroethane	ND	100	µg/L	100	12/31/2005
Tetrachloroethene (PCE)	ND	100	μg/L	100	12/31/2005
Irans-1,2-DCE	ND	100	µg/L	100	12/31/2005
Irans-1,3-Dichloropropene	ND	100	µg/L	100	12/31/2005
1,2,3-Trichlorobenzene	ND	100	µg/L	100	12/31/2005
1,2,4-Trichlorobenzene	ND	100	µg/L	100	12/31/2005
1,1,1-Trichloroethane	ND	100	µg/L	100	12/31/2005
1,1,2-Trichloroethane	ND	100	µg/L	100	12/31/2005
Trichloroethene (TCE)	ND	100	µg/L	100	12/31/2005
Trichlorofluoromethane	ND	100	µg/L	100	12/31/2005
1,2,3-Trichloropropane	ND	200	µg/L	100	12/31/2005
Vinyl chloride	ND	100	µg/L	100	12/31/2005
Xylenes, Total	7700	100	µg/L	100	12/31/2005
Surr: 1,2-Dichloroethane-d4	93.3	69.9-130	%REC	100	12/31/2005
Surr: 4-Bromofluorobenzene	91.2	71.2-123	%REC	100	12/31/2005
Surr. Dibromofluoromethane	93.9	73.9-134	%REC	100	12/31/2005
Surr: Toluene-d8	97.7	81.9-122	%REC	100	12/31/2005

-----Qualifiers:

ND - Not Detected at the Reporting Limit

- J Analyte detected below quantitation limits
- B Analyte detected in the associated Method Blank
- * Value exceeds Maximum Contaminant Level
- S Spike Recovery outside accepted recovery limits
- R RPD outside accepted recovery limits
- E Value above quantitation range

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Date: 17-Jan-06

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CLIENT: Giant Refining Co Lab Order: 0512322 Project: NMED Monthly Water Samples 12/28/05 A512222 A4 Lab ID

Client Sample ID: Pilot TC Effluent

Collection Date: 12/28/2005 11:00:00 AM

Lab ID: 0512322-04			watrix;	AQUI	2005
Analyses	Result	PQL Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE					Analyst: SCC
Diesel Range Organics (DRO)	ND	3.0	mg/L	1	1/4/2006 4:55:35 PM
Motor Oil Range Organics (MRO)	ND	15	mg/L	1	1/4/2006 4:55:35 PM
Surr: DNOP	83.9	58-140	%REC	1	1/4/2006 4:55:35 PM
EPA METHOD 8015B: GASOLINE RAN	GE				Analyst: NSB
Gasoline Range Organics (GRO)	0.063	0.050	mg/L	1	1/9/2006 11:56:12 PM
Surr: BFB	104	79.7-118	%REC	1	1/9/2006 11:56:12 PM
EPA METHOD 8260B: VOLATILES					Analyst: HLM
Benzene	ND	10	μg/L	10	1/3/2006
Toluene	16	10	µg/L	10	1/3/2006
Ethylbenzene	ND	10	µg/L	10	1/3/2006
Methyl tert-butyl ether (MTBE)	ND	10	µg/L	10	1/3/2006
1,2,4-Trimethylbenzene	ND	10	µg/L	10	1/3/2006
1,3,5-Trimethylbenzene	ND	10	µg/L	10	1/3/2006
1,2-Dichloroelhane (EDC)	ND	10	µg/L	10	1/3/2006
1,2-Dibromoelhane (EDB)	ND	10	µg/L	10	1/3/2006
Naphthalene	ND	20	µg/L	10	1/3/2006
1-Methylnaphthalene	ND	40	µg/∟	10	1/3/2006
2-Methylnaphthalene	ND	40	µg/L	10	1/3/2006
Acelone	280	100	µg/L	10	1/3/2006
Bromobenzene	ND	10	µg/L	10	1/3/2006
Bromochloromelhane	ND	10	µg/L	10	1/3/2006
Bromodichloromethane	ND	10	µg/L	10	1/3/2006
Bromolorm	ND	10	µg/L	10	1/3/2006
Bromomethane	ND	20	µg/L	10	1/3/2006
2-Butanone	ND	100	µg/L	10	1/3/2006
Carbon disulfide	ND	100	µg/L	10	1/3/2006
Carbon Tetrachloride	ND	20	µg/L	10	1/3/2006
Chlorobenzene	ND	10	µg/L	10	1/3/2006
Chloroethane	ND	20	μg/L	10	1/3/2006
Chlorolorm	ND	10	µg/L	10	1/3/2006
Chloromethane	ND	10	µg/L	10	1/3/2006
2-Chlorololuene	ND	10	µg/L	10	1/3/2006
4-Chlorotoluene	ND	10	µg/L	10	1/3/2006
cis-1.2-DCE	ND	10	µg/L	10	1/3/2006
cis-1.3-Dichloropropene	ND	10	ug/L	10	1/3/2006
1,2-Dibromo-3-chloropropane	ND	20	µg/L	10	1/3/2006
Dibromochloromethane	ND	10	µg/L	10	1/3/2006
Dibromomethane	ND	20	μg/L	10	1/3/2006
1.2-Dichlorobenzene	ND	10	µg/L	10	1/3/2006
1 3-Dichlorobenzene	ND	10	µg/L	10	1/3/2006

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

R - RPD outside accepted recovery limits

* - Value exceeds Maximum Contaminant Level

E - Value above quantitation range

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Date: 17-Jan-06

-----CLIENT: Giant Refining Co Lab Order: 0512322 Project: NMED Monthly Water Samples 12/28/05 Lab ID: 0512322-04

Client Sample ID: Pilot TC Effluent Collection Date: 12/28/2005 11:00:00 AM

Matrix: AQUEOUS

Analyses		Result	PQL Q	ual Units	DF	Date Analyzed	
1,4-Dichlarobe	nzene	ND	10	µg/L	10	1/3/2006	
Dichlorodifluor	omelhane	ND	10	µg/L	10	1/3/2006	
1,1-Dichloroeth	nane	ND	20	µg/L	10	1/3/2006	
1,1-Dichloroeth	rene	ND	10	µg/L	10	1/3/2006	
1,2-Dichloropro	opane	ND	10	µg/L	10	1/3/2006	
1,3-Dichloropro	opane	ND	10	µg/L	10	1/3/2006	
2,2-Dichloropro	opane	ND	20	µg/L	10	1/3/2006	
1,1-Dichloropre	opene	ND	10	µg/L	1D	1/3/2006	
Hexachlorobut	adiene	ND	20	µg/L	10	1/3/2006	
2-Hexanone		ND	100	µg/L	10	1/3/2006	
Isopropyibenza	ene	ND	10	µg/L	10	1/3/2006	
4-Isopropyltolu	епе	ND	10	μg/L	10	1/3/2006	
4-Methyl-2-per	ntanone	ND	100	µg/L	10	1/3/2006	
Methylene Chi	oride	ND	30	µg/L	10	1/3/2006	
n-Butylbenzen	e	ND	10	µg/L	10	1/3/2006	
n-Propylbenze	ne	ND	10	µg/L	10	1/3/2006	
sec-Bulylbenz	ene	ND	10	µg/L	10	1/3/2006	
Styrene		ND	10	µg/L	10	1/3/2006	
tert-Butylbenzo	ene	ND	10	μg/L	10	1/3/2006	
1,1,1,2-Tetrac	hloroethane	ND	10	μg/L	10	1/3/2006	
1,1,2,2-Telrac	hloroethane	ND	10	μg/L	10	1/3/2006	
Tetrachloroeth	ene (PCE)	ND	10	µg/L	10	1/3/2006	
Irans-1,2-DCE		ND	10	µg/L	10	1/3/2006	
Irans-1,3-Dich	loropropene	ND	10	µg/L	10	1/3/2006	
1,2,3-Trichlord	benzene	ND	10	μg/L	10	1/3/2006	
1,2,4-Trichlord	benzene	ND	10	µg/L	10	1/3/2006	
1,1,1-Trichloro	ethane	ND	10	уg/L	10	1/3/2006	
1,1,2-Trichloro	elhane	ND	10	μg/L	10	1/3/2006	
Trichloroethen	e (TCE)	ND	10	µg/L	10	1/3/2006	
Trichlorofluoro	methane	ND	10	µg/L	10	1/3/2006	
1,2,3-Trichloro	propane	ND	20	μg/L	10	1/3/2006	
Vinyl chloride		ND	10	μg/L	10	1/3/2006	
Xylenes, Total		11	10	µg/L	10	1/3/2006	
Surr: 1,2-Di	chloroethane-d4	112	69.9-130	%REC	10	1/3/2006	
Surr: 4-Broi	nofluorobenzene	104	71.2-123	%REC	10	1/3/2006	
Surr: Dibror	nofluoromethane	114	73.9-134	%REC	10	1/3/2006	
Surr. Tolue	ne-d8	92.0	81.9-122	%REC	10	1/3/2006	
EPA METHO	0 7470: MERCURY					Analyst: CMC	
Mercury		ND	0.00020	mg/L	1	1/3/2006	
EPA 6010: TO	TAL RECOVERABLE	METALS				Analyst: NMO	
Arsenic		ND	0.020	mg/L	1	1/4/2006 10:50:19 AM	
Onulifiers	ND - Not Detected at th	e Reporting Limit		S - Snike Recov	erv outside ace	ented recovery limits	
Quanters.		ie reporting count				-pro- neoreny minita	
	J - Analyte detected bel	ow quantitation limits	;	R - RPD outside	accepted record	very muits	
	B - Analyte detected in	the associated Metho	d Blank	E - Value above quantitation range			
	 Value exceeds Maxi 	mum Contaminant Lo	evel	Page 10 c			

Date: 17-Jan-06

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CLIENT:	Giant Refining Co		Clien
Lab Order:	0512322		С
Project:	NMED Monthly Water Samples 12/28/05		
Lab ID:	0512322-04		

Client Sample ID: Pilot TC Effluent Collection Date: 12/28/2005 11:00:00 AM

Matrix: AQUEOUS

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Analyses	Result	PQL	Qual Units	DF	Date Analyzed
Barium	0.034	0.020	mg/L	1	1/4/2006 10:50:19 AM
Cadmium	ND	0.0020	mg/L	1	1/4/2006 10:50:19 AM
Chromium	ND	0.0060	mg/L	1	1/4/2006 10:50:19 AM
Lead	ND	0.0050	mg/L	1	1/4/2006 10:50:19 AM
Selenium	ND	0.050	mg/L	1	1/4/2006 10:50:19 AM
Silver	ND	0.0050	mg/L	1	1/4/2006 10:50:19 AM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

