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American Environmental Network, Inc.

AEN I.D. 805333

June 2, 1998

AUG 1998 RECEIVED

GIANT REFINING COMPANY
ROUTE 3 BOX 7
GALLUP, NM 87301

Project Name (none)
Project Number (none)

Attention: STEVE MORRIS

On 5/8/98 American Environmental Network (NM), Inc. (ADHS License No. AZ0015), received a request to analyze **aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

EPA method 150.1 and 8260 were performed by American Environmental Network (NM) Inc., Albuquerque, NM.

All other parameters were performed by American Environmental Network (CT) Inc., Monroe, CT.

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

Kimberly D. McNeill
Project Manager

H. Mitchell Rubenstein, Ph. D.
General Manager

MR: mt

Enclosure

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

American Environmental Network, Inc.

CLIENT	: GIANT REFINING COMPANY	AEN I.D.	: 805333
PROJECT #	: (none)	DATE RECEIVED	: 5/8/98
PROJECT NAME	: (none)	REPORT DATE	: 6/2/98

AEN ID. #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	MW-1-5598	AQUEOUS	5/5/98
02	MW-2-5598	AQUEOUS	5/5/98
03	MW-5-5598	AQUEOUS	5/5/98
04	MW-4-5598	AQUEOUS	5/5/98
05	OW-11-5598	AQUEOUS	5/5/98
06	TRIP BLANK	AQUEOUS	4/6/98

American Environmental Network, Inc.

GENERAL CHEMISTRY RESULTS

CLIENT	: GIANT REFINING COMPANY	AEN I.D.	: 805333
PROJECT #	: (none)	DATE RECEIVED	: 5/8/98
PROJECT NAME	: (none)		

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE ANALYZED
01	MW-1-5598	AQUEOUS	5/5/98	5/12/98
02	MW-2-5598	AQUEOUS	5/5/98	5/12/98
03	MW-5-5598	AQUEOUS	5/5/98	5/12/98

PARAMETER	UNITS	01	02	03
PH (150.1)	UNITS	9.04	9.06	9.07

CHEMIST NOTES:
N/A

American Environmental Network, Inc.

GENERAL CHEMISTRY RESULTS

CLIENT	: GIANT REFINING COMPANY	AEN I.D.	: 805333
PROJECT #	: (none)	DATE RECEIVED	: 5/8/98
PROJECT NAME	: (none)		

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE ANALYZED
04	MW-4-5598	AQUEOUS	5/5/98	5/12/98
05	OW-11-5598	AQUEOUS	5/5/98	5/12/98

PARAMETER	UNITS	04	05
PH (150.1)	UNITS	8.78	8.43

CHEMIST NOTES:
N/A

American Environmental Network, Inc.

GENERAL CHEMISTRY - QUALITY CONTROL

CLIENT	: GIANT REFINING COMPANY	AEN I.D.	: 805333
PROJECT #	: (none)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: (none)		

PARAMETER	UNITS	AEN I.D.	SAMPLE RESULT	DUP. RESULT	% RPD
PH	UNITS	805333-01	9.04	9.05	0

CHEMIST NOTES:
N/A

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

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

American Environmental Network, Inc.

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8260		
CLIENT	: GIANT REFINING COMPANY	AEN I.D. :	805333
PROJECT #	: (none)	DATE RECEIVED :	5/8/98
PROJECT NAME	: (none)		

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
805333-01	MW-1-5598	AQUEOUS	5/5/98	N/A	05/11/98	1

PARAMETER	DET. LIMIT		UNITS
Dichlorodifluoromethane	1.0	< 1.0	ug/L
Chloromethane	1.0	< 1.0	ug/L
Vinyl Chloride	1.0	< 1.0	ug/L
Bromomethane	1.0	< 1.0	ug/L
Chloroethane	1.0	< 1.0	ug/L
Trichlorofluoromethane	1.0	< 1.0	ug/L
Acetone	10	< 10	ug/L
Acrolein	5.0	< 5.0	ug/L
1,1-Dichloroethene	1.0	< 1.0	ug/L
Iodomethane	1.0	< 1.0	ug/L
Methylene Chloride	1.0	< 1.0	ug/L
Acrylonitrile	5.0	< 5.0	ug/L
cis-1,2-Dichloroethene	1.0	< 1.0	ug/L
Methyl-t-butyl Ether	1.0	< 1.0	ug/L
1,1,2,1,2,2-Trichlorotrifluoroethane	1.0	< 1.0	ug/L
1,1-Dichloroethane	1.0	< 1.0	ug/L
trans-1,2-Dichloroethene	1.0	< 1.0	ug/L
2-Butanone	10	< 10	ug/L
Carbon Disulfide	1.0	< 1.0	ug/L
Bromochloromethane	1.0	< 1.0	ug/L
Chloroform	1.0	< 1.0	ug/L
2,2-Dichloropropane	1.0	< 1.0	ug/L
1,2-Dichloroethane	1.0	< 1.0	ug/L
Vinyl Acetate	1.0	< 1.0	ug/L
1,1,1-Trichloroethane	1.0	< 1.0	ug/L
1,1-Dichloropropene	1.0	< 1.0	ug/L
Carbon Tetrachloride	1.0	< 1.0	ug/L
Benzene	1.0	< 1.0	ug/L
1,2-Dichloropropane	1.0	< 1.0	ug/L
Trichloroethene	1.0	< 1.0	ug/L
Bromodichloromethane	1.0	< 1.0	ug/L
2-Chloroethyl Vinyl Ether	10	< 10	ug/L
cis-1,3-Dichloropropene	1.0	< 1.0	ug/L
trans-1,3-Dichloropropene	1.0	< 1.0	ug/L
1,1,2-Trichloroethane	1.0	< 1.0	ug/L
1,3-Dichloropropane	1.0	< 1.0	ug/L
Dibromomethane	1.0	< 1.0	ug/L
Toluene	1.0	< 1.0	ug/L
1,2-Dibromoethane	1.0	< 1.0	ug/L
4-Methyl-2-Pentanone	10	< 10	ug/L
2-Hexanone	10	< 10	ug/L
Dibromochloromethane	1.0	< 1.0	ug/L
Tetrachloroethene	1.0	< 1.0	ug/L
Chlorobenzene	1.0	< 1.0	ug/L
Ethylbenzene	1.0	< 1.0	ug/L
1,1,1,2-Tetrachloroethane	1.0	< 1.0	ug/L

American Environmental Network, Inc.

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8260		
CLIENT	: GIANT REFINING COMPANY	AEN I.D. :	805333
PROJECT #	: (none)	DATE RECEIVED :	5/8/98
PROJECT NAME	: (none)		

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
805333-01	MW-1-5598	AQUEOUS	5/5/98	N/A	05/11/98	1

PARAMETER	DET. LIMIT		UNITS
m&p Xylenes	1.0	< 1.0	ug/L
o-Xylene	1.0	< 1.0	ug/L
Styrene	1.0	< 1.0	ug/L
Bromoform	1.0	< 1.0	ug/L
1,1,2,2-Tetrachloroethane	1.0	< 1.0	ug/L
1,2,3-Trichloropropane	1.0	< 1.0	ug/L
Isopropyl Benzene	1.0	< 1.0	ug/L
Bromobenzene	1.0	< 1.0	ug/L
trans-1,4-Dichloro-2-Butene	1.0	< 1.0	ug/L
n-Propylbenzene	1.0	< 1.0	ug/L
2-Chlorotoluene	1.0	< 1.0	ug/L
4-Chlorotoluene	1.0	< 1.0	ug/L
1,3,5-Trimethylbenzene	1.0	< 1.0	ug/L
tert-Butylbenzene	1.0	< 1.0	ug/L
1,2,4-Trimethylbenzene	1.0	< 1.0	ug/L
sec-Butylbenzene	1.0	< 1.0	ug/L
1,3-Dichlorobenzene	1.0	< 1.0	ug/L
1,4-Dichlorobenzene	1.0	< 1.0	ug/L
p-Isopropyltoluene	1.0	< 1.0	ug/L
1,2-Dichlorobenzene	1.0	< 1.0	ug/L
n-Butylbenzene	1.0	< 1.0	ug/L
1,2-Dibromomo-3-chloropropane	1.0	< 1.0	ug/L
1,2,4-Trichlorobenzene	1.0	< 1.0	ug/L
Naphthalene	1.0	< 1.0	ug/L
Hexachlorobutadiene	1.0	< 1.0	ug/L
1,2,3-Trichlorobenzene	1.0	< 1.0	ug/L

SURROGATE % RECOVERY	
1,2-Dichloroethane-d4	101 (80 - 120)
Toluene-d8	101 (88 - 110)
Bromofluorobenzene	99 (86 - 115)

American Environmental Network, Inc.

