GW-32

1996 Annual Report

Date: 5/5/1997

GIANT
INDUSTRIES, INC.

Route 3, Box 7
Gallup, New Mexico
87301

May 5, 1997

Mr. Roger Anderson
Environmental Bureau Chief
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, New Mexico 87505

Dear Mr. Anderson

SUBJECT: OCD ANNUAL REPORT

Pursuant to the water discharge permit, GW-32, Giant Refining Company - Ciniza (Giant) submits the 1996 Annual OCD Report.

The data presented in the enclosed report is arranged in the following order:

I. Quarterly Aerated Lagoon and API Effluent
II. OCD LTA Soil Analytical Data
III. Tabulated analytical Data - OW-1, 2, and 3
IV. Original Analytical Data - OW-1, 2, and 3

If there are any questions please contact Dorinda Mancini at (505) 722-0227, or myself at (505) 722-0258.

Sincerely,

Stephen C. Morris, Environmental Specialist
Giant Refining Company

cc: Dick Platt, General Manager
Giant Refining Company

David Pavlich, HSE Manager
Giant Refining Company

Dorinda Mancini, Environmental Manager
Giant Refining Company

Kim Bullerdick, Corporate Counsel
Giant Industries Arizona, Inc

Denny Foust, OCD, Aztec Office

1996 OCD ANNUAL REPORT

EXPLANATION OF SAMPLE IDENTIFICATION
Wastewater Treatment

SAMPLE DATE	ID	SAMPLE POINT
1/17/96	OCD 4Q95 - AP1	API Separator (effluent)
1/17/96	OCD 4Q95 - AL2	Aeration Lagoon (effluent)
12/16/96	AL1 - 121696	Aeration Lagoon Inlet (API Separator)
12/16/96	EP1 - 121696	Evaporation Pond 1 Inlet (Aer. Lagoon effluent)

GIANT
INDUSTRIES, INC.

Route 3, Box 7
Gallup, New Mexico
87301

February 7, 1996

Mr. P. W. Sanchez
State of New Mexico
Oil Conservation Division
2040 S. Pacheco
Santa Fe, New Mexico 87505

Dear Mr. Sanchez:

SUBJECT: ANALYTICAL REPORT FOR DISCHARGE PERMIT GW-32 - 4TH QUARTER 95.

On January 17, 1996, water samples were taken from the API separator and the aerated lagoon. This sampling event was to comply with quarterly sampling requirements set out in the GW 32 Discharge Permit. Attached is a hard copy of the analytical results for this sampling event. ATI ID# 601359-01 corresponds to Giant's sample number OCD 4Q95-AP1, which is the API separator, and ATI I # 601359-02 corresponds to Giant's sample number OCD 4Q95-AL2, aerated lagoon.

If there are any questions please contact me at (505) 722-0227.

Sincerely,

Edward L. Horst, Environmental Manager
Giant Refining Company
CINIZA Facility

xc:
David Pavlich, HSE Manager
Steve Morris, Environmental Spec.
File: 4QTR95

Analytical **Technologies,** Inc.

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

ATI I.D. **601359**

February 3, 1996

Giant Refining Co.
Route 3, Box 7
Gallup, NM 87301

Project Name/Number: OCD-WM 4 QTR 95

Attention: Edward Horst

On **01/18/96**, Analytical Technologies, of New Mexico 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 150.1 (pH) analyses were performed by Analytical Technologies, Inc., Albuquerque, NM.

All other analyses were performed by Analytical Technologies, Inc., 11 East Olive Road, Pensacola, FL.

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

Kimberly D. McNeill
Project Manager

H. Mitchell Rubenstein, Ph.D.
Laboratory Manager

MR:jt

Enclosure

Analytical**Technologies,**Inc.

CLIENT	:GIANT REFINING CO.	DATE RECEIVED	:01/18/96
PROJECT #	:4 QTR 95		
PROJECT NAME	:OCD-WM	REPORT DATE	:02/03/96

ATI ID: 601359

	ATI ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	601359-01	OCD 4Q95-AP1	AQUEOUS	01/17/96
02	601359-02	OCD 4Q95-AL2	AQUEOUS	01/17/96

---TOTALS---

MATRIX	#SAMPLES
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.

GENERAL CHEMISTRY RESULTS

CLIENT	: GIANT REFINING CO.	ATI I.D.	: 601359
PROJECT #	: 4 QTR 95	DATE RECEIVED	: 01/18/96
PROJECT NAME	: OCD-WM	DATE ANALYZED	: 01/19/96

PARAMETER	UNITS	01	02
PH (150.1)	UNITS	8.70	7.61

Analytical Technologies, Inc.

GENERAL CHEMISTRY - QUALITY CONTROL

CLIENT : GIANT REFINING CO. ATI I.D. : 601359

PROJECT # : 4 QTR 95 SAMPLE MATRIX : AQUEOUS

PROJECT NAME : OCD-WM

PARAMETER	UNITS	ATI I.D.	SAMPLE RESULT	DUP. RESULT	RPD	SPIKED SAMPLE	SPIKE CONC.	% REC
PH	UNITS	60135901	8.70	8.74	0.5	NA	NA	NA

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

AnalyticalTechnologies, Inc.

"FINAL REPORT FORMAT - SINGLE"

Accession:	601355
Client:	ANALYTICAL TECHNOLOGIES, INC.
Project Number:	601359
Project Name:	GIANT
Project Location:	OCD-WM
Test:	Group of Single Wetchem
Matrix:	WATER
QC Level:	II

Lab ID: 001
Client Sample Id: 601359-01

Sample Date/Time: 17-JAN-96 1225
Received Date: 19-JAN-96

Parameters:	Units:	Results:	Rpt Lmts:	Q:	Batch:	Analyst:
BIOCHEMICAL OXYGEN DEMAND (405.1)	MG/L	>7800	2		BDW007	AB
CHEMICAL OXYGEN DEMAND (410.4)	MG/L	17000	200	+	CHX004	RB
TOTAL DISSOLVED SOLIDS (160.1)	MG/L	16000	5		TDW006	ED

Comments:

API

Analytical**Technologies,**Inc.

"FINAL REPORT FORMAT - SINGLE"

Accession: 601355
Client: ANALYTICAL TECHNOLOGIES, INC.
Project Number: 601359
Project Name: GIANT
Project Location: OCD-WM
Test: Group of Single Wetchem
Matrix: WATER
QC Level: II

Lab ID: 002
Client Sample Id: 601359-02
Sample Date/Time: 17-JAN-96 1250
Received Date: 19-JAN-96

Parameters:	Units:	Results:	Rpt Lmts:	Q:	Batch:	Analyst:
BIOCHEMICAL OXYGEN DEMAND (405.1)	MG/L	4100	2		BDW007	AB
CHEMICAL OXYGEN DEMAND (410.4)	MG/L	6600	200	+	CHX004	RB
TOTAL DISSOLVED SOLIDS (160.1)	MG/L	6400	5		TDW006	ED

Comments:

ALZ

Analytical**Technologies,**Inc.

"Method Report Summary"

Accession Number: 601355
Client: ANALYTICAL TECHNOLOGIES, INC.
Project Number: 601359
Project Name: GIANT
Project Location: OCD-WM
Test: Group of Single Wetchem

Client Sample Id:	Parameter:	Unit:	Result:	
601359-01	BIOCHEMICAL OXYGEN DEMAND (405.1)	MG/L	>7800	API
	CHEMICAL OXYGEN DEMAND (410.4)	MG/L	17000	
	TOTAL DISSOLVED SOLIDS (160.1)	MG/L	16000	
601359-02	BIOCHEMICAL OXYGEN DEMAND (405.1)	MG/L	4100	AC2.
	CHEMICAL OXYGEN DEMAND (410.4)	MG/L	6600	
	TOTAL DISSOLVED SOLIDS (160.1)	MG/L	6400	

Analytical**Technologies,**Inc.

"WetChem Quality Control Report"

Parameter:	BOD	COD HIGH	TDS
Batch Id:	BDW007	CHX004	TDW006
Blank Result:	<2	<10	<5
Anal. Method:	405.1	410.4	160.1
Prep. Method:	N/A	N/A	N/A
Analysis Date:	24-JAN-96	23-JAN-96	25-JAN-96
Prep. Date:	19-JAN-96	23-JAN-96	22-JAN-96
Sample Duplication			
Sample Dup:	601357-1	601355-1	601365-21
Rept Limit:	<2	<200+	<5
Sample Result:	12	17100	750
Dup Result:	12	17240	736
Sample RPD:	0	1	2
Max RPD:	22	5	16
Dry Weight%	N/A	N/A	N/A
Matrix Spike			
Sample Spiked:	N/A	601355-1	N/A
Rept Limit:	N/A	<200+	N/A
Sample Result:		17100	
Spiked Result:		31680	
Spike Added:		15000	
% Recovery:		97	
% Rec Limits:		81-117	
Dry Weight%		N/A	
ICV			
ICV Result:		660	
True Result:		701	
% Recovery:		94	
% Rec Limits:		90-110	
LCS			
LCS Result:	201		337
True Result:	200		293
% Recovery:	101		115
% Rec Limits:	85-115		66-122

Analytical**Technologies,**Inc.

"Quality Control Comments"

Batch Id:	Comments:
TDW006	601408-1 WAS ADDED TO BATCH ON 1/23/96.
TDW006	601451-1,2,3,4,5,6,7 WERE ADDED TO BATCH ON 1/24/96.

Analytical**Technologies,**Inc.

----- Common Footnotes WetChem -----

N/A = NOT APPLICABLE.
N/S = NOT SUBMITTED.
N/C = SAMPLE AND DUPLICATE RESULTS ARE AT OR BELOW ATI REPORTING LIMIT; THEREFORE, THE RPD IS "NOT CALCULABLE" AND NO CONTROL LIMITS APPLY.
N/D = NOT DETECTED.
DISS. OR D = DISSOLVED
T & D = TOTAL AND DISSOLVED
R = REACTIVE
T = TOTAL
G = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X ATI REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE RESULT IS AT OR BELOW ATI REPORTING LIMIT; THEREFORE, THE RESULTS ARE "IN CONTROL".
Q = THE ANALYTICAL (POST-DIGESTION) SPIKE IS REPORTED DUE TO PERCENT RECOVERY BEING OUTSIDE ACCEPTANCE LIMITS ON THE MATRIX (PRE-DIGESTION) SPIKE.
# = ELEVATED REPORTING LIMIT DUE TO INSUFFICIENT SAMPLE.
+ = ELEVATED REPORTING LIMIT DUE TO DILUTION INTO CALIBRATION RANGE.
* = ELEVATED REPORTING LIMIT DUE TO MATRIX INTERFERENCE. (DILUTION PRIOR TO ANALYSIS)
@ = ADJUSTED REPORTING LIMIT DUE TO SAMPLE MATRIX. (DILUTION PRIOR TO DIGESTION)
P = ANALYTICAL (POST DIGESTION) SPIKE.
I = DUPLICATE INJECTION.
& = AUTOMATED
F = SAMPLE SPIKED > 4 X SPIKE CONCENTRATION.
N/C+ = NOT CALCULABLE
N/C* = NOT CALCULABLE; SAMPLE SPIKED > 4 X SPIKE CONCENTRATION.
H = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X ATI REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE ATI REPORTING LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL".
A = SAMPLE AND DUPLICATE RESULTS ARE "OUT OF CONTROL".
Z = THE SAMPLE RESULT FOR THE SPIKE IS BELOW THE REPORTING LIMIT. HOWEVER, THIS RESULT IS REPORTED FOR ACCURATE QC CALCULATIONS.
NH= SAMPLE AND / OR DUPLICATE RESULT IS BELOW 5 X ATI REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE ATI REPORTING LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL". SAMPLE IS NON-HOMOGENEOUS.
(*) = DETECTION LIMITS RAISED DUE TO CLP METHOD NOT REQUIRING A CONCENTRATION STEP FOR CN.

(CA) = SEE CORRECTIVE ACTIONS FORM.

SW-846, 3rd Edition, September 1986 and Revision 1, July 1992.
EPA 600/4-79-020, Revised March 1983.
STANDARD METHODS, 17TH ED., 1989
NIOSH Manual of Analytical Methods, 3rd Edition.
ANNUAL BOOK OF ASTM STANDARDS, VOLUME 11.01, 1991.

1. COLIFORM. COLIFORM PRECISION IS MEASURED BY THE ABSOLUTE DIFFERENCE BETWEEN THE LOGARITHM OF COLONIES PER 100 MLS OF SAMPLE ON DUPLICATE PLATES.

2. PH. PH PRECISION IS MEASURED BY THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE ANALYSIS.

3. FLASHPOINT. FLASHPOINT PRECISION IS MEASURED BY THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE ANALYSIS. IF FLASHPOINT IS LESS THAN 25 DEGREES CELSIUS, THE DETECTION LIMIT BECOMES THE INITIAL STARTING TEMPERATURE.

RPD = RELATIVE PERCENT DIFFERENCE (OR DEVIATION).

RPT LIMIT = REPORTING LIMITS BASED ON METHOD DETECTION LIMIT STUDIES.

DPH = DOLLY P. HWANG	SG = SCOTT GRESHAM	RB = REBECCA BROWN
NC = NICOLE CALL	NSB = NANCY S. BUTLER	MM = MARY MOLONEY
CF = CHRISTINE FOSTER	ED = ESTHER DANTIN	AB = ANDY BROTHERTON
BF = BLANCA FACH		

Analytical**Technologies,**Inc.

"FINAL REPORT FORMAT - SINGLE"

Accession:	601355
Client:	ANALYTICAL TECHNOLOGIES, INC.
Project Number:	601359
Project Name:	GIANT
Project Location:	OCD-WM
Test:	TOTAL ORGANIC CARBON
Analysis Method:	415.1 / EPA 600 / 04-79-020, Rev. March 1983
Extraction Method:	N/A
Matrix:	WATER
QC Level:	II

Lab Id:	001	Sample Date/Time:	17-JAN-96 1225
Client Sample Id:	601359-01	Received Date:	19-JAN-96
Batch: TOW003		Extraction Date:	N/A
Blank: A	Dry Weight %: N/A	Analysis Date:	24-JAN-96

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL ORGANIC CARBON	MG/L	4300	200	
ANALYST	INITIALS	DWB		

Comments:

API

Analytical**Technologies,**Inc.