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Hall Environme	sntal Aı	nalysis Labor	atory		:			3		Date: 17	-Jan-06	
CLIENT: Gia	ant Refinii	ng Co							QC SUN	IMAR	Y REPC	RT
Project: NN	AED Mon	thly Water Sample	s 12/28/05								Method B	lank
Sample ID: MB-9510	6	3atch ID: 9510	Test Code:	SW8015	Units: mg/L		Analysis	i Date: 1/4/20	006 1:07:47 PM	Prep Dal	le: 1/4/2006	1
Client ID:			Run 1D:	FID(17A) 2_0	60103A		SeqNo:	43766	0			
Analyte		Result	POL	SPK value	SPK Ref Val	%REC	LawLimit	HighLlmit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (I Motor Oit Range Organic.	DRO) :s (MRO)	D D N	- - 2									
Surr: DNOP		1.14	D	-	O	114	58	140	0			
Sample ID: Reagent Bla	ank 5m B	atch ID: R17853	Test Code:	SW8015	Units: mg/L		Anałysis	: Date: 1/9/20	06 8:36:21 AM	Prep Dat	ä	
Client ID:			Run ID:	PIDFID_0601	09A		SeqNo:	43890	8			
Analyte		Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics	s (GRO)	Q	0.05									
Surr. BFB		21.24	O	20	o	106	79.7	118	o			

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B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

J . Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit

Qualifiers:

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CLJENT: Work Order: Project:	Giant Refining Co 0512322 NMED Monthly Water Samples	12/28/05	1					QC SUN	4MAR'	Y REPC Method E	JRT Slank
Sample ID: MB-949 Client (D:	18 Balch ID: 9498	Test Code Run ID:	: SW8310 HUGO_0601	Units: µg/L 11B		Analysis SeqNo:	Date: 1/11/2 439787	006 7:32:04 PM	Prep Da	te: 1/3/2006	
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLim)t	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	QN	2.5									
1-Methylnaphthalen	в ND	2.5									
2-Methylnaphthalen	ON ND	2.5									
Acenaphthylene	<u>UN</u>	2.5									
Acenaphthene	DN	2.5									
Fluorene	DN	0.8									
Phenanthrene	QN	0.6									
Anthracene	QN	0.6									
Fluoranthene	DN	0.3									
Pyrene	DN	0.3									
Benz(a)anthracene	QN	0.02									
Chrysene	QN	0.2									
Benzo(b)fluoranthen	ND	0.05									
3enzo(k)fluoranthen	B	0.02									
3enzo(a)pyrene	<u>a</u> v	0.02									
Dibenz(a,h)anthrace	ND	0.04									
Benzo(g,h,i)perylené	UD D	0.03									
Indeno(1.2,3-cd)pyrt	ND	0.08									
Surr: Benzo(e)pyr	ene 7.76	0	10	0	9.77	54	102	0			
Sample ID: MB-949	9 Batch ID: 9499	Test Code:	SW7470	Units: mg/L	i.	Analysis	Date: 1/3/20(06	Prep Dat	le: 1/3/2006	
Client ID:		Run ID:	MI-LA254_06	0103A		SeqNo:	437349				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit F	RPD Ref Val	048%	RPDLimit	Qua
Mercury	QN	0.0002			•						
				-		:	"	-	•		
Quallfiers:	ND - Not Detected at the Reporting Litria		S - Sp	ike Recovery outside	accepted reco	very limits		- Analyte detected	in the associa	ited Method B	lank
	1 - Analuse detected helow munitation fin	nite	R - K	D milside accented a	anmit viavooo						r

CLIENT:	Giant Refining Co		·	•				QC SUM	MARY RE	POR	H
Work Urder: Project:	VMED Monthly Water Samples	12/28/05							Metho	d Blar	nk
Sample ID: MB-949 Client ID:	6 Batch ID: 9496	Test Code: Run ID:	SW6010A ICP_060104B	Units: mg/L		Analysis SeqNo:	i Date: 1/4/2 43759	2006 11:59:49 AM 97	Prep Date: 1/3/2	006	ı İ
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLin	ŭ ujt	Lal
Arsenic	ΠN	0.02									
Barium	QN 1	0.02									
Cadmium	0,0004735 MD	0.002								ر .	~
Lead	QN QN	0.005									
Selenium	QN	0.05									
Silver	DN	0.005									
Qualifiers:	VD - Not Detected at the Reporting Limit		S - Spil	te Recovery outside a	accepted reco	very limits		B - Analyte detected in I	the associated Metho	od Blank	
-	 Analyte detected below quantitation litr 	nits	R - RPI	O outside accepted re	covery limits					~	

Hall Enviro	nmental	Analysis Laborat	ory	÷	• • •				Date: 17-	Jan-Nb	
CLIENT:	Giant Re	fining Co						QC SUN	AMARY	(REPO	RT
Work Urder: Project:	VMED N	Monthly Water Samples	12/28/05						~	Method B	lank
Sample ID: 5ml rt		Batch ID: R17780	Test Code:	SW8260B	Units: µg/L	Analys	sis Date: 12/3(0/2005	Prep Date	ā	
Client ID:			Run (D:	NEPTUNE	51230A	SeqNi	0: 43715	36			
Analyte		Result	Pal	SPK value	SPK Ref Val %RE	C LowLimi	it HighLimit	RPD Ref Val	04X%	RPDLimit	Qual
Benzene		DN	-								
Toluene		QN	-								
Ethylbenzene		QN	-								
Methyl tert-butyl e	ther (MTBE)	QN									
1,2,4-Trimethylber	arazr	DN	-								
1,3.5-Trimethylber	anazr	ON									
1,2-Dichloroethant	e (EDC)	QN	-								
1,2-Dibromoethan	e (EDB)	QN	-								
Naphthalene		QN	2								
1-Methytnaphthale	ane	QN	4								
2-Methytnaphthale	ine	QN	4								
Acetone		DN	10								
Bromobenzene		DN	***								
Bromochlarometh	ane	DN	***								
Bromodichlaromet	hane	Q									
Bromoform		QN									
Bromomethane		QN	2								
2-Butanone		QN	10								
Carbon disulfide		Q	10								
Carbon Tetrachlor	ide	Q	2								
Chlorobenzene		Q	-								
Chlaroethane		DN	2								
Chlarofarm		D	-								
Chloromethane		DN	-								
2-Chiorotoluene		QN	~-								
4-Chlorataluene		DN	-								
cis-1,2-DCE		QN	-								
Qualifiers:	ND - Not Dé	steeted at the Reporting Limit		S - Sp	ike Recovery outside accepted	recovery limit	5	B - Analyte detected	in the associat	ed Method Bl	unk
	•			Ē							-
	J - Analyte c	detected below quantitation unit	511	7 - พ	I outside accepted recovery i	SILLIN					1