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8260		
CLIENT	: GIANT REFINING COMPANY	AEN I.D. :	805333
PROJECT #	: (none)	DATE RECEIVED :	5/8/98
PROJECT NAME	: (none)		

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
805333-02	MW-2-5598	AQUEOUS	5/5/98	N/A	05/11/98	1

PARAMETER	DET. LIMIT		UNITS
Dichlorodifluoromethane	1.0	< 1.0	ug/L
Chloromethane	1.0	< 1.0	ug/L
Vinyl Chloride	1.0	< 1.0	ug/L
Bromomethane	1.0	< 1.0	ug/L
Chloroethane	1.0	< 1.0	ug/L
Trichlorofluoromethane	1.0	< 1.0	ug/L
Acetone	10	< 10	ug/L
Acrolein	5.0	< 5.0	ug/L
1,1-Dichloroethene	1.0	< 1.0	ug/L
Iodomethane	1.0	< 1.0	ug/L
Methylene Chloride	1.0	< 1.0	ug/L
Acrylonitrile	5.0	< 5.0	ug/L
cis-1,2-Dichloroethene	1.0	< 1.0	ug/L
Methyl-t-butyl Ether	1.0	< 1.0	ug/L
1,1,2,1,2,2-Trichlorotrifluoroethane	1.0	< 1.0	ug/L
1,1-Dichloroethane	1.0	< 1.0	ug/L
trans-1,2-Dichloroethene	1.0	< 1.0	ug/L
2-Butanone	10	< 10	ug/L
Carbon Disulfide	1.0	< 1.0	ug/L
Bromochloromethane	1.0	< 1.0	ug/L
Chloroform	1.0	< 1.0	ug/L
2,2-Dichloropropane	1.0	< 1.0	ug/L
1,2-Dichloroethane	1.0	< 1.0	ug/L
Vinyl Acetate	1.0	< 1.0	ug/L
1,1,1-Trichloroethane	1.0	< 1.0	ug/L
1,1-Dichloropropene	1.0	< 1.0	ug/L
Carbon Tetrachloride	1.0	< 1.0	ug/L
Benzene	1.0	< 1.0	ug/L
1,2-Dichloropropane	1.0	< 1.0	ug/L
Trichloroethene	1.0	< 1.0	ug/L
Bromodichloromethane	1.0	< 1.0	ug/L
2-Chloroethyl Vinyl Ether	10	< 10	ug/L
cis-1,3-Dichloropropene	1.0	< 1.0	ug/L
trans-1,3-Dichloropropene	1.0	< 1.0	ug/L
1,1,2-Trichloroethane	1.0	< 1.0	ug/L
1,3-Dichloropropane	1.0	< 1.0	ug/L
Dibromomethane	1.0	< 1.0	ug/L
Toluene	1.0	< 1.0	ug/L
1,2-Dibromoethane	1.0	< 1.0	ug/L
4-Methyl-2-Pentanone	10	< 10	ug/L
2-Hexanone	10	< 10	ug/L
Dibromochloromethane	1.0	< 1.0	ug/L
Tetrachloroethene	1.0	< 1.0	ug/L
Chlorobenzene	1.0	< 1.0	ug/L
Ethylbenzene	1.0	< 1.0	ug/L
1,1,1,2-Tetrachloroethane	1.0	< 1.0	ug/L

American Environmental Network, Inc.

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8260		
CLIENT	: GIANT REFINING COMPANY	AEN I.D. :	805333
PROJECT #	: (none)	DATE RECEIVED :	5/8/98
PROJECT NAME	: (none)		

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
805333-02	MW-2-5598	AQUEOUS	5/5/98	N/A	05/11/98	1

PARAMETER	DET. LIMIT		UNITS
m&p Xylenes	1.0	< 1.0	ug/L
o-Xylene	1.0	< 1.0	ug/L
Styrene	1.0	< 1.0	ug/L
Bromoform	1.0	< 1.0	ug/L
1,1,2,2-Tetrachloroethane	1.0	< 1.0	ug/L
1,2,3-Trichloropropane	1.0	< 1.0	ug/L
Isopropyl Benzene	1.0	< 1.0	ug/L
Bromobenzene	1.0	< 1.0	ug/L
trans-1,4-Dichloro-2-Butene	1.0	< 1.0	ug/L
n-Propylbenzene	1.0	< 1.0	ug/L
2-Chlorotoluene	1.0	< 1.0	ug/L
4-Chlorotoluene	1.0	< 1.0	ug/L
1,3,5-Trimethylbenzene	1.0	< 1.0	ug/L
tert-Butylbenzene	1.0	< 1.0	ug/L
1,2,4-Trimethylbenzene	1.0	< 1.0	ug/L
sec-Butylbenzene	1.0	< 1.0	ug/L
1,3-Dichlorobenzene	1.0	< 1.0	ug/L
1,4-Dichlorobenzene	1.0	< 1.0	ug/L
p-Isopropyltoluene	1.0	< 1.0	ug/L
1,2-Dichlorobenzene	1.0	< 1.0	ug/L
n-Butylbenzene	1.0	< 1.0	ug/L
1,2-Dibromomo-3-chloropropane	1.0	< 1.0	ug/L
1,2,4-Trichlorobenzene	1.0	< 1.0	ug/L
Naphthalene	1.0	< 1.0	ug/L
Hexachlorobutadiene	1.0	< 1.0	ug/L
1,2,3-Trichlorobenzene	1.0	< 1.0	ug/L

SURROGATE % RECOVERY	
1,2-Dichloroethane-d4	101
	(80 - 120)
Toluene-d8	102
	(88 - 110)
Bromofluorobenzene	100
	(86 - 115)

American Environmental Network, Inc.

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8260		
CLIENT	: GIANT REFINING COMPANY	AEN I.D. :	805333
PROJECT #	: (none)	DATE RECEIVED :	5/8/98
PROJECT NAME	: (none)		

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
805333-03	MW-5-5598	AQUEOUS	5/5/98	N/A	05/11/98	1

PARAMETER	DET. LIMIT		UNITS
Dichlorodifluoromethane	1.0	< 1.0	ug/L
Chloromethane	1.0	< 1.0	ug/L
Vinyl Chloride	1.0	< 1.0	ug/L
Bromomethane	1.0	< 1.0	ug/L
Chloroethane	1.0	< 1.0	ug/L
Trichlorofluoromethane	1.0	< 1.0	ug/L
Acetone	10	< 10	ug/L
Acrolein	5.0	< 5.0	ug/L
1,1-Dichloroethene	1.0	< 1.0	ug/L
Iodomethane	1.0	< 1.0	ug/L
Methylene Chloride	1.0	< 1.0	ug/L
Acrylonitrile	5.0	< 5.0	ug/L
cis-1,2-Dichloroethene	1.0	< 1.0	ug/L
Methyl-t-butyl Ether	1.0	< 1.0	ug/L
1,1,2,1,2,2-Trichlorotrifluoroethane	1.0	< 1.0	ug/L
1,1-Dichloroethane	1.0	< 1.0	ug/L
trans-1,2-Dichloroethene	1.0	< 1.0	ug/L
2-Butanone	10	< 10	ug/L
Carbon Disulfide	1.0	< 1.0	ug/L
Bromochloromethane	1.0	< 1.0	ug/L
Chloroform	1.0	< 1.0	ug/L
2,2-Dichloropropane	1.0	< 1.0	ug/L
1,2-Dichloroethane	1.0	< 1.0	ug/L
Vinyl Acetate	1.0	< 1.0	ug/L
1,1,1-Trichloroethane	1.0	< 1.0	ug/L
1,1-Dichloropropene	1.0	< 1.0	ug/L
Carbon Tetrachloride	1.0	< 1.0	ug/L
Benzene	1.0	< 1.0	ug/L
1,2-Dichloropropane	1.0	< 1.0	ug/L
Trichloroethene	1.0	< 1.0	ug/L
Bromodichloromethane	1.0	< 1.0	ug/L
2-Chloroethyl Vinyl Ether	10	< 10	ug/L
cis-1,3-Dichloropropene	1.0	< 1.0	ug/L
trans-1,3-Dichloropropene	1.0	< 1.0	ug/L
1,1,2-Trichloroethane	1.0	< 1.0	ug/L
1,3-Dichloropropane	1.0	< 1.0	ug/L
Dibromomethane	1.0	< 1.0	ug/L
Toluene	1.0	< 1.0	ug/L
1,2-Dibromoethane	1.0	< 1.0	ug/L
4-Methyl-2-Pentanone	10	< 10	ug/L
2-Hexanone	10	< 10	ug/L
Dibromochloromethane	1.0	< 1.0	ug/L
Tetrachloroethene	1.0	< 1.0	ug/L
Chlorobenzene	1.0	< 1.0	ug/L
Ethylbenzene	1.0	< 1.0	ug/L
1,1,1,2-Tetrachloroethane	1.0	< 1.0	ug/L

American Environmental Network, Inc.

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8260		
CLIENT	: GIANT REFINING COMPANY	AEN I.D. :	805333
PROJECT #	: (none)	DATE RECEIVED :	5/8/98
PROJECT NAME	: (none)		

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
805333-03	MW-5-5598	AQUEOUS	5/5/98	N/A	05/11/98	1

PARAMETER	DET. LIMIT		UNITS
m&p Xylenes	1.0	< 1.0	ug/L
o-Xylene	1.0	< 1.0	ug/L
Styrene	1.0	< 1.0	ug/L
Bromoform	1.0	< 1.0	ug/L
1,1,2,2-Tetrachloroethane	1.0	< 1.0	ug/L
1,2,3-Trichloropropane	1.0	< 1.0	ug/L
Isopropyl Benzene	1.0	< 1.0	ug/L
Bromobenzene	1.0	< 1.0	ug/L
trans-1,4-Dichloro-2-Butene	1.0	< 1.0	ug/L
n-Propylbenzene	1.0	< 1.0	ug/L
2-Chlorotoluene	1.0	< 1.0	ug/L
4-Chlorotoluene	1.0	< 1.0	ug/L
1,3,5-Trimethylbenzene	1.0	< 1.0	ug/L
tert-Butylbenzene	1.0	< 1.0	ug/L
1,2,4-Trimethylbenzene	1.0	< 1.0	ug/L
sec-Butylbenzene	1.0	< 1.0	ug/L
1,3-Dichlorobenzene	1.0	< 1.0	ug/L
1,4-Dichlorobenzene	1.0	< 1.0	ug/L
p-Isopropyltoluene	1.0	< 1.0	ug/L
1,2-Dichlorobenzene	1.0	< 1.0	ug/L
n-Butylbenzene	1.0	< 1.0	ug/L
1,2-Dibromomo-3-chloropropane	1.0	< 1.0	ug/L
1,2,4-Trichlorobenzene	1.0	< 1.0	ug/L
Naphthalene	1.0	< 1.0	ug/L
Hexachlorobutadiene	1.0	< 1.0	ug/L
1,2,3-Trichlorobenzene	1.0	< 1.0	ug/L

SURROGATE % RECOVERY	
1,2-Dichloroethane-d4	101
	(80 - 120)
Toluene-d8	99
	(88 - 110)
Bromofluorobenzene	95
	(86 - 115)

American Environmental Network, Inc.