"FINAL REPORT FORMAT - SINGLE"

Accession:	601355
Client:	ANALYTICAL TECHNOLOGIES, INC.
Project Number:	601359
Project Name:	GIANT
Project Location:	OCD-WM
Test:	TOTAL ORGANIC CARBON
Analysis Method:	415.1 / EPA 600 / 04-79-020, Rev. March 1983
Extraction Method:	N/A
Matrix:	WATER
QC Level:	II

Lab Id:	002	Sample Date/Time:	17-JAN-96 1250
Client Sample Id:	601359-02	Received Date:	19-JAN-96
Batch: TOW003		Extraction Date:	N/A
Blank: A	Dry Weight %: N/A	Analysis Date:	24-JAN-96

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL ORGANIC CARBON	MG/L	1200	200	
ANALYST	INITIALS	DWB		

Comments:

AL 2

Analytical**Technologies,**Inc.

"Method Report Summary"

Accession Number: 601355
Client: ANALYTICAL TECHNOLOGIES, INC.
Project Number: 601359
Project Name: GIANT
Project Location: OCD-WM
Test: TOTAL ORGANIC CARBON

Client Sample Id:	Parameter:	Unit:	Result:
601359-01	TOTAL ORGANIC CARBON	MG/L	4300 API
601359-02	TOTAL ORGANIC CARBON	MG/L	1200 AL2

Analytical**Technologies,**Inc.

"QC Report"

Title: Water Blank
Batch: TOW003
Analysis Method: 415.1 / EPA 600 / 04-79-020, Rev. March 1983
Extraction Method: N/A

Blank Id: A Date Analyzed: 24-JAN-96 Date Extracted: N/A

Parameters:	Units:	Results:	Reporting Limits:
TOTAL ORGANIC CARBON	MG/L	ND	1
ANALYST	INITIALS	DWB	

Comments:

Analytical**Technologies,** Inc.

"QC Report"

Title: Water Reagent
Batch: TOW003
Analysis Method: 415.1 / EPA 600 / 04-79-020, Rev. March 1983
Extraction Method: N/A

RS Date Analyzed: 24-JAN-96
RSD Date Analyzed: 24-JAN-96

RS Date Extracted: N/A
RSD Date Extracted: N/A

Parameters:	Spike Added	Sample Conc	RS Conc	RS %Rec	RSD Conc	RSD %Rec	RPD	RPD Lmts	Rec Lmts
TOC	6.7	<1	6.5	97	6.6	99	2	30	71-127

Surrogates:

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
MG/L = PARTS PER MILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

Analytical**Technologies,**Inc.

"QC Report"

Title: Water Matrix
Batch: TOW003
Analysis Method: 415.1 / EPA 600 / 04-79-020, Rev. March 1983
Extraction Method: N/A

Dry Weight %: N/A
Sample Spiked: 601439-14

MS Date Analyzed: 24-JAN-96
MSD Date Analyzed: 24-JAN-96

MS Date Extracted: N/A
MSD Date Extracted: N/A

Parameters:	Spike Added	Sample Conc	MS Conc	MS %Rec	MSD Conc	MSD %Rec	RPD	RPD Lmts	Rec Lmts
TOC	7	14	21	100	21	100	0	30	51-135

Surrogates:

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
MG/L = PARTS PER MILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

Common notation for Organic reporting

Analytical Technologies, Inc.

N/S = NOT SUBMITTED
N/A = NOT APPLICABLE
D = DILUTED OUT
UG = MICROGRAMS
UG/L = PARTS PER BILLION.
UG/KG = PARTS PER BILLION.
MG/M3 = MILLIGRAM PER CUBIC METER.
PPMV = PART PER MILLION BY VOLUME.
MG/KG = PARTS PER MILLION.
MG/L = PARTS PER MILLION.
< = LESS THAN DETECTION LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS

SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

ORGANIC SOILS ARE REPORTED ON A DRYWEIGHT BASIS.

ND = NOT DETECTED ABOVE REPORTING LIMIT.

RPT LIMIT = REPORTING LIMITS BASED ON METHOD DETECTION LIMIT STUDIES.

RPD = RELATIVE PERCENT DIFFERENCE (OR DEVIATION)

ATI/GC/FID
ATI GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH FLAME IONIZATION DETECTOR (FID).

ATI/GC/FIX
ATI GAS CHROMATOGRAPHIC METHOD FOR ANALYSIS OF FIXED GASES EMPLOYING DIRECT INJECTION ON COLUMN WITH THERMAL CONDUCTIVITY DETECTOR (TCD) AND FLAME IONIZATION DETECTOR (FID).

ATI/GC/FPD
ATI GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH FLAME PHOTOMETRIC DETECTOR (FPD) IN SULFUR-SPECIFIC MODE.

ATI/GC/PID
ATI GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH PHOTOIONIZATION DETECTOR (PID).

ATI/GC/TCD
ATI GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH THERMAL CONDUCTIVITY DETECTOR (TCD).

LJT = LISA THOMASON
SW = STEVE WILHITE
KW = KAREN WADSWORTH
PL = PAUL LESCHENSKY
RW = ROBERT WOLFE
BV = BEN VAUGHN
KS = KENDALL SMITH
KK = KERRY KUST
DWB = DAVID W. BOWERS
RP = ROB PEREZ

Analytical**Technologies** of New Mexico, Inc.
Albuquerque, New Mexico

Interlab Chain of Custody 60/355

DATE: 1-18-96 PAGE: 1 OF 1

NETWORK PROJECT MANAGER: KIMBERLY D. McNEILL

COMPANY: **Analytical Technologies of New Mexico, Inc.**
ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87107

CLIENT PROJECT MANAGER: Kim McNeill

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
60/359-01	1-17-96	12:25	AQ	1
↓ -02	↓	12:50	AQ	2

SAMPLE ID	Metals - TAL	Metals - PP List	Metals - RCRA	RCRA Metals by TCLP (1311)			TOX	TOC	Gen Chemistry	TDS		Oil and Grease	BOD	COD	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)	8240 (TCLP 1311) ZHE	8270 (TCLP 1311)			TO-14	Gross Alpha/Beta				NUMBER OF CONTAINERS
60/359-01								X		X			X	X															1
↓ -02								X		X			X	X															2

PROJECT INFORMATION		SAMPLE RECEIPT	
PROJECT NUMBER:	60/359	TOTAL NUMBER OF CONTAINERS	
PROJECT NAME:	Giant	CHAIN OF CUSTODY SEALS	
QC LEVEL:	(STD) IV	INTACT?	
QC REQUIRED:	(MS) MSD BLANK	RECEIVED GOOD COND./COLD	
TAT:	(STANDARD) RUSH!	LAB NUMBER	

DUE DATE: 2-1-96
RUSH SURCHARGE:
CLIENT DISCOUNT: 10%
SPECIAL CERTIFICATION REQUIRED: ☐YES ☐NO

IWO#: KM 1113
BOD 48 hr holdtime

SAMPLES SENT TO:	
SAN DIEGO	
FT. COLLINS	
RENTON	
PENSACOLA	X
PORTLAND	
PHOENIX	

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.
Signature: Dan Johnson Time: 15:14	Signature: Time:
Printed Name: Dan Johnson Date: 1-18-96	Printed Name: Date:
Company: Analytical Technologies of New Mexico, Inc. Albuquerque	Company:
RECEIVED BY: 1.	**RECEIVED BY: (LAB) 2.**
Signature: Rob Elsperman Time: 1013	Signature: Time:
Printed Name: R. ELSPERMAN Date: 1/19/96	Printed Name: Date:
Company: ATI - FL	Company:

AnalyticalTechnologies of New Mexico, Inc., Albuquerque, NM
San Diego • Phoenix • Seattle • Pensacola • Ft. Collins • Portland • Albuquerque • Anchorage

CHAIN OF CUSTODY

DATE: 1-17-96 PAGE: 1 OF 1

ATI LAB I.D. 601359

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER:

COMPANY: GIANT REFINING CO.
ADDRESS: ROUTE 3, BOX 7
GALLUP, NM 87301
PHONE: (505) 722-0227
FAX: (505) 722-0210

BILL TO: EDWARD L. HORST
COMPANY: same
ADDRESS: SAME

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct/Inject	BOD	(M8015) Gas/Purge & Trap	Gasoline/BTEX & MTBE (M8015/8020)	BTXE/MTBE (8020)	BTEX & Chlorinated Aromatics (602/8020)	BTEX/MTBE/EDC & EDB (8020/8010/Short)	Chlorinated Hydrocarbons (601/8010)	COD	504 EDB☐ / DBCP☐	Polynuclear Aromatics (610/8310)	Volatile Organics (624/8240) GC/MS	Volatile Organics (8260) GC/MS	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	TOC	General Chemistry:	TDS	PH	Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals:	NUMBER OF CONTAINERS
OCD 4Q[redacted]95-API	1-17-96	12:25	H_2O	-01			X							X								X		X	X						5
OCD 4Q[redacted]95-AL2	1-17-96	12:50	H_2O	-02			X							X								X		X	X						5

PROJECT INFORMATION

PROJ. NO.: 4QTR95
PROJ. NAME: OCD - WWM
P.O. NO.:
SHIPPED VIA: FED EX

SAMPLE RECEIPT

NO. CONTAINERS	10
CUSTODY SEALS	(Y)N/NA
RECEIVED INTACT	Y
BLUE ICE	

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

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

CERTIFICATION REQUIRED: ☐ NM ☐ OTHER

METHANOL PRESERVATION ☐

COMMENTS: NOT BOD HAS 48 hr. holding time limit

RELINQUISHED BY: 1.

Signature: [signature] Time: 1320 hr. (1:20 PM)
Printed Name: E.L. HORST Date: 1-17-96
Company: GIANT

RECEIVED BY: 1.

Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2.

Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: (LAB) 2.

Signature: Dan Johnson Time: 14:34
Printed Name: Dan Johnson Date: 1-18-96
Analytical Technologies of New Mexico

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

January 8, 1997

Mr. Steve Morris
Giant Refining, Inc.
Route 3, Box 7
Gallup, NM 87301

Dear Mr. Morris:

Enclosed are the analytical results for the water samples submitted to Inter-Mountain Laboratories - Farmington, New Mexico, on December 18, 1996. The samples were analyzed for BOD, COD, TDS, and TOC, as specified on the accompanying Chain of Custody document #43574.

Tests were performed in accordance with 40 CFR 136, "Guidelines Establishing Test Procedures for Analysis, " as amended.

Please call me if you have any questions or comments concerning the analyses.

Sincerely,

W. Manley

Wanda Manley
Water Lab Supervisor
IML - Farmington

Enclosure: Analytical Report

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Client:	**Giant Industries, Inc.**		
Project:	Giant Ciniza- OCD Waste Water 4th Quarter	Date Reported:	01/08/97
Sample ID:	EP1 - 121696	Date Sampled:	12/18/96
Laboratory ID:	0396W02732	Time Sampled:	1:00 PM
Sample Matrix:	Water	Date Received:	12/18/96
Condition:	Cool/Intact		

Parameter	Analytical Result	Units
Total Dissolved Solids @ 180°C	6,230	mg/L
Biochemical Oxygen Demand	529	mg/L
Chemical Oxygen Demand	1,650	mg/L
Total Organic Carbon	106	mg/L

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes",.1983.
"Standard Methods For The Examination Of Water And Waste Water", 18th ed., 1992.

Comments:

Reported by LM

Reviewed by CB

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Client: **Giant Industries, Inc.**
Project: Giant Ciniza- OCD Waste Water 4th Quarter
Sample ID: AL1 - 121696
Laboratory ID: 0396W02733
Sample Matrix: Water
Condition: Cool/Intact

Date Reported: 01/08/97
Date Sampled: 12/18/96
Time Sampled: 1:20 PM
Date Received: 12/18/96

Parameter	Analytical Result	Units
Total Dissolved Solids @ 180°C	4,990	mg/L
Biochemical Oxygen Demand	815	mg/L
Chemical Oxygen Demand	6,150	mg/L
Total Organic Carbon	254	mg/L

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 18th ed., 1992.

Comments:

Reported by LM

Reviewed by CB

imi
Inter- Mountain Laboratories, Inc.

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location	ANALYSES / PARAMETERS
GIANT – OCD – WASTEWATER – 4TH QTR	GIANT – CINIZA	
Sampler: (Signature)	Chain of Custody Tape No.	

Sample No./ Identification	Date	Time	Lab Number	Matrix	No. of Containers	TOC	TDS	BOD	COD	Remarks
EPI-121696	12/16/96	1300		H_2O	3	✓	✓	✓	✓	
ALI-121696	12/16/96	1320		H_2O	3	✓	✓	✓	✓	
										cool + intact

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	12/17/96	0900	Chris Rayner	12-18-96	1100
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by laboratory: (Signature)	Date	Time

Inter-Mountain Laboratories, Inc.

☐ 1633 Terra Avenue, Sheridan, Wyoming 82801, Telephone (307) 672-8945

☐ 1701 Phillips Circle, Gillette, Wyoming 82718, Telephone (307) 682-8945

☒ 2506 West Main Street, Farmington, NM 87401, Telephone (505) 326-

☐ 1160 Research Dr., Bozeman, Montana 59715, Telephone (406) 586-8450

☐ 11183 SH 30, College Station, TX 77845, Telephone (409) 776-8945

43574

Inter·Mountain
Laboratories, Inc.

2506 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

16 May 1996

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

Mr. Horst:

Enclosed please find the report for the samples received by our laboratory for analysis on April 18, 1996.

If you have any questions about the results of these analyses, please don't hesitate to call me at your convenience.

Sincerely,

Anna Schaerer

Anna Schaerer
Organic Analyst/IML-Farmington

Enclosure

xc: File

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

TRACE METAL CONCENTRATION

Client:	**Giant Refining Co.**		
Project:	OCD-Land Farm Soil Test	Date Reported:	05/16/96
Sample ID:	OCD-25-41696	Date Sampled:	04/16/96
Laboratory ID:	0396G00647	Date Received:	04/18/96
Sample Matrix:	Soil	Date Analyzed:	04/24-30/96

Parameter	Result	Detection Limit	Units
Arsenic.....	<2.5	2.5	mg/kg
Barium.....	50.5	0.5	mg/kg
Cadmium.....	ND	0.2	mg/kg
Chromium.....	25.0	0.5	mg/kg
Lead.....	3.5	2.5	mg/kg
Mercury.....	ND	0.2	mg/kg
Selenium.....	ND	2.5	mg/kg
Silver.....	ND	0.5	mg/kg

References:

"Test Methods for Evaluating Solid Waste: Physical/Chemical Methods", SW-846, United States Environmental Protection Agency, November, 1986.

Method 3030 : Acid Digestion of Oils, Greases, Or Waxes.