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CLIENT: Giant Refining Co. QC SUMMARY RI. Nort, Order: 051322 Meth Nort, Order: 051322 Meth Projer: 051322 Meth Rejer: 051322 Meth Alcholographie ND 2 1.2.Objeroperatione ND 2 1.2.Objeroperatione ND 1 1.2.Objeroperatione ND	CLIENT: Giant Refining Co Work Order: 0512322 Project: NMED Monthly Water Samples 12/28/05 dis-1,3-Dichloropropane ND 1,2-Dibromo-3-chloropropane ND Dibromochloromethane ND 1,2-Dichlorobenzene ND 1,3-Dichlorobenzene ND 1,4-Dichlorobenzene ND 1,1-Dichloroethane ND 1,1-Dichloroethane ND 1,1-Dichloroethane ND 1,2-Dichloroethane ND 1,2-Dichloropropane ND 1,2-Dichloropropane ND		QC SUMMARY REPORT Method Blank
Work Order: 051222 Work Order: 051222 Ander offention NIED Manthly Water Samples 12/28/05 Det offention-schlorengene N Dit 2-Distrongene N I -Distrongene N <thi -distrongene<="" th=""> N <tr< th=""><th>Work Order: 0512322 Project: NMED Monthly Water Samples 12/28/05 dis-1,3-Dichloropropene ND 1,2-Dibromo-3-chloropropane ND Dibromochloromethane ND 1,2-Dichlorobenzene ND 1,3-Dichlorobenzene ND 1,3-Dichlorobenzene ND 1,4-Dichlorobenzene ND 1,4-Dichlorobenzene ND 1,1-Dichlorobenzene ND 1,1-Dichlorobenzene ND 1,1-Dichloropenzene ND</th><th></th><th>Method Blank</th></tr<></thi>	Work Order: 0512322 Project: NMED Monthly Water Samples 12/28/05 dis-1,3-Dichloropropene ND 1,2-Dibromo-3-chloropropane ND Dibromochloromethane ND 1,2-Dichlorobenzene ND 1,3-Dichlorobenzene ND 1,3-Dichlorobenzene ND 1,4-Dichlorobenzene ND 1,4-Dichlorobenzene ND 1,1-Dichlorobenzene ND 1,1-Dichlorobenzene ND 1,1-Dichloropenzene ND		Method Blank
Projet: NMED Monthly Vater Samples 12/2005 Muthol Projet: NMED Monthly Vater Samples 12/2005 No Disroncentene NO 2 Disroncentene Disroncentene NO 2 Disroncentene Disroncentene NO 2 Disroncentene Disroncentene NO 2 Disroncentene NO 2 2 Disroncentene NO Distroncentene NO 2 Distroncentene NO Distroncentene NO 2 Distroncentene NO 2 Distroncentene NO 2 2 Distroncentene NO 2 <th>Project: NMED Monthly Water Samples 12/28/05 cis-1.3-Dichloropropene ND 1.2-Dibromo-3-chloropropane ND Dibromochloromethane ND Dibromochloromethane ND 1.2-Dichlorobenzene ND 1.3-Dichlorobenzene ND 1.4-Dichlorobenzene ND 1.4-Dichlorobenzene ND 1.4-Dichlorobenzene ND 1.5-Dichloropenzene ND 1.1-Dichloroethane ND 1.2-Dichloropenzene ND 2.1-Dichloropenzene ND</th> <th></th> <th></th>	Project: NMED Monthly Water Samples 12/28/05 cis-1.3-Dichloropropene ND 1.2-Dibromo-3-chloropropane ND Dibromochloromethane ND Dibromochloromethane ND 1.2-Dichlorobenzene ND 1.3-Dichlorobenzene ND 1.4-Dichlorobenzene ND 1.4-Dichlorobenzene ND 1.4-Dichlorobenzene ND 1.5-Dichloropenzene ND 1.1-Dichloroethane ND 1.2-Dichloropenzene ND 2.1-Dichloropenzene ND		
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1.2.Bitmons-3-chirotenopare ND 2 1.2.Bitmons-3-chirotenopare ND 7 Ditornancharae ND 7 Ditornance ND 7 Ditoropropre ND 7	1,2-Dibromo-3-chloropropane ND Dibromochloromethane ND Dibromomethane ND Dibromomethane ND 1,2-Dichlorobenzene ND 1,4-Dichlorobenzene ND 1,4-Dichlorobenzene ND 1,1-Dichlorobenzene ND 1,1-Dichlorobenzene ND 1,1-Dichlorobenzene ND 1,1-Dichlorobenzene ND 1,1-Dichloropene ND 1,2-Dichloropene ND	0 - 0	
Diformonitante NO 1 Diformonitante NO 2 Diformonitante NO 1 Controntentante NO 1 Controntentante NO 1 Controntentante NO 1 Controntentante NO 1 Dictrontentante NO 1 Signosynthese NO 1 Distrontentante	Dibromochloromethane ND Dibromomethane ND 1.2-Dichlorobenzene ND 1.3-Dichlorobenzene ND 1.4-Dichlorobenzene ND Dichloroethane ND 1.1-Dichloroethane ND 1.2-Dichloropropane ND	- 0 0	
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1.2.Obliotoberzene NO 1 1.3.Obliotoberzene NO 1 1.4.Obliotoberzene NO 1 1.4.Obliotoberzene NO 1 1.4.Obliotoperzene NO 1 1.4.Obliotoperzene NO 1 1.4.Obliotoperzene NO 2 1.1.Obliotoperzene NO 2 1.3.Obliotoperzene NO 2 1.4.Obliotoperzene NO 2 1.3.Obliotoperzene NO 2 1.4.Obliotoperzene NO 2 1.3.Obliotoperzene NO 10 1.4.Obliotoperzene NO 10 1.4.Obliotoperzene NO 10 1.4.Obliotoperzene NO 10 1.4.Obliotoperzene NO	1.2-Dichlorobenzene ND 1.3-Dichlorobenzene ND 1.4-Dichlorobenzene ND Dichlorodifluoromethane ND 1.1-Dichloroethane ND 1.1-Dichloroethane ND 1.3-Dichloroptopane ND 1.3-Dichloroptopane ND		· · · · · · · · · · · · · · · · · · ·
3.0 Caliodoenzene NO 1 1.4.0 Caliodoenzene NO 1 Dehloodenzene NO 1 1.1.0 Existorentene NO 1 2.3.0 Existorentene NO 1 2.3.0 Existorentene NO 1 Recentionobundlere NO 1 NO 1 1 Societypene NO 1 AlsopoyNeuse NO 1 Methyler/2-peniance NO 1 AlsopoyNeuse NO 1 AlsopoyNeuse NO 1 AlsopoyNeuse NO 1 AlsopoyNeuse NO 1<	1,3-Dichlorobenzene ND 1,4-Dichlorobenzene ND Dichlorodifluoromethane ND 1,1-Dichloroethane ND 1,1-Dichloroethane ND 1,2-Dichloroethane ND 1,3-Dichloropropane ND 2,2 Cichloropropane ND		
14-Dichlordenzene ND 1 14-Dichlordenzene ND 1 Dichlordenzene ND 2 14-Dichlordenzene ND 1 15-Dichlordenzene ND 1 16-Dichlordenzene ND 1 17-Dichlordenzene ND 1 16-Dichlordenzene ND 1 17-Dichlordenzene ND 1 16-Dichlordenzene ND 1 17.12-Telicachlordenzene ND 1	1.4-Dichlorobenzene ND Dichlorodifluoromethane ND 1.1-Dichloroethane ND 1.1-Dichloroethene ND 1.2-Dichloropropane ND 1.3-Dichloropropane ND 2.1 1.2-Dichloropropane		
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1;1-Dichlordelhene ND 1 1;2-Dichloroppane ND 1 1;2-Dichloroppane ND 1 1;2-Dichloroppane ND 2 Stanol ND 2 Isoprophlenzene ND 1 Allespropylouna ND 1 Allesprop	1,1-Dichloroethene ND 1,2-Dichloropropane ND 1,3-Dichloropropane ND		
1,2-Dichlocopane ND 1 1,3-Dichlocopane ND 1 1,3-Dichlocopane ND 1 1,1-Dichlocopane ND 1 1,1-Dichlocopane ND 1 1,1-Dichlocopane ND 1 Hexachorobustlene ND 1 Lescaphorobustlene ND 10 2-Hexachorobustlene ND 10 2-Hexachorobustlene ND 10 4.soproyliburane ND 10 4.soproyliburane ND 10 4.soproyliburane ND 10 Auflyter-Spentanone ND 10 Auflyter-Spentanone ND 10 Auflyter-Spentanone ND 10 Auflyter-Spentanone ND 1 Auflyter-Spentanone ND	1.2-Dichloropropane ND 1.3-Dichloropropane ND		
1.3-Dichloroprapere ND 1 2.2-Dichloroprapere ND 2 2.2-Dichloroprapere ND 2 1.1-Dichloroprapere ND 2 1.1-Dichloroprapere ND 1 1.1-Dichloroprapere ND 1 2.2-Dichloroprapere ND 1 1.1-Dichloroprapere ND 10 2.4exanore ND 10 Isopopylloenzene ND 10 4Mellyl-2-pentianne ND 10 Auflylv2-pentianne ND 11 Auflylv2-pentianne ND 11 <td>1.3-Dichloropropane ND</td> <td>-</td> <td></td>	1.3-Dichloropropane ND	-	
2.2-Orchoroprane ND 2 1.1-Orchoroprane ND 1 1.1-Orchoroprane ND 1 1.1-Orchoroprane ND 2 1.1-Orchoroprane ND 1 1.2-Orchoroprane ND 1 Isoproylbenzene ND 10 4.seproylbenzene ND 1 4.seproylbenzene ND 1 Auflylenzene ND 1 Sez-Bulybenzene ND 1 Auflylenzene ND 1 Styrene ND 1 Styrene ND 1 I.1.2.2-Tetachtorothane ND 1 I.1.2.2-Tetachtorothane ND <td>ND ND</td> <td></td> <td></td>	ND ND		
1,1-Dichloroprogene ND 1 Hexachlorobuladene ND 2 Hexachlorobuladene ND 10 2-pensamene ND 10 2-pensamene ND 10 2-pensamene ND 10 4-kelnydene Chloride ND 10 4-Melnydene Chloride ND 10 Advilydene Chloride ND 10 Auflydene Chloride ND 10 Auflydene Chloride ND 10 Auflydene Chloride ND 10 Auflydene Chloride ND 1 Auflydene Chloride ND 1 Pulybenzene ND 1 Propybenzene ND 1 Syteme ND 1 Syteme ND 1 Auflydenzene ND 1 Auflydenzene ND 1 Syteme ND 1 Syteme ND 1 Auflydenzene ND<		2	
Hexachlorobutadiene ND 2 2-Hexanone ND 10 2-Hexanone ND 10 Isopropylbenzene ND 1 Isopropylbenzene ND 1 4Meinyl-2-pendiene ND 1 4Meinyl-2-pendiene ND 10 Authylene Choride ND 1 Authylene Choride ND 1 Authylene Choride ND 1 n-Buylbenzene ND 1 n-Propybenzene ND 1 No 1 1 Areachionosthane ND 1 1, 1.2-Tetrachlorosthane ND 1 1, 2.2-Tetrachlorosthane ND	1, 1-Dichlaropropene	-	
2-Hexanore ND 10 2-Hexanore ND 1 Isopropylbanzene ND 1 Isopropylbanzene ND 1 AMBNJ-2-pentianone ND 10 Methylerochonde ND 10 AMBNJ-2-pentianone ND 10 Methylerochonde ND 1 methylerochonde ND 1 n-Ponyblenzene ND 1 n-Ponyblenzene ND 1 n-Ponyblenzene ND 1 n-Ponyblenzene ND 1 n/1.1.2-Tetrachtorothane ND 1 1.1.2-Tetrachtorothane ND 1 1.2.2-Tetrachtorothane ND 1 1.2.2-Tetrachtorothane ND	Hexachlorobutadiene	2	
Isopropylbenzene ND 1 4!sopropylbenzene ND 10 4!sopropylbenzene ND 10 Methylene Chloide ND 10 Methylene Chloide ND 10 Methylene Chloide ND 10 methylene Chloide ND 11 methylene Chloide ND 1 methylene Chloide ND 1 methylenzene ND 1 Methylenzene ND 1 Styrene ND 1 1, 1, 2. Tertachlorothhane ND 1 1, 1, 1, 2. Tertachlorothhane ND 1 1, 1, 1, 2. Tertachlorothhane ND 1 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1	2-Hexanone ND 1	0	
4-Isopropyloluene ND 1 4-Isopropyloluene ND 10 A+Methyl-2-pentanone ND 10 Methylerzene ND 1 Methylerzene ND 1 n-Piopylbenzene ND 1 n-Propylbenzene ND 1 n-Propylbenzene ND 1 ND 1 1 Styrene ND 1 Iert-Bulylbenzene ND 1 Styrene ND 1 In 1.2-Tetrachforoethane ND 1 I 1.2-Tetrachforoethane ND 1 I 1.2-Tetrachforoethane ND 1 I 1.2-Tetrachforoethane ND 1 I 1.2-Tetrachforoethane ND 1 I 1.2-Tetrachforoethane ND 1 I 1.2-Tetrachforoethane ND 1 I 1.2-Tetrachforoethane ND 1 I 1.2-Tetrachforoethane ND 1 I 1.2-Tetrachforoethane ND 1	Isopropylbenzene	-	
4-Methyl-2-pentanone ND 10 Methylenzene ND 3 Methylenzene ND 1 n-Butybenzene ND 1 n-Propybenzene ND 1 n-Propybenzene ND 1 n-Propybenzene ND 1 n-Propybenzene ND 1 ND 1 1 Styrene ND 1 J.1.2-Tetrachtorothane ND 1 I.1.2-Tetrachtorothane ND 1 I.1.2-Tetrachtorothane ND 1 I.1.2-Tetrachtorothane ND 1 I.1.2-Tetrachtorothane ND 1 I.2.3-Trickhorothane ND 1 I.2.4-Trickhorothane ND <td< td=""><td>4-Isopropyltoluene</td><td>-</td><td></td></td<>	4-Isopropyltoluene	-	
Mathylene Chloride ND 3 n-Bulylbenzene ND 1 n-Propylbenzene ND 1 sec-Bulylbenzene ND 1 sec-Bulylbenzene ND 1 sec-Bulylbenzene ND 1 styrene ND 1 styrene ND 1 1,1,2-Tetrachlorothane ND 1 1,2,3-Tetrachlorothane ND 1 1,2,3-Tictolorothane ND <td>4-Melhyl-2-pentanone ND</td> <td>0</td> <td></td>	4-Melhyl-2-pentanone ND	0	
n-Butylbenzene ND 1 n-Propylbenzene ND 1 sec-Butylbenzene ND 1 sec-Butylbenzene ND 1 sec-Butylbenzene ND 1 Styrene ND 1 Styrene ND 1 Styrene ND 1 1,1.2-Tetrachloroethane ND 1 1,2.3-Titlachloroethane ND 1 1,2.3-Titlachloroethane ND 1 1,2.3-Titlachlorobenzene ND 1 1,2.3-Titlachlorobenzene ND 1 1,2.3-Titlachlorobenzene ND 1 1,2.4-Titlachlorobenzene ND 1 1,2.4-Titlachlorobenzene ND 1	Methylene Chloride ND	ت	
n-Propylbenzene ND 1 sec-Bulylbenzene ND 1 sec-Bulylbenzene ND 1 Siyrene ND 1 Siyrene ND 1 I,1,2-Tetrachloroethane ND 1 I,2-Tetrachloroethane ND 1 I,2-Tetrachloroethane ND 1 I,2-Ticklorobenzene ND 1 I,2-Tirckloroethane ND 1 I,2-Tirckloroethane ND 1	n-Butylbenzene ND	-	
sec-Bulylbenzene ND 1 Syrene ND 1 Syrene ND 1 I-1.1.2-Tetrachloroethane ND 1 1,1.2-Tetrachloroethane ND 1 Tetrachloroethane ND 1 Tars-1.2-DCE ND 1 Itrans-1.2-DIchloroptropene ND 1 1,2.3-Trichlorobenzene ND 1 1,2.3-Trichlorobenzene ND 1 1,2.4-Trichlorobenzene ND 1 1,1-Trichlorobenzene ND 1	n-Propylbenzene ND	1	
Styrene ND 1 Ert-Bultylbenzene ND 1 1, 1, 1.2-Tetrachloroethane ND 1 1, 1, 2.2-Tetrachloroethane ND 1 Tetrachloroethane ND 1 Tetrachloroethane ND 1 Tetrachloroethane ND 1 trans-1,2-DCE ND 1 1,2-Trichloropropene ND 1 1,2,3-Trichlorobenzene ND 1 1,2,4-Trichloroethane ND 1 1,1-Trichloroethane ND 1	sec-Bulylbenzene ND		
Iterl-Butylbenzene ND 1 1, 1, 1.2-Tetrachloroethane ND 1 1, 1, 2.2-Tetrachloroethane ND 1 1, 1, 2.2-Tetrachloroethane ND 1 1, 1, 2.2-Tetrachloroethane ND 1 Tetrachloroethane ND 1 Tetrachloroethane ND 1 trans-1, 2-DCE ND 1 1, 2.3-Trichloropropene ND 1 1, 2.3-Trichlorobenzene ND 1 1, 2.3-Trichlorobenzene ND 1 1, 1, 1-Trichloroethane ND 1	Slyrene ND	-	
1,1,2-Tetrachloroethane ND 1 1,1,2-Tetrachloroethane ND 1 Tetrachloroethane ND 1 Tetrachloroethane ND 1 trans-1,2-DCE ND 1 trans-1,3-Dichloropropene ND 1 1,2,3-Trichlorobenzene ND 1 1,2,4-Trichloroethane ND 1 1,1,1-Trichloroethane ND 1	tert-Butylbenzene ND		
1,1,2.7-Tetrachloroethane ND 1 Tetrachloroethane (PCE) ND 1 trans-1,2-DCE ND 1 trans-1,2-DCE ND 1 1,2,3-Trichloropene ND 1 1,2,3-Trichlorobenzene ND 1 1,2,4-Trichloroethane ND 1	1,1,1,2-Tetrachloroethane ND	-	
Tetrachloroethene (PCE) ND 1 trans-1.2-DCE ND 1 trans-1.3-Dichloropropene ND 1 1.2.3-Trichloropene ND 1 1.2.4-Trichlorobenzene ND 1 1.1.1-Trichloroethane ND 1	1,1,2,2-Tetrachloroethane ND	-	
trans-1.2-DCE ND 1 trans-1.3-Dichloropropene ND 1 1.2.3-Trichlorobenzene ND 1 1.2.4-Trichlorobenzene ND 1 1.1.1-Trichloroethane ND 1	Tetrachloroethene (PCE) ND	-	
trans-1.3-Dichloropropene ND 1 1.2.3-Trichlorobenzene ND 1 1.2.4-Trichlorobenzene ND 1 1.1.1-Trichloroethane ND 1	trans-1,2-DCE ND		
1,2,3-Trichlorobenzene ND 1 1,2,4-Trichlorobenzene ND 1 1,1,1-Trichloroethane ND 1	trans-1.3-Dichloropropene ND		
1,2,4-Trichlorobenzene ND 1 1,1,1-Trichloroethane ND 1	1,2,3-Trichlorobenzene ND	-	
1,1,1-Trichloroethane ND 1	1,2,4-Trichlorobenzene ND		
	1,1,1-Trichloroethane ND	-	
Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Met	Qualifiers: ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits	B - Analyte detected in the associated Method Blank
1. A solver detected helew consultation limits R - RPD outside accepted recovery limits	1 - Analyte detected helow oughtightion limits	R - RPD autside accepted recovery fimits	~

