



Analytical **Technologies**, Inc.

2709-D Pan American Freeway, NE Albuquerque, NM 87107  
Phone (505) 344-3777 FAX (505) 344-4413

ATI I.D. **404426**

May 16, 1994

Giant Refining  
Route 3, Box 7  
Gallup, NM 87301

Project Name/Number: LTA

Attention: Lynn Shelton

On **04/26/94**, Analytical Technologies, Inc., (ADHS License No. AZ0015), received a request to analyze **aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

EPA Method 8270 analyses were cancelled on 04/28/94 for samples LTA-1-6B and LTA-3-6B per Lynn Shelton.

All analyses were performed by Analytical Technologies, Inc., 225 Commerce Drive, Fort Collins, CO.

If you have any questions or comments, please do not hesitate to contact us at (505) 344-3777.

Letytia Krakowski, Ph.D.  
Project Manager

H. Mitchell Rubenstein, Ph.D.  
Laboratory Manager

MR:jd

Enclosure



Analytical **Technologies**, Inc.

CLIENT : GIANT REFINING DATE RECEIVED : 04/26/94  
PROJECT # : (NONE)  
PROJECT NAME : LTA REPORT DATE : 05/16/94

ATI ID: 404426

	ATI ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	404426-01	LTA-1-6B	AQUEOUS	04/21/94
02	404426-02	LTA-3-6B	AQUEOUS	04/21/94

---TOTALS---

<u>MATRIX</u>	<u>#SAMPLES</u>
AQUEOUS	2

ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.



Analytical Technologies, Inc.

**VOLATILE ORGANICS**

Method 8240

Sample ID

**404426-1**

Lab Name: Analytical Technologies, Inc.

Client Name: ATI-NM

Client Project ID: GRC -- 404426

Lab Sample ID: 94-04-263-01

Date Collected: 04/21/94

Date Analyzed: 05/05/94

Sample Matrix: Water

Sample Volume: 5 mL

Analyte	Results (ug/L)	Detection Limit (ug/L)
Chloromethane	ND	10
1,2-Dibromoethane	ND	10
1,4-Dioxane	ND	500
1,1,1,2-Tetrachloroethane	ND	5
Methylene chloride	ND	5
2-Chlorophenol	ND	5
Carbon disulfide	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
1,2-Dichloroethene (Total)	ND	5
Chloroform	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Trichloroethene	ND	5
Benzene	ND	5
Tetrachloroethene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethylbenzene	ND	5
Styrene	ND	5
Total Xylenes	ND	5

**SURROGATE RECOVERIES**

Analyte	% Recovery	%Rec Limits
1,2-Dichloroethane-d4	105	76 - 114
Toluene-d8	102	88 - 110
Bromofluorobenzene	99	86 - 115

ND = Not Detected



Analytical Technologies, Inc.

**VOLATILE ORGANICS**

Method 8240

Sample ID

404426-2

Lab Name: Analytical Technologies, Inc.

Client Name: ATI-NM

Client Project ID: GRC -- 404426

Lab Sample ID: 94-04-263-02

Date Collected: 04/21/94

Date Analyzed: 05/05/94

Sample Matrix: Water

Sample Volume: 5 mL

Analyte	Results (ug/L)	Detection Limit (ug/L)
Chloromethane	ND	10
1,2-Dibromoethane	ND	10
1,4-Dioxane	ND	500
1,1,1,2-Tetrachloroethane	ND	5
Methylene chloride	ND	5
2-Chlorophenol	ND	5
Carbon disulfide	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
1,2-Dichloroethene (Total)	ND	5
Chloroform	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Trichloroethene	ND	5
Benzene	ND	5
Tetrachloroethene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethylbenzene	ND	5
Styrene	ND	5
Total Xylenes	ND	5

**SURROGATE RECOVERIES**

Analyte	% Recovery	%Rec Limits
1,2-Dichloroethane-d4	105	76 - 114
Toluene-d8	102	88 - 110
Bromofluorobenzene	99	86 - 115

ND = Not Detected



Analytical **Technologies**, Inc.

**VOLATILE ORGANICS**

Method 8240

Sample ID

**Reagent Blank**

Lab Name: Analytical Technologies, Inc.