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8260		
CLIENT	: GIANT REFINING COMPANY	AEN I.D. :	805333
PROJECT #	: (none)	DATE RECEIVED :	5/8/98
PROJECT NAME	: (none)		

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
805333-04	MW-4-5598	AQUEOUS	5/5/98	N/A	05/11/98	1

PARAMETER	DET. LIMIT		UNITS
Dichlorodifluoromethane	1.0	< 1.0	ug/L
Chloromethane	1.0	< 1.0	ug/L
Vinyl Chloride	1.0	< 1.0	ug/L
Bromomethane	1.0	< 1.0	ug/L
Chloroethane	1.0	< 1.0	ug/L
Trichlorofluoromethane	1.0	< 1.0	ug/L
Acetone	10	< 10	ug/L
Acrolein	5.0	< 5.0	ug/L
1,1-Dichloroethene	1.0	< 1.0	ug/L
Iodomethane	1.0	< 1.0	ug/L
Methylene Chloride	1.0	< 1.0	ug/L
Acrylonitrile	5.0	< 5.0	ug/L
cis-1,2-Dichloroethene	1.0	< 1.0	ug/L
Methyl-t-butyl Ether	1.0	< 1.0	ug/L
1,1,2,1,2,2-Trichlorotrifluoroethane	1.0	< 1.0	ug/L
1,1-Dichloroethane	1.0	< 1.0	ug/L
trans-1,2-Dichloroethene	1.0	< 1.0	ug/L
2-Butanone	10	< 10	ug/L
Carbon Disulfide	1.0	< 1.0	ug/L
Bromochloromethane	1.0	< 1.0	ug/L
Chloroform	1.0	< 1.0	ug/L
2,2-Dichloropropane	1.0	< 1.0	ug/L
1,2-Dichloroethane	1.0	< 1.0	ug/L
Vinyl Acetate	1.0	< 1.0	ug/L
1,1,1-Trichloroethane	1.0	< 1.0	ug/L
1,1-Dichloropropene	1.0	< 1.0	ug/L
Carbon Tetrachloride	1.0	< 1.0	ug/L
Benzene	1.0	< 1.0	ug/L
1,2-Dichloropropane	1.0	< 1.0	ug/L
Trichloroethene	1.0	< 1.0	ug/L
Bromodichloromethane	1.0	< 1.0	ug/L
2-Chloroethyl Vinyl Ether	10	< 10	ug/L
cis-1,3-Dichloropropene	1.0	< 1.0	ug/L
trans-1,3-Dichloropropene	1.0	< 1.0	ug/L
1,1,2-Trichloroethane	1.0	< 1.0	ug/L
1,3-Dichloropropane	1.0	< 1.0	ug/L
Dibromomethane	1.0	< 1.0	ug/L
Toluene	1.0	< 1.0	ug/L
1,2-Dibromoethane	1.0	< 1.0	ug/L
4-Methyl-2-Pentanone	10	< 10	ug/L
2-Hexanone	10	< 10	ug/L
Dibromochloromethane	1.0	< 1.0	ug/L
Tetrachloroethene	1.0	< 1.0	ug/L
Chlorobenzene	1.0	< 1.0	ug/L
Ethylbenzene	1.0	< 1.0	ug/L
1,1,1,2-Tetrachloroethane	1.0	< 1.0	ug/L

American Environmental Network, Inc.

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8260		
CLIENT	: GIANT REFINING COMPANY	AEN I.D. :	805333
PROJECT #	: (none)	DATE RECEIVED :	5/8/98
PROJECT NAME	: (none)		

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
805333-04	MW-4-5598	AQUEOUS	5/5/98	N/A	05/11/98	1

PARAMETER	DET. LIMIT		UNITS
m&p Xylenes	1.0	< 1.0	ug/L
o-Xylene	1.0	< 1.0	ug/L
Styrene	1.0	< 1.0	ug/L
Bromoform	1.0	< 1.0	ug/L
1,1,2,2-Tetrachloroethane	1.0	< 1.0	ug/L
1,2,3-Trichloropropane	1.0	< 1.0	ug/L
Isopropyl Benzene	1.0	< 1.0	ug/L
Bromobenzene	1.0	< 1.0	ug/L
trans-1,4-Dichloro-2-Butene	1.0	< 1.0	ug/L
n-Propylbenzene	1.0	< 1.0	ug/L
2-Chlorotoluene	1.0	< 1.0	ug/L
4-Chlorotoluene	1.0	< 1.0	ug/L
1,3,5-Trimethylbenzene	1.0	< 1.0	ug/L
tert-Butylbenzene	1.0	< 1.0	ug/L
1,2,4-Trimethylbenzene	1.0	< 1.0	ug/L
sec-Butylbenzene	1.0	< 1.0	ug/L
1,3-Dichlorobenzene	1.0	< 1.0	ug/L
1,4-Dichlorobenzene	1.0	< 1.0	ug/L
p-Isopropyltoluene	1.0	< 1.0	ug/L
1,2-Dichlorobenzene	1.0	< 1.0	ug/L
n-Butylbenzene	1.0	< 1.0	ug/L
1,2-Dibromomo-3-chloropropane	1.0	< 1.0	ug/L
1,2,4-Trichlorobenzene	1.0	< 1.0	ug/L
Naphthalene	1.0	< 1.0	ug/L
Hexachlorobutadiene	1.0	< 1.0	ug/L
1,2,3-Trichlorobenzene	1.0	< 1.0	ug/L

SURROGATE % RECOVERY	
1,2-Dichloroethane-d4	104 (80 - 120)
Toluene-d8	104 (88 - 110)
Bromofluorobenzene	98 (86 - 115)

American Environmental Network, Inc.

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8260		
CLIENT	: GIANT REFINING COMPANY	AEN I.D. :	805333
PROJECT #	: (none)	DATE RECEIVED :	5/8/98
PROJECT NAME	: (none)		

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
805333-05	OW-11-5598	AQUEOUS	5/5/98	N/A	05/11/98	1

PARAMETER	DET. LIMIT		UNITS
Dichlorodifluoromethane	1.0	< 1.0	ug/L
Chloromethane	1.0	< 1.0	ug/L
Vinyl Chloride	1.0	< 1.0	ug/L
Bromomethane	1.0	< 1.0	ug/L
Chloroethane	1.0	< 1.0	ug/L
Trichlorofluoromethane	1.0	< 1.0	ug/L
Acetone	10	< 10	ug/L
Acrolein	5.0	< 5.0	ug/L
1,1-Dichloroethene	1.0	< 1.0	ug/L
Iodomethane	1.0	< 1.0	ug/L
Methylene Chloride	1.0	< 1.0	ug/L
Acrylonitrile	5.0	< 5.0	ug/L
cis-1,2-Dichloroethene	1.0	< 1.0	ug/L
Methyl-t-butyl Ether	1.0	< 1.0	ug/L
1,1,2,1,2,2-Trichlorotrifluoroethane	1.0	< 1.0	ug/L
1,1-Dichloroethane	1.0	< 1.0	ug/L
trans-1,2-Dichloroethene	1.0	< 1.0	ug/L
2-Butanone	10	< 10	ug/L
Carbon Disulfide	1.0	< 1.0	ug/L
Bromochloromethane	1.0	< 1.0	ug/L
Chloroform	1.0	< 1.0	ug/L
2,2-Dichloropropane	1.0	< 1.0	ug/L
1,2-Dichloroethane	1.0	< 1.0	ug/L
Vinyl Acetate	1.0	< 1.0	ug/L
1,1,1-Trichloroethane	1.0	< 1.0	ug/L
1,1-Dichloropropene	1.0	< 1.0	ug/L
Carbon Tetrachloride	1.0	< 1.0	ug/L
Benzene	1.0	< 1.0	ug/L
1,2-Dichloropropane	1.0	< 1.0	ug/L
Trichloroethene	1.0	< 1.0	ug/L
Bromodichloromethane	1.0	< 1.0	ug/L
2-Chloroethyl Vinyl Ether	10	< 10	ug/L
cis-1,3-Dichloropropene	1.0	< 1.0	ug/L
trans-1,3-Dichloropropene	1.0	< 1.0	ug/L
1,1,2-Trichloroethane	1.0	< 1.0	ug/L
1,3-Dichloropropane	1.0	< 1.0	ug/L
Dibromomethane	1.0	< 1.0	ug/L
Toluene	1.0	< 1.0	ug/L
1,2-Dibromoethane	1.0	< 1.0	ug/L
4-Methyl-2-Pentanone	10	< 10	ug/L
2-Hexanone	10	< 10	ug/L
Dibromochloromethane	1.0	< 1.0	ug/L
Tetrachloroethene	1.0	< 1.0	ug/L
Chlorobenzene	1.0	< 1.0	ug/L
Ethylbenzene	1.0	< 1.0	ug/L
1,1,1,2-Tetrachloroethane	1.0	< 1.0	ug/L

American Environmental Network, Inc.