Reported By: _____ Reviewed: _____

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

TRACE METAL CONCENTRATION

Client:	**Giant Refining Co.**		
Project:	OCD-Land Farm Soil Test	Date Reported:	05/16/96
Sample ID:	OCD-70-41696	Date Sampled:	04/16/96
Laboratory ID:	0396G00648	Date Received:	04/18/96
Sample Matrix:	Soil	Date Analyzed:	04/24-30/96

Parameter	Result	Detection Limit	Units
Arsenic.....	2.5	2.5	mg/kg
Barium.....	34.4	0.5	mg/kg
Cadmium.....	ND	0.2	mg/kg
Chromium.....	24.0	0.5	mg/kg
Lead.....	8.45	2.5	mg/kg
Mercury.....	ND	0.2	mg/kg
Selenium.....	ND	2.5	mg/kg
Silver.....	ND	0.5	mg/kg

References:

"Test Methods for Evaluating Solid Waste: Physical/Chemical Methods", SW-846, United States Environmental Protection Agency, November, 1986.

Method 3030 : Acid Digestion of Oils, Greases, Or Waxes.

Reported By: _____ Reviewed: _____

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

TRACE METAL CONCENTRATION

Client:	**Giant Refining Co.**		
Project:	OCD-Land Farm Soil Test	Date Reported:	05/16/96
Sample ID:	OCD-77-41696	Date Sampled:	04/16/96
Laboratory ID:	0396G00649	Date Received:	04/18/96
Sample Matrix:	Soil	Date Analyzed:	04/24-30/96

Parameter	Result	Detection Limit	Units
Arsenic.....	<2.5	2.5	mg/kg
Barium.....	15.6	0.5	mg/kg
Cadmium.....	ND	0.2	mg/kg
Chromium.....	30.7	0.5	mg/kg
Lead.....	1.93	2.5	mg/kg
Mercury.....	ND	0.2	mg/kg
Selenium.....	ND	2.5	mg/kg
Silver.....	ND	0.5	mg/kg

References:

"Test Methods for Evaluating Solid Waste: Physical/Chemical Methods", SW-846, United States Environmental Protection Agency, November, 1986.

Method 3030 : Acid Digestion of Oils, Greases, Or Waxes.

Reported By: _____ Reviewed: _____

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

TRACE METAL CONCENTRATION

Client:	**Giant Refining Co.**		
Project:	OCD-Land Farm Soil Test	Date Reported:	05/16/96
Sample ID:	OCD-Center-41696	Date Sampled:	04/16/96
Laboratory ID:	0396G00650	Date Received:	04/18/96
Sample Matrix:	Soil	Date Analyzed:	04/24-30/96

Parameter	Result	Detection Limit	Units
Arsenic.....	<2.5	2.5	mg/kg
Barium.....	18.0	0.5	mg/kg
Cadmium.....	ND	0.2	mg/kg
Chromium.....	30.9	0.5	mg/kg
Lead.....	3.07	2.5	mg/kg
Mercury.....	ND	0.2	mg/kg
Selenium.....	ND	2.5	mg/kg
Silver.....	ND	0.5	mg/kg

References:

"Test Methods for Evaluating Solid Waste: Physical/Chemical Methods", SW-846, United States Environmental Protection Agency, November, 1986.

Method 3030 : Acid Digestion of Oils, Greases, Or Waxes.

Reported By: _____ Reviewed: _____

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

TRACE METAL CONCENTRATION

Client:	**Giant Refining Co.**		
Project:	OCD-Land Farm Soil Test	Date Reported:	05/16/96
Sample ID:	OCD-Composite-41696	Date Sampled:	04/16/96
Laboratory ID:	0396G00651	Date Received:	04/18/96
Sample Matrix:	Soil	Date Analyzed:	04/24-30/96

Parameter	Result	Detection Limit	Units
Arsenic.....	3.5	2.5	mg/kg
Barium.....	9.7	0.5	mg/kg
Cadmium.....	ND	0.2	mg/kg
Chromium.....	18.6	0.5	mg/kg
Lead.....	2.35	2.5	mg/kg
Mercury.....	0.71	0.2	mg/kg
Selenium.....	ND	2.5	mg/kg
Silver.....	ND	0.5	mg/kg

References:

"Test Methods for Evaluating Solid Waste: Physical/Chemical Methods", SW-846, United States Environmental Protection Agency, November, 1986.

Method 3030 : Acid Digestion of Oils, Greases, Or Waxes.

Reported By: _____ Reviewed: _____

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Quality Control / Quality Assurance

Spike Analysis / Blank Analysis

TRACE METALS

Client: **Giant Refining Co.**
Project: OCD-Landfarm Soil Test
Sample Matrix: Soil

Date Reported: 05/03/96
Date Analyzed: 04/24-30/96
Date Received: 04/18/96

Spike Analysis

Parameter	Spike Result (mg/L)	Sample Result (mg/L)	Spike Added (mg/L)	Percent Recovery
Arsenic	0.023	0.007	0.020	80%
Barium	0.48	0.03	0.50	90%
Cadmium	0.46	<0.004	0.50	92%
Chromium	0.47	<0.01	0.50	94%
Lead	0.47	<0.05	0.50	95%
Mercury	0.67	0.14	0.500	105%
Selenium	0.022	<0.005	0.020	110%
Silver	0.46	<0.01	0.50	92%

Method Blank Analysis

Parameter	Result	Detection Limit	Units
Arsenic	ND	0.25	mg/L
Barium	ND	0.5	mg/L
Cadmium	ND	0.2	mg/L
Chromium	ND	0.5	mg/L
Lead	ND	2.5	mg/L
Mercury	ND	0.2	mg/L
Selenium	ND	0.25	mg/L
Silver	ND	0.5	mg/L

References: "Test Methods for Evaluating Solid Waste: Physical/Chemical Methods", SW-846, United States Environmental Protection Agency, November, 1986.

Method 3030 : Acid Digestion of Oils, Greases, Or Waxes.

Reported by _____

Reviewed by _____

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Quality Control / Quality Assurance

Known Analysis
TRACE METALS

Client: **Giant Refining Co.**
Project: OCD-Landfarm Soil Test
Sample Matrix: Soil

Date Reported: 05/16/96
Date Analyzed: 04/24-30/96
Date Received: 04/18/96

Known Analysis

Parameter	Found Result (mg/Kg)	Known Result (mg/Kg)	Percent Recovery
Arsenic	0.009	0.010	90%
Barium	0.99	1.00	99%
Cadmium	1.04	1.00	104%
Chromium	1.05	1.00	105%
Lead	1.05	1.00	105%
Mercury	0.010	0.010	103%
Selenium	0.011	0.010	110%
Silver	0.98	1.00	98%

References:

Method 1311: Toxicity Characteristic Leaching Procedure, SW-846, Rev. 0, July 1992.

Method 3010A: Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, Rev. 1, July 1992.

Reported by _____

Reviewed by _____

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

VOLATILE AROMATIC HYDROCARBONS

Giant

Project ID:	Soil Test OCD-Landfarm	Report Date:	05/16/96
Sample ID:	OCD-25-41696	Date Sampled:	04/16/96
Lab ID:	0396G00647	Date Received:	04/18/96
Sample Matrix:	Soil	Date Extracted:	04/24/96
Condition:	Cool/Intact	Date Analyzed:	04/29/96

Target Analyte	Concentration (ppb)	Detection Limit (ppb)
Benzene	ND	9.8
Toluene	ND	9.8
Ethylbenzene	ND	9.8
m,p-Xylenes	ND	9.8
o-Xylene	ND	9.8

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Bromofluorobenzene	109.3	75 -125%

Reference: Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics; Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments:

Analyst

Review

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

VOLATILE AROMATIC HYDROCARBONS

Giant

Project ID:	Soil Test OCD-Landfarm	Report Date:	05/16/96
Sample ID:	OCD-70-41696	Date Sampled:	04/16/96
Lab ID:	0396G00648	Date Received:	04/18/96
Sample Matrix:	Soil	Date Extracted:	04/24/96
Condition:	Cool/Intact	Date Analyzed:	04/29/96

Target Analyte	Concentration (ppb)	Detection Limit (ppb)
Benzene	ND	9.9
Toluene	ND	9.9
Ethylbenzene	ND	9.9
m,p-Xylenes	ND	9.9
o-Xylene	ND	9.9

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Bromofluorobenzene	109.2	75 -125%

Reference: Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics; Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments:

Analyst

Review

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

VOLATILE AROMATIC HYDROCARBONS

Giant

Project ID:	Soil Test OCD-Landfarm	Report Date:	05/16/96
Sample ID:	OCD-77-41696	Date Sampled:	04/16/96
Lab ID:	0396G00649	Date Received:	04/18/96
Sample Matrix:	Soil	Date Extracted:	04/24/96
Condition:	Cool/Intact	Date Analyzed:	04/29/96

Target Analyte	Concentration (ppb)	Detection Limit (ppb)
Benzene	ND	9.8
Toluene	ND	9.8
Ethylbenzene	ND	9.8
m,p-Xylenes	ND	9.8
o-Xylene	ND	9.8

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Bromofluorobenzene	108.7	75 -125%

Reference: Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics; Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments:

Analyst

Review

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

VOLATILE AROMATIC HYDROCARBONS

Giant

Project ID:	Soil Test OCD-Landfarm	Report Date:	05/16/96
Sample ID:	OCD-Center-41696	Date Sampled:	04/16/96
Lab ID:	0396G00650	Date Received:	04/18/96
Sample Matrix:	Soil	Date Extracted:	04/24/96
Condition:	Cool/Intact	Date Analyzed:	04/29/96

Target Analyte	Concentration (ppb)	Detection Limit (ppb)
Benzene	ND	10.0
Toluene	ND	10.0
Ethylbenzene	ND	10.0
m,p-Xylenes	ND	10.0
o-Xylene	ND	10.0

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Bromofluorobenzene	107.7	75 -125%

Reference: Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics; Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments:

Analyst

Review

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

VOLATILE AROMATIC HYDROCARBONS

Giant

Project ID:	Soil Test OCD-Landfarm	Report Date:	05/16/96
Sample ID:	OCD-Composite-41696	Date Sampled:	04/16/96
Lab ID:	0396G00651	Date Received:	04/18/96
Sample Matrix:	Soil	Date Extracted:	04/24/96
Condition:	Cool/Intact	Date Analyzed:	04/30/96

Target Analyte	Concentration (ppb)	Detection Limit (ppb)
Benzene	374	198.2
Toluene	670	198.2
Ethylbenzene	ND	198.2
m,p-Xylenes	2,880	198.2
o-Xylene	1,720	198.2

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Bromofluorobenzene	98.9	75 -125%

Reference: Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics; Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments:

Analyst

Review

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

VOLATILE AROMATIC HYDROCARBONS
QUALITY CONTROL REPORT

Duplicate Analysis

Lab ID: 0396G00650
Sample Matrix: Soil
Condition: Cool/Intact

Report Date: 05/16/96
Date Analyzed: 04/29/96

Target Analyte	Duplicate Concentration (ppb)	Original Concentration (ppb)	% Difference
Benzene	ND	ND	NA
Toluene	ND	ND	NA
Ethylbenzene	ND	ND	NA
m,p-Xylenes	ND	ND	NA
o-Xylene	ND	ND	NA

ND - Analyte not detected at the stated detection limit.
NA - Not applicable or not calculated.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Bromofluorobenzene	107%	75 -121%

Reference: Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics; Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments:

Analyst

Review

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

VOLATILE AROMATIC HYDROCARBONS
QUALITY CONTROL REPORT

Matrix Spike Analysis

Lab ID: 0396G00650
Sample Matrix: Soil
Condition: Cool/Intact

Report Date: 05/16/96
Date Analyzed: 04/29/96

Target Analyte	Spiked Sample Result in ng	Sample result in ng	Spike Added (ng)	% Recovery	Acceptance Limits (%)
Benzene	36.7	ND	45	81.6%	70-130
Toluene	42.1	0.41	45	92.6%	70-130
Ethylbenzene	41.7	ND	45	92.7%	70-130
m,p-Xylenes	83.2	0.27	90	92.1%	70-130
o-Xylene	42.9	0.16	45	95.0%	70-130

ND - Analyte not detected at the stated detection limit.
NA - Not applicable or not calculated.

Quality Control:	Surrogate	Percent Recovery	Acceptance Limits
	Bromofluorobenzene	108.2%	75 -125%

Reference: Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics; Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments:

Analyst

Review

Inter·Mountain Laboratories Inc.

2506 W. Main Street
Farmington, New Mexico 87401

VOLATILE AROMATIC HYDROCARBONS
QUALITY CONTROL REPORT

Method Blank Analysis

Sample Matrix: Extract
Lab ID: Method Blank

Report Date: 05/16/96
Date Analyzed: 04/29/96

Target Analyte	Concentration (ppb)	Detection Limit (ppb)
Benzene	ND	10.0
Toluene	ND	10.0
Ethylbenzene	ND	10.0
m,p-Xylenes	ND	10.0
o-Xylene	ND	10.0

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Bromofluorobenzene	107.0	75-125%

Reference: Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics; Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments:

Analyst

Review

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Quality Control / Quality Assurance

Known Analysis
BTEX

Client: **Giant Refining Co.**
Project: Soil Test OCD-Landfarm

Date Reported: 05/01/96
Date Analyzed: 04/30/96

Known Analysis

Parameter	Found Concentration (ppb)	Known Concentration (ppb)	Percent Recovery	Acceptance Limits
Benzene	10.0	9.0	**111%**	70-130%
Toluene	10.4	9.0	**116%**	70-130%
Ethylbenzene	10.1	9.0	**112%**	70-130%
m+p-Xylene	20.1	18.0	**112%**	70-130%
o-Xylene	10.4	9.0	**115%**	70-130%

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Bromofluorobenzene	101.1	75-125%

Reference: Method 5030, Purge and Trap: Method 8020, Aromatic Volatile Organics; Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments:

Reported by _____

Reviewed by _____

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

TOTAL PETROLEUM HYDROCARBONS
EPA METHOD 418.1

Giant Refining Co.

Project: Soil Test OCD-Landfarm
Matrix: Soil
Condition: Intact/Cool

Date Reported: 05/16/96
Date Sampled: 04/16/96
Date Received: 04/18/96
Date Extracted: 04/30/96
Date Analyzed: 05/01/96

Sample ID	Lab ID	Result (mg/kg)	Detection Limit (mg/kg)
OCD-25-41696	0396G00647	ND	20
OCD-70-41696	0396G00648	ND	20
OCD-77-41696	0396G00649	54.2	20
OCD-Center-41696	0396G00650	ND	20
OCD-Composite-41696	0396G00651	19,100	1,000

ND - Analyte not detected at stated detection level.

References: **Method 418.1:** Petroleum Hydrocarbons, Total Recoverable, USEPA Chemical Analysis of Water and Waste, 1978.

