GW - 28

MONITORING REPORTS

DATE:
1995-1998

TELEPHONE
(505) 748-3311

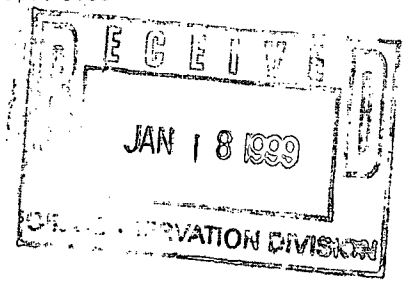
EASYLINK
62905278

NAVAJO REFINING COMPANY

501 EAST MAIN STREET ◦ P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159

FAX
(505) 746-6410 ACCTG
(505) 746-6155 EXEC
(505) 748-9077 ENGR
(505) 746-4438 P / L

October 5, 1998



Mr. Roger Anderson
Environmental Bureau
Oil Conservation Division
2040 S. Pacheco St.
Santa Fe, NM 87505-5472

RE: 4th Quarter 1998 Report on RO Reject Water, Navajo Refining Co., Eddy County, NM

Dear Mr. Anderson:

This letter is sent in regard to Navajo Refining's permit modification of our discharge plan GW-28 which allows us to put our Reverse Osmosis (RO) reject water on our farm or into Eagle Draw. This permit is administered by OCD and the parameters we sample for were set up by OCD. We are sending these results for your files. We are required by OCD to sample this stream every quarter and once annually.

For this quarter we discharged a total of 22,061,000 gallons with 5,220,000 gallons being sent to the farm for irrigation, and 16,841,000 gallons being sent to Eagle Draw. Since we started discharging the RO reject water, we have discharged a total of 701,634,426 gallons. This is broken down as follows: 196,713,498 gallons have been put into Eagle Draw and 504,920,928 gallons have been put on the farm.

The RO unit was in full operation for the entire quarter. If you have any questions concerning this matter, please call me at (505) 748-3311. Thank you for your time.

Regards,
NAVAJO REFINING COMPANY

Darrell Moore
Environmental Mgr. for Water and Waste

Enclosure

cc: USEPA, Region VI
NMED, Water Quality Bureau

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
4725 Ripley Avenue, Suite A El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: ab@traceanalysis.com

January 08, 1999
Receiving Date: 12/09/98
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

ANALYTICAL RESULTS FOR
NAVAJO REFINING CO.
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

Sampling Date: 12/08/98
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: Annual RO Reject

TOTAL METALS

TA# FIELD CODE	As (mg/L)	Se (mg/L)	Cd (mg/L)	Cr (mg/L)	Pb (mg/L)	Ag (mg/L)	Ba (mg/L)	Al (mg/L)	Be (mg/L)	Co (mg/L)
T114423 RO Reject (14 Cont.)	<0.10	<0.01	<0.01	<0.05	0.01	<0.005	<0.10	<0.10	<0.01	<0.05
ICV	1.0	1.0	1.0	1.0	1.0	0.21	1.0	1.0	1.0	1.0
CCV	0.97	0.99	1.0	1.0	1.0	0.20	1.0	1.0	1.0	1.0
METHOD BLANK	**<0.10**	**<0.01**	**<0.01**	**<0.05**	**<0.005**	**<0.005**	**<0.10**	**<0.10**	**<0.01**	**<0.05**
REPORTING LIMIT	0.10	0.01	0.01	0.05	0.005	0.005	0.10	0.10	0.01	0.05
RPD	0	4	0	5	5	2	0	0	0	5
% Extraction Accuracy	110	105	95	100	90	100	90	100	100	96
% Instrument Accuracy	98	99	100	100	100	100	100	100	100	100
PREP DATE	12/10/98	12/10/98	12/10/98	12/10/98	12/10/98	12/10/98	12/10/98	12/10/98	12/10/98	12/10/98
ANALYSIS DATE	12/14/98	12/14/98	12/14/98	12/14/98	12/14/98	12/14/98	12/14/98	12/14/98	12/14/98	12/14/98

	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (mg/L)	Ni (mg/L)	V (mg/L)	Zn (mg/L)	B (mg/L)	U (mg/L)	Hg (mg/L)
T114423 RO Reject (14 Cont.)	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	<5.0	<0.0002
ICV	1.0	1.0	1.0	0.99	1.0	1.0	1.0	1.0	1.0	0.0011
CCV	0.99	1.0	1.0	0.98	1.0	1.0	1.0	1.0	1.0	0.0010
METHOD BLANK	**<0.10**	**<0.10**	**<0.10**	**<0.10**	**<0.10**	**<0.10**	**<0.10**	**<0.10**	**<5.0**	**<0.0002**
REPORTING LIMIT	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	5.0	0.0002
RPD	0	5	5	5	5	0	5	4	0	0
% Extraction Accuracy	100	95	95	95	90	100	100	105	100	100
% Instrument Accuracy	99	100	100	100	100	100	100	100	100	100
PREP DATE	12/10/98	12/10/98	12/10/98	12/10/98	12/10/98	12/10/98	12/10/98	12/10/98	12/10/98	12/15/98
ANALYSIS DATE	12/14/98	12/14/98	12/14/98	12/14/98	12/14/98	12/14/98	12/14/98	12/14/98	12/14/98	12/16/98

METHODS: EPA 200.7, 245.1.
CHEMIST: As, Se, Cd, Cr, Pb, Ag, Ba, Al, Be, Co, Cu, Fe, Mn, Mo, Ni, V, Zn, B, U: RR Hg: BP
TOTAL METALS SPIKE: 2.0 mg/L As, Se, Cd, Cr, Pb, Ba, Al, Be, Co, Cu, Fe, Mn, Mo, Ni, V, Zn, B, U; 0.50 mg/L Ag; 0.0010 mg/L Hg.
TOTAL METALS CV: 1.0 mg/L As, Se, Cd, Cr, Pb, Ba, Al, Be, Co, Cu, Fe, Mn, Mo, Ni, V, Zn, B, U; 0.20 mg/L Ag; 0.0010 mg/L Hg.

