GW - 32

REPORTS

YEAR(S):

1991 - RCRA Book # 1

INVESTIGATION

RCRA FACILITY INVESTIGATION
PHASE II - DRAFT
GIANT REFINING COMPANY
GALLUP, NEW MEXICO
OCTOBER 21, 1991

BOOK 1

GIANT REFINING CO.

Route 3, Box 7
Gallup, New Mexico
87301

505
722-3833

October 21, 1991

Mr. Rich Mayer
U. S. Environmental Protection Agency
Region VI
1445 Ross Avenue Suite 1200
Dallas, Texas 75202-2733

RE: Phase II RFI Draft Report
Giant Refining Company
Permit No. NMD000333211

Dear Mr. Mayer:

The attached documents include the draft report required by the Phase II RCRA Facility Investigation. The Phase II investigation includes three Solid Waste Management Units, all of which are associated with the process waste water storage and evaporation.

If you have any questions, contact my office at (505) 722-3833.

Sincerely,

Claud Rosendale

Claud Rosendale
Environmental Manager
Ciniza Refinery

cc w/enclosures (3) : David Boyer - Chief: Environmental Bureau
New Mexico Oil Conservation Division

Richard Mitzelfelt - Director
New Mexico Environment Department

Linda Carleson - Head Librarian
Gallup Public Library

Kim Bullerdick - Corporate Counsel
Giant Industries Arizona, Inc.

File
Giant Refining Company

PHASE II RFI

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SECTION 1.0

INTRODUCTION

INTRODUCTION

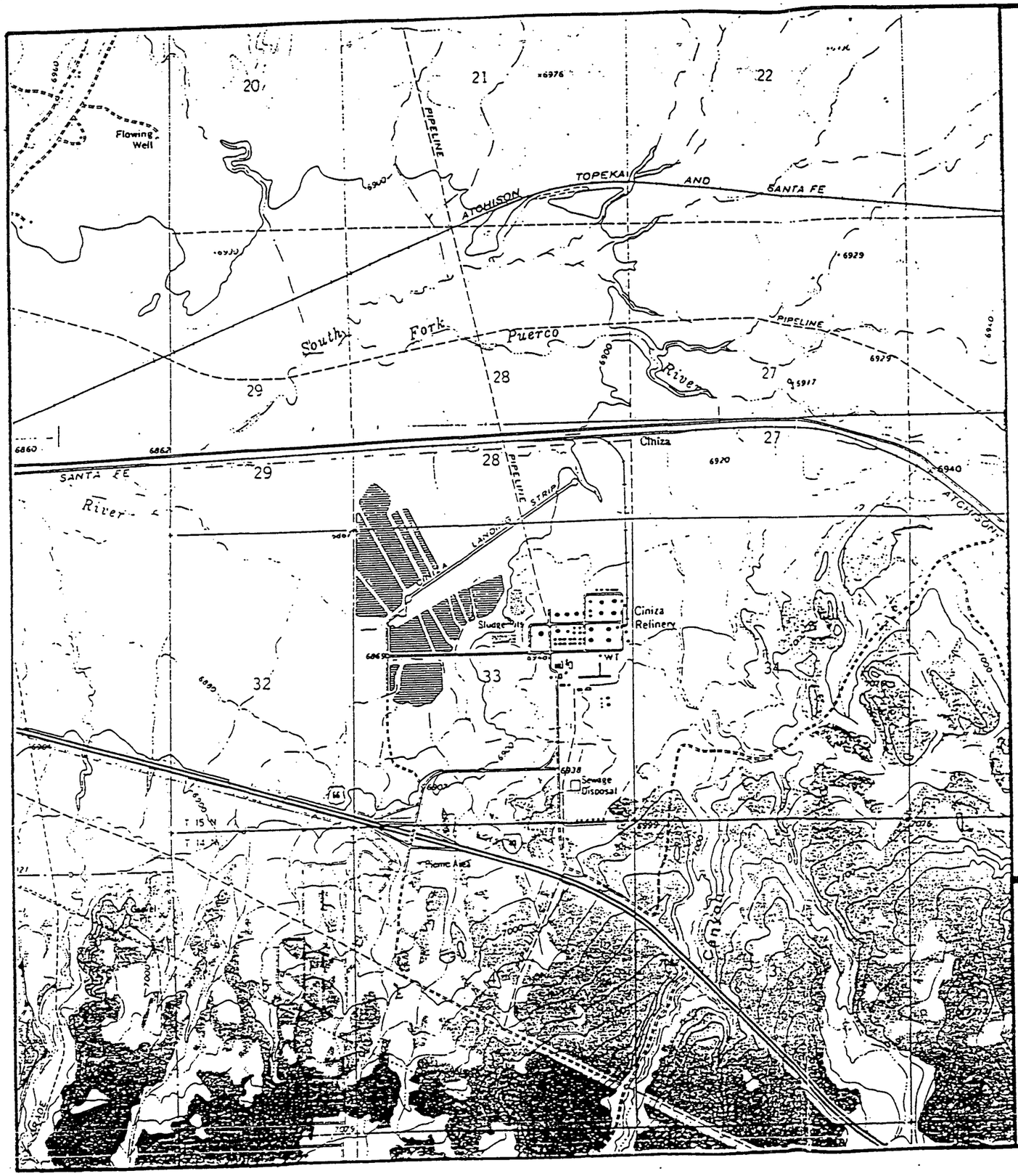
PHASE II

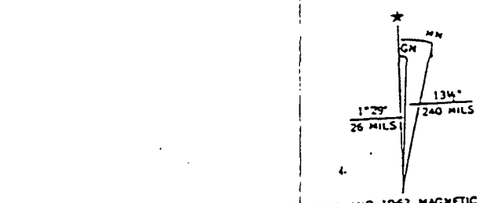
This document outlines the specific activities that have been conducted for the Phase II sampling requirements for Giant Refining Company. All sampling, analytical and statistical calculations have been completed with the results incorporated in this report.

Soil samples were collected from SWMU's #1, #2, and #13 with groundwater samples also being collected from SWMU #2. All soil and groundwater samples were collected by Giant Refining personnel. Most of the soil samples were collected by using a backhoe to dig to the start of each sample interval. A hand auger was then used for the sample collection. The remainder of the samples (shallow bores) were bored and collected with the hand auger. The backhoe and sampling equipment was decontaminated between each boring. The soil samples were collected from May 9 to May 22, 1991. The monitor wells were purged with a submersible pump until all the water was removed from the well. The samples were collected using a stainless steel bail. Again, all equipment was decontaminated as required by the approved generic sampling plan. The groundwater samples were collected on April 30 and May 1, 1991.

All samples were sent to Analytical Technologies, Inc. (ATI) in Mesa, Arizona for final testing. Some of the samples were farmed out to other ATI laboratories to meet required completion dates. All samples were analyzed as required by the generic sampling plan. Section 6 has the analytical data in a tabulated summary form and Section 7 includes copies of all original analytical data.

The statistical analysis and results are included in Section 5. This section outlines the methodology used in determining the background values for the metals and the actual comparisons of the background values to the sample results.





UTM GRID AND 1963 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24000

1 MILE
0
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 KILOMETER
0

CONTOUR INTERVAL 20 FEET
DOTTED LINES REPRESENT 10-FOOT CONTOURS
DATUM IS MEAN SEA LEVEL

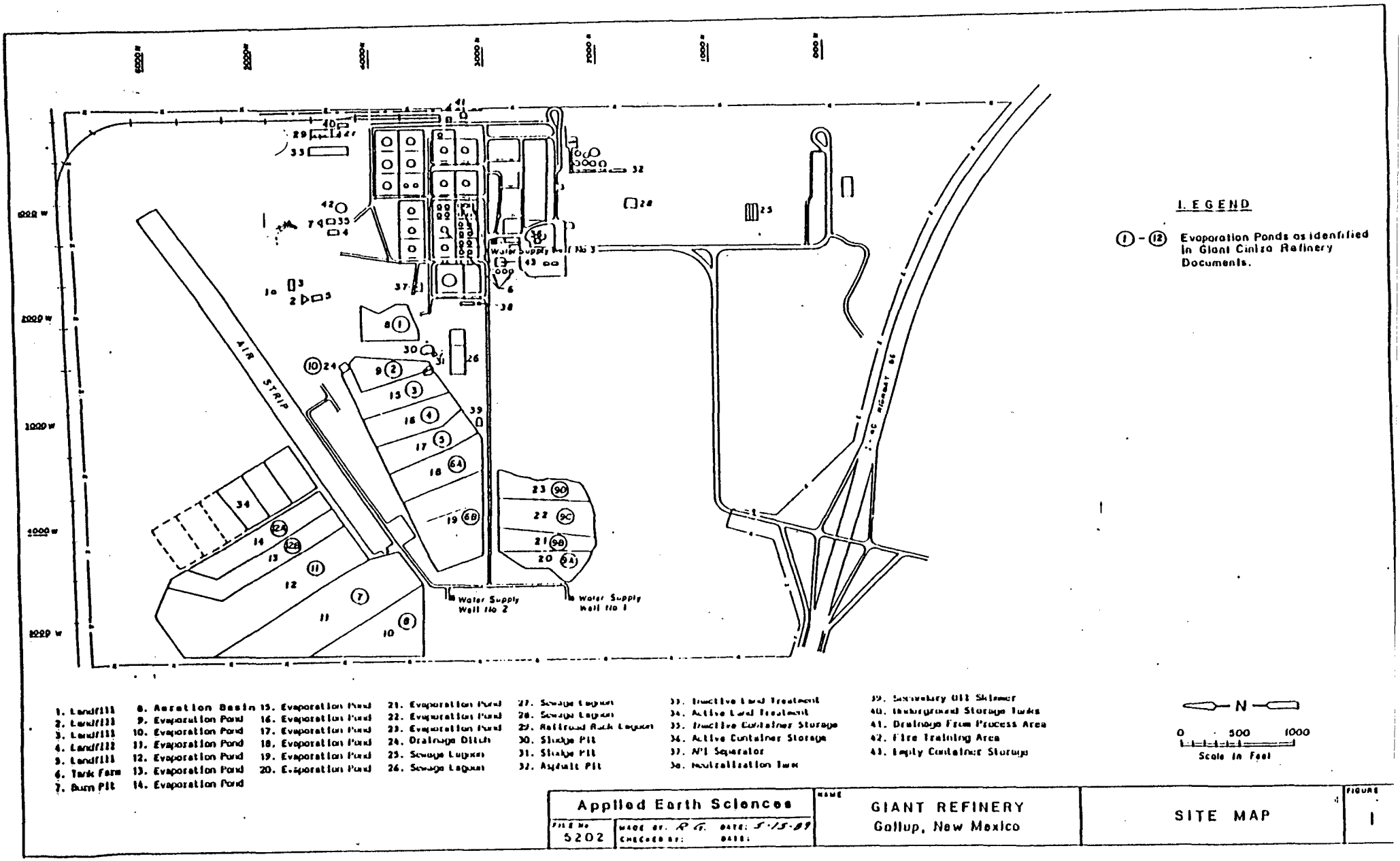
Geoscience Consultants, Ltd.

FIGURE 1-1

GENERAL LOCATION MAP, CINIZA REFINERY AREA

CLIENT:	GIANT
DATE:	OCTOBER, 1985
DRAWN BY:	JCH
CHECKED BY:	
REVISED:	
SCALE:	1:24,000

FIGURE 1.2



Applied Earth Sciences	NAME		FIGURE
FILE No. 5202	GIANT REFINERY Gallup, New Mexico	SITE MAP	1
MADE BY: R.G. DATE: 5-15-89 CHECKED BY: DATE:			

SAMPLE NUMBERING SYSTEM

A unique system was developed for numbering all samples collected during the RCRA Facility Investigation. This numbering system when compared with maps of boring locations assures the ability to pinpoint the exact location of each sample. A description of this sample numbering process is as follows:

Note #	1	2	3	4	5
Sample #	RFI	01	04	V	9.0

Note #1 = Sampling event title
Note #2 = SWMU number
Note #3 = Specific boring number in each SWMU
Note #4 = Type sample
- V = Vertical
- A = Angle
- D = Duplicate
- E = Equipment rinse

Note #5 = Beginning depth of sample interval

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

Claud Rosendale Oct. 21, 1991

Claud Rosendale, Environmental Manager Date

Section 2.0

Quarterly Progress Reports

GIANT
REFINING CO.

Route 3, Box 7
Gallup, New Mexico
87301

505
722-3833

February 12, 1991

Mr. Rich Mayer
U.S. Environmental Protection Agency
Region VI
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: RFI Quarterly Progress Report and Phase II Sampling Schedule
Giant Refining Company
Permit No. NMD000333211

Dear Mr. Mayer:

The draft report for the Phase I RFI sampling at the Ciniza Refinery was submitted to your office on November 27,1990. Since that time there has not been any implementation of additional phases of the RFI. However, Giant has received proposals and approved a contractor for the analytical work required on Phase II of the project. Giant has awarded the analytical contract to Analytical Technologies, Inc. (ATI) of Tempe, Arizona. ATI has laboratories in San Diego, Ca., Renton,Wa., Pensacola, Fl., Fort Collins, Co. and Tempe, Az.. They also have an extensive list of laboratory certification including EPA's CLP program (see attached).

Giant Refining Company is submitting the following sampling schedule for Phase II of the RFI for your review and approval:

SWMU #2 - Groundwater

May 6, 1991: pump MW-4, OW-1, OW-5 and OW-7.
May 7, 1991: sample MW-4, OW-1, OW-5 and OW-7, pump OW-9 and OW-10 (split samples with the New Mexico Oil Conservation Division [OCD]).
May 8, 1991: sample OW-9 and OW-10 and other wells as required by OCD.
May 9-10,1991: Reserved for OCD audit for groundwater discharge plan renewal.

The groundwater samples will be sent to ATI and analyzed for pH, skinner list constituents and background metals.

SWMU #13 - Soil

May 13, 1991: Samples will be collected at two (2) intervals from four (4) vertical borings. The samples will be sent to ATI and analyzed for skinner list constituents and background metals.

SWMU #2 - Soil

May 14-17,1991: Samples will be collected at three (3) intervals from twelve (12) vertical borings and six (6) angle borings. The samples will be sent to ATI and analyzed for pH, skinner list constituents, and background metals.

SWMU #1 - Soil

May 20-22,1991: Samples will be collected at four (4) intervals from four (4) vertical borings and two (2) angle borings. The samples will be sent to ATI and analyzed for EPA 8240 and 8270 priority pollutants and background metals.

Sampling days and specified locations may vary depending on weather, required sampling times, etc.. However, attempts will be made to stay as close to the proposed schedule as possible. Samples must be collected by 2:30 p.m. each day to allow for Federal Express shipment.

Approval of this schedule will allow compliance with the draft report in October and the final report in December.

The attached RFI Workplan approval letter from your office indicates seven (7) groundwater samples will be collected. SWMU #2 of the workplan only list six (6) wells; MW-4, OW-1, OW-5, OW-7, OW-9 and OW-10. Please verify the sampling requirements for six (6) or seven (7) wells. If seven (7) are required, please indicate the seventh well number.

If you have any questions, contact my office at (505) 722-0217.

Sincerely,

Claud Rosendale

Claud Rosendale
Environmental Manager
Ciniza Refinery

cc w/o attachments: Elizabeth Gordon - New Mexico Environmental Improvement Division
David Boyer - New Mexico Oil Conservation Division

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

Name: Claud Rosendale/Claud Rosendale Date: 2-12-91

GIANT
REFINING CO.

Route 3, Box 7
Gallup, New Mexico
87301

505
722-3833

June 20, 1991

Rich Mayer
U.S. Environmental Protection Agency
Region VI
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: QUARTERLY PROGRESS REPORT

Dear Mr. Mayer:

Giant Refining Company is submitting this quarterly progress report as required by the May 31, 1990 RFI Workplan approval letter and HSWA Permit, condition C.4, page 11.

All soil and ground water samples required by Phase II of the RFI have been collected and sent to the laboratory for analysis. This included Solid Waste Management Units #1, #2 and #13.

The Phase I supplemental sampling requested by your March 19, 1991 memo and outlined in the Phase I Final Report has also been completed. The initial results were reviewed and as a result of elevated volatile concentrations, Giant collected additional samples around Tank 569.

The reports for the supplemental sampling of Phase I and Phase II draft report will be submitted as scheduled.

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

Sincerely,

Claud Rosendale

Claud Rosendale
Environmental Manager
Ciniza Refinery

cc: John Stokes - Refinery Manager, Giant Refining Company
Kim Bullerdick - General Counsel
Giant Industries Arizona, Inc.

Section 3.0

Project Notifications

GIANT
REFINING CO.

Route 3, Box 7
Gallup, New Mexico
87301

505
722-3833

March 25, 1991

Barbara Garrett
Legal Department
Gallup Independent
P.O. Box 1210
Gallup, New Mexico 87305

RE: PUBLIC NOTICE

Dear Ms. Garrett:

Please print the enclosed public notice in the Gallup Independent at the earliest possible date. The purchase order number is 01784.

If you have any questions, contact my office at (505) 722-0217.

Sincerely,

Claud Rosendale
Environmental Manager
Ciniza Refinery

Enclosures

CCR/sp

PUBLIC NOTICE FOR GIANT REFINING COMPANY'S
RCRA FACILITY INVESTIGATION

ADDRESS: Giant Refining Company
Ciniza Refinery
Route 3 Box 7
Gallup, New Mexico 87301

LOCATION: I-40 Exit 39
Jamestown, New Mexico 87347
Sections 28 and 33
Township 15 North
Range 15 West
New Mexico Prime Meridian

The RCRA Facility Investigation consist of collecting soil and water samples from various locations around the facility and analyzing them for specific parameters to determine if contamination exists. This investigation has been divided into three phases. The EPA approved workplan for the investigation and the report submitted to the EPA for Phase I of the investigation is available for public review at the Gallup Public Library, 115 West Hill, Gallup, New Mexico. Phase II of the RFI Workplan will begin on April 29, 1991. All comments should be addressed to:

Ciniza Refinery
Attn: Claud Rosendale
Route 3 Box 7
Gallup, New Mexico 87301

Affidavit of Publication

STATE OF NEW MEXICO,

) ss

COUNTY OF McKINLEY

Barbara Garrett being duly sworn upon oath, deposes and says:

As Legal Clerk of the Gallup Independent, a newspaper published in and having a general circulation in McKinley County, New Mexico, and in the City of Gallup, therein: that this affiant makes this affidavit based upon personal knowledge of the facts herein sworn to. That the publication, a copy of which is hereto attached was published in said newspaper during the period and time of publication and said notice was published in the newspaper proper, and not in a supplement thereof,

for One (1) Time, the first publication being on the

28th day of March, 19 91 the

second publication being on the _____ day of

_____, 19_____ the third publication

on the _____ day of _____, 19_____.

and the last publication being on the _____ day of

_____, 19_____.

That such newspaper, in which such notice or advertisement was published, is now and has been at all times material hereto, duly qualified for such purpose, and to publish legal notices and advertisements within the meaning of Chapter 12, of the statutes of the State of New Mexico, 1941 compilation.

Affiant.

Sworn and subscribed to before me this 1st day of

April, A.D., 19 91

Notary Public.

My commission expires

8-29-93

LEGAL NOTICE
JAMESTOWN, MCKINLEY COUNTY, NEW MEXICO

PUBLIC NOTICE FOR
GIANT REFINING COMPANY'S
RCRA FACILITY INVESTIGATION

ADDRESS:
Giant Refining Company
Ciniza Refinery
Route 3 Box 7
Gallup, New Mexico 87301

LOCATION:
I-40 Exit 39
Jamestown, New Mexico 87347
Sections 28 and 33
Township 15 North
Range 15 West
New Mexico Prime Meridian

The RCRA Facility Investigation consist of collecting soil and water samples from various locations around the facility and analyzing them for specific parameters to determine if contamination exists. This investigation has been divided into three phases. The EPA approved workplan for the investigation and the report submitted to the EPA for Phase I of the investigation is available for public review at the Gallup Public Library, 115 West Hill, Gallup, New Mexico. Phase II of the RFI Workplan will begin on April 20, 1991. All comments should be addressed to:

Ciniza Refinery
Attn: Claud Rosendale
Route 3 Box 7
Gallup, New Mexico 87301

Legal #6711 published in the Independent March 28, 1991.

Section 4.0

Sample Collection Data

GIANT
REFINING CO.

Route 3, Box 7
Gallup, New Mexico
87301

505
722-3833

April 17, 1991

Elizabeth Proffitt
Analytical Technologies, Inc.
9830 South 51st Street
Suite B-113
Phoenix, Arizona 85044

RE: Sample Bottle Request

Dear Ms. Proffitt:

Giant Refining Company's, Ciniza Refinery, will begin the 1991 RCRA Facility Investigation sampling on April 29, 1991. There have been some slight modifications and additions to the original analytical requests. Please review the following requests and attachments and have the sample bottles delivered to the Ciniza Refinery on the dates requested for each phase.

PHASE II Groundwater Sampling - SWMU #2

A. 12-5-1990 Request Section II.C
Please send sample bottles for water samples to include:

1. 7 wells (MW-4, OW-1, OW-2, OW-5, OW-7, OW-9 and OW-10)
2. 1 duplicate well sample
3. 2 equipment blanks
4. 2 trip blanks

Each of these samples should be analyzed for:
1. pH
2. Skinner List (See Table 4)
3. Background Metals (See Table 1)

B. Oil Conservation Division Sampling
Send sample bottles for water samples (possibly contaminated with hydrocarbons) for:

1. 3 wells (OW-16, OW-25 and OW-26)
2. 1 trip blank

Each of these samples should be analyzed for:
1. General Inorganics (See Table 5)
2. Dissolved Metals (See Table 6)
3. Aromatic Volatile Organics (See Table 7)
4. Halogenated Volatile Organics (See Table 8)
5. Appendix IX Semivolatiles Organics.(See Table 9)

Deliver the sample bottles for items A and B, to the Ciniza Refinery with an April 25, 1991 arrival date.

C. Phase I Supplemental Sampling

1. SWMU #6
Send sample bottles for soils to include:

a) ~~9~~ 10 soils
b) 1 duplicate (soil)
c) 1 equipment blank (liquid)
d) ~~2~~ 1 trip blank (liquid)

Each of these samples should be analyzed for:
a) ~~8~~ 7 samples to be analyzed for BTEX (Method 8020)
b) 1 sample to be analyzed for BTEX (Method 8020) and Lead (Method 6010)
c) 1 sample to be analyzed for BTEX (Method 8020), Lead and Nickel (Method 6010)

2. SWMU #8
Send sample bottles for soils to include:

a) 2 soils
b) 1 duplicate (soil)
c) ~~1 trip blank (liquid)~~

Each of these samples should be analyzed for:
a) Priority Pollutants - Method 8270 (See Table ~~3~~ 4)

3. SWMU #10
Send sample bottles for soils to include:

a) 3 soils
b) 1 duplicate (soil)
c) 1 equipment blank (liquid)
d) 1 trip blank (liquid)

Each of these samples should be analyzed for:
a) Priority Pollutants - Method 8240 (See Table 2)
b) Priority Pollutants - Method 8270 (See Table 3)
c) Metals - Chromium, Copper, Lead, Zinc - Method 6010

Assure that all sample bottles for item C are delivered to Ciniza no later than May 2, 1991.

D. Phase II RFI Soil Samples

1. SWMU #2
Send sample bottles for soil samples to include:

a) 54 soils

b) 3 duplicates (soils)
c) 2 equipment blanks (liquids)
d) 3 trip blanks (liquids)

Each of these samples should be analyzed for:
a) pH
b) Skinner List (See Table 4)
c) Background Metals (See Table 1)

2. SWMU #13
Send sample bottles for soil samples to include:

a) 8 soils
b) 1 duplicate (soil)
c) 1 equipment blank (liquid)
d) 1 trip blank (liquid)

Each of these samples should be analyzed for:
a) Skinner List (See Table 4)

3. SWMU #1
Send sample bottles for soil samples to include:

a) 24 soils
b) 2 duplicates (soils)
c) 2 equipment blanks (liquids)
d) 3 trip blanks (liquids)

Each of the samples should be analyzed for:
a) Priority Pollutants - Method 8240 (See Table 2)
b) Priority Pollutants - Method 8270 (See Table 3)
c) Background Metals (See Table 1)

Assure that all sample bottles for item D are delivered to Ciniza no later than May 8, 1991.

If you have any questions, contact my office at (505) 722-0217.

Sincerely,

Claud Rosendale

Claud Rosendale
Environmental Manager
Ciniza Refinery

enclosures

TABLE -1
BACKGROUND METALS

Total Metals

Parameter	Analytical Method	Reporting Limit mg/kg
Antimony	6010	6.0
Arsenic	7060	0.5
Barium	6010	1.0
Beryllium	6010	0.2
Cadmium	6010	0.5
Chromium	6010	1.0
Cobalt	6010	1.0
Copper	6010	2.0
Lead	6010	5.0
Mercury	7471	0.2
Nickel	6010	4.0
Potassium	6010	500
Selenium	7740	0.5
Vanadium	6010	1.0
Zinc	6010	2.0

TABLE-2
PRIORITY POLLUTANT VOLATILES

Method 8240

Parameter	Reporting Limits ug/kg
Acetone	5,000
Acrolein	10,000
Acrylonitrile	10,000
Benzene	500
Bromodichloromethane	500
Bromoform	500
Bromomethane(methyl bromide)	1,000
Carbon disulfide	500
Carbon tetrachloride	500
Chlorobenzene	500
Chlorodibromoethane	500
Chloroethane	1,000
2-Chloroethylvinyl ether	1,000
Chloroform	500
Chloromethane	1,000
Dibromomethane	500
1,4 - Dichloro-2-butane	-
trans-1,4-Dichloro-2-butene	500
Dichlorodifluoromethane	2,000
1,1-Dichloroethane	500
1,2-Dichloroethane	500
1,1-Dichloroethylene	500
trans-1,2-Dichloroethylene	500
1,2-Dichloropropane	500
cis-1,3-Dichloropropene	500
trans-1,3-Dichloropropene	500
Ethanol	10,000
Ethyl benzene	500
Ethyl methacrylate	1,000
2-Hexanone	1,000
Iodomethane	500
Methylene Chloride	500
Methyl ethyl ketone (2-Butanone)	1,000
Methyl isobutyl ketone (4-methyl-2-pentanone)	1,000
Styrene	500
1,1,2,2,-Tetrachloroethane	500
Tetrachloroethylene	500
Toluene	500
1,1,1-Trichloroethane	500
1,1,2-Trichloroethane	500
Trichloroethylene	500
Trichlorofluoromethane	500
1,2,3-Trichloropropane	500
Vinyl acetate	1,000
Vinyl chloride	1,000
Xylenes	500

TABLE-3
PRIORITY POLLUTANT SEMIVOLATILES

Method 8270

Parameter	Reporting Limits ug/kg
Acenaphthene	5,000
Acenaphthylene	5,000
Acetophenone	5,000
4-Aminobiphenyl	-
Aniline	5,000
Anthracene	5,000
Benzidine	50,000
Benzoic Acid	5,000
Benzo(a)anthracene	5,000
Benzo(b)fluoranthene	5,000
Benzo(k)fluoranthene	5,000
Benzo(g,h,i)perylene	5,000
Benzo(a)pyrene	5,000
Benzyl alcohol	5,000
Bis(2-chloroethoxy)methane	5,000
Bis(2-chloroethyl)ether	5,000
Bis(2-chloroisopropyl)ether [bis(2-chloro-1 methylethyl)ether]	5,000
Bis(2-ethylhexyl)phthalate	5,000
4-Bromophenyl phenyl ether	5,000
Butyl benzyl phthalate	5,000
4-Chloroaniline	5,000
4-Chloro-3-methylphenol	5,000
1-Chloronaphthane	5,000
2-Chloronaphthane	5,000
2-Chlorophenol	5,000
4-Chlorophenyl phenyl ether	5,000
Chrysene	5,000
Dibenzo(a,j)acridine	-
Dibenzo(a,h) anthracene	5,000
Dibenzo furans(tetrachloro, pentachloro, hexachloro)	-
Di-n-butylphthalate	5,000
1,2-Dichlorobenzene	5,000
1,3-Dichlorobenzene	5,000
1,4-Dichlorobenzene	5,000
3,3-Dichlorobenzidine	10,000
2,4-Dichlorophenol	5,000
2,6-Dichlorophenol	5,000
Diethyl phthalate	5,000
p(Dimethylamino)azobenzene	5,000
7,12-Dimethylbenz(a)anthracene	5,000
aa-Dimethylphenethylamine	5,000
2,4-Dimethylphenol	5,000
Dimethyl phthalate	5,000
4,6-Dinitro-2-methylphenol	25,000
2,4-Dinitrophenol	25,000
2,4-Dinitrotoluene	5,000

TABLE-3 Continued

2,6-Dintrotoluene	5,000
Di-n-octyl phthalate	5,000
Diphenylamine	5,000
1,2-Diphenylhydrazine	5,000
Ethyl methanesulfonate	5,000
Fluoranthene	5,000
Flourene	5,000
Hexachlorobenzene	5,000
Hexachloro-13-butadiene	5,000
Hexachlorocyclopentadiene	5,000
Hexachloroethane	5,000
Indeno(1,2,3-cd)pyrene	5,000
Isophorene	5,000
3-Methylcholanthrene	5,000
Methyl methanesulfonate	5,000
2-Methylnaphthalene	5,000
2-Methylphenol	5,000
3-Methylphenol	5,000
4-Methylphenol	5,000
Naphthalene	5,000
1-Naphthylamine	5,000
2-Naphthylamine	5,000
2-Nitroaniline	25,000
3-Nitroaniline	25,000
4-Nitroaniline	25,000
Nitrobenzene	5,000
2-Nitrophenol	5,000
4-Nitrophenol	25,000
N-Nitrosodimethylamine	5,000
N-Nitroso-di-n-butylamine	5,000
N-Nitroso-di-n-propylamine	5,000
N-Nitrosopiperidine	5,000
N-Nitrosodiphenylamine	5,000
Pentachlorobenzene	5,000
Pentachloronitrobenzene	25,000
Pentachlorophenol	25,000
Phenacetin	5,000
Phenanthrene	5,000
Phenol	5,000
2-Picoline	5,000
Pronamide	5,000
Pyrene	5,000
1,2,4,5-Tetrachlorobenzene	5,000
2,3,4,6-Tetrachlorophenol	25,000
1,2,4-Trichlorobenzene	5,000
2,4,5-Trichlorophenol	25,000
2,4,6-Trichlorophenol	5,000

TABLE-4
SKINNER LIST

METHOD 8240

Parameter	Reporting Limit (ug/kg)
Benzene	500
Carbon disulfide	500
Chlorobenzene	500
2-Chloroethylvinyl ether	1,000
1,2-Dibromomethane	1,000
1,2-Dichloroethane	500
1,4-Dioxane	50,000
Ethyl Benzene	500
Methyl ethyl ketone (2-butanone)	1,000
Styrene	500
Toluene	500
Xylenes	500

METHOD 8270

Anthracene	5,000
Benzenethiol	-
Benzo(a)anthracene	5,000
Benzo(b)fluoranthene	5,000
Benzo(k)fluoranthene	5,000
Benzo(a)pyrene	5,000
Bis(2-ethylhexyl)phthalate	5,000
Butyl benzyl phthalate	5,000
Chrysene	5,000
Dibenzo(a,X)acridine	-
Dibenzo(a,h)anthracene	5,000
Di-n-butylphthalate	5,000
1,2-Dichlorobenzene	5,000
1,3-Dichlorobenzene	5,000
1,4-Dichlorobenzene	5,000
Diethyl phthalate	5,000
7,12-Dimethylbenz(a)anthrancene	5,000
2,4-Dimethylphenol	5,000
Dimethyl phthalate	5,000
2,4-Dinitrophenol	25,000
Di-n-octyl phthalate	5,000
Fluoranthene	5,000
Indene	5,000
Methylchrysene	-
1-Methylnaphthalene	5,000
2-Methylphenol	5,000
3-Methylphenol	5,000
4-Methylphenol	5,000
Naphthalene	5,000
4-Nitrophenol	25,000
Phenanthrene	5,000

TABLE-4 Continued

Phenol	5,000
Pyrene	5,000
Pyridine	10,000
Quinoline	25,000

Table 5

GIANT REFINING GALLUP, NEW MEXICO

General Inorganics

Parameter	Units	Reporting Limit
Alkalinity, Total as CaCO3 at pH 4.5	mg/L	5.0
Alkalinity, Bicarb. as CaCO3 at pH 4.5	mg/L	5.0
Alkalinity, Carb. as CaCO3at pH 8.3	mg/L	5.0
Alkalinity, Hydrox. as CaCO3	mg/L	5.0
Chloride	mg/L	3.0
pH	units	--
Phenolics	mg/L	0.010
Sulfate	mg/L	5.0
Specific Conductance at 25 deg.C	umhos/c	1.0
Total Dissolved Solids	mg/L	10.0

Table 6

GIANT REFINING GALLUP, NEW MEXICO

METALS
DISSOLVED METALS

Parameter	Units	Reporting Limit
Arsenic	mg/L	0.0050
Barium	mg/L	0.010
Cadmium	mg/L	0.0050
Calcium	mg/L	0.20 (?)
Chromium	mg/L	0.010
Lead	mg/L	0.010
Manganese	mg/L	0.010
Selenium	mg/L	0.0050
Silver	mg/L	0.010
Sodium	mg/L	5.0

Table 7

GIANT REFINING GALLUP, NEW MEXICO

AROMATIC VOLATILE ORGANICS

Parameter	Units	Reporting Limit
Benzene	ug/L	0.50
Toluene	ug/L	0.50
Chlorobenzene	ug/L	0.50
Ethyl benzene	ug/L	0.50
Total xylenes	ug/L	1.0
1,3-Dichlorobenzene	ug/L	0.50
1,4-Dichlorobenzene	ug/L	0.50
1,2-Dichlorobenzene	ug/L	0.50

Table 8

GIANT REFINING GALLUP, NEW MEXICO

Halogenated Volatile Organics

Parameter	Units	Reporting Limit
Chloromethane	ug/L	5.0
Bromomethane	ug/L	5.0
Vinyl chloride	ug/L	1.0
Chloroethane	ug/L	5.0
Methylene chloride	ug/L	5.0
1,1-Dichloroethene	ug/L	0.50
1,1-Dichloroethane	ug/L	0.50
1,2-Dichloroethane	ug/L	1.0
trans-1,2-Dichloroethene	ug/L	0.50
Chloroform	ug/L	0.50
1,1,2-Trichloro-1,2,2-trifluoroethane		
1,1,1-Trichloroethane	ug/L	0.50
Carbon tetrachloride	ug/L	0.50
Bromodichloromethane	ug/L	1.0
1,2-Dichloropropane	ug/L	1.0
Bromoform	ug/L	5.0
1,1,2,2-Tetrachloroethane	ug/L	1.0
Tetrachloroethene	ug/L	0.50
Chlorobenzene	ug/L	2.0

Table 9

GIANT REFINING GALLUP, NEW MEXICO

APPENDIX IX SEMIVOLATILE ORGANICS

Parameter	nits	Reporting Limit
Acenaphthene	ug/L	10
Acenaphthylene	ug/L	10
Acetophenone	ug/L	10
2-Acetylaminofluorene	ug/L	10
4-Aminobiphenyl	ug/L	10
Aniline	ug/L	10
Anthracene	ug/L	10
Aramite	ug/L	10
Benzo(a)anthracene	ug/L	10
Benzo(b)fluoranthene	ug/L	10
Benzo(k)flouranthene	ug/L	10
Benzo(g,h,i)perylene	ug/L	10
Benzo(a)pyrene	ug/L	10
Benzyl alcohol	ug/L	10
bis(2-Chloroethoxy)-methane	ug/L	10
bis(2-Chloroethyl)ether	ug/L	10
bis(2-Chloroisopropyl) ether	ug/L	10
bis(2-Ethylhexyl) phthalate	ug/L	10
4-Bromophenyl phenyl ether	ug/L	10
Butyl benzyl phthalate	ug/L	10
2sec-Butyl-4,6-dinitro-phenol (Dinoseb)	ug/L	10
4-Chloroaniline	ug/L	10
4-Chloro-3-methylphenol	ug/L	10
2-Chloronaphthalene	ug/L	10
2-Chlorophenol	ug/L	10
4-Chlorophenyl phenyl ether	ug/L	10
o-Cresol	ug/L	10
m & p-Cresol(s)	ug/L	10
Chrysene	ug/L	10
Dibenz(a,h)anthracene	ug/L	10
Dibenzofuran	ug/L	10
Di-n-butyl phthalate	ug/L	10
1,2-Dichlorobenzene	ug/L	10
1,3-Dichlorobenzene	ug/L	10
1,4-Dichlorobenzene	ug/L	10

Table 9 cont.

GIANT REFINING GALLUP, NEW MEXICO

APPENDIX IX SEMIVOLATILE ORGANICS

Parameter	Units	Reporting Limit
3,3'-Dichlorobenzidine	ug/L	20
2,4-Dichlorophenol	ug/L	10
2,6-Dichlorophenol	ug/L	10
Diethyl phthalate	ug/L	10
Dimethoate	ug/L	10
p-Dimethylaminoazobenzene	ug/L	10
7,12-Dimethylbenz-anthracene	ug/L	10
3,3'-Dimethylbenzidine	ug/L	10
a,a-Dimethylphen-ethylamine	ug/L	10
2,4-Dimethylphenol	ug/L	10
Dimethyl phthalate	ug/L	10
1,3-Dinitrobenzene	ug/L	10
4,6-Dinitro-2-methylphenol	ug/L	10
4,6-Dinitro-o-cresol	ug/L	50
2,4-Dinitrophenol	ug/L	50
2,4-Dinitrotoluene	ug/L	10
2,6-Dinitrotoluene	ug/L	10
Di-n-octyl phthalate	ug/L	10
Diphenylamine	ug/L	10
Disulfoton	ug/L	50
bis(2-Ethylhexyl) phthalate	ug/L	10
Ethyl methanesulfonate	ug/L	10
Famphur	ug/L	--
Flouranthene	ug/L	10
Flourene	ug/L	10
Hexachlorobenzene	ug/L	10
Hexachlorobutadiene	ug/L	10
Hexachlororcyclopentadiene	ug/L	10
Hexachloroethane		
Hexachlorophene	ug/L	--
Hexachloropropene	ug/L	10
Indeno(1,2,3-c,d)pyrene	ug/L	10
Isophorone	ug/L	10
Isosafrole	ug/L	20
Methapyrilene	ug/L	10
3-Methylcholanthrene	ug/L	10
Methyl methanesulfonate	ug/L	10
2-Methylnaphthalen.	ug/L	10
Methyl parathion	ug/L	50
2-Methylphenol	ug/L	10
3/4-Methylphenol	ug/L	10
Methyl methacrylate	ug/L	10
Napthalene	ug/L	10

Table 9 Cont.

GIANT REFINING GALLUP, NEW MEXICO

APPENDIX IX SEMIVOLATILE ORGANICS

Parameter	Units	Reporting Limit
1,4-Naphthaquinone	ug/L	10
1-Naphthylamine	ug/L	10
2-Naphthylamine	ug/L	10
2-Nitroaniline	ug/L	50
3-Nitroaniline	ug/L	50
4-Nitroaniline	ug/L	50
Nitrobenzene	ug/L	10
2-Nitrophenol	ug/L	10
4-Nitrophenol	ug/L	50
4-Nitroquinoline-1-oxide	ug/L	--
N-Nitroso-di-n-butylamine	ug/L	10
N-Nitrosodiethylamine	ug/L	10
N-Nitrosodimethylamine	ug/L	10
N-Nitrosodiphenylamine	ug/L	10
N-Nitroso-di-n-propylamine	ug/L	10
N-Nitrosomethylethylamine	ug/L	10
N-Nitrosomorpholine	ug/L	10
N-Nitrosopiperidine	ug/L	10
5-Nitro-o-toluidine	ug/L	10
N-Nitrosopyrrolidine	ug/L	10
Parathion	ug/L	50
Pentachlorobenzene	ug/L	10
Pentachlorethane	ug/L	10
Pentachloronitrobenzene	ug/L	50
Pentachlorophenol	ug/L	50
Phenacetin	ug/L	10
Phenanthrene	ug/L	10
Phenol	ug/L	10
4-Phenylenediamine	ug/L	--
Phorate	ug/L	100
2-Picoline	ug/L	10
Pronamide	ug/L	10
Pyrene	ug/L	10
Pyridine	ug/L	20
Safrole	ug/L	10
Sulfotepp	ug/L	50
1,2,4,5-Tetrachloro-benzene	ug/L	10
2,3,4,6-Tetrachlorophenol	ug/L	50
Thionazin	ug/L	50

Table 9 Cont.

GIANT REFINING GALLUP, NEW MEXICO

APPENDIX IX SEMIVOLATILE ORGANICS

Parameter	Units	Reporting Limit
sym-Trinitrobenzene	ug/L	10
2-Toluidine	ug/L	10
1,2,4-Trichlorobenzene	ug/L	10
2,4,5-Trichlorophenol	ug/L	50
0,0,0-Triethylphosphorothioate	ug/L	10
2,4,6-Trichlorophenol	ug/L	10
1,3,5-Trinitrobenzene	ug/L	10
Ethyl methacrylate	ug/L	10

GIANT
REFINING CO.

Route 3, Box 7
Gallup, New Mexico
87301

505
722-3833

July 9, 1990

Rich Mayer
U.S. Environmental Protection Agency
Region 6
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

RE: Status Report for Giant Refinery RFI

Dear Mr. Mayer:

The RCRA Facility Investigation Phase I sampling for Giant Refining Company's Ciniza Refinery was completed on July 5, 1990. All soil samples for SWMU's #6, #8, #9, and #10 have been collected and received at the contract laboratory. The only liquid required for this phase of the sampling was from the railroad rack lagoon if drainage was occurring. However, no drainage was occurring, therefore no sample was collected at this time. A sample may be collected from the lagoon at a later date to assure possible transfer of this liquid to the facility API Separator.

All sample points and corresponding sample numbers are specified on the attachments. A description of the sample numbering process is as follows:

1	2	3	4	5
RFI	08	06	V	0.0

#1 = Sampling event
#2 = SWMU number
#3 = Specific sample hole number in each SWMU
#4 = Type sample
  V = Vertical
  A = Angle
  D = Duplicate
  E = Equipment rinse
#5 = Beginning depth of sample interval

The draft report will follow as required by the approved schedule.

Claud Rosendale
Environmental Manager
Ciniza Refinery

cc: w/attachments:
John Stokes - Refinery Manager; Giant Refining Co.
Kim Bullerdick- Corporate Counsel; Giant Ind. Inc.

FIGURE 4.1

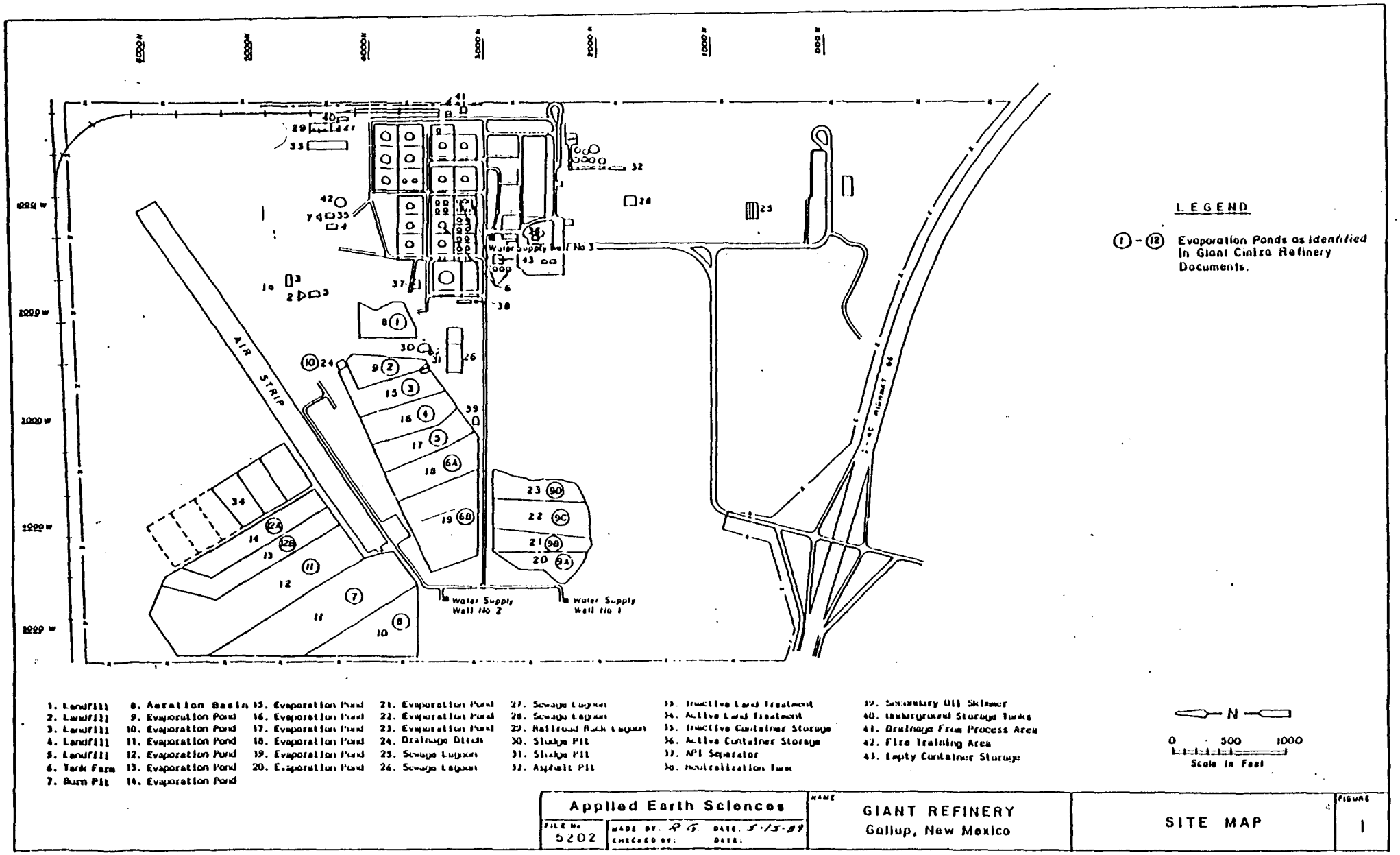

AIR STRIP
Water Supply Well No 3
Water Supply Well No 2
Water Supply Well No 1
LEGEND
(1) - (12) Evaporation Ponds as identified in Giant Cinlza Refinery Documents.
1. Landfill
2. Landfill
3. Landfill
4. Landfill
5. Landfill
6. Tank Farm
7. Burn Pit
8. Aeration Basin
9. Evaporation Pond
10. Evaporation Pond
11. Evaporation Pond
12. Evaporation Pond
13. Evaporation Pond
14. Evaporation Pond
15. Evaporation Pond
16. Evaporation Pond
17. Evaporation Pond
18. Evaporation Pond
19. Evaporation Pond
20. Evaporation Pond
21. Evaporation Pond
22. Evaporation Pond
23. Evaporation Pond
24. Drainage Ditch
25. Sewage Lagoon
26. Sewage Lagoon
27. Sewage Lagoon
28. Sewage Lagoon
29. Railroad Rack Lagoon
30. Sludge Pit
31. Sludge Pit
32. Asphalt Pit
33. Inactive Land Treatment
34. Active Land Treatment
35. Inactive Container Storage
36. Active Container Storage
37. API Separator
38. Neutralization Tank
39. Secondary Oil Skimmer
40. Underground Storage Tanks
41. Drainage From Process Area
42. Fire Training Area
43. Empty Container Storage
N
0 500 1000
Scale in Feet
Applied Earth Sciences
FILE No. 5202
MADE BY: R G DATE: 5-15-89
CHECKED BY: DATE:
NAME
GIANT REFINERY
Gallup, New Mexico
SITE MAP
FIGURE 1

FIGURE 4.2

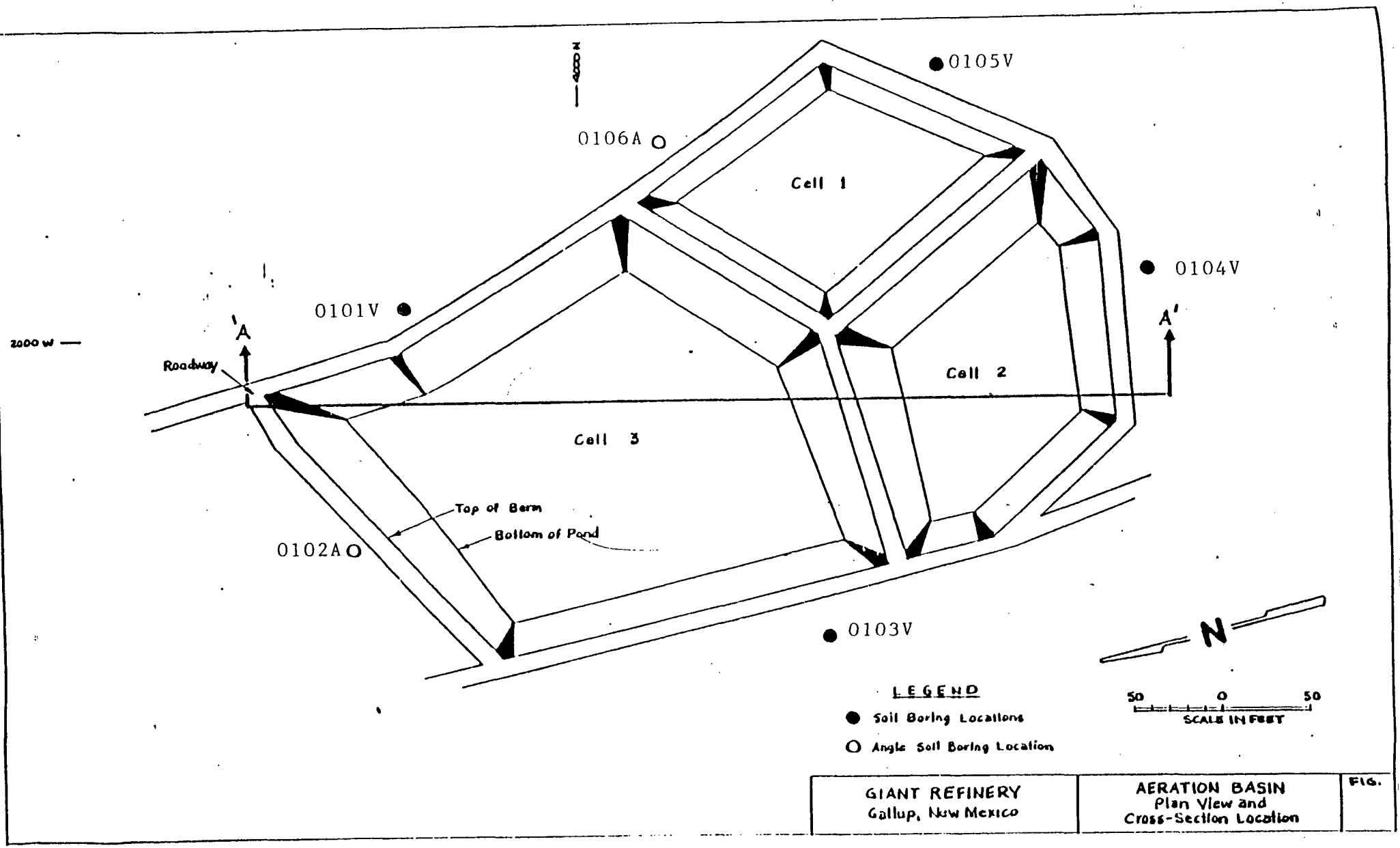
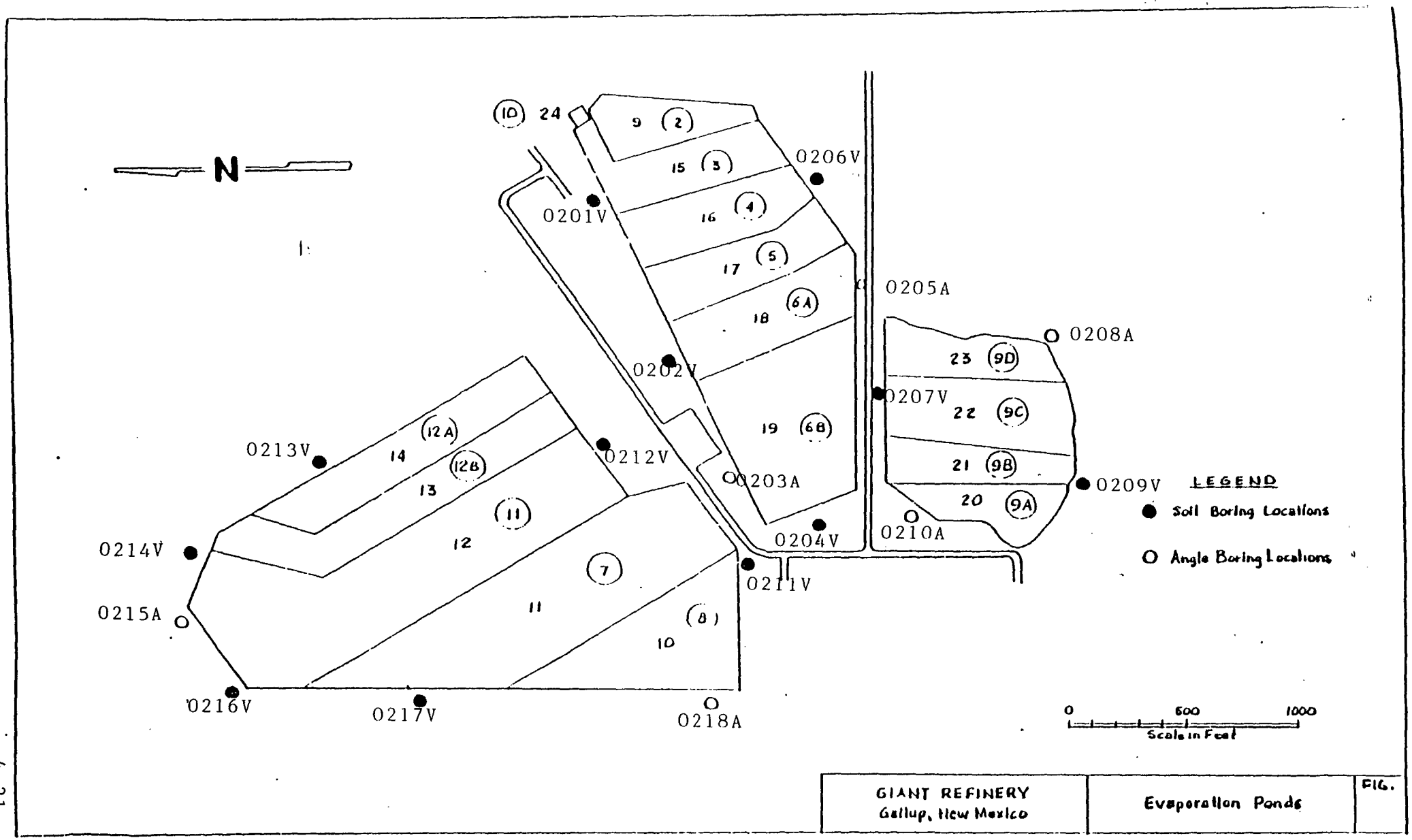

2000 N
0105V
0106A
Cell 1
0104V
2000 W
0101V
A
A'
Roadway
Cell 2
Cell 3
Top of Berm
Bottom of Pond
0102A
0103V
N
LEGEND
Soil Boring Locations
Angle Soil Boring Location
50 0 50
SCALE IN FEET
GIANT REFINERY
Gallup, New Mexico
AERATION BASIN
Plan View and
Cross-Section Location
FIG.