Method 3550: Ultrasonic Extraction of Non-Volatile and Semi-Volatile Organic Compounds from Solids, USEPA SW-846, Rev. 1, July 1992.

Analyst: _____ Reviewed: _____

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

TOTAL PETROLEUM HYDROCARBONS
Quality Assurance/Quality Control

Giant Refining Co.

Project:	Soil Test OCD-Landfarm	Date Reported:	05/16/96
Matrix:	Soil	Date Sampled:	04/16/96
Condition:	Intact/Cool	Date Received:	04/18/96
		Date Extracted:	04/30/96
		Date Analyzed:	05/01/96

Duplicate Analysis

Lab ID	Sample Result	Duplicate Result	Units	% Difference
0396G00648	ND	ND	ppm	NA

Method Blank Analysis

Lab ID	Result	Units	Detection Limit
Method Blank	ND	ppm	20

Spike Analysis

Lab ID	Found Conc. (ppm)	Known Conc. (ppm)	Percent Recover	Acceptance Limits
Blank Spike	225	250	90%	70-130%

Known Analysis

Lab ID	Found Conc. (ppm)	Known Conc. (ppm)	Percent Recover	Acceptance Limits
QC	8.4	7.0	117%	70-130%

References: **Method 418.1:** Petroleum Hydrocarbons, Total Recoverable, USEPA Chemical Analysis of Water and Waste, 1978.

Method 3550: Ultrasonic Extraction of Non-Volatile and Semi-Volatile Organic Compounds from Solids, USEPA SW-846, Rev. 1, July 1992.

Analyst: _____ Reviewed: _____

Inter·Mountain Laboratories, Inc.

2506 West Main Street Farmington, New Mexico 87401 Tel. (505) 326-4737

GIANT
OCD-LAND FARM

DATE MAY 8, 1996

Lab No.	LOCATION	pH	EC mhos/cm @ 25°C	Calcium meq/l	Magnesium meq/l	Sodium meq/l	Potassium meq/l	Ammonia ppm	Nitrate-Nitrogen ppm	Nitrite-Nitrogen ppm	Total Kjeldahl Nitrogen ppm
47064	OCD-25-41696	7.8	4.17	9.06	3.16	31.1	4.75	1.36	1.50	0.16	273
47065	OCD-70-41696	7.9	2.13	3.93	1.31	15.7	4.21	1.16	1.98	0.09	291
47066	OCD-77-41696	7.8	4.79	19.3	6.43	31.7	4.25	1.20	<.05	0.12	273
47067	OCD-CENTER-416	7.2	17.1	83.8	29.0	61.0	3.34	1.38	1.76	0.09	236

Inter·Mountain Laboratories, Inc.

2506 West Main Street Farmington, New Mexico 87401 Tel. (505) 326-4737

GIANT
OCD-LAND FARM

DATE MAY 8, 1996

Lab No.	LOCATION	HCO3 meq/l	CO3 meq/l	Fluoride PE ppm	Chloride PE meq/l	SO4 PE meq/l	Bromide PE ppm
47064	OCD-25-41696	2.20	<.01	0.89	14.8	27.8	1.80
47065	OCD-70-41696	2.80	<.01	0.96	7.96	9.43	0.50
47066	OCD-77-41696	2.00	<.01	0.79	9.57	45.1	<.10
47067	OCD-CENTER-4169	0.80	<.01	0.62	170	3.60	<.10

Inter-Mountain Laboratories, Inc.

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location	ANALYSES / PARAMETERS
GIANT	Soil Test OCD-LAND FARM	
Sampler: (Signature) HORST	Chain of Custody Tape No.	

Sample No./ Identification	Date	Time	Lab Number	Matrix	No. of Containers	TPH, BTEX, RCRA Metals	General Chemistry			Remarks
OCD-25-41696	4-16-96	See Lab's Chain of Custody		Soil	2	X	X			
OCD-70-41696				Soil	2	X	X			
OCD-77-41696				Soil	2	X	X			
OCD-Center-41696				Soil	2	X	X			
OCD-Composit-41696				Soil	1	X	X			
										Cool+intact

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Edward Horst	4-17-96	9:51	Chris Rayner	4/18/96	1030
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by laboratory: (Signature)	Date	Time

Inter-Mountain Laboratories, Inc.

☐ 1633 Terra Avenue, Sheridan, Wyoming 82801, Telephone (307) 672-8945
☐ 1701 Phillips Circle, Gillette, Wyoming 82718, Telephone (307) 682-8945
☒ 2506 West Main Street, Farmington, NM 87401, Telephone (505) 326-4737
☐ 1160 Research Dr., Bozeman, Montana 59715, Telephone (406) 586-8450
☐ 11183 SH 30, College Station, TX 77845, Telephone (409) 776-8945
☐ 3304 Longmire Drive, College Station, TX 77845, Telephone (409) 774-4999

34491

Inter-Mountain Laboratories, I

2506 W. Main Street
Farmington, New Mexico 87401

TOTAL PETROLEUM HYDROCARBONS
EPA METHOD 418.1

Client: **Giant Refining**
Project: RCRA/OCD LTA's
Matrix: Soil
Condition: Intact/Cool

Date Reported: 09/26/96
Date Sampled: 09/03/96
Date Received: 09/05/96
Date Extracted: 09/12/96
Date Analyzed: 09/12/96

Sample ID	Lab ID	Result mg/kg	Detection Limit mg/kg
OCD-1-9396	0396G01773	377	19.7

ND - Analyte not detected at stated detection level.

References: **Method 418.1:** Petroleum Hydrocarbons, Total Recoverable, USEPA Chemical Analysis of Water and Waste, 1978.

Method 3550: Ultrasonic Extraction of Non-Volatile and Semi-Volatile Organic Compounds from Solids, USEPA SW-846, Rev. 1, July 1992.

Analyst: _____ Reviewed: _____

Inter-Mountain Laboratories, Inc

2506 W. Main Street
Farmington, New Mexico 87401

VOLATILE AROMATIC HYDROCARBONS

Giant Refining Co.

Project ID:	RCRA/ OCD LTA's	Report Date:	09/26/96
Sample ID:	OCD-1-9396	Date Sampled:	09/03/96
Lab ID:	0396G01773	Date Received:	09/05/96
Sample Matrix:	soil	Date Extracted:	NA
Condition:	Cool/Intact	Date Analyzed:	09/13/96

Target Analyte	Concentration (ppb)	Detection Limit (ppb)
Benzene	ND	10.0
Toluene	12.8	10.0
Ethylbenzene	ND	10.0
m,p-Xylenes	10.1	10.0
o-Xylene	ND	10.0

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Bromofluorobenzene	71%	70- 130%

Reference: Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics; Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments:

Inter-Mountain Laboratories, I

2506 W. Main Street
Farmington, New Mexico 87401

Quality Control / Quality Assurance

Known Analysis

BTEX

Client: **Giant Refining**
Project: Ciniza Refinery

Date Reported: 09/17/96
Date Analyzed: 09/13/96

Known Analysis

Parameter	Found Concentration (ppb)	Known Concentration (ppb)	Percent Recovery	Acceptance Limits
Benzene	8.4	9.0	**94%**	70-130%
Toluene	7.9	9.0	**88%**	70-130%
Ethylbenzene	8.9	9.0	**99%**	70-130%
m+p-Xylene	18.2	18.0	**101%**	70-130%
o-Xylene	8.9	9.0	**99%**	70-130%

Quality Control:	Surrogate	Percent Recovery	Acceptance Limits
	Bromofluorobenzene	102.0	75-125%

Reference: Method 5030, Purge and Trap: Method 8020, Aromatic Volatile Organics; Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments:

Analyst _____

Reviewed by _____

Inter-Mountain Laboratories,

2506 W. Main Street
Farmington, New Mexico 87401

TOTAL PETROLEUM HYDROCARBONS
Quality Assurance/Quality Control

Client:	**Giant Refining**	Date Reported:	09/26/96
Project:	RCRA/OCD LTA's	Date Sampled:	09/03/96
Matrix:	Soil	Date Received:	09/05/96
Condition:	Intact/Cool	Date Extracted:	09/12/96
		Date Analyzed:	09/12/96

Duplicate Analysis

Lab ID	Sample Result	Duplicate Result	Units	% Difference
0396W01748	1,741	1,800	mg/Kg	3.4%

Method Blank Analysis

Lab ID	Result	Units	Detection Limit
Method Blank	ND	mg/Kg	20

Spike Analysis

Lab ID	Found Conc. mg/Kg	Sample Conc. mg/Kg	Spike Amount mg/Kg	Percent Recovery	Acceptance Limits
0396W01773	1,595	377	1,050	116%	70-130%

Known Analysis

Lab ID	Found Conc. mg/Kg	Known Conc. mg/Kg	Percent Recovery	Acceptance Limits
QC	52.9	50.3	105%	70-130%

References:

Method 418.1: Petroleum Hydrocarbons, Total Recoverable, USEPA Chemical Analysis of Water and Waste, 1978.

Method 3550: Ultrasonic Extraction of Non-Volatile and Semi-Volatile Organic Compounds from Solids, USEPA SW-846, Rev. 1, July 1992.

Analyst: _____ Reviewed: _____

Inter·Mountain Laboratories, Inc

2506 W. Main Street
Farmington, New Mexico 87401

VOLATILE AROMATIC HYDROCARBONS
QUALITY CONTROL REPORT

Duplicate Analysis

Lab ID: 0396G01773
Sample Matrix: soil
Condition: Cool/Intact

Report Date: 09/26/96
Date Analyzed: 09/13/96

Target Analyte	Duplicate Concentration (ppb)	Original Concentration (ppb)	% Difference
Benzene	ND	ND	NA
Toluene	12.8	12.8	0.0
Ethylbenzene	ND	ND	NA
m,p-Xylenes	16.3	10.1	*40.0
o-Xylene	ND	ND	NA

ND - Analyte not detected at the stated detection limit.
NA - Not applicable or not calculated.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Bromofluorobenzene	75%	70%- 130%

Reference: Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics; Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments: * Difference is within laboratory tolerances.

Inter·Mountain Laboratories, Inc.

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Farmington, New Mexico 87401

VOLATILE AROMATIC HYDROCARBONS
QUALITY CONTROL REPORT

Method Blank Analysis

Sample Matrix: Extract
Lab ID: Method Blank

Report Date: 09/26/96
Date Analyzed: 09/12/96

Target Analyte	Concentration (ppb)	Detection Limit (ppb)
Benzene	ND	10.0
Toluene	ND	10.0
Ethylbenzene	ND	10.0
m,p-Xylenes	ND	10.0
o-Xylene	ND	10.0

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Bromofluorobenzene	87%	70-130%

Reference: Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics; Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments:

Inter- Mountain Laboratories, Inc.

CHAIN OF CUSTODY RECORD

FILE COPY

Client/Project Name	Project Location	ANALYSES / PARAMETERS
Giant Refining Co.	RCRA/OCD LTAA	
Sampler: (Signature) SC Mound	Chain of Custody Tape No.	Remarks

Sample No./ Identification	Date	Time	Lab Number	Matrix	No. of Containers	BTEX	TPH	O+G		
29T-1-82-9396	9/3/96	1320		Soil	1			✓		
20T-2-165-9396	9/3/96	1400		"	1			✓		
20T-2-33-9396	9/3/96	1345		"	1			✓		
20T-3-88-9396	9/3/96	1440		"	1			✓		
OCD-1-9396	9/5/96	1500	0396601773	"	1	✓	✓			6" below orig. surface
								\		cool + intact

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
SC Mound	9/4/96	0900	Chris Raynes	9-5-96	1120
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by laboratory: (Signature)	Date	Time

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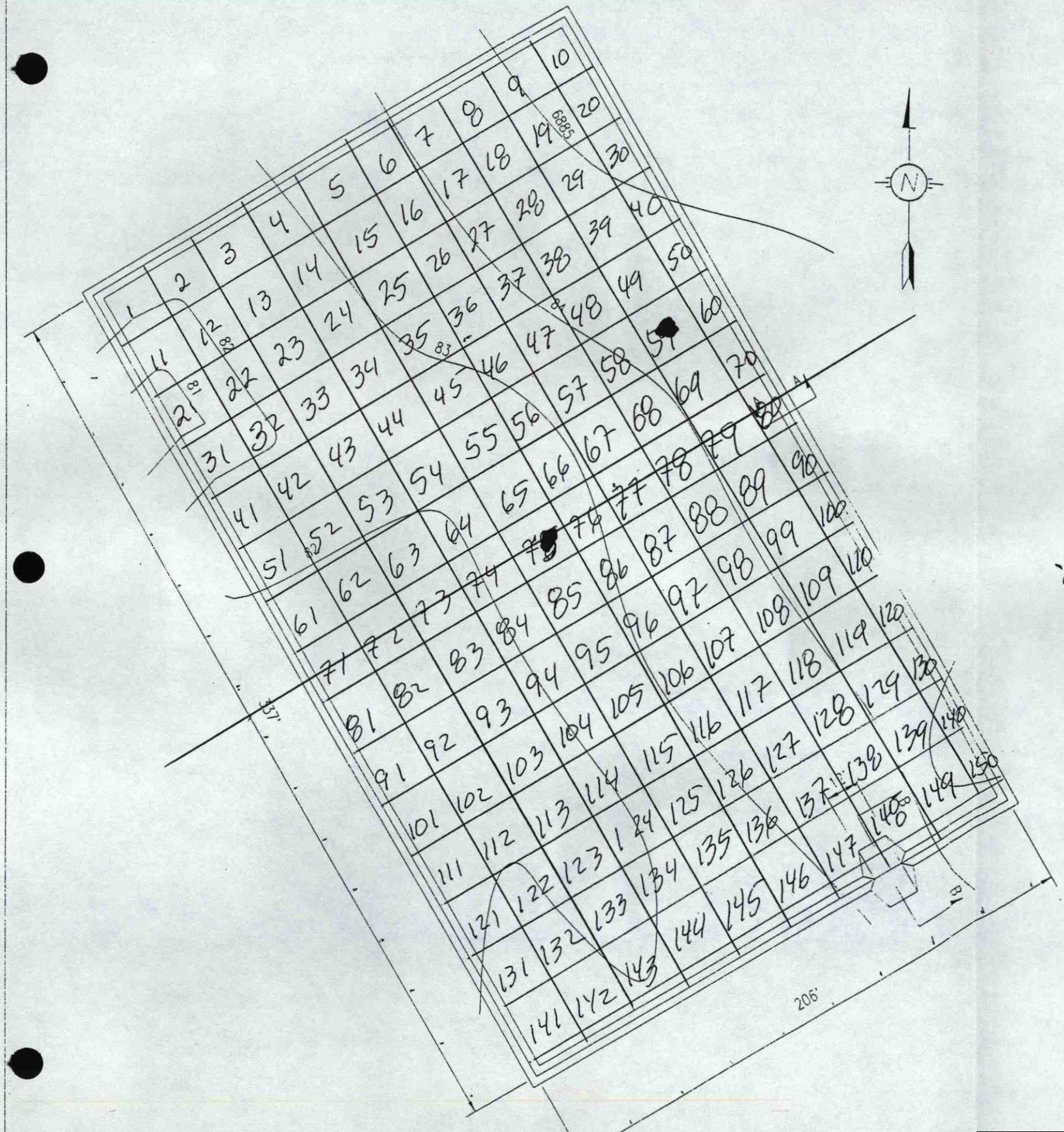
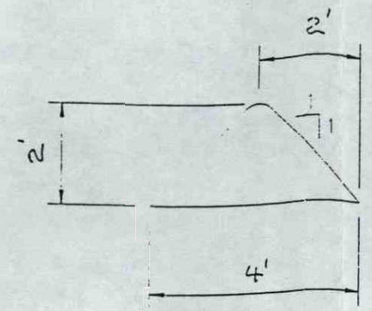
☐ 11183 SH 30, College Station, TX 77845, Telephone (409) 776-8945
☐ 3304 Longmire Drive, College Station, TX 77845, Telephone (409) 774-4999