BL
Director, Dr. Blair Leftwich

1-8-99
DATE

Sent By: TRACEANALYSIS; 7941298; 8 Jan '99 2:52PM; Job 110;Page 1

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E Mail: lab@traceanalysis.com

ANALYTICAL RESULTS FOR
NAVAJO REFINING CO.
Attention: Darrell Moore
501 Main Street
Artesia, NM 88210

December 17, 1998

SAMPLE #	FIELD CODE	Date of Receiving	BOD5 (mg/L)	TSS (mg/L)	pH (s.u.)
T114423	RO Reject (14)	12/9/98	<7.5	<1.0	7.4
PREP DATE			12/9/98	12/10/98	12/09/98
ANALYSIS DATE			12/14/98	12/10/98	12/09/98

QUALITY CONTROL SUMMARY

BOD5 RPD = 3
BOD Accuracy = 92%
TSS RPD =0
pH RPD = 0
pH Instrument Accuracy = 100%

CHEMIST: SA
METHODS: EPA 405.1, 150.1, 160.2.

Director, Dr. Blair Leftwich

12-17-98
DATE

REPORT NUMBER 98-343-301
SEND TO: Trac 6701 Lubb
DATE OF REPORT 1
55
114423
114423

TRACEANALYSIS, INC.

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4725 Ripley Avenue, Suite A El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

January 08, 1999
Receiving Date: 12/09/98
Sample Type: Water
Sampling Date: 12/08/98
Project Location: Artesia, NM
Project Name: Annual RO Reject
Sample Condition: I & C
Sample Received by: VW
Extraction Date: 12/11/98
Analysis Date: 12/13/98

ANALYTICAL RESULTS FOR
NAVAJO REFINING CO.
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

TA # T114423
Field Code: RO Reject (14 Cont.)

625 Compounds	Reporting Limit	Concentration (mg/L)	QC	RPD	%EA	%IA
N-Nitrosodimethylamine	0.001	ND				
2-Picoline	0.001	ND				
Methyl methanesulfonate	0.001	ND				
Ethyl methanesulfonate	0.001	ND				
Phenol	0.001	ND	73	21*	21	91
Aniline	0.005	ND				
bis(2-Chloroethyl)ether	0.005	ND				
2-Chlorophenol	0.005	ND		25*	64	
1,3-Dichlorobenzene	0.001	ND				
1,4-Dichlorobenzene	0.001	ND	79	30*	72	99
Benzyl alcohol	0.005	ND				
1,2-Dichlorobenzene	0.001	ND				
2-Methylphenol	0.001	ND				
bis(2-chloroisopropyl)ether	0.005	ND				
4-Methylphenol/3-Methylphenol	0.001	ND				
Acetophenone	0.005	ND				
n-Nitrosodi-n-propylamine	0.001	ND		24*	78	
Hexachloroethane	0.001	ND				
Nitrobenzene	0.001	ND				
N-Nitrosopiperidine	0.005	ND				
Isophorone	0.005	ND				
2-Nitrophenol	0.005	ND	75			94
2,4-Dimethylphenol	0.005	ND				
bis(2-Chloroethoxy)methane	0.001	ND				
Benzoic acid	0.01	ND				
2,4-Dichlorophenol	0.005	ND	81			101
1,2,4-Trichlorobenzene	0.001	ND		37*	82	
a,a-Dimethylphenethylamine	0.01	ND				
Naphthalene	0.001	ND				

NAVAJO REFINING CO.
Project Location: Artesia, NM
Project Name: Annual RO Reject

TA# T114423
FIELD CODE: RO Reject (14 Cont.)

625 Compounds	Reporting Limit	Concentration (mg/L)	QC	RPD	%EA	%IA
4-Chloroaniline	0.005	ND				
2,6-Dichlorophenol	0.005	ND				
Hexachlorobutadiene	0.001	ND	76			95
N-Nitroso-di-n-butylamine	0.005	ND				
4-Chloro-3-methylphenol	0.005	ND	81	33*	86	101
2-Methylnaphthalene/1-Methylnaphthalene	0.001	ND				
1,2,4,5-Tetrachlorobenzene	0.001	ND				
Hexachlorocyclopentadiene	0.005	ND				
2,4,6-Trichlorophenol	0.005	ND	76			95
2,4,5-Trichlorophenol	0.005	ND				
2-Chloronaphthalene	0.001	ND				
1-Chloronaphthalene	0.001	ND				
2-Nitroaniline	0.005	ND				
Dimethylphthalate	0.001	ND				
Acenaphthylene	0.001	ND				
2,6-Dinitrotoluene	0.001	ND				
3-Nitroaniline	0.005	ND				
Acenaphthene	0.001	ND	79	22*	86	99
2,4-Dinitrophenol	0.025	ND				
Dibenzofuran	0.005	ND				
Pentachlorobenzene	0.001	ND				
4-Nitrophenol	0.005	ND		13	15	
1-Napthylamine	0.005	ND				
2,4-Dinitrotoluene	0.001	ND		20	94	
2-Napthylamine	0.005	ND				
2,3,4,6-Tetrachlorophenol	0.005	ND				
Fluorene	0.001	ND				
Diethylphthalate	0.001	ND				
4-Chlorophenyl-phenylether	0.001	ND				
4-Nitroaniline	0.005	ND				
4,6-Dinitro-2-methylphenol	0.005	ND				
n-Nitrosodiphenylamine & Diphenylamine	0.001	ND	80			100
Diphenylhydrazine	0.005	ND				

NAVAJO REFINING CO.
Project Location: Artesia, NM
Project Name: Annual RO Reject

TA# T114423

FIELD CODE: RO Reject (14 Cont.)