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CLIENT: Giant Re Work Order: 0512322	fining Co							QC SUMMAI	RY REPORT
Project: NMED N	fonthly Water Samples 12/21	3/05							Method Blank
1,1,2-Trichloroethane	QN	-							
Trichloroethene (TCE)	ON	٦							
Trichlorofluoromethane	0.586	۲							.
1,2,3-Trichloropropane	ON	N							
Vinyl chloride	QN								
Xylenes, Total	an	۳-							
Surr: 1,2-Dichloroethane-d4	9.832	Ð	10	0	98.3	68.9	130	0	
Surr: 4-Bromofluorobenzene	9.446	o	10	0	94.5	71.2	123	0	
Surr: Dibromofluoromethane	10.24	0	10	0	102	73.9	134	0	
Surr: Toluene-dB	9.782	0	10	Q	97.8	81.9	122	0	
Qualifiers: ND - Not De	steeled at the Reporting Limit		S - Spike Rec	overy outside a	accepted recov	ery limits,	B	- Analyte detected in the asso	ociated Method Blank
J - Analyte d	letected helow quantitation limits		R - RPD outsi	ide accepted re	scovery limits				~~

Work Order: 051 Project: NN	2322 IED Monthly Water Samples	12/28/05						ļ	San	nple Dupli	cate
Sample ID: 0512322-04E	3 DUP Batch ID: 9496	Test Code:	SW6010A	Units: mg/L		Analysis	Date: 1/4/2(006 10:54:14 AM	Prep Da	te: 1/3/2006	
Client ID: PIlot TC Effl	uent	Run ID:	ICP_060104B			SeqNo:	43759	0			
Analyte	Result	POL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	QN	0.02	0	0	0	o	0	0	0	30	
Barium	0.03347	0.02	o	0	0	0	0	0.03395	1.42	30	
Cadmium	QN	0.002	Đ	0	0	0	0	¢	0	30	
Chromium	0.001193	0.006	0	D	σ	0	Ð	0.001765	0	30	~
Lead	0.004163	0.005	0	٥	0	0	0	0.003067	0	30	~
Selenium	QN	0.05	0	o	0	0	0	o	0	30	
Silver	ON	0.005	o	0	0	0	o	0	0	30	

Date: 17-Jan-06

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory

Giant Refining Co 0512322 CLIENT:

18/25

J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit

Qualifiers:

R - RPD outside accepted recovery limits

S - Spike Recovery outside accepted recovery limits

B - Analyre detected in the associated Method Blank

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Laboratory
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Hall

Giant Refining Co 0512322

Work Order: **CLIENT:**

Date: 17-Jan-06

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QC SUMMARY REPORT

Sample Matrix Spike

Project: NMED N	Aonthly Water Samples	c0/82/21							-		
Sample ID: 0512322-04B MS	Batch ID: 9496	Test Code:	SW6010A	Units: mg/L		Analysis	: Date: 1/4/2(006 11:08:54 AM	Prep Da	te: 1/3/2006	
Client ID: Pilot TC Effluent		Run ID:	ICP_060104B			SeqNo:	43759	3			
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5278	0.02	0.5		106	75	125	O			
Barium	0.5243	0.02	0.5	0.03395	98.1	75	125	0			
Cadmium	0.4819	0.002	0.5	O	96.4	75	125	O			
Chromium	0.4786	0.006	0.5	0.001765	95.4	75	125	O			
Lead	0.4651	0.005	0.5	0.003067	92.4	75	125	Ċ			
Selenium	0.2348	0.05	0.5	0	47.0	75	125	0			S
Silver	0.4911	0.005	0.5	D	98.2	75	125	0			
Sample ID: 0512322-04B MSD	Batch ID: 9496	Test Code:	SW6010A	Units: mg/L		Analysis	: Date: 1/4/2(006 11:12:57 AM	Prep Da	te: 1/3/2006	
Client ID: Pilot TC Effluent		Run ID:	ICP_060104B			SeqNo:	43759	4			
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.529	0.02	0.5	0	106	22	125	0.5278	0.227	20	
Barium	0.5113	0.02	0.5	0.03395	95.5	52	125	0.5243	2.51	20	
Cadmium	0.4805	0.002	0.5	D	96.1	22	125	0.4819	0.304	20	
Chromium	0.4768	0.006	0.5	0.001765	95.0	75	125	0.4786	0.393	20	
Lead	0.463	0.005	0.5	0.003067	92.0	75	125	0.4651	0.445	20	
Selenium	0.237	0.05	0.5	D	47.4	75	125	0.2348	0.929	20	ഗ
Silver	0.4888	0.005	0.5	O	97.8	75	125	0.4911	0.479	20	

B - Analyte detected in the associated Method Blank S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits

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J • Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit

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Qualifiers:

Hall Environmenta	l Analysis Labora	tory		;					Date: /	7-Jan-06	
CLJENT: Giant R Work Order: 051232 Project: NMED	efining Co 2 Monthly Water Samples	: 12/28/05					Ц	QC SUM aboratory (IMAR	Y REPC Spike - ge)RT neric
Sample ID: LCS-9510 Client ID:	Batch ID: 9510	Test Code: Run ID:	SW8015 FID(17A) 2 0	Units: mg/L 60103A		Analysis SegNo:	Date: 1/4/2006 1 437661	1:40:16 PM	Prep Da	ite: 1/4/2006	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LawLimit	HighLimit RPC) Ref Vał	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO	5.131	***	ີນ	٥	103	81.2	149	o			
Sample ID: LCSD-9510	Batch ID: 9510	Test Code: During	SW8015	Units: mg/L		Anafysis Sectio:	Date: 1/4/2006 2	2:12:44 PM	Prep Da	ite: 1/4/2006	
Analyle	Result	POL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPE) Ref Val	%ярD	RPDLimit	Qual
Diesel Range Organics (DRO	4.452	-	ŋ	0	89.0	81.2	149	5,131	14.2	23	
Sample ID: GRO Ics 2.5ug Client ID:	Batch ID: R17853	Test Code: Run ID:	SW8015 PIDFID_0601	Units: mg/L 09A		Analysis SeqNo:	: Date: 1/10/2006 438917	3:26:21 AM	Prep Da		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPC) Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GF	(O) 0.4756	0.05	0.5	o	95.1	82.6	114	0			
Sample ID: 100ng Ics Client ID:	Batch ID: R17780	Test Code: Run ID:	SW8260B NEPTUNE 0	Units: µg/L 51230A		Analysis SegNo:	Date: 12/30/200	ц	Prep Da	te:	
Analyte	Result	PQL	sPK value	SPK Ref Val	%REC	LawLimit	HighLimlt RPC) Ref Val	%RPD	RPDLimit	Qual
Benzene	19.07	-	20	0	95.4	79.3	136	0			
Toluene	18.1	-	20	0	90.5	65.5	123	0			
Chlorobenzene	21.4	-	20	Ö	107	80.3	134	o			
1,1-Dichloroethene	18.37		20	D	91.8	72.7	135	0			
Trichlaroethene (TCE)	19.41	.	20	o	97.1	85.6	119	o			
Qualifiers: ND - ND - ND	Detected at the Reporting Limit	- - - -	ds - S	ke Recovery outside	e accepted rect	overy limits	B - A	nalyte detected ìi	n the associa	ated Method B	ank
J - Analyte	detected below quantitation li	mits	R - RF	D outside accepted	recovery limit	л					1

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CLIENT: Work Order: Project:	Giant Rei 0512322 NMED M	fining Co fonthly Water Samples	12/28/05						QC SUI Laboratory	MMARY R Control Spik	EPOI	RT eric
Sample ID: 100ng Client ID:	les	Batch ID: R17792	Test Code: Run JD:	SWB260B VAL_0601034	Units: µg/L		Analysis SeqNo:	s Date: 1/3/5 4375:	2006 20	Prep Date:		
Analyte		Result	POL	SPK value	SPK Ref Vai	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPD	Limit	Qual
Benzene		19.75	-	 20	0		79.3	136	D			
Toluene		18.56	-	20	0	92.8	65.5	123	0			
Chlorobenzene		18.55		20	0	92.7	60.3	134	0			
1.1-Dichloroethene	a .	16.7	÷	20	D	83.5	72.7	135	٥			
Trichloroethene (TC	CE)	19.24	-	20	0	96.2	85.6	119	o			
Sample ID: 100ng	lcs	Batch ID: R17806	Test Code:	SW8260B	Units: µg/L		Analysis	: Date: 1/4/2	2006	Prep Date:		
Client ID:			Run (D:	VAL_060104/	٩		SeqNo:	4378	77			
Analyte		Result	Par	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	UAR DARW	Limit (Qual
Вепzene		20,02	-	20	D	100	79.3	136	0			
Toluene		18.38	-	20	0	91.9	65.5	123	D			
Chlorabenzene		19.09	1	20	0	95.4	80.3	134	o			
1,1-Dichloroethene		18.38	-	20	0	91.9	72.7	135	0			
Trichloroethene (TC	CE)	19.26	-	20	0	96.3	85.6	119	0			
Sample ID: 100ng	lcs	Batch ID: R17822	Test Code:	SW8260B	Units: µg/L		Analysis	Date: 1/5/2	1006	Prep Date:		ŀ
Client ID:			Run ID:	VAL_060105A			SeqNo:	43823	32			
Analyte		Result	Par	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPD	Limit	Qual
Benzene		19.76	-	20	0	98.8	79.3	136	D			
Toluene		19.64	Ţ	20	O	98.2	65.5	123	0			
Chlorobenzene		20.65	-	20	D	103	80.3	134	D			
1,1-Dichloroethene		17.77	t	20	0	88.9	72.7	135	Ð			
Trichlaroethene (TC	CE)	19.69	-	20	Ģ	98.5	85.6	119	o			
Qualifiers:	ND - Not Det	ected at the Reponing Limit		S - Spil	ke Recovery outside	accepted rect	overy limits		B - Analyte detected	in the associated M	ethod Blan	łł

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S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

J - Analyte detected below quantitation limits

Qualifiers:

CLIENT:	Giant Refining Co		;				:	QC SUM	MAR	Y REP(DRT
Work Order:	0512322							Laboratory C	Control 3	Spike - ge	neric
Project:	NMED Monthly Water Samples	12/28/05								מ	
Sample ID: LCS-9	498 Batch ID: 9498	Test Code:	SW8310	Units: µg/L		Analysis	Date: 1/11/20	006 8:20:05 PM	Prep Da	ite: 1/3/2006	
Client ID:		Run ID:	HUGO_06011	1B		SeqNo:	439788				
Analyte	Result	POL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit F	Ref Val	%RPD	RPDLimit	Qual
Nanhthalene	25.33	2.5	40	Q	63.3	34.8	97.4	0			
1-Methylnaphthale	ne 25.38	2.5	40.1	O	63.3	34.7	100	0			
Z-Methylnaohthale	ne 24.94	2.5	40	0	62.4	35	98.1	0			
Acenaphthylene	25.15	2.5	40.1	0	62.7	48.3	95.1	o			
Acenaphthene	25.75	2.5	40	0	64.4	45	95	Q			
Fluorene	2.54	0.8	4.01	D	63.3	46.8	93.4	0			
Phenanthrene	1.39	0.6	2.01	a	69.2	48.7	104	0			
Anthracene	1.35	0.6	2.01	0	67.2	47.5	102	0			
Fluoranthene	2.9	0.3	4.01	o	72.3	46.3	108	0			
Ругепе	2.93	0.3	4.01	0	73.1	43.8	109	0			
Benz(a)anthracene	0.29	0.02	0.401	0	72.3	40.3	115	0			
Chrysene	1.51	0.2	2.01	0	75.1	42.6	107	0			
Benzo(b)/Iuoranth	ane 0.35	0.05	0.501	D	6.9.9	48.6	107	a			
Benzo(k)fluoranthe	ane 0.17	0.02	0.25	a	68.0	23.3	136	0			
Benzo(a)pyrene	D.18	0.02	0.251	0	7.17	33.4	117	a			
Dibenz(a,h)anthrau	cene 0.35	0.04	0.501	0	6.93	27.3	139	0			
Benzo(g,h,i)peryle	пе 0.37	0.03	0.5	0	74.0	38.2	117	o			
Indeno(1,2,3-cd)p)	/rene 0.723	0.08	1.002	0	72.2	39.9	125	O			

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ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits

Qualifiers:

S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

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CLIENT:	Giant Refining Co							QC SUM	[MAR]	KEPO	RT
Work Order: Proiset:	0512322 NMFD Monthly Water Samples	12/28/05						Laboratory Co	ontrol Sp	ike Dupli	cate
Sample ID: LCSD-9	498 Batch ID: 9498	Test Code:	SW8310	Units: µg/L		Analysis	Date: 1/11/	2006 9;08:05 PM	Prep Dai	te: 1/3/2006	
Client ID:		Run ID:	HUGO_06011	1B		SeqNo:	43978	ß			
Analyte	Result	POL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPO	RPOLimit	Qual
Nanhthalane	28.19	2.5	40	0	70.5	34,B	97.4	25.33	10.7	32.1	
t Mathulan hthalon	28.02	2.5	40.1	0	69.9	34.7	100	25.38	9.89	32.7	
2-Methylnaphthalen	27.53	2.5	40	0	68.8	35	98.1	24.94	9.87	34	
Arenanhthylene	28	2.5	40.1	0	69.8	48.3	95.1	25.15	10.7	38.8	
Aconachthene	28.49	2.5	40	0	71.2	45	95	25.75	10.1	38.6	
Fluorada	2.81	0.8	4.01	0	70.1	46.8	93.4	2.54	10.1	39.3	
Phananthrana	1.58	0.6	2.01	0	78.6	48.7	104	1.39	12.8	25	
Anthraceae	1,5	0.6	2.01	0	74.6	47.5	102	1.35	10.5	23.9	
Fluoranthana	3.16	0.3	4.01	0	78.8	46.3	108	2.9	8.58	15.7	
Pyrene	3.22	0.3	4.01	Ö	80.3	43.8	109	2.93	9.43	15.3	
Bonz(a)anthracene	0.32	0.02	0.401	0	79,8	40.3	115	0.29	9.84	119	
Christian Christian	1.63	0.2	2.01	0	81,1	42.6	107	1.51	7.64	16.6	
Benzo(h)(inoranther	.0.4	0.05	0.501	0	79.8	48.6	107	0.35	13.3	21.7	
Benzo(k)fluoranther	0,19	0.02	0.25	0	76.0	23.3	136	0.17	11.1	19.4	
Benzo(a)nvrene	0.21	0.02	0.251	0	83.7	33.4	117	0.18	15.4	16.7	
Dihenz(a,h)anthrace	ne 0.38	0.04	0.501	0	75.8	27.3	139	0.35	8.22	17.3	
Renzn(n h i)bervlent	0.41	0.03	0.5	0	82.0	38.2	117	0.37	10.3	118	
Indeno(1,2,3-cd)pyc	ene 0.83	0.08	1.002	0	82.8	39.9	125	0.723	13.8	17.7	
Sample ID: LCS-94	99 Batch ID: 9499	Test Code:	SW7470	Units: mg/L		Analysis	Date: 1/3/2	006	Prep Da	le: 1/3/2006	
Client ID:		Run ID:	MI-LA254_06	0103A		SeqNo:	43735	0			
Analyte	Result	POL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.004489	0,0002	0.005	o	89.8	80	120	D			