37866



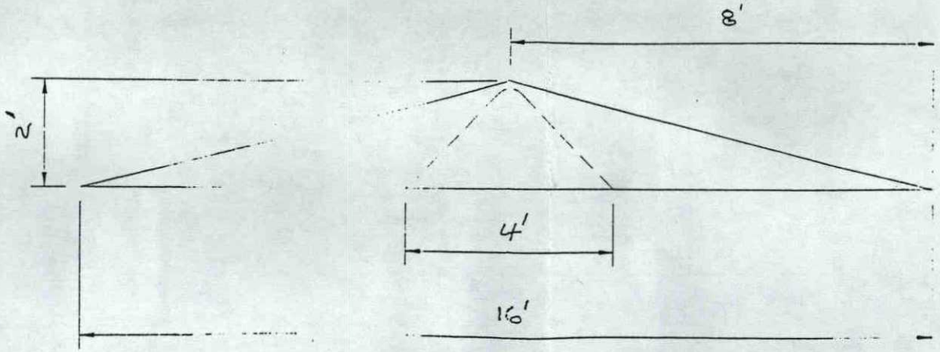


SECTION A–A

9.3 = 206
15.3 = .337 (Length)

1" = 1" = 22.15 feet
L = 1" = 22.03 feet

1" ≈ 22ft



SECTION B–B

GIANT

CINIZA REFINERY — REFINING CO. A DIVISION OF GIANT INDUSTRIES — GALLUP NEW MEXICO

LAND TREATMENT AREA

CONTAINMENT LINE

SCALE: NONE | APPVD | REV

Giant Refining-Ciniza

OW-1 Volatile Organics Method 8240

Parameter	28 APR 93 Result	4 JUN 93 Result	14 JUL 93 Result	29 OCT 93 Result	27 APR 94 Result	6 JUL 94 Result	11 AUG 94 Result	15 MAY 95 Result	25-Mar-96 Result	Units
Benzene	ND	0.9	ND	ND	ND	ND	ND	ND	ND	ug/L
Toluene	2.3	1.9	1.4	ND	0.9	ND	ND	ND	ND	ug/L
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ug/L
Xylenes (total)	ND	1.6	0.6	ND	2.7	ND	ND	ND	ND	ug/L

OW-1 Dissolved Metals

Parameter	23 APR 92 Result	28 APR 93 Result	27 APR 94 Result	15 MAY 95 Result	26-Mar-96 Result	Units
Calcium	2.6	3.6	1.1	2.0	2.6	mg/L
Magnesium	1.5	4.5	0.2	0.2	0.2	mg/L
Potassium	1.2	2.1	ND	ND	0.8	mg/L
Sodium	83	326	306	287	299	mg/L

OW-1 General Inorganics

Parameter	23 APR 92 Result	28 APR 93 Result	27 APR 94 Result	15 MAY 95 Result	26-Mar-96 Result	Units
Alkalinity, Bicarb. as CaCO3 at pH 4.5	410	387	388	410	467	mg/L
Alkalinity, Carb. as CaCO3 at pH 8.3	60	22	37	19	14	mg/L
Chloride	58	41	55	46	49	mg/L

pH	8.8	8.7	8.82	8.70	8.60	units
pH	---	---	---	---	---	units
pH	---	---	---	---	---	units
pH	---	---	---	---	---	units
Sulfate	210	210	210	10	216	mg/L
Specific Conductance at 25 deg.C	1300	1260	1270	1300	1380	umhos/cm
Specific Conductance at 25 deg.C	---	---	---	---	---	umhos/cm
Specific Conductance at 25 deg.C	---	---	---	---	---	umhos/cm
Specific Conductance at 25 deg.C	---	---	---	---	---	umhos/cm
Total Organic Carbon	---	---	---	---	---	mg/L
Total Organic Carbon	---	---	---	---	---	mg/L
Total Organic Carbon	---	---	---	---	---	mg/L
Total Organic Carbon	---	---	---	---	---	mg/L
Total Organic Halogen as Cl	---	---	---	---	---	ug/L
Total Organic Halogen as Cl	---	---	---	---	---	ug/L
Total Organic Halogen as Cl	---	---	---	---	---	ug/L
Total Organic Halogen as Cl	---	---	---	---	---	ug/L
Total Dissolved Solids	2800	870	840	830	832	mg/L

Giant Refining-Ciniza

OW-2 Volatile Organics Method 8240

Parameter	23 APR 92 Result	28 APR 93 Result	27 APR 94 Result	7 JUL 94 Result	11 AUG 94 Result	15 MAY 95 Result	18-Mar-96 Result	Units
Benzene	ND	ND	ND	ND	ND	ND	ND	ug/L
Toluene	ND	ND	ND	ND	ND	ND	ND	ug/L
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ug/L
Xylenes (total)	ND	ND	1.1	2.2	ND	ND	ND	ug/L

OW-2 Dissolved Metals

Parameter	23 APR 92 Result	28 APR 93 Result	27 APR 94 Result	15 MAY 95 Result	18-Mar-96 Result	Units
Calcium	6.8	8.7	7.6	8.9	9.02	mg/L
Magnesium	2.5	3.7	3.1	3.6	3.16	mg/L
Potassium	ND	ND	ND	ND	0.39	mg/L
Sodium	88	336	318	297	320	mg/L

OW-2 General Inorganics

Parameter	23 APR 92 Result	28 APR 93 Result	27 APR 94 Result	15 MAY 95 Result	18-Mar-96 Result	Units
Alkalinity, Bicarb. as CaCO3 at pH 4.5	670	662	668	660	810	mg/L
Alkalinity, Carb. as CaCO3 at pH 8.3	ND	ND	ND	5		mg/L
Chloride	72	42	46	41	42.4	mg/L

pH	8.0	8.1	8.04	7.09	7.9	units
pH	---	---	---	---	---	units
pH	---	---	---	---	---	units
pH	---	---	---	---	---	units
Sulfate	15	19	20	19	12.3	mg/L
Specific Conductance at 25 deg.C	1300	1220	1260	1300	1340	umhos/cm
Specific Conductance at 25 deg.C	---	---	---	---	---	umhos/cm
Specific Conductance at 25 deg.C	---	---	---	---	---	umhos/cm
Specific Conductance at 25 deg.C	---	---	---	---	---	umhos/cm
Total Organic Carbon	---	---	---	---	---	mg/L
Total Organic Carbon	---	---	---	---	---	mg/L
Total Organic Carbon	---	---	---	---	---	mg/L
Total Organic Carbon	---	---	---	---	---	mg/L
Total Organic Halogen as Cl	---	---	---	---	---	ug/L
Total Organic Halogen as Cl	---	---	---	---	---	ug/L
Total Organic Halogen as Cl	---	---	---	---	---	ug/L
Total Organic Halogen as Cl	---	---	---	---	---	ug/L
Total Dissolved Solids	1800	1100	890	840	840	mg/L

Giant Refining-Ciniza

OW-3 Volatile Organics Method 8240

Parameter	23 APR 92 Result	28 APR 93 Result	27 APR 94 Result	15 MAY 95 Result	18-Mar-96 Result	Units
Benzene	ND	ND	ND	ND	ND	ug/L
Toluene	ND	ND	ND	ND	ND	ug/L
Ethylbenzene	ND	ND	ND	ND	ND	ug/L
Xylenes (total)	ND	ND	ND	ND	ND	ug/L

OW-3 Dissolved Metals

Parameter	23 APR 92 Result	28 APR 93 Result	27 APR 95 Result	15 MAY 95 Result	18-Mar-96 Result	Units
Calcium	9.5	9.5	8.1	8.1	9.42	mg/L
Magnesium	3.0	3.6	3.1	2.7	3.04	mg/L
Potassium	ND	ND	ND	ND	0.78	mg/L
Sodium	82	340	313	276	317	mg/L

OW-3 General Chemistry

Parameter	23 APR 92 Result	28 APR 93 Result	27 APR 94 Result	15 MAY 95 Result	18-Mar-96 Result	Units
Alkalinity, Bicarb. as CaCO3 at pH 4.5	580	660	662	670	811	mg/L
Alkalinity, Carb. as CaCO3 at pH 8.3	ND	ND	ND	6		mg/L
Chloride	39	41	42	39	42.2	mg/L

pH	7.9	8.2	7.88	8.00	8	units
pH	---	---	---	---	---	units
pH	---	---	---	---	---	units
pH	---	---	---	---	---	units
Sulfate	34	16	18	29	26.3	mg/L
Specific Conductance at 25 deg.C	1200	1260	1240	1300	1340	umhos/cm
Specific Conductance at 25 deg.C	---	---	---	---	---	umhos/cm
Specific Conductance at 25 deg.C	---	---	---	---	---	umhos/cm
Specific Conductance at 25 deg.C	---	---	---	---	---	umhos/cm
Total Organic Carbon	---	---	---	---	---	mg/L
Total Organic Carbon	---	---	---	---	---	mg/L
Total Organic Carbon	---	---	---	---	---	mg/L
Total Organic Carbon	---	---	---	---	---	mg/L
Total Organic Halogen as Cl	---	---	---	---	---	ug/L
Total Organic Halogen as Cl	---	---	---	---	---	ug/L
Total Organic Halogen as Cl	---	---	---	---	---	ug/L
Total Organic Halogen as Cl	---	---	---	---	---	ug/L
Total Dissolved Solids	1100	840	800	980	798	mg/L

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Client:	**Giant Refinery**		
Project:	Not given	Date Reported:	04/17/96
Sample ID:	OW1-032596	Date Sampled:	03/25/96
Laboratory ID:	0396W00503	Time Sampled:	13:00
Sample Matrix:	Water	Date Received:	04/01/96
Condition:	Cool/Intact		

Parameter	Analytical Result	Units		Units
Lab pH	8.6	s.u.		
Lab Conductivity @ 25° C	1,380	umhos/cm		
Total Dissolved Solids @ 180°C	832	mg/L		
Total Dissolved Solids (Calc)	813	mg/L		
Total Alkalinity as CaCO3	407	mg/L		
Total Hardness as CaCO3	8	mg/L		
Bicarbonate as HCO3	467	mg/L	7.66	meq/L
Carbonate as CO3	14	mg/L	0.48	meq/L
Hydroxide	<1	mg/L	<0.01	meq/L
Chloride	49	mg/L	1.38	meq/L
Sulfate	216	mg/L	4.51	meq/L
Calcium	2.6	mg/L	0.13	meq/L
Magnesium	0.2	mg/L	0.02	meq/L
Potassium	0.8	mg/L	0.02	meq/L
Sodium	299	mg/L	13.02	meq/L
Cations			13.19	meq/L
Anions			14.03	meq/L
Cation/Anion Difference			3.09	%

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 19th ed., 1995.

Reported by WM

Reviewed by CH

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

VOLATILE AROMATIC HYDROCARBONS

Giant Refining Co.

Project ID:	Not Given	Report Date:	04/11/96
Sample ID:	OW1-032596	Date Sampled:	03/25/96
Lab ID:	0396W00503	Date Received:	04/01/96
Sample Matrix:	Water	Date Extracted:	NA
Condition:	Cool/Intact	Date Analyzed:	04/04/96

Target Analyte	Concentration (ppb)	Detection Limit (ppb)
Benzene	ND	0.2
Toluene	ND	0.2
Ethylbenzene	ND	0.2
m,p-Xylenes	ND	0.2
o-Xylene	ND	0.2

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Bromofluorobenzene	103.0	75 -125%

Reference: Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics; Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments:

Analyst

Review

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Client:	**Giant Refinery**		
Project:	NMED-LTA	Date Reported:	04/10/96
Sample ID:	OW2-031896	Date Sampled:	03/18/96
Laboratory ID:	0396W00421	Time Sampled:	15:00
Sample Matrix:	Water	Date Received:	03/20/96
Condition:	Cool/Intact		

Parameter	Analytical Result	Units		Units
Lab pH	7.9	s.u.		
Lab Conductivity @ 25° C	1,340	umhos/cm		
Total Dissolved Solids @ 180°C	840	mg/L		
Total Dissolved Solids (Calc)	786	mg/L		
Total Alkalinity as CaCO3	664	mg/L		
Total Hardness as CaCO3	35.5	mg/L		
Bicarbonate as HCO3	810	mg/L	13.3	meq/L
Carbonate as CO3	<1	mg/L	<0.01	meq/L
Hydroxide	<1	mg/L	<0.01	meq/L
Chloride	42.4	mg/L	1.20	meq/L
Sulfate	12.3	mg/L	0.26	meq/L
Calcium	9.02	mg/L	0.45	meq/L
Magnesium	3.16	mg/L	0.26	meq/L
Potassium	0.39	mg/L	0.01	meq/L
Sodium	320	mg/L	13.9	meq/L
Cations			14.6	meq/L
Anions			14.7	meq/L
Cation/Anion Difference			0.32	%

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 19th ed., 1995.

Reported by JB

Reviewed by WM

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

VOLATILE AROMATIC HYDROCARBONS

Giant Refining Co.