625 Compounds	Reporting Limit	Concentration (mg/L)	QC	RPD	%EA	%IA
4-Bromophenyl-phenylether	0.001	ND				
Phenacetin	0.005	ND				
Hexachlorobenzene	0.001	ND				
4-Aminobiphenyl	0.005	ND				
Pentachlorophenol	0.005	ND	95	17	103	119
Pentachloronitrobenzene	0.005	ND				
Pronamide	0.001	ND				
Phenanthrene	0.001	ND				
Anthracene	0.001	ND				
Di-n-butylphthalate*	0.001	ND				
Fluoranthene	0.001	ND	76			95
Benzidine	0.01	ND				
Pyrene	0.001	ND		16	95	
p-Dimethylaminoazobenzene	0.001	ND				
Butylbenzylphthalate	0.001	ND				
Benzo[a]anthracene	0.001	ND				
3,3-Dichlorobenzidine	0.001	ND				
Chrysene	0.001	ND				
bis(2-Ethylhexyl)phthalate	0.005	ND				
Di-n-octlphthalate	0.001	ND	77			96
Benzo[b]fluoranthene	0.001	ND				
7,12-Dimethylbenz(a)anthracene	0.001	ND				
Benzo[k]fluoranthene	0.001	ND				
Benzo[a]pyrene	0.001	ND	77			96
3-Methylcholanthrene	0.001	ND				
Dibenzo(a,j)acridine	0.001	ND				
Indeno[1,2,3-cd]pyrene	0.001	ND				
Dibenz[a,h]anthracene	0.001	ND				
Benzo[g,h,i]perylene	0.001	ND				

NAVAJO REFINING CO.
Project Location: Artesia, NM
Project Name: Annual RO Reject

TA #T114423

Field Code: RO Reject (14 Cont.)

SURROGATES	% RECOVERY
2-Fluorophenol SURR	26
Phenol-d6 SURR	17
Nitrobenzene-d5 SURR	71
2-Fluorobiphenyl SURR	66
2,4,6-Tribromophenol SURR	65
Terphenyl-d14 SURR	89

ND = NOT DETECTED

***NOTE: RPD out of control limit.**

METHODS: EPA 625.
CHEMIST: MA

Director, Dr. Blair Leftwich

1-8-99
Date

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E-Mail: lab@traceanalysis.com

ANALYTICAL RESULTS FOR
NAVAJO REFINING CO.
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

January 08, 1999
Receiving Date: 12/09/98
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 12/11/98
Analysis Date: 12/11/98
Sampling Date: 12/08/98
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: Annual RO Reject

FIELD CODE: RO Reject (14 Cont.)
TA #: T114423

624 Compounds	Reporting Limit	Concentration (ug/L)	QC	RPD	EA	IA
Chloromethane	1	ND				
Vinyl chloride	2	ND	92			92
Bromomethane	5	ND				
Trichlorofluoromethane	1	ND				
1,1-Dichloroethene	1	ND	104	2	78	104
Methylene chloride	5	ND				
trans-1,2-Dichloroethene	1	ND				
1,1-Dichloroethane	1	ND				
Chloroform	1	2.6	85			85
1,2-Dichloroethane	1	ND				
1,1,1-Trichloroethane	1	ND				
Carbon Tetrachloride	1	ND				
Benzene	1	ND		1	82	
1,2-Dichloropropane	1	ND	88			88
Trichloroethene	1	ND		0	94	
Bromodichloromethane	1	ND				
cis-1,3-Dichloropropene	1	ND				
trans-1,3-Dichloropropene	1	ND				
Toluene	1	ND	93	2	98	93
1,1,2-Trichloroethane	1	ND				
1,3-Dichloropropane	1	ND				
MTBE	1	ND				
2-chloroethyl vinyl ether	1	ND				

NAVAJO REFINING CO.

Project Location: Artesia, NM
Project Name: Annual RO Reject

TA #: T114423
Field Code: RO Reject (14 Cont.)

624 Compounds	Reporting Limit	Concentration (ug/L)	QC	RPD	EA	IA
Dibromochloromethane	1	ND				
1,2-Dibromoethane	1	ND				
Tetrachloroethene	1	ND				
Chlorobenzene	1	ND	104	1	108	104
Ethylbenzene	1	ND	99			99
Bromoform	1	ND				
1,1,2,2-Tetrachloroethane	1	ND				
1,4-Dichlorobenzene	2	ND				
1,3-Dichlorobenzene	2	ND				
1,2-Dichlorobenzene	2	ND				

	% Recovery
Dibromofluoromethane	96
Toluene-d8	95
4-Bromofluorobenzene	11

ND = Not Detected

Methods: EPA 624.
CHEMIST: JG

Director, Dr. Blair Leftwich

1-8-55
Date

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ANALYTICAL RESULTS FOR
NAVAJO REFINING CO.
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

January 08, 1999
Receiving Date: 12/09/98
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Sampling Date: 12/08/98
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: Annual RO Reject

TA#	FIELD CODE	CYANIDE (mg/L)	TDS (mg/L)	SPECIFIC CONDUCTANCE (uMHOS/cm)	AMMONIA-N (mg/L)	CHLORINE (mg/L)	PHENOLS (mg/L)	COD (mg/L)	TOTAL PCB (mg/L)
T114423	RO Reject (14 Cont.)	<0.010	4,100	4,600	<2.0	0.02	0.073	42	<0.001
ICV		0.121	---	1,344	4.3	---	0.800	252	0.41
CCV		0.122	---	1,340	4.2	---	0.743	239	0.41
REPORTING LIMIT		0.010	---	---	2.0	0.02	0.070	20	0.001
RPD		9	8	5	1	0	3	1	12
% Extraction Accuracy		93	---	---	97	---	85	95	85
% Instrument Accuracy		101	97	95	87	---	100	101	103
PREP DATE		12/11/98	12/15/98	12/17/98	12/22/98	12/09/98	12/12/98	12/09/98	12/14/98
ANALYSIS DATE		12/11/98	12/15/98	12/17/98	12/22/98	12/09/98	12/12/98	12/09/98	12/16/98

METHODS: EPA 335.2, 160.1, 120.1, SM 4500-NH3 B,E, 330.4, 420.2, 410.4, 608.
CHEMIST: CYANIDE/PHENOLS: SA TDS/AMMONIA-N: MD SPECIFIC CONDUCTANCE: MF/MD CHLORINE: RS COD: JS
TOTAL PCB: RC

AMMONIA-N SPIKE: 5.0 mg/L AMMONIA-N.
CYANIDE SPIKE: 0.120 mg/L CYANIDE.
PHENOLS SPIKE: 0.800 mg/L PHENOLS.
COD SPIKE: 250 mg/L COD.
TOTAL PCB SPIKE: 0.005 mg/L TOTAL PCB.