FIGURE 4.3



GIANT REFINERY Gallup, New Mexico	Evaporation Ponds	FIG.

FIGURE 4.4

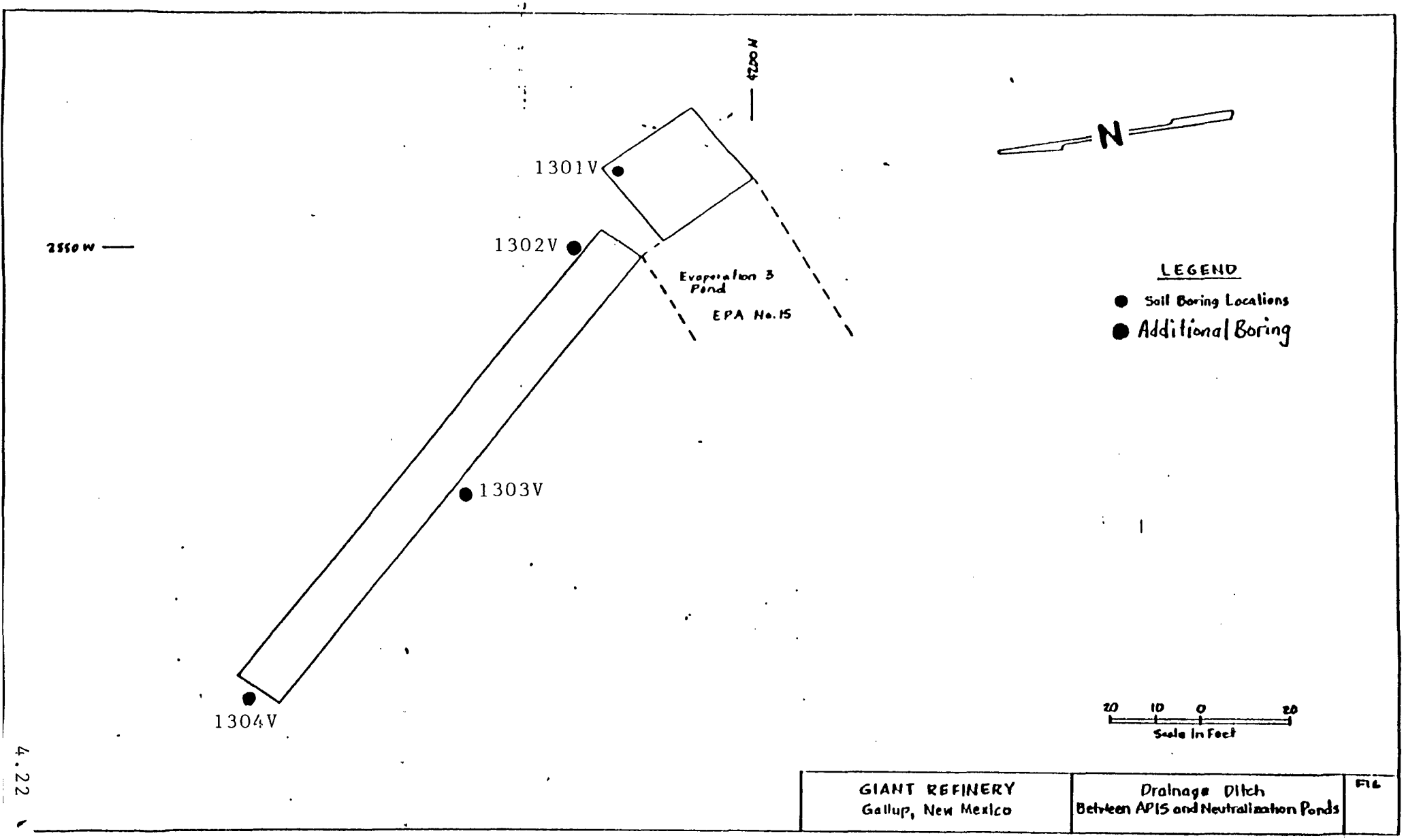

4250 N
2550 W
1301V
1302V
1303V
1304V
Evaporation 3 Pond
EPA No. 15
N
LEGEND
Soil Boring Locations
Additional Boring
20 10 0 20
Scale in Feet
GIANT REFINERY
Gallup, New Mexico
Drainage Ditch
Between API 5 and Neutralization Ponds
FIG

TABLE 2

Field Equipment Checklist
Soil and Sludge Sampling

5-20-91

	ITEM	REMARKS
✓	PID Meter	✓ Calibrated
✓	Site Specific SWMU Work Plan	
✓	Generic Sampling Plan	
✓	Site Map With Sample Locations	
✓	Sample Bottles	
✓	Ice Chests	
✓	Trip Blanks	
✓	Methanol	
✓	Deionized Water	
✓	Squeeze Bottles	
✓	Personal Protective Equipment	
✓	Chain of Custody and Sample Record Forms	
✓	Plastic Bags (To provide clean surfaces)	
✓	Disposable Gloves	
✓	Paper Towels	
✓	Tape (For labels and dispenser)	
✓	Sharpie, Pens, Pencils	
✓	Blue Ice or Ice	
✓	Zip-Lock Bags, 1 Gallon	

TABLE 2

Field Equipment Checklist
Soil and Sludge Sampling

5-21-91

	ITEM	REMARKS
✓	PID Meter	✓ Calibrated
✓	Site Specific SWMU Work Plan	
✓	Generic Sampling Plan	
✓	Site Map With Sample Locations	
✓	Sample Bottles	
✓	Ice Chests	
✓	Trip Blanks	
✓	Methanol	
✓	Deionized Water	
✓	Squeeze Bottles	
✓	Personal Protective Equipment	
✓	Chain of Custody and Sample Record Forms	
✓	Plastic Bags (To provide clean surfaces)	
✓	Disposable Gloves	
✓	Paper Towels	
✓	Tape (For labels and dispenser)	
✓	Sharpie, Pens, Pencils	
✓	Blue Ice or Ice	
✓	Zip-Lock Bags, 1 Gallon	

TABLE 2

Field Equipment Checklist
Soil and Sludge Sampling

5-22-91

	ITEM	REMARKS
___	PID Meter	✓ Calibrated
✓	Site Specific SWMU Work Plan	
✓	Generic Sampling Plan	
✓	Site Map With Sample Locations	
✓	Sample Bottles	
✓	Ice Chests	
✓	Trip Blanks	
✓	Methanol	
✓	Deionized Water	
✓	Squeeze Bottles	
✓	Personal Protective Equipment	
✓	Chain of Custody and Sample Record Forms	
✓	Plastic Bags (To provide clean surfaces)	
✓	Disposable Gloves	
✓	Paper Towels	
✓	Tape (For labels and dispenser)	
✓	Sharpie, Pens, Pencils	
✓	Blue Ice or Ice	
✓	Zip-Lock Bags, 1 Gallon	

INSTRUMENT	DATE	TIME	STD	READING	STD	READING	STD	READING	OPERATOR
HNU	5-20	0800	54	56	54	54			L. Schuler

INSTRUMENT	DATE	TIME	STD	READING	STD	READING	STD	READING	OPERATOR
HNU	5-21	0810	54	54					

INSTRUMENT	DATE	TIME	STD	READING	STD	READING	STD	READING	OPERATOR
HNU	5-22	0800	54	55	54	54			[signature]

DATA MANAGEMENT

Sample Location: SWMU # 1 Sample Date: 5-20-91

Sample Type: SOIL

Team Leader: L SHELTON

Sample Personnel: J. GOBS, M. BAREY, T. GOLTZ

Sampling Method: AUGER

Sample No. 0101V4.0 Sample Time/Description: 8:20 AM RED CLAY
PID - Ø

Sample No. 0101V9.0 Sample Time/Description: 8:35 AM MIXED CLAY
PID - Ø

Sample No. 0101V11.0 Sample Time/Description: 8:50 AM MIXED CLAY
PID - Ø

Sample No. 0101V14.0 Sample Time/Description: 9:15 AM MIXED CLAY/SAND
PID - Ø

Sample No. _____ Sample Time/Description: _____

Surface Terrain: FLAT GROUND, SPARSE 2½-3' BRUSH

Weather Conditions: PARTLY CLOUDY, DRY, S. BREEZE

General Field Observations: HEAVY CAVING OF WALLS @ 4.0' TO 14.0'. VERY STRONG FLOW FROM BOTH SIDES.

Boring Lithology: 0-4' MOIST RED CLAY WITH SOME ROCK AND ROOTS. 4-9.0' - RED CLAY WITH ROCK AND SOME LIGHT GRAY MIXED SOIL. WATER SEEPING IN AT 9.0' LEVEL FROM EAST SIDE. VERY MOIST SAMPLE. 9.0-11.0' DRYER MIXED SOIL, BUT STILL MOIST. 11.0-14.0' - WATER SEEPING AT 12'. MIXED SAND/CLAY (50/50) WITH SOME ROCK.

DATA MANAGEMENT

Sample Location: SWMU #1 Sample Date: 5-20-91

Sample Type: SOIL

Team Leader: L. SHELTON

Sample Personnel: J. GOSS, M. BARNEY, T. GOLTZ

Sampling Method: AUGER

Sample No. 0102A4.0 Sample Time/Description: 9:45 AM SAND / RED CLAY
PID - Ø

Sample No. 0102A9.0 Sample Time/Description: 10:20 AM RED CLAY
PID - Ø

Sample No. 0102A11.0 Sample Time/Description: 10:40 AM RED CLAY
PID - Ø

Sample No. 0102A14.0 Sample Time/Description: 11:07 AM
PID - Ø DRY RED CLAY

Sample No. _____ Sample Time/Description: _____

Surface Terrain: FLAT GROUND, SCATTER 2-2½' BRUSH

Weather Conditions: PARTLY CLOUDY, DRY, S BREEZE <5MPH

General Field Observations: _____

Boring Lithology: 0-3' - SAND W/TRACE OF CLAY. 3'-4' - RED CLAY, 2" SAND INTERVAL @ 3.5'. 4.0-9.0' RED CLAY W/10% SAND, 9.0'-11.0' - RED CLAY W/SOME ROCK. 11.0-14.0' MOIST RED CLAY TURNING TO DRY RED CLAY.

DATA MANAGEMENT

Sample Location: SWMU #1 Sample Date: 5-20-91

Sample Type: SOIL

Team Leader: L. SHELTON

Sample Personnel: J. GOSS, M. BARNEY, T. GOLTZ

Sampling Method: AUGER

Sample No. 0103V4.0 Sample Time/Description: 11:40 AM SAND/GRAVEL/C
PID-Ø

Sample No. 0103V9.0 Sample Time/Description: 12:45 PM RED CLAY
PID-Ø

Sample No. 0103V11.0 Sample Time/Description: 1:00 PM RED CLAY
PID-Ø

Sample No. 0103V14.0 Sample Time/Description: 1:25 PM RED CLAY
PID-Ø

Sample No. 10103D14.0 Sample Time/Description: 1:25 PM RED CLAY
PID-Ø

Surface Terrain: FLAT OPEN GROUND

Weather Conditions: PARTLY CLOUDY, DRY, SSW WIND, 15MPH

General Field Observations:

Boring Lithology: 0-4' MIXED SAND/CLAY/GRAVEL, 4.0-9.0' RED CLAY, 9.5'-6" LAYER OF BLACK SOIL (PID-Ø), 10.0-11.0'-RED CLAY, WITH SOME BLACK SPOTTING, 11.0-14.0' - RED CLAY W/SOME BLACK MARBLING, CHUNKS OF BURNT WOOD, VERY MOIST.

DATA MANAGEMENT

Sample Location: SWMU #1 Sample Date: 5-21-91

Sample Type: SOIL & WATER

Team Leader: L. SHELTON

Sample Personnel: J. GOSS, M. BARNEY, T. GOLTZ

Sampling Method: AUGER

Sample No. 0104V4.0 Sample Time/Description: 12:55 PM SAND/CLAY
PID - Ø

Sample No. 0104V9.0 Sample Time/Description: 1:10 PM SAND/CLAY
PID - Ø

Sample No. 0104E9.0 Sample Time/Description: 1:20 PM WATER
PID - Ø

Sample No. 0104V11.0 Sample Time/Description: 1:30 PM CLAY/ROCK
PID - Ø

Sample No. 0104V14.0 Sample Time/Description: 1:45 PM WET CLAY
PID Ø

Surface Terrain: OPEN GROUND

Weather Conditions: PARTLY CLOUDY, DRY, 15 MPH SSE WIND.

General Field Observations: CLOSE TO THE FLARE AND API SEPARATOR. SMELL IS PRETTY HEAVY SOMETIME. PID TO AMBIENT AIR READS .01 OCCASIONALLY.

Boring Lithology: 0-7' SAND/CLAY (MOIST). 7'-9' - SAND/CLAY WITH SOME LIGHTER MARBLING. 10' - WATER SEEPAGE. 10.0-11.0' RED CLAY WITH SOME ROCK. VERY WET. 11.0-14.0' - WET CLAY. SEEPAGE FROM 10' LEVEL RUNNING INTO BOTTOM OF HOLE.

DATA MANAGEMENT

Sample Location: SWMU #1 Sample Date: 5-22-91

Sample Type: SOIL

Team Leader: L. SHELTON

Sample Personnel: J. GOSS, M. BARNEY, T. GOLTZ

Sampling Method: AUGER

Sample No. 0105V4.0 Sample Time/Description: 10:30 Am SAND/CLAY
PID - 8.2 (0-20 scale)

Sample No. 0105V9.0 Sample Time/Description: 10:45 Am GREY CLAY/SAND
PID - 2.4

Sample No. 0105V11.0 Sample Time/Description: 11:00 Am RED/GRAY CLAY
PID - .8

Sample No. 0105V14.0 Sample Time/Description: 11:25 Am RED CLAY
PID - Ø

Sample No. 0105D14.0 Sample Time/Description: 11:25 Am REDCLAY
PID - Ø

Surface Terrain: FLAT OPEN GROUND

Weather Conditions: PARTLY CLOUDY, DRY, SSW BREEZE 0-5 MPH

General Field Observations: A LOT OF ODOR FROM AERATION LAGOON. PID READS AS HIGH AS .4 ON 0-20 SCALE.

Boring Lithology: 0-2' - SAND/CLAY MIX. 2.0'-5.0' RED CLAY/HEAVY BLACK MARBLING. 5.0-8.5' BLACK LAYER. 8.5 - WATER SEEPAGE. 8.5-9.5' - GREY CLAY. 9.5-10' RED CLAY - 10'-11.0' - ALTERNATE RED/GRAY CLAY/SAND. VERY DRY. 11.0'-11.5' - GREY LAYER. 11.5-14.0' RED CLAY WITH SOME LIGHTER DISCOLORATION.

DATA MANAGEMENT

Sample Location: SWMU #1 Sample Date: 5-22-91

Sample Type: SOIL & WATER

Team Leader: L. SHELTON

Sample Personnel: J. GOSS, M. BARNEY, T. GOLTZ

Sampling Method: AUGER

Sample No. 0106A4.0 Sample Time/Description: 12:40 PM SAND/CLAY MIX
PID - Ø

Sample No. 0106A9.0 Sample Time/Description: 12:55 PM RED CLAY
PID - Ø

Sample No. 0106A11.0 Sample Time/Description: 1:25 PM REDCLAY/MIX
PID - Ø

Sample No. 0106A14.0 Sample Time/Description: 2:00 CLAY MIX
PID - Ø

Sample No. 0106E14.0 Sample Time/Description: 2:05 WATER

Surface Terrain: FLAT, OPEN GROUND

Weather Conditions: CLEAR, DRY, 15 mpH SSW WIND

General Field Observations: PICKING UP 4.0 (0-20) ON PID FROM AMBIENT AIR.

Boring Lithology: 0.0 - 5.0' - SAND/CLAY MIX, 5.0 - 7.5' RED CLAY. 7.5 - 9.5' BLACK MARBLING/RED CLAY. WATER SEEPING AT 10.0', 9.5 - 11.0' - SAND/GRAVEL/CLAY MIX. ONE AREA OF SOLID GRAVEL GIVING HEAVY WATER FLOW FROM THE EAST. WATER STANDING @ 10.5' 11.0' LEVEL. 11.0-14.0' ALTERNATE CLAY & CLAY/SAND/GRAVEL MIX. VERY MOIST.

Analytical Technologies, Inc.
Phoenix, Arizona

Chain of Custody

DATE 5-20-91 PAGE 2 OF 3

PROJECT MANAGER: ~~[illegible]~~ T.C. ROSENDALE

COMPANY: GIANT REFINING CO.
ADDRESS: Rt 3 BOX 7
GALLUP, NM 87301

BILL TO:
COMPANY: SAME
ADDRESS:

Lynn Shelton
SAMPLERS: (Signature)

(505) 722-0227
PHONE NUMBER

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Petroleum Hydrocarbons (418.1)	(MOD 8015) Gas/Diesel	Diesel/Gasoline/BTXE (MOD 8015/8020)	BTXE (8020)	Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	MTBE	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	pH	SDWA Primary Standards	SDWA Secondary Standards	SDWA Volatiles (502.1/503.1)	The 13 Priority Pollutant Metals	The 8 EP Tox Metals by EP Tox Prep. (1310)	The 8 EP Tox Metals by Total Digestion	The 8 EP Tox Metals by TCLP (1311)	BACKGROUND METALS (SEE ATTACHED LIST)		NUMBER OF CONTAINERS
RFI 0103 V 4.0	5-20-91	11:40	SOIL											X	X									X		3
RFI 0103 V 9.0	5-20-91	12:45	SOIL											X	X									X		3
RFI 0103 V 11.0	5-20-91	1:00	SOIL											X	X									X		3
RFI 0103 V 14.0	5-20-91	1:25	SOIL											X	X									X		3
(D) RFI 0103 [illegible] 14.0	5-20-91	1:25	SOIL											X	X									X		3
RFI 0104 V 4.0	5-21-91	1255 pm	SOIL											X	X									X		3
RFI 0104 V 9.0	5-21-91	1:10 PM	SOIL											X	X									X		3
RFI 0104 E 9.0	5-21-91	1:20 PM	METAL											X	X	X								X		6
RFI 0104 V 11.0	5-21-91	1:30 PM	SOIL											X	X									X		3

PROJECT INFORMATION	SAMPLE RECEIPT	
PROJECT NO:	TOTAL NO. OF CONTAINERS	
PROJECT NAME: PHASE II RFI	CHAIN OF CUSTODY SEALS	
P.O. NO.: 01909	INTACT?	
SHIPPED VIA: FED EXPRESS	RECEIVED GOOD COND./COLD	
SAMPLE DISPOSAL INSTRUCTIONS	LAB NUMBER	
☒ ATI ☐ RETURN		

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

TAT: (NORMAL) X (RUSH) ☐ 24 ☐ 48 ☐ 72 ☐ 1 WEEK

Comments:
SEE ATTACHED LIST FOR PARAMETERS

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Lynn Shelton Time: 2:00	Signature: Time:	Signature: Time:
Printed Name: LYNN SHELTON Date: 5-21-91	Printed Name: Date	Printed Name: Date
Company: GIANT REFINING CO	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: (LAB) 3.**
Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Company:	Company:	Analytical Technologies, Inc.

ATI Labs: San Diego (619)458-9141 • Phoenix (602)438-1530 • Seattle (206)228-8335 • Pensacola (904)474-1001 DISTRIBUTION: White, Canary - ANALYTICAL TECHNOLOGIES, INC. • Pink - ORIGINATOR

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Analytical Technologies, Inc.
Phoenix, Arizona

Chain of Custody

DATE 5-20-91 PAGE 1 OF 3

PROJECT MANAGER: ~~E. PROFFITT~~ CROSENDALE

COMPANY: GIANT REFINING CO.
ADDRESS: Rt 3 BOX 7
GALLUP, NM 87301

BILL TO:
COMPANY: SAME
ADDRESS:

Lynn S Lutton
SAMPLERS: (Signature)

(505) 722-0227
PHONE NUMBER

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Petroleum Hydrocarbons (418.1)	(MOD 8015) Gas/Diesel	Diesel/Gasoline/BTXE (MOD 8015/8020)	BTXE (8020)	Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	MTBE	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	SDWA Primary Standards	SDWA Secondary Standards	SDWA Volatiles (502.1/503.1)	The 13 Priority Pollutant Metals	The 8 EP Tox Metals by EP Tox Prep. (1310)	The 8 EP Tox Metals by Total Digestion	The 8 EP Tox Metals by TCLP (1311)	BACKGROUND METALS (SEE ATTACHED LIST)	NUMBER OF CONTAINERS
RFI 0101 V 4.0	5-20-91	8:20AM	SOIL											X	X								X	3
RFI 0101 V 9.0	5-20-91	8:35AM	SOIL											X	X								X	3
RFI 0101 V 11.0	5-20-91	8:50AM	SOIL											X	X								X	3
RFI 0101 V 14.0	5-20-91	9:05AM	SOIL											X	X								X	3
RFI 0102 A 4.0	5-20-91	9:45AM	SOIL											X	X								X	3
RFI 0102 A 9.0	5-20-91	10:20AM	SOIL											X	X								X	3
RFI 0102 A 11.0	5-20-91	10:40AM	SOIL											X	X								X	3
RFI 0102 A 14.0	5-20-91	11:07AM	SOIL											X	X								X	3
RFI [illegible]	5-20-91		SOIL											[illegible]									[illegible]	

PROJECT INFORMATION		SAMPLE RECEIPT	
PROJECT NO:		TOTAL NO. OF CONTAINERS	
PROJECT NAME: PHASE II RFI		CHAIN OF CUSTODY SEALS	
P.O. NO: 01909		INTACT?	
SHIPPED VIA: FED EXPRESS		RECEIVED GOOD COND./COLD	
SAMPLE DISPOSAL INSTRUCTIONS		LAB NUMBER	
☒ ATI ☐ RETURN			

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

TAT: (NORMAL) X (RUSH) ☐ 24 ☐ 48 ☐ 72 ☐ 1 WEEK

Comments:
SEE ATTACHED LIST FOR PARAMETERS

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Time: Lynn S Lutton 2800	Signature: Time:	Signature: Time:
Printed Name: Date: Lynn Shelton 5-21-91	Printed Name: Date:	Printed Name: Date:
Company: GIANT REFINING CO	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: (LAB) 3.**
Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Company:	Company:	Analytical Technologies, Inc.

ATI Labs: San Diego (619)458-9141 • Phoenix (602)438-1530 • Seattle (206)228-8335 • Pensacola (904)474-1001

DISTRIBUTION: White, Canary - ANALYTICAL TECHNOLOGIES, INC. • Pink - ORIGINATOR

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Analytical Technologies, Inc.
Phoenix, Arizona

Chain of Custody

DATE 5-21-91 PAGE 3 OF 3

PROJECT MANAGER: ~~E. ROGERS~~ C. ROSENDALE

COMPANY: GIANT REFINING CO.

ADDRESS: RT 3 BOX 7
GALLUP, NM 87301

BILL TO:

COMPANY: SAME

ADDRESS:

Lynn Shelton — SAMPLERS: (Signature)

505 722-0227 — PHONE NUMBER

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
REI 0104 V14.0	5-21-91	1:45PM	SOIL	
TRIP BLANK	5-21-91	200	WATER	
TRIP BLANK	5-21-91	200		

ANALYSIS REQUEST

Petroleum Hydrocarbons (418.1)	(MOD.8015) Gas/Diesel	Diesel/Gasoline/BTXE (MOD 8015/8020)	BTXE (8020)	Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	MTBE	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (~~625~~/8270)	Volatile Organics GC/MS (~~624~~/8240)	SDWA Primary Standards	SDWA Secondary Standards	SDWA Volatiles (502.1/503.1)	The 13 Priority Pollutant Metals	The 8 EP Tox Metals by EP Tox Prep. (1310)	The 8 EP Tox Metals by Total Digestion	The 8 EP Tox Metals by TCLP (1311)	BACKGROUND METALS (SEE ATTACHED LIST)	NUMBER OF CONTAINERS
									X	X								X	3

PROJECT INFORMATION	SAMPLE RECEIPT
PROJECT NO:	TOTAL NO. OF CONTAINERS
PROJECT NAME: PHASE II REI	CHAIN OF CUSTODY SEALS
P.O. NO: 01909	INTACT?
SHIPPED VIA: FED EXPRESS	RECEIVED GOOD COND./COLD
SAMPLE DISPOSAL INSTRUCTIONS	LAB NUMBER
☒ ATI ☐ RETURN	

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

TAT: (NORMAL) X (RUSH) ☐ 24 ☐ 48 ☐ 72 ☐ 1 WEEK

Comments:
SEE ATTACHED LIST FOR PARAMETERS

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Lynn Shelton Time: 200	Signature: Time:	Signature: Time:
Printed Name: LYNN Shelton Date: 5-21-91	Printed Name: Date	Printed Name: Date
Company: GIANT REFINING CO	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: (LAB) 3.**
Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Company:	Company:	Analytical Technologies, Inc.

ATI Labs: San Diego (619)458-9141 • Phoenix (602)438-1530 • Seattle (206)228-8335 • Pensacola (904)474-1001

DISTRIBUTION: White, Canary - ANALYTICAL TECHNOLOGIES, INC. • Pink - ORIGINATOR

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Analytical Technologies, Inc.
Phoenix, Arizona

Chain of Custody

DATE 5-22-91 PAGE 1 OF 2

PROJECT MANAGER: C. ROSENDALE

COMPANY: GIANT REFINING CO
ADDRESS: Rt 3 BOX 7
GALLUP, NM 87301

BILL TO:
COMPANY: SAME
ADDRESS:

Lynn Shelton
SAMPLERS: (Signature)

(505) 722-0227
PHONE NUMBER

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Petroleum Hydrocarbons (418.1)	(MOD 8015) Gas/Diesel	Diesel/Gasoline/BTXE (MOD 8015/8020)	BTXE (8020)	Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	MTBE	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	SDWA Primary Standards	SDWA Secondary Standards	SDWA Volatiles (502.1/503.1)	The 13 Priority Pollutant Metals	The 8 EP Tox Metals by EP Tox Prep. (1310)	The 8 EP Tox Metals by Total Digestion	The 8 EP Tox Metals by TCLP (1311)	BACKGROUND METALS (SEE ATTACHED LIST)	NUMBER OF CONTAINERS
RFI0105V4.0	5-22-91	10:30AM	SOIL											X	X								X	3
RFI0105V9.0	5-22-91	10:45AM	SOIL											X	X								X	3
RFI0105V11.0	5-22-91	10:07AM	SOIL											X	X								X	3
RFI0105V14.0	5-22-91	11:25AM	SOIL											X	X								X	3
RFI0105D14.0	5-22-91	11:25AM	SOIL											X	X								X	3
RFI0106A4.0	5-22-91	12:40PM	SOIL											X	X								X	3
RFI0106A9.0	5-22-91	12:55PM	SOIL											X	X								X	3
RFI0106A11.0	5-22-91	1:25PM	SOIL											X	X								X	3
RFI0106A14.0	5-22-91	2:00PM	SOIL											X	X								X	3

PROJECT INFORMATION	SAMPLE RECEIPT	
PROJECT NO:	TOTAL NO. OF CONTAINERS	
PROJECT NAME: PHASE II RFI	CHAIN OF CUSTODY SEALS	
P.O. NO.: 01909	INTACT?	
SHIPPED VIA: FED EXPRESS	RECEIVED GOOD COND./COLD	
SAMPLE DISPOSAL INSTRUCTIONS	LAB NUMBER	
☒ ATI ☐ RETURN		

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

TAT: (NORMAL) X (RUSH) ☐ 24 ☐ 48 ☐ 72 ☐ 1 WEEK

Comments:
SEE ATTACHED LIST FOR PARAMETERS

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Lynn Shelton Time: 2:30PM	Signature: Time:	Signature: Time:
Printed Name: LYNN SHELTON Date: 5-22-91	Printed Name: Date	Printed Name: Date
Company: GIANT REFINING CO.	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: (LAB) 3.**
Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Company:	Company:	Analytical Technologies, Inc.

ATI Labs: San Diego (619)458-9141 • Phoenix (602)438-1530 • Seattle (206)228-8335 • Pensacola (904)474-1001 DISTRIBUTION: White, Canary - ANALYTICAL TECHNOLOGIES, INC.• Pink - ORIGINATOR

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Phoenix, Arizona

Chain of Custody

DATE 5-22-91 PAGE 2 OF 2

PROJECT MANAGER: C. ROSENDALE

COMPANY: GIANT REFINING CO
ADDRESS: Rt 3 BOX 7
GALLUP, NM 87301

BILL TO:
COMPANY: SAME
ADDRESS:

Lynn Slelton — SAMPLERS: (Signature)
(505) 722-0227 — PHONE NUMBER

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
REF0106 F 14:0	5-22-91	2:05PM	WATER	
TRIP BLANK	5-22-91		WATER	

ANALYSIS REQUEST

Petroleum Hydrocarbons (418.1)	(MOD 8015) Gas/Diesel	Diesel/Gasoline/BTXE (MOD 8015/8020)	BTXE (8020)	Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	MTBE	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (8270)	Volatile Organics GC/MS (8240)	pH	SDWA Primary Standards	SDWA Secondary Standards	SDWA Volatiles (502.1/503.1)	The 13 Priority Pollutant Metals	The 8 EP Tox Metals by EP Tox Prep. (1310)	The 8 EP Tox Metals by Total Digestion	The 8 EP Tox Metals by TCLP (1311)	BACKGROUND METALS (SEE ATTACHED LIST)	NUMBER OF CONTAINERS
									X	X	X								X	6

PROJECT INFORMATION	SAMPLE RECEIPT
PROJECT NO:	TOTAL NO. OF CONTAINERS
PROJECT NAME: PHASE II RFI	CHAIN OF CUSTODY SEALS
P.O. NO. 01909	INTACT?
SHIPPED VIA: FED EXPRESS	RECEIVED GOOD COND./COLD
SAMPLE DISPOSAL INSTRUCTIONS	LAB NUMBER
☒ ATI ☐ RETURN	

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

TAT: (NORMAL) X (RUSH) ☐ 24 ☐ 48 ☐ 72 ☐ 1 WEEK

Comments:
SEE ATTACHED LIST FOR PARAMETERS

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Lynn Slelton Time: 2:30pm	Signature: Time:	Signature: Time:
Printed Name: LYNN SHELTON Date: 5-22-91	Printed Name: Date	Printed Name: Date
Company: GIANT REFINING CO	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: (LAB) 3.**
Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Company:	Company:	Analytical Technologies, Inc.

ATI Labs: San Diego (619)458-9141 • Phoenix (602)438-1530 • Seattle (206)228-8335 • Pensacola (904)474-1001

DISTRIBUTION: White, Canary - ANALYTICAL TECHNOLOGIES, INC. • Pink - ORIGINATOR

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TABLE -1
BACKGROUND METALS

Total Metals

Parameter	Analytical Method	Reporting Limit mg/kg
Antimony	6010	6.0
Arsenic	7060	0.5
Barium	6010	1.0
Beryllium	6010	0.2
Cadmium	6010	0.5
Chromium	6010	1.0
Cobalt	6010	1.0
Copper	6010	2.0
Lead	6010	5.0
Mercury	7471	0.2
Nickel	6010	4.0
Potassium	6010	500
Selenium	7740	0.5
Vanadium	6010	1.0
Zinc	6010	2.0

TABLE-2
PRIORITY POLLUTANT VOLATILES

Method 8240

Parameter	Reporting Limits ug/kg
Acetone	5,000
Acrolein	10,000
Acrylonitrile	10,000
Benzene	500
Bromodichloromethane	500
Bromoform	500
Bromomethane(methyl bromide)	1,000
Carbon disulfide	500
Carbon tetrachloride	500
Chlorobenzene	500
Chlorodibromoethane	500
Chloroethane	1,000
2-Chloroethylvinyl ether	1,000
Chloroform	500
Chloromethane	1,000
Dibromomethane	500
1,4 - Dichloro-2-butane	-
trans-1,4-Dichloro-2-butene	500
Dichlorodifluoromethane	2,000
1,1-Dichloroethane	500
1,2-Dichloroethane	500
1,1-Dichloroethylene	500
trans-1,2-Dichloroethylene	500
1,2-Dichloropropane	500
cis-1,3-Dichloropropene	500
trans-1,3-Dichloropropene	500
Ethanol	10,000
Ethyl benzene	500
Ethyl methacrylate	1,000
2-Hexanone	1,000
Iodomethane	500
Methylene Chloride	500
Methyl ethyl ketone (2-Butanone)	1,000
Methyl isobutyl ketone (4-methyl-2-pentanone)	1,000
Styrene	500
1,1,2,2,-Tetrachloroethane	500
Tetrachloroethylene	500
Toluene	500
1,1,1-Trichloroethane	500
1,1,2-Trichloroethane	500
Trichloroethylene	500
Trichlorofluoromethane	500
1,2,3-Trichloropropane	500
Vinyl acetate	1,000
Vinyl chloride	1,000
Xylenes	500

TABLE-3
PRIORITY POLLUTANT SEMIVOLATILES

Method 8270

Parameter	Reporting Limits ug/kg
Acenaphthene	5,000
Acenaphthylene	5,000
Acetophenone	5,000
4-Aminobiphenyl	-
Aniline	5,000
Anthracene	5,000
Benzidine	50,000
Benzoic Acid	5,000
Benzo(a)anthracene	5,000
Benzo(b)fluoranthene	5,000
Benzo(k)fluoranthene	5,000
Benzo(g,h,i)perylene	5,000
Benzo(a)pyrene	5,000
Benzyl alcohol	5,000
Bis(2-chloroethoxy)methane	5,000
Bis(2-chloroethyl)ether	5,000
Bis(2-chloroisopropyl)ether [bis(2-chloro-1 methylethyl)ether]	5,000
Bis(2-ethylhexyl)phthalate	5,000
4-Bromophenyl phenyl ether	5,000
Butyl benzyl phthalate	5,000
4-Chloroaniline	5,000
4-Chloro-3-methylphenol	5,000
1-Chloronaphthane	5,000
2-Chloronaphthane	5,000
2-Chlorophenol	5,000
4-Chlorophenyl phenyl ether	5,000
Chrysene	5,000
Dibenzo(a,j)acridine	-
Dibenzo(a,h) anthracene	5,000
Dibenzo furans(tetrachloro, pentachloro, hexachloro)	-
Di-n-butylphthalate	5,000
1,2-Dichlorobenzene	5,000
1,3-Dichlorobenzene	5,000
1,4-Dichlorobenzene	5,000
3,3-Dichlorobenzidine	10,000
2,4-Dichlorophenol	5,000
2,6-Dichlorophenol	5,000
Diethyl phthalate	5,000
p(Dimethylamino)azobenzene	5,000
7,12-Dimethylbenz(a)anthracene	5,000
aa-Dimethylphenethylamine	5,000
2,4-Dimethylphenol	5,000
Dimethyl phthalate	5,000
4,6-Dinitro-2-methylphenol	25,000
2,4-Dinitrophenol	25,000
2,4-Dinitrotoluene	5,000

TABLE-3 Continued

2,6-Dintrotoluene	5,000
Di-n-octyl phthalate	5,000
Diphenylamine	5,000
1,2-Diphenylhydrazine	5,000
Ethyl methanesulfonate	5,000
Fluoranthene	5,000
Flourene	5,000
Hexachlorobenzene	5,000
Hexachloro-13-butadiene	5,000
Hexachlorocyclopentadiene	5,000
Hexachloroethane	5,000
Indeno(1,2,3-cd)pyrene	5,000
Isophorene	5,000
3-Methylcholanthrene	5,000
Methyl methanesulfonate	5,000
2-Methylnaphthalene	5,000
2-Methylphenol	5,000
3-Methylphenol	5,000
4-Methylphenol	5,000
Naphthalene	5,000
1-Naphthylamine	5,000
2-Naphthylamine	5,000
2-Nitroaniline	25,000
3-Nitroaniline	25,000
4-Nitroaniline	25,000
Nitrobenzene	5,000
2-Nitrophenol	5,000
4-Nitrophenol	25,000
N-Nitrosodimethylamine	5,000
N-Nitroso-di-n-butylamine	5,000
N-Nitroso-di-n-propylamine	5,000
N-Nitrosopiperidine	5,000
N-Nitrosodiphenylamine	5,000
Pentachlorobenzene	5,000
Pentachloronitrobenzene	25,000
Pentachlorophenol	25,000
Phenacetin	5,000
Phenanthrene	5,000
Phenol	5,000
2-Picoline	5,000
Pronamide	5,000
Pyrene	5,000
1,2,4,5-Tetrachlorobenzene	5,000
2,3,4,6-Tetrachlorophenol	25,000
1,2,4-Trichlorobenzene	5,000
2,4,5-Trichlorophenol	25,000
2,4,6-Trichlorophenol	5,000

Original Date 05/31/89
Revision Date 12/15/89

4-30-91

TABLE 1

Field Equipment Checklist

Surface and Ground Water Sampling

	ITEM		REMARKS
✓	pH Meter	✓	Calibrated
✓	pH Buffers		
✓	Conductivity Meter	✓	Calibrated
✓	Conductivity Standard		
✓	Thermometer		
✓	Water Level Indicator	✓	Battery Checked
✓	PID Meter	✓	Calibrated
	Bailers		
✓	2" Well	✓	Decontaminated
✓	4" Well	✓	Decontaminated
✓	Hand Calculator		
✓	Site Map With Well Locations		
✓	Well Keys		
✓	Sample Bottles and Additional Preservatives		
✓	Ice Chests		
✓	Trip Blanks		
✓	Methanol		
✓	Deionized Water		
✓	Squeeze Bottles		
✓	Personal Protective Equipment		
✓	Chain of Custody and Sample Record Forms		
✓	Tape Measure (0.01 feet increments)		
✓	Plastic Bags (to provide clean surfaces) (1 per well)		
✓	Watch With Second Hand		
✓	(2) 5 Gallon Buckets		
✓	Disposable Gloves		
✓	Paper Towels		
✓	Tape (for labels and dispenser)		
✓	Sharpie, Pens, Pencils		
✓	Blue Ice or Ice		
✓	Zip-Lock Bags, 1 Gallon		

Lloyd Rosendale

Original Date 05/31/89
Revision Date 12/15/89

TABLE 1

5-1-91

Field Equipment Checklist

Surface and Ground Water Sampling

	ITEM		REMARKS
✓	pH Meter	✓	Calibrated
✓	pH Buffers		
✓	Conductivity Meter	✓	Calibrated
✓	Conductivity Standard		
✓	Thermometer		
✓	Water Level Indicator	✓	Battery Checked
✓	PID Meter	✓	Calibrated
	Bailers		
✓	2" Well	✓	Decontaminated
✓	4" Well	✓	Decontaminated
✓	Hand Calculator		
✓	Site Map With Well Locations		
✓	Well Keys		
✓	Sample Bottles and Additional Preservatives		
✓	Ice Chests		
✓	Trip Blanks		
✓	Methanol		
✓	Deionized Water		
✓	Squeeze Bottles		
✓	Personal Protective Equipment		
✓	Chain of Custody and Sample Record Forms		
✓	Tape Measure (0.01 feet increments)		
✓	Plastic Bags (to provide clean surfaces) (1 per well)		
✓	Watch With Second Hand		
✓	(2) 5 Gallon Buckets		
✓	Disposable Gloves		
✓	Paper Towels		
✓	Tape (for labels and dispenser)		
✓	Sharpie, Pens, Pencils		
✓	Blue Ice or Ice		
✓	Zip-Lock Bags, 1 Gallon		

INSTRUMENT	DATE	TIME	STD	READING	STD	READING	STD	READING	OPERATOR
Water Level	4-30	0645	Battery OK is					OK	L Shelton
H-N-U	4-30	0650	54	55	54	54			L Shelton
pH	4-30	0650	7.0	7.12	7.0	7.0	10.0	9.99	L Blackwood
Conduct.V.	4-30	0655	2090	2072	3920	3920	-	-	C Rosendale

INSTRUMENT	DATE	TIME	STD	READING	STD	READING	STD	READING	OPERATOR
Water Level	5-1	0720	Battery Check is OK						[illegible]
H N U	5-1	0749	54	52	54	54	—	—	[illegible]
pH	5-1	0725	7.0	7.0	10.0	9.99	—	—	[illegible]
Cond.	5-1	0730	3920	3920	2070	2100	—	—	[illegible]

Ground Water Monitoring
Sample Record
Giant Refinery
Gallup, New Mexico

Job Number RFI SWMU #2
Location Giant - Ciniza
Date 4-30-91
Weather

Purpose RFI - SWMU #2 + OCD

NOTE: 2-in Sch 40=0.163 gal/ft or 0
4-in Sch 40=0.653 gal/ft or 0
5-in Sch 40=1.020 gal/ft or 1

Purged on 4-29-91 Sampled on 4-30-91

Well Number	Water Level	Casing Storage	Purge Time	Total Purged (gal)	Sample Time	pH	Temp	Cond	Sample Collection Method
MW-4	Total Depth, TOC, ft 129.99 Depth to Water, TOC, ft 5.80 Length of Water Column 124.19	Casing Diam 4" 1 Casing Vol (gal) 5.88 0.74	Begin Purge 2:25 End Purge 2:53	280 Dry Y (N)	0850	8.78 8.68	48 49	1210 1220	Bail
OW-5	Total Depth, TOC, ft 23.67 Depth to Water, TOC, ft 14.02 Length of Water Column 9.65	Casing Diam 4" 1 Casing Vol (gal) 15.68 0.74	Begin Purge 2:09 End Purge 2:11	18 Dry (Y) N	0755	6.47 6.68	48 49	39200 39700	Bail
OW-7	Total Depth, TOC, ft 75.35' Depth to Water, TOC, ft 3.79' Length of Water Column 71.56'	Casing Diam 4" 1 Casing Vol (gal) 4.12 0.74	Begin Purge 1:42 End Purge 1:59	170 Dry Y (N)	0915	8.75 8.82	47 48	1230 1280	Bail
OW-1	Total Depth, TOC, ft 99.73' Depth to Water, TOC, ft 0' Length of Water Column 99.73'	Casing Diam 4" 1 Casing Vol (gal) 58.41' 0.74	Begin Purge 1:17 End Purge 1:25	80 Dry (Y) N	7:15 Am	8.68 8.64	51 51	1262 1275	Bail
OW-30	Total Depth, TOC, ft ~~_____~~ Depth to Water, TOC, ft ~~_____~~ Length of Water Column ~~_____~~	Casing Diam 4" 1 Casing Vol (gal) 0.74	Begin Purge ~~_____~~ End Purge ~~_____~~	~~Dry Y N~~	0730	8.63 X	51 V	1276 X	Bail

OW-1 Duplicate

FIGURE 1

Ground Water Monitoring
Sample Record
Giant Refinery
Gallup, New Mexico

Job Number RFI-SWMU #2
Location Giant - Ciniza
Date 4-30-91
Weather

Purpose RFI-SWMU #2 + DCD

NOTE: 2-in Sch 40=0.163 gal/ft or 0.
4-in Sch 40=0.653 gal/ft or 0.
5-in Sch 40=1.020 gal/ft or 1.

Purged on 4-29-91 Sampled on 4-30-91

Well Number	Water Level	Casing Storage	Purge Time	Total Purged (gal)	Sample Time	pH	Temp	Cond	Sample Collection Method
Equip. Blank	Total Depth, TOC, ft X Depth to Water, TOC, ft X Length of Water Column X	Casing Diam — 1 Casing Vol (gal) —	Begin Purge X End Purge X	X Dry Y N	0700	5.04 X	39 X	60 X	Beaker
From OW-1	Total Depth, TOC, ft Depth to Water, TOC, ft Length of Water Column	Casing Diam 1 Casing Vol (gal)	Begin Purge End Purge	Dry Y N					
	Total Depth, TOC, ft Depth to Water, TOC, ft Length of Water Column	Casing Diam 1 Casing Vol (gal)	Begin Purge End Purge	Dry Y N					
	Total Depth, TOC, ft Depth to Water, TOC, ft Length of Water Column	Casing Diam 1 Casing Vol (gal)	Begin Purge End Purge	Dry Y N					
	Total Depth, TOC, ft Depth to Water, TOC, ft Length of Water Column	Casing Diam 1 Casing Vol (gal)	Begin Purge End Purge	Dry Y N					

FIGURE 1

Ground Water Monitoring
Sample Record
Giant Refinery
Gallup, New Mexico

Job Number _____
Location _____
Date _____
Weather Clear
SE wind 5-15 mph

Purpose _____

NOTE: 2-in Sch 40=0.163 gal/ft or 0.
4-in Sch 40=0.653 gal/ft or 0.
5-in Sch 40=1.020 gal/ft or 1.