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8260		
CLIENT	: GIANT REFINING COMPANY	AEN I.D. :	805333
PROJECT #	: (none)	DATE RECEIVED :	5/8/98
PROJECT NAME	: (none)		

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
805333-05	OW-11-5598	AQUEOUS	5/5/98	N/A	05/11/98	1

PARAMETER	DET. LIMIT		UNITS
m&p Xylenes	1.0	< 1.0	ug/L
o-Xylene	1.0	< 1.0	ug/L
Styrene	1.0	< 1.0	ug/L
Bromoform	1.0	< 1.0	ug/L
1,1,2,2-Tetrachloroethane	1.0	< 1.0	ug/L
1,2,3-Trichloropropane	1.0	< 1.0	ug/L
Isopropyl Benzene	1.0	< 1.0	ug/L
Bromobenzene	1.0	< 1.0	ug/L
trans-1,4-Dichloro-2-Butene	1.0	< 1.0	ug/L
n-Propylbenzene	1.0	< 1.0	ug/L
2-Chlorotoluene	1.0	< 1.0	ug/L
4-Chlorotoluene	1.0	< 1.0	ug/L
1,3,5-Trimethylbenzene	1.0	< 1.0	ug/L
tert-Butylbenzene	1.0	< 1.0	ug/L
1,2,4-Trimethylbenzene	1.0	< 1.0	ug/L
sec-Butylbenzene	1.0	< 1.0	ug/L
1,3-Dichlorobenzene	1.0	< 1.0	ug/L
1,4-Dichlorobenzene	1.0	< 1.0	ug/L
p-Isopropyltoluene	1.0	< 1.0	ug/L
1,2-Dichlorobenzene	1.0	< 1.0	ug/L
n-Butylbenzene	1.0	< 1.0	ug/L
1,2-Dibromomo-3-chloropropane	1.0	< 1.0	ug/L
1,2,4-Trichlorobenzene	1.0	< 1.0	ug/L
Naphthalene	1.0	< 1.0	ug/L
Hexachlorobutadiene	1.0	< 1.0	ug/L
1,2,3-Trichlorobenzene	1.0	< 1.0	ug/L

SURROGATE % RECOVERY	
1,2-Dichloroethane-d4	106 (80 - 120)
Toluene-d8	107 (88 - 110)
Bromofluorobenzene	103 (86 - 115)

American Environmental Network, Inc.

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8260		
CLIENT	: GIANT REFINING COMPANY	AEN I.D. :	805333
PROJECT #	: (none)	DATE RECEIVED :	5/8/98
PROJECT NAME	: (none)		

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
805333-06	Trip Blank	AQUEOUS	4/6/98	N/A	05/11/98	1

PARAMETER	DET. LIMIT		UNITS
Dichlorodifluoromethane	1.0	< 1.0	ug/L
Chloromethane	1.0	< 1.0	ug/L
Vinyl Chloride	1.0	< 1.0	ug/L
Bromomethane	1.0	< 1.0	ug/L
Chloroethane	1.0	< 1.0	ug/L
Trichlorofluoromethane	1.0	< 1.0	ug/L
Acetone	10	< 10	ug/L
Acrolein	5.0	< 5.0	ug/L
1,1-Dichloroethene	1.0	< 1.0	ug/L
Iodomethane	1.0	< 1.0	ug/L
Methylene Chloride	1.0	< 1.0	ug/L
Acrylonitrile	5.0	< 5.0	ug/L
cis-1,2-Dichloroethene	1.0	< 1.0	ug/L
Methyl-t-butyl Ether	1.0	< 1.0	ug/L
1,1,2,1,2,2-Trichlorotrifluoroethane	1.0	**1.0**	**ug/L**
1,1-Dichloroethane	1.0	< 1.0	ug/L
trans-1,2-Dichloroethene	1.0	< 1.0	ug/L
2-Butanone	10	< 10	ug/L
Carbon Disulfide	1.0	< 1.0	ug/L
Bromochloromethane	1.0	< 1.0	ug/L
Chloroform	1.0	< 1.0	ug/L
2,2-Dichloropropane	1.0	< 1.0	ug/L
1,2-Dichloroethane	1.0	< 1.0	ug/L
Vinyl Acetate	1.0	< 1.0	ug/L
1,1,1-Trichloroethane	1.0	< 1.0	ug/L
1,1-Dichloropropene	1.0	< 1.0	ug/L
Carbon Tetrachloride	1.0	< 1.0	ug/L
Benzene	1.0	< 1.0	ug/L
1,2-Dichloropropane	1.0	< 1.0	ug/L
Trichloroethene	1.0	< 1.0	ug/L
Bromodichloromethane	1.0	< 1.0	ug/L
2-Chloroethyl Vinyl Ether	10	< 10	ug/L
cis-1,3-Dichloropropene	1.0	< 1.0	ug/L
trans-1,3-Dichloropropene	1.0	< 1.0	ug/L
1,1,2-Trichloroethane	1.0	< 1.0	ug/L
1,3-Dichloropropane	1.0	< 1.0	ug/L
Dibromomethane	1.0	< 1.0	ug/L
Toluene	1.0	< 1.0	ug/L
1,2-Dibromoethane	1.0	< 1.0	ug/L
4-Methyl-2-Pentanone	10	< 10	ug/L
2-Hexanone	10	< 10	ug/L
Dibromochloromethane	1.0	< 1.0	ug/L
Tetrachloroethene	1.0	< 1.0	ug/L
Chlorobenzene	1.0	< 1.0	ug/L
Ethylbenzene	1.0	< 1.0	ug/L
1,1,1,2-Tetrachloroethane	1.0	< 1.0	ug/L

American Environmental Network, Inc.

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8260		
CLIENT	: GIANT REFINING COMPANY	AEN I.D. :	805333
PROJECT #	: (none)	DATE RECEIVED :	5/8/98
PROJECT NAME	: (none)		

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
805333-06	Trip Blank	AQUEOUS	4/6/98	N/A	05/11/98	1

PARAMETER	DET. LIMIT		UNITS
m&p Xylenes	1.0	< 1.0	ug/L
o-Xylene	1.0	< 1.0	ug/L
Styrene	1.0	< 1.0	ug/L
Bromoform	1.0	< 1.0	ug/L
1,1,2,2-Tetrachloroethane	1.0	< 1.0	ug/L
1,2,3-Trichloropropane	1.0	< 1.0	ug/L
Isopropyl Benzene	1.0	< 1.0	ug/L
Bromobenzene	1.0	< 1.0	ug/L
trans-1,4-Dichloro-2-Butene	1.0	< 1.0	ug/L
n-Propylbenzene	1.0	< 1.0	ug/L
2-Chlorotoluene	1.0	< 1.0	ug/L
4-Chlorotoluene	1.0	< 1.0	ug/L
1,3,5-Trimethylbenzene	1.0	< 1.0	ug/L
tert-Butylbenzene	1.0	< 1.0	ug/L
1,2,4-Trimethylbenzene	1.0	< 1.0	ug/L
sec-Butylbenzene	1.0	< 1.0	ug/L
1,3-Dichlorobenzene	1.0	< 1.0	ug/L
1,4-Dichlorobenzene	1.0	< 1.0	ug/L
p-Isopropyltoluene	1.0	< 1.0	ug/L
1,2-Dichlorobenzene	1.0	< 1.0	ug/L
n-Butylbenzene	1.0	< 1.0	ug/L
1,2-Dibromomo-3-chloropropane	1.0	< 1.0	ug/L
1,2,4-Trichlorobenzene	1.0	< 1.0	ug/L
Naphthalene	1.0	< 1.0	ug/L
Hexachlorobutadiene	1.0	< 1.0	ug/L
1,2,3-Trichlorobenzene	1.0	< 1.0	ug/L

SURROGATE % RECOVERY	
1,2-Dichloroethane-d4	104 (80 - 120)
Toluene-d8	104 (88 - 110)
Bromofluorobenzene	101 (86 - 115)

American Environmental Network, Inc.

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8260		
CLIENT	: GIANT REFINING COMPANY	AEN I.D. :	805333
PROJECT #	: (none)		
PROJECT NAME	: (none)		

SAMPLE ID #	BATCH	MATRIX	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
REAGENT BLANK	051198	AQUEOUS	N/A	05/11/98	1

PARAMETER	DET. LIMIT		UNITS
Dichlorodifluoromethane	1.0	< 1.0	ug/L
Chloromethane	1.0	< 1.0	ug/L
Vinyl Chloride	1.0	< 1.0	ug/L
Bromomethane	1.0	< 1.0	ug/L
Chloroethane	1.0	< 1.0	ug/L
Trichlorofluoromethane	1.0	< 1.0	ug/L
Acetone	10	< 10	ug/L
Acrolein	5.0	< 5.0	ug/L
1,1-Dichloroethene	1.0	< 1.0	ug/L
Iodomethane	1.0	< 1.0	ug/L
Methylene Chloride	1.0	< 1.0	ug/L
Acrylonitrile	5.0	< 5.0	ug/L
cis-1,2-Dichloroethene	1.0	< 1.0	ug/L
Methyl-t-butyl Ether	1.0	< 1.0	ug/L
1,1,2,1,2,2-Trichlorotrifluoroethane	1.0	< 1.0	ug/L
1,1-Dichloroethane	1.0	< 1.0	ug/L
trans-1,2-Dichloroethene	1.0	< 1.0	ug/L
2-Butanone	10	< 10	ug/L
Carbon Disulfide	1.0	< 1.0	ug/L
Bromochloromethane	1.0	< 1.0	ug/L
Chloroform	1.0	< 1.0	ug/L
2,2-Dichloropropane	1.0	< 1.0	ug/L
1,2-Dichloroethane	1.0	< 1.0	ug/L
Vinyl Acetate	1.0	< 1.0	ug/L
1,1,1-Trichloroethane	1.0	< 1.0	ug/L
1,1-Dichloropropene	1.0	< 1.0	ug/L
Carbon Tetrachloride	1.0	< 1.0	ug/L
Benzene	1.0	< 1.0	ug/L
1,2-Dichloropropane	1.0	< 1.0	ug/L
Trichloroethene	1.0	< 1.0	ug/L
Bromodichloromethane	1.0	< 1.0	ug/L
2-Chloroethyl Vinyl Ether	10	< 10	ug/L
cis-1,3-Dichloropropene	1.0	< 1.0	ug/L
trans-1,3-Dichloropropene	1.0	< 1.0	ug/L
1,1,2-Trichloroethane	1.0	< 1.0	ug/L
1,3-Dichloropropane	1.0	< 1.0	ug/L
Dibromomethane	1.0	< 1.0	ug/L
Toluene	1.0	< 1.0	ug/L
1,2-Dibromoethane	1.0	< 1.0	ug/L
4-Methyl-2-Pentanone	10	< 10	ug/L
2-Hexanone	10	< 10	ug/L
Dibromochloromethane	1.0	< 1.0	ug/L
Tetrachloroethene	1.0	< 1.0	ug/L
Chlorobenzene	1.0	< 1.0	ug/L
Ethylbenzene	1.0	< 1.0	ug/L
1,1,1,2-Tetrachloroethane	1.0	< 1.0	ug/L

American Environmental Network, Inc.