AMMONIA-N CV: 5.0 mg/L AMMONIA-N.
CYANIDE CV: 0.120 mg/L CYANIDE.
PHENOLS CV: 0.800 mg/L PHENOLS.
COD CV: 250 mg/L COD.
TOTAL PCB CV: 0.40 mg/L TOTAL PCB.

BL
Director, Dr. Blair Leftwich

1-8-99
Date

ent By: TRACEANALYSIS; 7941298; 8 Jan '99 2:54PM; Job 110;Page 9/11

TRACEANALYSIS, INC.

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January 08, 1999
Receiving Date: 12/09/98
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

ANALYTICAL RESULTS FOR
NAVAJO REFINING CO.
Attention: Darrell Moore
501 Main Street
Artesia, NM 88210

Sampling Date: 12/08/98
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: Annual RO Reject

TA#	FIELD CODE	N03-N (mg/L)	CHLORIDE (mg/L)	FLUORIDE (mg/L)	SULFATE (mg/L)	ALKALINITY (mg/L as CaCo3) HC03	C03
T114423	RO Reject (14 Cont.)	4.6	430	4.0	2,100	540	<1.0
ICV		4.8	11	2.4	12	1,240	980
CCV		4.8	11	2.5	12	1,340	880
REPORTING LIMIT		0.2	0.5	0.1	0.5	1.0	1.0
RPD		2	1	2	1	2	2
% Extraction Accuracy		95	90*	94	96	--	--
% Instrument Accuracy		98	90	99	102	93	93
PREP DATE		12/09/98	12/11/98	12/09/98	12/09/98	12/11/98	
ANALYSIS DATE		12/09/98	12/11/98	12/09/98	12/09/98	12/11/98	

***NOTE: Used LCS for % Extraction Accuracy due to matrix difficulties.**

METHODS: EPA 300.0, 310.1.
CHEMIST: CHLORIDE: SA FLUORIDE/SULFATE/N03-N: JS ALKALINITY: MD
SPIKE: 25 mg/L CHLORIDE; 12.5 mg/L FLUORIDE; 62.5 mg/L SULFATE; 25 mg/L N03-N.
CV: 12.5 mg/L CHLORIDE; 2.5 mg/L FLUORIDE; 12.5 mg/L SULFATE; 5.0 mg/L N03-N.

Director, Dr. Blair Leftwich

1-8-99
Date

ent By: TRACEANALYSIS; 7941298; 8 Jan '9 2:55PM; Job 110;Page 10/11

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E-Mail: lab@traceanalysis.com

January 08, 1999
Receiving Date: 12/09/98
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

ANALYTICAL RESULTS FOR
NAVAJO REFINING CO.
Attention: Darrell Moore
501 Main Street
Artesia, NM 88210

Prep Date: 12/10/98
Analysis Date: 12/15/98
Sampling Date: 12/08/98
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: Annual RO Reject

TA#	Field Code	POTASSIUM (mg/L)	MAGNESIUM (mg/L)	CALCIUM (mg/L)	SODIUM (mg/L)
T114423	RO Reject (14 Cont.)	5.1	221	697	223
ICV		24	25	24	24
CCV		24	25	26	25
Reporting Limit		0.50	0.50	0.50	0.50
METHOD BLANK		<0.50	<0.50	<0.50	<0.50
RPD		12	12	8	10
% Extraction Accuracy		103	97	123	105
% Instrument Accuracy		96	100	100	96

METHODS: EPA 200.7.
CHEMIST: RR
SPIKE: 100 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM.
CV: 25 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM.

BL

Director, Dr. Blair Leftwich

1-8-99

Date

ent By: TRACEANALYSIS; 7941298; 8 Jan'9 2:55PM; Job 110;Page 11/11

115137

Page 1 of 1

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TraceAnalysis, Inc.

4725 Ripley Dr., Ste A
El Paso, Texas 79922-1028
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # 372

Company Name: Navajo
Phone #: 505-748-3311
Address: (Street, City, Zip)
Fax #: 505-746-1211
Contact Person: Darrell Moore
Invoice to: (If different from above)
Project #:
Project Name:
Project Location: Artesia NM
Sampler Signature: Laurie McDaniel

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME
115137	Annual RO Reject	1	1L	X						X	X	12/16/98	15:40

ANALYSIS REQUEST
(Circle or Specify Method No.)

MTBE 8021B/602	BTEX 8021B/602	TPH 418.1/TX1005	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC-MS Vol. 8260B/624	GC/MS Semi. Vol. 8270C/625	PCB's 8082/608	Pesticides 8081A/608	BOD, TSS, pH	Organo Pest/Chlor/Tox/PCB (608)			Turn Around Time if different from standard ✓	Hold
															X				

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Laurie McDaniel	12/16/98				
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received at Laboratory by: Vicki Wadell	Date: 12-17-98	Time: 10:00a

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C.O.C.

LAB USE ONLY

Intact (Y) N
Headspace Y / N
Temp -2 °C
Log-In Review

REMARKS:
Need Results by 1/10/99
* Resample # per Nell Green
1-4-99

Carrier # Fedex 230943484 5

ATEL

Aqua Tech Environmental Laboratories, Inc.