Well Number	Water Level	Casing Storage	Purge Time	Total Purged (gal)	Sample Time	pH	Temp	Cond	Sample Collection Method
OW2	Total Depth, TOC, ft 64.41 Depth to Water, TOC, ft 28.80 Length of Water Column 35.61	Casing Diam 4 1 Casing Vol (gal) 28.85 .74	Begin Purge 4:27 End Purge 4:48	125g Dry (Y) N	0515	7.80	50	1360	
OW9	HNU-0 Total Depth, TOC, ft 45.12 Depth to Water, TOC, ft .9 Length of Water Column 44.22	Casing Diam 4 1 Casing Vol (gal) .45 .74	Begin Purge 506 End Purge 5:17	125 Dry Y (N)	0835	7.76 7.74	45 46	1860 1880	
OW10	HNU-0 Total Depth, TOC, ft 61.29 Depth to Water, TOC, ft 0 Length of Water Column 61.29	Casing Diam 4 1 Casing Vol (gal) 0" .74	Begin Purge 5:24 End Purge 5:35	150g Dry Y (N)	0815	7.46 7.52	52 52	1910 1960	
Equip Wash	HNU-0 Total Depth, TOC, ft / Depth to Water, TOC, ft / Length of Water Column /	Casing Diam / 1 Casing Vol (gal) /	Begin Purge / End Purge / From OW-9	X Dry Y N	0850	5.08 5.09	47 47	60 60	
	Total Depth, TOC, ft _____ Depth to Water, TOC, ft _____ Length of Water Column _____	Casing Diam _____ 1 Casing Vol (gal) _____	Begin Purge _____ End Purge _____	_____ Dry Y N					

FIGURE 1

DATA MANAGEMENT

Sample Location: Giant- Cinizo Sample Date: 4-30-91

Sample Type: Water

Team Leader: Cloud Rosendale

Sample Personnel: Lynn Shelton

Sampling Method: Bailer

Sample No. MW-4 Sample Time/Description: 0850 clear water.

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Surface Terrain: 2' tall sparsely scattered weeds

Weather Conditions: CLEAR, 20 MPH WEST WIND, DRY
35°F, Clear Wind NW @ 3-5 mph.

General Field Observations: _____

Boring Lithology: _____

DATA MANAGEMENT

Sample Location: Giant-Cinizo Sample Date: 4-30-91

Sample Type: Water

Team Leader: Claud Rosendale

Sample Personnel: Lynn Shelton

Sampling Method: Bailer

Sample No. OW-5 Sample Time/Description: 0755 Light brown liquid

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Surface Terrain: 2' tall sparsely scattered weeds

Weather Conditions: CLEAR, 20 MPH WEST WINDS, DRY
30°F Clear & Calm

General Field Observations: HEAVY SILT FOR FIRST 2-3 GALLONS

Boring Lithology: _____

DATA MANAGEMENT

Sample Location: Giant-Cinizo Sample Date: 4-30-91

Sample Type: Water

Team Leader: Hand Rosendale

Sample Personnel: Lynn Shelton

Sampling Method: Bailer

Sample No. OW-7 Sample Time/Description: 0915, Very light brown liquid.

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Surface Terrain: 1½' tall sparsely scattered weeds

Weather Conditions: CLEAR, 20 MPH WEST WIND, DRY
38°F, Clear Wind-WNW 5mph

General Field Observations: NO UNUSUAL CONDITIONS.

Boring Lithology: N/A

DATA MANAGEMENT

Sample Location: Giant-Cisizg Sample Date: 4-30-91

Sample Type: Water

Team Leader: Chad Rosendale

Sample Personnel: Lynn Shelton

Sampling Method: Bailer

Sample No. OW-1 Sample Time/Description: PUMPED @ 1:15 PM 4-29-91
Sampled 4-30 Light Brown, high TDS liquid

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Surface Terrain: 1' tall scattered weeds

Weather Conditions: CLEAR, 20 MPH WEST WINDS, DRY
Sampling - 20°F Calm Clear skys

General Field Observations: MINIMUM OVERFLOW OF STANDPIPE @ AMBIENT CONDITIONS. BROKE HASP ON LOCKING COVER.

Boring Lithology: N/A

DATA MANAGEMENT

Sample Location: Giant - Cinizq Sample Date: 4-30-91

Sample Type: Water

Team Leader: Claud Rosendale

Sample Personnel: Lyon Shelton

Sampling Method: Bailer

Sample No. DW-30 Sample Time/Description: light brown, high TDS
liquid 0730

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Surface Terrain: 1'tall scattered weeds

Weather Conditions: 20°F Calm clear SKYS

General Field Observations: Duplicate Sample of DW-1

Boring Lithology: _____

DATA MANAGEMENT

Sample Location: Giant - Ensign Sample Date: 4-30-91

Sample Type: Water

Team Leader: Lloyd Rosendale

Sample Personnel: Lynn Shelton

Sampling Method: Baker

Sample No. Equipment Wash Sample Time/Description: 0700 Clear Water

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Surface Terrain: _____

Weather Conditions: 20°F Calm clear skys.

General Field Observations: Equipment [redacted] Rinse from OW-1 Sampling

Boring Lithology: _____

DATA MANAGEMENT

Sample Location: Grant - GW29 Sample Date: 5-1-91

Sample Type: Water

Team Leader: Lynn Shelton

Sample Personnel: Ted + Melvin

Sampling Method: _____

Sample No. OW2 Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Surface Terrain: SEMI-OPEN, 2' BRUSH

Weather Conditions: CLEAR, CALM, DRY

General Field Observations: HEAVY SILT THROUGHOUT PUMPING

Boring Lithology: _____

DATA MANAGEMENT

Sample Location: Coiamo - Ciaizo Sample Date: 5-1-91

Sample Type: Water

Team Leader: Lynn Shelton

Sample Personnel: Ted Boles, Melissa Barclay

Sampling Method: _____

Sample No. DW9 Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Surface Terrain: DEUSE GRASS

Weather Conditions: CLEAR, CALM, DRY

General Field Observations: LOWER PUMP 2', PUMP 10 SECONDS, LOWER PUMP 20', PUMP 1 minute, LOWER PUMP to FULL DEPTH. MODERATE SILT THROUGHOUT PUMPING

Boring Lithology: _____

DATA MANAGEMENT

Sample Location: Grant-Cuiza Sample Date: 5-1-91

Sample Type: Water

Team Leader: Lynn Shelton

Sample Personnel: Ted Cortez, Melton Barney

Sampling Method: _____

Sample No. CWID Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Surface Terrain: BARE GROUND

Weather Conditions: CLEAR, CALM, DRY

General Field Observations: LOWER PUMP, PUMP WELL, LOWER PUMP. WELL WAS OVERFLOWING CONSTANTLY.

Boring Lithology: _____

Analytical Technologies, Inc.
Phoenix, Arizona

Chain of Custody

DATE 4-30-91 PAGE 1 OF 1

PROJECT MANAGER: Elizabeth Proffitt

COMPANY: Giant Refining Co.
ADDRESS: Rt 3 Box 7
Gallup, New Mexico 87301

BILL TO:
COMPANY: Same
ADDRESS:

Chad Kendall — SAMPLERS: (Signature)
(505) 722-0217 — PHONE NUMBER

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Petroleum Hydrocarbons (418.1)	BTEX (8020)	Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	MTBE	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (8270)	Volatile-Organics GC/MS (8240)	SDWA Primary Standards	SDWA Secondary Standards	SDWA Volatiles (502.1/503.1)	The 13 Priority Pollutant Metals	The 8 EP Tox Metals by EP Tox Prep. (1310)	The 8 EP Tox Metals by Total Digestion	The 8 EP Tox Metals by TCLP (1311)	15 Background Metals (ATI)	NUMBER OF CONTAINERS
MW-4	4-30	0850	Water		X							X	X								X	6
OW-5	4-30	0755	Water		X							X	X								X	6
OW-7	4-30	0915	Water		X							X	X								X	6
Trip Blank	—	—	Water										X									1

(MOD 8015) Gas/Diesel; Diesel/Gasoline/BTXE (MOD 8015/8020)

PROJECT INFORMATION	SAMPLE RECEIPT
PROJECT NO:	TOTAL NO. OF CONTAINERS
PROJECT NAME: RFI	CHAIN OF CUSTODY SEALS
P.O. NO. 01909	INTACT?
SHIPPED VIA: Fed. Exp.	RECEIVED GOOD COND./COLD
SAMPLE DISPOSAL INSTRUCTIONS	LAB NUMBER
☒ ATI ☐ RETURN	

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

TAT: (NORMAL) X (RUSH) ☐ 24 ☐ 48 ☐ 72 ☐ 1 WEEK

Comments: See attached for specific analytical parameters

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Chad Kendall Time: 0930	Signature: Time:	Signature: Time:
Printed Name: Chad Kendall Date: 4-30-91	Printed Name: Date	Printed Name: Date
Company: Giant Refining	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: (LAB) 3.**
Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Company:	Company:	Analytical Technologies, Inc.

ATI Labs: San Diego (619)458-9141 • Phoenix (602)438-1530 • Seattle (206)228-8335 • Pensacola (904)474-1001

DISTRIBUTION: White, Canary - ANALYTICAL TECHNOLOGIES, INC. • Pink - ORIGINATOR

09-7

AnalyticalTechnologies, Inc.
Phoenix, Arizona

Chain of Custody

DATE _____ PAGE 1 OF 1

PROJECT MANAGER: Elizabeth Proffit

COMPANY: Giant Refining Co.
ADDRESS: Rt. 3 Box 7
Gallup N.M. 87301

BILL TO:
COMPANY: Same
ADDRESS:

Chad Rosedale — SAMPLERS: (Signature)
(505) 722-0217 — PHONE NUMBER

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
OW-1	4-30	0715	Water	
OW-30	4-30	0730	Water	
Equip Wash	4-30	0701	Water	

	Petroleum Hydrocarbons (418.1)	pH (MOD 8015) Gas/Diesel	Diesel/Gasoline/BTXE (MOD 8015/8020)	BTXE (8020)	Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	MTBE	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (8270) See Attached	Volatile Organics GC/MS (8240) See Attached	SDWA Primary Standards	SDWA Secondary Standards	SDWA Volatiles (502.1/503.1)	The 13 Priority Pollutant Metals	The 8 EP Tox Metals by EP Tox Prep. (1310)	The 8 EP Tox Metals by Total Digestion	The 8 EP Tox Metals by TCLP (1311)	15 Background Metals See Attached	NUMBER OF CONTAINERS
OW-1	X									X	X								X	6
OW-30	X									X	X								X	6
Equip Wash	X									X	X								X	6

PROJECT INFORMATION	SAMPLE RECEIPT
PROJECT NO:	TOTAL NO. OF CONTAINERS
PROJECT NAME: RFT	CHAIN OF CUSTODY SEALS
P.O. NO.: 01909	INTACT?
SHIPPED VIA: Fed Ex	RECEIVED GOOD COND./COLD
SAMPLE DISPOSAL INSTRUCTIONS	LAB NUMBER
☒ ATI ☐ RETURN	

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

TAT: (NORMAL) X (RUSH) ☐ 24 ☐ 48 ☐ 72 ☐ 1 WEEK

Comments: See Attachments for specific analytical parameters

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Chad Rosedale Time:	Signature: Time:	Signature: Time:
Printed Name: Chad Rosedale Date: 4-30-91	Printed Name: Date	Printed Name: Date
Company: Giant Refining Co	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: (LAB) 3.**
Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Company:	Company:	Analytical Technologies, Inc.

ATI Labs: San Diego (619)458-9141 • Phoenix (602)438-1530 • Seattle (206)228-8335 • Pensacola (904)474-1001

DISTRIBUTION: White, Canary - ANALYTICAL TECHNOLOGIES, INC. • Pink - ORIGINATOR

19-7

TABLE -1
BACKGROUND METALS

Total Metals

Parameter	Analytical Method	Reporting Limit mg/kg
Antimony	6010	6.0
Arsenic	7060	0.5
Barium	6010	1.0
Beryllium	6010	0.2
Cadmium	6010	0.5
Chromium	6010	1.0
Cobalt	6010	1.0
Copper	6010	2.0
Lead	6010	5.0
Mercury	7471	0.2
Nickel	6010	4.0
Potassium	6010	500
Selenium	7740	0.5
Vanadium	6010	1.0
Zinc	6010	2.0

TABLE-4
SKINNER LIST

METHOD 8240

Parameter	Reporting Limit (ug/kg)
Benzene	500
Carbon disulfide	500
Chlorobenzene	500
2-Chloroethylvinyl ether	1,000
1,2-Dibromomethane	1,000
1,2-Dichloroethane	500
1,4-Dioxane	50,000
Ethyl Benzene	500
Methyl ethyl ketone (2-butanone)	1,000
Styrene	500
Toluene	500
Xylenes	500

METHOD 8270

Anthracene	5,000
Benzenethiol	-
Benzo(a)anthracene	5,000
Benzo(b)fluoranthene	5,000
Benzo(k)fluoranthene	5,000
Benzo(a)pyrene	5,000
Bis(2-ethylhexyl)phthalate	5,000
Butyl benzyl phthalate	5,000
Chrysene	5,000
Dibenzo(a,X)acridine	-
Dibenzo(a,h)anthracene	5,000
Di-n-butylphthalate	5,000
1,2-Dichlorobenzene	5,000
1,3-Dichlorobenzene	5,000
1,4-Dichlorobenzene	5,000
Diethyl phthalate	5,000
7,12-Dimethylbenz(a)anthrancene	5,000
2,4-Dimethylphenol	5,000
Dimethyl phthalate	5,000
2,4-Dinitrophenol	25,000
Di-n-octyl phthalate	5,000
Fluoranthene	5,000
Indene	5,000
Methylchrysene	-
1-Methylnaphthalene	5,000
2-Methylphenol	5,000
3-Methylphenol	5,000
4-Methylphenol	5,000
Naphthalene	5,000
4-Nitrophenol	25,000
Phenanthrene	5,000

TABLE-4 Continued

Phenol.	5,000
Pyrene	5,000
Pyridine	10,000
Quinoline	25,000

Analytical Technologies, Inc.
Phoenix, Arizona

Chain of Custody

DATE 5-1-91 PAGE 1 OF 1

PROJECT MANAGER: Elizabeth Proffitt
COMPANY: Giant Refining Co.
ADDRESS: Rt. 3 Box 7
Gallup, N.M. 87301
BILL TO:
COMPANY: Same
ADDRESS:

Clark Rosendale — SAMPLERS: (Signature)
505 722-0217 — PHONE NUMBER

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
OW-2	5-1	0910	Water	
Equip Wash #2	5-1	0950	Water	

ANALYSIS REQUEST

Petroleum Hydrocarbons (418.1)	Diesel (MOD 8015) Gas/Diesel	Diesel/Gasoline/BTXE (MOD 8015/8020)	BTXE (8020)	Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	MTBE	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (8270)	Volatile Organics GC/MS (8240)	SDWA Primary Standards	SDWA Secondary Standards	SDWA Volatiles (502.1/503.1)	The 13 Priority Pollutant Metals	The 8 EP Tox Metals by EP Tox Prep. (1310)	The 8 EP Tox Metals by Total Digestion	The 8 EP Tox Metals by TCLP (1311)	US Background Metals BOY (4)	NUMBER OF CONTAINERS
X									X	X								X	6
X									X	X								X	6

Attached

PROJECT INFORMATION	SAMPLE RECEIPT
PROJECT NO: —	TOTAL NO. OF CONTAINERS
PROJECT NAME: RFT	CHAIN OF CUSTODY SEALS
P.O. NO. 01909	INTACT?
SHIPPED VIA: Fed. Exp.	RECEIVED GOOD COND./COLD
SAMPLE DISPOSAL INSTRUCTIONS	LAB NUMBER
☒ ATI ☐ RETURN	

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

TAT: (NORMAL) X (RUSH) ☐ 24 ☐ 48 ☐ 72 ☐ 1 WEEK

Comments: See attached for specific analytical parameters

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Clark Rosendale Time: 9:30	Signature: Time:	Signature: Time:
Printed Name: Clark Rosendale Date: 5-1-91	Printed Name: Date	Printed Name: Date
Company: Giant Refining Co.	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: (LAB) 3.**
Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Company:	Company:	Analytical Technologies, Inc.

ATI Labs: San Diego (619)458-9141 • Phoenix (602)438-1530 • Seattle (206)228-8335 • Pensacola (904)474-1001

DISTRIBUTION: White, Canary - ANALYTICAL TECHNOLOGIES, INC. • Pink - ORIGINATOR

ATI 4-65

Analytical Technologies, Inc.
Phoenix, Arizona

Chain of Custody

DATE 5-1-91 PAGE 1 OF 1

PROJECT MANAGER: Elizabeth Profitt
COMPANY: Giant Refining Co.
ADDRESS: Rt. 3 Box 7
Gallup, New Mexico 87301
BILL TO:
COMPANY: Same
ADDRESS:

Sandra Kruendle — SAMPLERS: (Signature)
505 722-0217 — PHONE NUMBER

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Petroleum Hydrocarbons (418.1)	Gas (MOD 8015) / Diesel	Diesel/Gasoline/BTXE (MOD 8015/8020)	BTXE (8020)	Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	MTBE	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	SDWA Primary Standards	SDWA Secondary Standards	SDWA Volatiles (502.1/503.1)	The 13 Priority Pollutant Metals	The 8 EP Tox Metals by EP Tox Prep. (1310)	The 8 EP Tox Metals by Total Digestion	The 8 EP Tox Metals by TCLP (1311)	15 Base/Neutral Metals & Acrolein	NUMBER OF CONTAINERS
OW-9	5-1	0815	Water			X								X	X							X		6
OW-10	5-1	0835	Water			X								X	X							X		6
Trip Blank	—	—	Water												X									1

See Attached for 8270 Base/Neutral Metals & Acrolein

PROJECT INFORMATION	SAMPLE RECEIPT
PROJECT NO:	TOTAL NO. OF CONTAINERS
PROJECT NAME: RFI	CHAIN OF CUSTODY SEALS
P.O. NO. 01909	INTACT?
SHIPPED VIA: Fed. Exp.	RECEIVED GOOD COND./COLD
SAMPLE DISPOSAL INSTRUCTIONS	LAB NUMBER
☒ ATI ☐ RETURN	

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

TAT: (NORMAL) X (RUSH) ☐ 24 ☐ 48 ☐ 72 ☐ 1 WEEK

Comments: See Attached for specific Analytical parameters 8270 Grad pentol off list.

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Sandra Kruendle Time: 0950	Signature: Time:	Signature: Time:
Printed Name: Sandra Kruendle Date: 5-1-91	Printed Name: Date	Printed Name: Date
Company: Giant Refining Co.	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: (LAB) 3.**
Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Company:	Company:	Analytical Technologies, Inc.

ATI Labs: San Diego (619)458-9141 • Phoenix (602)438-1530 • Seattle (206)228-8335 • Pensacola (904)474-1001

DISTRIBUTION: White, Canary - ANALYTICAL TECHNOLOGIES, INC. • Pink - ORIGINATOR

99-V

TABLE -1
BACKGROUND METALS

Total Metals

Parameter	Analytical Method	Reporting Limit mg/kg
Antimony	6010	6.0
Arsenic	7060	0.5
Barium	6010	1.0
Beryllium	6010	0.2
Cadmium	6010	0.5
Chromium	6010	1.0
Cobalt	6010	1.0
Copper	6010	2.0
Lead	6010	5.0
Mercury	7471	0.2
Nickel	6010	4.0
Potassium	6010	500
Selenium	7740	0.5
Vanadium	6010	1.0
Zinc	6010	2.0

TABLE-4
SKINNER LIST

METHOD 8240

Parameter	Reporting Limit (ug/kg)
Benzene	500
Carbon disulfide	500
Chlorobenzene	500
2-Chloroethylvinyl ether	1,000
1,2-Dibromomethane	1,000
1,2-Dichloroethane	500
1,4-Dioxane	50,000
Ethyl Benzene	500
Methyl ethyl ketone (2-butanone)	1,000
Styrene	500
Toluene	500
Xylenes	500

METHOD 8270

Anthracene	5,000
Benzenethiol	-
Benzo(a)anthracene	5,000
Benzo(b)fluoranthene	5,000
Benzo(k)fluoranthene	5,000
Benzo(a)pyrene	5,000
Bis(2-ethylhexyl)phthalate	5,000
Butyl benzyl phthalate	5,000
Chrysene	5,000
Dibenzo(a,X)acridine	-
Dibenzo(a,h)anthracene	5,000
Di-n-butylphthalate	5,000
1,2-Dichlorobenzene	5,000
1,3-Dichlorobenzene	5,000
1,4-Dichlorobenzene	5,000
Diethyl phthalate	5,000
7,12-Dimethylbenz(a)anthrancene	5,000
2,4-Dimethylphenol	5,000
Dimethyl phthalate	5,000
2,4-Dinitrophenol	25,000
Di-n-octyl phthalate	5,000
Fluoranthene	5,000
Indene	5,000
Methylchrysene	-
1-Methylnaphthalene	5,000
2-Methylphenol	5,000
3-Methylphenol	5,000
4-Methylphenol	5,000
Naphthalene	5,000
4-Nitrophenol	25,000
Phenanthrene	5,000

TABLE-4 Continued

Phenol	5,000
Pyrene	5,000
Pyridine	10,000
Quinoline	25,000

TABLE 2

Field Equipment Checklist
Soil and Sludge Sampling

5-13-91

	ITEM		REMARKS
✓	PID Meter	✓	Calibrated
✓	Site Specific SWMU Work Plan		
✓	Generic Sampling Plan		
✓	Site Map With Sample Locations		
✓	Sample Bottles		
✓	Ice Chests		
✓	Trip Blanks		
✓	Methanol		
✓	Deionized Water		
✓	Squeeze Bottles		
✓	Personal Protective Equipment		
✓	Chain of Custody and Sample Record Forms		
✓	Plastic Bags (To provide clean surfaces)		
✓	Disposable Gloves		
✓	Paper Towels		
✓	Tape (For labels and dispenser)		
✓	Sharpie, Pens, Pencils		
✓	Blue Ice or Ice		
✓	Zip-Lock Bags, 1 Gallon		

TABLE 2

Field Equipment Checklist
Soil and Sludge Sampling

5-15-91

	ITEM	REMARKS
✓	PID Meter	✓ Calibrated
✓	Site Specific SWMU Work Plan	
✓	Generic Sampling Plan	
✓	Site Map With Sample Locations	
✓	Sample Bottles	
✓	Ice Chests	
✓	Trip Blanks	
✓	Methanol	
✓	Deionized Water	
✓	Squeeze Bottles	
✓	Personal Protective Equipment	
✓	Chain of Custody and Sample Record Forms	
✓	Plastic Bags (To provide clean surfaces)	
✓	Disposable Gloves	
✓	Paper Towels	
✓	Tape (For labels and dispenser)	
✓	Sharpie, Pens, Pencils	
✓	Blue Ice or Ice	
✓	Zip-Lock Bags, 1 Gallon	

TABLE 2

Field Equipment Checklist
Soil and Sludge Sampling

5-16-91

	ITEM	REMARKS
✓	PID Meter	✓ Calibrated
✓	Site Specific SWMU Work Plan	
✓	Generic Sampling Plan	
✓	Site Map With Sample Locations	
✓	Sample Bottles	
✓	Ice Chests	
✓	Trip Blanks	
✓	Methanol	
✓	Deionized Water	
✓	Squeeze Bottles	
✓	Personal Protective Equipment	
✓	Chain of Custody and Sample Record Forms	
✓	Plastic Bags (To provide clean surfaces)	
✓	Disposable Gloves	
✓	Paper Towels	
✓	Tape (For labels and dispenser)	
✓	Sharpie, Pens, Pencils	
✓	Blue Ice or Ice	
✓	Zip-Lock Bags, 1 Gallon	

TABLE 2

Field Equipment Checklist
Soil and Sludge Sampling

5-17-91

	ITEM	REMARKS
✓	PID Meter	✓ Calibrated
✓	Site Specific SWMU Work Plan	
✓	Generic Sampling Plan	
✓	Site Map With Sample Locations	
✓	Sample Bottles	
✓	Ice Chests	
✓	Trip Blanks	
✓	Methanol	
✓	Deionized Water	
✓	Squeeze Bottles	
✓	Personal Protective Equipment	
✓	Chain of Custody and Sample Record Forms	
✓	Plastic Bags (To provide clean surfaces)	
✓	Disposable Gloves	
✓	Paper Towels	
✓	Tape (For labels and dispenser)	
✓	Sharpie, Pens, Pencils	
✓	Blue Ice or Ice	
✓	Zip-Lock Bags, 1 Gallon	

INSTRUMENT	DATE	TIME	STD	READING	STD	READING	STD	READING	OPERATOR
HNU	5-13	8:00	54	57	54	54			

INSTRUMENT	DATE	TIME	STD	READING	STD	READING	STD	READING	OPERATOR
HNU	5/5	12:30	54	54					[signature]

INSTRUMENT	DATE	TIME	STD	READING	STD	READING	STD	READING	OPERATOR
HNU	5-16	8:10	54	51	54	54			[signature]

INSTRUMENT	DATE	TIME	STD	READING	STD	READING	STD	READING	OPERATOR
#NO1	5-17	8:30	54	53	54	54			S Shelton

DATA MANAGEMENT

Sample Location: SWMU #2 Sample Date: 5-13-91

Sample Type: SOIL

Team Leader: L. SHELTON

Sample Personnel: J. GOSS, M. BARNEY, B. SPENCER JR

Sampling Method: AUGER

Sample No. 0201V3.5 Sample Time/Description: 2:40 PM RED CLAY PID-0

Sample No. 0201V5.0 Sample Time/Description: 2:58 PM RED CLAY PID-0

Sample No. 0201V6.5 Sample Time/Description: 3:10 PM RED CLAY PID-0

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Surface Terrain: FLAT, SEMI-OPEN, 1½' BRUSH & SOME GRASS

Weather Conditions: PARTLY CLOUDY, DRY, 15 MPH SW WIND

General Field Observations: _____

Boring Lithology: 0-3.5' - MOIST RED CLAY W/TRACE OF YELLOW ORGANICS, 3.5'-5.0'

DATA MANAGEMENT

Sample Location: SWMU #2 Sample Date: 5-15-91

Sample Type: SOIL

Team Leader: L. SHELTON

Sample Personnel: J. GOSS, M. BARNEY, T. GOLTZ

Sampling Method: AUGER

Sample No. 0202V3.5 Sample Time/Description: 12:55 PM MOIST RED CLAY PID - 0

Sample No. 0202V5.0 Sample Time/Description: 1:10 PM DAMP RED CLAY PID - 0

Sample No. 0202V6.5 Sample Time/Description: 1:25 PM DRY RED CLAY PID - 0

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Surface Terrain: OPEN, BARE GROUND

Weather Conditions: CLOUDY, DRY, 20 MPH SW WIND

General Field Observations: _____

Boring Lithology: RED CLAY - SURFACE TO 6.5'.

DATA MANAGEMENT

Sample Location: SWMU #2 Sample Date: 5-15-91

Sample Type: SOIL

Team Leader: L. SHELTON

Sample Personnel: J. GOSS, M. BARNEY, T. GOETZ

Sampling Method: AUGER

Sample No. 0203A3.5 Sample Time/Description: 1:50 PM MOIST RED CLAY PID-0

Sample No. 0203A5.0 Sample Time/Description: 1:55 PM DAMP RED CLAY SOME ORGANICS PID 0

Sample No. 0203A6.5 Sample Time/Description: 2:40 PM DAMP RED CLAY

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Surface Terrain: BARE GROUND

Weather Conditions: CLOUDY, 20 MPH SW WIND, SOME SPRINKLES

General Field Observations: _____

Boring Lithology: 0-3.5' RED CLAY, 3.5-5.0' - RED CLAY WITH TRACE OF YELLOW ORGANICS

DATA MANAGEMENT

Sample Location: SWMU #2 Sample Date: _____

Sample Type: SOIL

Team Leader: L. SHELTON

Sample Personnel: J. GOSS, M. BARNEY, T. GOLTZ

Sampling Method: AUGER

Sample No. 0204V3.5 Sample Time/Description: 3:20 PM MOIST RED CLAY PID - Ø

Sample No. 0204V5.0 Sample Time/Description: 3:30 PM MOIST RED CLAY PID - Ø

Sample No. 0204V6.5 Sample Time/Description: 3:45 PM MOIST RED CLAY PID - Ø

Sample No. 0204D6.5 Sample Time/Description: 3:45 PM MOIST RED CLAY PID - Ø

Sample No. _____ Sample Time/Description: _____

Surface Terrain: BARE GROUND

Weather Conditions: CLOUDY, INTERMITTENT SPRINKLES & SHOWERS, NORTH WIND 10-15 MPH

General Field Observations: _____

Boring Lithology: 0-3.5' MOIST RED CLAY. 3.5-5.0' - MOIST RED CLAY, 5.0-6.5' DAMP RED CLAY.

DATA MANAGEMENT

Sample Location: SWMU #2 Sample Date: 5-16-91

Sample Type: SOIL

Team Leader: L. SHELTON

Sample Personnel: J. GOSS, M. BARNEY, T. GOLTZ

Sampling Method: AUGER

Sample No. 0205A3.5 Sample Time/Description: 8:30 AM WET RED CLAY PID - Ø

Sample No. 0205A5.0 Sample Time/Description: 8:50 AM WET RED CLAY PID - Ø

Sample No. 0205A6.5 Sample Time/Description: 9:05 AM WET RED CLAY PID - Ø

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Surface Terrain: BROKEN GROUND, SOME SURFACE WEEDS 2-3" HIGH

Weather Conditions: CLEAR, DRY, 5 MPH SE WIND

General Field Observations: WATER SEEPING INTO HOLE @ 4.0' TO 5.0'.

Boring Lithology: 0-3.5' - RED CLAY WITH TRACE OF GRAVEL + YELLOW. 3.5-5.0' - RED CLAY, VERY WET, WITH SOME GRAVEL (25% GRAVEL). 5.0-6.5' - VERY WET, RED CLAY WITH (25%) GRAVEL.

DATA MANAGEMENT

Sample Location: SWMU #2 Sample Date: 5-16-91

Sample Type: SOIL

Team Leader: L. SHELTON

Sample Personnel: J. GOSS, M. BARNEY, T. GOLTZ

Sampling Method: AUGER

Sample No. 0206V3.5 Sample Time/Description: 9:30 AM WET RED CLAY PID-0

Sample No. 0206V5.0 Sample Time/Description: 9:40 AM WET SANDY CLAY PID-0

Sample No. 0206V6.5 Sample Time/Description: 10:25 AM WET SANDY CLAY PID-0

Sample No. 0206E6.5 Sample Time/Description: 10:35 AM WATER

Sample No. _____ Sample Time/Description: _____

Surface Terrain: BROKEN GROUND, 1" GROWTH IN SCATTERED AREAS

Weather Conditions: CLEAR, DRY, 10-15 MPH VARIABLE WINDS, SE, SW, NW

General Field Observations: WATER SEEPING IN @ 4-5.0'. SIDES OF DITCH WERE CAVING IN BADLY BELOW THAT LEVEL. WATER STANDING BOTTOM OF HOLE.

Boring Lithology: 0-3.5' - WET RED CLAY W/SOME SANDY. 3.5'-5.0' - WET CLAY/SAND (50/50). 5.0-6.5' - 90% SAND, SOME RED CLAY + GRAVEL

DATA MANAGEMENT

Sample Location: SWMU #2 Sample Date: 5-13-91

Sample Type: SOIL

Team Leader: L. SHELTON

Sample Personnel: J. COSS, M. BARNEY, T. GOLTZ

Sampling Method: AUGER

Sample No. 0207V3.5 Sample Time/Description: 8:17 AM RED CLAY, MOIST
PID - Ø

Sample No. 0207V5.0 Sample Time/Description: 8:30 AM RED CLAY, MOIST
PID - Ø

Sample No. 0207V7.5 Sample Time/Description: 8:55 AM RED CLAY, MOIST
PID - Ø

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Surface Terrain: OPEN GROUND, NO GROWTH

Weather Conditions: CLEAR, DRY, 10-15 MPH South WIND

General Field Observations: _____

Boring Lithology: RED MOIST CLAY TO TOTAL DEPTH

DATA MANAGEMENT

Sample Location: SWMU #2 Sample Date: 5-13-91

Sample Type: SOIL

Team Leader: L. SHELTON

Sample Personnel: T. GOSS, M. BARNEY, B. SPENCER, JR

Sampling Method: AUGER

Sample No. 0208A3.5 Sample Time/Description: 12:53 PM MOIST RED CLAY PID-Ø

Sample No. 0208A5.0 Sample Time/Description: 1:10 PM DAMP ~~MOIST~~ RED CLAY PID-Ø

Sample No. 0208A6.5 Sample Time/Description: 1:22 PM DRY RED CLAY PID-Ø

Sample No. 0208E6.5 Sample Time/Description: 1:30 PM WATER EQUIPMENT WASH

Sample No. _____ Sample Time/Description: _____

Surface Terrain: UNEVEN GROUND, GRASS & WEEDS 6" HIGH

Weather Conditions: PARTLY CLOUDY, DRY, 10-15 mph SE WIND

General Field Observations: _____

Boring Lithology: 0-3.5' MOIST RED CLAY W/TRACE OF YELLOW ROOTS. 3.5'-4.0' - DRYER CLAY. 6.5' DRY PACKED RED CLAY.

DATA MANAGEMENT

Sample Location: SWMU #2 Sample Date: 5-13-91

Sample Type: SOIL

Team Leader: L. SHELTON

Sample Personnel: J. GOSS, M. BARNEY

Sampling Method: _____

Sample No. 0209V3.5 Sample Time/Description: 11:00 AM RED, MOIST CLAY SOME YELLOW ORGANIC (SUSPECT ROOTS) PID-Ø

Sample No. 0209V5.0 Sample Time/Description: 11:20 AM RED MOIST CLAY TRACE OF YELLOW ORG. PID-Ø

Sample No. 0209V6.5 Sample Time/Description: 11:40 AM RED CLAY PID-Ø

Sample No. 0209D6.5 Sample Time/Description: 11:40AM RED CLAY PID-Ø

Sample No. _____ Sample Time/Description: _____

Surface Terrain: _____

Weather Conditions: PARTLY CLOUDY, DRY, 15-20 mpH S WIND

General Field Observations: MOVED LOCATION OF BORE HOLE TO AVOID SURFACE WATER SEE MAP. MAINTENANCE WAS USING SPRAY PAINT TO LABEL ELECTRICAL BOXES 300' WEST. SMELLED PAINT FUMES ONCE DURING SAMPLING.

Boring Lithology: 0-3.5' RED CLAY WITH SOME YELLOW ORGANICS THAT LOOK LIKE ROOTS. 3.5'-5.5' RED CLAY WITH TRACE OF YELLOW ORGANICS. 6.5-7.0' RED CLAY

DATA MANAGEMENT

Sample Location: SWMU #2 Sample Date: 5-13-91

Sample Type: SOIL

Team Leader: L. SHELTON

Sample Personnel: J. GOSS, M. BARNEY

Sampling Method: AUGER

Sample No. 0210A3.5 Sample Time/Description: 9:25 AM MOIST RED CLAY PID-Ø

Sample No. 0210A5.0 Sample Time/Description: 10:10 AM MOIST RED CLAY PID-Ø

Sample No. 0210A6.5 Sample Time/Description: 10:30 AM MOIST RED CLAY PID-Ø

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Surface Terrain: OPEN GROUND, NO GROWTH

Weather Conditions: CLEAR, DRY, 15 mph SE WIND

General Field Observations: _____

Boring Lithology: RED CLAY FROM SURFACE TO TOTAL DEPTH.

DATA MANAGEMENT

Sample Location: SWMU #2 Sample Date: 5-16-91

Sample Type: SOIL

Team Leader: L. SHELTON

Sample Personnel: J. GOSS, M. BARNEY, T. GOLTZ

Sampling Method: AUGER

Sample No. 0211V3.5 Sample Time/Description: 11:45 AM RED CLAY PID-0

Sample No. 0211V5.0 Sample Time/Description: 12:40 PM RED CLAY PID-0

Sample No. 0211V6.5 Sample Time/Description: 12:55 PM RED CLAY

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Surface Terrain: BROKEN GROUND, SAGEBRUSH + WEEDS IN AREA 1'1/2-2' TALL

Weather Conditions: CLEAR, DRY, 20 MPH WEST WIND.

General Field Observations: _____

Boring Lithology: 0-3.5' - MOIST RED CLAY WITH WHITE SPOTTING, 3.5-5.0' DAMP RED CLAY, 5.0-6.5' - DRYER RED CLAY.

DATA MANAGEMENT

Sample Location: SWMU # 2 Sample Date: 5-16-91

Sample Type: SOIL

Team Leader: L. SHELTON

Sample Personnel: J. GOSS, M. BARNEY, T. GOLTZ

Sampling Method: AUGER

Sample No. 0212V3.5 Sample Time/Description: 1:10 PM RED CLAY PID-0

Sample No. 0212V5.0 Sample Time/Description: 1:25 PM RED CLAY PID-0

Sample No. 0212V6.5 Sample Time/Description: 1:35 PM RED CLAY PID-0

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Surface Terrain: FLAT, 6" GROUND GROWTH

Weather Conditions: CLEAR, DRY, 20MPH WEST WIND.

General Field Observations: _____

Boring Lithology: 0.0-3.5' - DAMP RED CLAY. TRACE OF LIGHTER COLORED ORGANICS. 3.5-5.0' - DAMP RED CLAY, TURNING SLIGHTY LIGHTER. 5.0-6.5' - DRYER RED CLAY.

DATA MANAGEMENT

Sample Location: SWMU #2 Sample Date: 5-16-91

Sample Type: SOIL

Team Leader: L. SHELTON

Sample Personnel: J. GOSS, M. BARNEY, T. GOLTZ

Sampling Method: AUGER

Sample No. 0213 V3.5 Sample Time/Description: 1:50 PM RED CLAY

Sample No. 0213 V 5.0 Sample Time/Description: 1:58 PM RED CLAY

Sample No. 0213V6.5 Sample Time/Description: 2:10 PM RED CLAY.

Sample No. [illegible] Sample Time/Description:

Sample No. _____ Sample Time/Description:

Surface Terrain: FLAT, 6" GRASS COVER

Weather Conditions: CLEAR, DRY, 20 MPH WEST WIND

General Field Observations:

Boring Lithology: 0-3.5' - RED CLAY, DAMP, 3.5-5.0' - RED CLAY, DAMP 5.0-6.5' - DRY RED CLAY

DATA MANAGEMENT

Sample Location: SWMU #2 Sample Date: 5-16-91

Sample Type: SOIL

Team Leader: L. SHELTON

Sample Personnel: J. GOSS, M. BARNEY, T. GOLTZ

Sampling Method: AUGER

Sample No. 0214A3.5 Sample Time/Description: 2:55 PM RED CLAY

Sample No. 0214A5.0 Sample Time/Description: 3:10 PM RED CLAY

Sample No. 0214A6.5 Sample Time/Description: 3:35 PM RED CLAY

Sample No. 0214B6.5 Sample Time/Description: 3:35 PM RED CLAY

Sample No. _____ Sample Time/Description: _____

Surface Terrain: BARE GROUND

Weather Conditions: CLEAR, DRY, 20 MPH VARIABLE WIND S-SW.

General Field Observations: SOIL WAS SO DRY AND PACKED, DIGGING WAS VERY DIFFICULT

Boring Lithology: 0-3.5' - DRY RED CLAY. 3.5-5.0' - PACKED, DRY RED CLAY 5.0-6.5 HARD PACKED RED CLAY

DATA MANAGEMENT

Sample Location: SWMU #2 Sample Date: 5-17-91

Sample Type: SOIL

Team Leader: L. SHELTON

Sample Personnel: J. GOSS, M. BARNEY, T. GOLTZ

Sampling Method: AUGER

Sample No. 0215A3.5 Sample Time/Description: 8:45 AM RED CLAY
PID-Ø

Sample No. 0215A5.0 Sample Time/Description: 9:05 AM RED CLAY
PID-Ø

Sample No. 0215A6.5 Sample Time/Description: 9:15 AM RED CLAY
PID-Ø

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Surface Terrain: OPEN SLOPE, 1'/2" BRUSH SCATTERED AROUND AREA

Weather Conditions: CLEAR, DRY, 15 MPH SW WIND

General Field Observations: _____

Boring Lithology: 0-3.5' - DAMP RED CLAY 3.5-5.0' - DRYER RED CLAY, 5.0-6.5' DAMP RED CLAY WITH TRACE OF ROOTS.

DATA MANAGEMENT

Sample Location: SWMU #2 Sample Date: 5-17-91

Sample Type: SOIL

Team Leader: L SHELTON

Sample Personnel: J. GOSS, M. BARNEY, T. GOLTZ

Sampling Method: AUGER

Sample No. 0216V3.5 Sample Time/Description: 10:20 AM DRY RED CLAY PID-0

Sample No. 0216V5.0 Sample Time/Description: 10:35 AM PACKED RED CLAY PID-0

Sample No. 0216V6.5 Sample Time/Description: 10:50 AM HARD PACKED RED CLA PID-0

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Surface Terrain: FLAT GROUND, 1-1½' GROWTH (BRUSH + WEEDS)

Weather Conditions: CLEAR, DRY, 15 MPH SW WIND

General Field Observations: _____

Boring Lithology: 0-3.5' - DRY RED CLAY, SOME ROOTS, 3.5-5.0' - PACKED DRY RED CLAY, 5.0-6.5' - VERY HARD RED CLAY

DATA MANAGEMENT

Sample Location: SWMU #2 Sample Date: 5-7-91

Sample Type: SOIL

Team Leader: L. SHELTON

Sample Personnel: J. GOSS, M. BARNEY, T. GOLTZ

Sampling Method: AUGER

Sample No. 0217V3.5 Sample Time/Description: 11:05 AM RED CLAY PID-0

Sample No. 0217V5.0 Sample Time/Description: 11:20 AM PACKED CLAY PID-0

Sample No. 0217V6.5 Sample Time/Description: 11:30 AM PACKED CLAY PID-0

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Surface Terrain: FLAT GROUND, 1-1½' GROWTH

Weather Conditions: CLEAR, DRY, 15 MPH SW WIND.

General Field Observations: _____

Boring Lithology: 0-3.5' - RED CLAY, 3.5-5.5' - PACKED RED CLAY

DATA MANAGEMENT

Sample Location: SWMU #2 Sample Date: 5-17-91

Sample Type: SOIL

Team Leader: L. SHELTON

Sample Personnel: J. GOSS, M. BARNEY, T. GOLTZ

Sampling Method: AUGER

Sample No. 0218A3.5 Sample Time/Description: 11:35 AM DAMP RED CLAY PID-0

Sample No. 0218A5.0 Sample Time/Description: 11:45 AM DAMP RED CLAY PID-0

Sample No. 0218A6.5 Sample Time/Description: 11:55 AM RED CLAY PID-0

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Surface Terrain: FLAT, SEMI-OPEN GROUND, SOME GROWTH 1½'

Weather Conditions: CLEAR, DRY, 20 MPH SW WIND

General Field Observations: _____

Boring Lithology: 0-3.5' - RED CLAY. 3.5-5.0 DAMP RED CLAY, W/ TRACE OF LIGHTER SPOTTING. NO STRATIFICATION

Analytical Technologies, Inc.
Phoenix, Arizona

Chain of Custody

DATE _____ PAGE ___ OF ___

PROJECT MANAGER: E. PROFITT

COMPANY: GIANT REFINING CO
ADDRESS: Rt 3 Box 7
GALLUP, NM 87301

BILL TO:
COMPANY: SAME
ADDRESS:

Lynn Shelton — SAMPLERS: (Signature)
(505) 722-0227 — PHONE NUMBER

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Petroleum Hydrocarbons (418.1)	(MOD 8015) Gas/Diesel	Diesel/Gasoline/BTXE (MOD 8015/8020)	BTXE (8020)	Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	MTBE	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	SDWA Primary Standards	SDWA Secondary Standards	SDWA Volatiles (502.1/503.1)	The 13 Priority Pollutant Metals	The 8 EP Tox Metals by EP Tox Prep. (1310)	The 8 EP Tox Metals by Total Digestion	The 8 EP Tox Metals by TCLP (1311)	pH & BACKGROUND METALS (SEE ATTACHED LIST)		NUMBER OF CONTAINERS
RFI 0201 V 3.5	5-13-91	2:40PM	SOIL											X	X								X		3
RFI 0201 V 5.0	5-13-91	2:58PM	SOIL											X	X								X		3
RFI 0201 V 6.5	5-13-91	3:10PM	SOIL											X	X								X		3

PROJECT INFORMATION	SAMPLE RECEIPT
PROJECT NO:	TOTAL NO. OF CONTAINERS
PROJECT NAME: PHASE II RFI	CHAIN OF CUSTODY SEALS
P.O. NO.: 01909	INTACT?
SHIPPED VIA: FED EXPRESS	RECEIVED GOOD COND./COLD
SAMPLE DISPOSAL INSTRUCTIONS	LAB NUMBER
☒ ATI ☐ RETURN	

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

TAT: (NORMAL) X (RUSH) ☐ 24 ☐ 48 ☒ 72 ☐ 1 WEEK

Comments: SEE ATTACHED LIST FOR PARAMETERS

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Lynn Shelton Time:	Signature: Time:	Signature: Time:
Printed Name: LYNN SHELTON Date:	Printed Name: Date	Printed Name: Date
Company: GIANT REFINING	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: (LAB) 3.**
Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Company:	Company:	Analytical Technologies, Inc.

ATI Labs: San Diego (619)458-9141 • Phoenix (602)438-1530 • Seattle (206)228-8335 • Pensacola (904)474-1001 DISTRIBUTION: White, Canary - ANALYTICAL TECHNOLOGIES, INC. • Pink - ORIGINATOR

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Analytical Technologies, Inc.
Phoenix, Arizona

Chain of Custody

DATE 5-15-91 PAGE 1 OF —

PROJECT MANAGER: S. PROFFITT

COMPANY: GIANT REFINING CO
ADDRESS: RT 3 BOX 7
GALLUP, NM 87301

BILL TO:
COMPANY: SAME
ADDRESS:

Lynn Shelton — SAMPLERS: (Signature)
(505) 722 0227 — PHONE NUMBER

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Petroleum Hydrocarbons (418.1)	Diesel (MOD 8015) Gas/Diesel	Diesel/Gasoline/BTXE (MOD 8015/8020)	BTXE (8020)	Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	MTBE	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	SDWA Primary Standards	SDWA Secondary Standards	SDWA Volatiles (502.1/503.1)	The 13 Priority Pollutant Metals	The 8 EP Tox Metals by EP Tox Prep. (1310)	The 8 EP Tox Metals by Total Digestion	The 8 EP Tox Metals by TCLP (1311)	pH + BACKGROUND METALS (SEE ATTACHED LIST)		NUMBER OF CONTAINERS
REF 0202 V3.5	5-15-91	12:55PM	SOIL											X	X								X		5
REF 0202 V5.0	5-15-91	1:10PM	SOIL											X	X								X		5
REF 0202 V6.5	5-15-91	1:25PM	SOIL											X	X								X		5
REF 0203 A 3.5	5-15-91	1:50PM	SOIL											X	X								X		5
REF 0203 A 5.0	5-15-91	1:55PM	SOIL											X	X								X		5
REF 0203 A 6.5	5-15-91	2:40PM	SOIL											X	X								X		5
REF 0204 V3.5	5-15-91	3:20PM	SOIL											X	X								X		5
REF 0204 V5.0	5-15-91	3:30PM	SOIL											X	X								X		5
REF 0204 V6.5	5-15-91	3:45PM	SOIL											X	X								X		5

PROJECT INFORMATION	
PROJECT NO:	
PROJECT NAME: PHASE II REF	
P.O. NO: 01909	
SHIPPED VIA: FED EXPRESS	
SAMPLE DISPOSAL INSTRUCTIONS	
☒ ATI ☐ RETURN	

SAMPLE RECEIPT	
TOTAL NO. OF CONTAINERS	
CHAIN OF CUSTODY SEALS	
INTACT?	
RECEIVED GOOD COND./COLD	
LAB NUMBER	

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

TAT: (NORMAL) X (RUSH) ☐ 24 ☐ 48 ☐ 72 ☐ 1 WEEK

Comments:
SEE ATTACHED LIST FOR PARAMETERS

RELINQUISHED BY: 1	RELINQUISHED BY: 2	RELINQUISHED BY: 3
Signature: Lynn Shelton Time: 5:00pm	Signature: Time:	Signature: Time:
Printed Name: Lynn Shelton Date: 5-15-91	Printed Name: Date:	Printed Name: Date:
Company: GIANT REFINING	Company:	Company:
RECEIVED BY: 1	**RECEIVED BY: 2**	**RECEIVED BY: (LAB) 3**
Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Company:	Company:	Analytical Technologies, Inc.

ATI Labs: San Diego (619)458-9141 • Phoenix (602)438-1530 • Seattle (206)228-8335 • Pensacola (904)474-1001 DISTRIBUTION: White, Canary - ANALYTICAL TECHNOLOGIES, INC. • Pink - ORIGINATOR

Analytical Technologies, Inc.
Phoenix, Arizona

Chain of Custody

DATE 5-15-91 PAGE 2 OF ___

PROJECT MANAGER: E. PROFFITT

COMPANY: GIANT REFINING CO.
ADDRESS: RT 3 BOX 7
GALLUP, NM 87301

BILL TO:
COMPANY: SAME
ADDRESS:

Lynn Slatton — SAMPLERS: (Signature)
(505) 722-0227 — PHONE NUMBER

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Petroleum Hydrocarbons (418.1)	(MOD 8015) Gas/Diesel	Diesel/Gasoline/BTXE (MOD. 8015/8020)	BTXE (8020)	Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	MTBE	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	SDWA Primary Standards	SDWA Secondary Standards	SDWA Volatiles (502.1/503.1)	The 13 Priority Pollutant Metals	The 8 EP Tox Metals by EP Tox Prep. (1310)	The 8 EP Tox Metals by Total Digestion	The 8 EP Tox Metals by TCLP (1311)	pH + BACKGROUND METALS	SEE ATTACHED LIST	NUMBER OF CONTAINERS
REF0204D6.5	5-15-91	5:45PM	SOIL											X	X								X		3
REF0205A3.5	5-16-91	8:30AM	SOIL											X	X								X		3
REF0205A5.0	5-16-91	8:50AM	SOIL											X	X								X		3
REF0205A6.5	5-16-91	9:05AM	SOIL											X	X								X		3
REF0206V3.5	5-16-91	9:30AM	SOIL											X	X								X		3
REF0206V5.0	5-16-91	9:40AM	SOIL											X	X								X		3
REF0206V6.5	5-16-91	10:20AM	SOIL											X	X								X		3
REF0206E6.5	5-16-91	10:35AM	WATER											X	X								X		3

PROJECT INFORMATION

PROJECT NO:
PROJECT NAME: PHASE II REF
P.O. NO. 01909
SHIPPED VIA: FED EXPRESS
SAMPLE DISPOSAL INSTRUCTIONS
☒ ATI ☐ RETURN

SAMPLE RECEIPT

TOTAL NO. OF CONTAINERS
CHAIN OF CUSTODY SEALS
INTACT?
RECEIVED GOOD COND./COLD
LAB NUMBER

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

TAT: (NORMAL) X (RUSH) ☐ 24 ☐ 48 ☐ 72 ☐ 1 WEEK

Comments:
SEE ATTACHED LIST FOR PARAMETERS.