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8260		
CLIENT	: GIANT REFINING COMPANY	AEN I.D. :	805333
PROJECT #	: (none)		
PROJECT NAME	: (none)		

SAMPLE ID #	BATCH	MATRIX	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
REAGENT BLANK	051198	AQUEOUS	N/A	05/11/98	1

PARAMETER	DET. LIMIT		UNITS
m&p Xylenes	1.0	< 1.0	ug/L
o-Xylene	1.0	< 1.0	ug/L
Styrene	1.0	< 1.0	ug/L
Bromoform	1.0	< 1.0	ug/L
1,1,2,2-Tetrachloroethane	1.0	< 1.0	ug/L
1,2,3-Trichloropropane	1.0	< 1.0	ug/L
Isopropyl Benzene	1.0	< 1.0	ug/L
Bromobenzene	1.0	< 1.0	ug/L
trans-1,4-Dichloro-2-Butene	1.0	< 1.0	ug/L
n-Propylbenzene	1.0	< 1.0	ug/L
2-Chlorotoluene	1.0	< 1.0	ug/L
4-Chlorotoluene	1.0	< 1.0	ug/L
1,3,5-Trimethylbenzene	1.0	< 1.0	ug/L
tert-Butylbenzene	1.0	< 1.0	ug/L
1,2,4-Trimethylbenzene	1.0	< 1.0	ug/L
sec-Butylbenzene	1.0	< 1.0	ug/L
1,3-Dichlorobenzene	1.0	< 1.0	ug/L
1,4-Dichlorobenzene	1.0	< 1.0	ug/L
p-Isopropyltoluene	1.0	< 1.0	ug/L
1,2-Dichlorobenzene	1.0	< 1.0	ug/L
n-Butylbenzene	1.0	< 1.0	ug/L
1,2-Dibromomo-3-chloropropane	1.0	< 1.0	ug/L
1,2,4-Trichlorobenzene	1.0	< 1.0	ug/L
Naphthalene	1.0	< 1.0	ug/L
Hexachlorobutadiene	1.0	< 1.0	ug/L
1,2,3-Trichlorobenzene	1.0	< 1.0	ug/L

SURROGATE % RECOVERY		
1,2-Dichloroethane-d4	105	(80 - 120)
Toluene-d8	104	(88 - 110)
Bromofluorobenzene	100	(86 - 115)

American Environmental Network, Inc.

Spike Recovery and RPD Summary Report - WATER

Method : C:\HPCHEM\1\METHODS\82600310.M (RTE Integrator)
Title : AEN New Mexico GC/MS
Last Update : Wed Mar 11 12:23:32 1998
Response via : Initial Calibration

Non-Spiked Sample: 051198B1.D

	Spike Sample	Spike Duplicate Sample
File ID :	051198S3.D	051198S4.D
Sample :	BS	BS
Acq Time:	11 May 98 1:48 pm	11 May 98 2:24 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC Limits RPD	QC Limits % Rec
1,1-Dichloroethene	0.0	50	49	49	98	98	0	14	61-145
Benzene	0.0	50	50	50	100	100	1	11	76-127
Trichloroethene	0.0	50	49	50	98	99	0	14	71-120
Toluene	0.0	50	49	50	98	100	2	13	76-125
Chlorobenzene	0.0	50	49	49	97	98	0	13	75-130

- Fails Limit Check

82600310.M Tue May 12 10:42:04 1998

American Environmental Network
200 Monroe Turnpike • Monroe, CT 06468 • (203) 261-4458 • Fax (203) 268-5346

May 28, 1998

Ms. Kim Mcneill
AEN-NEW MEXICO
2709-D Pan American Freeway, Ne
Albuquerque, NM 87107

Dear Ms. Mcneill :

Please find enclosed the analytical results of 5 sample(s) received at our laboratory on May 11, 1998. This report contains sections addressing the following information at a minimum:

- sample summary
- analytical methodology
- state certifications
- definition of data qualifiers and terminology
- analytical results
- chain-of-custody

IEA Report #7098-1044A	Purchase Order #805333
Project ID: GIANT REFINING COMPANY	

Copies of this analytical report and supporting data are maintained in our files for a minimum of five years unless special arrangements have been made. Unless specifically indicated, all analytical testing was performed at this laboratory location and no portion of the testing was subcontracted.

We appreciate your selection of our services and welcome any questions or suggestions you may have relative to this report. Please contact your customer service representative at (203) 261-4458 for any additional information. Thank you for utilizing our services; we hope you will consider us for your future analytical needs.

I have reviewed and approved the enclosed data for final release.

Very truly yours,

Chris Cascella for

Jeffrey C. Curran
Laboratory Manager

JCC

7098-1044A
AEN-NEW MEXICO

Case Narrative

Classical Chemistry - Listed below are the wet chemistry analyte methods and references for the samples analyzed in this SDG. No analytical problems were encountered.

Analyte	Method	Reference
Alkalinity	310.1	1
Bicarbonate	2320B	2
Carbonate	2320B	2
Conductivity	120.1	1
Chloride	325.2	1
Phenols	420.2	1
pH	150.1	1
Sulfate	375.2	1
TDS	160.1	1
Temperature	2550B	1
TOCD	9060	3
TOXD	9020	3

References:

1. Methods of Chemical Analysis of Water and Wastes, EPA 600, 1983.
2. Standard Methods for the Examination of Water and Wastewater. 18th edition, 1992.
3. Test Methods for the Evaluation of Solid Waste, SW846, 3rd edition, 1986.

Metals - ICAP metals were determined using a JA61E trace ICAP using guidance provided in SW846 according to the following methods: ICAP-3010/6010.

No problems occurred during analysis. All appropriate protocols were employed. All data appears to be consistent.

IEC's are electronically employed by the JA61E trace ICAP. However, the ICSA is utilized as a monitoring device to detect any additional adjustments that may be required. These modifications are calculated and applied manually. They are so noted in the raw data.

Aqueous

TABLE AS-1.0
7098-1044A
AEN-NEW MEXICO
MISCELLANEOUS ATOMIC SPECTROSCOPY (Dissolved)

All values are ug/L.

Client Sample I.D.	MW-1-5598	MW-2-5598	MW-5-5598	MW-4-5598
Lab Sample I.D.	981044A-01	981044A-02	981044A-03	981044A-04
Arsenic	10.0U	10.0U	10.0U	10.0U
Barium	200.U	200.U	200.U	200.U
Cadmium	5.0U	5.0U	5.0U	5.0U
Calcium	5000U	5000U	5000U	5000U
Chromium	NR	NR	NR	NR
Lead	NR	NR	NR	NR
Magnesium	5000U	5000U	5000U	5000U
Manganese	15.0U	15.0U	15.0U	15.0U
Mercury	NR	NR	NR	NR
Potassium	5000U	5000U	5000U	5000U
Selenium	5.0U	5.0U	5.0U	5.0U
Silver	10.0U	10.0U	10.0U	10.0U
Sodium	79200	159000	149000	146000

See Appendix for qualifier definitions

Aqueous

TABLE AS-1.1
7098-1044A
AEN-NEW MEXICO
MISCELLANEOUS ATOMIC SPECTROSCOPY (Dissolved)

All values are ug/L.

Client Sample I.D.	OW-11-5598			
Lab Sample I.D.	981044A-05			
Arsenic	10.0U			
Barium	200.U			
Cadmium	5.0U			
Calcium	9100			
Chromium	NR			
Lead	NR			
Magnesium	5000U			
Manganese	18.0			
Mercury	NR			
Potassium	5000U			
Selenium	8.4			
Silver	10.0U			
Sodium	194000			

See Appendix for qualifier definitions

Aqueous

TABLE AS-1.2
7098-1044A
AEN-NEW MEXICO
MISCELLANEOUS ATOMIC SPECTROSCOPY (Total)

All values are ug/L.

Client Sample I.D.	MW-1-5598	MW-2-5598	MW-5-5598	MW-4-5598
Lab Sample I.D.	981044A-01	981044A-02	981044A-03	981044A-04
Arsenic	NR	NR	NR	NR
Barium	NR	NR	NR	NR
Cadmium	NR	NR	NR	NR
Calcium	NR	NR	NR	NR
Chromium	10.0U	10.0U	10.0U	10.0U
Lead	3.0U	3.0U	3.0U	3.0U
Magnesium	NR	NR	NR	NR
Manganese	NR	NR	NR	NR
Mercury	0.20U	0.20U	0.20U	0.20U
Potassium	NR	NR	NR	NR
Selenium	NR	NR	NR	NR
Silver	NR	NR	NR	NR
Sodium	NR	NR	NR	NR

See Appendix for qualifier definitions

Aqueous

TABLE AS-1.3
7098-1044A
AEN-NEW MEXICO
MISCELLANEOUS ATOMIC SPECTROSCOPY (Total)

All values are ug/L.

Client Sample I.D.	OW-11-5598			
Lab Sample I.D.	981044A-05			
Arsenic	NR			
Barium	NR			
Cadmium	NR			
Calcium	NR			
Chromium	10.0U			
Lead	3.0U			
Magnesium	NR			
Manganese	NR			
Mercury	0.20U			
Potassium	NR			
Selenium	NR			
Silver	NR			
Sodium	NR			

See Appendix for qualifier definitions

1

WET CHEM ANALYSIS DATA SHEET

SAMPLE NO.