- CERTIFICATE OF ANALYSIS -

Client #: I2565 **Report Date:** *29-Dec-98*

Trace Analysis
6701 Aberdeen
Suite 9
Lubbock, TX 79424-

Phone: (806) 794-1296 **Ext:**
FAX: (806) 794-1298

Attn: Nell Green

Our Lab#: MEL98-16970 **Your Sample ID:** 115137
Date Logged In: 12/21/98 **Sample Source:** RCRA
Sample Type: Water **Client Project #:**
Project #: **Date Submitted to Lab:** 12/18/98 **PO#:**

- COLLECTION INFORMATION -

Date/Time/By: 12/16/98

EPA Method	Analyst	Prep Date	Analysis Date
8081	SH	12/21/98	12/23/98

CAS Number	Parameter	Result	Typical Report Limit
57-74-9	Chlordane(Total)	< 0.10 ug/l	0.1
8001-35-2	Toxaphene	< 0.10 ug/l	0.1

--- Surrogate Recoveries ---

QC Lab#	EPA Method	Surrogate Name	Percent Recovery	Lower Limit	Upper Limit
MEL98-16970	8081	Decachlorobiphenyl (Surr)	90 %R	20	150
MEL98-16970	8081	Tetrachloro-m-xylene (Surr)	66 %R	40	130

End of Report

Report Approved By: Wade E. Bayer

Wade E. Bayer

This report shall not be reproduced, except in its entirety, without the written approval of the laboratory.

6878 S. STATE ROUTE 100 • P.O. BOX 76 • MELMORE, OH 44845-9999
PHONE 419-397-2659 • 1-800-858-8869 • FAX 419-397-2229

I2565

Page ____ of ____

6701 Aberdeen Avenue, Ste. 9
Lubbock, Texas 79424
Tel (806) 794-1296
Fax (806) 794-1298
1 (800) 378-1296

TraceAnalysis, Inc.

4725 Ripley Dr., Ste A
El Paso, Texas 79922-1028
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # _____

Company Name: _____ Phone #: _____

Address: (Street, City, Zip) _____ Fax #: _____

Contact Person: Dell Green

Invoice to: (if different from above) Ae

Project #: _____ Project Name: _____

Project Location: _____ Sampler Signature: _____

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME
16970	115137	1		X								12-16-98	

MTBE 8021B/602	BTEX 8021B/602	TPH 418.1/TX1005	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC-MS Vol. 8260B/624	GC/MS Semi. Vol. 8270C/625	PCB's 8082/608	Pesticides 8081A/608	BOD, TSS, pH	X Organo Pest/Chlor/TDX/Method 8081 TDX - toxaphene Chlor - chlordane per mon	Turn Around Time if different from standard 12/18/98	Hold
					16970												

Relinquished by: Vicki Wrotha Date: 12-17-98 Time:

Received by: Date: Time:

Relinquished by: Date: Time:

Received by: Date: Time:

Relinquished by: Date: Time:

Received at Laboratory by: Stephanie Millan Date: 12/18/98 Time: 200pm

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C.O.C.

LAB USE ONLY

Intact Y / N

Headspace Y / N

Temp ____ °

Log-in Review ____

REMARKS:

Carrier # _____

WP

TELEPHONE
(505) 748-3311

EASYLINK
62905278

REFINING COMPANY

501 EAST MAIN STREET • P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159

FAX
(505) 746-6410 ACCTG
(505) 746-6155 EXEC
(505) 748-9077 ENGR
(505) 746-4438 P / L

October 5, 1998

RECEIVED
OCT - 8 1998
OIL CONSERVATION DIVISION

Mr. Roger Anderson
Environmental Bureau
Oil Conservation Division
2040 S. Pacheco St.
Santa Fe, NM 87505-5472

RE: 3rd Quarter 1998 Report on RO Reject Water, Navajo Refining Co., Eddy County, NM

Dear Mr. Anderson:

This letter is sent in regard to Navajo Refining's permit modification of our discharge plan GW-28 which allows us to put our Reverse Osmosis (RO) reject water on our farm or into Eagle Draw. This permit is administered by OCD and the parameters we sample for were set up by OCD. We are sending these results for your files. We are required by OCD to sample this stream every quarter and once annually.

For this quarter we discharged a total of 23,020,000 gallons with the entire 23,020,000 being sent to the farm for irrigation, and none being sent to Eagle Draw. Since we started discharging the RO reject water, we have discharged a total of 679,573,426 gallons. This is broken down as follows: 179,872,498 gallons have been put into Eagle Draw and 499,700,928 gallons have been put on the farm.

The RO unit was in full operation for the entire quarter. If you have any questions concerning this matter, please call me at (505) 748-3311. Thank you for your time.

Regards,
NAVAJO REFINING COMPANY

Darrell Moore

Darrell Moore
Environmental Mgr. for Water and Waste

Enclosure

cc: USEPA, Region VI
NMED, Water Quality Bureau

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

September 23, 1998
Receiving Date: 09/03/98
Sample Type: Water
Project No: NA
Project Location: Artesia, NM 88210

Prep Date: 09/13/98
Analysis Date: 09/18/98
Sampling Date: 09/02/98
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: Qtrly RO Reject

TA#	Field Code	POTASSIUM (mg/L)	MAGNESIUM (mg/L)	CALCIUM (mg/L)	SODIUM (mg/L)
T106541	RO Reject - Qtrly	8.6	260	810	140
ICV		25	25	25	25
CCV		26	25	25	26
Reporting Limit		0.50	0.50	0.50	0.50
METHOD BLANK		<0.50	<0.50	<0.50	<0.50
RPD		1*	0*	1*	1*
% Extraction Accuracy		113*	107*	106*	110*
% Instrument Accuracy		100	100	100	100

***NOTE: Used LCS for Extraction Accuracy and RPD due to high concentration in sample.**

METHODS: EPA 200.7.
CHEMIST: RR
SPIKE: 100 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM.
CV: 25 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM.