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B · Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

J . Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit

Qualifiers:

R - RPD outside accepted recovery limits

CLIENT:	Giant Ref	fining Co		•	3	•		:	QC SUM	[MAR]	K REPO	RT
Work Order: Project:	0512322 NMED N	fonthly Water Samples	12/28/05						Laboratory Co	ontrol S ₁	oike Dupl	cate
Sample ID: LCSD-	9499	Batch ID: 9499	Test Code:	SW7470	Units: mg/L		Analysis	Date: 1/3/20	90	Prep Da	te: 1/3/2006	
Client ID:			Run ID:	MI-LA254_06	0103A		SeqNo:	437371	0			
Analyte		Result	Par	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		0.004712	0.0002	0.005	. 0	94.2	80	120	0.004489	4,84	0	
Sample ID: LCS-94	496	Batch ID: 9496	Test Code:	SW6010A	Units: mg/L		Analysis	Date: 1/4/20	06 10:28:10 AM	Prep Da	le: 1/3/2006	
Client ID:			Run ID:	ICP_060104B	_		SegNo:	43758				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic		0.5109	0.02	0.5	• 0	102	80	120	O			
Barium		0.4747	0.02	0.5	0	94.9	80	120	0			
Cadmium		0.4789	0.002	0.5	0.0004735	95.7	80	120	0			
Chramium		0.4796	0.006	0.5	O	95,9	80	120	0			
Lead		0.4836	0.005	0.5	0	96.7	80	120	o			
Selenium		0.4621	0.05	0.5	D	96.4	80	120	o			
Silver		0.4794	0.005	0.5	Ō	95.9	80	120	Q			
Sample ID: LCSD-	-9496	Batch ID: 9496	Test Code:	SW6010A	Units: mg/L		Analysis	Date: 1/4/20	06 10:31:25 AM	Prep Da	te: 1/3/2006	
Client ID:			Run ID:	ICP_060104B			SeqNo:	43758	4			
Analyte		Result	POL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Vai	%RPD	RPDLimit	Qual
Arsenic		0.5201	0.02	0.5	0	104	80	120	0.5109	1.80	20	
Barium		0.4808	0.02	0.5	D	96.2	80	120	0.4747	1.27	20	
Cadmium		0.484	0.002	0.5	0.0004735	96.7	80	120	0.4789	1.05	20	
Chromium		0.4873	0.006	0.5	O	97.5	80	120	0.4796	1.58	20	
Lead		0.4857	0.005	0.5	o	97.1	80	120	0.4836	0.449	20	
Selenium		0.4758	0.05	0.5	D	95.2	80	120	0.4821	1.32	20	
Silver		0.4848	0.005	0.5	0	97.0	80	120	0.4794	1.12	20	

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J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit

Qualifiers:

S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

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24/25

Hall Environmental Analysis Laboratory

	Sample	Receipt C	Checklist			
Client Name GRC GALLUP			Date and Time	Received:	1:	2/30/2005
Work Order Number 0512322			Received by	LMM		
Checklist completed by Killer Haller	Kes		30/0_r			
Matrix	Carrier name	UPS				
Shipping container/cooler in good condition?		Yes 🗹		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 re	eceived?	Yes 🗹				
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 🗹				
All samples received within holding time?		Yes 🗹	No \Box			
Water - VOA vials have zero headspace?	No VOA vials sub	mitted 🗌	Yes 🗹	No 🗌		
Water - pH acceptable upon receipt?		Yes 🗹	No 🗔	N/A 🗍		
Container/Temp Blank temperature?		5°	4° C ± 2 Accepta If given sufficient	able time to cool.		
COMMENTS:						
	· · · · · · · · · · · · · · · · · · ·				· · · · · · · · · · · · · · · · · · ·	<u> </u>
Client contacted	Date contacted:	, · ··· • • • • · · · · · · · · · ·	Pers	ion contacted		• • • •
Contacted by:	Regarding			,		
Comments:	<u></u>					
······································	· · · · · · · · · · · · · · · · · · ·			<u></u>		
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					· · · · · · · · · · · · · · · · · · ·	· · · · · · ·
				· · · · · ·	,	
Corrective Action						

25/25

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HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D Albuquerque, New Mexico 87109 Tel. 505.345.3975 Fax 505.345.4107 www.hallenvironmental.com	AVAIVSIS REQUEST	(lesei) (lesei) (lose) (los	(1.814 bd (1.814 bd (1.403 bd (1508 bd (149 no (HA9 no (HA9 no (100, 00 (100, 00 (100) (10	odtaeM Hqt draeM) Hqt draeM) BQ3 draeM) BQ3 draeM) BQ3 BQ3 (M BQ3 (M BQ3 (M BQ3 (M BQ3 (M BQ3 (M BQ3 (M B0	XXX	X X X	X	XXX					
		(†508) s (vin0 enilose3	86 + 16H (I	r + Xjte Tex + Mt						 		 	 Remarks:
BA/BC Package: Std □ Level 4 □ Other: Project Name: NNED 915-NIUL	Project #:	Project Manager: Storie, MOVMS	Sampler: STONE MOVILS Sample Temperature:	Number/Volume HgCl ₂ HNO ₃ HEAL No.	0012302-1	ر ح	f)	h					Received By: (Signature) 11: 15 ICV/A ///////////////////////////////////
CHAIN-OF-CUSTODY RECORD	Address: CANTA 3, CAX 7	105/2 MIN idution	Phone #: 505-722-3633 Fax #: 505-722-0210	Date Matrix Sample I.D. No.	12/28/05 0930 H20 AL-2 tEP-1	Cull 2 2 1 40 " 00 01 "	malls STAN " DEOL "	" 1100 " Pilet TC Eller	3.0				Date: IIme: Relinguated By: (Signature) 1.2.2.4.5.1.1.8.6.4.6.4.6.1.4.6.4.6.1.4.6.6. Date: IIme: Alanquished By: (Signature)



COVER LETTER

Wednesday, January 18, 2006

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

TEL: (505) 722-0258 FAX (505) 722-0210

RE: AL-2 to EP-1 Week of 1/6/2006

Dear Ed Riege:

Order No.: 0601058

Hall Environmental Analysis Laboratory received 2 sample(s) on 1/6/2006 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 Envi	ronmental Analys	is Labora	tory		Date:	18-Ja	n-06
CLIENT: Lab Order: Project: Lab ID:	Giant Refining Co 0601058 AL-2 to EP-1 Week o 0601058-01A	f 1/6/2006	· · . · ·	Client Sam Collectio Date Re N	ple ID: n Date: ceived: vlatrix:	AL-2 1/4/20 1/6/20 AQUI	to EP-1 006 3:00:00 PM 006 EOUS
Analyses		Result	Limit	Qual Units		DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC
Dieset Range (Organics (DRO)	570	30	mg/L		10	1/13/2006 4:06:26 PM
Motor Oil Rang	je Organics (MRO)	ND	150	mg/L		10	1/13/2006 4:06:26 PM
Surr: DNOP		105	58-140	%REC		10	1/13/2006 4:06:26 PM
EPA METHOD	8015B: GASOLINE RAN	GE					Analyst: NSB
Gasoline Rang	e Organics (GRO)	ND	1.0	mg/L		20	1/12/2006 5:46:16 PM
Surr: BFB		110	79.7-1 1 8	%REC		20	1/12/2006 5:46:16 PM
EPA METHOD	8021B: VOLATILES						Analyst: NSB
Methyl terl-but	yl ether (MTBE)	66	50	µg/L		20	1/12/2006 5:46:16 PM
Benzene		22	20	µg/L		20	1/12/2006 5:46:16 PM
Toluene		45	20	µg/L		20	1/12/2006 5:46:16 PM
Elhylbenzene		ND	20	µg/L		20	1/12/2006 5:46:16 PM
Xylenes, Total		67	60	µg/L		20	1/12/2006 5:46:16 PM
Sur. 4-Bror	nolluorobenzene	110	82.2-119	%REC		20	1/12/2006 5:46:16 PM

Qualifiers:

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Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

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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

Page 1 of 2

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Hall Envir	onmental Analysis	s Labora	tory		Date:	18-Ja	n-06
CLIENT:	Giant Refining Co	i i i i i i i i i i i i i i i i i		Client Sa	mple ID:	AL-2	to EP-1
Lab Order:	0601058			Collecti	on Date:	1/4/20	006 3:00:00 PM
Project:	AL-2 to EP-1 Week of	1/6/2006		Date F	leceived:	1/6/2(006
Lab ID:	0601058-01B				Matrix:	AQU	EOUS
Analyses		Result	Limit	Qual Units		DF	Date Analyzed
EPA METHOD Mercury	7470: MERCURY	0.0040	0.00020	mg/L		1	Analyst: CMC 1/9/2006
EPA 6010: TO	TAL RECOVERABLE MET	ALS					Analyst: CMC
Arsenic		ND	0.020	mg/l_		1	1/16/2006 2:26:13 PM
Barium		0.11	0.020	mg/L		1	1/16/2006 2:26:13 PM
Cadmium		ND	0.0020	mg/L		1	1/16/2006 2:26:13 PM
Chromium		0.0061	0.0060	mg/L		1	1/16/2006 2:26:13 PM
Lead		0.0064	0.0050	mg/L		1	1/16/2006 2:26:13 PM
Selenium		ND	0.050	mg/L		1	1/16/2006 2:26:13 PM
Silver		ND	0.0050	mg/L		1	1/16/2006 2:26:13 PM

Qualifiers:

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- Value above quantitation range
- Analyte detected below quantitation limits J
- Spike Recovery outside accepted recovery limits S
- В Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded H
- ND Not Detected at the Reporting Limit
- 2/16

Page 2 of 2

Laboratory
Analysis
Environmental
Hall

Giant Refining Co

0601058

CLIENT: Work Order:

Project:

AL-2 to EP-1 Week of 1/6/2006

Date: 18-Jan-06

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015DRO_W

Sample ID: MB-9535	SampType: MBLK	TestCod	e: 8015DRO_V	V Units: mg/L		Prep Dat	e: 1/9/20	06	RunNo: 176	52	
Client ID: ZZZZ	Batch ID: 9535	TestN	0: SW8015		-	Analysis Dal	e: 1/9/20	06	SegNo: 438	884	
Analyte	Result	Par	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	QN	1.0									
Motor Oil Range Organics (MRO)	QN	5.0									
Surr. DNOP	1.156	٥		Ö	116	58	140				

3/16

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

Qualifiers:

Page I of 5

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CLIENT: Giant Refining Co Work Order: 0601058 Project: AL-2 to EP-1 Week of 1/6/2006