MW-1-5598

Lab Name: IEA Contract: _____

Lab Code: IEA Case No.: 1044A SAS No. : _____ SDG No.: A1044

Matrix: (soil/water) WATER Lab Sample ID: 1044001

% Solids: _____ Date Received: 05/11/98

Concentration Units (mg/L or mg/kg dry weight) : mg/L

Analyte	Concentration	C	Q	M
ALKALIN	340.			
BICARB	318.			
CARBONATE	21.2			
CHLORIDE	48.9			
CONDUCT	1120.			
PH	8.71			
PHENOLS	0.005			
SULFATE	177.			
TDS	664.			
TEMPERATUR	18.0			
TOCD	1.00	U		
TOXD	10.00	U		

Comments: _____

FORM I - WC

WET CHEM ANALYSIS DATA SHEET

SAMPLE NO.

MW-2-5598

Lab Name: IEA Contract: _____

Lab Code: IEA Case No.: 1044A SAS No. : _____ SDG No.: A1044

Matrix: (soil/water) WATER Lab Sample ID: 1044002

% Solids: _____ Date Received: 05/11/98

Concentration Units (mg/L or mg/kg dry weight) : mg/L

Analyte	Concentration	C	Q	M
ALKALIN	331.			
BICARB	309.			
CARBONATE	21.5			
CHLORIDE	55.5			
CONDUCT	1150.			
PH	8.86			
PHENOLS	0.015			
SULFATE	186.			
TDS	673.			
TEMPERATUR	18.0			
TOCD	2.31			
TOXD	10.00	U		

Comments: _____

1

WET CHEM ANALYSIS DATA SHEET

SAMPLE NO.

MW-5-5598

Lab Name: IEA Contract: _____

Lab Code: IEA Case No.: 1044A SAS No. : _____ SDG No.: A1044

Matrix: (soil/water) WATER Lab Sample ID: 1044003

% Solids: _____ Date Received: 05/11/98

Concentration Units (mg/L or mg/kg dry weight) : mg/L

Analyte	Concentration	C	Q	M
ALKALIN	320.			
BICARB	299.			
CARBONATE	21.3			
CHLORIDE	61.1			
CONDUCT	1150.			
PH	8.83			
PHENOLS	0.013			
SULFATE	189.			
TDS	682.			
TEMPERATUR	18.0			
TOCD	1.98			
TOXD	10.00	U		

Comments: _____

FORM I - WC

1

WET CHEM ANALYSIS DATA SHEET

SAMPLE NO.

MW-4-5598

Lab Name: IEA Contract: _____

Lab Code: IEA Case No.: 1044A SAS No. : _____ SDG No.: A1044

Matrix: (soil/water) WATER Lab Sample ID: 1044004

% Solids: _____ Date Received: 05/11/98

Concentration Units (mg/L or mg/kg dry weight) : mg/L

Analyte	Concentration	C	Q	M
ALKALIN	450.			
BICARB	433.			
CARBONATE	16.2			
CHLORIDE	18.3			
CONDUCT	1190.			
PH	8.62			
PHENOLS	0.014			
SULFATE	169.			
TDS	700.			
TEMPERATUR	18.0			
TOCD	2.95			
TOXD	10.00	U		

Comments: _____

FORM I - WC

WET CHEM ANALYSIS DATA SHEET

SAMPLE NO.

OW-11-5598

Lab Name: IEA Contract: _____

Lab Code: IEA Case No.: 1044A SAS No. : _____ SDG No.: A1044

Matrix: (soil/water) WATER Lab Sample ID: 1044005

% Solids: _____ Date Received: 05/11/98

Concentration Units (mg/L or mg/kg dry weight) : mg/L

Analyte	Concentration	C	Q	M
ALKALIN	288.			
BICARB	282.			
CARBONATE	5.10			
CHLORIDE	85.3			
CONDUCT	2940.			
PH	8.38			
PHENOLS	0.006			
SULFATE	1040.			
TDS	1850.			
TEMPERATUR	18.0			
TOCD	2.79			
TOXD	10.00	U		

Comments: _____

FORM I - WC

INORGANICS APPENDIX

C - Concentration qualifiers

U - Indicates analyte was not detected at method reporting limit.

B - Indicates analyte result between IDL and contract required detection limit (CRDL)

Q - QC qualifiers

E - Reported value is estimated because of the presence of interference

M - Duplicate injection precision not met

N - Spiked sample recovery not within control limits

S - The reported value was determined by the method of standard additions (MSA)

W - Post-digest spike recovery furnace analysis was out of 85-115 percent control limit, while sample absorbance was less than 50 percent of spike absorbance

* - Duplicate analysis not within control limit

+ - Correlation coefficient for MSA is less than 0.995

M - Method codes

P - ICP

A - Flame AA

F - Furnace AA

CV - Cold vapor AA (manual)

C - Cyanide

NR - Not Required

NC - Not Calculated as per protocols

STATE CERTIFICATIONS

In some instances it may be necessary for environmental data to be reported to a regulatory authority with reference to a certified laboratory. For your convenience, the laboratory identification numbers for the AEN-Connecticut laboratory are provided in the following table. Many states certify laboratories for specific parameters or tests within a category (i.e. method 325.2 for wastewater). The information in the following table indicates the lab is certified in a general category of testing such as drinking water or wastewater analysis. The laboratory should be contacted directly if parameter-specific certification information is required.

AEN-Connecticut
Certification Summary (as of September 1997)

State	Responsible Agency	Certification	Lab Number
Connecticut	Department of Health Services	Drinking Water, Wastewater	PH-0497
Maine	Department of Human Services	Wastewater	CT023
Massachusetts	Department of Environmental Protection	Potable/Non-Potable Water	CT023
New Hampshire	Department of Environmental Services	Drinking Water, Wastewater	2528
New Jersey	Department of Environmental Protection	Drinking Water, Wastewater	46410
New York	Department of Health	CLP, Drinking Water, Wastewater, Solid/ Hazardous Waste	10602
North Carolina	Division of Environmental Management	Wastewater Hazardous Waste	388
North Dakota	Department of Health and Consolidated Laboratories	Non-Potible/Potable Hazardous Waste	R-138
Oklahoma	Department of Environmental Quality	General Water Quality/ Sludge Testing	9614
Rhode Island	Department of Health	Chemistry...Non-Potable Water and Wastewater	A43
Washington	Department of Ecology	Wastewater/ Hazardous Waste	C231
West Virginia	Division of Environmental Protection	Wastewater/ Hazardous Waste	263
Wisconsin	Department of Natural Resources	Wastewater/ Hazardous Waste	998355710

7098-1044A
AEN-NEW MEXICO
SAMPLE SUMMARY

CLIENT ID	LAB ID	MATRIX	DATE COLLECTED	DATE RECEIVED
MW-1-5598	981044A-01	WATER	05/05/98	05/11/98
MW-2-5598	981044A-02	WATER	05/05/98	05/11/98
MW-5-5598	981044A-03	WATER	05/05/98	05/11/98
MW-4-5598	981044A-04	WATER	05/05/98	05/11/98
OW-11-5598	981044A-05	WATER	05/05/98	05/11/98

IEA-CT ANALYTICAL SUMMARY

Client ID: MW-1-5598, MW-2-5598, MW-4-5598, MW-5-5598, OW-11-5598
Job Number: 7098-1044A

Date: 5/28/98

Qty	Matrix	Analysis	Description
5	WATER	AG-SW846-D	Silver (Dissolved)
5	WATER	AS-SW846-D	Arsenic (Dissolved)
5	WATER	BA-SW846-D	Barium (Dissolved)
5	WATER	BICARBONATE-2320B	Bicarbonate
5	WATER	CA-SW846-D	Calcium (Dissolved)
5	WATER	CARBONATE-2320B	Carbonate
5	WATER	CD-SW846-D	Cadmium (Dissolved)
5	WATER	CHLORIDE-325.2	Chloride
5	WATER	COND-120.1	Conductivity
5	WATER	CR-SW846	Chromium
5	WATER	HG-SW846	Mercury
5	WATER	K-SW846-D	Potassium (Dissolved
5	WATER	MET-PREP-ICAP	Metals ICAP Prep
5	WATER	MET-PREP-ICAP-D	Metals ICAP Prep (Di
5	WATER	MG-SW846-D	Magnesium (Dissolved
5	WATER	MN-SW846-D	Manganese (Dissolved
5	WATER	NA-SW846-D	Sodium (Dissolved)
5	WATER	PB-SW846	Lead
5	WATER	PHENOLS-9065	Phenols
5	WATER	SE-SW846-D	Selenium (Dissolved)
5	WATER	SULFATE-375.2	Sulfate
5	WATER	TDS-160.1	Total Dissolved Soli
5	WATER	TOC-9060-DUP	Total Organic Carbon
5	WATER	TOX-9020-DUP	Total Organic Halide

AMERICAN ENVIRONMENTAL NETWORK
Albuquerque, New Mexico

Interlab Chain of Custody

DATE: 5/8/98 PAGE: 1 OF 1

NETWORK PROJECT MANAGER: KIMBERLY D. McNEILL

COMPANY: AMERICAN ENVIRONMENTAL NETWORK
ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87107

7098-1044A

CLIENT PROJECT MANAGER: Kim McNeill

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Metals - TAL	Metals - PP List	~~Metals - RCRA~~ ** K, Se, Ag, Na	RCRA Metals by TCLP (1311)	X Cr, Pb, Hg	** As, Ba, Cd, Ca, Mg, Mn	TOX	TOC	Gen Chemistry	EC, TDS, Cl, SO4	Alkalinity (Carb/Bicarb)	Oil and Grease	BOD	COD	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	Polynuclear Aromatics (610/8310)	8240 (TCLP 1311) ZHE	8270 (TCLP 1311)	Phenolics	TO-14	Gross Alpha/Beta				NUMBER OF CONTAINERS
805333-01	5/5/98	0900	AQ	01			X		X		X	X		X	X											X						
-02	↓	1020	↓	02			X		X		X	X		X	X											X						
-03		1130		03			X		X		X	X		X	X											X						
-04		1430		04			X		X		X	X		X	X											X						
-05		1530		05			X		X		X	X		X	X											X						

Passed Rad Screen
DC 5/11/98 SC

PROJECT INFORMATION	
PROJECT NUMBER: 805333	
PROJECT NAME: Giant Refining Co.	
QC LEVEL: STD. IV	
QC REQUIRED: MS MSD BLANK	
TAT: STANDARD RUSH!	