RELINQUISHED BY: 1	RELINQUISHED BY: 2	RELINQUISHED BY: 3
Signature: Lynn Slatton Time: 11:00AM	Signature: Time:	Signature: Time:
Printed Name: Lynn Slatton Date: 5-16-91	Printed Name: Date:	Printed Name: Date
Company: GIANT REFINING	Company:	Company:
RECEIVED BY: 1	**RECEIVED BY: 2**	**RECEIVED BY: (LAB) 3**
Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Company:	Company:	Analytical Technologies, Inc.

DISTRIBUTION: White, Canary - ANALYTICAL TECHNOLOGIES, INC.; Pink - ORIGINATOR

ATI Labs: San Diego (619)458-9141 • Phoenix (602)438-1530 • Seattle (206)228-8335 • Pensacola (904)474-1001

Analytical Technologies, Inc.
Phoenix, Arizona

Chain of Custody

5-13-91
DATE 1 PAGE 2 OF 4

PROJECT MANAGER: E. PROFITT

COMPANY: GIANT REFINING CO
ADDRESS: Rt 3 Box 7
GALLUP, NM 87301

BILL TO:
COMPANY: (SAME)
ADDRESS:

L. Sletten
SAMPLERS: (Signature)

(505) 722-0227
PHONE NUMBER

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Petroleum Hydrocarbons (418.1)	(MOD 8015) Gas/Diesel	Diesel/Gasoline/BTXE (MOD 8015/8020)	BTXE (8020)	Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	MTBE	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	SDWA Primary Standards	SDWA Secondary Standards	SDWA Volatiles (502.1/503.1)	The 13 Priority Pollutant Metals	The 8 EP Tox Metals by EP Tox Prep. (1310)	The 8 EP Tox Metals by Total Digestion	The 8 EP Tox Metals by TCLP (1311)	OH & BACKGROUND METALS (SEE ATTACHED LIST)	NUMBER OF CONTAINERS
REF 0207 V3.5	5-13-91	8:17	SOIL											X	X								X	4
REF 0207 V5.0	5-13-91	8:30	SOIL											X	X								X	4
REF 0207 V6.5	5-13-91	8:55	SOIL											X	X								X	4
REF 0210 A 3.5	5-13-91	9:25	SOIL											X	X								X	4
REF 0210 A 5.0	5-13-91	10:10	SOIL											X	X								X	4
REF 0210 A 6.5	5-13-91	10:30	SOIL											X	X								X	4
REF 0209 W 3.5	5-13-91	11:00	SOIL											X	X								X	4
REF 0209 V 5.0	5-13-91	11:20	SOIL											X	X								X	4
REF 0201 V 6.5	5-13-91	11:40	SOIL											X	X								X	4

PROJECT INFORMATION	SAMPLE RECEIPT
PROJECT NO:	TOTAL NO. OF CONTAINERS
PROJECT NAME: PLANT REF	CHAIN OF CUSTODY SEALS
P.O. NO: 01909	INTACT?
SHIPPED VIA: FED EXPRESS	RECEIVED GOOD COND./COLD
SAMPLE DISPOSAL INSTRUCTIONS	LAB NUMBER
☒ ATI ☐ RETURN	

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

TAT: (NORMAL) X (RUSH) ☐ 24 ☐ 48 ☐ 72 ☐ 1 WEEK

Comments:
SEE ATTACHED LIST FOR PARAMETERS

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Lynn Sletten Time:	Signature: Time:	Signature: Time:
Printed Name: Lynn Sletten Date: 5-14-91	Printed Name: Date:	Printed Name: Date:
Company: GIANT REFINING	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: (LAB) 3.**
Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Company:	Company:	Analytical Technologies, Inc.

ATI Labs: San Diego (619)458-9141 • Phoenix (602)438-1530 • Seattle (206)228-8335 • Pensacola (904)474-1001 DISTRIBUTION: White, Canary - ANALYTICAL TECHNOLOGIES, INC. - Pink - ORIGINATOR

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Analytical Technologies, Inc.
Phoenix, Arizona

Chain of Custody

DATE 5-13-91 PAGE 2 OF 2

PROJECT MANAGER: E. PROFITT

COMPANY: GIANT REFINING CO
ADDRESS: #3 BOX 7
GALLUP NM 87301

BILL TO:
COMPANY: SAME
ADDRESS:

Lynn Shelton — SAMPLERS: (Signature)
(505) 722-0227 — PHONE NUMBER

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Petroleum Hydrocarbons (418.1)	(MOD 8015) Gas/Diesel	Diesel/Gasoline/BTXE (MOD 8015/8020)	BTXE (8020)	Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	MTBE	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (8270)	Volatile Organics GC/MS (8240)	SDWA Primary Standards	SDWA Secondary Standards	SDWA Volatiles (502.1/503.1)	The 13 Priority Pollutant Metals	The 8 EP Tox Metals by EP Tox Proc. (1310)	The 8 EP Tox. Metals by Total Digestion	The 8 EP Tox. Metals by TCLP (1311)	pH	BACKGROUND METALS	NUMBER OF CONTAINERS
REF 0209 D 6.5	5-13-91	11:40AM	SOIL											X	X							X	X		4
REF 0208 A 3.5	5-13-91	12:53PM	SOIL											X	X							X	X		4
REF 0208 A 5.0	5-13-91	1:10PM	SOIL											X	X							X	X		4
REF 0208 A 6.5	5-13-91	1:22PM	SOIL											X	X							X	X		4
REF 0208 E 6.5	5-13-91	1:30PM	WATER											X	X							X	X		6

PROJECT INFORMATION	SAMPLE RECEIPT
PROJECT NO:	TOTAL NO. OF CONTAINERS
PROJECT NAME: GIANT REF.	CHAIN OF CUSTODY SEALS
P.O. NO: 04904	INTACT?
SHIPPED VIA: FED EXPRESS	RECEIVED GOOD COND./COLD
SAMPLE DISPOSAL INSTRUCTIONS	LAB NUMBER
☒ ATI ☐ RETURN	

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

TAT: (NORMAL) X (RUSH) ☐ 24 ☐ 48 ☐ 72 ☐ 1 WEEK

Comments: SEE ATTACHED LIST FOR PARAMETERS.

RELINQUISHED BY: 1	RELINQUISHED BY: 2	RELINQUISHED BY: 3
Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date: LYNN SHELTON 5-14-91	Printed Name: Date:	Printed Name: Date:
Company: GIANT REFINING	Company:	Company:
RECEIVED BY: 1	**RECEIVED BY: 2**	**RECEIVED BY: (LAB) 3**
Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Company:	Company:	Analytical Technologies, Inc.

Analytical Technologies, Inc.
Phoenix, Arizona

Chain of Custody

DATE 5-16-91 PAGE 1 OF 3

PROJECT MANAGER: E. PROFFITT

COMPANY: GIANT REFINING CO.
ADDRESS: RT 3 BOX 7
GALLUP, NM 87301

BILL TO:
COMPANY: SAME
ADDRESS:

Lynn Shelton — SAMPLERS: (Signature)
(505) 722-0227 — PHONE NUMBER

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Petroleum Hydrocarbons (418.1)	(MOD. 8015) Gas/Diesel	Diesel/Gasoline/BTXE (MOD. 8015/8020)	BTXE (8020)	Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	MTBE	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	SDWA Primary Standards	SDWA Secondary Standards	SDWA Volatiles (502.1/503.1)	The 13 Priority Pollutant Metals	The 8 EP Tox Metals by EP Tox Prep. (1310)	The 8 EP Tox Metals by Total Digestion	The 8 EP Tox Metals by TCLP (1311)	pH & BACKGROUND METALS (SEE ATTACHED LIST)	NUMBER OF CONTAINERS
REF 02.11 V3.5	5-16-91	11:45AM	SOIL											X	X								X	3
REF 02 11 V5.0	5-16-91	12:40PM	SOIL											X	X								X	3
REF 02 11 V6.5	5-16-91	12:55PM	SOIL											X	X								X	3
REF 02 12 V3.5	5-16-91	1:10PM	SOIL											X	X								X	3
REF 02 12 V5.0	5-16-91	1:25PM	SOIL											X	X								X	3
REF 02 12 V6.5	5-16-91	1:35PM	SOIL											X	X								X	3
REF 02 13 V3.5	5-16-91	1:50PM	SOIL											X	X								X	3
REF 02 13 V5.0	5-16-91	1:58PM	SOIL											X	X								X	3
REF 02 13 V6.5	5-16-91	2:10PM	SOIL											X	X								X	3

PROJECT INFORMATION	SAMPLE RECEIPT
PROJECT NO:	TOTAL NO. OF CONTAINERS
PROJECT NAME: PHASE II REF	CHAIN OF CUSTODY SEALS
P.O. NO. 01909	INTACT?
SHIPPED VIA: FED EXPRESS	RECEIVED GOOD COND./COLD
SAMPLE DISPOSAL INSTRUCTIONS	LAB NUMBER
☐ ATI ☐ RETURN	

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

TAT: (NORMAL) X (RUSH) ☐ 24 ☐ 48 ☐ 72 ☐ 1 WEEK

Comments:
SEE ATTACHED LIST FOR PARAMETERS

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date: Lynn Shelton	Printed Name: Date:	Printed Name: Date:
Company: GIANT REFINING CO	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: (LAB) 3.**
Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Company:	Company:	Analytical Technologies, Inc.

AnalyticalTechnologies,Inc.
Phoenix, Arizona

Chain of Custody

DATE 5-16-91 PAGE 2 OF 3

PROJECT MANAGER: E. PROFFITT

COMPANY: GIANT REFINING CO
ADDRESS: Rt 3 BOX 7
GALLUP, NM 87301

BILL TO:
COMPANY: SAME
ADDRESS:

SAMPLERS: (Signature) [signature] PHONE NUMBER (505) 722-0227

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Petroleum Hydrocarbons (418.1)	(MOD 8015) Gas/Diesel	Diesel/Gasoline/BTXE (MOD 8015/8020)	BTXE (8020)	Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	MTBE	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	SDWA Primary Standards	SDWA Secondary Standards	SDWA Volatiles (502.1/503.1)	The 13 Priority Pollutant Metals	The 8 EP Tox Metals by EP Tox Prep. (1310)	The 8 EP Tox Metals by Total Digestion	The 8 EP Tox Metals by TCLP (1311)	pH + BACKGROUND METALS	SEE ATTACHED LIST	NUMBER OF CONTAINERS
REI 0214 A 3.5	5-16-91	2:55PM	SOIL											X	X								X		3
REI 0214 A 5.0	5-16-91	3:10PM	SOIL											X	X								X		3
REI 0214 A 6.5	5-16-91	3:35PM	SOIL											X	X								X		3
REI 0214 D 6.5	5-16-91	3:35PM	SOIL											X	X								X		3
REI 0215 A 3.5	5-17-91	8:45AM	SOIL											X	X								X		3
REI 0215 A 5.0	5-17-91	9:00AM	SOIL											X	X								X		2
REI 0215 A 6.5	5-17-91	9:15AM	SOIL											X	X								X		3
REI 0216 N 3.5	5-17-91	10:20AM	SOIL											X	X								X		3
REI 0216 N 5.0	5-17-91	10:35AM	SOIL											X	X								X		2

PROJECT INFORMATION	
PROJECT NO.	
PROJECT NAME	PHASE II RFI
P.O. NO.	01909
SHIPPED VIA	FED EXPRESS
SAMPLE DISPOSAL INSTRUCTIONS	☒ ATI ☐ RETURN

SAMPLE RECEIPT	
TOTAL NO. OF CONTAINERS	
CHAIN OF CUSTODY SEALS	
INTACT?	
RECEIVED GOOD COND./COLD	
LAB NUMBER	

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

TAT: (NORMAL) X (RUSH) ☐ 24 ☐ 48 ☐ 72 ☐ 1 WEEK

Comments: SEE ATTACHED LIST FOR PARAMETERS

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: [signature] Time:	Signature: Time:	Signature: Time:
Printed Name: Lynn Shelton Date:	Printed Name: Date:	Printed Name: Date:
Company: GIANT REFINING CO.	Company:	Company:

RECEIVED BY: 1.	RECEIVED BY: 2.	RECEIVED BY: (LAB) 3.
Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Company:	Company:	Analytical Technologies, Inc.

ATI Labs: San Diego (619)458-9141 • Phoenix (602)438-1530 • Seattle (206)228-8335 • Pensacola (904)474-1001 DISTRIBUTION: White, Canary - ANALYTICAL TECHNOLOGIES, INC. • Pink - ORIGINATOR

Analytical Technologies, Inc.
Phoenix, Arizona

Chain of Custody

DATE 5-17-91 PAGE 3 OF 3

PROJECT MANAGER: E. PROFFITT

COMPANY: GIANT REFINING CO.
ADDRESS: Rt 3 BOX 7
GALLUP, NM 87301

BILL TO:
COMPANY: SAME
ADDRESS:

Lynn Shelton (505 722 0227
SAMPLERS: (Signature) PHONE NUMBER

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Petroleum Hydrocarbons (418.1)	(MOD. 8015) Gas/Diesel	Diesel/Gasoline/BTXE (MOD 8015/8020)	BTXE (8020)	Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	MTBE	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GCMS (625/8270)	Volatile Organics GCMS (624/8240)	SDWA Primary Standards	SDWA Secondary Standards	SDWA Volatiles (502.1/503.1)	Title 13 Priority Pollutant Metals	The 8 EP Tox Metals by EP Tox Prep (1310)	The 8 EP Tox Metals by Total Digestion	The 8 EP Tox Metals by TCLP (1311)	OIL & GREASE/TPH/METALS SEE ATTACHED LIST	NUMBER OF CONTAINERS
REF 02 16 V 6.5	5-17-91	10:50AM	SOIL											X	X								X	2
REF 02 17 V 3.5	5-17-91	11:05	SOIL											X	X								X	2
REF 02 17 V 5.0	5-17-91	11:20	SOIL											X	X								X	2
REF 02 17 V 6.5	5-17-91	11:30	SOIL											X	X								X	2
REF 02 18 A 3.5	5-17-91	11:35	SOIL											X	X								X	2
REF 02 18 A 5.0	5-17-91	11:45	SOIL											X	X								X	2
REF 02 18 A 6.5	5-17-91	11:55	SOIL											X	X								X	2

PROJECT INFORMATION	SAMPLE RECEIPT
PROJECT NO:	TOTAL NO. OF CONTAINERS
PROJECT NAME: PHASE II RFI	CHAIN OF CUSTODY SEALS
P.O. NO. 01909	INTACT?
SHIPPED VIA: FED EXPRESS	RECEIVED GOOD COND./COLD
SAMPLE DISPOSAL INSTRUCTIONS	LAB NUMBER
☒ ATI ☐ RETURN	

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

TAT: (NORMAL) X (RUSH) ☐ 24 ☐ 48 ☐ 72 ☐ 1 WEEK

Comments:
SEE ATTACHED LIST FOR PARAMETERS

RELINQUISHED BY: 1	RELINQUISHED BY: 2	RELINQUISHED BY: 3
Signature: Time: Lynn Shelton	Signature: Time:	Signature: Time:
Printed Name: Date: Lynn Shelton 5-17-91	Printed Name: Date:	Printed Name: Date:
Company: GIANT REFINING CO	Company:	Company:
RECEIVED BY: 1	**RECEIVED BY: 2**	**RECEIVED BY: (LAB) 3**
Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Company:	Company:	Analytical Technologies, Inc.

TABLE -1
BACKGROUND METALS

Total Metals

Parameter	Analytical Method	Reporting Limit mg/kg
Antimony	6010	6.0
Arsenic	7060	0.5
Barium	6010	1.0
Beryllium	6010	0.2
Cadmium	6010	0.5
Chromium	6010	1.0
Cobalt	6010	1.0
Copper	6010	2.0
Lead	6010	5.0
Mercury	7471	0.2
Nickel	6010	4.0
Potassium	6010	500
Selenium	7740	0.5
Vanadium	6010	1.0
Zinc	6010	2.0

pt

TABLE-4
SKINNER LIST

METHOD 8240

Parameter	Reporting Limit (ug/kg)
Benzene	500
Carbon disulfide	500
Chlorobenzene	500
2-Chloroethylvinyl ether	1,000
1,2-Dibromomethane	1,000
1,2-Dichloroethane	500
1,4-Dioxane	50,000
Ethyl Benzene	500
Methyl ethyl ketone (2-butanone)	1,000
Styrene	500
Toluene	500
Xylenes	500

METHOD 8270

Anthracene	5,000
Benzenethiol	-
Benzo(a)anthracene	5,000
Benzo(b)fluoranthene	5,000
Benzo(k)fluoranthene	5,000
Benzo(a)pyrene	5,000
Bis(2-ethylhexyl)phthalate	5,000
Butyl benzyl phthalate	5,000
Chrysene	5,000
Dibenzo(a,X)acridine	-
Dibenzo(a,h)anthracene	5,000
Di-n-butylphthalate	5,000
1,2-Dichlorobenzene	5,000
1,3-Dichlorobenzene	5,000
1,4-Dichlorobenzene	5,000
Diethyl phthalate	5,000
7,12-Dimethylbenz(a)anthrancene	5,000
2,4-Dimethylphenol	5,000
Dimethyl phthalate	5,000
2,4-Dinitrophenol	25,000
Di-n-octyl phthalate	5,000
Fluoranthene	5,000
Indene	5,000
Methylchrysene	-
1-Methylnaphthalene	5,000
2-Methylphenol	5,000
3-Methylphenol	5,000
4-Methylphenol	5,000
Naphthalene	5,000
4-Nitrophenol	25,000
Phenanthrene	5,000

TABLE-4 Continued

	5,000
Phenol	5,000
Pyrene	10,000
Pyridine	25,000
Quinoline	

TABLE 2

Field Equipment Checklist
Soil and Sludge Sampling

5-9-91

	ITEM	REMARKS
✓	PID Meter	✓ Calibrated
✓	Site Specific SWMU Work Plan	
✓	Generic Sampling Plan	
✓	Site Map With Sample Locations	
✓	Sample Bottles	
✓	Ice Chests	
✓	Trip Blanks	
✓	Methanol	
✓	Deionized Water	
✓	Squeeze Bottles	
✓	Personal Protective Equipment	
✓	Chain of Custody and Sample Record Forms	
✓	Plastic Bags (To provide clean surfaces)	
✓	Disposable Gloves	
✓	Paper Towels	
✓	Tape (For labels and dispenser)	
✓	Sharpie, Pens, Pencils	
✓	Blue Ice or Ice	
✓	Zip-Lock Bags, 1 Gallon	

INSTRUMENT	DATE	TIME	STD	READING	STD	READING	STD	READING	OPERATOR
HNU	5-9	10:45	54	52	54	54			

DATA MANAGEMENT

Sample Location: SWMU #13 Sample Date: 5-9-91

Sample Type: SOIL

Team Leader: L. SHELTON

Sample Personnel: J. GOSS, M. BARNEY, T. GOLTZ

Sampling Method: AUGER

Sample No. 1301V2.0 Sample Time/Description: 10:50 AM MOIST CLAY
PID - Ø

Sample No. 1301V3.5 Sample Time/Description: 11:05 AM MUDDY MOIST CLAY
PID - Ø

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Surface Terrain: BARE (OPEN) GROUND

Weather Conditions: CLOUDY, DRY, S-SW WIND 10-15 MPH

General Field Observations: DRIFT FROM POND SPRAYS BLOWS ONTO SAMPLING AREA OCCASIONALLY.

The entire 0-4' was hand augered

Boring Lithology: ALL MOIST CLAY, NO STRATIFICATION. HIT WATER @ 3.5'.

DATA MANAGEMENT

Sample Location: SWMU #13 Sample Date: 5-9-91

Sample Type: SOIL (1 WATER)

Team Leader: L. SHELTON

Sample Personnel: J. GOSS, M. BARNEY, T. GOLTZ

Sampling Method: AUGER

Sample No. 1302 V2.0 Sample Time/Description: 11:55 AM MOIST RED CLAY
PID - Ø

Sample No. 1302 V3.5 Sample Time/Description: 1:05 PM MOIST RED CLAY
PID - Ø

Sample No. 1302 E2.0 Sample Time/Description: 12:45 PM WATER

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Surface Terrain: FLAT GROUND, GRASS AND 1' WEEDS

Weather Conditions: CLOUDY, DRY, 10-15 mph SW WIND

General Field Observations: DRIFT FROM POND SPRAYS BLOW ON SITE OCCASIONALLY.

The entire 0-4' was hand augured.

Boring Lithology: RED CLAY FROM SURFACE TO 3.5'.

DATA MANAGEMENT

Sample Location: SWMU #13 Sample Date: 5-9-91

Sample Type: SOIL

Team Leader: L. SHELTON

Sample Personnel: J. GOSS, M. BARNEY, T. GOLTZ

Sampling Method: AUGER

Sample No. 1303 V 2.0 Sample Time/Description: 1:50 pm MOIST CLAY
PID - Ø

Sample No. 1303 V 3.5 Sample Time/Description: 2:05 PM MOIST CLAY
PID - Ø

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Surface Terrain: _____

Weather Conditions: CLOUDY, DRY, SW WIND 20-25 MPH

General Field Observations: TURNED POND SPRAYS OFF TO DECREASE CHANCE OF CONTAMINATION.

THE entire 0-4' was hand augered.

Boring Lithology: RED CLAY FROM SURFACE TO 3.5'.

DATA MANAGEMENT

Sample Location: SWMU #13 Sample Date: 5-9-91

Sample Type: SOIL

Team Leader: L. SHELTON

Sample Personnel: J. GOSS, M. BARNEY, T. GOLTZ

Sampling Method: AUGER

Sample No. 1304V2.0 Sample Time/Description: 3:10 pm RED CLAY
PID - Ø

Sample No. 1304V3.5 Sample Time/Description: 3:25 pm RED CLAY
PID - Ø

Sample No. 1304D3.5 Sample Time/Description: 3:35 pm RED CLAY
PID - Ø

Sample No. _____ Sample Time/Description: _____

Sample No. _____ Sample Time/Description: _____

Surface Terrain: BARE GROUND

Weather Conditions: CLEAR, DRY, SW WIND 20-25 mph

General Field Observations: _____

The entire 0-4' was hand augered.

Boring Lithology: RED CLAY - SURFACE TO 3.5'
OCCASIONAL ASPHALT PAVING @ .5'-1.5' from fill dirt.

Analytical Technologies, Inc.
Phoenix, Arizona

Chain of Custody

5-9-91 DATE 1 PAGE 2 OF

PROJECT MANAGER:

COMPANY: GIANT REFINING CO
ADDRESS: Rt 3 BOX 7
GALLUP, NM 87301

BILL TO:
COMPANY: (SAME)
ADDRESS:

Lynn Shelton
SAMPLERS: (Signature)

(505) 722-0227
PHONE NUMBER

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Petroleum Hydrocarbons (418.1)	(MOD 8015) Gas/Diesel	Diesel/Gasoline/BTXE (MOD 8015/8020)	BTXE (8020)	Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	MTBE	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	SDWA Primary Standards	SDWA Secondary Standards	SDWA Volatiles (502.1/503.1)	The 13 Priority Pollutant Metals	The 8 EP Tox Metals by EP Tox Prep. (1310)	The 8 EP Tox Metals by Total Digestion	The 8 EP Tox Metals by TCLP (1311)	BACKGROUND METALS (SEE LIST)	NUMBER OF CONTAINERS
RFI 1301 V 2.0	5-9-91	10:50	SOIL											X	X								X	4
RFI 1301 V 3.5	5-9-91	11:05	SOIL																					3
RFI 1302 V 2.0	5-9-91	11:55	SOIL																					3
RFI 1302 V 3.5	5-9-91	1:05	SOIL																					3
RFI 1302 E 2.0	5-9-91	12:45	WATER																					4
RFI 1303 V 2.0	5-9-91	1:50	SOIL																					3
RFI 1303 V 3.5	5-9-91	2:05	SOIL																					3
RFI 1304 V 2.0	5-9-91	3:10	SOIL																					3
RFI 1304 V 3.5	5-9-91	3:25	SOIL																					3

PROJECT INFORMATION	SAMPLE RECEIPT
PROJECT NO:	TOTAL NO. OF CONTAINERS
PROJECT NAME: PHASE 2 RFI	CHAIN OF CUSTODY SEALS
P.O. NO. 01909	INTACT?
SHIPPED VIA: FED EX	RECEIVED GOOD COND./COLD
SAMPLE DISPOSAL INSTRUCTIONS	LAB NUMBER
☒ ATI ☐ RETURN	

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

TAT: (NORMAL) X (RUSH) ☐ 24 ☐ 48 ☐ 72 ☐ 1 WEEK

Comments:
SEE ATTACHMENTS FOR ANALYTICAL PARAMETERS

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Time: Lynn Shelton 10:00 AM	Signature: Time:	Signature: Time:
Printed Name: Date: LYNN SHELTON 5-10-91	Printed Name: Date:	Printed Name: Date:
Company: GIANT REFINING CO.	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: (LAB) 3.**
Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Company:	Company:	Analytical Technologies, Inc.

ATI Labs: San Diego (619)458-9141 • Phoenix (602)438-1530 • Seattle (206)228-8335 • Pensacola (904)474-1001 DISTRIBUTION: White, Canary - ANALYTICAL TECHNOLOGIES, INC. • Pink - ORIGINATOR

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Analytical Technologies, Inc.
Phoenix, Arizona

Chain of Custody

DATE 5-9-91 PAGE 2 OF 2

PROJECT MANAGER:

COMPANY: GIANT REFINING CO
ADDRESS: R+3 BOX 7
GALLUP, NM 87301

BILL TO:
COMPANY: SAME
ADDRESS:

Lynn Shelton (505) 722-0227
SAMPLERS: (Signature) PHONE NUMBER

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
RFI 1304 D 3.5	5-9-91	3:30PM	SOIL	

Petroleum Hydrocarbons (418.1) | (MOD.8015) Gas/Diesel | Diesel/Gasoline/BTXE (MOD 8015/8020) | BTXE (8020) | Chlorinated Hydrocarbons (601/8010) | Aromatic Hydrocarbons (602/8020) | MTBE | Pesticides/PCB (608/8080) | Herbicides (615/8150) | Base/Neutral/Acid Compounds GC/MS (625/8270) | Volatile Organics GC/MS (624/8240) | SDWA Primary Standards | SDWA Secondary Standards | SDWA Volatiles (502.1/503.1) | The 13 Priority Pollutant Metals | The 8 EP Tox Metals by EP Tox Prep. (1310) | The 8 EP Tox Metals by Total Digestion | The 8 EP Tox Metals by TCLP (1311) | BACKGROUND METALS (SEE LIST) | NUMBER OF CONTAINERS

										X	X												4

PROJECT INFORMATION	
PROJECT NO:	
PROJECT NAME: PHASE II, RFI	
P.O. NO. 01909	
SHIPPED VIA: FED EXPRESS	
SAMPLE DISPOSAL INSTRUCTIONS	
☒ ATI ☐ RETURN	

SAMPLE RECEIPT	
TOTAL NO. OF CONTAINERS	
CHAIN OF CUSTODY SEALS	
INTACT?	
RECEIVED GOOD COND./COLD	
LAB NUMBER	

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

TAT: (NORMAL) X (RUSH) ☐ 24 ☐ 48 ☐ 72 ☐ 1 WEEK

Comments: SEE ATTACHMENTS FOR ANALYTICAL PARAMETERS

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Lynn Shelton Time:	Signature: Time:	Signature: Time:
Printed Name: LYNN SHELTON Date: 5-10-91	Printed Name: Date	Printed Name: Date
Company: GIANT REFINING CO	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: (LAB) 3.**
Signature: Time:	Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:	Printed Name: Date:
Company:	Company:	Analytical Technologies, Inc.

DISTRIBUTION: White, Canary - ANALYTICAL TECHNOLOGIES, INC. • Pink - ORIGINATOR

4.114

TABLE -1
BACKGROUND METALS

Total Metals

Parameter	Analytical Method	Reporting Limit mg/kg
Antimony	6010	6.0
Arsenic	7060	0.5
Barium	6010	1.0
Beryllium	6010	0.2
Cadmium	6010	0.5
Chromium	6010	1.0
Cobalt	6010	1.0
Copper	6010	2.0
Lead	6010	5.0
Mercury	7471	0.2
Nickel	6010	4.0
Potassium	6010	500
Selenium	7740	0.5
Vanadium	6010	1.0
Zinc	6010	2.0

TABLE-4
SKINNER LIST

METHOD 8240

Parameter	Reporting Limit (ug/kg)
Benzene	500
Carbon disulfide	500
Chlorobenzene	500
2-Chloroethylvinyl ether	1,000
1,2-Dibromomethane	1,000
1,2-Dichloroethane	500
1,4-Dioxane	50,000
Ethyl Benzene	500
Methyl ethyl ketone (2-butanone)	1,000
Styrene	500
Toluene	500
Xylenes	500

METHOD 8270

Anthracene	5,000
Benzenethiol	-
Benzo(a)anthracene	5,000
Benzo(b)fluoranthene	5,000
Benzo(k)fluoranthene	5,000
Benzo(a)pyrene	5,000
Bis(2-ethylhexyl)phthalate	5,000
Butyl benzyl phthalate	5,000
Chrysene	5,000
Dibenzo(a,X)acridine	-
Dibenzo(a,h)anthracene	5,000
Di-n-butylphthalate	5,000
1,2-Dichlorobenzene	5,000
1,3-Dichlorobenzene	5,000
1,4-Dichlorobenzene	5,000
Diethyl phthalate	5,000
7,12-Dimethylbenz(a)anthrancene	5,000
2,4-Dimethylphenol	5,000
Dimethyl phthalate	5,000
2,4-Dinitrophenol	25,000
Di-n-octyl phthalate	5,000
Fluoranthene	5,000
Indene	5,000
Methylchrysene	-
1-Methylnaphthalene	5,000
2-Methylphenol	5,000
3-Methylphenol	5,000
4-Methylphenol	5,000
Naphthalene	5,000
4-Nitrophenol	25,000
Phenanthrene	5,000

TABLE-4 Continued

Phenol.	5,000
Pyrene	5,000
Pyridine	10,000
Quinoline	25,000

SECTION 5.0

Statistical Information for Soil Samples

SECTION 5.1

GENERAL REVIEW

This section includes the collection of all information, the methodology for statistical calculations and the actual statistical comparisons of background values to each individual sample.

The original background samples were collected on April 28, 1987 and April 4 and 5, 1988. The analyses for each of these sampling events are listed in TABLE 5-1 and TABLE 5-2 respectively. All of the background samples were collected from a background plot which is specified in FIGURE 5-1. The exact location of each sample point is specifically listed in FIGURE 5-2 and FIGURE 5-3. The background plot and sample collection locations were approved by the New Mexico Environment Department in a Land Treatment Demonstration Permit that was issued to Giant Refining Company on December 22, 1986.

The samples from Phase I RFI and Phase II RFI were analyzed by Rocky Mountain Analytical Laboratory (RMAL) and Analytical Technologies Inc., (ATI) respectively. There were major differences between the two laboratories for the analytical results of beryllium. All soil samples sent to RMAL had berylliium results of 1.3 ppm or less and all ATI beryllium results for soil samples ranged from 1.1 ppm to 18.2 ppm. The RMAL background data in TABLE 5-1 and TABLE 5-2 also indicates beryllium results of 1.3 ppm or less. As a result of these discrepancies, Giant collected samples from an additional background boring for ATI to analyze. The location of this boring is shown on FIGURE 5-4 as sample point 31. The beryllium data for the zero (0) to five (5) foot composite sample was 2.3 ppm and for the five (5) to six (6) foot composite sample was 3.2 ppm. This analytical is included in the following ATI report on pages 5.9 to 5.13.

It was Giant's plan to use equivalent vertical depths for background and sample comparisons. However, many of the individual sample points (1-2 foot, 2-3 foot, 3-4 foot, and 4-5 foot) for background collection was composited into one (1) sample for each of the two (2) sampling events. This allowed only two (2) samples to be used for calculating averages and tolerance limits. It is generally understood that a minimum of four (4) sets of analysis should be used to calculate background averages.

To achieve this goal, Giant combined the background analytical for each metal from all samples ranging in vertical depths of zero (0) to five (5) feet. These background averages were

then compared to the results of all samples collected for RFI samples that were in the zero (0) to five (5) foot interval range. Averages and tolerance limits were calculated on the background samples from the five (5) to six (6) foot intervals. These averages were used for statistical comparisons of all remaining RFI samples greater than five (5) feet in depth. There were no background calculation computed for antimony, cadmium, mercury and selenium as all of the original data was below the detection limits for each of these metals. Sample # RFI0105V4.5 was the only sample from the Phase II RFI that exceeded the detection limit for any of the above metals. This sample contained mercury at 0.16 ppm which exceeded the detection limit of 0.02 ppm.

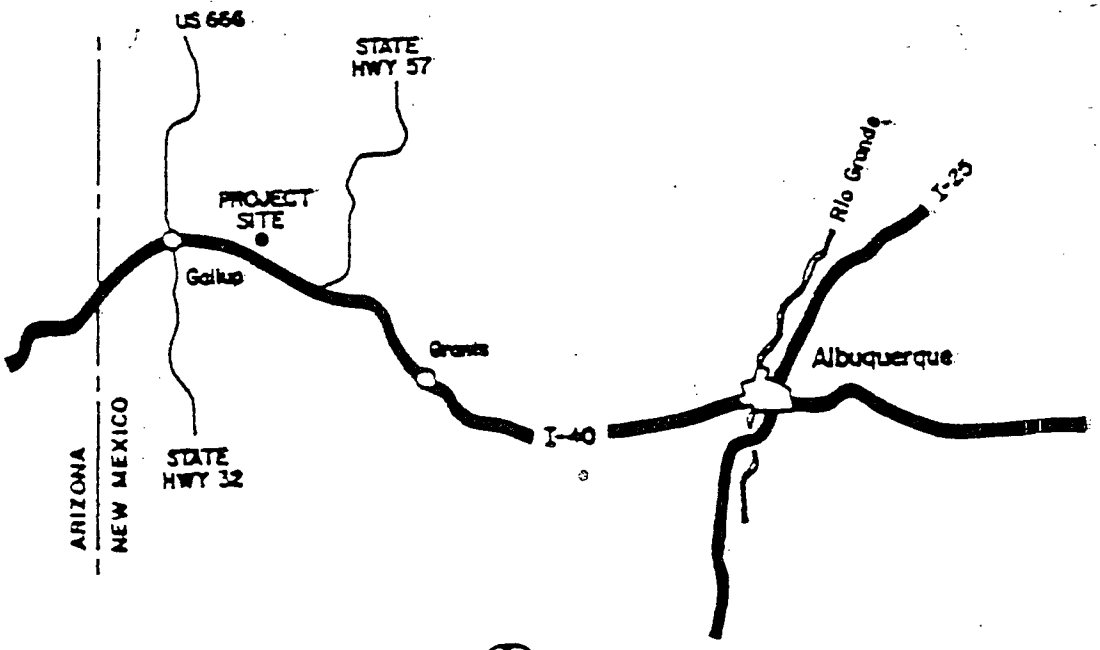
The background values for lead at the five (5) to six (6) foot level was calculated from the results of the April 28, 1987 sampling event. All lead analysis from this sample depth for the April 4 and 5, 1988 sampling event was reported as non-detectable at a detection limit of 10 mg/kg.

The original data for beryllium at the zero (0) to five (5) foot level is somewhat different as all analytical parameters equaled one (1). As a result, the upper tolerance limit is one (1) and there is no coefficient of variance. The new background data for beryllium is also different as there is only one (1) sample point and one (1) analytical result for each of the two (2) sample depths. These calculations are shown on page 5.22.

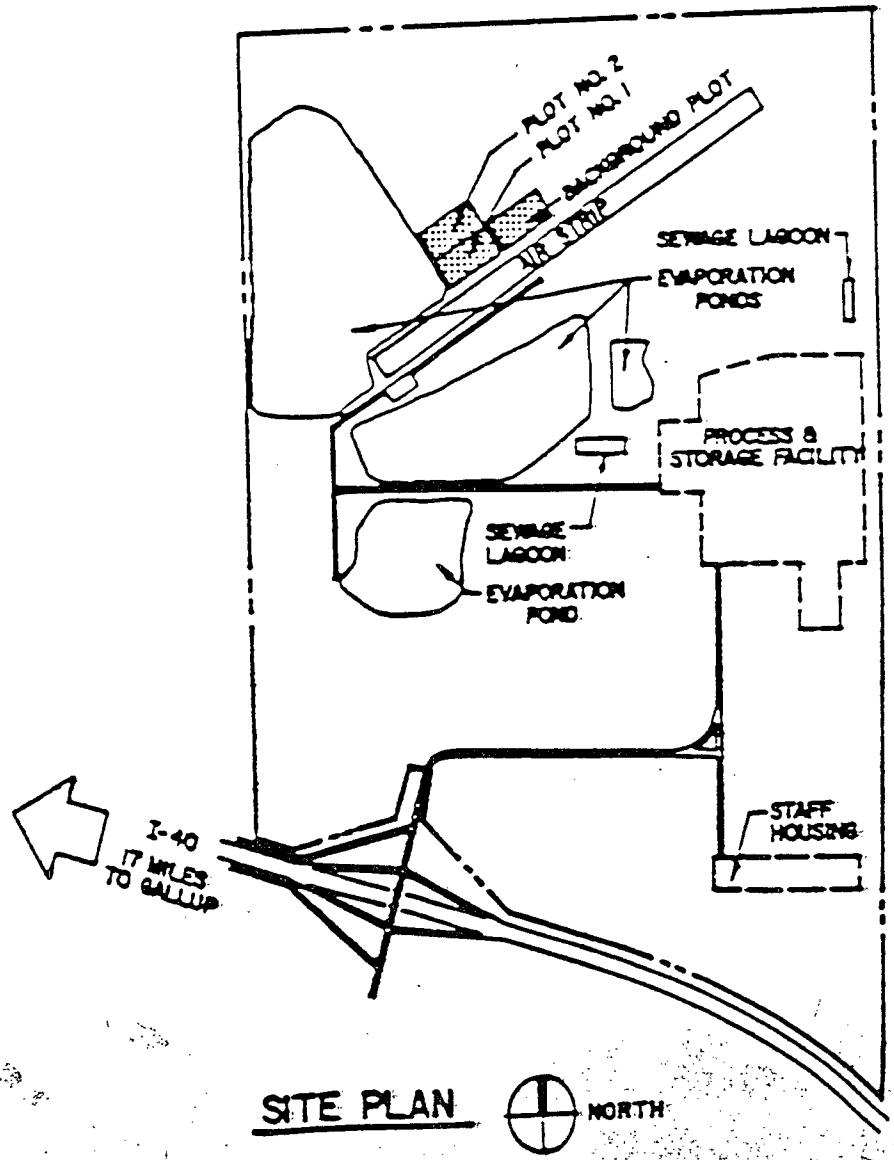
Because of the variations in the background data for beryllium, Giant has included two printouts for statistical comparisons. The first printout, starting on page 5.23, compares all analytical to the original background data that was collected in 1987 and 1988. The second printout, starting on page 5.42, includes comparisons to all the original background data except for beryllium. This compares the beryllium data to the new background values which were analyzed by the same laboratory that analyzed the Phase II samples.

As a result of some of the elevated beryllium levels in the Phase II sampling, Giant included beryllium analytical of the wastewaters in the lagoons for comparisons. These analytical results are included in TABLE 5.3 and TABLE 5.4.

FIGURE 5-1



VICINITY MAP NORTH

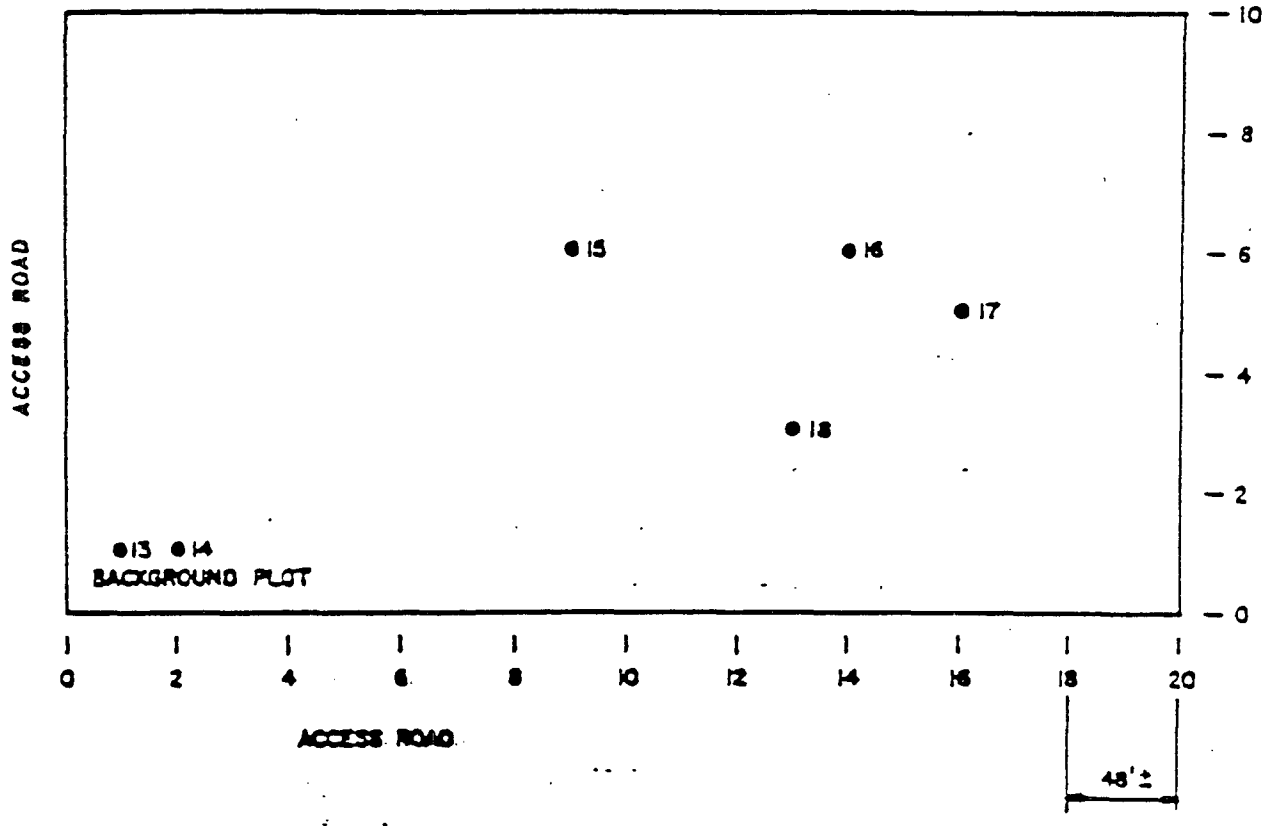


SITE PLAN NORTH

GIANT REFINING COMPANY - GALLUP, NM
LAND TREATMENT DEMONSTRATION

Lockwood, Andrews & Newnam, Inc.

FIGURE 5-2

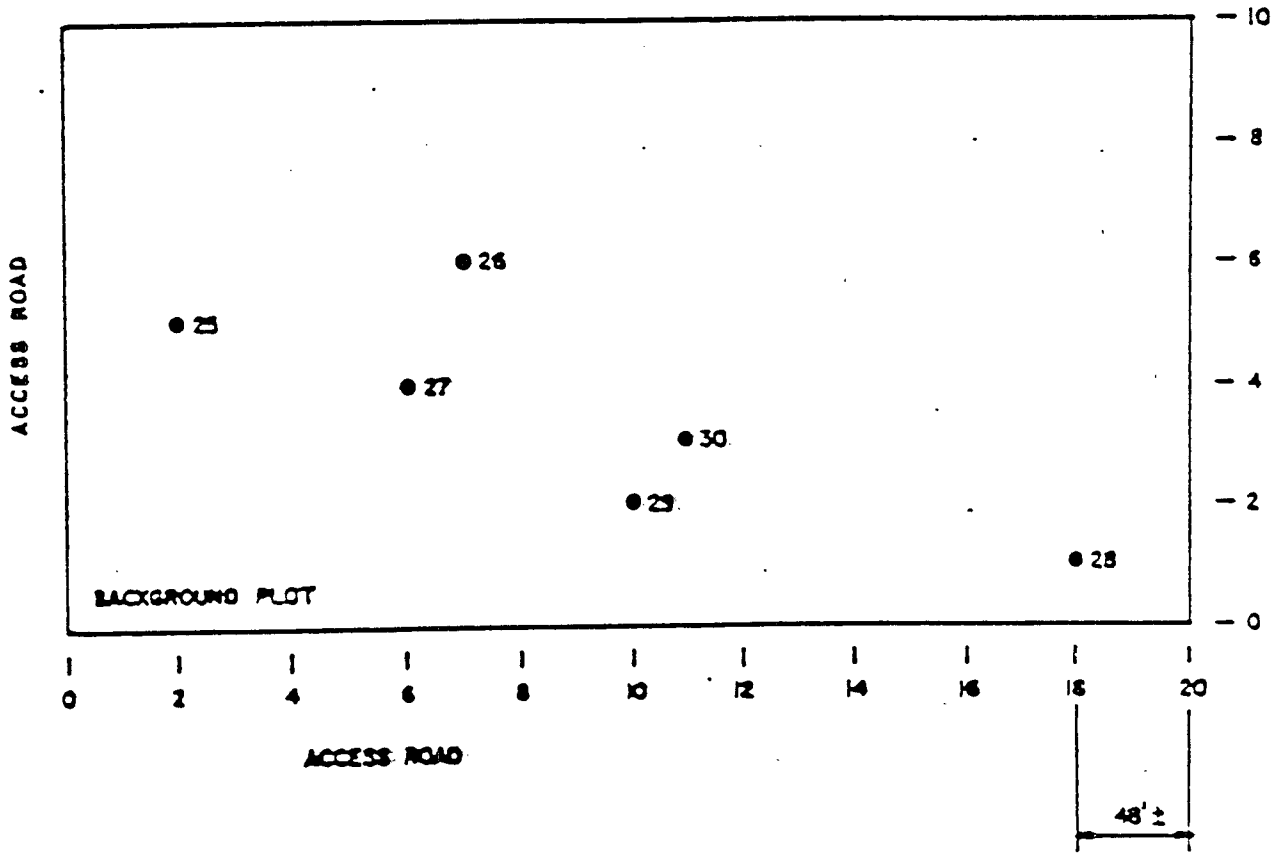


AREA PLAN

GIANT REFINING COMPANY - GALLUP, NM
LAND TREATMENT DEMONSTRATION

Lockwood, Andrews & Newnam, Inc.

FIGURE 5-3



AREA PLAN

GIANT REFINING COMPANY-GALLUP, NM
LAND TREATMENT DEMONSTRATION
SAMPLE LOCATIONS-EVENT NO.5, APR '88

Lockwood Andrew & Newnam, Inc.