Project ID:	NMED-LTA	Report Date:	04/02/96
Sample ID:	OW2 031896	Date Sampled:	03/18/96
Lab ID:	0396W00421	Date Received:	03/20/96
Sample Matrix:	Water	Date Extracted:	NA
Condition:	Cool/Intact	Date Analyzed:	03/27/96

Target Analyte	Concentration (ppb)	Detection Limit (ppb)
Benzene	ND	0.2
Toluene	ND	0.2
Ethylbenzene	ND	0.2
m,p-Xylenes	ND	0.2
o-Xylene	ND	0.2

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Bromofluorobenzene	120.8	75 -125%

Reference: Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics; Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments:

Analyst

Review

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Client:	**Giant Refinery**		
Project:	NMED-LTA	Date Reported:	04/10/96
Sample ID:	OW3-031896	Date Sampled:	03/18/96
Laboratory ID:	0396W00422	Time Sampled:	13:15
Sample Matrix:	Water	Date Received:	03/20/96
Condition:	Cool/Intact		

Parameter	Analytical Result	Units		Units
Lab pH	8.0	s.u.		
Lab Conductivity @ 25° C	1,340	umhos/cm		
Total Dissolved Solids @ 180°C	844	mg/L		
Total Dissolved Solids (Calc)	798	mg/L		
Total Alkalinity as CaCO3	665	mg/L		
Total Hardness as CaCO3	36.0	mg/L		
Bicarbonate as HCO3	811	mg/L	13.3	meq/L
Carbonate as CO3	<1	mg/L	<0.01	meq/L
Hydroxide	<1	mg/L	<0.01	meq/L
Chloride	42.2	mg/L	1.19	meq/L
Sulfate	26.3	mg/L	0.55	meq/L
Calcium	9.42	mg/L	0.47	meq/L
Magnesium	3.04	mg/L	0.25	meq/L
Potassium	0.78	mg/L	0.02	meq/L
Sodium	317	mg/L	13.8	meq/L
Cations			14.6	meq/L
Anions			15.0	meq/L
Cation/Anion Difference			1.65	%

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 19th ed., 1995.

Reported by JB

Reviewed by WM

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

VOLATILE AROMATIC HYDROCARBONS

Giant Refining Co.

Project ID:	NMED-LTA	Report Date:	04/02/96
Sample ID:	OW3 031896	Date Sampled:	03/18/96
Lab ID:	0396W00422	Date Received:	03/20/96
Sample Matrix:	Water	Date Extracted:	NA
Condition:	Cool/Intact	Date Analyzed:	03/27/96

Target Analyte	Concentration (ppb)	Detection Limit (ppb)
Benzene	ND	0.2
Toluene	ND	0.2
Ethylbenzene	ND	0.2
m,p-Xylenes	ND	0.2
o-Xylene	ND	0.2

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Bromofluorobenzene	100.8	75 -125%

Reference: Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics; Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments:

Analyst

Review

iml

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EPA Method 8260
VOLATILE ORGANIC COMPOUNDS

Client: GIANT REFINING COMPANY
Project: NA
Sample ID: Trip Blank
Laboratory ID: 0696G00543
Sample Matrix Water
Preservative: HCl
Condition: Intact, pH < 2

Report Date: 04/01/96
Date Sampled: NA
Date Received: 03/22/96
Date Extracted: 03/26/96
Date Analyzed: 03/26/96
Time Analyzed: 11:59 PM

Analyte	Concentration (mg/L)	Detection Limit (mg/L)
Acetone	ND	0.03
Acrolein	ND	0.02
Acrylonitrile	ND	0.01
Benzene	ND	0.005
Bromodichloromethane	ND	0.005
Bromoform	ND	0.005
Bromomethane	ND	0.005
Carbon Disulfide	ND	0.01
Carbon Tetrachloride	ND	0.005
Chlorobenzene	ND	0.005
Chlorodibromoethane	ND	0.005
Chloroethane	ND	0.005
2-Chloroethylvinyl ether	ND	0.005
Chloroform	ND	0.005
Chloromethane	ND	0.005
Dibromomethane	ND	0.005
t-1,4-Dichloro-2-butene	ND	0.05
Dichlorodifluoromethane	ND	0.005
1,1-Dichloroethane	ND	0.005
1,2-Dichloroethane	ND	0.005
1,1-Dichloroethene	ND	0.005
trans-1,2-Dichloroethene	ND	0.005
1,2-Dichloropropane	ND	0.005
cis-1,3-Dichloropropene	ND	0.005
trans-1,3-Dichloropropene	ND	0.005
Ethyl Benzene	ND	0.005
Ethyl Methacrylate	ND	0.005
2-Hexanone	ND	0.01
Iodomethane	ND	0.01
Methylene Chloride	ND	0.02
Methyl Ethyl Ketone	ND	0.01
4-Methyl-2-Petanone	ND	0.01
Styrene	ND	0.005

ND - Analyte not detected at stated limit of detection

jml

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EPA Method 8260
VOLATILE ORGANIC COMPOUNDS

Client: **GIANT REFINING COMPANY**
Sample ID: Trip Blank
Laboratory ID: 0696G00543
Matrix: Water

Report Date: 04/01/96
Date Sampled: NA
Date Analyzed: 03/26/96
Time Analyzed: 11:59 PM

Analyte	Concentration (mg/L)	Detection Limit (mg/L)
1,1,2,2-Tetrachloroethane	ND	0.005
Tetrachloroethene	ND	0.005
Toluene	ND	0.005
1,1,1-Trichloroethane	ND	0.005
1,1,2-Trichloroethane	ND	0.005
Trichloroethene	ND	0.005
Trichlorofluoromethane	ND	0.005
1,2,3-Trichloropropane	ND	0.02
Vinyl Acetate	ND	0.01
Vinyl Chloride	ND	0.005
Xylenes	ND	0.005

ND - Analyte not detected at stated limit of detection

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Dibromofluoromethane	101%	86 - 118%
Toluene-d8	99%	88 - 110%
Bromofluorobenzene	97%	86 - 117%

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EPA Method 8260
VOLATILE ORGANIC COMPOUNDS
ADDITIONAL DETECTED COMPOUNDS

Client: **GIANT REFINING COMPANY**
Sample ID: Trip Blank
Laboratory ID: 0696G00543
Matrix: Water

Report Date: 04/01/96
Date Sampled: NA
Date Analyzed: 03/26/96
Time Analyzed: 11:59 PM

Tentative Identification	Retention Time (Minutes)	Concentration * (mg/L)
None detected at reportable levels		

* - Concentration calculated using assumed Relative Response Factor = 1

Reference: Method 8260: Volatile Organic Compounds by Gas Chromatography / Mass Spectrometry: Capillary Column Technique. Test Methods for Evaluating Solid Waste, SW - 846, United States Environmental Protection Agency, Final Update II, September 1994.

Comments:

Analyst

Ramona R. Dennis
Review

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EPA Method 8260
VOLATILE ORGANIC COMPOUNDS

Client: GIANT REFINING COMPANY
Project: NMED-LTA
Sample ID: Trip Blank
Laboratory ID: 0696G00479
Sample Matrix Water
Preservative: HCl
Condition: Intact, pH < 2

Report Date: 04/01/96
Date Sampled: NA
Date Received: 03/21/96
Date Extracted: 03/22/96
Date Analyzed: 03/22/96
Time Analyzed: 11:59 PM

Analyte	Concentration (mg/L)	Detection Limit (mg/L)
Acetone	ND	0.03
Acrolein	ND	0.02
Acrylonitrile	ND	0.01
Benzene	ND	0.005
Bromodichloromethane	ND	0.005
Bromoform	ND	0.005
Bromomethane	ND	0.005
Carbon Disulfide	ND	0.01
Carbon Tetrachloride	ND	0.005
Chlorobenzene	ND	0.005
Chlorodibromoethane	ND	0.005
Chloroethane	ND	0.005
2-Chloroethylvinyl ether	ND	0.005
Chloroform	ND	0.005
Chloromethane	ND	0.005
Dibromomethane	ND	0.005
t-1,4-Dichloro-2-butene	ND	0.05
Dichlorodifluoromethane	ND	0.005
1,1-Dichloroethane	ND	0.005
1,2-Dichloroethane	ND	0.005
1,1-Dichloroethene	ND	0.005
trans-1,2-Dichloroethene	ND	0.005
1,2-Dichloropropane	ND	0.005
cis-1,3-Dichloropropene	ND	0.005
trans-1,3-Dichloropropene	ND	0.005
Ethyl Benzene	ND	0.005
Ethyl Methacrylate	ND	0.005
2-Hexanone	ND	0.01
Iodomethane	ND	0.01
Methylene Chloride	ND	0.02
Methyl Ethyl Ketone	ND	0.01
4-Methyl-2-Petanone	ND	0.01
Styrene	ND	0.005

ND - Analyte not detected at stated limit of detection

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EPA Method 8260
VOLATILE ORGANIC COMPOUNDS

Client: **GIANT REFINING COMPANY**
Sample ID: Trip Blank
Laboratory ID: 0696G00479
Matrix: Water

Report Date: 04/01/96
Date Sampled: NA
Date Analyzed: 03/22/96
Time Analyzed: 11:59 PM

Analyte	Concentration (mg/L)	Detection Limit (mg/L)
1,1,2,2-Tetrachloroethane	ND	0.005
Tetrachloroethene	ND	0.005
Toluene	ND	0.005
1,1,1-Trichloroethane	ND	0.005
1,1,2-Trichloroethane	ND	0.005
Trichloroethene	ND	0.005
Trichlorofluoromethane	ND	0.005
1,2,3-Trichloropropane	ND	0.02
Vinyl Acetate	ND	0.01
Vinyl Chloride	ND	0.005
Xylenes	ND	0.005

ND - Analyte not detected at stated limit of detection

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Dibromofluoromethane	99%	86 - 118%
Toluene-d8	99%	88 - 110%
Bromofluorobenzene	98%	86 - 117%

imi

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EPA Method 8260
VOLATILE ORGANIC COMPOUNDS
ADDITIONAL DETECTED COMPOUNDS

Client: GIANT REFINING COMPANY
Sample ID: Trip Blank
Laboratory ID: 0696G00479
Matrix: Water

Report Date: 04/01/96
Date Sampled: NA
Date Analyzed: 03/22/96
Time Analyzed: 11:59 PM

Tentative Identification	Retention Time (Minutes)	Concentration * (mg/L)
None detected at reportable levels		

* - Concentration calculated using assumed Relative Response Factor = 1

Reference: Method 8260: Volatile Organic Compounds by Gas Chromatography / Mass Spectrometry: Capillary Column Technique. Test Methods for Evaluating Solid Waste, SW - 846, United States Environmental Protection Agency, Final Update II, September 1994.

Comments:

Analyst

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QUALITY CONTROL REPORT - METHOD BLANK

EPA METHOD 8260 - VOLATILE ORGANIC COMPOUNDS

Sample ID: Method Blank
Laboratory ID: MB0322
Sample Matrix Water

Report Date: 03/25/96
Date Extracted: 03/22/96
Date Analyzed: 03/22/96
Time Analyzed: 7:04 PM

Analyte	Concentration (mg/L)	Detection Limit (mg/L)
Acetone	ND	0.03
Acrolein	ND	0.02
Acrylonitrile	ND	0.01
Benzene	ND	0.005
Bromodichloromethane	ND	0.005
Bromoform	ND	0.005
Bromomethane	ND	0.005
Carbon Disulfide	ND	0.01
Carbon Tetrachloride	ND	0.005
Chlorobenzene	ND	0.005
Chlorodibromoethane	ND	0.005
Chloroethane	ND	0.005
2-Chloroethylvinyl ether	ND	0.005
Chloroform	ND	0.005
Chloromethane	ND	0.005
Dibromomethane	ND	0.005
t-1,4-Dichloro-2-butene	ND	0.05
Dichlorodifluoromethane	ND	0.005
1,1-Dichloroethane	ND	0.005
1,2-Dichloroethane	ND	0.005
1,1-Dichloroethene	ND	0.005
trans-1,2-Dichloroethene	ND	0.005
1,2-Dichloropropane	ND	0.005
cis-1,3-Dichloropropene	ND	0.005
trans-1,3-Dichloropropene	ND	0.005
Ethyl Benzene	ND	0.005
Ethyl Methacrylate	ND	0.005
2-Hexanone	ND	0.01
Iodomethane	ND	0.01
Methylene Chloride	ND	0.02
Methyl Ethyl Ketone	ND	0.01
4-Methyl-2-Petanone	ND	0.01
Styrene	ND	0.005

ND - Analyte not detected at stated limit of detection

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QUALITY CONTROL REPORT - METHOD BLANK

EPA METHOD 8260 - VOLATILE ORGANIC COMPOUNDS

Sample ID: Method Blank
Laboratory ID: MB0322

Report Date: 03/25/96
Date Sampled: 03/22/96
Date Analyzed: 03/22/96
Time Analyzed: 7:04 PM

Analyte	Concentration (mg/L)	Detection Limit (mg/L)
1,1,2,2-Tetrachloroethane	ND	0.005
Tetrachloroethene	ND	0.005
Toluene	ND	0.005
1,1,1-Trichloroethane	ND	0.005
1,1,2-Trichloroethane	ND	0.005
Trichloroethene	ND	0.005
Trichlorofluoromethane	ND	0.005
1,2,3-Trichloropropane	ND	0.02
Vinyl Acetate	ND	0.01
Vinyl Chloride	ND	0.005
Xylenes	ND	0.005

ND - Analyte not detected at stated limit of detection

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Dibromofluoromethane	99%	86 - 118%
Toluene-d8	101%	88 - 110%
Bromofluorobenzene	99%	86 - 117%

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QUALITY CONTROL REPORT - METHOD BLANK
EPA METHOD 8260 - VOLATILE ORGANIC COMPOUNDS
ADDITIONAL DETECTED COMPOUNDS

Sample ID: Method Blank
Laboratory ID: MB0322

Report Date: 03/25/96
Date Sampled: 03/22/96
Date Analyzed: 03/22/96
Time Analyzed: 7:04 PM

Tentative Identification	Retention Time (Minutes)	Concentration * (mg/L)
None detected at reportable levels		

* - Concentration calculated using assumed Relative Response Factor = 1

Reference: Method 8260: Volatile Organic Compounds by Gas Chromatography / Mass Spectrometry: Capillary Column Technique. Test Methods for Evaluating Solid Waste, SW - 846, United States Environmental Protection Agency, Final Update II, September 1994.