ANALYTICAL QC SUMMARY REPORT

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TestCode: 8015GRO_W

ml SampType: MBLK TestCode: 8015GRO_W Units: mg/L Prep Date: RunNo: 17890	Batch ID: R17890 TestNo: SW8015 Analysis Date: 1/12/2006 SeqNo: 439931	Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Quat	RO D.050 D.050 <thd.050< th=""> D.050 <thd.05< th=""></thd.05<></thd.050<>
SampType: MBLK TesiCi	Batch ID: R17890 Tes	Result PQL	ND 0.050 20.34 0
Sample ID: Reagent Blank 5ml	Client ID: ZZZZ	Analyte	Gasoline Range Organics (GRO) Surr: BFB

4/16

Spike Recovery outside accepted recovery limits J Analyte detected below quantitation limits S H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits 1 E Value above quantitation range ND Not Detected at the Reporting Limit

Qualifiers:

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Page 2 of 5

CLIENT:	Giant Refin	ing Co					ANAL	YTIC	AL QC SU	MMARY REP	PORT	
Work Order: Project:	0601058 AL-2 to EP-	.1 Week of 1/6/2006							TestCode: 8	021BTEX_W		
Sample ID: Reage Client ID: ZZZZ	ant Blank 5ml	SampType: MBLK Batch ID: R17890	TestCode TestNo	: 8021BT SW802	EX_W Units: µg/L		Prep Da Analysis Da	te: 1/12/	2006	RunNo: 17890 SeqNo: 439913		1
Analyte		Result	PQL	SPK valu	e SPK Ref Val	%REC	LowLimit	HighLimi	RPD Ref Val	%RPO RPOLÍMI	iî Quaf	
Methyl tert-butyl e: Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofli	:her (MTBE) Jorobenzene	an an an 0 0 1.02 20.15	2:5 1:0 3:0 3:0 0	5	0	101	82.2	311				1
5/16												
Qualificers:	Vatue above qı Noi Derecica a	anitation range 1 the Reporting Limit		H Holc R RPC	Jing times for preparation) outside accepted recover	1 or analysis ry limits	exceeded	. ~ v	Analyre detected be Spike Recovery out	:low quantitation limíts side accepted recovery lim	iis	

Page 3 of 5

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		1		1		
)RT		Qual			
	Y REPC	7848 38823	RPDLimit			
	JMMAR ag_ctw	RunNo: 11 SegNo: 43	048%			
	, QC SU		PD Ref Val			
	/TICAL Te:	: 1/9/2006 : 1/9/2006	HighLimit R			
	ANALY	Prep Date Analysis Date	LowLimit P			
			%REC			
1		Units: mg/L SW7470)	Ref Val			
	•	ML 0	ue SPK			
•	•	le: HG_C ⁻ lo: SW747	SPK val			
:	:	TestCod	Par	0.00020		
	1/6/2006	MBLK 9544	Result	Ð		
	1g Co Week of	SampType: Batch ID:				
	ant Refinir 01058 2 to EP-1					
	r: AI	AB-9544 ZZZZ				
	JENT: ork Orde oject:	imple ID: N ent ID: Z	alyte	ercury		
	Pri Vi	Cli	- A	ž	67	16

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Analyte detected below quantitation limits Spike Recovery outside accepted recovery limits - s Holding times for preparation or analysis exceeded RPD outside accepted recovery limits нч E Value above quantitation range ND Not Detected at the Reporting Limit

Qualifiers:

Fage 4 of 5

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CLIENT: Work Order:	Giant Refining Co		ANALYTICAL QC SU	MMARY REPORT
Project:	AL-2 to EP-1 Week of 1/6/2006		TestCode: N	IETALS_TOTAL
Sample ID: MB-95	36 SampType: MBLK	TestCode: METALS_TO Units: mg/L	Prep Date: 1/9/2005	RunNo: 17885
Client ID: ZZZZ	Eatch ID: 9536	TestNo: SW6010A	Analysis Date: 1/12/2006	SeqNa: 439739
Analyle	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Arsenic	QN	0.020		
Barium	QN	0.020		
Cadmium	DN	0.0020		
Chromium	QN	0.0060		
Lead	an	0.0050		
Selenium	QN	0.050		
Silver	ON	0.0050		
Sample (D: MB-95	:36 SampType: MBLK	TestCode: METALS_TO Units: mg/L	Prep Date: 1/9/2006	RunNo: 17932
Client ID: ZZZZ	Batch ID: 9536	TestNo: SW6010A	Analysis Date: 1/16/2006	SeqNo: 440773
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Quat
/ Lirsenic	QN	0.020		
nanum 1	QN	0.020		
Scadmium	QN	0.0020		
Chromium	ON	0.0060		
Lead	ΠN	0.0050		
Selenium	DN	0.050		
Silver	DN	0.0050		

E Value above quantitation range
 NO Not Detected at the Reporting Limit

Qualifiers:

H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits

Analyte detected befow quantitation limits Spike Recovery outside accepted recovery limits

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Hall Environmental Analysis Laboratory

AL-2 to EP-1 Week of 1/6/2006

Giant Refining Co 0601058

Work Order: **CLIENT:**

Project:

Date: 18-Jan-06

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ANALYTICAL QC SUMMARY REPORT

TestCode: HG_CTW

Sample ID: 0601064-04D DUP	SampType: DUP	TestCod	e: HG_CTW	Units: mg/L		Prep Date:	1/9/2006		RunNa: 178	348	
Client ID; ZZZZ	Batch ID: 9544	TestN	o: SW7470	(SW7470)	4	nalysis Date:	1/9/2006		SeqNo: 438	3841	
Analyte	Result	Par	SPK value	SPK Ref Val	%REC	LowLimit F	HighLimit RI	D Ref Val	%RPD	RPDLimit	Qual
Mercury	QN	0.00020						0	0	20	

Spike Recovery outside accepted recovery limits J Analyte detected below quantitation limits
 S Spike Recovery outside accepted recovery I

 Holding times for preparation or analysis exceeded
 RPD outside accepted recovery limits RPD outside accepted recovery limits

 Value above quantitation range
 ND Not Detected at the Reporting Limit Qualifiers:

Page Lof 2

AI -2 to EP-1 Week of 1/6/2006 Giant Refining Co 0601058 Work Order: CLIENT: Project:

ANALYTICAL QC SUMMARY REPORT

TestCode: METALS TOTAL

ייטן בנו: אביל וח בו											
Sample ID: 0601065-04A DUP	SampType: DUP	TestCo	de: METALS	TO Units: mg/L		Prep Date	a: 1/9/200	up.	RunNo: 179	32	
Client ID: ZZZZ	Batch ID: 9536	Testl	Vo: SW6010A		*	Analysis Date	e: 1/16/200	06	SeqNo: 440	787	
Analyte	Result	POL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	QN	0.020						0	0	30	
Barium	0.5651	0.020						0.565	0.0205	30	
Cadmium	Q	0.0020						D	D	30	
Chromium	Q	0.0060						D	0	90 20	
Lead	QN	0.0050						0.004291	0	30	
Selenium	GN	0.050						a	Q	30	
Silver	QN	0.0050						.0	O	30	

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Analyte detected helow quantitation limits Spike Recovery outside accepted recovery limits ~ s

> Holding times for preparation or analysis exceeded RPD outside accepted recovery limits нч

E Value above quantitation range ND Not Detected at the Reporting Limit

Qualifiers:

Page 2 of 2

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Laboratory
Analysis
Environmental
Hall J

Date: 18-Jan-06

Giant Refining Co 0601058

AL-2 to EP-1 Week of 1/6/2006

Work Order: **CLIENT**:

Project:

ANALYTICAL QC SUMMARY REPORT TestCode: 8015DRO_W

Sample ID: LCS-9535	SampType: LCS	TestCor	Je: 8015DRO	_W Units: mg/L		Prep Date	*: 1/9/2006	RunNo: 178	352	
Olient ID: ZZZZ	Batch ID: 9535	Test	Vo: SW8015			Analysis Date	3: 1/9/2006	SeqNo: 43	3885	
Analyte	Result	Par	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.740	1.0	сı	O	115	81.2	149			
Sample ID: LCSD-9535	SampType: LCSD	TestCoc	te: 8015DRO	_W Units: mg/L		Prep Date	1/9/2006	RunNo: 175	352	
Client ID: ZZZZ	Batch ID: 9535	Testh	lo: SW8015			Analysis Date	3: 1/9/2006	SegNa: 436	3886	
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	048%	RPDLimit	Qual
Diesel Range Organics (DRO)	5.962	1.0	Υ	o	119	81.2	149 5.74	3.80	23	

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Analyte detected below quantitation limits - v Holding times for preparation or analysis exceeded RPD outside accepted recovery limits тα

Spike Recovery outside accepted recovery limits

E Value above quantitation range ND Not Detected at the Reporting Limit

Qualifiers:

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Page 1 of 6

AL-2 to EP-1 Week of 1/6/2006 Giant Refining Co 0601058 Work Order: CLIENT: Project:

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015GRO_W

Sample ID: GRO Ics 2.5ug	SampType: LCS	TestCoo	le: 8015GRO	W Units: mg/L		Prep Date			RunNo: 17	890	
Client ID: ZZZZ	Batch ID: R17890	Test	lo; SW8015		4	vnalysis Dati	e: 1/13/2006		SegNo: 43	9932	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LawLimit	HighLimit RPD R	ef Val	048%	RPDLimit	Qual
Gasoline Range Organics (GRO)	D.4586	0.050	0.5	0	91.7	82.6	114				

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RPD outside accepted recovery limits

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E Value above quantitation range ND Not Detected at the Reporting Limit

Qualifiers:

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Giant Refining Co 0601058 Work Order: CLIENT:

ANALYTICAL QC SUMMARY REPORT

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Project:	AL-2 to EF	-1 Week of 1/6/2006						L	estCode: 8	021BTEX	W		
Sample ID: BTEX I Client ID: ZZZZ	lcs 100ng	SampType: LCS Batch ID: R17890	TestCo	de: 8021BTEX Vo: SW8021	W Units: µg/L		Prep Dat Analysis Dat	e: e: 1/12/20	DG	RunNo: 17 SeqNo: 44	890 0002		
Analyte		Result	Par	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Methył tert-butył etr	her (MTBE)	20.00	2.5	20	٥	100	64.5	133					_
Benzene		18.85	1.0	20	Q	94.2	88.5	114					
Toluene		19.12	1.0	20	0	95.6	87.2	114					
Ethylbenzene		19.76	1.0	20	0	98.8	88.6	113					
Xylenes, Total		39.56	3.0	40	0	98.9	83.3	114					