Director, Dr. Blair Leftwich

9-23-98
Date

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

September 23, 1998
Receiving Date: 09/03/98
Sample Type: Water
Project No: NA
Project Location: Artesia, NM 88210

Sampling Date: 09/02/98
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: Qtrly RO Reject

TA#	FIELD CODE	CHLORIDE (mg/L)	FLUORIDE (mg/L)	SULFATE (mg/L)	ALKALINITY (mg/L as CaCo3) HC03	C03
T106541	RO Reject - Qtrly	190	4.9	2,000	620	<1.0
ICV		12	2.4	12	1,140	1,120
CCV		11	2.4	12	1,080	1,120
REPORTING LIMIT		0.5	0.1	0.5	1.0	1.0
RPD		1	2	0	0	0
% Extraction Accuracy		94	99	97	---	---
% Instrument Accuracy		97	98	97	92	92
PREP DATE		09/08/98	09/08/98	09/08/98	09/09/98	
ANALYSIS DATE		09/08/98	09/08/98	09/08/98	09/09/98	

METHODS: EPA 300.0, 310.1.
CHEMIST: CHLORIDE/FLUORIDE/SULFATE: JS ALKALINITY: RS
SPIKE: 12.5 mg/L CHLORIDE; 2.5 mg/L FLUORIDE; 12.5 mg/L SULFATE.
CV: 12.5 mg/L CHLORIDE; 2.5 mg/L FLUORIDE; 12.5 mg/L SULFATE.

Director, Dr. Blair Leftwich

9-23-98
Date

TRACEANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

September 23, 1998
Receiving Date: 09/03/98
Sample Type: Water
Project No: NA
Project Location: Artesia, NM 88210

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

Sampling Date: 09/02/98
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: Qtrly RO Reject

TOTAL METALS

TA#	FIELD CODE	As (mg/L)	Se (mg/L)	Cd (mg/L)	Cr (mg/L)	Pb (mg/L)	Ag (mg/L)	Ba (mg/L)	Al (mg/L)	Be (mg/L)	Hg (mg/L)
T106541	RO Reject - Qtrly	<0.005	0.01	<0.01	<0.01	<0.01	<0.01	<0.50	<0.50	<0.01	<0.001
ICV		1.0	1.0	1.0	0.97	1.0	0.95	0.97	1.0	0.97	5.0
CCV		1.0	1.0	1.0	1.0	1.0	0.97	0.97	0.99	0.92	5.3
METHOD BLANK		**<0.005**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.50**	**<0.50**	**<0.01**	**<0.001**
REPORTING LIMIT		0.005	0.01	0.01	0.01	0.01	0.01	0.50	0.50	0.01	0.001
RPD		5	5	5	5	0	5	0	0	0	2*
% Extraction Accuracy		95	90	85	85	80	105	90	100	85	115*
% Instrument Accuracy		100	100	100	98	100	96	97	99	95	104
PREP DATE		09/08/98	09/08/98	09/08/98	09/08/98	09/08/98	09/08/98	09/08/98	09/08/98	09/08/98	09/09/98
ANALYSIS DATE		09/22/98	09/22/98	09/22/98	09/22/98	09/22/98	09/22/98	09/22/98	09/22/98	09/22/98	09/10/98

TA#	FIELD CODE	Co (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (mg/L)	Ni (mg/L)	V (mg/L)	Zn (mg/L)	B (mg/L)	U (mg/L)
T106541	RO Reject - Qtrly	<0.05	<0.50	<0.50	<0.10	<0.50	0.02	0.03	<0.50	<0.50	<1.0
ICV		0.99	0.96	1.0	0.99	0.98	0.93	1.0	1.0	0.98	0.97
CCV		0.99	0.99	1.0	1.0	0.98	1.0	1.0	1.0	**1.0**	**1.0**
METHOD BLANK		**<0.05**	**<0.50**	**<0.50**	**<0.10**	**<0.50**	**<0.01**	**<0.02**	**<0.50**	**<0.50**	**1.0**
REPORTING LIMIT		0.05	0.50	0.50	0.10	0.50	0.01	0.02	0.50	0.50	1.0
RPD		0	0	0	5	0	10	0	0	5	5
% Extraction Accuracy		85	90	90	80	85	85	90	90	90	90
% Instrument Accuracy		99	97	100	99	98	97	100	100	99	98
PREP DATE		09/08/98	09/08/98	09/08/98	09/08/98	09/08/98	09/08/98	09/08/98	09/08/98	09/08/98	09/08/98
ANALYSIS DATE		09/22/98	09/22/98	09/22/98	09/22/98	09/22/98	09/22/98	09/22/98	09/22/98	09/22/98	09/22/98

***NOTE: LCS and LCSD used for Extraction Accuracy and RPD purposes because not enough sample for MS and MSD.**

METHODS: EPA 200.7, 245.1.
CHEMIST: As, Cd, Cr, Ba, Al, Be, Co, Cu, Fe, Mn, Mo, Ni, V, Zn, Se, Pb, Ag, B, U: RR Hg: MS
TOTAL METALS SPIKE: 2.0 mg/L As, Se, Cd, Cr, Pb, Ba, Al, Be, Co, Cu, Fe, Mn, Mo, Ni, V, Zn, B, U; 0.40 mg/L Ag; 0.005 mg/L Hg.
TOTAL METALS CV: 1.0 mg/L As, Se, Cd, Cr, Pb, Ba, Al, Be, Co, Cu, Fe, Mn, Mo, Ni, V, Zn, B, U, Ag; 5.0 mg/L Hg.

Director, Dr. Blair Leftwich

9-23-98
DATE

106541

Page 1 of 1

TraceAnalysis, Inc.

6701 Aberdeen Avenue, Ste. 9 Lubbock, Texas 79424
Tel (806) 794 1296 Fax (806) 794 1298
1 (800) 378 1296

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

LAB Order ID # 62

Company Name: Navajo Phone #: 505-748-3311
Address: Fax #: 505-748-9077
Contact Person: Darrell Moore
Invoice to: (If different from above)
Project #: Project Name: Artesia RO Reject
Project Location: Artesia NM 88210 Sampler Signature: Laurie McDaniel

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME
106541	RO Reject - Artesia	1	500ml	X					XX			9/3/98	15:25
	RO Reject - Artesia	1	1L	X						XX		"	15:25

ANALYSIS REQUEST (Circle or Specify Method No.)

