

GW - 32

# REPORTS

YEAR(S):

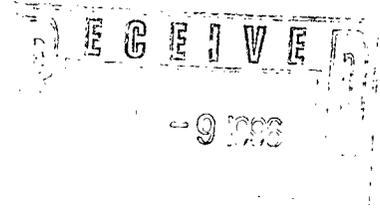
1996 4QTR RESULTS



February 7, 1996

Route 3, Box 7  
Gallup, New Mexico  
87301

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-API, 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

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xc:

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

Environmental Bureau  
Oil Conservation Division



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

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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

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---TOTALS---

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

ATI STANDARD DISPOSAL PRACTICE

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







Analytical Technologies, Inc.

"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:

AP1

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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:

AL2

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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 <i>API</i>
	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 <i>AL2.</i>
	CHEMICAL OXYGEN DEMAND (410.4)	MG/L	6600
	TOTAL DISSOLVED SOLIDS (160.1)	MG/L	6400

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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

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"Quality Control Comments"

Batch Id:

Comments:

TDW006  
TDW006

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

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

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- 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.

"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 <i>API</i>
601359-02	TOTAL ORGANIC CARBON	MG/L	1200 <i>AL2</i>

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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:

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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.

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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

Table with 10 columns: Parameters, Spike Added, Sample Conc, MS Conc, MS %Rec, MSD Conc, MSD %Rec, RPD, Lmts, Rec Lmts. Row 1: 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.

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Analytical Technologies, Inc.

Common notation for Organic reporting

- 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

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Oil Conservation Division

Interlab Chain of Custody

601355 DATE: 1-18-96 PAGE: 1 OF 1

NETWORK PROJECT MANAGER: KIMBERLY D. MCNEILL

ANALYSIS REQUEST

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

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CLIENT PROJECT MANAGER:

Kim McNeill

SAMPLE ID	DATE	TIME	MATRIX	LAB 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	
6013559-01	1-17-96	12:25	AQ	1					X	X	X	X	X	X	X											
↓	-02	↓	12:50	AQ	2																					

PROJECT INFORMATION

SAMPLE RECEIPT

SAMPLES SENT TO:

RELINQUISHED BY:

RELINQUISHED BY:

PROJECT NUMBER: 6013559

TOTAL NUMBER OF CONTAINERS

SAN DIEGO

Signature: [Signature]  
 Time: 15:14

Signature: [Signature]  
 Time: [Blank]

PROJECT NAME: Giant

CHAIN OF CUSTODY SEALS

FT. COLLINS

Printed Name: Dan Johnson  
 Date: 1-18-96

Printed Name: [Blank]  
 Date: [Blank]

OC LEVEL: STD IV

INTACT?

RENTON

Signature: [Signature]  
 Time: 1013

Signature: [Signature]  
 Time: [Blank]

OC REQUIRED: MS MSD BLANK

RECEIVED GOOD COND/COLD

PENSACOLA

Signature: [Signature]  
 Time: [Blank]

Signature: [Signature]  
 Time: [Blank]

TAT: STANDARD RUSH

LAB NUMBER

PHOENIX

Signature: [Signature]  
 Time: [Blank]

Signature: [Signature]  
 Time: [Blank]

DUE DATE: 2-1-96

IWOFF: KM 1113

RECEIVED BY: [Blank]

Signature: [Signature]  
 Time: [Blank]

Signature: [Signature]  
 Time: [Blank]

RUSH SURCHARGE: 10%

BOD 48 hr hold time

RECEIVED BY: [Blank]

Signature: [Signature]  
 Time: [Blank]

Signature: [Signature]  
 Time: [Blank]

SPECIAL CERTIFICATION REQUIRED: YES NO

RECEIVED BY: [Blank]

Signature: [Signature]  
 Time: [Blank]

Signature: [Signature]  
 Time: [Blank]