TABLE 5-1

First sampling trip
after application
4-28-87

Background Plot Data

METALS	zone	0-1	0-1	1-2	2-3	3-4	4-5	5-6	5-6	5-6	5-6	5-6	5-6
	sample #	0745	0925	0750	0755	0800	0805	0810	0820	0900	0940	1035	1130
	comp holes	13-15	16-18	13-18	13-18	13-18	13-18	13	14	15	16	17	17
TOTAL METALS, mg/kg													
ANTIMONY		nd	nd					nd	nd	nd	nd	nd	nd
ARSENIC		3.8	4.4					6.2	5.8	7	6	2.8	7.2
BARIUM		300	250	280	230	300	370	180	280	250	170	320	280
BERYLLIUM		1	1					1.3	1.2	1.3	1	0.8	1.3
CADMIUM		nd	nd					nd	nd	nd	0.5	nd	nd
CHROMIUM		7	7	3	5	5	6	7	4	7	3	3	5
COBALT		2.9	3.7					4	2.1	3.7	2.2	0.5	2.6
COPPER		4.4	4.1					5.7	4.6	5.5	4.7	2.9	5.4
LEAD		12	13	9	11	9	11	12	11	12	9	9	10
MERCURY		0.06	nd					nd	nd	nd	nd	nd	nd
NICKEL		9	9					10	7	10	5	7	9
POTASSIUM		2100	2900					1700	1600	1700	1000	700	1500
SELENIUM		nd	nd					nd	nd	nd	nd	nd	nd
VANADIUM		13	15					16	13	15	11	8.7	13
ZINC		10	15	9	12	12	13	14	12	15	9	8	13

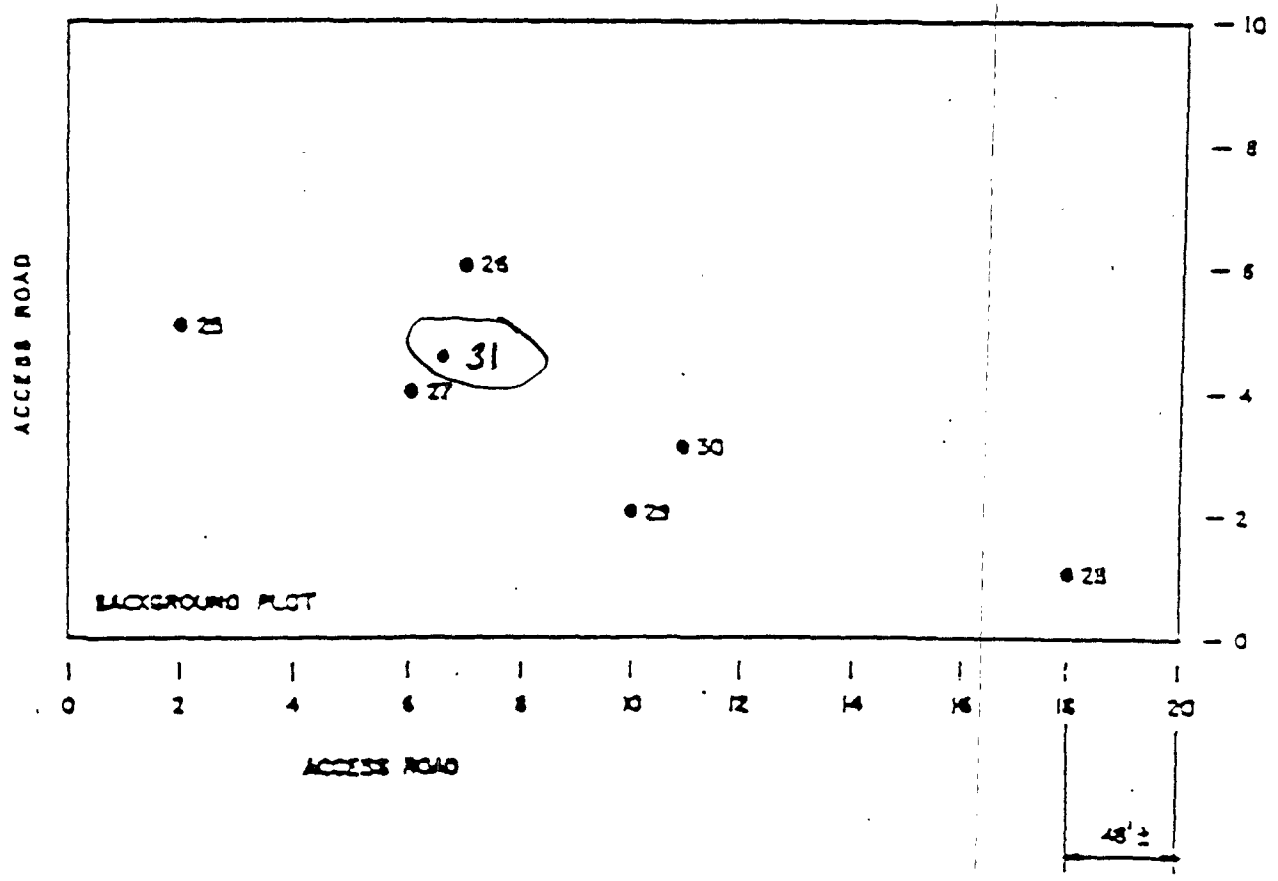
TABLE 5-2

Fifth sampling trip
after application
4-5-88 and 4-6-88

Background Plot Data

METALS	zone	0-1	0-1	1-2	2-3	3-4	4-5	5-6	5-6	5-6	5-6	5-6	5-6
	sample #	3701	3801	3912	4023	4134	4245	4356	4456	4556	4656	4756	4856
	comp holes	25-27	28-30	25-30	25-30	25-30	25-30	25	26	27	28	29	30
TOTAL METALS, mg/kg													
ANTIMONY		nd	nd					nd	nd	nd	nd	nd	nd
ARSENIC		0.5	0.4					0.6	nd	nd	0.6	1.1	nd
BARIUM		300	300	280	300	380	290	270	330	270	260	220	270
BERYLLIUM		1	1					1.1	1.2	1.2	1.3	1.2	0.8
CADMIUM		nd	nd					nd	nd	nd	nd	nd	nd
CHROMIUM		6	5	4	4	4	4	4	5	4	4	3	4
COBALT		3	2					2	3	3	3	3	2
COPPER		4	3					4	6	5	5	5	4
LEAD		12	10	11	12	1	10	nd	nd	nd	nd	nd	nd
MERCURY		nd	nd					nd	nd	nd	nd	nd	nd
NICKEL		8	7					7	9	8	8	7	6
POTASSIUM		1400	1400					1300	1300	1300	1400	1100	1300
SELENIUM		nd	nd					nd	nd	nd	nd	nd	nd
VANADIUM		13	11					13	12	11	13	12	13
ZINC		16	12	11	11	10	11	10	12	11	11	10	9

FIGURE 5-4



AREA PLAN

GIANT REFINING COMPANY - GALLUP, NM
LAND TREATMENT DEMONSTRATION
SAMPLE LOCATIONS - EVENT NO. 5, APR '88

Lockwood, Andrews & Newnam, Inc.

Analytical Technologies, Inc. 9830 S. 51st Street Suite B-113 Phoenix, AZ 85044 (602) 496-4400

ATI I.D. 108704

August 29, 1991

Giant Refining Company
Route 3, P.O. Box 7
Gallup, NM 87301

Project Name/Number: None given

Attention: Claud Rosendale

On 08/16/91, Analytical Technologies, Inc. received a request to anayze soil sample(s). The sample(s) 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.

If you have any questions or comments, please do not hesitate to contact us at (602) 496-4400.

Elizabeth Proffitt
Senior Project Manager

Robert V. Woods
Laboratory Manager

RVW:clf
Enclosure

Analytical Technologies, Inc.

CLIENT : GIANT REFINING CO. DATE RECEIVED : 08/16/91
PROJECT # : (NONE)
PROJECT NAME : (NONE) REPORT DATE : 08/29/91

ATI I.D. : 108704

ATI #	CLIENT DESCRIPTION		MATRIX	DATE COLLECTED
01	BACKGROUND LTA-1	0-5 feet	SOIL	08/14/91
02	BACKGROUND LTA-2	5-6 feet	SOIL	08/14/91

----- TOTALS -----

MATRIX	# SAMPLES
SOIL	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.

METALS RESULTS

ATI I.D. : 108704

CLIENT : GIANT REFINING CO.
PROJECT # : (NONE)
PROJECT NAME : (NONE)

DATE RECEIVED : 08/16/91
REPORT DATE : 08/29/91

PARAMETER	UNITS	01 (0-5 Ft.)	02 (5-6 Ft.)
BERYLLIUM	MG/KG	2.3	3.2

Analytical Technologies, Inc.

METALS - QUALITY CONTROL

CLIENT : GIANT REFINING CO.
PROJECT # : (NONE)
PROJECT NAME : (NONE) ATI I.D. : 108704

PARAMETER	UNITS	ATI I.D.	SAMPLE RESULT	DUP. RESULT	RPD	SPIKED SAMPLE	SPIKE CONC	% REC
BERYLLIUM	MG/KG	10870401	2.3	2.4	4	24.7	25.0	90

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

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

Analytical Technologies, Inc.
Phoenix, Arizona

Chain of Custody

DATE 8-14-91 PAGE 1 OF 1

PROJECT MANAGER: CLAUD ROSENDALE

COMPANY: GIANT REFINING CO
ADDRESS: RT 3 BOX 7
GALLUP, NM 87301

BILL TO:
COMPANY:
ADDRESS: SAME

Lynn Shelton
SAMPLERS: (Signature)

(505) 722-0227
PHONE NUMBER

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Petroleum Hydrocarbons (418.1)	BERYLLIUM TCLP	(MOD 8015) Gas/Diesel	Diesel/Gasoline/BTXE (MOD 8015/8020)	BTXE (8020)	Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	MTBE	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	SDWA Primary Standards	SDWA Secondary Standards	SDWA Volatiles (502.1/503.1)	The 13 Priority Pollutant Metals	The 8 EP Tox Metals by EP Tox Prep. (1310)	The 8 EP Tox Metals by Total Digestion	The 8 EP Tox Metals by TCLP (1311)	NUMBER OF CONTAINERS
BACKGROUND LTA-1	8-14-91	11:25AM	SOIL	1		X																		1
BACKGROUND LTA-2	8-14-91	11:45AM	SOIL	2		X																		1

PROJECT INFORMATION		SAMPLE RECEIPT	
PROJECT NO:		TOTAL NO. OF CONTAINERS	2
PROJECT NAME:		CHAIN OF CUSTODY SEALS	Y
P.O. NO. ~~0000~~	01901	INTACT?	Y
SHIPPED VIA:	FED X	RECEIVED GOOD COND./COLD	Y
SAMPLE DISPOSAL INSTRUCTIONS		LAB NUMBER	108704
☒ ATI ☐ RETURN			

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

TAT: (NORMAL) X (RUSH) ☐ 24 ☐ 48 ☐ 72 ☐ 1 WEEK

Comments:

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Time: Lynn Shelton 10:30AM	Signature: Time:	Signature: Time:
Printed Name: Date: LYNN SHELTON 8-15-91	Printed Name: Date:	Printed Name: Date:
Company: GIANT REFINING	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: (LAB) 3.**
Signature: Time:	Signature: Time:	Signature: Time: Marcia Smith 1000am
Printed Name: Date:	Printed Name: Date:	Printed Name: Date: MARCIA SMITH 8/16/91
Company:	Company:	Analytical Technologies, Inc. ATI

ATI Labs: San Diego (619)458-9141 • Phoenix (602)438-1530 • Seattle (206)228-8335 • Pensacola (904)474-1001 DISTRIBUTION: White, Canary - ANALYTICAL TECHNOLOGIES, INC. • Pink - ORIGINATOR

5.13

TABLE 5-3

Page 2 Assaigai Labs REPORT Work Order # 91-02-019
Received: 02/27/91 Results by Sample

SAMPLE ID POND #2 WASTEWATER SAMPLE # 01 FRACTIONS: A,B,C
Date & Time Collected 02/26/91 08:30:00 Category

AG <0.01 MG/L	BA <0.5 MG/L	BE 0.27 MG/L	CA D 386 MG/L	CD <0.003 MG/L	CL 3096 MG/L
CO <0.05 MG/L	CR <0.02 MG/L	FE D 1.30 MG/L	FL 24.6 MG/L	K D 56.02 MG/L	MG D 77.4 MG/L
MN 0.25 MG/L	NA D 1341 MG/L	NI <0.05 MG/L	PB <0.10 MG/L	PH 1 6.66 pH UNITS	SB <0.005 MG/L
SCON 7540 UMHOS/CM	SE <0.005 MG/L	SI 11.0 MG/L	SO4 1500 MG/L	TDS 6896 MG/L	T ALK 138 MG/L
T HARD 1311 MG/L AS(CAC03)	ZN 0.08 MG/L				

TABLE 5-4

Enseco
A CORNING Company

RMAL

Metals

Total Metals

Client Name: Giant Refining
Client ID: Pond #2
Lab ID: 009591-0001-SA
Matrix: AQUEOUS
Authorized: 18 MAY 90

Enseco ID: 1076515
Sampled: 17 MAY 90
Prepared: See Below

Received: 18 MAY 90
Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Aluminum	ND	mg/L	0.30	6010	23 MAY 90	25 MAY 90
Antimony	ND	mg/L	0.15	6010	23 MAY 90	25 MAY 90
Barium	0.030	mg/L	0.030	6010	23 MAY 90	25 MAY 90
Beryllium	ND	mg/L	0.0060	6010	23 MAY 90	25 MAY 90
Cadmium	ND	mg/L	0.015	6010	23 MAY 90	25 MAY 90
Chromium	ND	mg/L	0.030	6010	23 MAY 90	25 MAY 90
Cobalt	ND	mg/L	0.030	6010	23 MAY 90	25 MAY 90
Copper	ND	mg/L	0.030	6010	23 MAY 90	25 MAY 90
Lead	ND	mg/L	0.0050	7421	21 MAY 90	28 MAY 90
Manganese	0.46	mg/L	0.030	6010	23 MAY 90	25 MAY 90
Molybdenum	ND	mg/L	0.060	6010	23 MAY 90	25 MAY 90
Nickel	ND	mg/L	0.12	6010	23 MAY 90	25 MAY 90
Silver	ND	mg/L	0.030	6010	23 MAY 90	25 MAY 90
Vanadium	ND	mg/L	0.030	6010	23 MAY 90	25 MAY 90
Zinc	0.041	mg/L	0.030	6010	23 MAY 90	25 MAY 90

ND = Not detected
NA = Not applicable

Reported By: Sandra Jones

Approved By: Kimberly Conroy

Statistical Analysis.

The statistical analysis is concerned with the problem of comparing observations of the concentrations of metals from compliance data with observations of concentrations from background data in order to determine if the concentrations of metals from the compliance data exceed, in a statistically significant fashion, the concentrations from the background data. The primary method used is that of the construction of a *tolerance interval* and the use of the resulting *upper tolerance limit*. The analysis was carried out in the following way:

1. The background data consisted, for each of the eleven metals analyzed, of from four to twelve values at each of two depths.

2. For each metal, at each of the two depths, the (one-sided) tolerance interval was constructed using the following technique:

   a) Calculate the mean, $\overline{X}$, and the standard deviation, SD, from the background data.

   b) Construct the one-sided upper tolerance limit as $TL = \overline{X} + KS$, where K is the one-sided normal tolerance factor found in Table 1.

   c) The tolerance interval is the interval [0, TL]. This interval will contain, with 95% confidence, 95% of random observations from the same distribution as the background data.

3. The observations forming the compliance data (for the same metal at the same depth) are now compared, one by one, with the upper tolerance limit, TL, found above. If an observation exceeds TL, this is interpreted as statistically significant evidence that the observation is from a distribution with a higher concentration of the metal and that, therefore, contamination has occured.

Notes on the Statistical Analysis.

1. In order to construct the upper tolerance limit, the backgound data is assumed to be approximately normally distributed. This assumption was checked by calculating the coefficient of variation (CV) for each of the background data sets. If this value exceeds 1, then that fact indicates non-normality. In none of the data sets analyzed did the coefficient of variation exceed 1. It was therefore assumed that the values observed in the background wells were normally distributed. No other tests of normality were carried out.

2. If the standard deviation for the backgound data is zero, (i.e., all values are the same), then the tolerance interval approach is not particulary useful. In that case the upper tolerance limit is identical to the common value of the background data values and any observation coming from the compliance wells which exceeds that upper tolerance limit must be taken as evidence of contamination. This was the situation for beryllium at the shallow depth; the background data consisted of four values, all equal to 1 mg/kg. For this one data set an analysis of variance was also carried out; this test indicated no statistically significant difference in the concentrations of beryllium in the background data and the compliance data, even though many of the individual values from the compliance wells indicated contamination using the tolerance interval approach.

3. No detectable amounts of arsenic, cadmium, mercury or selenium were found in the background. Therefore, no tests were carried out for these elements.

4. The analytical results reported under the sample data column is reported in mg/kg.

Background Data for Arsenic: 0-5 foot level

Data: 3.8, 4.4, 0.5, 0.4
Mean: 2.27
SD: 1.84
The Upper Tolerance Limit = 11.73
The Coefficient of Variance = 0.81

Background Data for Arsenic: 5-6 foot level

Data: 6.2, 5.8, 7, 6, 2.8, 7.2, 0.6, 0.6, 1.1
Mean: 4.14
SD: 2.67
The Upper Tolerance Limit = 12.23
The Coefficient of Variance = 0.64

Background Data for Barium: 0-5 foot level

Data: 300, 250, 280, 230, 300, 370, 300, 300, 280, 300, 380, 290
Mean: 298.33
SD: 40.38
The Upper Tolerance Limit = 408.81
The Coefficient of Variance = 0.14

Background Data for Barium: 5-6 foot level

Data: 180, 280, 250, 170, 320, 280, 270, 330, 270, 260, 220, 270
Mean: 258.33
SD: 46.34
The Upper Tolerance Limit = 385.11
The Coefficient of Variance = 0.18

Background Data for Beryllium: 0-5 foot level

Data: 1, 1, 1, 1
Mean: 1.00
SD: 0.00
The Upper Tolerance Limit = 1.00
The Coefficient of Variance = 0.00

Background Data for Beryllium: 5-6 foot level

Data: 1.3, 1.2, 1.3, 1, 0.8, 1.3, 1.1, 1.2, 1.2, 1.3, 1.2, 0.8
Mean: 1.14
SD: 0.18
The Upper Tolerance Limit = 1.62
The Coefficient of Variance = 0.15

Background Data for Chromium: 0-5 foot level

Data: 7, 7, 3, 5, 5, 6, 6, 5, 4, 4, 4, 4
Mean: 5.00
SD: 1.22
The Upper Tolerance Limit = 8.35
The Coefficient of Variance = 0.24

Background Data for Chromium: 5-6 foot level

Data: 7, 4, 7, 3, 3, 5, 4, 5, 4, 4, 3, 4
Mean: 4.42
SD: 1.32
The Upper Tolerance Limit = 8.03
The Coefficient of Variance = 0.30

Background Data for Cobalt: 0-5 foot level

Data: 2.9, 3.7, 3, 2
Mean: 2.90
SD: 0.60
The Upper Tolerance Limit = 6.01
The Coefficient of Variance = 0.21

Background Data for Cobalt: 5-6 foot level

Data: 4, 2.1, 3.7, 2.2, 0.5, 2.6, 2, 3, 3, 3, 3, 2
Mean: 2.59
SD: 0.88
The Upper Tolerance Limit = 5.01
The Coefficient of Variance = 0.34

Background Data for Copper: 0-5 foot level

Data: 4.4, 4.1, 4, 3
Mean: 3.88
SD: 0.53
The Upper Tolerance Limit = 6.58
The Coefficient of Variance = 0.14

Background Data for Copper: 5-6 foot level

Data: 5.7, 4.6, 5.5, 4.7, 2.9, 5.4, 4, 6, 5, 5, 5, 4
Mean: 4.82
SD: 0.82
The Upper Tolerance Limit = 7.07
The Coefficient of Variance = 0.17

Background Data for Lead: 0-5 foot level

Data: 12, 13, 9, 11, 9, 11, 12, 10, 11, 12, 1, 10
Mean: 10.08
SD: 2.98
The Upper Tolerance Limit = 18.25
The Coefficient of Variance = 0.30

Background Data for Lead: 5-6 foot level

Data: 12, 11, 12, 9, 9, 10
Mean: 10.50
SD: 1.26
The Upper Tolerance Limit = 15.16
The Coefficient of Variance = 0.12

Background Data for Nickel: 0-5 foot level

Data: 9, 9, 8, 7
Mean: 8.25
SD: 0.83
The Upper Tolerance Limit = 12.52
The Coefficient of Variance = 0.10

Background Data for Nickel: 5-6 foot level

Data: 10, 7, 10, 5, 7, 9, 7, 9, 8, 8, 7, 6
Mean: 7.75
SD: 1.48
The Upper Tolerance Limit = 11.80
The Coefficient of Variance = 0.19

Background Data for Potassium: 0-5 foot level

Data: 2100, 2900, 1400, 1400
Mean: 1950.00
SD: 618.47
The Upper Tolerance Limit = 5132.01
The Coefficient of Variance = 0.32

Background Data for Potassium: 5-6 foot level

Data: 1700, 1600, 1700, 1000, 700, 1500, 1300, 1300, 1300, 1400
1100, 1300
Mean: 1325.00
SD: 280.25
The Upper Tolerance Limit = 2091.77
The Coefficient of Variance = 0.21

Background Data for Vanadium: 0-5 foot level

Data: 13, 15, 13, 11
Mean: 13.00
SD: 1.41
The Upper Tolerance Limit = 20.28
The Coefficient of Variance = 0.11

Background Data for Vanadium: 5-6 foot level

Data: 16, 13, 15, 11, 8.7, 13, 13, 12, 11, 11, 10, 9
Mean: 11.89
SD: 2.14
The Upper Tolerance Limit = 17.74
The Coefficient of Variance = 0.18

Background Data for Zinc: 0-5 foot level

Data: 18, 15, 9, 12, 12, 13, 16, 12, 11, 11, 10, 11
Mean: 12.50
SD: 2.50
The Upper Tolerance Limit = 19.34
The Coefficient of Variance = 0.20

Background Data for Zinc: 5-6 foot level

Data: 14, 12, 15, 9, 8, 13, 10, 12, 11, 11, 10, 9
Mean: 11.17
SD: 2.03
The Upper Tolerance Limit = 16.73
The Coefficient of Variance = 0.18

New Background Data for Beryllium: 0-5 foot level

Data: 2.3
Mean: 2.3
SD: 0
The Upper Tolerance Limit = 2.3
The Coefficient of Variance = 0

New Background Data for Beryllium: 5-6 foot level

Data: 3.2
Mean: 3.2
SD: 0
The Upper Tolerance Limit = 3.2
The Coefficient of Variance = 0

PHASE II, RFI
COMPLIANCE DATA
6 SEP 91

SAMPLE NUMBER	METAL	SAMPLE DATA	NOTE
RFI0101V4.0	Arsenic	nd	Within the tolerance limit.
	Barium	256.0	Within the tolerance limit.
	Beryllium	5.8	Exceeds the tolerance limit by 480%.
	Chromium	7.3	Within the tolerance limit.
	Cobalt	5.7	Within the tolerance limit.
	Copper	5.2	Within the tolerance limit.
	Lead	13.0	Within the tolerance limit.
	Nickel	10.9	Within the tolerance limit.
	Potassium	1820.0	Within the tolerance limit.
	Vanadium	15.4	Within the tolerance limit.
	Zinc	15.0	Within the tolerance limit.
RFI0101V9.0	Arsenic	nd	Within the tolerance limit.
	Barium	225.0	Within the tolerance limit.
	Beryllium	6.0	Exceeds the tolerance limit by 270.37%.
	Chromium	6.4	Within the tolerance limit.
	Cobalt	5.6	Exceeds the tolerance limit by 11.78%.
	Copper	5.0	Within the tolerance limit.
	Lead	13.0	Within the tolerance limit.
	Nickel	9.8	Within the tolerance limit.
	Potassium	1780.0	Within the tolerance limit.
	Vanadium	15.3	Within the tolerance limit.
	Zinc	14.2	Within the tolerance limit.
RFI0101V11.0	Arsenic	nd	Within the tolerance limit.
	Barium	326.0	Within the tolerance limit.
	Beryllium	5.9	Exceeds the tolerance limit by 264.20%.
	Chromium	7.4	Within the tolerance limit.
	Cobalt	5.8	Exceeds the tolerance limit by 15.77%.
	Copper	5.3	Within the tolerance limit.
	Lead	11.0	Within the tolerance limit.
	Nickel	10.4	Within the tolerance limit.
	Potassium	2270.0	Exceeds the tolerance limit by 8.52%.
	Vanadium	15.4	Within the tolerance limit.
	Zinc	15.6	Within the tolerance limit.
RFI0101V14.0	Arsenic	nd	Within the tolerance limit.
	Barium	234.0	Within the tolerance limit.
	Beryllium	2.2	Exceeds the tolerance limit by 35.8%.
	Chromium	6.1	Within the tolerance limit.
	Cobalt	4.9	Within the tolerance limit.
	Copper	5.7	Within the tolerance limit.
	Lead	9.0	Within the tolerance limit.
	Nickel	9.0	Within the tolerance limit.
	Potassium	1620.0	Within the tolerance limit.
	Vanadium	13.3	Within the tolerance limit.
	Zinc	13.2	Within the tolerance limit.

PHASE II, RFI
COMPLIANCE DATA
6 SEP 91

SAMPLE NUMBER	METAL	SAMPLE DATA	
RFI0102A4.0	Arsenic	nd	Within the tolerance limit.
	Barium	204.0	Within the tolerance limit.
	Beryllium	1.4	Exceeds the tolerance limit by 40%.
	Chromium	4.2	Within the tolerance limit.
	Cobalt	3.6	Within the tolerance limit.
	Copper	4.3	Within the tolerance limit.
	Lead	8.0	Within the tolerance limit.
	Nickel	6.5	Within the tolerance limit.
	Potassium	1730.0	Within the tolerance limit.
	Vanadium	13.9	Within the tolerance limit.
	Zinc	10.6	Within the tolerance limit.
RFI0102A9.0	Arsenic	nd	Within the tolerance limit.
	Barium	268.0	Within the tolerance limit.
	Beryllium	1.3	Within the tolerance limit.
	Chromium	3.0	Within the tolerance limit.
	Cobalt	3.1	Within the tolerance limit.
	Copper	4.2	Within the tolerance limit.
	Lead	9.0	Within the tolerance limit.
	Nickel	4.6	Within the tolerance limit.
	Potassium	1100.0	Within the tolerance limit.
	Vanadium	13.3	Within the tolerance limit.
	Zinc	8.0	Within the tolerance limit.
RFI0102A11.0	Arsenic	nd	Within the tolerance limit.
	Barium	410.0	Exceeds the tolerance limit by 6.46%.
	Beryllium	1.0	Within the tolerance limit.
	Chromium	3.3	Within the tolerance limit.
	Cobalt	2.9	Within the tolerance limit.
	Copper	3.2	Within the tolerance limit.
	Lead	7.0	Within the tolerance limit.
	Nickel	5.1	Within the tolerance limit.
	Potassium	624.0	Within the tolerance limit.
	Vanadium	11.4	Within the tolerance limit.
	Zinc	12.0	Within the tolerance limit.
RFI0102A14.0	Arsenic	nd	Within the tolerance limit.
	Barium	243.0	Within the tolerance limit.
	Beryllium	1.1	Within the tolerance limit.
	Chromium	4.4	Within the tolerance limit.
	Cobalt	4.0	Within the tolerance limit.
	Copper	4.6	Within the tolerance limit.
	Lead	8.0	Within the tolerance limit.
	Nickel	4.6	Within the tolerance limit.
	Potassium	1780.0	Within the tolerance limit.
	Vanadium	12.3	Within the tolerance limit.
	Zinc	11.9	Within the tolerance limit.
RFI0103V4.0	Arsenic	nd	Within the tolerance limit.
	Barium	295.0	Within the tolerance limit.
	Beryllium	2.6	Exceeds the tolerance limit by 160%.
	Chromium	2.5	Within the tolerance limit.
	Cobalt	3.1	Within the tolerance limit.
	Copper	3.9	Within the tolerance limit.
	Lead	7.0	Within the tolerance limit.
	Nickel	4.9	Within the tolerance limit.
	Potassium	450.0	Within the tolerance limit.
	Vanadium	12.3	Within the tolerance limit.
	Zinc	6.2	Within the tolerance limit.

PHASE II, RFI
COMPLIANCE DATA
6 SEP 91

SAMPLE NUMBER	METAL	SAMPLE DATA	
RFI0103V9.0	Arsenic	nd	Within the tolerance limit.
	Barium	244.0	Within the tolerance limit.
	Beryllium	2.6	Exceeds the tolerance limit by 60.49%.
	Chromium	4.0	Within the tolerance limit.
	Cobalt	3.4	Within the tolerance limit.
	Copper	3.5	Within the tolerance limit.
	Lead	7.0	Within the tolerance limit.
	Nickel	5.3	Within the tolerance limit.
	Potassium	697.0	Within the tolerance limit.
	Vanadium	14.2	Within the tolerance limit.
	Zinc	8.5	Within the tolerance limit.
RFI0103V11.0	Arsenic	nd	Within the tolerance limit.
	Barium	321.0	Within the tolerance limit.
	Beryllium	2.4	Exceeds the tolerance limit by 48.15%.
	Chromium	2.6	Within the tolerance limit.
	Cobalt	3.0	Within the tolerance limit.
	Copper	4.0	Within the tolerance limit.
	Lead	8.0	Within the tolerance limit.
	Nickel	5.0	Within the tolerance limit.
	Potassium	561.0	Within the tolerance limit.
	Vanadium	10.0	Within the tolerance limit.
	Zinc	7.2	Within the tolerance limit.
RFI0103V14.0	Arsenic	nd	Within the tolerance limit.
	Barium	234.0	Within the tolerance limit.
	Beryllium	2.9	Exceeds the tolerance limit by 79.01%.
	Chromium	3.1	Within the tolerance limit.
	Cobalt	3.4	Within the tolerance limit.
	Copper	3.8	Within the tolerance limit.
	Lead	7.0	Within the tolerance limit.
	Nickel	5.5	Within the tolerance limit.
	Potassium	623.0	Within the tolerance limit.
	Vanadium	10.6	Within the tolerance limit.
	Zinc	8.2	Within the tolerance limit.
RFI0103D14.0	Arsenic	nd	Within the tolerance limit.
	Barium	229.0	Within the tolerance limit.
	Beryllium	4.2	Exceeds the tolerance limit by 159.26%.
	Chromium	4.2	Within the tolerance limit.
	Cobalt	4.3	Within the tolerance limit.
	Copper	4.4	Within the tolerance limit.
	Lead	8.0	Within the tolerance limit.
	Nickel	7.2	Within the tolerance limit.
	Potassium	965.0	Within the tolerance limit.
	Vanadium	12.2	Within the tolerance limit.
	Zinc	10.6	Within the tolerance limit.
RFI0104V4.0	Arsenic	nd	Within the tolerance limit.
	Barium	103.0	Within the tolerance limit.
	Beryllium	2.7	Exceeds the tolerance limit by 170%.
	Chromium	3.8	Within the tolerance limit.
	Cobalt	3.9	Within the tolerance limit.
	Copper	3.9	Within the tolerance limit.
	Lead	6.0	Within the tolerance limit.
	Nickel	6.3	Within the tolerance limit.
	Potassium	1030.0	Within the tolerance limit.
	Vanadium	10.8	Within the tolerance limit.
	Zinc	13.0	Within the tolerance limit.

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SAMPLE NUMBER	METAL	SAMPLE DATA	
RFI0104V9.0	Arsenic	nd	Within the tolerance limit.
	Barium	634.0	Exceeds the tolerance limit by 64.63%.
	Beryllium	3.7	Exceeds the tolerance limit by 28.40%.
	Chromium	5.1	Within the tolerance limit.
	Cobalt	3.9	Within the tolerance limit.
	Copper	3.8	Within the tolerance limit.
	Lead	6.0	Within the tolerance limit.
	Nickel	6.8	Within the tolerance limit.
	Potassium	1260.0	Within the tolerance limit.
	Vanadium	12.4	Within the tolerance limit.
	Zinc	16.7	Within the tolerance limit.
RFI0104V11.0	Arsenic	nd	Within the tolerance limit.
	Barium	249.0	Within the tolerance limit.
	Beryllium	4.0	Exceeds the tolerance limit by 146.91%.
	Chromium	3.6	Within the tolerance limit.
	Cobalt	4.8	Within the tolerance limit.
	Copper	3.4	Within the tolerance limit.
	Lead	8.0	Within the tolerance limit.
	Nickel	5.5	Within the tolerance limit.
	Potassium	738.0	Within the tolerance limit.
	Vanadium	12.5	Within the tolerance limit.
	Zinc	9.0	Within the tolerance limit.
RFI0104V14.0	Arsenic	nd	Within the tolerance limit.
	Barium	275.0	Within the tolerance limit.
	Beryllium	4.9	Exceeds the tolerance limit by 202.47%.
	Chromium	5.0	Within the tolerance limit.
	Cobalt	4.4	Within the tolerance limit.
	Copper	3.9	Within the tolerance limit.
	Lead	8.0	Within the tolerance limit.
	Nickel	7.6	Within the tolerance limit.
	Potassium	1650.0	Within the tolerance limit.
	Vanadium	12.8	Within the tolerance limit.
	Zinc	14.2	Within the tolerance limit.
RFI0105V4.0	Arsenic	nd	Within the tolerance limit.
	Barium	206.0	Within the tolerance limit.
	Beryllium	3.5	Exceeds the tolerance limit by 250%.
	Chromium	52.1	Exceeds the tolerance limit by 523.95%.
	Cobalt	3.9	Within the tolerance limit.
	Copper	7.6	Exceeds the tolerance limit by 15.5%.
	Lead	8.0	Within the tolerance limit.
	Nickel	6.5	Within the tolerance limit.
	Potassium	1500.0	Within the tolerance limit.
	Vanadium	12.0	Within the tolerance limit.
	Zinc	34.6	Exceeds the tolerance limit by 78.90%.
RFI0105V9.0	Arsenic	nd	Within the tolerance limit.
	Barium	168.0	Within the tolerance limit.
	Beryllium	2.7	Exceeds the tolerance limit by 66.67%.
	Chromium	3.3	Within the tolerance limit.
	Cobalt	3.5	Within the tolerance limit.
	Copper	1.2	Within the tolerance limit.
	Lead	5.0	Within the tolerance limit.
	Nickel	5.2	Within the tolerance limit.
	Potassium	571.0	Within the tolerance limit.
	Vanadium	11.5	Within the tolerance limit.
	Zinc	9.7	Within the tolerance limit.

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SAMPLE NUMBER	METAL	SAMPLE DATA	
RFI0105V11.0	Arsenic	nd	Within the tolerance limit.
	Barium	767.0	Exceeds the tolerance limit by 99.16%.
	Beryllium	4.7	Exceeds the tolerance limit by 190.12%.
	Chromium	5.8	Within the tolerance limit.
	Cobalt	5.1	Exceeds the tolerance limit by 1.8%.
	Copper	nd	Within the tolerance limit.
	Lead	7.0	Within the tolerance limit.
	Nickel	10.4	Within the tolerance limit.
	Potassium	2200.0	Exceeds the tolerance limit by 5.17%.
	Vanadium	10.3	Within the tolerance limit.
	Zinc	13.9	Within the tolerance limit.
RFI0105V14.0	Arsenic	nd	Within the tolerance limit.
	Barium	364.0	Within the tolerance limit.
	Beryllium	3.1	Exceeds the tolerance limit by 91.36%.
	Chromium	4.4	Within the tolerance limit.
	Cobalt	4.6	Within the tolerance limit.
	Copper	0.9	Within the tolerance limit.
	Lead	nd	Within the tolerance limit.
	Nickel	9.2	Within the tolerance limit.
	Potassium	1440.0	Within the tolerance limit.
	Vanadium	7.3	Within the tolerance limit.
	Zinc	12.5	Within the tolerance limit.
RFI0105D14.0	Arsenic	nd	Within the tolerance limit.
	Barium	525.0	Exceeds the tolerance limit by 36.32%.
	Beryllium	6.5	Exceeds the tolerance limit by 301.23%.
	Chromium	8.2	Exceeds the tolerance limit by 2.12%.
	Cobalt	6.9	Exceeds the tolerance limit by 37.72%.
	Copper	nd	Within the tolerance limit.
	Lead	8.0	Within the tolerance limit.
	Nickel	12.7	Exceeds the tolerance limit by 7.63%.
	Potassium	2770.0	Exceeds the tolerance limit by 32.42%.
	Vanadium	10.7	Within the tolerance limit.
	Zinc	18.7	Exceeds the tolerance limit by 11.78%.
RFI0106A4.0	Arsenic	nd	Within the tolerance limit.
	Barium	529.0	Exceeds the tolerance limit by 29.40%.
	Beryllium	3.4	Exceeds the tolerance limit by 240%.
	Chromium	4.8	Within the tolerance limit.
	Cobalt	3.9	Within the tolerance limit.
	Copper	5.4	Within the tolerance limit.
	Lead	5.0	Within the tolerance limit.
	Nickel	5.5	Within the tolerance limit.
	Potassium	494.0	Within the tolerance limit.
	Vanadium	14.8	Within the tolerance limit.
	Zinc	8.0	Within the tolerance limit.
RFI0106A9.0	Arsenic	nd	Within the tolerance limit.
	Barium	531.0	Exceeds the tolerance limit by 37.88%.
	Beryllium	3.9	Exceeds the tolerance limit by 140.74%.
	Chromium	14.5	Exceeds the tolerance limit by 80.57%.
	Cobalt	2.9	Within the tolerance limit.
	Copper	4.3	Within the tolerance limit.
	Lead	7.0	Within the tolerance limit.
	Nickel	4.5	Within the tolerance limit.
	Potassium	652.0	Within the tolerance limit.
	Vanadium	13.3	Within the tolerance limit.
	Zinc	19.9	Exceeds the tolerance limit by 18.95%.

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SAMPLE NUMBER	METAL	SAMPLE DATA	
RFI0106A11.0	Arsenic	nd	Within the tolerance limit.
	Barium	282.0	Within the tolerance limit.
	Beryllium	3.6	Exceeds the tolerance limit by 122.22%.
	Chromium	3.3	Within the tolerance limit.
	Cobalt	3.1	Within the tolerance limit.
	Copper	2.1	Within the tolerance limit.
	Lead	6.0	Within the tolerance limit.
	Nickel	5.0	Within the tolerance limit.
	Potassium	973.0	Within the tolerance limit.
	Vanadium	9.1	Within the tolerance limit.
	Zinc	9.0	Within the tolerance limit.
RFI0106A14.0	Arsenic	nd	Within the tolerance limit.
	Barium	155.0	Within the tolerance limit.
	Beryllium	4.3	Exceeds the tolerance limit by 165.43%.
	Chromium	2.5	Within the tolerance limit.
	Cobalt	2.9	Within the tolerance limit.
	Copper	2.6	Within the tolerance limit.
	Lead	7.0	Within the tolerance limit.
	Nickel	4.3	Within the tolerance limit.
	Potassium	474.0	Within the tolerance limit.
	Vanadium	11.9	Within the tolerance limit.
	Zinc	7.3	Within the tolerance limit.
RFI0201V3.5	Arsenic	nd	Within the tolerance limit.
	Barium	256.0	Within the tolerance limit.
	Beryllium	5.8	Exceeds the tolerance limit by 480%.
	Chromium	7.3	Within the tolerance limit.
	Cobalt	5.7	Within the tolerance limit.
	Copper	5.2	Within the tolerance limit.
	Lead	13.0	Within the tolerance limit.
	Nickel	10.9	Within the tolerance limit.
	Potassium	1820.0	Within the tolerance limit.
	Vanadium	15.4	Within the tolerance limit.
	Zinc	15.0	Within the tolerance limit.
RFI0201V5.0	Arsenic	nd	Within the tolerance limit.
	Barium	225.0	Within the tolerance limit.
	Beryllium	6.0	Exceeds the tolerance limit by 270.37%.
	Chromium	6.4	Within the tolerance limit.
	Cobalt	5.6	Exceeds the tolerance limit by 11.17%.
	Copper	5.0	Within the tolerance limit.
	Lead	13.0	Within the tolerance limit.
	Nickel	9.8	Within the tolerance limit.
	Potassium	1780.0	Within the tolerance limit.
	Vanadium	15.3	Within the tolerance limit.
	Zinc	14.2	Within the tolerance limit.
RFI0201V6.5	Arsenic	nd	Within the tolerance limit.
	Barium	326.0	Within the tolerance limit.
	Beryllium	5.9	Exceeds the tolerance limit by 264.2%.
	Chromium	7.4	Within the tolerance limit.
	Cobalt	5.8	Exceeds the tolerance limit by 15.77%.
	Copper	5.3	Within the tolerance limit.
	Lead	11.0	Within the tolerance limit.
	Nickel	10.4	Within the tolerance limit.
	Potassium	2270.0	Exceeds the tolerance limit by 8.52%.
	Vanadium	15.4	Within the tolerance limit.
	Zinc	15.6	Within the tolerance limit.

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SAMPLE NUMBER	METAL	SAMPLE DATA	
RFI0202V3.5	Arsenic	nd	Within the tolerance limit.
	Barium	234.0	Within the tolerance limit.
	Beryllium	2.2	Exceeds the tolerance limit by 120%.
	Chromium	6.1	Within the tolerance limit.
	Cobalt	4.9	Within the tolerance limit.
	Copper	5.7	Within the tolerance limit.
	Lead	9.0	Within the tolerance limit.
	Nickel	9.0	Within the tolerance limit.
	Potassium	1620.0	Within the tolerance limit.
	Vanadium	13.3	Within the tolerance limit.
	Zinc	13.2	Within the tolerance limit.
RFI0202V5.0	Arsenic	nd	Within the tolerance limit.
	Barium	204.0	Within the tolerance limit.
	Beryllium	1.4	Within the tolerance limit.
	Chromium	4.2	Within the tolerance limit.
	Cobalt	3.6	Within the tolerance limit.
	Copper	4.3	Within the tolerance limit.
	Lead	8.0	Within the tolerance limit.
	Nickel	6.5	Within the tolerance limit.
	Potassium	1730.0	Within the tolerance limit.
	Vanadium	13.9	Within the tolerance limit.
	Zinc	10.6	Within the tolerance limit.
RFI0202V6.5	Arsenic	nd	Within the tolerance limit.
	Barium	268.0	Within the tolerance limit.
	Beryllium	1.3	Within the tolerance limit.
	Chromium	3.0	Within the tolerance limit.
	Cobalt	3.1	Within the tolerance limit.
	Copper	4.2	Within the tolerance limit.
	Lead	9.0	Within the tolerance limit.
	Nickel	4.6	Within the tolerance limit.
	Potassium	1100.0	Within the tolerance limit.
	Vanadium	13.3	Within the tolerance limit.
	Zinc	8.0	Within the tolerance limit.
RFI0203A3.5	Arsenic	nd	Within the tolerance limit.
	Barium	410.0	Exceeds the tolerance limit by .2%.
	Beryllium	1.0	Equals the tolerance limit.
	Chromium	3.3	Within the tolerance limit.
	Cobalt	2.9	Within the tolerance limit.
	Copper	3.2	Within the tolerance limit.
	Lead	7.0	Within the tolerance limit.
	Nickel	5.1	Within the tolerance limit.
	Potassium	624.0	Within the tolerance limit.
	Vanadium	11.4	Within the tolerance limit.
	Zinc	12.0	Within the tolerance limit.
RFI0203A5.0	Arsenic	nd	Within the tolerance limit.
	Barium	243.0	Within the tolerance limit.
	Beryllium	1.1	Within the tolerance limit.
	Chromium	4.4	Within the tolerance limit.
	Cobalt	4.0	Within the tolerance limit.
	Copper	4.6	Within the tolerance limit.
	Lead	8.0	Within the tolerance limit.
	Nickel	4.6	Within the tolerance limit.
	Potassium	1780.0	Within the tolerance limit.
	Vanadium	12.3	Within the tolerance limit.
	Zinc	11.9	Within the tolerance limit.

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SAMPLE NUMBER	METAL	SAMPLE DATA	
RFI0203A6.5	Arsenic	nd	Within the tolerance limit.
	Barium	286.0	Within the tolerance limit.
	Beryllium	1.4	Within the tolerance limit.
	Chromium	4.4	Within the tolerance limit.
	Cobalt	4.4	Within the tolerance limit.
	Copper	5.9	Within the tolerance limit.
	Lead	10.0	Within the tolerance limit.
	Nickel	6.8	Within the tolerance limit.
	Potassium	1470.0	Within the tolerance limit.
	Vanadium	15.0	Within the tolerance limit.
	Zinc	11.3	Within the tolerance limit.
RFI0204V3.5	Arsenic	nd	Within the tolerance limit.
	Barium	216.0	Within the tolerance limit.
	Beryllium	1.6	Exceeds the tolerance limit by 60%.
	Chromium	6.4	Within the tolerance limit.
	Cobalt	4.6	Within the tolerance limit.
	Copper	4.7	Within the tolerance limit.
	Lead	10.0	Within the tolerance limit.
	Nickel	8.9	Within the tolerance limit.
	Potassium	2210.0	Within the tolerance limit.
	Vanadium	16.6	Within the tolerance limit.
	Zinc	14.1	Within the tolerance limit.
RFI0204V5.0	Arsenic	nd	Within the tolerance limit.
	Barium	245.0	Within the tolerance limit.
	Beryllium	2.1	Exceeds the tolerance limit by 29.63%.
	Chromium	10.1	Exceeds the tolerance limit by 25.78%.
	Cobalt	6.4	Exceeds the tolerance limit by 27.74%.
	Copper	4.9	Within the tolerance limit.
	Lead	9.0	Within the tolerance limit.
	Nickel	12.4	Exceeds the tolerance limit by 5.08%.
	Potassium	3490.0	Exceeds the tolerance limit by 66.84%.
	Vanadium	20.0	Exceeds the tolerance limit by 12.74%.
	Zinc	19.2	Exceeds the tolerance limit by 14.76%.
RFI0204V6.5	Arsenic	nd	Within the tolerance limit.
	Barium	296.0	Within the tolerance limit.
	Beryllium	1.5	Within the tolerance limit.
	Chromium	4.8	Within the tolerance limit.
	Cobalt	4.4	Within the tolerance limit.
	Copper	5.7	Within the tolerance limit.
	Lead	9.0	Within the tolerance limit.
	Nickel	7.6	Within the tolerance limit.
	Potassium	1350.0	Within the tolerance limit.
	Vanadium	10.6	Within the tolerance limit.
	Zinc	12.2	Within the tolerance limit.
RFI0204D6.5	Arsenic	nd	Within the tolerance limit.
	Barium	236.0	Within the tolerance limit.
	Beryllium	1.6	Within the tolerance limit.
	Chromium	5.4	Within the tolerance limit.
	Cobalt	4.9	Within the tolerance limit.
	Copper	6.0	Within the tolerance limit.
	Lead	11.0	Within the tolerance limit.
	Nickel	6.0	Within the tolerance limit.
	Potassium	1220.0	Within the tolerance limit.
	Vanadium	15.0	Within the tolerance limit.
	Zinc	12.5	Within the tolerance limit.

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SAMPLE NUMBER	METAL	SAMPLE DATA	
RFI0205A3.5	Arsenic	nd	Within the tolerance limit.
	Barium	191.0	Within the tolerance limit.
	Beryllium	1.1	Exceeds the tolerance limit by 10.00%.
	Chromium	4.4	Within the tolerance limit.
	Cobalt	3.7	Within the tolerance limit.
	Copper	4.2	Within the tolerance limit.
	Lead	7.0	Within the tolerance limit.
	Nickel	7.0	Within the tolerance limit.
	Potassium	1690.0	Within the tolerance limit.
	Vanadium	13.2	Within the tolerance limit.
	Zinc	11.7	Within the tolerance limit.
RFI0205A5.0	Arsenic	nd	Within the tolerance limit.
	Barium	526.0	Exceeds the tolerance limit by 36.58%.
	Beryllium	0.6	Within the tolerance limit.
	Chromium	1.2	Within the tolerance limit.
	Cobalt	1.8	Within the tolerance limit.
	Copper	2.9	Within the tolerance limit.
	Lead	nd	Within the tolerance limit.
	Nickel	3.1	Within the tolerance limit.
	Potassium	327.0	Within the tolerance limit.
	Vanadium	8.4	Within the tolerance limit.
	Zinc	4.3	Within the tolerance limit.
RFI0205A6.5	Arsenic	nd	Within the tolerance limit.
	Barium	237.0	Within the tolerance limit.
	Beryllium	0.9	Within the tolerance limit.
	Chromium	3.8	Within the tolerance limit.
	Cobalt	3.4	Within the tolerance limit.
	Copper	3.6	Within the tolerance limit.
	Lead	6.0	Within the tolerance limit.
	Nickel	5.4	Within the tolerance limit.
	Potassium	1420.0	Within the tolerance limit.
	Vanadium	12.6	Within the tolerance limit.
	Zinc	8.3	Within the tolerance limit.
RFI0206V3.5	Arsenic	nd	Within the tolerance limit.
	Barium	327.0	Within the tolerance limit.
	Beryllium	0.9	Within the tolerance limit.
	Chromium	3.3	Within the tolerance limit.
	Cobalt	2.8	Within the tolerance limit.
	Copper	3.0	Within the tolerance limit.
	Lead	6.0	Within the tolerance limit.
	Nickel	4.3	Within the tolerance limit.
	Potassium	685.0	Within the tolerance limit.
	Vanadium	12.6	Within the tolerance limit.
	Zinc	8.3	Within the tolerance limit.
RFI0206V5.0	Arsenic	nd	Within the tolerance limit.
	Barium	158.0	Within the tolerance limit.
	Beryllium	0.6	Within the tolerance limit.
	Chromium	2.6	Within the tolerance limit.
	Cobalt	2.2	Within the tolerance limit.
	Copper	3.4	Within the tolerance limit.
	Lead	7.0	Within the tolerance limit.
	Nickel	3.9	Within the tolerance limit.
	Potassium	531.0	Within the tolerance limit.
	Vanadium	10.9	Within the tolerance limit.
	Zinc	7.1	Within the tolerance limit.

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SAMPLE NUMBER	METAL	SAMPLE DATA	
RFI0206V6.5	Arsenic	nd	Within the tolerance limit.
	Barium	176.0	Within the tolerance limit.
	Beryllium	0.5	Within the tolerance limit.
	Chromium	1.7	Within the tolerance limit.
	Cobalt	1.7	Within the tolerance limit.
	Copper	2.4	Within the tolerance limit.
	Lead	nd	Within the tolerance limit.
	Nickel	2.6	Within the tolerance limit.
	Potassium	338.0	Within the tolerance limit.
	Vanadium	6.7	Within the tolerance limit.
	Zinc	5.2	Within the tolerance limit.
RFI0207V3.5	Arsenic	nd	Within the tolerance limit.
	Barium	235.0	Within the tolerance limit.
	Beryllium	7.7	Exceeds the tolerance limit by 670%.
	Chromium	11.4	Exceeds the tolerance limit by 36.53%.
	Cobalt	6.7	Exceeds the tolerance limit by 11.48%.
	Copper	5.5	Within the tolerance limit.
	Lead	12.0	Within the tolerance limit.
	Nickel	12.5	Within the tolerance limit.
	Potassium	3770.0	Within the tolerance limit.
	Vanadium	20.0	Within the tolerance limit.
	Zinc	25.3	Exceeds the tolerance limit by 30.62%.
RFI0207V5.0	Arsenic	nd	Within the tolerance limit.
	Barium	172.0	Within the tolerance limit.
	Beryllium	7.8	Exceeds the tolerance limit by 381.42%.
	Chromium	10.9	Exceeds the tolerance limit by 35.74%.
	Cobalt	6.9	Exceeds the tolerance limit by 37.72%.
	Copper	5.4	Within the tolerance limit.
	Lead	11.0	Within the tolerance limit.
	Nickel	12.4	Within the tolerance limit.
	Potassium	3620.0	Within the tolerance limit.
	Vanadium	17.5	Within the tolerance limit.
	Zinc	20.8	Within the tolerance limit.
RFI0207V6.5	Arsenic	nd	Within the tolerance limit.
	Barium	284.0	Within the tolerance limit.
	Beryllium	7.4	Exceeds the tolerance limit by 356.79%.
	Chromium	9.5	Exceeds the tolerance limit by 18.31%.
	Cobalt	6.9	Exceeds the tolerance limit by 37.72%.
	Copper	7.5	Exceeds the tolerance limit by 6.08%.
	Lead	10.0	Within the tolerance limit.
	Nickel	12.1	Exceeds the tolerance limit by 2.54%.
	Potassium	2190.0	Exceeds the tolerance limit by 4.70%.
	Vanadium	17.1	Within the tolerance limit.
	Zinc	17.9	Exceeds the tolerance limit by 6.99%.
RFI0208A3.5	Arsenic	nd	Within the tolerance limit.
	Barium	395.0	Within the tolerance limit.
	Beryllium	18.2	Exceeds the tolerance limit by 1820%.
	Chromium	13.4	Exceeds the tolerance limit by 60.48%.
	Cobalt	7.8	Exceeds the tolerance limit by 29.78%.
	Copper	7.3	Exceeds the tolerance limit by 10.94%.
	Lead	10.0	Within the tolerance limit.
	Nickel	12.0	Within the tolerance limit.
	Potassium	5360.0	Exceeds the tolerance limit by 4.44%.
	Vanadium	22.6	Exceeds the tolerance limit by 11.44%.
	Zinc	28.3	Exceeds the tolerance limit by 46.33%.