Comments:

Analyst

Ramona R. Dennis
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QUALITY CONTROL REPORT - METHOD BLANK
EPA METHOD 8260 - VOLATILE ORGANIC COMPOUNDS

Sample ID: Method Blank
Laboratory ID: MB0326
Sample Matrix Water

Report Date: 03/29/96
Date Extracted: 03/26/96
Date Analyzed: 03/26/96
Time Analyzed: 8:35 PM

Analyte	Concentration (mg/L)	Detection Limit (mg/L)
Acetone	ND	0.03
Acrolein	ND	0.02
Acrylonitrile	ND	0.01
Benzene	ND	0.005
Bromodichloromethane	ND	0.005
Bromoform	ND	0.005
Bromomethane	ND	0.005
Carbon Disulfide	ND	0.01
Carbon Tetrachloride	ND	0.005
Chlorobenzene	ND	0.005
Chlorodibromoethane	ND	0.005
Chloroethane	ND	0.005
2-Chloroethylvinyl ether	ND	0.005
Chloroform	ND	0.005
Chloromethane	ND	0.005
Dibromomethane	ND	0.005
t-1,4-Dichloro-2-butene	ND	0.05
Dichlorodifluoromethane	ND	0.005
1,1-Dichloroethane	ND	0.005
1,2-Dichloroethane	ND	0.005
1,1-Dichloroethene	ND	0.005
trans-1,2-Dichloroethene	ND	0.005
1,2-Dichloropropane	ND	0.005
cis-1,3-Dichloropropene	ND	0.005
trans-1,3-Dichloropropene	ND	0.005
Ethyl Benzene	ND	0.005
Ethyl Methacrylate	ND	0.005
2-Hexanone	ND	0.01
Iodomethane	ND	0.01
Methylene Chloride	ND	0.02
Methyl Ethyl Ketone	ND	0.01
4-Methyl-2-Petanone	ND	0.01
Styrene	ND	0.005

ND - Analyte not detected at stated limit of detection

jml

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QUALITY CONTROL REPORT - METHOD BLANK
EPA METHOD 8260 - VOLATILE ORGANIC COMPOUNDS

Sample ID: Method Blank
Laboratory ID: MB0326

Report Date: 03/29/96
Date Sampled: 03/26/96
Date Analyzed: 03/26/96
Time Analyzed: 8:35 PM

Analyte	Concentration (mg/L)	Detection Limit (mg/L)
1,1,2,2-Tetrachloroethane	ND	0.005
Tetrachloroethene	ND	0.005
Toluene	ND	0.005
1,1,1-Trichloroethane	ND	0.005
1,1,2-Trichloroethane	ND	0.005
Trichloroethene	ND	0.005
Trichlorofluoromethane	ND	0.005
1,2,3-Trichloropropane	ND	0.02
Vinyl Acetate	ND	0.01
Vinyl Chloride	ND	0.005
Xylenes	ND	0.005

ND - Analyte not detected at stated limit of detection

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Dibromofluoromethane	98%	86 - 118%
Toluene-d8	100%	88 - 110%
Bromofluorobenzene	98%	86 - 117%

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QUALITY CONTROL REPORT - METHOD BLANK
EPA METHOD 8260 - VOLATILE ORGANIC COMPOUNDS
ADDITIONAL DETECTED COMPOUNDS

Sample ID: Method Blank
Laboratory ID: MB0326

Report Date: 03/29/96
Date Sampled: 03/26/96
Date Analyzed: 03/26/96
Time Analyzed: 8:35 PM

Tentative Identification	Retention Time (Minutes)	Concentration * (mg/L)
None detected at reportable levels		

* - Concentration calculated using assumed Relative Response Factor = 1

Reference: Method 8260: Volatile Organic Compounds by Gas Chromatography / Mass Spectrometry: Capillary Column Technique. Test Methods for Evaluating Solid Waste, SW - 846, United States Environmental Protection Agency, Final Update II, September 1994.

Comments:

Analyst

Review

imL

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QUALITY CONTROL REPORT - BLANK SPIKE / SPIKE DUPLICATE ANALYSIS

EPA METHOD 8260 - VOLATILE ORGANICS

Laboratory ID: Blank Spike and Blank Spike Duplicate
Sample Matrix: Water
Preservative: NA
Condition: NA

Report Date: 03/25/96
Date Sampled: NA
Date Received: NA
Date Analyzed: 03/22/96
Time Analyzed: 7:46 PM / 8:28 PM

BLANK SPIKE ANALYSIS

Analyte	Spiked Sample Result (mg/L)	Sample Result (mg/L)	Spike Added (mg/L)	Percent Recovery	QC Limits Recovery
1,1 - Dichloroethene	0.055	ND	0.050	110%	61 - 145
Trichloroethene	0.051	ND	0.050	102%	71 - 120
Benzene	0.050	ND	0.050	100%	76 - 127
Toluene	0.049	ND	0.050	98%	76 - 125
Chlorobenzene	0.049	ND	0.050	98%	75 - 130

BLANK SPIKE DUPLICATE ANALYSIS

Analyte	Duplicate Result (mg/L)	Percent Recovery	Original Spike Result (%)	RPD	QC Limits RPD	QC Limits Rec.
1,1 - Dichloroethene	0.057	114%	110%	4%	14%	61 - 145
Trichloroethene	0.052	104%	102%	2%	14%	71 - 120
Benzene	0.051	102%	100%	2%	11%	76 - 127
Toluene	0.051	102%	98%	4%	13%	76 - 125
Chlorobenzene	0.050	100%	98%	2%	13%	75 - 130

ND - Analyte not detected at stated limit of detection

Spike Recovery: 0 out of 10 outside QC Limits
RPD: 0 out of 5 outside QC Limits

Quality Control:

Surrogate	Spike Recovery	Duplicate Recovery	Recovery Limits
Dibromofluoromethane	99%	100%	86 - 118%
Toluene-d8	100%	100%	88 - 110%
Bromofluorobenzene	98%	97%	86 - 115%

Reference: Method 8260A: Gas Chromatography / Mass Spectrometry for Volatile Organics Test Methods for Evaluating Solid Waste, SW - 846, Final Update II, United States Environmental Protection Agency, September 1994.

Comments:

Analyst

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QUALITY CONTROL REPORT - BLANK SPIKE / SPIKE DUPLICATE ANALYSIS

EPA METHOD 8260 - VOLATILE ORGANICS

Laboratory ID: Blank Spike and Blank Spike Duplicate
Sample Matrix: Water
Preservative: NA
Condition: NA

Report Date: 03/27/96
Date Sampled: NA
Date Received: NA
Date Analyzed: 03/26/96
Time Analyzed: 9:16 PM / 9:57 PM

BLANK SPIKE ANALYSIS

Analyte	Spiked Sample Result (mg/L)	Sample Result (mg/L)	Spike Added (mg/L)	Percent Recovery	QC Limits Recovery
1,1 - Dichloroethene	0.056	ND	0.050	112%	61 - 145
Trichloroethene	0.049	ND	0.050	98%	71 - 120
Benzene	0.048	ND	0.050	96%	76 - 127
Toluene	0.047	ND	0.050	94%	76 - 125
Chlorobenzene	0.046	ND	0.050	92%	75 - 130

BLANK SPIKE DUPLICATE ANALYSIS

Analyte	Duplicate Result (mg/L)	Percent Recovery	Original Spike Result (%)	RPD	QC Limits RPD	QC Limits Rec.
1,1 - Dichloroethene	0.055	110%	112%	2%	14%	61 - 145
Trichloroethene	0.047	94%	98%	4%	14%	71 - 120
Benzene	0.047	94%	96%	2%	11%	76 - 127
Toluene	0.042	84%	94%	11%	13%	76 - 125
Chlorobenzene	0.045	90%	92%	2%	13%	75 - 130

ND - Analyte not detected at stated limit of detection

Spike Recovery: 0 out of 10 outside QC Limits
RPD: 0 out of 5 outside QC Limits

Quality Control:

Surrogate	Spike Recovery	Duplicate Recovery	Recovery Limits
Dibromofluoromethane	99%	99%	86 - 118%
Toluene-d8	100%	100%	88 - 110%
Bromofluorobenzene	97%	97%	86 - 115%

Reference: Method 8260A: Gas Chromatography / Mass Spectrometry for Volatile Organics Test Methods for Evaluating Solid Waste, SW - 846, Final Update II, United States Environmental Protection Agency, September 1994.

Comments:

Analyst

Ramona B. Dennis
Review

iml

Inter-Mountain Laboratories, Inc.

Inorganics Laboratory
11183 SH 30 College Station, Texas 77845
Phone (409) 776-8945 Fax (409) 774-4705

Organics Laboratory
3304 Longmire Drive College Station, Texas 77845
Phone (409) 774-4999 Fax (409) 696-0962

QUALITY CONTROL REPORT - METHOD BLANK
EPA METHOD 8260 - VOLATILE ORGANIC COMPOUNDS

Sample ID: Method Blank
Laboratory ID: MB0322
Sample Matrix Water

Report Date: 03/25/96
Date Extracted: 03/22/96
Date Analyzed: 03/22/96
Time Analyzed: 7:04 PM

Analyte	Concentration (mg/L)	Detection Limit (mg/L)
Acetone	ND	0.03
Acrolein	ND	0.02
Acrylonitrile	ND	0.01
Benzene	ND	0.005
Bromodichloromethane	ND	0.005
Bromoform	ND	0.005
Bromomethane	ND	0.005
Carbon Disulfide	ND	0.01
Carbon Tetrachloride	ND	0.005
Chlorobenzene	ND	0.005
Chlorodibromoethane	ND	0.005
Chloroethane	ND	0.005
2-Chloroethylvinyl ether	ND	0.005
Chloroform	ND	0.005
Chloromethane	ND	0.005
Dibromomethane	ND	0.005
t-1,4-Dichloro-2-butene	ND	0.05
Dichlorodifluoromethane	ND	0.005
1,1-Dichloroethane	ND	0.005
1,2-Dichloroethane	ND	0.005
1,1-Dichloroethene	ND	0.005
trans-1,2-Dichloroethene	ND	0.005
1,2-Dichloropropane	ND	0.005
cis-1,3-Dichloropropene	ND	0.005
trans-1,3-Dichloropropene	ND	0.005
Ethyl Benzene	ND	0.005
Ethyl Methacrylate	ND	0.005
2-Hexanone	ND	0.01
Iodomethane	ND	0.01
Methylene Chloride	ND	0.02
Methyl Ethyl Ketone	ND	0.01
4-Methyl-2-Petanone	ND	0.01
Styrene	ND	0.005

ND - Analyte not detected at stated limit of detection

jml

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QUALITY CONTROL REPORT - METHOD BLANK

EPA METHOD 8260 - VOLATILE ORGANIC COMPOUNDS

Sample ID: Method Blank
Laboratory ID: MB0322

Report Date: 03/25/96
Date Sampled: 03/22/96
Date Analyzed: 03/22/96
Time Analyzed: 7:04 PM

Analyte	Concentration (mg/L)	Detection Limit (mg/L)
1,1,2,2-Tetrachloroethane	ND	0.005
Tetrachloroethene	ND	0.005
Toluene	ND	0.005
1,1,1-Trichloroethane	ND	0.005
1,1,2-Trichloroethane	ND	0.005
Trichloroethene	ND	0.005
Trichlorofluoromethane	ND	0.005
1,2,3-Trichloropropane	ND	0.02
Vinyl Acetate	ND	0.01
Vinyl Chloride	ND	0.005
Xylenes	ND	0.005

ND - Analyte not detected at stated limit of detection

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Dibromofluoromethane	99%	86 - 118%
Toluene-d8	101%	88 - 110%
Bromofluorobenzene	99%	86 - 117%

jml

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QUALITY CONTROL REPORT - METHOD BLANK

EPA METHOD 8260 - VOLATILE ORGANIC COMPOUNDS
ADDITIONAL DETECTED COMPOUNDS

Sample ID: Method Blank
Laboratory ID: MB0322

Report Date: 03/25/96
Date Sampled: 03/22/96
Date Analyzed: 03/22/96
Time Analyzed: 7:04 PM

Tentative Identification	Retention Time (Minutes)	Concentration * (mg/L)
None detected at reportable levels		

* - Concentration calculated using assumed Relative Response Factor = 1

Reference: Method 8260: Volatile Organic Compounds by Gas Chromatography / Mass Spectrometry: Capillary Column Technique. Test Methods for Evaluating Solid Waste, SW - 846, United States Environmental Protection Agency, Final Update II, September 1994.

Comments:

Analyst

Ramona R. Dennis
Review

iml

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QUALITY CONTROL REPORT - METHOD BLANK

EPA METHOD 8260 - VOLATILE ORGANIC COMPOUNDS

Sample ID: Method Blank
Laboratory ID: MB0326
Sample Matrix Water

Report Date: 03/29/96
Date Extracted: 03/26/96
Date Analyzed: 03/26/96
Time Analyzed: 8:35 PM

Analyte	Concentration (mg/L)	Detection Limit (mg/L)
Acetone	ND	0.03
Acrolein	ND	0.02
Acrylonitrile	ND	0.01
Benzene	ND	0.005
Bromodichloromethane	ND	0.005
Bromoform	ND	0.005
Bromomethane	ND	0.005
Carbon Disulfide	ND	0.01
Carbon Tetrachloride	ND	0.005
Chlorobenzene	ND	0.005
Chlorodibromoethane	ND	0.005
Chloroethane	ND	0.005
2-Chloroethylvinyl ether	ND	0.005
Chloroform	ND	0.005
Chloromethane	ND	0.005
Dibromomethane	ND	0.005
t-1,4-Dichloro-2-butene	ND	0.05
Dichlorodifluoromethane	ND	0.005
1,1-Dichloroethane	ND	0.005
1,2-Dichloroethane	ND	0.005
1,1-Dichloroethene	ND	0.005
trans-1,2-Dichloroethene	ND	0.005
1,2-Dichloropropane	ND	0.005
cis-1,3-Dichloropropene	ND	0.005
trans-1,3-Dichloropropene	ND	0.005
Ethyl Benzene	ND	0.005
Ethyl Methacrylate	ND	0.005
2-Hexanone	ND	0.01
Iodomethane	ND	0.01
Methylene Chloride	ND	0.02
Methyl Ethyl Ketone	ND	0.01
4-Methyl-2-Petanone	ND	0.01
Styrene	ND	0.005

ND - Analyte not detected at stated limit of detection

imL

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QUALITY CONTROL REPORT - METHOD BLANK

EPA METHOD 8260 - VOLATILE ORGANIC COMPOUNDS

Sample ID: Method Blank
Laboratory ID: MB0326

Report Date: 03/29/96
Date Sampled: 03/26/96
Date Analyzed: 03/26/96
Time Analyzed: 8:35 PM

Analyte	Concentration (mg/L)	Detection Limit (mg/L)
1,1,2,2-Tetrachloroethane	ND	0.005
Tetrachloroethene	ND	0.005
Toluene	ND	0.005
1,1,1-Trichloroethane	ND	0.005
1,1,2-Trichloroethane	ND	0.005
Trichloroethene	ND	0.005
Trichlorofluoromethane	ND	0.005
1,2,3-Trichloropropane	ND	0.02
Vinyl Acetate	ND	0.01
Vinyl Chloride	ND	0.005
Xylenes	ND	0.005

ND - Analyte not detected at stated limit of detection

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Dibromofluoromethane	98%	86 - 118%
Toluene-d8	100%	88 - 110%
Bromofluorobenzene	98%	86 - 117%

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QUALITY CONTROL REPORT - METHOD BLANK

EPA METHOD 8260 - VOLATILE ORGANIC COMPOUNDS

ADDITIONAL DETECTED COMPOUNDS

Sample ID: Method Blank
Laboratory ID: MB0326

Report Date: 03/29/96
Date Sampled: 03/26/96
Date Analyzed: 03/26/96
Time Analyzed: 8:35 PM

Tentative Identification	Retention Time (Minutes)	Concentration * (mg/L)
None detected at reportable levels		

* - Concentration calculated using assumed Relative Response Factor = 1

Reference: Method 8260: Volatile Organic Compounds by Gas Chromatography / Mass Spectrometry: Capillary Column Technique. Test Methods for Evaluating Solid Waste, SW - 846, United States Environmental Protection Agency, Final Update II, September 1994.