MTBE 8020/602	BTEX 8020/602	TPH	PAH 8270	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC/MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 8080/608	BOD, TSS, PH						Turn Around Time if different from standard	Hold
		See List				See List														

Relinquished by: Laurie McDaniel Date: 9/3/98 Time: 16:15
Received by: Date: Time:
Relinquished by: Date: Time:
Received by: Date: Time:
Relinquished by: Date: Time:
Received at Laboratory by: Date: Time:
Nicky Lindsey 9-3-98 10:10 AM

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C.O.C.

LAB USE ONLY

Intact (Y) N
Headspace Y / N
Temp -2 °
Log-in Review NB

Carrier # FedEx 398 5373 034

REMARKS: 9/24

TELEPHONE
(505) 748-3311

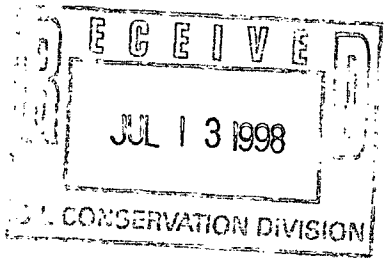
EASYLINK
62905278

REFINING COMPANY

FAX
(505) 746-6410 ACCTG
(505) 746-6155 EXEC
(505) 748-9077 ENGR
(505) 746-4438 P / L

501 EAST MAIN STREET • P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159

July 9, 1998



Mr. Mark Ashley
Geologist - Environmental Bureau
N.M. Oil Conservation Division
2040 S. Pacheco St.
Santa Fe, NM 87505

RE: RO REJECT ANALYSIS, NAVAJO REFINING COMPANY, EDDY COUNTY, NM

Dear Mark,

Enclosed, please find the analysis of Navajo's two groundwater wells which we call the Mulcock Well and the Collier Well. These wells feed the RO Units with raw groundwater. As you can see, the fluoride levels in both wells are above the 1.6 mg/l level that OCD has put as a standard for our reject water from the RO Units. As you know, the RO Units will concentrate this fluoride (and other parameters also) up to an even higher level. Therefore, we are requesting an increase in the level of fluoride that we can put onto our farm to 5.0 mg/l.

The water samples that are enclosed are from the deep artesian aquifer at approximately 600 ft. As you know, there is shallow water at about 20 feet in the area where the R O Reject water is discharged. Although we didn't sample this water, its fluoride content is undoubtedly higher than the fluoride content in the deep aquifer.

If there are any questions concerning this request, please contact me at 505-748-3311. Thank you for your time in this matter.

Sincerely,
NAVAJO REFINING CO.

Darrell Moore

Darrell Moore
Environmental Mgr. for Water and Waste

Encl.

TRACE ANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
4725 Ripley Avenue, Suite A El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Bryan Madrid
501 E. Main
Artesia, NM 88210

June 22, 1998
Receiving Date: 06/11/98
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 06/16/98
Analysis Date: 06/16/98
Sampling Date: 06/09/98
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: NA

TA#	FIELD CODE	CHLORIDE (mg/L)	FLUORIDE (mg/L)	SULFATE (mg/L)	ALKALINITY (mg/L as CaCo3) HC03	C03
T100078	Mulcock Well	67	2.9	450	190	<1.00
T100079	Collier Well	130	2.4	510	180	<1.00
ICV		11.71	2.31	12.79	—	—
CCV		12.17	2.31	12.24	—	—
REPORTING LIMIT		0.5	0.1	0.5	1.0	1.0
RPD		0	0	1	0	0
% Extraction Accuracy		85	92	103	—	—
% Instrument Accuracy		96	92	100	94	94

METHODS: EPA 300.0, 310.1.
CHEMIST: FLUORIDE/CHLORIDE/SULFATE: JS ALKALINITY: CS
SPIKE: 312.5 mg/L CHLORIDE; 62.5 mg/L FLUORIDE; 312.5 mg/L SULFATE.
CV: 12.5 mg/L CHLORIDE; 2.5 mg/L FLUORIDE; 12.5 mg/L SULFATE.

Director, Dr. Blair Leftwich

6-22-98
Date

TRACE ANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
4725 Ripley Avenue, Suite A El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

June 22, 1998
Receiving Date: 06/11/98
Sample Type: Water
Project No: NA
Project Location: NA

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Bryan Madrid
501 E. Main
Artesia, NM 88210

Prep Date: 06/15/98
Analysis Date: 06/19/98
Sampling Date: 06/09/98
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: NA

TA#	Field Code	POTASSIUM (mg/L)	MAGNESIUM (mg/L)	CALCIUM (mg/L)	SODIUM (mg/L)
T100078	Mulcock Well	5.5	69	210	17
T100079	Collier Well	5.8	87	260	93
ICV		49	51	51	48
CCV		49	51	51	49
Reporting Limit		0.50	0.50	0.50	0.50
METHOD BLANK		<0.50	<0.50	<0.50	<0.50
RPD*		0	1	0	1
% Extraction Accuracy*		103	106	103	100
% Instrument Accuracy		102	102	102	96

*LCS/LCSD used to determine EA/RPD.

METHODS: EPA 200.7.
CHEMIST: RR
SPIKE: 100 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM.
CV: 50 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM.

Director, Dr. Blair Leftwich

6-22-98
Date

TRACE ANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
4725 Ripley Avenue, Suite A El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

June 23, 1998
Receiving Date: 06/11/98
Sample Type: Water
Project No: NA
Project Location: NA

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Bryan Madrid
501 E. Main
Artesia, NM 88210

Prep Date: 06/12/98
Analysis Date: 06/20/98
Sampling Date: 06/09/98
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: NA

TOTAL METALS

TA#	FIELD CODE	As (mg/L)	Se (mg/L)	Cd (mg/L)	Cr (mg/L)	Pb (mg/L)	Ag (mg/L)	Ba (mg/L)	Al (mg/L)	Be (mg/L)	Hg (mg/L)
T100078	Mulcock Well	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.50	<0.50	<0.10	<0.0010
T100079	Collier Well	<0.005	0.01	<0.01	<0.01	<0.01	<0.01	<0.50	<0.50	<0.10	<0.0010
ICV		0.98	1.0	0.98	0.98	0.97	0.20	0.97	0.97	0.99	0.0051
CCV		0.99	0.98	0.99	0.97	1.0	0.19	0.97	0.97	0.99	0.0052
METHOD BLANK		**<0.005**	**<0.005**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.50**	**<0.50**	**<0.10**	**<0.0010**
REPORTING LIMIT		0.005	0.005	0.01	0.01	0.01	0.01	0.50	0.05	0.10	0.0010
RPD		0	0	0	5	0	0	0	2	0	2
% Extraction Accuracy		100	100	100	100	95	100	100	90	110	107
% Instrument Accuracy		98	99	98	97	98	95	97	97	99	103