SAMPLE RECEIPT	
TOTAL NUMBER OF CONTAINERS	
CHAIN OF CUSTODY SEALS	
INTACT?	
RECEIVED GOOD COND./COLD	
LAB NUMBER	

DUE DATE: 5/22 – 5/29
RUSH SURCHARGE:
CLIENT DISCOUNT:
SPECIAL CERTIFICATION REQUIRED: ☐ YES ☐ NO

SAMPLES SENT TO:	
CONNECTICUT	X
ILLINOIS	
MASSACHUSETTS	
PENSACOLA	
PORTLAND	
PHOENIX	
N.CAROLINA	

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.
Signature: [signature] Time: 1700	Signature: Time:
Printed Name: John Caldwell Date: 5/8/98	Printed Name: Date:
Albuquerque	Company:
RECEIVED BY: 1.	**RECEIVED BY: (LAB) 2.**
Signature: Time:	Signature: [signature] Time: 0900
Printed Name: Date:	Printed Name: [signature] Date: 5/11/98
Company:	Company: AEN CT

AEN Connecticut
Internal Chain-of-Custody

Client: AEN NM

AEN Job #: 7098-1044A

Custody Seal: present / absent
intact / not intact

Airbill #: FE

Sample #s: 01-05

Field C-O-C: present / absent

Locations: 3,2,6

Laboratory Sample #	Relinquished by	Accepted by	Date	Time	Reason	Relinquished by	Accepted by	Date	Time
1-5			05/11/98	~~1650~~ 1450	TDS			5/11	1910
1-5			5/12/98	900	ALK			5/12	18:30
1-5		AR	5/12/98	1830	TOX	AR		5/12	2030
1-5			5/13	900	TOC			5/13	1200
5/13 AR 5		AR	5/13	0920	TOX	AR		5/13	1530
1/5			5/13	10 20	~~Nitrate~~ Chloride			5/13	1615
1-5			5-14	1030	pH			5/14	1130
1-5			5-20	830	FILEVAS	USED			
1-5			5-21	830	CHLORIDE				

Getting from court

AEN Form# SMF00501.CT

AS:022189:0

an environmental testing company
200 Monroe Turnpike
Monroe, Connecticut 06468
(203) 261-4458
FAX (203) 268-5346

CHAIN OF CUSTODY
ATOMIC SPECTROSCOPY DEPARTMENT

Job Number 1044A Sample Numbers 01-05 Total

WATER - SOIL - SLUDGE - EPTOX/TCLP

I confirm that I have performed the preparation below following SOP guidelines and authorize the release of this preparation:

Sample Prep

		ICP/FLME
		FURN
C C Chemist	05/15/98 Date(s)	MERCURY

I confirm that I have performed the analysis below following SOP guidelines and authorize the release of all associated data:

Analysis

		ICP
		FLAME
		FURN
C C Chemist	05/20/98 Date(s)	MERCURY

I have reviewed and authorize the release of this job:

Complete Diane Turro Supervisor 5/22/98 Date

Batch Assignment

AS:022189:0

an environmental testing company
200 Monroe Turnpike
Monroe, Connecticut 06468
(203) 261-4458
FAX (203) 268-5346

CHAIN OF CUSTODY
ATOMIC SPECTROSCOPY DEPARTMENT

Job Number 1044A Sample Numbers 01 - 05 Total + filter

WATER - SOIL - SLUDGE - EPTOX/TCLP

I confirm that I have performed the preparation below following SOP guidelines and authorize the release of this preparation:

Sample Prep

Chemist	Date(s)	
[illegible]	05/18/98	ICP/FLME
		FURN
		MERCURY

I confirm that I have performed the analysis below following SOP guidelines and authorize the release of all associated data:

Analysis

Chemist	Date(s)	
Diane Furno	5/21/98	ICP
		FLAME
		FURN
		MERCURY

I have reviewed and authorize the release of this job:

Complete Diane Furno — Supervisor; 5/22/98 — Date

Batch Assignment

HOLDING TIME REPORT

Lab Name: IEA Contract: _____

Lab Code: IEA Case No.: 1044A SAS No. : _____ SDG No.: A1044

Analyte : ALKALIN

Client Sample ID	Rep	Date Received	Date Prepped	Date Analyzed
MW-1-5598	01	05/11/98		5/12/98
MW-2-5598	01	05/11/98		
MW-5-5598	01	05/11/98		
MW-4-5598	01	05/11/98		
OW-11-5598	01	05/11/98		

HOLDING TIME REPORT

Lab Name: IEA Contract: _____

Lab Code: IEA Case No.: 1044A SAS No. : _____ SDG No.: A1044

Analyte : BICARB

Client Sample ID	Rep	Date Received	Date Prepped	Date Analyzed
MW-1-5598	01	05/11/98		5/12/98
MW-2-5598	01	05/11/98		
MW-5-5598	01	05/11/98		
MW-4-5598	01	05/11/98		
OW-11-5598	01	05/11/98		

HOLDING TIME REPORT

Lab Name: IEA Contract: _____

Lab Code: IEA Case No.: 1044A SAS No. : _____ SDG No.: A1044

Analyte : CARBONATE

Client Sample ID	Rep	Date Received	Date Prepped	Date Analyzed
MW-1-5598	01	05/11/98		5/12/98
MW-2-5598	01	05/11/98		
MW-5-5598	01	05/11/98		
MW-4-5598	01	05/11/98		
OW-11-5598	01	05/11/98		

HOLDING TIME REPORT

Lab Name: IEA Contract: _____

Lab Code: IEA Case No.: 1044A SAS No. : _____ SDG No.: A1044

Analyte : CHLORIDE

Client Sample ID	Rep	Date Received	Date Prepped	Date Analyzed
MW-1-5598	01	05/11/98		5/21/98
MW-2-5598	01	05/11/98		
MW-5-5598	01	05/11/98		
MW-4-5598	01	05/11/98		
OW-11-5598	01	05/11/98		

HOLDING TIME REPORT

Lab Name: IEA Contract: _____

Lab Code: IEA Case No.: 1044A SAS No. : _____ SDG No.: A1044

Analyte : CONDUCT

Client Sample ID	Rep	Date Received	Date Prepped	Date Analyzed
MW-1-5598	01	05/11/98		5/13/98
MW-2-5598	01	05/11/98		
MW-5-5598	01	05/11/98		
MW-4-5598	01	05/11/98		
OW-11-5598	01	05/11/98		

HOLDING TIME REPORT

Lab Name: IEA Contract: _____

Lab Code: IEA Case No.: 1044A SAS No. : _____ SDG No.: A1044

Analyte : PH

Client Sample ID	Rep	Date Received	Date Prepped	Date Analyzed
MW-1-5598	01	05/11/98		5/14/98
MW-2-5598	01	05/11/98		
MW-5-5598	01	05/11/98		
MW-4-5598	01	05/11/98		
OW-11-5598	01	05/11/98		

HOLDING TIME REPORT

Lab Name: IEA Contract: _____

Lab Code: IEA Case No.: 1044A SAS No. : _____ SDG No.: A1044

Analyte : PHENOLS

Client Sample ID	Rep	Date Received	Date Prepped	Date Analyzed
MW-1-5598	01	05/11/98		5/20/98
MW-2-5598	01	05/11/98		
MW-5-5598	01	05/11/98		
MW-4-5598	01	05/11/98		
OW-11-5598	01	05/11/98		

HOLDING TIME REPORT

Lab Name: IEA Contract: _____

Lab Code: IEA Case No.: 1044A SAS No. : _____ SDG No.: A1044

Analyte : SULFATE

Client Sample ID	Rep	Date Received	Date Prepped	Date Analyzed
MW-1-5598	01	05/11/98		5/26/98
MW-2-5598	01	05/11/98		
MW-5-5598	01	05/11/98		
MW-4-5598	01	05/11/98		
OW-11-5598	01	05/11/98		

HOLDING TIME REPORT

Lab Name: IEA Contract: _____

Lab Code: IEA Case No.: 1044A SAS No. : _____ SDG No.: A1044

Analyte : TDS

Client Sample ID	Rep	Date Received	Date Prepped	Date Analyzed
MW-1-5598	01	05/11/98		5/11/98
MW-2-5598	01	05/11/98		
MW-5-5598	01	05/11/98		
MW-4-5598	01	05/11/98		
OW-11-5598	01	05/11/98		

HOLDING TIME REPORT

Lab Name: IEA Contract:

Lab Code: IEA Case No.: 1044A SAS No. : SDG No.: A1044

Analyte : TEMPERATUR

Client Sample ID	Rep	Date Received	Date Prepped	Date Analyzed
MW-1-5598	01	05/11/98		5/11/98
MW-2-5598	01	05/11/98		
MW-5-5598	01	05/11/98		
MW-4-5598	01	05/11/98		
OW-11-5598	01	05/11/98		

HOLDING TIME REPORT

Lab Name: IEA Contract:

Lab Code: IEA Case No.: 1044A SAS No. : SDG No.: A1044

Analyte : TOCD

Client Sample ID	Rep	Date Received	Date Prepped	Date Analyzed
MW-1-5598	01	05/11/98		5/14/98
MW-2-5598	01	05/11/98		
MW-5-5598	01	05/11/98		
MW-4-5598	01	05/11/98		
OW-11-5598	01	05/11/98		

HOLDING TIME REPORT

Lab Name: IEA Contract:

Lab Code: IEA Case No.: 1044A SAS No. : SDG No.: A1044

Analyte : TOXD

Client Sample ID	Rep	Date Received	Date Prepped	Date Analyzed
MW-1-5598	01	05/11/98		5/14/98
MW-2-5598	01	05/11/98		
MW-5-5598	01	05/11/98		
MW-4-5598	01	05/11/98		
OW-11-5598	01	05/11/98		

U.S. EPA - CLP

3
BLANKS

Lab Name: IEA Contract: _____

Lab Code: IEA Case No.: _____ SAS No.: _____ SDG No.: A1044

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calibration Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Arsenic									10.000	U	P
Barium									200.000	U	P
Cadmium									5.000	U	P
Calcium									5000.000	U	P
Chromium									10.000	U	P
Lead									3.000	U	P
Magnesium									5000.000	U	P
Manganese									15.000	U	P
Mercury									0.200	U	CV
Potassium									5000.000	U	P
Selenium									5.000	U	P
Silver									10.000	U	P
Sodium									5000.000	U	P

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

980504DA01S

Lab Name: IEA Contract: _____

Lab Code: IEA Case No.: 1044 SAS No.: _____ SDG No.: A1044

Matrix: WATER Level (low/med): LOW

% Solids for Sample: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Arsenic	75-125	44.8101		10.0000	U	40.00	112.0		P
Barium	75-125	1961.8370		200.0000	U	2000.00	98.1		P
Cadmium	75-125	5.5094		5.0000	U	5.00	110.2		P
Calcium		100882.1000		91021.7400		20000.00	49.3		P
Chromium	75-125	185.5024		10.0000	U	200.00	92.8		P
Lead	75-125	22.4038		3.0000	U	20.00	112.0		P
Magnesium	75-125	59478.9300		44588.5900		20000.00	74.4		P
Manganese	75-125	548.6749		93.6861		500.00	91.0		P
Mercury									NR
Potassium	75-125	28501.7400		6276.5040		20000.00	111.1		P
Selenium	75-125	12.3575		5.0000	U	10.00	123.6		P
Silver	75-125	52.7086		10.0000	U	50.00	105.4		P
Sodium		94598.3000		90486.2600		20000.00	20.6		P

Comments:

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

BG035GW12S

Lab Name: IEA Contract: _____

Lab Code: IEA Case No.: 1044 SAS No.: _____ SDG No.: A1044

Matrix: WATER Level (low/med): LOW

% Solids for Sample: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Arsenic									NR
Barium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury	75-125	1.0100		0.3300		1.00	68.0		CV
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR

Comments:

U.S. EPA - CLP

6
DUPLICATES

EPA SAMPLE NO.

980504DA01D

Lab Name: IEA Contract: _____

Lab Code: IEA Case No.: 1044 SAS No.: _____ SDG No.: A1044

Matrix: WATER Level (low/med): LOW

% Solids for Sample: 0.0 % Solids for Duplicate: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Arsenic		10.0000	U	10.0000	U			P
Barium		200.0000	U	200.0000	U			P
Cadmium		5.0000	U	5.0000	U			P
Calcium		91021.7400		91914.8700		1.0		P
Chromium		10.0000	U	10.0000	U			P
Lead		3.0000	U	3.0000	U			P
Magnesium		44588.5900		44925.3700		0.8		P
Manganese		93.6861		93.2520		0.5		P
Mercury								NR
Potassium	.0	6276.5040		6835.1640		8.5		P
Selenium		5.0000	U	5.0000	U			P
Silver		10.0000	U	10.0000	U			P
Sodium		90486.2600		92871.1200		2.6		P

U.S. EPA - CLP

6
DUPLICATES

EPA SAMPLE NO.

BG035GW12D

Lab Name: IEA Contract: _____

Lab Code: IEA Case No.: 1044 SAS No.: _____ SDG No.: A1044

Matrix: WATER Level (low/med): LOW

% Solids for Sample: 0.0 % Solids for Duplicate: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Arsenic								NR
Barium								NR
Cadmium								NR
Calcium								NR
Chromium								NR
Lead								NR
Magnesium								NR
Manganese								NR
Mercury	.0	0.3300		0.3300				CV
Potassium								NR
Selenium								NR
Silver								NR
Sodium								NR

U.S. EPA - CLP

7

LABORATORY CONTROL SAMPLE

Lab Name: IEA Contract: _____

Lab Code: IEA Case No.: _____ SAS No.: _____ SDG No.: A1044

Solid LCS Source: _____

Aqueous LCS Source: INORG. VENT.

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Arsenic	500.0	546.52	109.3						
Barium	500.0	525.76	105.2						
Cadmium	250.0	264.33	105.7						
Calcium	20000.0	20416.70	102.1						
Chromium	500.0	513.48	102.7						
Lead	500.0	545.33	109.1						
Magnesium	20000.0	19923.95	99.6						
Manganese	500.0	524.52	104.9						
Mercury	5.0	4.97	99.4						
Potassium	20000.0	17691.40	88.4						
Selenium	500.0	579.31	115.9						
Silver	100.0	100.33	100.3						
Sodium	20000.0	20903.05	104.5						

Total Metals

IEA

CLASSICAL CHEMISTRY
QUALITY CONTROL SUMMARY REPORT

JOB # : 3098-1044A
CLIENT : IEA / CT

UNITS : mg/L

ANALYTE	SAMPLE ID	SAMPLE RESULT	DUPLICATE RESULT	RPD	SPIKE RESULT	SPIKE ADDED	% RECOVERY	METHOD BLANK
ALKALIN	1044A-01	340	340	0				<1.0
BICARB	1044A-01	318	317	0.315				<1.0
CARBONATE	1044A-01	21.2	22.6	6.39				<1.0
CHLORIDE	1033A-01	39.15	39.12	0.077	94.87	60.0	92.9	<3.0
CONDUCT	1044A-01	1120	1140	1.77				0.41
PH	1074A-01	7.22	7.37	2.06				6.21
PHENOLS	1033A-01	0.009	0.012	28.6	0.388	~~91~~ 0.400	94.8	<0.005
SULFATE	0848-02	26.73	23.98	10.8	76.79	60.0	83.1	<10.0
TDS	1044A-02	673	646	4.09				<10.0
TEMPERATUR	NA							
TOCD	1012A-01	2.74	2.59	5.63	12.42	10.0	96.8	<1.0
TOXD	1044A-01	<10.0	<10.0	NC	4.99	5.00	99.8	<10.0

American Environmental Network (NM), Inc.

CHAIN OF CUSTODY

DATE: 5-5-98 PAGE: 1 OF 1

PROJECT MANAGER:

COMPANY: Giant Refining Company
ADDRESS: Route 3 Box 7
Gallup, NM 87301
PHONE: 505 722 3833
FAX: 505 722 0210

BILL TO: Giant Refining Co. / Ciniza
COMPANY: SA ME
ADDRESS:

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct Inject	(M8015) Gas/Purge & Trap	8021 (BTEX)/8015 (Gasoline)	8021 (BTEX) ☐ MTBE ☐ TMB ☐ PCE	8021 (TCL)	8021 (EDX)	8021 (HALO)	8021 (CUST)	504.1 EDB ☐ / DBCP ☐	pH	8260 (TCL) Volatile Organics	8260 (Full) Volatile Organics	8260 (CUST) Volatile Organics	8260 (Landfill) Volatile Organics	Pesticides /PCB (608/8081)	Herbicides (615/8151)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Polynuclear Aromatics (610/8310)	General Chemistry: See Attached List		Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals:	
MW-1-5598	5/5/98	0900	Water	01											X		X							X							
MW-2-5598	5/5/98	1020	"	02											X		X							X							
MW-5-5598	5/5/98	1130	"	03											X		X							X							
MW-4-5598	5/5/98	1430	"	04											X		X							X							
OW-11-5598	5/5/98	1530	"	05											X		X							X							
Trip Blank	4/4/98	1100	AQ	06												X															

PROJECT INFORMATION	PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS	RELINQUISHED BY: 1	RELINQUISHED BY: 2
PROJ. NO.:	(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒	Signature: Steve Morris Time: 10:00	Signature: Time:
PROJ. NAME:	CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER	Printed Name: Steve Morris Date: 5-2-98	Printed Name: Date:
P.O. NO.:	METHANOL PRESERVATION ☐	Company: Giant	Company:
SHIPPED VIA:	COMMENTS: FIXED FEE ☐	Signature: Time:	
SAMPLE RECEIPT	Annual Groundwater Event 1998	Printed Name: Date:	
		Company:	

PLEASE FILL THIS FORM IN COMPLETELY.

ANNUAL GROUNDWATER SAMPLING EVENT

ANALYTICAL PARAMETERS

WELL	pH	Cond	TOC*	TOX*	TDS	ALKAL BICARB	ALKAL CARB	CHLORIDE	SULFATE	PHENOL	VOL-ORG 8260	BTEX 8260	TOTAL METALS Cr	Pb	Hg	DISSOLVED METALS As	Ba	Cd	Ca	Mg	Mn	K	Se	Ag	Na
MW-1	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X
MW-2	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X
MW-4	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X
MW-5	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X
OW-11	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X
SMW-3	X	X	X	X	X	X	X	X	X		X		X	X					X	X		X			X
SMW-4	X	X	X	X	X	X	X	X	X		X		X	X					X	X		X			X
SMW-5	X	X	X	X	X	X	X	X	X		X		X	X					X	X		X			X
SMW-6	X	X	X	X	X	X	X	X	X		X		X	X					X	X		X			X
OW-1	X	X			X	X	X	X	X			X							X	X		X			X
OW-2	X	X			X	X	X	X	X			X							X	X		X			X
OW-3	X	X			X	X	X	X	X			X							X	X		X			X
OW-12												X													
OW-29												X													
OW-30												X													

* TOC - 2 replicates & original

* TOX - 3 replicates & original