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SAMPLE NUMBER	METAL	SAMPLE DATA	
RFI0208A5.0	Arsenic	nd	Within the tolerance limit.
	Barium	590.0	Exceeds the tolerance limit by 53.20%.
	Beryllium	9.3	Exceeds the tolerance limit by 474.07%.
	Chromium	9.9	Exceeds the tolerance limit by 23.29%.
	Cobalt	7.1	Exceeds the tolerance limit by 41.72%.
	Copper	5.8	Within the tolerance limit.
	Lead	12.0	Within the tolerance limit.
	Nickel	11.2	Within the tolerance limit.
	Potassium	3150.0	Exceeds the tolerance limit by 50.59%.
	Vanadium	15.9	Within the tolerance limit.
	Zinc	20.2	Exceeds the tolerance limit by 20.74%.
RFI0208A6.5	Arsenic	nd	Within the tolerance limit.
	Barium	344.0	Within the tolerance limit.
	Beryllium	6.1	Exceeds the tolerance limit by 276.54%.
	Chromium	5.7	Within the tolerance limit.
	Cobalt	4.5	Within the tolerance limit.
	Copper	3.4	Within the tolerance limit.
	Lead	10.0	Within the tolerance limit.
	Nickel	7.6	Within the tolerance limit.
	Potassium	1390.0	Within the tolerance limit.
	Vanadium	12.0	Within the tolerance limit.
	Zinc	13.5	Within the tolerance limit.
RFI0209V3.5	Arsenic	nd	Within the tolerance limit.
	Barium	220.0	Within the tolerance limit.
	Beryllium	9.5	Exceeds the tolerance limit by 850%.
	Chromium	14.1	Exceeds the tolerance limit by 68.86%.
	Cobalt	8.3	Exceeds the tolerance limit by 38.10%.
	Copper	4.5	Within the tolerance limit.
	Lead	12.0	Within the tolerance limit.
	Nickel	15.6	Exceeds the tolerance limit by 24.60%.
	Potassium	4260.0	Within the tolerance limit.
	Vanadium	21.7	Exceeds the tolerance limit by 7%.
	Zinc	21.0	Exceeds the tolerance limit by 8.58%.
RFI0209V5.0	Arsenic	nd	Within the tolerance limit.
	Barium	226.0	Within the tolerance limit.
	Beryllium	7.8	Exceeds the tolerance limit by 381.48%.
	Chromium	8.8	Exceeds the tolerance limit by 9.59%.
	Cobalt	5.8	Exceeds the tolerance limit by 15.77%.
	Copper	5.1	Within the tolerance limit.
	Lead	10.0	Within the tolerance limit.
	Nickel	11.2	Within the tolerance limit.
	Potassium	15.0	Within the tolerance limit.
	Vanadium	18.2	Exceeds the tolerance limit by 2.59%.
	Zinc	7.1	Within the tolerance limit.
RFI0209V6.5	Arsenic	nd	Within the tolerance limit.
	Barium	269.0	Within the tolerance limit.
	Beryllium	9.3	Exceeds the tolerance limit by 474.07%.
	Chromium	11.5	Exceeds the tolerance limit by 43.21%.
	Cobalt	6.8	Exceeds the tolerance limit by 35.73%.
	Copper	5.5	Within the tolerance limit.
	Lead	11.0	Within the tolerance limit.
	Nickel	12.4	Exceeds the tolerance limit by 5.08%.
	Potassium	4110.0	Exceeds the tolerance limit by 96.48%.
	Vanadium	18.0	Exceeds the tolerance limit by 1.47%.
	Zinc	21.1	Exceeds the tolerance limit by 26.12%.

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SAMPLE NUMBER	METAL	SAMPLE DATA	
RFI0209D6.5	Arsenic	nd	Within the tolerance limit.
	Barium	350.0	Within the tolerance limit.
	Beryllium	8.3	Exceeds the tolerance limit by 412.35%.
	Chromium	9.1	Exceeds the tolerance limit by 13.33%.
	Cobalt	6.2	Exceeds the tolerance limit by 23.75%.
	Copper	5.4	Within the tolerance limit.
	Lead	10.0	Within the tolerance limit.
	Nickel	11.4	Within the tolerance limit.
	Potassium	3260.0	Exceeds the tolerance limit by 55.85%.
	Vanadium	14.8	Within the tolerance limit.
	Zinc	18.6	Exceeds the tolerance limit by 11.18%.
RFI0210A3.5	Arsenic	nd	Within the tolerance limit.
	Barium	260.0	Within the tolerance limit.
	Beryllium	8.3	Exceeds the tolerance limit by 730%.
	Chromium	11.9	Exceeds the tolerance limit by 42.51%.
	Cobalt	7.0	Exceeds the tolerance limit by 16.47%.
	Copper	5.4	Within the tolerance limit.
	Lead	10.0	Within the tolerance limit.
	Nickel	13.2	Exceeds the tolerance limit by 5.43%.
	Potassium	3790.0	Within the tolerance limit.
	Vanadium	17.3	Within the tolerance limit.
	Zinc	19.9	Exceeds the tolerance limit by 2.9%.
RFI0210A5.0	Arsenic	nd	Within the tolerance limit.
	Barium	267.0	Within the tolerance limit.
	Beryllium	5.6	Exceeds the tolerance limit by 245.63%.
	Chromium	8.1	Exceeds the tolerance limit by .87%.
	Cobalt	5.1	Exceeds the tolerance limit by 1.8%.
	Copper	5.2	Within the tolerance limit.
	Lead	10.0	Within the tolerance limit.
	Nickel	9.2	Within the tolerance limit.
	Potassium	2090.0	Within the tolerance limit.
	Vanadium	12.4	Within the tolerance limit.
	Zinc	16.4	Within the tolerance limit.
RFI0210A6.5	Arsenic	nd	Within the tolerance limit.
	Barium	285.0	Within the tolerance limit.
	Beryllium	9.5	Exceeds the tolerance limit by 486.42%.
	Chromium	12.0	Exceeds the tolerance limit by 49.44%.
	Cobalt	7.5	Exceeds the tolerance limit by 49.7%.
	Copper	6.0	Within the tolerance limit.
	Lead	11.0	Within the tolerance limit.
	Nickel	12.9	Exceeds the tolerance limit by 9.32%.
	Potassium	3460.0	Exceeds the tolerance limit by 65.41%.
	Vanadium	18.1	Exceeds the tolerance limit by 2.03%.
	Zinc	21.1	Exceeds the tolerance limit by 26.12%.
RFI0211V3.5	Arsenic	nd	Within the tolerance limit.
	Barium	266.0	Within the tolerance limit.
	Beryllium	3.5	Exceeds the tolerance limit by 250%.
	Chromium	9.6	Exceeds the tolerance limit by 14.97%.
	Cobalt	6.4	Exceeds the tolerance limit by 6.49%.
	Copper	3.2	Within the tolerance limit.
	Lead	6.0	Within the tolerance limit.
	Nickel	13.2	Exceeds the tolerance limit by 5.43%.
	Potassium	3290.0	Within the tolerance limit.
	Vanadium	16.4	Within the tolerance limit.
	Zinc	19.4	Exceeds the tolerance limit by .31%.

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RFI0211V5.0	Arsenic	nd	Within the tolerance limit.
	Barium	203.0	Within the tolerance limit.
	Beryllium	3.0	Exceeds the tolerance limit by 85.19%.
	Chromium	9.2	Exceeds the tolerance limit by 14.57%.
	Cobalt	6.3	Exceeds the tolerance limit by 25.75%.
	Copper	3.6	Within the tolerance limit.
	Lead	8.0	Within the tolerance limit.
	Nickel	13.4	Exceeds the tolerance limit by 13.56%.
	Potassium	3110.0	Exceeds the tolerance limit by 48.68%.
	Vanadium	15.6	Within the tolerance limit.
	Zinc	19.2	Exceeds the tolerance limit by 14.76%.
RFI0211V6.5	Arsenic	nd	Within the tolerance limit.
	Barium	199.0	Within the tolerance limit.
	Beryllium	3.6	Exceeds the tolerance limit by 122.22%.
	Chromium	8.8	Exceeds the tolerance limit by 9.59%.
	Cobalt	5.9	Exceeds the tolerance limit by 17.76%.
	Copper	4.7	Within the tolerance limit.
	Lead	9.0	Within the tolerance limit.
	Nickel	12.6	Exceeds the tolerance limit by 6.78%.
	Potassium	2760.0	Exceeds the tolerance limit by 31.95%.
	Vanadium	15.5	Within the tolerance limit.
	Zinc	18.0	Exceeds the tolerance limit by 7.59%.
RFI0212V3.5	Arsenic	nd	Within the tolerance limit.
	Barium	251.0	Within the tolerance limit.
	Beryllium	3.2	Exceeds the tolerance limit by 20%.
	Chromium	8.7	Exceeds the tolerance limit by 4.19%.
	Cobalt	5.9	Within the tolerance limit.
	Copper	2.7	Within the tolerance limit.
	Lead	7.0	Within the tolerance limit.
	Nickel	12.1	Within the tolerance limit.
	Potassium	2780.0	Within the tolerance limit.
	Vanadium	15.7	Within the tolerance limit.
	Zinc	18.2	Within the tolerance limit.
RFI0212V5.0	Arsenic	nd	Within the tolerance limit.
	Barium	216.0	Within the tolerance limit.
	Beryllium	2.2	Exceeds the tolerance limit by 35.80%.
	Chromium	7.3	Within the tolerance limit.
	Cobalt	5.3	Exceeds the tolerance limit by 5.79%.
	Copper	4.2	Within the tolerance limit.
	Lead	7.0	Within the tolerance limit.
	Nickel	11.1	Within the tolerance limit.
	Potassium	2880.0	Exceeds the tolerance limit by 37.68%.
	Vanadium	15.4	Within the tolerance limit.
	Zinc	16.5	Within the tolerance limit.
RFI0212V6.5	Arsenic	nd	Within the tolerance limit.
	Barium	254.0	Within the tolerance limit.
	Beryllium	3.0	Exceeds the tolerance limit by 85.19%.
	Chromium	7.4	Within the tolerance limit.
	Cobalt	5.6	Exceeds the tolerance limit by 11.78%.
	Copper	2.8	Within the tolerance limit.
	Lead	7.0	Within the tolerance limit.
	Nickel	10.0	Within the tolerance limit.
	Potassium	2650.0	Exceeds the tolerance limit by 26.69%.
	Vanadium	13.3	Within the tolerance limit.
	Zinc	15.8	Within the tolerance limit.

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SAMPLE NUMBER	METAL	SAMPLE DATA	
RFI0212V3.5	Arsenic	nd	Within the tolerance limit.
	Barium	204.0	Within the tolerance limit.
	Beryllium	2.9	Exceeds the tolerance limit by 190%.
	Chromium	8.1	Within the tolerance limit.
	Cobalt	5.8	Within the tolerance limit.
	Copper	3.1	Within the tolerance limit.
	Lead	9.0	Within the tolerance limit.
	Nickel	11.8	Within the tolerance limit.
	Potassium	2560.0	Within the tolerance limit.
	Vanadium	15.7	Within the tolerance limit.
	Zinc	17.6	Within the tolerance limit.
RFI0213V5.0	Arsenic	nd	Within the tolerance limit.
	Barium	281.0	Within the tolerance limit.
	Beryllium	2.8	Exceeds the tolerance limit by 72.84%.
	Chromium	7.6	Within the tolerance limit.
	Cobalt	5.3	Exceeds the tolerance limit by 5.79%.
	Copper	2.9	Within the tolerance limit.
	Lead	9.0	Within the tolerance limit.
	Nickel	10.7	Within the tolerance limit.
	Potassium	2530.0	Exceeds the tolerance limit by 20.95%.
	Vanadium	10.7	Within the tolerance limit.
	Zinc	17.3	Exceeds the tolerance limit by 3.41%.
RFI0213V6.5	Arsenic	nd	Within the tolerance limit.
	Barium	305.0	Within the tolerance limit.
	Beryllium	3.2	Exceeds the tolerance limit by 97.53%.
	Chromium	8.2	Exceeds the tolerance limit by 2.12%.
	Cobalt	5.9	Exceeds the tolerance limit by 17.76%.
	Copper	3.4	Within the tolerance limit.
	Lead	8.0	Within the tolerance limit.
	Nickel	11.0	Within the tolerance limit.
	Potassium	1980.0	Within the tolerance limit.
	Vanadium	14.4	Within the tolerance limit.
	Zinc	16.3	Within the tolerance limit.
RFI0214A3.5	Arsenic	nd	Within the tolerance limit.
	Barium	276.0	Within the tolerance limit.
	Beryllium	2.1	Exceeds the tolerance limit by 110%.
	Chromium	5.5	Within the tolerance limit.
	Cobalt	3.9	Within the tolerance limit.
	Copper	2.1	Within the tolerance limit.
	Lead	6.0	Within the tolerance limit.
	Nickel	7.6	Within the tolerance limit.
	Potassium	1620.0	Within the tolerance limit.
	Vanadium	11.7	Within the tolerance limit.
	Zinc	12.0	Within the tolerance limit.
RFI0214A5.0	Arsenic	nd	Within the tolerance limit.
	Barium	223.0	Within the tolerance limit.
	Beryllium	1.9	Exceeds the tolerance limit by 17.28%.
	Chromium	4.0	Within the tolerance limit.
	Cobalt	3.6	Within the tolerance limit.
	Copper	3.2	Within the tolerance limit.
	Lead	7.0	Within the tolerance limit.
	Nickel	6.9	Within the tolerance limit.
	Potassium	947.0	Within the tolerance limit.
	Vanadium	10.9	Within the tolerance limit.
	Zinc	9.2	Within the tolerance limit.

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SAMPLE NUMBER	METAL	SAMPLE DATA	
RFI0214A6.5	Arsenic	nd	Within the tolerance limit.
	Barium	280.0	Within the tolerance limit.
	Beryllium	3.2	Exceeds the tolerance limit by 97.53%.
	Chromium	9.0	Exceeds the tolerance limit by 12.08%.
	Cobalt	6.0	Exceeds the tolerance limit by 19.76%.
	Copper	3.0	Within the tolerance limit.
	Lead	8.0	Within the tolerance limit.
	Nickel	12.6	Exceeds the tolerance limit by 6.78%.
	Potassium	3300.0	Exceeds the tolerance limit by 57.76%.
	Vanadium	15.3	Within the tolerance limit.
	Zinc	19.0	Exceeds the tolerance limit by 13.57%.
RFI0214D6.5	Arsenic	nd	Within the tolerance limit.
	Barium	278.0	Within the tolerance limit.
	Beryllium	2.6	Exceeds the tolerance limit by 60.49%.
	Chromium	7.2	Within the tolerance limit.
	Cobalt	5.2	Exceeds the tolerance limit by 3.79%.
	Copper	2.9	Within the tolerance limit.
	Lead	6.0	Within the tolerance limit.
	Nickel	10.5	Within the tolerance limit.
	Potassium	2500.0	Exceeds the tolerance limit by 19.52%.
	Vanadium	17.3	Within the tolerance limit.
	Zinc	16.0	Within the tolerance limit.
RFI0215A3.5	Arsenic	nd	Within the tolerance limit.
	Barium	231.0	Within the tolerance limit.
	Beryllium	3.7	Exceeds the tolerance limit by 270%.
	Chromium	9.6	Exceeds the tolerance limit by 14.97%.
	Cobalt	6.0	Within the tolerance limit.
	Copper	3.2	Within the tolerance limit.
	Lead	7.0	Within the tolerance limit.
	Nickel	11.5	Within the tolerance limit.
	Potassium	3100.0	Within the tolerance limit.
	Vanadium	16.9	Within the tolerance limit.
	Zinc	18.7	Within the tolerance limit.
RFI0215A5.0	Arsenic	nd	Within the tolerance limit.
	Barium	327.0	Within the tolerance limit.
	Beryllium	4.0	Exceeds the tolerance limit by 146.91%.
	Chromium	10.0	Exceeds the tolerance limit by 24.58%.
	Cobalt	6.6	Exceeds the tolerance limit by 31.74%.
	Copper	3.7	Within the tolerance limit.
	Lead	9.0	Within the tolerance limit.
	Nickel	13.1	Exceeds the tolerance limit by 11.02%.
	Potassium	3220.0	Exceeds the tolerance limit by 53.94%.
	Vanadium	17.3	Within the tolerance limit.
	Zinc	20.2	Exceeds the tolerance limit by 20.74%.

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SAMPLE NUMBER	METAL	SAMPLE DATA	
RFI0215A6.5	Arsenic	nd	Within the tolerance limit.
	Barium	260.0	Within the tolerance limit.
	Beryllium	3.8	Exceeds the tolerance limit by 34.57%.
	Chromium	9.4	Exceeds the tolerance limit by 17.06%.
	Cobalt	6.0	Exceeds the tolerance limit by 19.76%.
	Copper	3.4	Within the tolerance limit.
	Lead	9.0	Within the tolerance limit.
	Nickel	11.3	Within the tolerance limit.
	Potassium	3020.0	Exceeds the tolerance limit by 44.38%.
	Vanadium	16.1	Within the tolerance limit.
	Zinc	18.1	Exceeds the tolerance limit by 8.19%.
RFI0216V3.5	Arsenic	nd	Within the tolerance limit.
	Barium	138.0	Within the tolerance limit.
	Beryllium	1.5	Exceeds the tolerance limit by 50%.
	Chromium	2.8	Within the tolerance limit.
	Cobalt	2.5	Within the tolerance limit.
	Copper	2.0	Within the tolerance limit.
	Lead	11.0	Within the tolerance limit.
	Nickel	5.3	Within the tolerance limit.
	Potassium	930.0	Within the tolerance limit.
	Vanadium	7.2	Within the tolerance limit.
	Zinc	7.9	Within the tolerance limit.
RFI0216V5.0	Arsenic	nd	Within the tolerance limit.
	Barium	249.0	Within the tolerance limit.
	Beryllium	4.5	Exceeds the tolerance limit by 177.78%.
	Chromium	11.8	Exceeds the tolerance limit by 46.95%.
	Cobalt	7.0	Exceeds the tolerance limit by 39.72%.
	Copper	3.9	Within the tolerance limit.
	Lead	9.0	Within the tolerance limit.
	Nickel	13.9	Exceeds the tolerance limit by 17.80%.
	Potassium	4050.0	Exceeds the tolerance limit by 93.62%.
	Vanadium	21.6	Exceeds the tolerance limit by 21.76%.
	Zinc	21.3	Exceeds the tolerance limit by 27.32%.
RFI0216V6.5	Arsenic	nd	Within the tolerance limit.
	Barium	302.0	Within the tolerance limit.
	Beryllium	2.0	Exceeds the tolerance limit by 23.46%.
	Chromium	4.8	Within the tolerance limit.
	Cobalt	4.1	Within the tolerance limit.
	Copper	2.9	Within the tolerance limit.
	Lead	10.0	Within the tolerance limit.
	Nickel	8.0	Within the tolerance limit.
	Potassium	1460.0	Within the tolerance limit.
	Vanadium	9.8	Within the tolerance limit.
	Zinc	11.5	Within the tolerance limit.
RFI0217V3.5	Arsenic	nd	Within the tolerance limit.
	Barium	260.0	Within the tolerance limit.
	Beryllium	3.1	Exceeds the tolerance limit by 210%.
	Chromium	10.8	Exceeds the tolerance limit by 29.34%.
	Cobalt	6.4	Exceeds the tolerance limit by 6.49%.
	Copper	3.9	Within the tolerance limit.
	Lead	9.0	Within the tolerance limit.
	Nickel	12.3	Within the tolerance limit.
	Potassium	3170.0	Within the tolerance limit.
	Vanadium	18.4	Within the tolerance limit.
	Zinc	19.3	Within the tolerance limit.

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SAMPLE NUMBER	METAL	SAMPLE DATA	
RFI0217V5.0	Arsenic	nd	Within the tolerance limit.
	Barium	333.0	Within the tolerance limit.
	Beryllium	2.9	Exceeds the tolerance limit by 79.01%.
	Chromium	11.5	Exceeds the tolerance limit by 43.21%.
	Cobalt	7.0	Exceeds the tolerance limit by 39.72%.
	Copper	3.2	Within the tolerance limit.
	Lead	6.0	Within the tolerance limit.
	Nickel	14.2	Exceeds the tolerance limit by 20.34%.
	Potassium	3770.0	Exceeds the tolerance limit by 80.23%.
	Vanadium	17.6	Within the tolerance limit.
	Zinc	22.5	Exceeds the tolerance limit by 34.49%.
RFI0217V6.5	Arsenic	nd	Within the tolerance limit.
	Barium	260.0	Within the tolerance limit.
	Beryllium	3.7	Exceeds the tolerance limit by 128.40%.
	Chromium	8.5	Exceeds the tolerance limit by 5.85%.
	Cobalt	6.2	Exceeds the tolerance limit by 23.75%.
	Copper	3.5	Within the tolerance limit.
	Lead	8.0	Within the tolerance limit.
	Nickel	12.4	Exceeds the tolerance limit by 5.08%.
	Potassium	2920.0	Exceeds the tolerance limit by 39.59%.
	Vanadium	16.4	Within the tolerance limit.
	Zinc	18.6	Exceeds the tolerance limit by 11.18%.
RFI0218A3.5	Arsenic	nd	Within the tolerance limit.
	Barium	228.0	Within the tolerance limit.
	Beryllium	4.3	Exceeds the tolerance limit by 330%.
	Chromium	11.1	Exceeds the tolerance limit by 32.93%.
	Cobalt	6.3	Exceeds the tolerance limit by 4.83%.
	Copper	3.6	Within the tolerance limit.
	Lead	7.0	Within the tolerance limit.
	Nickel	12.8	Exceeds the tolerance limit by 2.24%.
	Potassium	3440.0	Within the tolerance limit.
	Vanadium	16.8	Within the tolerance limit.
	Zinc	19.2	Within the tolerance limit.
RFI0218A5.0	Arsenic	nd	Within the tolerance limit.
	Barium	241.0	Within the tolerance limit.
	Beryllium	4.6	Exceeds the tolerance limit by 183.95%.
	Chromium	12.9	Exceeds the tolerance limit by 60.65%.
	Cobalt	6.8	Exceeds the tolerance limit by 35.73%.
	Copper	3.1	Within the tolerance limit.
	Lead	8.0	Within the tolerance limit.
	Nickel	14.0	Exceeds the tolerance limit by 18.64%.
	Potassium	4260.0	Exceeds the tolerance limit by 103.66%.
	Vanadium	19.3	Exceeds the tolerance limit by 8.79%.
	Zinc	21.4	Exceeds the tolerance limit by 27.91%.
RFI0218A6.5	Arsenic	nd	Within the tolerance limit.
	Barium	281.0	Within the tolerance limit.
	Beryllium	4.3	Exceeds the tolerance limit by 165.43%.
	Chromium	11.1	Exceeds the tolerance limit by 38.23%.
	Cobalt	6.5	Exceeds the tolerance limit by 29.74%.
	Copper	4.0	Within the tolerance limit.
	Lead	8.0	Within the tolerance limit.
	Nickel	3.1	Within the tolerance limit.
	Potassium	3320.0	Exceeds the tolerance limit by 58.72%.
	Vanadium	17.4	Within the tolerance limit.
	Zinc	21.0	Exceeds the tolerance limit by 25.52%.

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SAMPLE NUMBER	METAL	SAMPLE DATA	
RFI13201V2.0	Arsenic	nd	Within the tolerance limit.
	Barium	281.0	Within the tolerance limit.
	Beryllium	2.4	Exceeds the tolerance limit by 140%.
	Chromium	4.5	Within the tolerance limit.
	Cobalt	4.4	Within the tolerance limit.
	Copper	4.6	Within the tolerance limit.
	Lead	10.0	Within the tolerance limit.
	Nickel	8.5	Within the tolerance limit.
	Potassium	1080.0	Within the tolerance limit.
	Vanadium	10.0	Within the tolerance limit.
	Zinc	9.7	Within the tolerance limit.
RFI1301V3.5	Arsenic	nd	Within the tolerance limit.
	Barium	287.0	Within the tolerance limit.
	Beryllium	3.6	Exceeds the tolerance limit by 260%.
	Chromium	5.2	Within the tolerance limit.
	Cobalt	5.5	Within the tolerance limit.
	Copper	4.1	Within the tolerance limit.
	Lead	10.0	Within the tolerance limit.
	Nickel	8.9	Within the tolerance limit.
	Potassium	1200.0	Within the tolerance limit.
	Vanadium	11.5	Within the tolerance limit.
	Zinc	12.4	Within the tolerance limit.
RFI1302V2.0	Arsenic	nd	Within the tolerance limit.
	Barium	244.0	Within the tolerance limit.
	Beryllium	4.3	Exceeds the tolerance limit by 330%.
	Chromium	6.0	Within the tolerance limit.
	Cobalt	5.1	Within the tolerance limit.
	Copper	4.4	Within the tolerance limit.
	Lead	12.0	Within the tolerance limit.
	Nickel	9.0	Within the tolerance limit.
	Potassium	1720.0	Within the tolerance limit.
	Vanadium	12.3	Within the tolerance limit.
	Zinc	14.3	Within the tolerance limit.
RFI1302V3.5	Arsenic	nd	Within the tolerance limit.
	Barium	377.0	Within the tolerance limit.
	Beryllium	3.2	Exceeds the tolerance limit by 220%.
	Chromium	5.1	Within the tolerance limit.
	Cobalt	5.0	Within the tolerance limit.
	Copper	5.4	Within the tolerance limit.
	Lead	10.0	Within the tolerance limit.
	Nickel	9.2	Within the tolerance limit.
	Potassium	1190.0	Within the tolerance limit.
	Vanadium	9.3	Within the tolerance limit.
	Zinc	13.0	Within the tolerance limit.
RFI1303V2.0	Arsenic	nd	Within the tolerance limit.
	Barium	244.0	Within the tolerance limit.
	Beryllium	4.1	Exceeds the tolerance limit by 310%.
	Chromium	5.2	Within the tolerance limit.
	Cobalt	6.0	Within the tolerance limit.
	Copper	5.3	Within the tolerance limit.
	Lead	11.0	Within the tolerance limit.
	Nickel	10.9	Within the tolerance limit.
	Potassium	1680.0	Within the tolerance limit.
	Vanadium	12.1	Within the tolerance limit.
	Zinc	14.6	Within the tolerance limit.

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SAMPLE NUMBER	METAL	SAMPLE DATA	
RFI1303V3.5	Arsenic	nd	Within the tolerance limit.
	Barium	312.0	Within the tolerance limit.
	Beryllium	4.3	Exceeds the tolerance limit by 430%.
	Chromium	5.3	Within the tolerance limit.
	Cobalt	5.1	Within the tolerance limit.
	Copper	4.9	Within the tolerance limit.
	Lead	12.0	Within the tolerance limit.
	Nickel	8.9	Within the tolerance limit.
	Potassium	1270.0	Within the tolerance limit.
	Vanadium	12.0	Within the tolerance limit.
	Zinc	12.6	Within the tolerance limit.
RFI1304V2.0	Arsenic	nd	Within the tolerance limit.
	Barium	266.0	Within the tolerance limit.
	Beryllium	4.3	Exceeds the tolerance limit by 430%.
	Chromium	7.1	Within the tolerance limit.
	Cobalt	5.9	Within the tolerance limit.
	Copper	5.5	Within the tolerance limit.
	Lead	10.0	Within the tolerance limit.
	Nickel	11.3	Within the tolerance limit.
	Potassium	1830.0	Within the tolerance limit.
	Vanadium	10.0	Within the tolerance limit.
	Zinc	16.1	Within the tolerance limit.
RFI1304V3.5	Arsenic	nd	Within the tolerance limit.
	Barium	250.0	Within the tolerance limit.
	Beryllium	4.6	Exceeds the tolerance limit by 460%.
	Chromium	6.4	Within the tolerance limit.
	Cobalt	5.3	Within the tolerance limit.
	Copper	4.9	Within the tolerance limit.
	Lead	9.0	Within the tolerance limit.
	Nickel	9.6	Within the tolerance limit.
	Potassium	2370.0	Within the tolerance limit.
	Vanadium	12.2	Within the tolerance limit.
	Zinc	15.3	Within the tolerance limit.
RFI1304D3.5	Arsenic	nd	Within the tolerance limit.
	Barium	262.0	Within the tolerance limit.
	Beryllium	4.9	Exceeds the tolerance limit by 490%.
	Chromium	6.5	Within the tolerance limit.
	Cobalt	5.2	Within the tolerance limit.
	Copper	5.1	Within the tolerance limit.
	Lead	11.0	Within the tolerance limit.
	Nickel	9.1	Within the tolerance limit.
	Potassium	2190.0	Within the tolerance limit.
	Vanadium	12.6	Within the tolerance limit.
	Zinc	14.1	Within the tolerance limit.

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SAMPLE NUMBER	METAL	SAMPLE DATA	NOTE
RFI0101V4.0	Arsenic	nd	Within the tolerance limit.
	Barium	256.0	Within the tolerance limit.
	Beryllium	5.8	Exceeds the tolerance limit by 152.17%.
	Chromium	7.3	Within the tolerance limit.
	Cobalt	5.7	Within the tolerance limit.
	Copper	5.2	Within the tolerance limit.
	Lead	13.0	Within the tolerance limit.
	Nickel	10.9	Within the tolerance limit.
	Potassium	1820.0	Within the tolerance limit.
	Vanadium	15.4	Within the tolerance limit.
	Zinc	15.0	Within the tolerance limit.
RFI0101V9.0	Arsenic	nd	Within the tolerance limit.
	Barium	225.0	Within the tolerance limit.
	Beryllium	6.0	Exceeds the tolerance limit by 87.50%.
	Chromium	6.4	Within the tolerance limit.
	Cobalt	5.6	Exceeds the tolerance limit by 11.78%.
	Copper	5.0	Within the tolerance limit.
	Lead	13.0	Within the tolerance limit.
	Nickel	9.8	Within the tolerance limit.
	Potassium	1780.0	Within the tolerance limit.
	Vanadium	15.8	Within the tolerance limit.
	Zinc	14.2	Within the tolerance limit.
RFI0101V11.0	Arsenic	nd	Within the tolerance limit.
	Barium	326.0	Within the tolerance limit.
	Beryllium	5.9	Exceeds the tolerance limit by 84.38%.
	Chromium	7.4	Within the tolerance limit.
	Cobalt	5.8	Exceeds the tolerance limit by 15.77%.
	Copper	5.3	Within the tolerance limit.
	Lead	11.0	Within the tolerance limit.
	Nickel	10.4	Within the tolerance limit.
	Potassium	2270.0	Exceeds the tolerance limit by 8.52%.
	Vanadium	15.4	Within the tolerance limit.
	Zinc	15.6	Within the tolerance limit.
RFI0101V14.0	Arsenic	nd	Within the tolerance limit.
	Barium	234.0	Within the tolerance limit.
	Beryllium	2.2	Within the tolerance limit.
	Chromium	6.1	Within the tolerance limit.
	Cobalt	4.9	Within the tolerance limit.
	Copper	5.7	Within the tolerance limit.
	Lead	9.0	Within the tolerance limit.
	Nickel	9.0	Within the tolerance limit.
	Potassium	1620.0	Within the tolerance limit.
	Vanadium	13.3	Within the tolerance limit.
	Zinc	13.2	Within the tolerance limit.

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SAMPLE NUMBER	METAL	SAMPLE DATA	
RFI0102A4.0	Arsenic	nd	Within the tolerance limit.
	Barium	204.0	Within the tolerance limit.
	Beryllium	1.4	Within the tolerance limit.
	Chromium	4.2	Within the tolerance limit.
	Cobalt	3.6	Within the tolerance limit.
	Copper	4.3	Within the tolerance limit.
	Lead	8.0	Within the tolerance limit.
	Nickel	6.5	Within the tolerance limit.
	Potassium	1730.0	Within the tolerance limit.
	Vanadium	13.9	Within the tolerance limit.
	Zinc	10.6	Within the tolerance limit.
RFI0102A9.0	Arsenic	nd	Within the tolerance limit.
	Barium	268.0	Within the tolerance limit.
	Beryllium	1.3	Within the tolerance limit.
	Chromium	3.0	Within the tolerance limit.
	Cobalt	3.1	Within the tolerance limit.
	Copper	4.2	Within the tolerance limit.
	Lead	9.0	Within the tolerance limit.
	Nickel	4.6	Within the tolerance limit.
	Potassium	1100.0	Within the tolerance limit.
	Vanadium	13.3	Within the tolerance limit.
	Zinc	8.0	Within the tolerance limit.
RFI0102A11.0	Arsenic	nd	Within the tolerance limit.
	Barium	410.0	Exceeds the tolerance limit by 6.46%.
	Beryllium	1.0	Within the tolerance limit.
	Chromium	3.3	Within the tolerance limit.
	Cobalt	2.9	Within the tolerance limit.
	Copper	3.2	Within the tolerance limit.
	Lead	7.0	Within the tolerance limit.
	Nickel	5.1	Within the tolerance limit.
	Potassium	624.0	Within the tolerance limit.
	Vanadium	11.4	Within the tolerance limit.
	Zinc	12.0	Within the tolerance limit.
RFI0102A14.0	Arsenic	nd	Within the tolerance limit.
	Barium	243.0	Within the tolerance limit.
	Beryllium	1.1	Within the tolerance limit.
	Chromium	4.4	Within the tolerance limit.
	Cobalt	4.0	Within the tolerance limit.
	Copper	4.6	Within the tolerance limit.
	Lead	8.0	Within the tolerance limit.
	Nickel	4.6	Within the tolerance limit.
	Potassium	1780.0	Within the tolerance limit.
	Vanadium	12.3	Within the tolerance limit.
	Zinc	11.9	Within the tolerance limit.
RFI0103V4.0	Arsenic	nd	Within the tolerance limit.
	Barium	295.0	Within the tolerance limit.
	Beryllium	2.6	Exceeds the tolerance limit by 13.04%.
	Chromium	2.5	Within the tolerance limit.
	Cobalt	3.1	Within the tolerance limit.
	Copper	3.9	Within the tolerance limit.
	Lead	7.0	Within the tolerance limit.
	Nickel	4.9	Within the tolerance limit.
	Potassium	450.0	Within the tolerance limit.
	Vanadium	12.3	Within the tolerance limit.
	Zinc	6.2	Within the tolerance limit.

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SAMPLE NUMBER	METAL	SAMPLE DATA	
RFI0103V9.0	Arsenic	nd	Within the tolerance limit.
	Barium	244.0	Within the tolerance limit.
	Beryllium	2.6	Within the tolerance limit.
	Chromium	4.0	Within the tolerance limit.
	Cobalt	3.4	Within the tolerance limit.
	Copper	3.5	Within the tolerance limit.
	Lead	7.0	Within the tolerance limit.
	Nickel	5.3	Within the tolerance limit.
	Potassium	697.0	Within the tolerance limit.
	Vanadium	14.2	Within the tolerance limit.
	Zinc	8.5	Within the tolerance limit.
RFI0103V11.0	Arsenic	nd	Within the tolerance limit.
	Barium	321.0	Within the tolerance limit.
	Beryllium	2.4	Within the tolerance limit.
	Chromium	2.6	Within the tolerance limit.
	Cobalt	3.0	Within the tolerance limit.
	Copper	4.0	Within the tolerance limit.
	Lead	9.0	Within the tolerance limit.
	Nickel	5.0	Within the tolerance limit.
	Potassium	561.0	Within the tolerance limit.
	Vanadium	10.0	Within the tolerance limit.
	Zinc	7.2	Within the tolerance limit.
RFI0103V14.0	Arsenic	nd	Within the tolerance limit.
	Barium	334.0	Within the tolerance limit.
	Beryllium	2.9	Within the tolerance limit.
	Chromium	3.1	Within the tolerance limit.
	Cobalt	3.4	Within the tolerance limit.
	Copper	3.8	Within the tolerance limit.
	Lead	7.0	Within the tolerance limit.
	Nickel	5.5	Within the tolerance limit.
	Potassium	623.0	Within the tolerance limit.
	Vanadium	10.6	Within the tolerance limit.
	Zinc	8.2	Within the tolerance limit.
RFI0103D14.0	Arsenic	nd	Within the tolerance limit.
	Barium	229.0	Within the tolerance limit.
	Beryllium	4.2	Exceeds the tolerance limit by 31.25%.
	Chromium	4.2	Within the tolerance limit.
	Cobalt	4.3	Within the tolerance limit.
	Copper	4.4	Within the tolerance limit.
	Lead	8.0	Within the tolerance limit.
	Nickel	7.2	Within the tolerance limit.
	Potassium	965.0	Within the tolerance limit.
	Vanadium	12.2	Within the tolerance limit.
	Zinc	10.6	Within the tolerance limit.
RFI0104V4.0	Arsenic	nd	Within the tolerance limit.
	Barium	103.0	Within the tolerance limit.
	Beryllium	2.7	Exceeds the tolerance limit by 17.39%.
	Chromium	3.8	Within the tolerance limit.
	Cobalt	3.9	Within the tolerance limit.
	Copper	3.9	Within the tolerance limit.
	Lead	6.0	Within the tolerance limit.
	Nickel	6.3	Within the tolerance limit.
	Potassium	1030.0	Within the tolerance limit.
	Vanadium	10.8	Within the tolerance limit.
	Zinc	13.0	Within the tolerance limit.

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SAMPLE NUMBER	METAL	SAMPLE DATA	
RFI0104V9.0	Arsenic	nd	Within the tolerance limit.
	Barium	634.0	Exceeds the tolerance limit by 64.63%.
	Beryllium	3.7	Exceeds the tolerance limit by 15.63%.
	Chromium	5.1	Within the tolerance limit.
	Cobalt	3.9	Within the tolerance limit.
	Copper	3.8	Within the tolerance limit.
	Lead	6.0	Within the tolerance limit.
	Nickel	6.8	Within the tolerance limit.
	Potassium	1260.0	Within the tolerance limit.
	Vanadium	12.4	Within the tolerance limit.
	Zinc	16.7	Within the tolerance limit.
RFI0104V11.0	Arsenic	nd	Within the tolerance limit.
	Barium	249.0	Within the tolerance limit.
	Beryllium	4.0	Exceeds the tolerance limit by 25%.
	Chromium	3.6	Within the tolerance limit.
	Cobalt	4.8	Within the tolerance limit.
	Copper	3.4	Within the tolerance limit.
	Lead	3.0	Within the tolerance limit.
	Nickel	5.5	Within the tolerance limit.
	Potassium	738.0	Within the tolerance limit.
	Vanadium	12.5	Within the tolerance limit.
	Zinc	9.0	Within the tolerance limit.
RFI0104V14.0	Arsenic	nd	Within the tolerance limit.
	Barium	275.0	Within the tolerance limit.
	Beryllium	4.9	Exceeds the tolerance limit by 53.13%.
	Chromium	5.0	Within the tolerance limit.
	Cobalt	4.4	Within the tolerance limit.
	Copper	3.9	Within the tolerance limit.
	Lead	8.0	Within the tolerance limit.
	Nickel	7.6	Within the tolerance limit.
	Potassium	1650.0	Within the tolerance limit.
	Vanadium	12.8	Within the tolerance limit.
	Zinc	14.2	Within the tolerance limit.
RFI0105V4.0	Arsenic	nd	Within the tolerance limit.
	Barium	206.0	Within the tolerance limit.
	Beryllium	3.5	Exceeds the tolerance limit by 52.17%.
	Chromium	52.1	Exceeds the tolerance limit by 523.95%.
	Cobalt	3.9	Within the tolerance limit.
	Copper	7.6	Exceeds the tolerance limit by 15.5%.
	Lead	8.0	Within the tolerance limit.
	Nickel	6.5	Within the tolerance limit.
	Potassium	1500.0	Within the tolerance limit.
	Vanadium	12.0	Within the tolerance limit.
	Zinc	34.6	Exceeds the tolerance limit by 78.90%.
RFI0105V9.0	Arsenic	nd	Within the tolerance limit.
	Barium	168.0	Within the tolerance limit.
	Beryllium	2.7	Within the tolerance limit.
	Chromium	3.3	Within the tolerance limit.
	Cobalt	3.5	Within the tolerance limit.
	Copper	1.2	Within the tolerance limit.
	Lead	5.0	Within the tolerance limit.
	Nickel	5.2	Within the tolerance limit.
	Potassium	571.0	Within the tolerance limit.
	Vanadium	11.5	Within the tolerance limit.
	Zinc	9.7	Within the tolerance limit.

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SAMPLE NUMBER	METAL	SAMPLE DATA	
RFI0105V11.0	Arsenic	nd	Within the tolerance limit.
	Barium	767.0	Exceeds the tolerance limit by 99.16%.
	Beryllium	4.7	Exceeds the tolerance limit by 46.88%.
	Chromium	5.8	Within the tolerance limit.
	Cobalt	5.1	Exceeds the tolerance limit by 1.8%.
	Copper	nd	Within the tolerance limit.
	Lead	7.0	Within the tolerance limit.
	Nickel	10.4	Within the tolerance limit.
	Potassium	2200.0	Exceeds the tolerance limit by 5.17%.
	Vanadium	10.3	Within the tolerance limit.
	Zinc	13.9	Within the tolerance limit.
RFI0105V14.0	Arsenic	nd	Within the tolerance limit.
	Barium	364.0	Within the tolerance limit.
	Beryllium	3.1	Exceeds the tolerance limit by 34.78%.
	Chromium	4.4	Within the tolerance limit.
	Cobalt	4.6	Within the tolerance limit.
	Copper	0.9	Within the tolerance limit.
	Lead	nd	Within the tolerance limit.
	Nickel	9.2	Within the tolerance limit.
	Potassium	1440.0	Within the tolerance limit.
	Vanadium	7.3	Within the tolerance limit.
	Zinc	12.5	Within the tolerance limit.
RFI0105D14.0	Arsenic	nd	Within the tolerance limit.
	Barium	525.0	Exceeds the tolerance limit by 68.22%.
	Beryllium	6.5	Exceeds the tolerance limit by 200.13%.
	Chromium	3.2	Exceeds the tolerance limit by 2.12%.
	Cobalt	6.9	Exceeds the tolerance limit by 37.72%.
	Copper	nd	Within the tolerance limit.
	Lead	8.0	Within the tolerance limit.
	Nickel	12.7	Exceeds the tolerance limit by 7.63%.
	Potassium	2770.0	Exceeds the tolerance limit by 32.42%.
	Vanadium	10.7	Within the tolerance limit.
	Zinc	13.7	Exceeds the tolerance limit by 11.78%.
RFI0106A4.0	Arsenic	nd	Within the tolerance limit.
	Barium	529.0	Exceeds the tolerance limit by 69.40%.
	Beryllium	3.4	Exceeds the tolerance limit by 147.83%.
	Chromium	4.8	Within the tolerance limit.
	Cobalt	3.9	Within the tolerance limit.
	Copper	5.4	Within the tolerance limit.
	Lead	5.0	Within the tolerance limit.
	Nickel	5.5	Within the tolerance limit.
	Potassium	494.0	Within the tolerance limit.
	Vanadium	14.8	Within the tolerance limit.
	Zinc	8.0	Within the tolerance limit.
RFI0106A9.0	Arsenic	nd	Within the tolerance limit.
	Barium	531.0	Exceeds the tolerance limit by 37.88%.
	Beryllium	3.9	Exceeds the tolerance limit by 21.88%.
	Chromium	14.5	Exceeds the tolerance limit by 80.57%.
	Cobalt	2.9	Within the tolerance limit.
	Copper	4.3	Within the tolerance limit.
	Lead	7.0	Within the tolerance limit.
	Nickel	4.5	Within the tolerance limit.
	Potassium	652.0	Within the tolerance limit.
	Vanadium	13.3	Within the tolerance limit.
	Zinc	19.9	Exceeds the tolerance limit by 18.95%.

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SAMPLE NUMBER	METAL	SAMPLE DATA	
RFI0106A11.0	Arsenic	nd	Within the tolerance limit.
	Barium	282.0	Within the tolerance limit.
	Beryllium	3.6	Exceeds the tolerance limit by 12.50%.
	Chromium	3.3	Within the tolerance limit.
	Cobalt	3.1	Within the tolerance limit.
	Copper	2.1	Within the tolerance limit.
	Lead	6.0	Within the tolerance limit.
	Nickel	5.0	Within the tolerance limit.
	Potassium	973.0	Within the tolerance limit.
	Vanadium	9.1	Within the tolerance limit.
	Zinc	9.0	Within the tolerance limit.
RFI0106A14.0	Arsenic	nd	Within the tolerance limit.
	Barium	155.0	Within the tolerance limit.
	Beryllium	4.3	Exceeds the tolerance limit by 34.37%.
	Chromium	2.5	Within the tolerance limit.
	Cobalt	2.9	Within the tolerance limit.
	Copper	2.6	Within the tolerance limit.
	Lead	7.0	Within the tolerance limit.
	Nickel	4.3	Within the tolerance limit.
	Potassium	474.0	Within the tolerance limit.
	Vanadium	11.9	Within the tolerance limit.
	Zinc	7.3	Within the tolerance limit.
RFI0201V3.5	Arsenic	nd	Within the tolerance limit.
	Barium	256.0	Within the tolerance limit.
	Beryllium	5.8	Exceeds the tolerance limit by 152.17%.
	Chromium	7.3	Within the tolerance limit.
	Cobalt	5.7	Within the tolerance limit.
	Copper	5.2	Within the tolerance limit.
	Lead	13.0	Within the tolerance limit.
	Nickel	10.9	Within the tolerance limit.
	Potassium	1820.0	Within the tolerance limit.
	Vanadium	15.4	Within the tolerance limit.
	Zinc	15.0	Within the tolerance limit.
RFI0201V5.0	Arsenic	nd	Within the tolerance limit.
	Barium	225.0	Within the tolerance limit.
	Beryllium	6.0	Exceeds the tolerance limit by 87.50%.
	Chromium	6.4	Within the tolerance limit.
	Cobalt	5.6	Exceeds the tolerance limit by 11.78%.
	Copper	5.0	Within the tolerance limit.
	Lead	13.0	Within the tolerance limit.
	Nickel	9.8	Within the tolerance limit.
	Potassium	1780.0	Within the tolerance limit.
	Vanadium	15.3	Within the tolerance limit.
	Zinc	14.2	Within the tolerance limit.
RFI0201V6.5	Arsenic	nd	Within the tolerance limit.
	Barium	326.0	Within the tolerance limit.
	Beryllium	5.9	Exceeds the tolerance limit by 84.38%.
	Chromium	7.4	Within the tolerance limit.
	Cobalt	5.8	Exceeds the tolerance limit by 15.77%.
	Copper	5.3	Within the tolerance limit.
	Lead	11.0	Within the tolerance limit.
	Nickel	10.4	Within the tolerance limit.
	Potassium	2270.0	Exceeds the tolerance limit by 8.52%.
	Vanadium	15.4	Within the tolerance limit.
	Zinc	15.6	Within the tolerance limit.

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SAMPLE NUMBER	METAL	SAMPLE DATA	
RFI0202V3.5	Arsenic	nd	Within the tolerance limit.
	Barium	234.0	Within the tolerance limit.
	Beryllium	2.2	Within the tolerance limit.
	Chromium	6.1	Within the tolerance limit.
	Cobalt	4.9	Within the tolerance limit.
	Copper	5.7	Within the tolerance limit.
	Lead	9.0	Within the tolerance limit.
	Nickel	9.0	Within the tolerance limit.
	Potassium	1620.0	Within the tolerance limit.
	Vanadium	13.3	Within the tolerance limit.
	Zinc	13.2	Within the tolerance limit.
RFI0202V5.0	Arsenic	nd	Within the tolerance limit.
	Barium	204.0	Within the tolerance limit.
	Beryllium	1.4	Within the tolerance limit.
	Chromium	4.2	Within the tolerance limit.
	Cobalt	3.6	Within the tolerance limit.
	Copper	4.3	Within the tolerance limit.
	Lead	8.0	Within the tolerance limit.
	Nickel	6.5	Within the tolerance limit.
	Potassium	1730.0	Within the tolerance limit.
	Vanadium	13.9	Within the tolerance limit.
	Zinc	10.6	Within the tolerance limit.
RFI0202V6.5	Arsenic	nd	Within the tolerance limit.
	Barium	268.0	Within the tolerance limit.
	Beryllium	1.3	Within the tolerance limit.
	Chromium	3.0	Within the tolerance limit.
	Cobalt	3.1	Within the tolerance limit.
	Copper	4.2	Within the tolerance limit.
	Lead	9.0	Within the tolerance limit.
	Nickel	4.6	Within the tolerance limit.
	Potassium	1100.0	Within the tolerance limit.
	Vanadium	13.3	Within the tolerance limit.
	Zinc	8.0	Within the tolerance limit.
RFI0203A3.5	Arsenic	nd	Within the tolerance limit.
	Barium	410.0	Exceeds the tolerance limit by .29%.
	Beryllium	1.0	Within the tolerance limit.
	Chromium	3.3	Within the tolerance limit.
	Cobalt	2.9	Within the tolerance limit.
	Copper	3.2	Within the tolerance limit.
	Lead	7.0	Within the tolerance limit.
	Nickel	5.1	Within the tolerance limit.
	Potassium	624.0	Within the tolerance limit.
	Vanadium	11.4	Within the tolerance limit.
	Zinc	12.0	Within the tolerance limit.
RFI0203A5.0	Arsenic	nd	Within the tolerance limit.
	Barium	243.0	Within the tolerance limit.
	Beryllium	1.1	Within the tolerance limit.
	Chromium	4.4	Within the tolerance limit.
	Cobalt	4.0	Within the tolerance limit.
	Copper	4.6	Within the tolerance limit.
	Lead	8.0	Within the tolerance limit.
	Nickel	4.6	Within the tolerance limit.
	Potassium	1780.0	Within the tolerance limit.
	Vanadium	12.3	Within the tolerance limit.
	Zinc	11.9	Within the tolerance limit.