Client Name: ATI-NM

Client Project ID: GRC -- 404426

Lab Sample ID: WRB1 05/05/94

Date Collected: N/A

Date Analyzed: 05/05/94

Sample Matrix: Water

Sample Volume: 5 mL

Analyte	Results (ug/L)	Detection Limit (ug/L)
Chloromethane	ND	10
1,2-Dibromoethane	ND	10
1,4-Dioxane	ND	500
1,1,1,2-Tetrachloroethane	ND	5
Methylene chloride	ND	5
2-Chlorophenol	ND	5
Carbon disulfide	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
1,2-Dichloroethene (Total)	ND	5
Chloroform	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Trichloroethene	ND	5
Benzene	ND	5
Tetrachloroethene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethylbenzene	ND	5
Styrene	ND	5
Total Xylenes	ND	5

**SURROGATE RECOVERIES**

Analyte	% Recovery	%Rec Limits
1,2-Dichloroethane-d4	111	76 - 114
Toluene-d8	104	88 - 110
Bromofluorobenzene	103	86 - 115

ND = Not Detected



Analytical Technologies, Inc.

**VOLATILE ORGANICS**

Method 8240

Sample ID

**Reagent Blank**

Lab Name: Analytical Technologies, Inc.

Client Name: ATI-NM

Client Project ID: GRC -- 404426

Lab Sample ID: WRB1 05/04/94

Date Collected: N/A

Date Analyzed: 05/04/94

Sample Matrix: Water

Sample Volume: 5 mL

Analyte	Results (ug/L)	Detection Limit (ug/L)
Chloromethane	ND	10
1,2-Dibromoethane	ND	10
1,4-Dioxane	ND	500
1,1,1,2-Tetrachloroethane	ND	5
Methylene chloride	ND	5
2-Chlorophenol	ND	5
Carbon disulfide	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
1,2-Dichloroethene (Total)	ND	5
Chloroform	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Trichloroethene	ND	5
Benzene	ND	5
Tetrachloroethene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethylbenzene	ND	5
Styrene	ND	5
Total Xylenes	ND	5

**SURROGATE RECOVERIES**

Analyte	% Recovery	%Rec Limits
1,2-Dichloroethane-d4	103	76 - 114
Toluene-d8	103	88 - 110
Bromofluorobenzene	97	86 - 115

ND = Not Detected



Analytical **Technologies**, Inc.

## VOLATILE MATRIX SPIKE RECOVERY

Method 8240

Lab Name: Analytical Technologies, Inc.

Client Name: ATI-NM

Client Project ID: GRC -- 404426

Lab Sample ID: 94-04-218-01

Sample ID

**In House**

Date Collected: 04/20/94

Date Analyzed: 05/04/94

Sample Matrix: Water

Sample Volume: 5 mL

Analyte	Spike Added (ug/L)	Sample Concentration (ug/L)	MS Concentration (ug/L)	MS % Rec	QC Limit Recovery
1,1-Dichloroethene	50.0	ND	50.3	101	61-145
Trichloroethene	50.0	ND	45.8	92	71-120
Benzene	50.0	ND	49.1	98	76-127
Toluene	50.0	ND	48.4	97	76-125
Chlorobenzene	50.0	ND	48.8	98	75-130

Analyte	Spike Added (ug/L)	MSD Concentration (ug/L)	MSD % Recovery	% RPD	QC Limits RPD Rec
1,1-Dichloroethene	50.0	48.7	97	3	14   61-145
Trichloroethene	50.0	45.1	90	1	14   71-120
Benzene	50.0	48.7	97	1	11   76-127
Toluene	50.0	47.4	95	2	13   76-125
Chlorobenzene	50.0	47.9	96	2	13   75-130

ND = Not Detected



# CHAIN OF CUSTODY

DATE: 4/25/94 PAGE 1 OF 1

ATI LAB I.D. 404426

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

**PROJECT MANAGER:**

**COMPANY:** Giant Refining

**ADDRESS:** I-40, Exit 39  
Jamestown, NM 87347

**PHONE:** 505/722-3833

**FAX:** 505/722-0210

**BILL TO:** SAME

**COMPANY:** Same

**ADDRESS:** Route 3, Box 7  
Gallup, NM 87301

PROJECT MANAGER:					ANALYSIS REQUEST																				
SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Petroleum Hydrocarbons (418.1)	(MOD 8015) Gas/Diesel	Diesel/Gasoline/BTXE/MTBE (MOD 8015/8020)	BTXE/MTBE (8020)	Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	SDWA Volatiles (502.1/503.1), 502.2 Reg. & Unreg.	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	Polynuclear Aromatics (610/8310)	SDWA Primary Standards - Arizona	SDWA Secondary Standards - Arizona	SDWA Primary Standards - Federal	SDWA Secondary Standards - Federal	The 13 Priority Pollutant Metals	RCRA Metals by Total Digestion	RCRA Metals by TCLP (1311)	NUMBER OF CONTAINERS	
LTA-1-GB	4/21/94	1125	H <sub>2</sub> O	01																					2
LTA-3-GB	4/21/94	1145	H <sub>2</sub> O	02																					2