Comments:

Analyst

Ramona R. Dennis
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QUALITY CONTROL REPORT - BLANK SPIKE / SPIKE DUPLICATE ANALYSIS

EPA METHOD 8260 - VOLATILE ORGANICS

Laboratory ID: Blank Spike and Blank Spike Duplicate
Sample Matrix: Water
Preservative: NA
Condition: NA

Report Date: 03/25/96
Date Sampled: NA
Date Received: NA
Date Analyzed: 03/22/96
Time Analyzed: 7:46 PM / 8:28 PM

BLANK SPIKE ANALYSIS

Analyte	Spiked Sample Result (mg/L)	Sample Result (mg/L)	Spike Added (mg/L)	Percent Recovery	QC Limits Recovery
1,1 - Dichloroethene	0.055	ND	0.050	110%	61 - 145
Trichloroethene	0.051	ND	0.050	102%	71 - 120
Benzene	0.050	ND	0.050	100%	76 - 127
Toluene	0.049	ND	0.050	98%	76 - 125
Chlorobenzene	0.049	ND	0.050	98%	75 - 130

BLANK SPIKE DUPLICATE ANALYSIS

Analyte	Duplicate Result (mg/L)	Percent Recovery	Original Spike Result (%)	RPD	QC Limits RPD	QC Limits Rec.
1,1 - Dichloroethene	0.057	114%	110%	4%	14%	61 - 145
Trichloroethene	0.052	104%	102%	2%	14%	71 - 120
Benzene	0.051	102%	100%	2%	11%	76 - 127
Toluene	0.051	102%	98%	4%	13%	76 - 125
Chlorobenzene	0.050	100%	98%	2%	13%	75 - 130

ND - Analyte not detected at stated limit of detection

Spike Recovery: 0 out of 10 outside QC Limits
RPD: 0 out of 5 outside QC Limits

Quality Control: Surrogate	Spike Recovery	Duplicate Recovery	Recovery Limits
Dibromofluoromethane	99%	100%	86 - 118%
Toluene-d8	100%	100%	88 - 110%
Bromofluorobenzene	98%	97%	86 - 115%

Reference: Method 8260A: Gas Chromatography / Mass Spectrometry for Volatile Organics Test Methods for Evaluating Solid Waste, SW - 846, Final Update II, United States Environmental Protection Agency, September 1994.

Comments:

Analyst

Ramona R. Dennis
Review

QO

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QUALITY CONTROL REPORT - BLANK SPIKE / SPIKE DUPLICATE ANALYSIS

EPA METHOD 8260 - VOLATILE ORGANICS

Laboratory ID: Blank Spike and Blank Spike Duplicate
Sample Matrix: Water
Preservative: NA
Condition: NA

Report Date: 03/27/96
Date Sampled: NA
Date Received: NA
Date Analyzed: 03/26/96
Time Analyzed: 9:16 PM / 9:57 PM

BLANK SPIKE ANALYSIS

Analyte	Spiked Sample Result (mg/L)	Sample Result (mg/L)	Spike Added (mg/L)	Percent Recovery	QC Limits Recovery
1,1 - Dichloroethene	0.056	ND	0.050	112%	61 - 145
Trichloroethene	0.049	ND	0.050	98%	71 - 120
Benzene	0.048	ND	0.050	96%	76 - 127
Toluene	0.047	ND	0.050	94%	76 - 125
Chlorobenzene	0.046	ND	0.050	92%	75 - 130

BLANK SPIKE DUPLICATE ANALYSIS

Analyte	Duplicate Result (mg/L)	Percent Recovery	Original Spike Result (%)	RPD	QC Limits RPD	QC Limits Rec.
1 - Dichloroethene	0.055	110%	112%	2%	14%	61 - 145
richloroethene	0.047	94%	98%	4%	14%	71 - 120
Benzene	0.047	94%	96%	2%	11%	76 - 127
Toluene	0.042	84%	94%	11%	13%	76 - 125
Chlorobenzene	0.045	90%	92%	2%	13%	75 - 130

ND - Analyte not detected at stated limit of detection

Spike Recovery: 0 out of 10 outside QC Limits
RPD: 0 out of 5 outside QC Limits

Quality Control:

Surrogate	Spike Recovery	Duplicate Recovery	Recovery Limits
Dibromofluoromethane	99%	99%	86 - 118%
Toluene-d8	100%	100%	88 - 110%
Bromofluorobenzene	97%	97%	86 - 115%

Reference: Method 8260A: Gas Chromatography / Mass Spectrometry for Volatile Organics Test Methods for Evaluating Solid Waste, SW - 846, Final Update II, United States Environmental Protection Agency, September 1994.

Comments:

Analyst

Ramona R. Dennis
Review

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

VOLATILE AROMATIC HYDROCARBONS
QUALITY CONTROL REPORT

Duplicate Analysis

Lab ID: 0396W00421
Sample Matrix: Water
Condition: Cool/Intact

Report Date: 04/02/96
Date Analyzed: 03/27/96

Target Analyte	Duplicate Concentration (ppb)	Original Concentration (ppb)	% Difference
Benzene	ND	ND	NA
Toluene	ND	ND	NA
Ethylbenzene	ND	ND	NA
m,p-Xylenes	ND	ND	NA
o-Xylene	ND	ND	NA

ND - Analyte not detected at the stated detection limit.
NA - Not applicable or not calculated.

Quality Control:	Surrogate	Percent Recovery	Acceptance Limits
	Bromofluorobenzene	120.5%	75 -115%

Reference: Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics; Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments:

Analyst

Review

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

VOLATILE AROMATIC HYDROCARBONS
QUALITY CONTROL REPORT

Matrix Spike Analysis

Lab ID: 0396W00422
Sample Matrix: Water
Condition: Cool/Intact

Report Date: 04/02/96
Date Analyzed: 03/27/96

Target Analyte	Spiked Sample Result in ng	Sample result in ng	Spike Added (ng)	% Recovery	Acceptance Limits (%)
Benzene	57.66	0.86	60	94.7%	70-130
Toluene	53.22	0.00	60	88.7%	70-130
Ethylbenzene	55.14	0.00	60	91.9%	70-130
m,p-Xylenes	114.38	0.00	120	95.3%	70-130
o-Xylene	55.79	0.00	60	93.0%	70-130

ND - Analyte not detected at the stated detection limit.
NA - Not applicable or not calculated.

Quality Control:	Surrogate	Percent Recovery	Acceptance Limits
	Bromofluorobenzene	107.6%	75 -125%

Reference: Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics; Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments:

Analyst

Review

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Quality Control / Quality Assurance

Known Analysis
BTEX

Client: **Giant Refining Co.**
Project: NMED-LTA

Date Reported: 03/28/96
Date Analyzed: 03/27/96

Known Analysis

Parameter	Found Concentration (ppb)	Known Concentration (ppb)	Percent Recovery	Acceptance Limits
Benzene	8.95	9.0	**99%**	70-130%
Toluene	8.43	9.0	**94%**	70-130%
Ethylbenzene	8.20	9.0	**91%**	70-130%
m+p-Xylene	17.3	18.0	**96%**	70-130%
o-Xylene	8.31	9.0	**92%**	70-130%

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Bromofluorobenzene	104.9	75-125%

Reference: Method 5030, Purge and Trap: Method 8020, Aromatic Volatile Organics; Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments:

Reported by _____

Reviewed by _____

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

VOLATILE AROMATIC HYDROCARBONS
QUALITY CONTROL REPORT

Method Blank Analysis

Sample Matrix: Water
Lab ID: Method Blank

Report Date: 04/02/96
Date Analyzed: 03/27/96

Target Analyte	Concentration (ppb)	Detection Limit (ppb)
Benzene	ND	0.2
Toluene	ND	0.2
Ethylbenzene	ND	0.2
m,p-Xylenes	ND	0.2
o-Xylene	ND	0.2

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Bromofluorobenzene	100.4	75-125%

Reference: Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics; Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments:

Analyst

Review

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

VOLATILE AROMATIC HYDROCARBONS
QUALITY CONTROL REPORT

Duplicate Analysis

Lab ID: 0396G00506
Sample Matrix: Water
Condition: Cool/Intact

Report Date: 04/11/96
Date Analyzed: 04/04/96

Target Analyte	Duplicate Concentration (ppb)	Original Concentration (ppb)	% Difference
Benzene	102,100	129,200	23.4
Toluene	113,100	152,300	29.5
Ethylbenzene	4,720	6,350	29.4
m,p-Xylenes	16,700	21,500	25.1
o-Xylene	7,470	9,290	21.7

ND - Analyte not detected at the stated detection limit.
NA - Not applicable or not calculated.

Quality Control:	Surrogate	Percent Recovery	Acceptance Limits
	Bromofluorobenzene	99.6%	75 -115%

Reference: Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics; Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments:

Analyst

Review

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

VOLATILE AROMATIC HYDROCARBONS
QUALITY CONTROL REPORT

Matrix Spike Analysis

Lab ID: 0396W00503
Sample Matrix: Water
Condition: Cool/Intact

Report Date: 04/11/96
Date Analyzed: 04/04/96

Target Analyte	Spiked Sample Result in ng	Sample result in ng	Spike Added (ng)	% Recovery	Acceptance Limits (%)
Benzene	40.28	0.61	45	88.2%	70-130
Toluene	37.75	0.32	45	83.2%	70-130
Ethylbenzene	39.08	0.00	45	86.8%	70-130
m,p-Xylenes	81.66	0.37	90	90.3%	70-130
o-Xylene	38.98	0.00	45	86.6%	70-130

ND - Analyte not detected at the stated detection limit.
NA - Not applicable or not calculated.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Bromofluorobenzene	105.4%	75 -125%

Reference: Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics; Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments:

Analyst

Review

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Quality Control / Quality Assurance

Known Analysis
BTEX

Client: **Giant Refining Co.**
Project: Not Given

Date Reported: 04/09/96
Date Analyzed: 04/04/96

Known Analysis

Parameter	Found Concentration (ppb)	Known Concentration (ppb)	Percent Recovery	Acceptance Limits
Benzene	8.89	9.0	99%	70-130%
Toluene	8.62	9.0	96%	70-130%
Ethylbenzene	8.11	9.0	90%	70-130%
m+p-Xylene	17.1	18.0	95%	70-130%
o-Xylene	8.23	9.0	91%	70-130%

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Bromofluorobenzene	103.9	75-125%

Reference: Method 5030, Purge and Trap: Method 8020, Aromatic Volatile Organics; Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments:

Reported by _____

Reviewed by _____

L.D.L

Analytical Technologies, Inc., Albuquerque, NM
San Diego • Phoenix • Seattle • Pensacola • Ft. Collins • Portland • Albuquerque

CHAIN OF CUSTODY

DATE 3-25-96 PAGE 1 OF 1

ATI LAB I.D.

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

PROJECT MANAGER:

COMPANY: Giant Refining
ADDRESS: Route 3, Box 7
Gallup, NM 87301
PHONE: 505-722-0227
FAX: 505-722-0210

BILL TO: David Paulock
COMPANY: Same
ADDRESS:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
OWI-032596	3-25-96	1300	H_2O	
cool + intact				
No trip blank				

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

SEE ATTACHED SHEET

5

PROJECT INFORMATION		SAMPLE RECEIPT	
PROJ. NO.:		NO. CONTAINERS	
PROJ. NAME:		CUSTODY SEALS	Y / N / NA
P.O. NO.:		RECEIVED INTACT	
SHIPPED VIA:		RECEIVED COLD	

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

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

Comments:
SEE ATTACH SHEET FOR ANALYSIS REQUEST.

SAMPLED & RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Time: 9:41	Signature: Time:	Signature: Time:
Printed Name: E.L. Horst Date: 3/29/96	Printed Name: Date:	Printed Name: Date:
Company: Giant Phone: 505-722-0227	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY:(LAB) 3.**
Signature: Time: 0951	Signature: Time:	Signature: Time:
Printed Name: Chris Rayner Date: 4/1/96	Printed Name: Date:	Printed Name: Date:
Company: IML - Farmington	Company:	Analytical Technologies, Inc.

Inter-Mountain Laboratories, Inc.

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location	ANALYSES / PARAMETERS
SPRING 96 SEMI-ANN. G.W. SAMPLING	NMED-LTA	
Sampler: (Signature) MORRIS / HORST	**Chain of Custody Tape No.**	

Sample No./ Identification	Date	Time	Lab Number	Matrix	No. of Containers	Remarks
MW4-031396	3-13-96	1:00PM	0396W00418	AQU.	9	SEE ATTACHED SHEET
MW5-031396	3-13-96	9:00AM	0396W00419	AQU.	9	Iodate id on TOX
DW11-031396	3-13-96	2:05PM	0396W00420	AQU.	9	
OW2-031896	3-18-96	1500		AQU.	4	
OW3-031896	3-18-96	1315		AQU.	4	
						cool + intact

	Date	Time		Date	Time
Relinquished by: (Signature)	3-19-96	0900	Received by: (Signature) Chris Rayner	3/20/96	1100
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by laboratory: (Signature)	Date	Time

Inter-Mountain Laboratories, Inc.

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1701 Phillips Circle, Gillette, Wyoming 82718, Telephone (307) 682-8945
2506 West Main Street, Farmington, NM 87401, Telephone (505) 326-4737
1160 Research Dr., Bozeman, Montana 59715, Telephone (406) 586-8450
11183 SH 30, College Station, TX 77845, Telephone (409) 776-8945
3304 Longmire Drive, College Station, TX 77845, Telephone (409) 774-4999

34130