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SAMPLE NUMBER	METAL	SAMPLE DATA	
RFI0203A6.5	Arsenic	nd	Within the tolerance limit.
	Barium	286.0	Within the tolerance limit.
	Beryllium	1.4	Within the tolerance limit.
	Chromium	4.4	Within the tolerance limit.
	Cobalt	4.4	Within the tolerance limit.
	Copper	5.9	Within the tolerance limit.
	Lead	10.0	Within the tolerance limit.
	Nickel	6.8	Within the tolerance limit.
	Potassium	1470.0	Within the tolerance limit.
	Vanadium	15.0	Within the tolerance limit.
	Zinc	11.3	Within the tolerance limit.
RFI0204V3.5	Arsenic	nd	Within the tolerance limit.
	Barium	216.0	Within the tolerance limit.
	Beryllium	1.6	Within the tolerance limit.
	Chromium	6.4	Within the tolerance limit.
	Cobalt	4.6	Within the tolerance limit.
	Copper	4.7	Within the tolerance limit.
	Lead	10.0	Within the tolerance limit.
	Nickel	8.9	Within the tolerance limit.
	Potassium	2210.0	Within the tolerance limit.
	Vanadium	16.6	Within the tolerance limit.
	Zinc	14.1	Within the tolerance limit.
RFI0204V5.0	Arsenic	nd	Within the tolerance limit.
	Barium	245.0	Within the tolerance limit.
	Beryllium	2.1	Within the tolerance limit.
	Chromium	10.1	Exceeds the tolerance limit by 15.78%.
	Cobalt	6.4	Exceeds the tolerance limit by 27.74%.
	Copper	4.9	Within the tolerance limit.
	Lead	9.0	Within the tolerance limit.
	Nickel	12.4	Exceeds the tolerance limit by 5.08%.
	Potassium	3490.0	Exceeds the tolerance limit by 66.84%.
	Vanadium	20.0	Exceeds the tolerance limit by 12.74%.
	Zinc	19.2	Exceeds the tolerance limit by 14.76%.
RFI0204V6.5	Arsenic	nd	Within the tolerance limit.
	Barium	296.0	Within the tolerance limit.
	Beryllium	1.5	Within the tolerance limit.
	Chromium	4.8	Within the tolerance limit.
	Cobalt	4.4	Within the tolerance limit.
	Copper	5.7	Within the tolerance limit.
	Lead	9.0	Within the tolerance limit.
	Nickel	7.6	Within the tolerance limit.
	Potassium	1350.0	Within the tolerance limit.
	Vanadium	10.6	Within the tolerance limit.
	Zinc	12.2	Within the tolerance limit.
RFI0204D6.5	Arsenic	nd	Within the tolerance limit.
	Barium	236.0	Within the tolerance limit.
	Beryllium	1.6	Within the tolerance limit.
	Chromium	5.4	Within the tolerance limit.
	Cobalt	4.9	Within the tolerance limit.
	Copper	6.0	Within the tolerance limit.
	Lead	11.0	Within the tolerance limit.
	Nickel	6.0	Within the tolerance limit.
	Potassium	1220.0	Within the tolerance limit.
	Vanadium	15.0	Within the tolerance limit.
	Zinc	12.5	Within the tolerance limit.

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SAMPLE NUMBER	METAL	SAMPLE DATA	
RFI0205A3.5	Arsenic	nd	Within the tolerance limit.
	Barium	191.0	Within the tolerance limit.
	Beryllium	1.1	Within the tolerance limit.
	Chromium	4.4	Within the tolerance limit.
	Cobalt	3.7	Within the tolerance limit.
	Copper	4.2	Within the tolerance limit.
	Lead	7.0	Within the tolerance limit.
	Nickel	7.0	Within the tolerance limit.
	Potassium	1690.0	Within the tolerance limit.
	Vanadium	13.2	Within the tolerance limit.
	Zinc	11.7	Within the tolerance limit.
RFI0205A5.0	Arsenic	nd	Within the tolerance limit.
	Barium	526.0	Exceeds the tolerance limit by 36.58%.
	Beryllium	0.6	Within the tolerance limit.
	Chromium	1.2	Within the tolerance limit.
	Cobalt	1.8	Within the tolerance limit.
	Copper	2.9	Within the tolerance limit.
	Lead	nd	Within the tolerance limit.
	Nickel	3.1	Within the tolerance limit.
	Potassium	327.0	Within the tolerance limit.
	Vanadium	8.4	Within the tolerance limit.
	Zinc	4.3	Within the tolerance limit.
RFI0205A6.5	Arsenic	nd	Within the tolerance limit.
	Barium	237.0	Within the tolerance limit.
	Beryllium	0.9	Within the tolerance limit.
	Chromium	3.8	Within the tolerance limit.
	Cobalt	3.4	Within the tolerance limit.
	Copper	3.6	Within the tolerance limit.
	Lead	6.0	Within the tolerance limit.
	Nickel	5.4	Within the tolerance limit.
	Potassium	1420.0	Within the tolerance limit.
	Vanadium	12.6	Within the tolerance limit.
	Zinc	8.3	Within the tolerance limit.
RFI0206V3.5	Arsenic	nd	Within the tolerance limit.
	Barium	327.0	Within the tolerance limit.
	Beryllium	0.9	Within the tolerance limit.
	Chromium	3.3	Within the tolerance limit.
	Cobalt	2.8	Within the tolerance limit.
	Copper	3.0	Within the tolerance limit.
	Lead	6.0	Within the tolerance limit.
	Nickel	4.3	Within the tolerance limit.
	Potassium	685.0	Within the tolerance limit.
	Vanadium	12.6	Within the tolerance limit.
	Zinc	8.3	Within the tolerance limit.
RFI0206V5.0	Arsenic	nd	Within the tolerance limit.
	Barium	158.0	Within the tolerance limit.
	Beryllium	0.6	Within the tolerance limit.
	Chromium	2.6	Within the tolerance limit.
	Cobalt	2.2	Within the tolerance limit.
	Copper	3.4	Within the tolerance limit.
	Lead	7.0	Within the tolerance limit.
	Nickel	3.9	Within the tolerance limit.
	Potassium	531.0	Within the tolerance limit.
	Vanadium	10.9	Within the tolerance limit.
	Zinc	7.1	Within the tolerance limit.

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SAMPLE NUMBER	METAL	SAMPLE DATA	
RFI0206V6.5	Arsenic	nd	Within the tolerance limit.
	Barium	176.0	Within the tolerance limit.
	Beryllium	0.5	Within the tolerance limit.
	Chromium	1.7	Within the tolerance limit.
	Cobalt	1.7	Within the tolerance limit.
	Copper	2.4	Within the tolerance limit.
	Lead	nd	Within the tolerance limit.
	Nickel	2.6	Within the tolerance limit.
	Potassium	338.0	Within the tolerance limit.
	Vanadium	6.7	Within the tolerance limit.
	Zinc	5.2	Within the tolerance limit.
RFI0207V3.5	Arsenic	nd	Within the tolerance limit.
	Barium	235.0	Within the tolerance limit.
	Beryllium	7.7	Exceeds the tolerance limit by 234.78%.
	Chromium	11.4	Exceeds the tolerance limit by 36.53%.
	Cobalt	6.7	Exceeds the tolerance limit by 11.48%.
	Copper	5.5	Within the tolerance limit.
	Lead	12.0	Within the tolerance limit.
	Nickel	12.5	Within the tolerance limit.
	Potassium	3770.0	Within the tolerance limit.
	Vanadium	20.0	Within the tolerance limit.
	Zinc	25.3	Exceeds the tolerance limit by 30.30%.
RFI0207V5.0	Arsenic	nd	Within the tolerance limit.
	Barium	172.0	Within the tolerance limit.
	Beryllium	7.8	Exceeds the tolerance limit by 143.75%.
	Chromium	10.9	Exceeds the tolerance limit by 35.74%.
	Cobalt	6.9	Exceeds the tolerance limit by 37.72%.
	Copper	5.4	Within the tolerance limit.
	Lead	11.0	Within the tolerance limit.
	Nickel	12.4	Within the tolerance limit.
	Potassium	3620.0	Within the tolerance limit.
	Vanadium	17.5	Within the tolerance limit.
	Zinc	20.8	Within the tolerance limit.
RFI0207V6.5	Arsenic	nd	Within the tolerance limit.
	Barium	284.0	Within the tolerance limit.
	Beryllium	7.4	Exceeds the tolerance limit by 131.25%.
	Chromium	9.5	Exceeds the tolerance limit by 18.31%.
	Cobalt	6.9	Exceeds the tolerance limit by 37.72%.
	Copper	7.5	Exceeds the tolerance limit by 6.08%.
	Lead	10.0	Within the tolerance limit.
	Nickel	12.1	Exceeds the tolerance limit by 2.54%.
	Potassium	2190.0	Exceeds the tolerance limit by 4.70%.
	Vanadium	17.1	Within the tolerance limit.
	Zinc	17.9	Exceeds the tolerance limit by 6.99%.
RFI0208A3.5	Arsenic	nd	Within the tolerance limit.
	Barium	395.0	Within the tolerance limit.
	Beryllium	18.2	Exceeds the tolerance limit by 691.30%.
	Chromium	13.4	Exceeds the tolerance limit by 60.48%.
	Cobalt	7.8	Exceeds the tolerance limit by 29.78%.
	Copper	7.3	Exceeds the tolerance limit by 10.94%.
	Lead	10.0	Within the tolerance limit.
	Nickel	12.0	Within the tolerance limit.
	Potassium	5360.0	Exceeds the tolerance limit by 4.44%.
	Vanadium	22.6	Exceeds the tolerance limit by 11.44%.
	Zinc	28.3	Exceeds the tolerance limit by 46.33%.

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SAMPLE NUMBER	METAL	SAMPLE DATA	
RFI0208A5.0	Arsenic	nd	Within the tolerance limit.
	Barium	590.0	Exceeds the tolerance limit by 53.20%.
	Beryllium	9.3	Exceeds the tolerance limit by 190.63%.
	Chromium	9.9	Exceeds the tolerance limit by 23.29%.
	Cobalt	7.1	Exceeds the tolerance limit by 41.72%.
	Copper	5.8	Within the tolerance limit.
	Lead	12.0	Within the tolerance limit.
	Nickel	11.2	Within the tolerance limit.
	Potassium	3150.0	Exceeds the tolerance limit by 50.59%.
	Vanadium	15.9	Within the tolerance limit.
	Zinc	20.2	Exceeds the tolerance limit by 20.74%.
RFI0208A6.5	Arsenic	nd	Within the tolerance limit.
	Barium	344.0	Within the tolerance limit.
	Beryllium	6.1	Exceeds the tolerance limit by 90.63%.
	Chromium	5.7	Within the tolerance limit.
	Cobalt	4.5	Within the tolerance limit.
	Copper	3.4	Within the tolerance limit.
	Lead	10.0	Within the tolerance limit.
	Nickel	7.6	Within the tolerance limit.
	Potassium	1390.0	Within the tolerance limit.
	Vanadium	12.0	Within the tolerance limit.
	Zinc	13.5	Within the tolerance limit.
RFI0209V3.5	Arsenic	nd	Within the tolerance limit.
	Barium	220.0	Within the tolerance limit.
	Beryllium	9.5	Exceeds the tolerance limit by 313.04%.
	Chromium	14.1	Exceeds the tolerance limit by 68.96%.
	Cobalt	8.3	Exceeds the tolerance limit by 33.10%.
	Copper	4.5	Within the tolerance limit.
	Lead	12.0	Within the tolerance limit.
	Nickel	15.6	Exceeds the tolerance limit by 24.60%.
	Potassium	4260.0	Within the tolerance limit.
	Vanadium	21.7	Exceeds the tolerance limit by 7%.
	Zinc	21.0	Exceeds the tolerance limit by 8.58%.
RFI0209V5.0	Arsenic	nd	Within the tolerance limit.
	Barium	226.0	Within the tolerance limit.
	Beryllium	7.8	Exceeds the tolerance limit by 143.75%.
	Chromium	8.8	Exceeds the tolerance limit by 9.59%.
	Cobalt	5.8	Exceeds the tolerance limit by 15.77%.
	Copper	5.1	Within the tolerance limit.
	Lead	10.0	Within the tolerance limit.
	Nickel	11.2	Within the tolerance limit.
	Potassium	15.0	Within the tolerance limit.
	Vanadium	18.2	Exceeds the tolerance limit by 2.59%.
	Zinc	7.1	Within the tolerance limit.
RFI0209V6.5	Arsenic	nd	Within the tolerance limit.
	Barium	269.0	Within the tolerance limit.
	Beryllium	9.3	Exceeds the tolerance limit by 190.63%.
	Chromium	11.5	Exceeds the tolerance limit by 43.21%.
	Cobalt	6.8	Exceeds the tolerance limit by 35.73%.
	Copper	5.5	Within the tolerance limit.
	Lead	11.0	Within the tolerance limit.
	Nickel	12.4	Exceeds the tolerance limit by 5.08%.
	Potassium	4110.0	Exceeds the tolerance limit by 96.48%.
	Vanadium	18.0	Exceeds the tolerance limit by 1.47%.
	Zinc	21.1	Exceeds the tolerance limit by 26.12%.

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SAMPLE NUMBER	METAL	SAMPLE DATA	
RFI0209D6.5	Arsenic	nd	Within the tolerance limit.
	Barium	350.0	Within the tolerance limit.
	Beryllium	8.3	Exceeds the tolerance limit by 159.38%.
	Chromium	9.1	Exceeds the tolerance limit by 13.33%.
	Cobalt	6.2	Exceeds the tolerance limit by 23.75%.
	Copper	5.4	Within the tolerance limit.
	Lead	10.0	Within the tolerance limit.
	Nickel	11.4	Within the tolerance limit.
	Potassium	3260.0	Exceeds the tolerance limit by 55.85%.
	Vanadium	14.8	Within the tolerance limit.
	Zinc	18.6	Exceeds the tolerance limit by 11.18%.
RFI0210A3.5	Arsenic	nd	Within the tolerance limit.
	Barium	260.0	Within the tolerance limit.
	Beryllium	8.3	Exceeds the tolerance limit by 260.87%.
	Chromium	11.9	Exceeds the tolerance limit by 42.51%.
	Cobalt	7.0	Exceeds the tolerance limit by 16.47%.
	Copper	5.4	Within the tolerance limit.
	Lead	10.0	Within the tolerance limit.
	Nickel	13.2	Exceeds the tolerance limit by 5.43%.
	Potassium	3790.0	Within the tolerance limit.
	Vanadium	17.3	Within the tolerance limit.
	Zinc	19.9	Exceeds the tolerance limit by 1.5%.
RFI0210A5.0	Arsenic	nd	Within the tolerance limit.
	Barium	267.0	Within the tolerance limit.
	Beryllium	5.6	Exceeds the tolerance limit by 75%.
	Chromium	8.1	Exceeds the tolerance limit by .37%.
	Cobalt	5.1	Exceeds the tolerance limit by 1.8%.
	Copper	5.2	Within the tolerance limit.
	Lead	10.0	Within the tolerance limit.
	Nickel	9.2	Within the tolerance limit.
	Potassium	2090.0	Within the tolerance limit.
	Vanadium	12.4	Within the tolerance limit.
	Zinc	16.4	Within the tolerance limit.
RFI0210A6.5	Arsenic	nd	Within the tolerance limit.
	Barium	285.0	Within the tolerance limit.
	Beryllium	9.5	Exceeds the tolerance limit by 196.88%.
	Chromium	12.0	Exceeds the tolerance limit by 49.44%.
	Cobalt	7.5	Exceeds the tolerance limit by 49.7%.
	Copper	6.0	Within the tolerance limit.
	Lead	11.0	Within the tolerance limit.
	Nickel	12.9	Exceeds the tolerance limit by 9.32%.
	Potassium	3460.0	Exceeds the tolerance limit by 65.41%.
	Vanadium	18.1	Exceeds the tolerance limit by 2.03%.
	Zinc	21.1	Exceeds the tolerance limit by 26.12%.
RFI0211V3.5	Arsenic	nd	Within the tolerance limit.
	Barium	266.0	Within the tolerance limit.
	Beryllium	3.5	Exceeds the tolerance limit by 52.17%.
	Chromium	9.6	Exceeds the tolerance limit by 14.97%.
	Cobalt	6.4	Exceeds the tolerance limit by 6.49%.
	Copper	3.2	Within the tolerance limit.
	Lead	6.0	Within the tolerance limit.
	Nickel	13.2	Exceeds the tolerance limit by 5.43%.
	Potassium	3290.0	Within the tolerance limit.
	Vanadium	16.4	Within the tolerance limit.
	Zinc	19.4	Exceeds the tolerance limit by .31%.

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SAMPLE NUMBER	METAL	SAMPLE DATA	
RFI0211V5.0	Arsenic	nd	Within the tolerance limit.
	Barium	203.0	Within the tolerance limit.
	Beryllium	3.0	Within the tolerance limit.
	Chromium	9.2	Exceeds the tolerance limit by 14.57%.
	Cobalt	6.3	Exceeds the tolerance limit by 25.75%.
	Copper	3.6	Within the tolerance limit.
	Lead	8.0	Within the tolerance limit.
	Nickel	13.4	Exceeds the tolerance limit by 13.56%.
	Potassium	3110.0	Exceeds the tolerance limit by 48.68%.
	Vanadium	15.6	Within the tolerance limit.
	Zinc	19.2	Exceeds the tolerance limit by 14.76%.
RFI0211V6.5	Arsenic	nd	Within the tolerance limit.
	Barium	199.0	Within the tolerance limit.
	Beryllium	3.6	Exceeds the tolerance limit by 12.50%.
	Chromium	8.8	Exceeds the tolerance limit by 9.59%.
	Cobalt	5.9	Exceeds the tolerance limit by 17.76%.
	Copper	4.7	Within the tolerance limit.
	Lead	9.0	Within the tolerance limit.
	Nickel	12.6	Exceeds the tolerance limit by 6.78%.
	Potassium	2760.0	Exceeds the tolerance limit by 31.95%.
	Vanadium	15.5	Within the tolerance limit.
	Zinc	18.0	Exceeds the tolerance limit by 7.59%.
RFI0212V3.5	Arsenic	nd	Within the tolerance limit.
	Barium	251.0	Within the tolerance limit.
	Beryllium	3.2	Exceeds the tolerance limit by 39.13%.
	Chromium	8.7	Exceeds the tolerance limit by 4.19%.
	Cobalt	5.9	Within the tolerance limit.
	Copper	2.7	Within the tolerance limit.
	Lead	7.0	Within the tolerance limit.
	Nickel	12.1	Within the tolerance limit.
	Potassium	2780.0	Within the tolerance limit.
	Vanadium	15.7	Within the tolerance limit.
	Zinc	18.2	Within the tolerance limit.
RFI0212V5.0	Arsenic	nd	Within the tolerance limit.
	Barium	216.0	Within the tolerance limit.
	Beryllium	2.2	Within the tolerance limit.
	Chromium	7.3	Within the tolerance limit.
	Cobalt	5.3	Exceeds the tolerance limit by 5.79%.
	Copper	4.2	Within the tolerance limit.
	Lead	7.0	Within the tolerance limit.
	Nickel	11.1	Within the tolerance limit.
	Potassium	2880.0	Exceeds the tolerance limit by 37.68%.
	Vanadium	15.4	Within the tolerance limit.
	Zinc	16.5	Within the tolerance limit.
RFI0212V6.5	Arsenic	nd	Within the tolerance limit.
	Barium	254.0	Within the tolerance limit.
	Beryllium	3.0	Within the tolerance limit.
	Chromium	7.4	Within the tolerance limit.
	Cobalt	5.6	Exceeds the tolerance limit by 11.78%.
	Copper	2.8	Within the tolerance limit.
	Lead	7.0	Within the tolerance limit.
	Nickel	10.0	Within the tolerance limit.
	Potassium	2650.0	Exceeds the tolerance limit by 26.69%.
	Vanadium	13.3	Within the tolerance limit.
	Zinc	15.8	Within the tolerance limit.

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SAMPLE NUMBER	METAL	SAMPLE DATA	
RFI0212V3.5	Arsenic	nd	Within the tolerance limit.
	Barium	204.0	Within the tolerance limit.
	Beryllium	2.9	Exceeds the tolerance limit by 26.09%.
	Chromium	8.1	Within the tolerance limit.
	Cobalt	5.8	Within the tolerance limit.
	Copper	3.1	Within the tolerance limit.
	Lead	9.0	Within the tolerance limit.
	Nickel	11.8	Within the tolerance limit.
	Potassium	2560.0	Within the tolerance limit.
	Vanadium	15.7	Within the tolerance limit.
	Zinc	17.6	Within the tolerance limit.
RFI0213V5.0	Arsenic	nd	Within the tolerance limit.
	Barium	281.0	Within the tolerance limit.
	Beryllium	2.8	Within the tolerance limit.
	Chromium	7.6	Within the tolerance limit.
	Cobalt	5.3	Exceeds the tolerance limit by 5.79%.
	Copper	2.9	Within the tolerance limit.
	Lead	9.0	Within the tolerance limit.
	Nickel	10.7	Within the tolerance limit.
	Potassium	2530.0	Exceeds the tolerance limit by 20.95%.
	Vanadium	10.7	Within the tolerance limit.
	Zinc	17.3	Exceeds the tolerance limit by 3.41%.
RFI0213V6.5	Arsenic	nd	Within the tolerance limit.
	Barium	305.0	Within the tolerance limit.
	Beryllium	3.2	Equals the tolerance limit.
	Chromium	8.2	Exceeds the tolerance limit by 2.12%.
	Cobalt	5.9	Exceeds the tolerance limit by 17.76%.
	Copper	3.4	Within the tolerance limit.
	Lead	8.0	Within the tolerance limit.
	Nickel	11.0	Within the tolerance limit.
	Potassium	1980.0	Within the tolerance limit.
	Vanadium	14.4	Within the tolerance limit.
	Zinc	16.3	Within the tolerance limit.
RFI0214A3.5	Arsenic	nd	Within the tolerance limit.
	Barium	276.0	Within the tolerance limit.
	Beryllium	2.1	Within the tolerance limit.
	Chromium	5.5	Within the tolerance limit.
	Cobalt	3.9	Within the tolerance limit.
	Copper	2.1	Within the tolerance limit.
	Lead	6.0	Within the tolerance limit.
	Nickel	7.6	Within the tolerance limit.
	Potassium	1620.0	Within the tolerance limit.
	Vanadium	11.7	Within the tolerance limit.
	Zinc	12.0	Within the tolerance limit.
RFI0214A5.0	Arsenic	nd	Within the tolerance limit.
	Barium	223.0	Within the tolerance limit.
	Beryllium	1.9	Within the tolerance limit.
	Chromium	4.0	Within the tolerance limit.
	Cobalt	3.6	Within the tolerance limit.
	Copper	3.2	Within the tolerance limit.
	Lead	7.0	Within the tolerance limit.
	Nickel	6.9	Within the tolerance limit.
	Potassium	947.0	Within the tolerance limit.
	Vanadium	10.9	Within the tolerance limit.
	Zinc	9.2	Within the tolerance limit.

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SAMPLE NUMBER	METAL	SAMPLE DATA	
RFI0214A6.5	Arsenic	nd	Within the tolerance limit.
	Barium	280.0	Within the tolerance limit.
	Beryllium	3.2	Equals the tolerance limit.
	Chromium	9.0	Exceeds the tolerance limit by 12.06%.
	Cobalt	6.0	Exceeds the tolerance limit by 19.76%.
	Copper	3.0	Within the tolerance limit.
	Lead	8.0	Within the tolerance limit.
	Nickel	12.6	Exceeds the tolerance limit by 6.78%.
	Potassium	3300.0	Exceeds the tolerance limit by 57.76%.
	Vanadium	15.3	Within the tolerance limit.
	Zinc	19.0	Exceeds the tolerance limit by 13.57%.
RFI0214D6.5	Arsenic	nd	Within the tolerance limit.
	Barium	278.0	Within the tolerance limit.
	Beryllium	2.6	Within the tolerance limit.
	Chromium	7.2	Within the tolerance limit.
	Cobalt	5.2	Exceeds the tolerance limit by 3.79%.
	Copper	2.9	Within the tolerance limit.
	Lead	6.0	Within the tolerance limit.
	Nickel	10.5	Within the tolerance limit.
	Potassium	2500.0	Exceeds the tolerance limit by 19.52%.
	Vanadium	17.3	Within the tolerance limit.
	Zinc	16.0	Within the tolerance limit.
RFI0215A3.5	Arsenic	nd	Within the tolerance limit.
	Barium	231.0	Within the tolerance limit.
	Beryllium	3.7	Exceeds the tolerance limit by 60.87%.
	Chromium	9.6	Exceeds the tolerance limit by 14.97%.
	Cobalt	6.0	Within the tolerance limit.
	Copper	3.2	Within the tolerance limit.
	Lead	7.0	Within the tolerance limit.
	Nickel	11.5	Within the tolerance limit.
	Potassium	3100.0	Within the tolerance limit.
	Vanadium	16.9	Within the tolerance limit.
	Zinc	18.7	Within the tolerance limit.
RFI0215A5.0	Arsenic	nd	Within the tolerance limit.
	Barium	327.0	Within the tolerance limit.
	Beryllium	4.0	Exceeds the tolerance limit by 25%.
	Chromium	10.0	Exceeds the tolerance limit by 24.53%.
	Cobalt	6.6	Exceeds the tolerance limit by 31.74%.
	Copper	3.7	Within the tolerance limit.
	Lead	9.0	Within the tolerance limit.
	Nickel	13.1	Exceeds the tolerance limit by 11.02%.
	Potassium	3220.0	Exceeds the tolerance limit by 53.94%.
	Vanadium	17.3	Within the tolerance limit.
	Zinc	20.2	Exceeds the tolerance limit by 20.74%.

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SAMPLE NUMBER	METAL	SAMPLE DATA	
RFI0215A6.5	Arsenic	nd	Within the tolerance limit.
	Barium	260.0	Within the tolerance limit.
	Beryllium	3.8	Exceeds the tolerance limit by 18.75%.
	Chromium	9.4	Exceeds the tolerance limit by 17.06%.
	Cobalt	6.0	Exceeds the tolerance limit by 19.76%.
	Copper	3.4	Within the tolerance limit.
	Lead	9.0	Within the tolerance limit.
	Nickel	11.3	Within the tolerance limit.
	Potassium	3020.0	Exceeds the tolerance limit by 44.38%.
	Vanadium	16.1	Within the tolerance limit.
	Zinc	18.1	Exceeds the tolerance limit by 8.19%.
RFI0216V3.5	Arsenic	nd	Within the tolerance limit.
	Barium	138.0	Within the tolerance limit.
	Beryllium	1.5	Within the tolerance limit.
	Chromium	2.8	Within the tolerance limit.
	Cobalt	2.5	Within the tolerance limit.
	Copper	2.0	Within the tolerance limit.
	Lead	11.0	Within the tolerance limit.
	Nickel	5.3	Within the tolerance limit.
	Potassium	930.0	Within the tolerance limit.
	Vanadium	7.2	Within the tolerance limit.
	Zinc	7.9	Within the tolerance limit.
RFI0216V5.0	Arsenic	nd	Within the tolerance limit.
	Barium	249.0	Within the tolerance limit.
	Beryllium	4.5	Exceeds the tolerance limit by 40.63%.
	Chromium	11.8	Exceeds the tolerance limit by 46.95%.
	Cobalt	7.0	Exceeds the tolerance limit by 39.72%.
	Copper	3.9	Within the tolerance limit.
	Lead	9.0	Within the tolerance limit.
	Nickel	13.9	Exceeds the tolerance limit by 17.80%.
	Potassium	4050.0	Exceeds the tolerance limit by 93.62%.
	Vanadium	21.6	Exceeds the tolerance limit by 21.76%.
	Zinc	21.3	Exceeds the tolerance limit by 27.32%.
RFI0216V6.5	Arsenic	nd	Within the tolerance limit.
	Barium	302.0	Within the tolerance limit.
	Beryllium	2.0	Within the tolerance limit.
	Chromium	4.8	Within the tolerance limit.
	Cobalt	4.1	Within the tolerance limit.
	Copper	2.9	Within the tolerance limit.
	Lead	10.0	Within the tolerance limit.
	Nickel	8.0	Within the tolerance limit.
	Potassium	1460.0	Within the tolerance limit.
	Vanadium	9.8	Within the tolerance limit.
	Zinc	11.5	Within the tolerance limit.
RFI0217V3.5	Arsenic	nd	Within the tolerance limit.
	Barium	260.0	Within the tolerance limit.
	Beryllium	3.1	Exceeds the tolerance limit by 34.78%.
	Chromium	10.8	Exceeds the tolerance limit by 29.34%.
	Cobalt	6.4	Exceeds the tolerance limit by 6.49%.
	Copper	3.9	Within the tolerance limit.
	Lead	9.0	Within the tolerance limit.
	Nickel	12.3	Within the tolerance limit.
	Potassium	3170.0	Within the tolerance limit.
	Vanadium	18.4	Within the tolerance limit.
	Zinc	19.3	Within the tolerance limit.

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SAMPLE NUMBER	METAL	SAMPLE DATA	
RFI0217V5.0	Arsenic	nd	Within the tolerance limit.
	Barium	333.0	Within the tolerance limit.
	Beryllium	2.9	Within the tolerance limit.
	Chromium	11.5	Exceeds the tolerance limit by 43.21%.
	Cobalt	7.0	Exceeds the tolerance limit by 39.72%.
	Copper	3.2	Within the tolerance limit.
	Lead	6.0	Within the tolerance limit.
	Nickel	14.2	Exceeds the tolerance limit by 20.34%.
	Potassium	3770.0	Exceeds the tolerance limit by 80.23%.
	Vanadium	17.6	Within the tolerance limit.
	Zinc	22.5	Exceeds the tolerance limit by 34.49%.
RFI0217V6.5	Arsenic	nd	Within the tolerance limit.
	Barium	260.0	Within the tolerance limit.
	Beryllium	3.7	Exceeds the tolerance limit by 15.63%.
	Chromium	8.5	Exceeds the tolerance limit by 5.85%.
	Cobalt	6.2	Exceeds the tolerance limit by 23.75%.
	Copper	3.5	Within the tolerance limit.
	Lead	8.0	Within the tolerance limit.
	Nickel	12.4	Exceeds the tolerance limit by 5.08%.
	Potassium	2920.0	Exceeds the tolerance limit by 39.59%.
	Vanadium	16.4	Within the tolerance limit.
	Zinc	18.6	Exceeds the tolerance limit by 11.18%.
RFI0218A3.5	Arsenic	nd	Within the tolerance limit.
	Barium	228.0	Within the tolerance limit.
	Beryllium	4.3	Exceeds the tolerance limit by 86.96%.
	Chromium	11.1	Exceeds the tolerance limit by 32.93%.
	Cobalt	6.3	Exceeds the tolerance limit by 4.83%.
	Copper	3.6	Within the tolerance limit.
	Lead	7.0	Within the tolerance limit.
	Nickel	12.8	Exceeds the tolerance limit by 2.24%.
	Potassium	3440.0	Within the tolerance limit.
	Vanadium	16.8	Within the tolerance limit.
	Zinc	19.2	Within the tolerance limit.
RFI0218A5.0	Arsenic	nd	Within the tolerance limit.
	Barium	241.0	Within the tolerance limit.
	Beryllium	4.6	Exceeds the tolerance limit by 43.75%.
	Chromium	12.9	Exceeds the tolerance limit by 60.65%.
	Cobalt	6.8	Exceeds the tolerance limit by 35.73%.
	Copper	3.1	Within the tolerance limit.
	Lead	8.0	Within the tolerance limit.
	Nickel	14.0	Exceeds the tolerance limit by 18.64%.
	Potassium	4260.0	Exceeds the tolerance limit by 103.66%.
	Vanadium	19.3	Exceeds the tolerance limit by 8.79%.
	Zinc	21.4	Exceeds the tolerance limit by 27.91%.
RFI0218A6.5	Arsenic	nd	Within the tolerance limit.
	Barium	281.0	Within the tolerance limit.
	Beryllium	4.3	Exceeds the tolerance limit by 34.37%.
	Chromium	11.1	Exceeds the tolerance limit by 38.23%.
	Cobalt	6.5	Exceeds the tolerance limit by 29.74%.
	Copper	4.0	Within the tolerance limit.
	Lead	8.0	Within the tolerance limit.
	Nickel	3.1	Within the tolerance limit.
	Potassium	3320.0	Exceeds the tolerance limit by 58.72%.
	Vanadium	17.4	Within the tolerance limit.
	Zinc	21.0	Exceeds the tolerance limit by 25.52%.

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SAMPLE NUMBER	METAL	SAMPLE DATA	
RFI13201V2.0	Arsenic	nd	Within the tolerance limit.
	Barium	281.0	Within the tolerance limit.
	Beryllium	2.4	Exceeds the tolerance limit by 4.35%.
	Chromium	4.5	Within the tolerance limit.
	Cobalt	4.4	Within the tolerance limit.
	Copper	4.6	Within the tolerance limit.
	Lead	10.0	Within the tolerance limit.
	Nickel	8.5	Within the tolerance limit.
	Potassium	1080.0	Within the tolerance limit.
	Vanadium	10.0	Within the tolerance limit.
	Zinc	9.7	Within the tolerance limit.
RFI1301V3.5	Arsenic	nd	Within the tolerance limit.
	Barium	287.0	Within the tolerance limit.
	Beryllium	3.6	Exceeds the tolerance limit by 56.52%.
	Chromium	5.2	Within the tolerance limit.
	Cobalt	5.5	Within the tolerance limit.
	Copper	4.1	Within the tolerance limit.
	Lead	10.0	Within the tolerance limit.
	Nickel	8.9	Within the tolerance limit.
	Potassium	1200.0	Within the tolerance limit.
	Vanadium	11.5	Within the tolerance limit.
	Zinc	12.4	Within the tolerance limit.
RFI1302V2.0	Arsenic	nd	Within the tolerance limit.
	Barium	244.0	Within the tolerance limit.
	Beryllium	4.3	Exceeds the tolerance limit by 86.96%.
	Chromium	6.0	Within the tolerance limit.
	Cobalt	5.1	Within the tolerance limit.
	Copper	4.4	Within the tolerance limit.
	Lead	12.0	Within the tolerance limit.
	Nickel	9.0	Within the tolerance limit.
	Potassium	1720.0	Within the tolerance limit.
	Vanadium	12.3	Within the tolerance limit.
	Zinc	14.3	Within the tolerance limit.
RFI1302V3.5	Arsenic	nd	Within the tolerance limit.
	Barium	377.0	Within the tolerance limit.
	Beryllium	3.2	Exceeds the tolerance limit by 39.13%.
	Chromium	5.1	Within the tolerance limit.
	Cobalt	5.0	Within the tolerance limit.
	Copper	5.4	Within the tolerance limit.
	Lead	10.0	Within the tolerance limit.
	Nickel	9.2	Within the tolerance limit.
	Potassium	1190.0	Within the tolerance limit.
	Vanadium	9.3	Within the tolerance limit.
	Zinc	13.0	Within the tolerance limit.
RFI1303V2.0	Arsenic	nd	Within the tolerance limit.
	Barium	244.0	Within the tolerance limit.
	Beryllium	4.1	Exceeds the tolerance limit by 78.26%.
	Chromium	5.2	Within the tolerance limit.
	Cobalt	6.0	Within the tolerance limit.
	Copper	5.3	Within the tolerance limit.
	Lead	11.0	Within the tolerance limit.
	Nickel	10.9	Within the tolerance limit.
	Potassium	1680.0	Within the tolerance limit.
	Vanadium	12.1	Within the tolerance limit.
	Zinc	14.6	Within the tolerance limit.

PHASE II, RFI
COMPLIANCE DATA
6 SEP 91

SAMPLE NUMBER	METAL	SAMPLE DATA	
RFI1303V3.5	Arsenic	nd	Within the tolerance limit.
	Barium	312.0	Within the tolerance limit.
	Beryllium	4.3	Exceeds the tolerance limit by 86.96%.
	Chromium	5.3	Within the tolerance limit.
	Cobalt	5.1	Within the tolerance limit.
	Copper	4.9	Within the tolerance limit.
	Lead	12.0	Within the tolerance limit.
	Nickel	8.9	Within the tolerance limit.
	Potassium	1270.0	Within the tolerance limit.
	Vanadium	12.0	Within the tolerance limit.
	Zinc	12.6	Within the tolerance limit.
RFI1304V2.0	Arsenic	nd	Within the tolerance limit.
	Barium	266.0	Within the tolerance limit.
	Beryllium	4.3	Exceeds the tolerance limit by 86.96%.
	Chromium	7.1	Within the tolerance limit.
	Cobalt	5.9	Within the tolerance limit.
	Copper	5.5	Within the tolerance limit.
	Lead	10.0	Within the tolerance limit.
	Nickel	11.3	Within the tolerance limit.
	Potassium	1830.0	Within the tolerance limit.
	Vanadium	10.0	Within the tolerance limit.
	Zinc	16.1	Within the tolerance limit.
RFI1304V3.5	Arsenic	nd	Within the tolerance limit.
	Barium	250.0	Within the tolerance limit.
	Beryllium	4.6	Exceeds the tolerance limit by 100%.
	Chromium	6.4	Within the tolerance limit.
	Cobalt	5.3	Within the tolerance limit.
	Copper	4.9	Within the tolerance limit.
	Lead	9.0	Within the tolerance limit.
	Nickel	9.6	Within the tolerance limit.
	Potassium	2370.0	Within the tolerance limit.
	Vanadium	12.2	Within the tolerance limit.
	Zinc	15.3	Within the tolerance limit.
RFI1304D3.5	Arsenic	nd	Within the tolerance limit.
	Barium	262.0	Within the tolerance limit.
	Beryllium	4.9	Exceeds the tolerance limit by 113.04%.
	Chromium	6.5	Within the tolerance limit.
	Cobalt	5.2	Within the tolerance limit.
	Copper	5.1	Within the tolerance limit.
	Lead	11.0	Within the tolerance limit.
	Nickel	9.1	Within the tolerance limit.
	Potassium	2190.0	Within the tolerance limit.
	Vanadium	12.6	Within the tolerance limit.
	Zinc	14.1	Within the tolerance limit.

SECTION 6.0

TABULATED ANALYTICAL SUMMARY

SWMU #1

PHASE II, RFI 1991
GIANT REFINING
CINIZA

METALS

SAMPLE POINT NUMBER		01	01	01	01	02	02	02	02
SAMPLE POINT DEPTH		V4.0	V9.0	V11.0	V14.0	A4.0	A9.0	A11.0	A14.0
PARAMETER	UNITS								
Arsenic	mg/kg	<3	<3	<3	<3	<3	<3	<3	<3
Barium	mg/kg	513	95.4	254	140	194	818	404	416
Beryllium	mg/kg	1.8	3.0	2.1	2.0	2.8	2.8	1.8	2.0
Cadmium	mg/kg	0.3	0.4	0.3	<0.3	<0.3	0.4	0.4	0.5
Cobalt	mg/kg	2.8	4.2	3.6	3.3	3.8	4.9	3.0	3.1
Chromium	mg/kg	14.8	4.2	5.1	2.7	4.4	4.5	2.5	2.8
Copper	mg/kg	4.6	3.6	4.0	3.1	4.0	3.2	1.3	<0.5
Mercury	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Potassium	mg/kg	563	921	723	647	1020	1820	1660	1450
Nickel	mg/kg	4.5	6.9	6.0	5.2	6.8	7.5	6.0	6.1
Lead	mg/kg	7	7	6	7	6	8	5	<5
Antimony	mg/kg	<3	<3	<3	<3	<3	<3	<3	<3
Selenium	mg/kg	<0.3	<0.3	<3	<3	<3	<3	<0.3	<0.3
Vanadium	mg/kg	14.7	11.4	9.6	9.1	11.0	11.8	4.7	6.0
Zinc	mg/kg	9.0	10.5	9.9	8.0	10.7	16.4	10.6	9.9

SWMU #1

PHASE II, RFI 1991
GIANT REFINING
CINIZA

METALS

SAMPLE POINT NUMBER		03	03	03	03	03	04	04	04	04	04
SAMPLE POINT DEPTH		V4.0	V9.0	V11.0	V14.0	D14.0	V4.0	V9.0	E9.0 (mg/l)	V11.0	V14.0
PARAMETER	UNITS										
Arsenic	mg/kg	<3	<3	<3	<3	<3	<3	<3	<0.005	<3	<3
Barium	mg/kg	295	244	321	234	229	103	634	<0.010	249	275
Beryllium	mg/kg	2.6	2.6	2.4	2.9	4.2	2.7	3.7	<0.005	4.0	4.9
Cadmium	mg/kg	0.3	0.4	0.4	0.4	0.4	<0.3	0.4	<0.005	0.5	0.4
Cobalt	mg/kg	3.1	3.4	3.0	3.4	4.3	3.9	3.9	<0.010	4.8	4.4
Chromium	mg/kg	2.5	4.0	2.6	3.1	4.2	3.8	5.1	<0.010	3.6	5.0
Copper	mg/kg	3.9	3.5	4.0	3.8	4.4	3.9	3.8	<0.010	3.4	3.9
Mercury	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.0002	<0.02	<0.02
Potassium	mg/kg	450	697	561	623	965	1030	1260	<1.0	738	1650
Nickel	mg/kg	4.9	5.3	5.0	5.5	7.2	6.3	6.8	<0.020	5.5	7.6
Lead	mg/kg	7	7	8	7	8	6	6	<0.002	8	8
Antimony	mg/kg	<3	<3	<3	<3	<3	<3	<3	0.05	<3	<3
Selenium	mg/kg	<0.3	<3	<0.3	<3	<3	<0.3	<3	<0.005	<0.3	<3
Vanadium	mg/kg	12.3	14.2	10.0	10.6	12.2	10.8	12.4	<0.010	12.5	12.8
Zinc	mg/kg	6.2	8.5	7.2	8.2	10.6	13.0	16.7	<0.010	9.0	14.2

SWMU #1

PHASE II, RFI 1991
GIANT REFINING
CINIZA

METALS

SAMPLE POINT NUMBER		05	05	05	05	05	06	06	06	06	06
SAMPLE POINT DEPTH		V4.0	V9.0	V11.0	V14.0	D14.0	A4.0	A9.0	A11.0	A14.0	E14.0
PARAMETER	UNITS										(mg/l)
Arsenic	mg/kg	<3	<3	<3	<3	<3	<3	<3	<3	<3	<0.005
Barium	mg/kg	206	168	767	364	525	529	531	282	155	<0.010
Beryllium	mg/kg	3.5	2.7	4.7	3.1	6.5	3.4	3.9	3.6	4.3	<0.005
Cadmium	mg/kg	0.4	<0.3	<0.3	<0.3	0.3	<0.3	<0.3	0.3	0.4	<0.005
Cobalt	mg/kg	3.9	3.5	5.1	4.6	6.9	3.9	2.9	3.1	2.9	<0.010
Chromium	mg/kg	52.1	3.3	5.8	4.4	8.2	4.8	14.5	3.3	2.5	<0.010
Copper	mg/kg	7.6	1.2	<0.5	0.9	<0.5	5.4	4.3	2.1	2.6	<0.010
Mercury	mg/kg	0.16	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.02	<0.02	<0.0002
Potassium	mg/kg	1500	571	2200	1440	2770	494	652	973	474	<1.0
Nickel	mg/kg	6.5	5.2	10.4	9.2	12.7	5.5	4.5	5.0	4.3	<0.020
Lead	mg/kg	8	5	7	<5	8	5	7	6	7	<0.002
Antimony	mg/kg	<3	<3	<3	<3	<3	<3	<3	<3	<3	<0.05
Selenium	mg/kg	<0.3	<3	<3	<3	<3	<3	<0.3	<0.3	<3	<0.005
Vanadium	mg/kg	12.0	11.5	10.3	7.3	10.7	14.8	13.3	9.1	11.9	<0.010
Zinc	mg/kg	34.6	9.7	13.9	12.5	18.7	8.0	19.9	9.0	7.3	<0.010

SMWU #1

PHASE II, RFI 1991
GIANT REFINING
CINIZA

8240 VOLATILE ORGANICS

SAMPLE POINT NUMBER		01	01	01	01	02	02	02	02
SAMPLE POINT DEPTH		V4.0	V9.0	V11.0	V14.0	A4.0	A9.0	A11.0	A14.0
PARAMETER	UNITS								
Chloromethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Vinyl Chloride	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chloroethane	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylene Chloride	mg/kg	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Acetone	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbon Disulfide	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene (Total)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-Butanone (MEK)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbon Tetrachloride	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Vinyl Acetate	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachlorethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trans-1,3-Dichloropropene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Cis-1,3-Dichloropropene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	mg/kg	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
2-Hexanone (MBK)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-Methyl-2-Pentanone (MIBK)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachlorethene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Styrene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total Xylenes	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acrolein	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1
Acrylonitrile	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorodiflouromethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Methyl Iodide	mg/kg	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
Trans-1,4-Dichloro-2-Butene	mg/kg	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
Trichloromonoflouromethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

SWMU #1

PHASE II, RFI 1991
GIANT REFINING
CINIZA

8240 VOLATILE ORGANICS

SAMPLE POINT NUMBER SAMPLE POINT DEPTH		01 V4.0	01 V9.0	01 V11.0	01 V14.0	02 A4.0	02 A9.0	02 A11.0	02 A14.0
PARAMETER	UNITS								
Ethyl Methacrylate	mg/kg	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
Ethanol	mg/kg	<10	<10	<10	<10	<10	<10	<10	<10
Bromomethane	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1
2-Chloroethylvinylether	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,4-Dichloro-2-Butane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

SMWU #1

PHASE II, RFI 1991
GIANT REFINING
CINIZA

8240 VOLATILE ORGANICS

SAMPLE POINT NUMBER		03	03	03	03	03	04	04	04	04	04
SAMPLE POINT DEPTH		V4.0	V9.0	V11.0	V14.0	D14.0	V4.0	V9.0	E9.0 (ug/l)	V11.0	V14.0
PARAMETER	UNITS										
Chloromethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5
Vinyl Chloride	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.05	<0.05
Chloroethane	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.05	<0.05
Methylene Chloride	mg/kg	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<3	<0.3	<0.3
Acetone	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	33	<0.5	<0.5
Carbon Disulfide	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5
1,1-Dichloroethene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5
1,1-Dichloroethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5
1,2-Dichloroethene (Total)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5
Chloroform	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5
1,2-Dichloroethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5
2-Butanone (MEK)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5
1,1,1-Trichloroethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5
Carbon Tetrachloride	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5
Vinyl Acetate	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5
Bromodichloromethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5
1,1,2,2-Tetrachlorethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5
1,2-Dichloropropane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5
Trans-1,3-Dichloropropene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5
Trichloroethene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5
Dibromochloromethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5
1,1,2-Trichloroethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5
Benzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5
Cis-1,3-Dichloropropene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5
Bromoform	mg/kg	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<5	<0.3	<0.3
2-Hexanone (MBK)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5
4-Methyl-2-Pentanone (MIBK)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5
Tetrachlorethene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1 J	<0.5	<0.5
Chlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5
Ethylbenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5
Styrene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5
Total Xylenes	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5
Acrolein	mg/kg	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1
Acrylonitrile	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5
Dibromomethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5
Dichlorodiflouromethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5
Methyl Iodide	mg/kg	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<2.5	<0.25	<0.25
Trans-1,4-Dichloro-2-Butene	mg/kg	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<2.5	<0.25	<0.25
Trichloromonoflouromethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5
1,2,3-Trichloropropane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5

SWMU #1

PHASE II, RFI 1991
GIANT REFINING
CINIZA

8240 VOLATILE ORGANICS

SAMPLE POINT NUMBER		03	03	03	03	03	04	04	04	04	04
SAMPLE POINT DEPTH		V4.0	V9.0	V11.0	V14.0	D14.0	V4.0	V9.0	E9.0 (ug/l)	V11.0	V14.0
PARAMETER	UNITS										
Ethyl Methacrylate	mg/kg	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<2.5	<0.25	<0.25
Ethanol	mg/kg	<10	<10	<10	<10	<10	<10	<10	<100	<10	<10
Bromomethane	mg/kg	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1
2-Chloroethylvinylether	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5
1,4-Dichloro-2-Butane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

SMWU #1

PHASE II, RFI 1991
GIANT REFINING
CINIZA

8240 VOLATILE ORGANICS

SAMPLE POINT NUMBER		05	05	05	05	05	06	06	06	06	06
SAMPLE POINT DEPTH		V4.0	V9.0	V11.0	V14.0	D14.0	A4.0	A9.0	A11.0	A14.0	E14.0 (ug/l)
PARAMETER	UNITS										
Chloromethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
Vinyl Chloride	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5
Chloroethane	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5
Methylene Chloride	mg/kg	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<3
Acetone	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10
Carbon Disulfide	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
1,1-Dichloroethene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
1,1-Dichloroethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
1,2-Dichloroethene (Total)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
Chloroform	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
1,2-Dichloroethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
2-Butanone (MEK)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
1,1,1-Trichloroethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
Carbon Tetrachloride	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
Vinyl Acetate	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
Bromodichloromethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
1,1,2,2-Tetrachlorethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
1,2-Dichloropropane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
Trans-1,3-Dichloropropene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
Trichloroethene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
Dibromochloromethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
1,1,2-Trichloroethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
Benzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
Cis-1,3-Dichloropropene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
Bromoform	mg/kg	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<5
2-Hexanone (MBK)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
4-Methyl-2-Pentanone (MIBK)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
Tetrachlorethene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
Chlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
Ethylbenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
Styrene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
Total Xylenes	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
Acrolein	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10
Acrylonitrile	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
Dibromomethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
Dichlorodiflouromethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
Methyl Iodide	mg/kg	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<2.5
Trans-1,4-Dichloro-2-Butene	mg/kg	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<2.5
Trichloromonoflouromethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
1,2,3-Trichloropropane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5