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Holding times for preparation or analysis exceeded т∝ E Value above quantitation range ND Not Detected at the Reporting Limit

Page 3 of 6

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I Analyte detected below quantitation limits
 S Spike Recovery outside accepted recovery limits

RPD outside accepted recovery limits

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Qualifiers:

CLIENT:	Giant Refining Co
Vork Order:	0601058
^b roject:	AL-2 to EP-1 Week of 1/6/2006

ANALYTICAL QC SUMMARY REPORT

TestCode: HG_CTW

Sample ID: LCS-9544	SampType: LCS	TestCot	te: HG_CTW	Units: mg/L		Prep Date	: 1/9/2006		RunNo: 17848		
Client ID: ZZZZ	Batch ID: 9544	Testh	lo: SW7470	(SW7470)		Analysis Date	: 1/9/2006		SeqNo: 438824		
Analyte	Result	Par	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit RPD Re	ef Val	%КРО КР	DLimit	Qual
Mercury	0.004253	0.00020	0.005	0	85.1	80	120				
Sample ID: LCSD-9544	SampType: LCSD	TestCot	te: HG_CTW	Units: mg/L		Prep Date	: 1/9/2006		RunNo: 17848		
Client ID: ZZZZ	Batch ID: 9544	Test	lo: SW7470	(SW7470)		Analysis Date	: 1/9/2006		SeqNo: 438848		
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit 1	HighLimit RPD Re	ef Val	%КРО КР	DLimit	Qual
Mercury	0.004311	0.00020	0.005	o	86.2	80	120 0.00	4253	1.35	0	

13/16

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

Qualifiers:

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CLIENT: Giant Refining Co Work Order: 0601058 Protect: AI -2 to FP-1 Week of 1/6/2006

ANALYTICAL QC SUMMARY REPORT

Project: AL-2 to E	:P-1 Week of 1/6/2006						Tes	itCode: N	1ETALS_1	OTAL	
Sample ID: LCS-9536	SampType: LCS	TestCod	e: METALS	TO Units: mg/L		Prep Dat	e: 1/9/2006	- - 	RunNo: 178	85	
Client ID: ZZZZ	Batch ID: 9536	TestN	o: SW6010A			Analysis Dat	e: 1/12/2006		SeqNo: 439	1740	
Analyte	Result	Par	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit R	PD Ref Val	%RPD	RPDLimit	Quai
Lead	0.4894	0.005D	0.5	ο	6.76	80	120				
Sample ID: LCS-9536	SampType: LCS	TestCod	e: METALS_	TO Units: mg/L		Prep Date	e: 1/9/2006		RunNo: 179	32	
Client ID: ZZZZ	Batch ID: 9536	TestN	D: SW6010A			Analysis Dat	e: 1/16/2006		SeqNo: 440	774	
Analyte	Result	POL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit R	PD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.4853	0.020	0.5	o	97.1	80	120				
Barium	0.4613	0.020	0.5	0	92.3	80	120				
Cadmium	0.4680	0.0020	0.5	0	93.6	80	120				
Chromium	0.4714	0.0060	0.5	0	94.3	, 0 8	120				
Lead	0.4601	0.0050	0.5	0	92.0	80	120				
elenium.	0.4684	0.050	0.5	0	93.7	80	120				
+ ilver	0.4791	0.0050	0.5	0.001109	95.6	80	120				
o ample ID: LCSD-9536	SampType: LCSD	TestCode	P: METALS_1	ro Units: mg/L		Prep Date	e: 1/9/2006		RunNo: 178	85	
Client ID: ZZZZ	Batch ID: 9536	TestN	3: SW6010A			Analysis Date	a: 1/12/2006		SeqNo: 439	741	
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	ŁawLimit	HighLimit RI	aD Ref Val	%RPD	RPDLimit	Qual
Lead	0.4769	0.0050	0.5	0	95.4	80	120	0.4894	2.60	20	
Sample ID: LCSD-9536	SampType: LCSD	TestCode	:: METALS_1	O Units: mg/L		Prep Date	: 1/9/2006		RunNo: 179;	32	
Client ID: ZZZZ	Batch ID: 9536	TestNc): SW6010A			Analysis Date	a: 1/16/2006		SeqNo: 440	775	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RF	D Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.4891	0.020	0.5	0	97.8	80	120	0.4853	0.775	50	
Barium	0.4627	0.020	0.5	0	92.5	80	120	0.4613	0.308	20	
Cadmíum	0.4676	0.0020	0.5	0	93.5	80	120	0.468	0.0760	20	
Chromium	0.4741	0.0060	0.5	D	94.8	80	120	0.4714	0.582	20	
Lead	0.4560	0.0050	0.5	0	91.2	80	120	0.4601	0.907	20	
Selenium	0.4633	0.050	0.5	0	92.7	80	120	0.4684	1.11	20	
Qualifiers: E Value above ND Not Detected	: quantitation range 1 at the Reporting Limit		H Holdine R RPD ou	times for preparation taide accented recover	or analysis v limite	exceeded	J Anal S Snik	lyte detected he	low quantitation	i limits	
							2	ב ועררטינוץ טער	אחה מרכבאומה וה	covery limus	1

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CLIENT:	Giant Ref	ining Co			:		A N A T Y					£ G
Work Order:	0601058	•					ANAL	X IICA	יוג של שני			IVI
Project:	AL-2 to E	3P-1 Week of 1/6/2006						T	lestCode: N	AETALS_	OTAL	
Sample ID: LCSD	-9536	SampType: LCSD	TestCoc	le: METALS_	TO Units: mg/L		Prep Date	e: 1/9/200	96	RunNa: 175	132	
Client ID: ZZZZ	2	Batch ID: 9536	Testh	lo: SW6010A		•	Analysis Dat	e: 1/16/20	J 06	SeqNo: 440	1775	
Analyte		Result	Pat	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver		0.4795	0.0050	0.5	0.001109	95.7	80	120	0.4791	0.0776	20	

Qualifiers: E Value above quantitation range ND Not Detected at the Reporting Limit

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J Analyte detected below quantitation limits
 S Spike Recovery outside accepted recovery limits

Holding times for preparation or analysis exceeded J Analyte detected be RPD outside accepted recovery limits S Spike Recovery outs

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Hall Environmental Analysis Laboratory

Sample	Receipt Ch	ecklist		
Client Name GIANTREFIN	~	Date and Time	Received:	1/6/2006
Work Order Number 0601058)	Received by	AT	
Checklist completed by	Dale		106	
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 🗹			
Sample containers intact?	Yes 🗹	No \Box		
Sufficient sample volume for indicated lest?	Yes 🗹	No 🗆		
All samples received within holding time?	Yes 🗹	No 🗆		
Water - VOA vials have zero headspace? No VOA vials subr	nitted	Yes 🗹	No 🗔	
Water - pH acceptable upon receipt?	Yes 🗹	No 🗖	N/A	
Container/Temp Blank temperature?	7°	4° C ± 2 Accepta If given sufficient	able I lime to cool.	
COMMENTS:				
Client conlacted Date conlacted:		Pers	son contacted	
Contacted by: Regarding		·····		
Comments:		•	· · · · · · · · · · · · · · · · · · ·	t (t tanti (t m) sanatan) tang mangangan pangangan (t t - t -
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Corrective Action				
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16/16

HALL ENVIRONMENTAL ANALYSIS LABORATORY ANALYSIS LABORATORY Albuquerque, New Mexico 8710 Tel. 5005.345.38375 Fax 505.345.38375 Fax 505.345.38375 Fax 505.345.38375 Fax 505.345.38375 mov. hallenvironmental. Com minore (F. Cl., NO ₂ , PO ₄ , 5O ₄) free cl. 80682) free cl. 80682) free cl. 80682) free cl. 80682) free cl. 80682 free cl. 80682) free cl. 80682 free cl. 80		
DB (Method 504.1) PH Method 504.1) PH (Method 504.1) DB (Method 504.1)	Hermarks:	
QA / GC Package: Std □ Level 4 □ Other: Project Name: Munder: Mumber/Volume Mumber/Volume	S Received by: [Signature] Received by: [Signature]	
CHAIN-OF-CUSTODY RECORD Client: Lant Relining Comparing Address: Rander Son 7 Address: Rander S Ban 7 Phone #: Sos 722 SP33 Fax #: Sos 722 SP33 Fax #: Sos 722 SP33 Pate Time Matrix Sample I.D. No.	1-4-650 H20 AL-22EP-1 Date: Time: Relinquished By: (Signatury) Date: Time: Relinquished By: (Signatury)	

Chavez, Carl J, EMNRD

From: Sent: To: Steve Morris [smorris@giant.com] Friday, January 20, 2006 10:57 AM Chavez, Carl J, EMNRD; Cobrain, Dave, NMENV; Foust, Denny, EMNRD; Ed Riege; Monzeglio, Hope, NMENV; Johnny Sanchez; Steve Morris; Price, Wayne, EMNRD Ciniza Weekly Update 01-20-06

Subject:





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1) Work has started preparing the oil sump at the

NAPIS for Chopper Pump installation. I will update everyone on this email distribution list as we get into the project and have a better picture of the completion date.

2) Ciniza Operations and Maintenance personnel continue to keep a close eye on the NAPIS and no unexpected problems are noted.

3) Attached are the water sample results I have received to date.

If you have any questions, please give me a call at 505-722-0258.
Thanks,
Steve Morris
<<HALL7368 POND2IN010606.pdf>> <<HALL7397 NMED122805.pdf>> <<HALL7406 AL2EP010606.pdf>>

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Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD

Sent: Thursday, January 19, 2006 1:18 PM

To: Bratcher, Mike, EMNRD

Cc: Price, Wayne, EMNRD

Subject: Navajo Refinery- Artesia

Mike:

Hi. I am taking over for Wayne Price on this project and wanted to share one item of possible concern that Wayne wanted me to mention to you from our October 26, 2005 site visit. It may be more of a local blight problem than anything? We spoke briefly with Mr. Simmons and he seemed concerned, but had not contacted anyone about the property.

Anyway, we noticed a residential property (I believe an empty lot) adjacent to Mr. Buddy Simmons home located at 420 Quail, Artesia (road trending E-W just north of the refinery off of Hwy. 285). See map (<u>http://maps.yahoo.com/maps_result?</u> <u>addr=420+Quail&csz=Artesia%2C+New+Mexico&country=us&new=1&name=&qty=The</u>) residential property had numerous stacked 55 gallon drums on the premises. We didn't think the property belonged to the refinery, but thought we should follow-up with you about it.

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