PROJECT INFORMATION	SAMPLE RECEIPT
PROJ. NO.: _____	NO. CONTAINERS <u>4</u>
PROJ. NAME: <u>LTA</u>	CUSTODY SEALS <u>Y / N / NA</u>
P.O. NO.: <u>997-9023-94</u>	RECEIVED INTACT <u>Y</u>
SHIPPED VIA: <u>FED EX</u>	RECEIVED COLD <u>Y</u>

SAMPLED & RELINQUISHED BY: 1.		RELINQUISHED BY: 2.		RELINQUISHED BY: 3.	
Signature: _____	Time: _____	Signature: _____	Time: _____	Signature: _____	Time: _____
Printed Name: _____	Date: _____	Printed Name: _____	Date: _____	Printed Name: _____	Date: _____
Company: _____	Phone: _____	Company: _____	Phone: _____	Company: _____	Phone: _____

**PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS**

(RUSH)  24hr  48hr  72hr  1 WEEK (NORMAL)  2 WEEK

Comments:  
 \* SEE ATTACHED  
 CONSTITUENT LIST.  
 + C.O.C. seals intact on outside of cooler.

RECEIVED BY: 1.		RECEIVED BY: 2.		RECEIVED BY: (LAB) 3.	
Signature: _____	Time: _____	Signature: _____	Time: _____	Signature: _____	Time: _____
Printed Name: _____	Date: _____	Printed Name: _____	Date: _____	Printed Name: _____	Date: _____
Company: _____	Phone: _____	Company: _____	Phone: _____	Company: _____	Phone: _____



# Chain of Custody

99-04263

DATE 4/26/94 PAGE 1 OF 1

NETWORK PROJECT MANAGER: BETH PROFFITT					ANALYSIS REQUEST																				
COMPANY: Analytical Technologies, Inc. ADDRESS: 2709-D Pan American Freeway, NE Albuquerque, NM 87107					TOX	TOC	ORGANIC LEAD	SULFIDE	SURFACTANTS (MBAS)	632/632 MOD	619/619 MOD	610/8310	8240 (TCLP 1311) ZHE	Diesel/Gasoline/BTXE/MTBE/ (MOD 8015/8020)	Volatile Organics GC/MS (624/8240)	NACE	ASBESTOS	BOD	TOTAL COLIFORM	FECAL COLIFORM	GROSS ALPHA/BETA	RADIUM 226/228	AIR - O <sub>2</sub> , CO <sub>2</sub> , METHANE	AIR/Diesel/Gasoline/BTXE/ (MOD 8015/8020)	NUMBER OF CONTAINERS
CLIENT PROJECT MANAGER:																									
SAMPLE ID	DATE	TIME	MATRIX	LAB ID																					
404426-1	4/21/94	1125	RD	01																					
-2	4/21/94	1145	RD	02																					

PROJECT INFORMATION		SAMPLE RECEIPT		SAMPLES SENT TO:		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.	
PROJECT NUMBER: 404426	TOTAL NUMBER OF CONTAINERS: 4	CHAIN OF CUSTODY SEALS: 2	INTACT?: 2	RECEIVED GOOD COND./COLD: 2	SAN DIEGO	Signature: <i>Terri Dotter</i>	Time: 1750	Signature:	Time:
PROJECT NAME: GRC	RECEIVED GOOD COND./COLD: 2	LAB NUMBER: 99-04263			FT. COLLINS	Printed Name: <i>Terri Dotter</i>	Date: 4/26/94	Printed Name:	Date:
QC LEVEL: (STD) IV					RENTON	Analytical Technologies, Inc. Albuquerque		Company: <i>Centron</i>	
QC REQUIRED: MS MSD BLANK					PENSACOLA	RECEIVED BY: (LAB) 1.		RECEIVED BY: (LAB) 2.	
TAT: STANDARD RUSHI					PHOENIX	Signature:	Time:	Signature:	Time:
DUE DATE: 5/10/94					BARRINGER	Printed Name: <i>John Whalen</i>		Printed Name: <i>John Whalen</i>	
RUSH SURCHARGE: _____					FIBERQUANT	Date: 4/27/94		Date: 4/27/94	
CLIENT DISCOUNT: 10 %						Company: <i>Centron</i>		Company: <i>ATI-CO</i>	