SWMU #1

PHASE II, RFI 1991
GIANT REFINING
CINIZA

8240 VOLATILE ORGANICS

SAMPLE POINT NUMBER		05	05	05	05	05	06	06	06	06	06
SAMPLE POINT DEPTH		V4.0	V9.0	V11.0	V14.0	D14.0	A4.0	A9.0	A11.0	A14.0	E14.0
											(ug/l)
PARAMETER	UNITS										
Ethyl Methacrylate	mg/kg	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<2.5
Ethanol	mg/kg	<10	<10	<10	<10	<10	<10	<10	<10	<10	<100
Bromomethane	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10
2-Chloroethylvinylether	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
1,4-Dichloro-2-Butane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

SWMU #1

PHASE II, RFI 1991
GIANT REFINING
CINIZA

8270 SEMI-VOLATILE ORGANICS

SAMPLE POINT NUMBER		01	01	01	01	02	02	02	02
SAMPLE POINT DEPTH		V4.0	V9.0	V11.0	V14.0	A4.0	A9.0	A11.0	A14.0
PARAMETER	UNITS								
N-Nitrosodimethylamine	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Phenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Aniline	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Bis(2-Chloroethyl)Ether	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
2-Chlorophenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
1,3-Dichlorobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
1,4-Dichlorobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Benzyl Alcohol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
1,2-Dichlorobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
2-Methylphenol	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85
Bis(2-Chloroisopropyl)Ether	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85
4-Methylphenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
N-Nitroso-di-n-Propylamine	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Hexachloroethane	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Nitrobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Isophorene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
2-Nitrophenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
2,4-Dimethylphenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Benzoic Acid	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85
Bis(2-Chloroethoxy)Methane	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
2,4-Dichlorophenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
1,2,4-Trichlorobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Naphthalene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
4-Chloroaniline	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Hexachlorobutadiene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
4-Chloro-3-Methylphenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
2-Methylnaphthalene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Hexachlorocyclopentadiene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
2,4,6-Trichlorophenol	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85
2,4,5-Trichlorophenol	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85
2-Nitroaniline	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Dimethylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Acenaphthalene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
3-Nitroaniline	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85
Acenaphthene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
2,4-Dinitrophenol	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85
4-Nitrophenol	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85
2,4-Dinitrotoluene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
2,6-Dinitrotoluene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Diethylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
4-Chlorophenyl-Phenylether	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17

SWMU #1

PHASE II, RFI 1991
GIANT REFINING
CINIZA

8270 SEMI-VOLATILE ORGANICS, CONT.

SAMPLE POINT NUMBER		01	01	01	01	02	02	02	02
SAMPLE POINT DEPTH		V4.0	V9.0	V11.0	V14.0	A4.0	A9.0	A11.0	A14.0
PARAMETER	UNITS								
Flourene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
4-Nitroaniline	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85
4,6-Dinitro-2-Methylphenol	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85
N-Nitrosodiphenylamine	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
4-'4-Bromophenyl-Phenylether	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Hexachlorobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Pentachlorophenol	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85
Phenanthrene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Anthracene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Di-n-Butylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Flouranthene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Benzidine	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Pyrene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Butylbenzylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
3,3'-Dichlorobenzidine	mg/kg	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34
Benzo(a)Anthracene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Bis(2-Ethylhexyl)Phthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Chrysene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Benzo(b)Flouranthene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Benzo(k)Flouranthene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Benzo(a)Pyrene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Indeno(1,2,3-cd)Pyrene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Dibenzo(a,h)Anthracene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Benzo(g,h,i)Perylene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
1-Chloronaphthane	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
2-Chloronaphthane	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Dibenzo(a,j)Acridine	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Di-n-Octylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
1,2-Diphenylhydrazine	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17

SWMU #1

PHASE II, RFI 1991
GIANT REFINING
CINIZA

8270 SEMI-VOLATILE ORGANICS, CONT.

SAMPLE POINT NUMBER		01	01	01	01	02	02	02	02
SAMPLE POINT DEPTH		V4.0	V9.0	V11.0	V14.0	A4.0	A9.0	A11.0	A14.0
PARAMETER	UNITS								
Acetophenone	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
a,a-Dimethylphenethylamine	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
4-Aminobiphenyl	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
2,6-Dichlorophenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
p-(Dimethylamino)Azobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
7,12-Dimethylbenzo(a) Anthracene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Diphenylamine	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Ethyl Methanesulfonate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
3-Methylcholanthrene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Methyl Methanesulfonate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
1-Naphthylamine	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
2-Naphtylamine	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
N-Nitroso-di-Butylamine	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
N-Nitrosopiperidine	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Pentachlorobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Pentachloronitrobenzene	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85
Phenacetin	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
2-Picoline	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Pronamide	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
1,2,4,5-Tetrachlorobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
2,3,4,6-Tetrachlorophenol	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85

SWMU #1

PHASE II, RFI 1991
GIANT REFINING
CINIZA

8270 SEMI-VOLATILE ORGANICS

SAMPLE POINT NUMBER		03	03	03	03	03	04	04	04	04	04
SAMPLE POINT DEPTH		V4.0	V9.0	V11.0	V14.0	D14.0	V4.0	V9.0	E9.0 (ug/l)	V11.0	V14.0
PARAMETER	UNITS										
N-Nitrosodimethylamine	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
Phenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
Aniline	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
Bis(2-Chloroethyl)Ether	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
2-Chlorophenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
1,3-Dichlorobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
1,4-Dichlorobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
Benzyl Alcohol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
1,2-Dichlorobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
2-Methylphenol	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<5	<0.85	<0.85
Bis(2-Chloroisopropyl)Ether	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<5	<0.85	<0.85
4-Methylphenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
N-Nitroso-di-n-Propylamine	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
Hexachloroethane	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
Nitrobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
Isophorene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
2-Nitrophenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
2,4-Dimethylphenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
Benzoic Acid	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<25	<0.85	<0.85
Bis(2-Chloroethoxy)Methane	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
2,4-Dichlorophenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
1,2,4-Trichlorobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
Naphthalene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
4-Chloroaniline	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
Hexachlorobutadiene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
4-Chloro-3-Methylphenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
2-Methylnaphthalene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
Hexachlorocyclopentadiene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
2,4,6-Trichlorophenol	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<5	<0.85	<0.85
2,4,5-Trichlorophenol	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<25	<0.85	<0.85
2-Nitroaniline	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<25	<0.17	<0.17
Dimethylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
Acenaphthalene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
3-Nitroaniline	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<25	<0.85	<0.85
Acenaphthene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
2,4-Dinitrophenol	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<25	<0.85	<0.85
4-Nitrophenol	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<25	<0.85	<0.85
2,4-Dinitrotoluene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
2,6-Dinitrotoluene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
Diethylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	0.9	<0.17	<0.17	<5	<0.17	<0.17
4-Chlorophenyl-Phenylether	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17

SWMU #1

PHASE II, RFI 1991
GIANT REFINING
CINIZA

8270 SEMI-VOLATILE ORGANICS, CONT.

SAMPLE POINT NUMBER		03	03	03	03	03	04	04	04	04	04
SAMPLE POINT DEPTH		V4.0	V9.0	V11.0	V14.0	D14.0	V4.0	V9.0	E9.0 (ug/l)	V11.0	V14.0
PARAMETER	UNITS										
Flourene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
4-Nitroaniline	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<25	<0.85	<0.85
4,6-Dinitro-2-Methylphenol	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<25	<0.85	<0.85
N-Nitrosodiphenylamine	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
4-'4-Bromophenyl-Phenylether	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
Hexachlorobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
Pentachlorophenol	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<25	<0.85	<0.85
Phenanthrene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
Anthracene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
Di-n-Butylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
Flouranthene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
Benzidine	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<50	<0.17	<0.17
Pyrene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
Butylbenzylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
3,3'-Dichlorobenzidine	mg/kg	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<10	<0.34	<0.34
Benzo(a)Anthracene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
Bis(2-Ethylhexyl)Phthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
Chrysene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
Benzo(b)Flouranthene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
Benzo(k)Flouranthene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
Benzo(a)Pyrene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
Indeno(1,2,3-cd)Pyrene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
Dibenzo(a,h)Anthracene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
Benzo(g,h,i)Perylene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
1-Chloronaphthane	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
2-Chloronaphthane	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
Dibenzo(a,j)Acridine	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
Di-n-Octylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
1,2-Diphenylhydrazine	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17

SWMU #1

PHASE II, RFI 1991
GIANT REFINING
CINIZA

8270 SEMI-VOLATILE ORGANICS, CONT.

SAMPLE POINT NUMBER		03	03	03	03	03	04	04	04	04	04
SAMPLE POINT DEPTH		V4.0	V9.0	V11.0	V14.0	D14.0	V4.0	V9.0	E9.0 (ug/l)	V11.0	V14.0
PARAMETER	UNITS										
Acetophenone	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
a,a-Dimethylphenethylamine	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
4-Aminobiphenyl	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
2,6-Dichlorophenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
p-(Dimethylamino)Azobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
7,12-Dimethylbenzo(a) Anthracene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
Diphenylamine	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
Ethyl Methanesulfonate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
3-Methylcholanthrene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
Methyl Methanesulfonate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
1-Naphthylamine	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
2-Naphtylamine	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
N-Nitroso-di-Butylamine	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
N-Nitrosopiperidine	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
Pentachlorobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
Pentachloronitrobenzene	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<25	<0.85	<0.85
Phenacetin	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
2-Picoline	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
Pronamide	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
1,2,4,5-Tetrachlorobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17
2,3,4,6-Tetrachlorophenol	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<25	<0.85	<0.85

SWMU #1

PHASE II, RFI 1991
GIANT REFINING
CINIZA

8270 SEMI-VOLATILE ORGANICS

SAMPLE POINT NUMBER		05	05	05	05	05	06	06	06	06	06
SAMPLE POINT DEPTH		V4.0	V9.0	V11.0	V14.0	D14.0	A4.0	A9.0	A11.0	A14.0	E14.0
PARAMETER	UNITS										(ug/l)
N-Nitrosodimethylamine	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Phenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Aniline	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Bis(2-Chloroethyl)Ether	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
2-Chlorophenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
1,3-Dichlorobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
1,4-Dichlorobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Benzyl Alcohol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
1,2-Dichlorobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
2-Methylphenol	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<5
Bis(2-Chloroisopropyl)Ether	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<5
4-Methylphenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
N-Nitroso-di-n-Propylamine	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Hexachloroethane	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Nitrobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Isophorene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
2-Nitrophenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
2,4-Dimethylphenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Benzoic Acid	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<25
Bis(2-Chloroethoxy)Methane	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
2,4-Dichlorophenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
1,2,4-Trichlorobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Naphthalene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
4-Chloroaniline	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Hexachlorobutadiene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
4-Chloro-3-Methylphenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
2-Methylnaphthalene	mg/kg	<0.17	<0.17	0.21	<0.17	0.23	<0.17	<0.17	<0.17	<0.17	<5
Hexachlorocyclopentadiene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
2,4,6-Trichlorophenol	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<5
2,4,5-Trichlorophenol	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<25
2-Nitroaniline	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<25
Dimethylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Acenaphthalene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
3-Nitroaniline	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<25
Acenaphthene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
2,4-Dinitrophenol	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<25
4-Nitrophenol	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<25
2,4-Dinitrotoluene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
2,6-Dinitrotoluene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Diethylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
4-Chlorophenyl-Phenylether	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5

SWMU #1

PHASE II, RFI 1991
GIANT REFINING
CINIZA

8270 SEMI-VOLATILE ORGANICS, CONT.

SAMPLE POINT NUMBER		05	05	05	05	05	06	06	06	06	06
SAMPLE POINT DEPTH		V4.0	V9.0	V11.0	V14.0	D14.0	A4.0	A9.0	A11.0	A14.0	E14.0 (ug/l)
PARAMETER	UNITS										
Flourene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
4-Nitroaniline	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<25
4,6-Dinitro-2-Methylphenol	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<25
N-Nitrosodiphenylamine	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
4-'4-Bromophenyl-Phenylether	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Hexachlorobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Pentachlorophenol	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<25
Phenanthrene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Anthracene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Di-n-Butylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	0.26	<5
Flouranthene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Benzidine	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<50
Pyrene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Butylbenzylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
3,3'-Dichlorobenzidine	mg/kg	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<10
Benzo(a)Anthracene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Bis(2-Ethylhexyl)Phthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Chrysene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Benzo(b)Flouranthene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Benzo(k)Flouranthene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Benzo(a)Pyrene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Indeno(1,2,3-cd)Pyrene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Dibenzo(a,h)Anthracene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Benzo(g,h,i)Perylene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
1-Chloronaphthane	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
2-Chloronaphthane	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Dibenzo(a,j)Acridine	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Di-n-Octylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
1,2-Diphenylhydrazine	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5

SWMU #1

PHASE II, RFI 1991
GIANT REFINING
CINIZA

8270 SEMI-VOLATILE ORGANICS, CONT.

SAMPLE POINT NUMBER		05	05	05	05	05	06	06	06	06	06
SAMPLE POINT DEPTH		V4.0	V9.0	V11.0	V14.0	D14.0	A4.0	A9.0	A11.0	A14.0	E14.0 (ug/l)
PARAMETER	UNITS										
Acetophenone	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
a,a-Dimethylphenethylamine	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
4-Aminobiphenyl	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
2,6-Dichlorophenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
p-(Dimethylamino)Azobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
7,12-Dimethylbenzo(a) Anthracene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Diphenylamine	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Ethyl Methanesulfonate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
3-Methylcholanthrene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Methyl Methanesulfonate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
1-Naphthylamine	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
2-Naphtylamine	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
N-Nitroso-di-Butylamine	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
N-Nitrosopiperidine	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Pentachlorobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Pentachloronitrobenzene	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<25
Phenacetin	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
2-Picoline	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Pronamide	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
1,2,4,5-Tetrachlorobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
2,3,4,6-Tetrachlorophenol	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<25

SWMU #2

PHASE II, RFI 1991
GIANT REFINING
CINIZA

METALS

SAMPLE POINT NUMBER		01	01	01	02	02	02	03	03	03
SAMPLE POINT DEPTH		V3.5	V5.0	V6.5	V3.5	V5.0	V6.5	A3.5	A5.0	A6.5
PARAMETER	UNITS									
Arsenic	mg/kg	<3	<3	<3	<3	<3	<3	<3	<3	<3
Barium	mg/kg	256	225	326	234	204	268	410	243	286
Beryllium	mg/kg	5.8	6.0	5.9	2.2	1.4	1.3	1.0	1.1	1.4
Cadmium	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Cobalt	mg/kg	5.7	5.6	5.8	4.9	3.6	3.1	2.9	4.0	4.4
Chromium	mg/kg	7.3	6.4	7.4	6.1	4.2	3.0	3.3	4.4	4.4
Copper	mg/kg	5.2	5.0	5.3	5.7	4.3	4.2	3.2	4.6	5.9
Mercury	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Potassium	mg/kg	1820	1780	2270	1620	1730	1100	624	1730	1470
Nickel	mg/kg	10.9	9.8	10.4	9.0	6.5	4.6	5.1	4.6	6.8
Lead	mg/kg	13	13	11	9	8	9	7	8	10
Antimony	mg/kg	<3	<3	<3	<3	<3	<3	<3	<3	<3
Selenium	mg/kg	<0.3	<0.3	<0.3	<3	<3	<3	<3	<3	<3
Vanadium	mg/kg	15.4	15.3	15.4	13.3	13.9	13.3	11.4	12.3	15.0
Zinc	mg/kg	15.0	14.2	15.6	13.2	10.6	8.0	12.0	11.9	11.3

SWMU #2

PHASE II, RFI 1991
GIANT REFINING
CINIZA

SAMPLE POINT NUMBER		01	01	01	02	02	02	03	03	03
SAMPLE POINT DEPTH		V3.5	V5.0	V6.5	V3.5	V5.0	V6.5	A3.5	A5.0	A6.5
PARAMETER	UNITS									
pH	---	7.78	7.76	7.66	7.54	7.54	7.53	8.14	7.44	7.63

SWMU #2

PHASE II, RFI 1991
GIANT REFINING
CINIZA

METALS

SAMPLE POINT NUMBER SAMPLE POINT DEPTH		04 V3.5	04 V5.0	04 V6.5	04 D6.5	05 A3.5	05 A5.0	05 A6.5	06 V3.5	06 V5.0	06 V6.5	06 E6.5 (mg/l)
PARAMETER	UNITS											
Arsenic	mg/kg	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<0.005
Barium	mg/kg	216	245	296	236	191	526	237	327	158	176	<0.010
Beryllium	mg/kg	1.6	2.1	1.5	1.6	1.1	0.6	0.9	0.9	0.6	0.5	<0.005
Cadmium	mg/kg	<0.3	0.4	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.005
Cobalt	mg/kg	4.6	6.4	4.4	4.9	3.7	1.8	3.4	2.8	2.2	1.7	<0.010
Chromium	mg/kg	6.4	10.1	4.8	5.4	4.4	1.2	3.8	3.3	2.6	1.7	<0.010
Copper	mg/kg	4.7	4.9	5.7	6.0	4.2	2.9	3.6	3.0	3.4	2.4	<0.010
Mercury	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.000
Potassium	mg/kg	2210	3490	1350	1220	1690	327	1420	685	531	338	<1.0
Nickel	mg/kg	8.9	12.4	7.6	6.0	7.0	3.1	5.4	4.3	3.9	2.6	<0.020
Lead	mg/kg	10	9	9	11	7	<5	6	6	7	<5	<0.002
Antimony	mg/kg	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<0.05
Selenium	mg/kg	<3	<3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.005
Vanadium	mg/kg	16.6	20.0	10.6	15.0	13.2	8.4	12.6	12.6	10.9	6.7	<0.010
Zinc	mg/kg	14.1	19.2	12.2	12.5	11.7	4.3	8.3	8.3	7.1	5.2	0.020

SWMU #2

PHASE II, RFI 1991
GIANT REFINING
CINIZA

SAMPLE POINT NUMBER SAMPLE POINT DEPTH		04 V3.5	04 V5.0	04 V6.5	04 D6.5	05 A3.5	05 A5.0	05 A6.5	06 V3.5	06 V5.0	06 V6.5	06 E6.5
PARAMETER	UNITS											
pH	---	7.48	7.60	7.93	7.83	7.49	7.63	7.78	8.20	8.12	8.23	5.29

SWMU #2

PHASE II, RFI 1991
GIANT REFINING
CINIZA

METALS

SAMPLE POINT NUMBER		07	07	07	08	08	08	08	09	09	09	09
SAMPLE POINT DEPTH		V3.5	V5.0	V6.5	A3.5	A5.0	A6.5	E6.5 (mg/l)	V3.5	V5.0	V6.5	D6.5
PARAMETER	UNITS											
Arsenic	mg/kg	<3	<3	<3	<3	<3	<3	<0.005	<3	<3	<3	<3
Barium	mg/kg	235	172	284	395	590	344	<0.010	220	226	269	350
Beryllium	mg/kg	7.7	7.8	7.4	18.2	9.3	6.1	<0.005	9.5	7.8	9.3	8.3
Cadmium	mg/kg	0.5	0.3	0.3	<0.6	<0.3	<0.3	<0.005	0.3	<0.3	<0.3	<0.3
Cobalt	mg/kg	6.7	6.9	6.9	7.8	7.1	4.5	<0.010	8.3	5.8	6.8	6.2
Chromium	mg/kg	11.4	10.9	9.5	13.4	9.9	5.7	<0.010	14.1	8.8	11.5	9.1
Copper	mg/kg	5.5	5.4	7.5	7.3	5.8	3.4	<0.010	4.5	5.1	5.5	5.4
Mercury	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.000	<0.02	<0.02	<0.02	<0.02
Potassium	mg/kg	3770	3620	2190	5360	3150	1390	<1.0	4260	2920	4110	3260
Nickel	mg/kg	12.5	12.4	12.1	12.0	11.2	7.6	<0.020	15.6	11.2	12.4	11.4
Lead	mg/kg	12	11	10	10	12	10	<0.002	12	10	11	10
Antimony	mg/kg	<3	<3	<3	<6	<3	<3	<0.05	<3	<3	<3	<3
Selenium	mg/kg	<0.3	<0.3	<0.3	<3	<3	<0.3	<0.010	<3	<3	<3	<3
Vanadium	mg/kg	20.0	17.5	17.1	22.6	15.9	12.0	<0.010	21.7	15.0	18.0	14.8
Zinc	mg/kg	25.3	20.8	17.9	28.3	20.2	13.5	0.012	21.0	18.2	21.1	18.6

SWMU #2

PHASE II, RFI 1991
GIANT REFINING
CINIZA

SAMPLE POINT NUMBER		07	07	07	08	08	08	08	09	09	09	09
SAMPLE POINT DEPTH		V3.5	V5.0	V6.5	A3.5	A5.0	A6.5	E6.5	V3.5	V5.0	V6.5	D6.5
PARAMETER	UNITS											
pH	---	7.51	7.71	7.85	8.09	8.31	8.60	5.69	7.62	7.73	7.90	7.88

SWMU #2

PHASE II, RFI 1991
GIANT REFINING
CINIZA

METALS

SAMPLE POINT NUMBER		10	10	10	11	11	11	12	12	12
SAMPLE POINT DEPTH		A3.5	A5.0	A6.5	V3.5	V5.0	V6.5	V3.5	V5.0	V6.5
PARAMETER	UNITS									
Arsenic	mg/kg	<3	<3	<3	<3	<3	<3	<3	<3	<3
Barium	mg/kg	260	267	285	266	203	199	251	216	254
Beryllium	mg/kg	8.3	5.6	9.5	3.6	3.0	3.6	3.2	2.2	3.0
Cadmium	mg/kg	<0.3	0.3	<0.3	0.4	0.4	0.4	0.4	<0.3	0.3
Cobalt	mg/kg	7.0	5.1	7.5	6.4	6.3	5.9	5.9	5.3	5.6
Chromium	mg/kg	11.9	8.1	12.0	9.6	9.2	8.8	8.7	7.3	7.4
Copper	mg/kg	5.4	5.2	6.0	3.2	3.6	4.7	2.7	4.2	2.8
Mercury	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Potassium	mg/kg	3790	2090	3460	3290	3110	2760	2780	2880	2650
Nickel	mg/kg	13.2	9.2	12.9	13.2	13.4	12.6	12.1	11.1	10.0
Lead	mg/kg	10	10	11	6	8	9	7	7	7
Antimony	mg/kg	<3	<3	<3	<3	<3	<3	<3	<3	<3
Selenium	mg/kg	<3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Vanadium	mg/kg	17.3	12.4	18.1	16.4	15.6	15.5	15.7	15.4	13.3
Zinc	mg/kg	19.9	16.4	21.1	19.4	19.2	18.0	18.2	15.5	15.8

SWMU #2

PHASE II, RFI 1991
GIANT REFINING
CINIZA

SAMPLE POINT NUMBER		10	10	10	11	11	11	12	12	12
SAMPLE POINT DEPTH		A3.5	A5.0	A6.5	V3.5	V5.0	V6.5	V3.5	V5.0	V6.5
PARAMETER	UNITS									
pH	---	7.47	7.39	7.82	7.60	7.89	8.06	7.47	7.56	7.80

SWMU #2

PHASE II, RFI 1991
GIANT REFINING
CINIZA

METALS

SAMPLE POINT NUMBER		13	13	13	14	14	14	14	15	15	15
SAMPLE POINT DEPTH		V3.5	V5.0	V6.5	A3.5	A5.0	A6.5	D6.5	A3.5	A5.0	A6.5
PARAMETER	UNITS										
Arsenic	mg/kg	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Barium	mg/kg	204	281	305	276	223	280	278	231	327	260
Beryllium	mg/kg	2.9	2.8	3.2	2.1	1.9	3.2	2.6	3.7	4.0	3.8
Cadmium	mg/kg	<0.3	<0.3	0.3	0.3	<0.3	0.3	0.3	0.3	<0.3	0.4
Cobalt	mg/kg	5.8	5.3	5.9	3.9	3.6	6.0	5.2	6.0	6.6	6.0
Chromium	mg/kg	8.1	7.6	8.2	5.5	4.0	9.0	7.2	9.6	10.0	9.4
Copper	mg/kg	3.1	2.9	3.4	2.1	3.2	3.0	2.9	3.2	3.7	3.4
Mercury	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Potassium	mg/kg	2560	2530	1980	1620	947	3300	2500	3100	3220	3020
Nickel	mg/kg	11.8	10.7	11.0	7.6	6.9	12.6	10.5	11.5	13.1	11.3
Lead	mg/kg	9	9	8	6	7	8	6	7	9	9
Antimony	mg/kg	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Selenium	mg/kg	<0.3	<0.3	<0.3	<3	<0.3	<3	<3	<0.3	<3	<3
Vanadium	mg/kg	15.7	10.7	14.4	11.7	10.9	15.3	17.3	16.9	17.3	16.1
Zinc	mg/kg	17.6	17.3	16.3	12.0	9.2	19.0	16.0	18.7	20.2	18.1

SWMU #2

PHASE II, RFI 1991
GIANT REFINING
CINIZA

SAMPLE POINT NUMBER		13	13	13	14	14	14	14	15	15	15
SAMPLE POINT DEPTH		V3.5	V5.0	V6.5	A3.5	A5.0	A6.5	D6.5	A3.5	A5.0	A6.5
PARAMETER	UNITS										
pH	---	7.96	7.91	8.27	8.08	8.55	8.57	8.54	8.03	8.43	7.87

SWMU #2

PHASE II, RFI 1991
GIANT REFINING
CINIZA

METALS

SAMPLE POINT NUMBER		16	16	16	17	17	17	18	18	18
SAMPLE POINT DEPTH		V3.5	V5.0	V6.5	V3.5	V5.0	V6.5	A3.5	A5.0	A6.5
PARAMETER	UNITS									
Arsenic	mg/kg	<3	<3	<3	<3	<3	<3	<3	<3	<3
Barium	mg/kg	138	249	302	260	333	260	228	241	281
Beryllium	mg/kg	1.5	4.5	2.0	3.1	2.9	3.7	4.3	4.6	4.3
Cadmium	mg/kg	<0.3	0.4	0.3	0.5	0.5	<0.3	0.3	0.6	0.5
Cobalt	mg/kg	2.5	7.0	4.1	6.4	7.0	6.2	6.3	6.8	6.5
Chromium	mg/kg	2.8	11.8	4.8	10.8	11.5	8.5	11.1	12.9	11.1
Copper	mg/kg	2.0	3.9	2.9	3.9	3.2	3.5	3.6	3.1	4.0
Mercury	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Potassium	mg/kg	930	4050	1460	3170	3770	2920	3440	4260	3320
Nickel	mg/kg	5.3	13.9	8.0	12.3	14.2	12.4	12.8	14.0	3.1
Lead	mg/kg	11	9	10	9	6	8	7	8	8
Antimony	mg/kg	<3	<3	<3	<3	<3	<3	<3	<3	<3
Selenium	mg/kg	<3	<3	<0.3	<3	<3	<3	<3	<3	<0.3
Vanadium	mg/kg	7.2	21.6	9.8	18.4	17.6	16.4	16.8	19.3	17.4
Zinc	mg/kg	7.9	21.3	11.5	19.3	22.5	18.6	19.2	21.4	21.0

SWMU #2

PHASE II, RFI 1991
GIANT REFINING
CINIZA

SAMPLE POINT NUMBER		16	16	16	17	17	17	18	18	18
SAMPLE POINT DEPTH		V3.5	V5.0	V6.5	V3.5	V5.0	V6.5	A3.5	A5.0	A6.5
PARAMETER	UNITS									
pH	---	8.20	8.51	8.59	7.61	7.93	8.36	7.72	7.76	7.82

SWMU #2

PHASE II, RFI 1991
GIANT REFINING
CINIZA

8240 VOLATILE ORGANICS

SAMPLE POINT NUMBER		01	01	01	02	02	02	03	03	03
SAMPLE POINT DEPTH		V3.6	V5.0	V6.5	V3.5	V5.0	V6.5	V3.5	V5.0	V6.5
PARAMETER	UNITS									
Carbon Disulfide	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichlorethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-Butanone (MEK)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chloroethylvinylether	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	mg/kg	<0.5	<0.5	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethybenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Styrene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total Xylenes	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,4-Dioxane	mg/kg	<7.5	<7.5	<7.5	<7.5	<7.5	<7.5	<7.5	<7.5	<7.5
1,2-Dibromoethane (EDB)	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

SWMU #2

PHASE II, RFI 1991
GIANT REFINING
CINIZA

8240 VOLATILE ORGANICS

SAMPLE POINT NUMBER		04	04	04	04	05	05	05	06	06	06	06
SAMPLE POINT DEPTH		V3.5	V5.0	V6.5	D6.5	V3.5	V5.0	V6.5	V3.5	V5.0	V6.5	E6.5
PARAMETER	UNITS											(ug/l)
Carbon Disulfide	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
1,2-Dichlorethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
2-Butanone (MEK)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
Benzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
2-Chloroethylvinylether	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
Chlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
Ethybenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
Styrene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
Total Xylenes	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
1,4-Dioxane	mg/kg	<7.5	<7.5	<7.5	<7.5	<7.5	<7.5	<7.5	<7.5	<7.5	<7.5	<10
1,2-Dibromoethane (EDB)	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.5

SWMU #2

PHASE II, RFI 1991
GIANT REFINING
CINIZA

8240 VOLATILE ORGANICS

SAMPLE POINT NUMBER		07	07	07	08	08	08	08	09	09	09	09
SAMPLE POINT DEPTH		V3.5	V5.0	V6.5	A3.5	A5.0	A6.5	E6.5	V3.5	V5.0	V6.5	D6.5
								(ug/l)				
PARAMETER	UNITS											
Carbon Disulfide	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5
1,2-Dichlorethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5
2-Butanone (MEK)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5
Benzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5
2-Chloroethylvinylether	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5
Toluene	mg/kg	<0.5	<0.5	0.011	0.009	0.013	<0.5	<5	<0.5	<0.5	0.007	<0.5
Chlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5
Ethybenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5
Styrene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5
Total Xylenes	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5
1,4-Dioxane	mg/kg	<7.5	<7.5	<7.5	<7.5	<7.5	<7.5	<10	<7.5	<7.5	<7.5	<7.5
1,2-Dibromoethane (EDB)	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.0

SWMU #2

PHASE II, RFI 1991
GIANT REFINING
CINIZA

8240 VOLATILE ORGANICS

SAMPLE POINT NUMBER		10	10	10	11	11	11	12	12	12
SAMPLE POINT DEPTH		A3.5	A5.0	A6.5	V3.5	V5.0	V6.5	V3.5	V5.0	V6.5
PARAMETER	UNITS									
Carbon Disulfide	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichlorethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-Butanone (MEK)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chloroethylvinylether	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	mg/kg	<0.5	0.005	0.005	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethybenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Styrene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total Xylenes	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,4-Dioxane	mg/kg	<7.5	<7.5	<7.5	<7.5	<7.5	<7.5	<7.5	<7.5	<7.5
1,2-Dibromoethane (EDB)	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

SWMU #2

PHASE II, RFI 1991
GIANT REFINING
CINIZA

8240 VOLATILE ORGANICS

SAMPLE POINT NUMBER		13	13	13	14	14	14	14	15	15	15
SAMPLE POINT DEPTH		V3.5	V5.0	V6.5	A3.5	A5.0	A6.5	D6.5	A3.5	A5.0	A6.5
PARAMETER	UNITS										
Carbon Disulfide	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichlorethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-Butanone (MEK)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chloroethylvinylether	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	mg/kg	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethybenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Styrene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total Xylenes	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,4-Dioxane	mg/kg	<7.5	<7.5	<7.5	<7.5	<7.5	<7.5	<7.5	<7.5	<7.5	<7.5
1,2-Dibromoethane (EDB)	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

SWMU #2

PHASE II, RFI 1991
GIANT REFINING
CINIZA

8240 VOLATILE ORGANICS

SAMPLE POINT NUMBER		16	16	16	17	17	17	18	18	18
SAMPLE POINT DEPTH		V3.5	V5.0	V6.5	V3.5	V5.0	V6.5	A3.5	A5.0	A6.5
PARAMETER	UNITS									
Carbon Disulfide	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichlorethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-Butanone (MEK)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chloroethylvinylether	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethybenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Styrene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total Xylenes	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,4-Dioxane	mg/kg	<7.5	<7.5	<7.5	<7.5	<7.5	<7.5	<7.5	<7.5	<7.5
1,2-Dibromoethane (EDB)	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

SWMU #2

PHASE II, RFI 1991
GIANT REFINING
CINIZA

8270 SEMI-VOLATILE ORGANICS

SAMPLE POINT NUMBER		01	01	01	02	02	02	03	03	03
SAMPLE POINT DEPTH		V3.5	V5.0	V6.5	V3.5	V5.0	V6.5	A3.5	A5.0	A6.5
PARAMETER	UNITS									
Phenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
1,3-Dichlorobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
1,4-Dichlorobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
1,2-Dichlorobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
2-Methylphenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
4-Methylphenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
2,4-Dimethylphenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Naphthalene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Dimethylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
2,4-Dinitrophenol	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85
4-Nitrophenol	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85
Diethylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Phenanthrene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Anthracene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Di-n-butylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Flouranthene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Pyrene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Butylbenzylphthalate	mg/kg	0.3	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Benzo(a)anthracene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Bis(2-ethylhexyl)phthalate	mg/kg	<0,17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Chrysene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Di-n-octylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Benzo(b)flouranthene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Benzo(k)flouranthene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Benzo(a)pyrene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Dibenzo(a,h)anthracene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Benzenethiol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Dibenzo(a,j)acridine	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
7,12-Dimethylbenz(a)anthracene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Indene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Methylchrysene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
1-Methylnaphthalene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
3-Methylphenol	mg/kg	<5	<5	<5	<5	<5	<5	<5	<5	<5
Pyridine	mg/kg	<5	<5	<5	<5	<5	<5	<5	<5	<5
Quinoline	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85

SWMU #2

PHASE II, RFI 1991
GIANT REFINING
CINIZA

8270 SEMI-VOLATILE ORGANICS

SAMPLE POINT NUMBER		04	04	04	04	05	05	05	06	06	06	06
SAMPLE POINT DEPTH		V3.5	V5.0	V6.5	D6.5	A3.5	A5.0	A6.5	V3.5	V5.0	V6.5	E6.5
PARAMETER	UNITS											(ug/l)
Phenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
1,3-Dichlorobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
1,4-Dichlorobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
1,2-Dichlorobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
2-Methylphenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
4-Methylphenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
2,4-Dimethylphenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Naphthalene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Dimethylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
2,4-Dinitrophenol	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<25
4-Nitrophenol	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<25
Diethylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Phenanthrene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Anthracene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Di-n-butylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Flouranthene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Pyrene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Butylbenzylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Benzo(a)anthracene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Bis(2-ethylhexyl)phthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Chrysene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Di-n-octylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Benzo(b)flouranthene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Benzo(k)flouranthene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Benzo(a)pyrene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Dibenzo(a,h)anthracene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Benzenethiol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Dibenzo(a,j)acridine	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
7,12-Dimethylbenz(a)anthracene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Indene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Methylchrysene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
1-Methylnaphthalene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
3-Methylphenol	mg/kg	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Pyridine	mg/kg	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Quinoline	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<25

SWMU #2

PHASE II, RFI 1991
GIANT REFINING
CINIZA

8270 SEMI-VOLATILE ORGANICS

SAMPLE POINT NUMBER		07	07	07	08	08	08	08	09	09	09	09
SAMPLE POINT DEPTH		V3.5	V5.0	V6.5	A3.5	A5.0	A6.5	E6.5	V3.5	V5.0	V6.5	D6.5
								(ug/l)				
PARAMETER	UNITS											
Phenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17	<0.17	<0.17
1,3-Dichlorobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17	<0.17	<0.17
1,4-Dichlorobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17	<0.17	<0.17
1,2-Dichlorobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17	<0.17	<0.17
2-Methylphenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17	<0.17	<0.17
4-Methylphenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17	<0.17	<0.17
2,4-Dimethylphenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17	<0.17	<0.17
Naphthalene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17	<0.17	<0.17
Dimethylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17	<0.17	<0.17
2,4-Dinitrophenol	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<25	<0.85	<0.85	<0.85	<0.85
4-Nitrophenol	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<25	<0.85	<0.85	<0.85	<0.85
Diethylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17	<0.17	<0.17
Phenanthrene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17	<0.17	<0.17
Anthracene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17	<0.17	<0.17
Di-n-butylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17	<0.17	<0.17
Flouranthene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17	<0.17	<0.17
Pyrene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17	<0.17	<0.17
Butylbenzylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17	<0.17	<0.17
Benzo(a)anthracene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17	<0.17	<0.17
Bis(2-ethylhexyl)phthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17	<0.17	<0.17
Chrysene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17	<0.17	<0.17
Di-n-octylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17	<0.17	<0.17
Benzo(b)flouranthene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17	<0.17	<0.17
Benzo(k)flouranthene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17	<0.17	<0.17
Benzo(a)pyrene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17	<0.17	<0.17
Dibenzo(a,h)anthracene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17	<0.17	<0.17
Benzenethiol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17	<0.17	<0.17
Dibenzo(a,j)acridine	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17	<0.17	<0.17
7,12-Dimethylbenz(a)anthracene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17	<0.17	<0.17
Indene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17	<0.17	<0.17
Methylchrysene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17	<0.17	<0.17
1-Methylnaphthalene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5	<0.17	<0.17	<0.17	<0.17
3-Methylphenol	mg/kg	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Pyridine	mg/kg	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Quinoline	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<25	<0.85	<0.85	<0.85	<0.85

SWMU #2

PHASE II, RFI 1991
GIANT REFINING
CINIZA

8270 SEMI-VOLATILE ORGANICS

SAMPLE POINT NUMBER		10	10	10	11	11	11	12	12	12
SAMPLE POINT DEPTH		A3.5	A5.0	A6.5	V3.5	V5.0	V6.5	V3.5	V5.0	V6.5
PARAMETER	UNITS									
Phenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
1,3-Dichlorobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
1,4-Dichlorobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
1,2-Dichlorobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
2-Methylphenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
4-Methylphenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
2,4-Dimethylphenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Naphthalene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Dimethylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
2,4-Dinitrophenol	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85
4-Nitrophenol	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85
Diethylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Phenanthrene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Anthracene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Di-n-butylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Flouranthene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Pyrene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Butylbenzylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Benzo(a)anthracene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Bis(2-ethylhexyl)phthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Chrysene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Di-n-octylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Benzo(b)flouranthene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Benzo(k)flouranthene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Benzo(a)pyrene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Dibenzo(a,h)anthracene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Benzenethiol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Dibenzo(a,j)acridine	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
7,12-Dimethylbenz(a)anthracene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Indene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Methylchrysene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
1-Methylnaphthalene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
3-Methylphenol	mg/kg	<5	<5	<5	<5	<5	<5	<5	<5	<5
Pyridine	mg/kg	<5	<5	<5	<5	<5	<5	<5	<5	<5
Quinoline	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85

SWMU #2

PHASE II, RFI 1991
GIANT REFINING
CINIZA

8270 SEMI-VOLATILE ORGANICS

SAMPLE POINT NUMBER		13	13	13	14	14	14	14	15	15	15
SAMPLE POINT DEPTH		V3.5	V5.0	V6.5	A3.5	A5.0	A6.5	D6.5	A3.5	A5.0	A6.5
PARAMETER	UNITS										
Phenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
1,3-Dichlorobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
1,4-Dichlorobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
1,2-Dichlorobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
2-Methylphenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
4-Methylphenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
2,4-Dimethylphenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Naphthalene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Dimethylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
2,4-Dinitrophenol	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85
4-Nitrophenol	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85
Diethylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Phenanthrene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Anthracene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Di-n-butylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Flouranthene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Pyrene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Butylbenzylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Benzo(a)anthracene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Bis(2-ethylhexyl)phthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Chrysene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Di-n-octylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Benzo(b)flouranthene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Benzo(k)flouranthene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Benzo(a)pyrene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Dibenzo(a,h)anthracene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Benzenethiol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Dibenzo(a,j)acridine	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
7,12-Dimethylbenz(a)anthracene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Indene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Methylchrysene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
1-Methylnaphthalene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
3-Methylphenol	mg/kg	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Pyridine	mg/kg	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Quinoline	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85

SWMU #2

PHASE II, RFI 1991
GIANT REFINING
CINIZA

8270 SEMI-VOLATILE ORGANICS

SAMPLE POINT NUMBER		16	16	16	17	17	17	18	18	18
SAMPLE POINT DEPTH		V3.5	V5.0	V6.5	V3.5	V5.0	V6.5	A3.5	A5.0	A6.5
PARAMETER	UNITS									
Phenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
1,3-Dichlorobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
1,4-Dichlorobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
1,2-Dichlorobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
2-Methylphenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
4-Methylphenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
2,4-Dimethylphenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Naphthalene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Dimethylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
2,4-Dinitrophenol	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85
4-Nitrophenol	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85
Diethylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Phenanthrene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Anthracene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Di-n-butylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Flouranthene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Pyrene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Butylbenzylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Benzo(a)anthracene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Bis(2-ethylhexyl)phthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Chrysene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Di-n-octylphthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Benzo(b)flouranthene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Benzo(k)flouranthene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Benzo(a)pyrene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Dibenzo(a,h)anthracene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Benzenethiol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Dibenzo(a,j)acridine	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
7,12-Dimethylbenz(a)anthracene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Indene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Methylchrysene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
1-Methylnaphthalene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
3-Methylphenol	mg/kg	<5	<5	<5	<5	<5	<5	<5	<5	<5
Pyridine	mg/kg	<5	<5	<5	<5	<5	<5	<5	<5	<5
Quinoline	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85

WATER SAMPLES

PHASE II, RFI 1991
GIANT REFINING
CINIZA

METALS

PARAMETER	UNITS	MW-4	OW-1	OW-2	OW-5	OW-7	OW-9	OW-10	OW-30*	EQUIP WASH(1)	EQUIP WASH(2)
Arsenic	mg/l	<0.005	<0.005	0.006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	mg/l	0.024	0.128	0.497	0.085	0.067	0.044	0.081	0.130	<0.010	<0.057
Beryllium	mg/l	<0.005	<0.005	0.007	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Cadmium	mg/l	<0.005	0.006	<0.005	<0.025	<0.005	<0.005	0.013	<0.005	<0.005	<0.005
Cobalt	mg/l	<0.010	<0.010	<0.010	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Chromium	mg/l	<0.010	<0.010	0.023	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Copper	mg/l	0.379	0.017	0.044	<0.050	0.018	0.014	<0.010	0.019	<0.010	0.017
Mercury	mg/l	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Potassium	mg/l	1.4	2.6	2.7	7.9	2.0	1.0	1.8	2.2	<1.0	<1.0
Nickel	mg/l	<0.020	<0.020	<0.020	<0.10	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Lead	mg/l	0.0002	0.008	0.026	0.0021	0.0003	0.0002	<0.0002	<0.0002	<0.002	<0.002
Antimony	mg/l	<0.05	<0.05	<0.05	<0.25	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Selenium	mg/l	<0.005	0.007	<0.010	<0.05	<0.005	0.013	0.024	0.007	<0.005	<0.005
Vanadium	mg/l	<0.010	0.050	0.051	<0.50	0.024	0.012	<0.010	0.051	<0.010	<0.010
Zinc	mg/l	0.038	0.033	0.063	<0.05	0.015	0.023	0.012	0.036	0.012	0.014

* Duplicate sample of OW-1.
(1) Equipment wash of OW-1.
(2) Equipment wash of OW-2

WATER SAMPLES

PHASE II, RFI 1991
GIANT REFINING
CINIZA

PARAMETER	UNITS	MW-4	OW-1	OW-2	OW-5	OW-7	OW-9	OW-10	OW-30*	EQUIP WASH(1)	EQUIP WASH(2)
pH	---	8.77	8.86	8.5	6.98	8.87	8.48	8.36	8.85	5.79	5.79

* Duplicate sample of OW-1.
(1) Equipment wash of OW-1.
(2) Equipment wash of OW-2

WATER SAMPLES

PHASE II, RFI 1991
GIANT REFINING
CINIZA

8240 VOLATILE ORGANICS

PARAMETER	UNITS	MW-4	OW-1	OW-2	OW-5	OW-7	OW-9	OW-10	OW-30*	EQUIP WASH(1)	EQUIP WASH(2)
Carbon Disulfide	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dichlorethane	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
2-Butanone (MEK)	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Benzene	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
2-Chloroethylvinylether	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Toluene	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chlorobenzene	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Ethybenzene	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Styrene	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Total Xylenes	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,4-Dioxane	ug/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
1,2-Dibromoethane (EDB)	ug/l	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5

* Duplicate sample of OW-1.
(1) Equipment wash of OW-1.
(2) Equipment wash of OW-2

WATER SAMPLES

PHASE II, RFI 1991
GIANT REFINING
CINIZA

8270 SEMI-VOLATILE ORGANICS

PARAMETER	UNITS	MW-4	OW-1	OW-2	OW-5	OW-7	OW-9	OW-10	OW-30*	EQUIP WASH(1)	EQUIP WASH(2)
Phenol	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,3-Dichlorobenzene	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,4-Dichlorobenzene	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dichlorobenzene	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
2-Methylphenol	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-Methylphenol	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
2,4-Dimethylphenol	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Naphthalene	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Dimethylphthalate	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
2,4-Dinitrophenol	ug/l	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
4-Nitrophenol	ug/l	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
Diethylphthalate	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Phenanthrene	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Anthracene	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Di-n-butylphthalate	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Flouranthene	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Pyrene	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Butylbenzylphthalate	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Benzo(a)anthracene	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Bis(2-ethylhexyl)phthalate	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chrysene	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Di-n-octylphthalate	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Benzo(b)flouranthene	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Benzo(k)flouranthene	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Benzo(a)pyrene	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Dibenzo(a,h)anthracene	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Benzenethiol	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Dibenzo(a,j)acridine	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
7,12-Dimethylbenz(a) Anthracene	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Indene	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Methylchrysene	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1-Methylnaphthalene	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
3-Methylphenol	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Pyridine	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Quinoline	ug/l	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25

* Duplicate sample of OW-1.
(1) Equipment wash of OW-1.
(2) Equipment wash of OW-2

SWMU #13

PHASE II, RFI 1991
GIANT REFINING
CINIZA

METALS

SAMPLE POINT NUMBER		01	01	02	02	03	03	04	04	04	02
SAMPLE POINT DEPTH		V2.0	V3.5	V2.0	V3.5	V2.0	V3.5	V2.0	V3.5	D3.5	E2.0 (mg/l)
PARAMETER	UNITS										
Antimony	mg/kg	<3	<3	<3	<3	<3	<3	<3	<3	<3	<0.05
Arsenic	mg/kg	<3	<3	<3	<3	<3	<3	<3	<3	<3	<0.005
Barium	mg/kg	281	287	244	377	244	312	266	250	262	<0.010
Beryllium	mg/kg	2.4	3.6	4.3	3.2	4.1	4.3	4.3	4.6	4.9	<0.005
Cadmium	mg/kg	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.005
Chromium	mg/kg	4.5	5.2	6.0	5.1	5.2	5.3	7.1	6.4	6.5	<0.010
Cobalt	mg/kg	4.4	5.5	5.1	5.0	6.0	5.1	5.9	5.3	5.2	<0.010
Copper	mg/kg	4.6	4.1	4.4	5.4	5.3	4.9	5.5	4.9	5.1	<0.010
Lead	mg/kg	10	10	12	10	11	12	10	9	11	<0.002
Mercury	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.0002
Nickel	mg/kg	8.5	8.9	9.0	9.2	10.9	8.9	11.3	9.6	9.1	<0.020
Potassium	mg/kg	1080	1200	1720	1190	1680	1270	1830	2370	2190	<1.0
Selenium	mg/kg	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.005
Vanadium	mg/kg	10.0	11.5	12.3	9.3	12.1	12.0	10.0	12.2	12.6	<0.010
Zinc	mg/kg	9.7	12.4	14.3	13.0	14.6	12.6	16.1	15.3	14.1	0.014

SWMU #13

PHASE II, RFI 1991
GIANT REFINING
CINIZA

8240 VOLATILE ORGANICS

SAMPLE POINT NUMBER		01	01	02	02	03	03	04	04	04	02
SAMPLE POINT DEPTH		V2.0	V3.5	V2.0	V3.5	V2.0	V3.5	V2.0	V3.5	D3.5	E2.0 (ug/l)
PARAMETER	UNITS										
Carbon Sulfide	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
1,2-Dichloroethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
Benzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
2-Chloroethyl vinyl ether	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
Chlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
Ethylbenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
2-Butanone (MEK)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
Styrene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
Xylenes (total)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
1,4-Dioxane	mg/kg	<7.5	<7.5	<7.5	<7.5	<7.5	<7.5	<7.5	<7.5	<7.5	<10
1,2-Dibromoethane (EDB)	mg/kg	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<2.5

SWMU #13

PHASE II, RFI 1991
GIANT REFINING
CINIZA

8270 SEMI-VOLATILE ORGANICS

SAMPLE POINT NUMBER		01	01	02	02	03	03	04	04	04	02
SAMPLE POINT DEPTH		V2.0	V3.5	V2.0	V3.5	V2.0	V3.5	V2.0	V3.5	D3.5	E2.0 (ug/l)
PARAMETER	UNITS										
Anthracene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	0.17	<0.17	<5
Benzenethiol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	0.17	<0.17	<5
Benzo(a)anthracene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Benzo(b)fluoranthene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Benzo(k)fluoranthene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Benzo(a)pyrene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Butyl benzyl phthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Chrysene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Dibenz(a,h)anthracene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Di-n-butyl phthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
1,2-Dichlorobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
1,3-Dichlorobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
1,4-Dichlorobenzene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Diethyl phthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
7,12-Dimethylbenz(a)-anthracene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
2,4-Dimethylphenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Dimethyl phthalate	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
2,4-Dinitrophenol	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<25
Fluoranthene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Naphthalene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
4-Nitrophenol	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<25
Phenanthrene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Phenol	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Pyrene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
Methylchrysene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
1-Methylnaphthalene	mg/kg	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<5
3-Methyl Phenol	mg/kg	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Pyridine	mg/kg	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Quinoline	mg/kg	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<25