TA#	FIELD CODE	B (mg/L)	U (mg/L)	Co (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (mg/L)	Ni (mg/L)	V (mg/L)	Zn (mg/L)
T100078	Mulcock Well	<0.50	<0.50	<0.05	<0.50	<0.10	<0.10	<0.50	<0.01	<0.10	<0.50
T100079	Collier Well	<0.50	<0.50	<0.05	<0.50	0.11	<0.10	<0.50	<0.01	<0.10	<0.50
ICV		0.99	1.0	0.99	0.98	1.0	1.0	1.0	0.99	0.96	0.98
CCV		0.98	1.0	0.98	0.97	1.0	0.93	1.0	0.97	**0.98**	**0.98**
METHOD BLANK		**<0.50**	**<0.50**	**<0.05**	**<0.50**	**<0.10**	**<0.10**	**<0.50**	**<0.01**	**<0.10**	**<0.50**
REPORTING LIMIT		0.50	0.50	0.05	0.50	0.10	0.10	0.50	0.01	0.10	0.50
RPD		0	0	0	0	0	2	5	0	0	0
% Extraction Accuracy		125	95	100	110	100	100	105	95	95	115
% Instrument Accuracy		98	100	98	97	100	95	100	98	97	98

METHODS: EPA 200.7, 245.1.
CHEMIST: As, Cd, Cr, Ba, Al, Be, Co, Cu, Fe, Mn, Mo, Ni, V, Zn, Se, Pb, Ag, B, U: RR Hg: HC
TOTAL METALS SPIKE: 2.0 mg/L As, Se, Cd, Cr, Pb, Ba, Al, Be, Co, Cu, Fe, Mn, Mo, Ni, B, V, Zn, U; 1.0 mg/L Ag; 0.0050 mg/L Hg.
TOTAL METALS CV: 1.0 mg/L As, Se, Cd, Cr, Pb, Ba, Al, Be, Co, Cu, Fe, Mn, Mo, Ni, V, Zn, U, B; 0.20 mg/L Ag; 0.0050 mg/L Hg.

Director, Dr. Blair Leftwich

6-23-98
DATE

100078-79

Page 1 of 1

TraceAnalysis, Inc.

6701 Aberdeen Avenue, Ste. 9 Lubbock, Texas 79424
Tel (806) 794 1296 Fax (806) 794 1298
1 (800) 378 1296

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

LAB Order ID # 176

Company Name: NAVAJO REFINING CO. Phone #:

Address: 501 E. MAIN Fax #:

Contact Person: BRYAN MADRID

Invoice to: (If different from above)

Project #: Project Name:

Project Location: Sampler Signature: Bryan Madrid

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME
100078	MULCOCK WELL	1	500mL	X					X	X		6/9/98	9:40
	MULCOCK WELL	1	1L	X						X	X	6/9/98	9:40
79	COLLIER WELL	1	500mL	X					X	X		6/9/98	4:30
	COLLIER WELL	1	1L	X						X	X	6/9/98	4:30

ANALYSIS REQUEST (Circle or Specify Method No.)

MTBE 8020/602	BTEX 8020/602	TPH	PAH 8270	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC/MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 8080/608	BOD, TSS, PH	Turn Around Time if different from standard	Hold
	SAME	ANALYSIS					"				AS				
	R.O.	REJECT -	QUARTERLY												
							"								
							"								

Relinquished by: Bryan Madrid Date: 6/10/98 Time: 16:15
Received by: Date: Time:

Relinquished by: Date: Time:
Received by: Date: Time:

Relinquished by: Date: Time:
Received at Laboratory by: Vicki Wardlaw 6-11-98 Date: 10:00 AM Time:

LAB USE ONLY
Intact Y / N
Headspace Y / N
Temp -2 °
Log-In Review

REMARKS:

Carrier # 380 4329 821

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C.O.C.

ORIGINAL COPY

TELEPHONE
(505) 748-3311

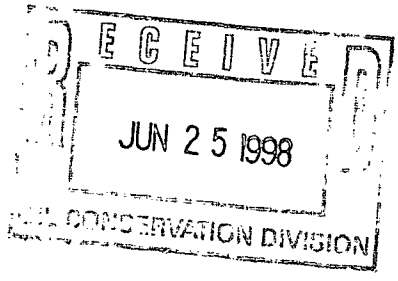
EASYLINK
62905278

NAVAJO REFINING COMPANY

501 EAST MAIN STREET • P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159

FAX
(505) 746-6410 ACCTG
(505) 746-6155 EXEC
(505) 748-9077 ENGR
(505) 746-4438 P / L

June 22, 1998



Mark Ashley
Geologist
Environmental Bureau
Oil Conservation Division
2040 S. Pacheco St.
Santa Fe, NM 87505-5472

RE: ADDITIONAL SAMPLING OF RO REJECT, NAVAJO REFINING COMPANY, EDDY CO., NEW MEXICO

Dear Mark,

Enclosed are the results of the RO Reject sampling that was done on May 11, 1998 per your request. As you can see, the results for chloride and sulfate are below our permitted limits but the fluoride results are still well above our limit of 1.6 mg/l. We are in the process of testing the groundwater to see if there has been a significant change in the water we are feeding to the RO Units. We are also looking for other reasons why the fluoride has gone up so drastically. Another sample will be taken June 25, 1998 to continue to monitor any progress we are making on this problem. You will be copied those results as soon as they are available.
We will also send you results of the groundwater sampling we are doing.

If you have any questions concerning this matter, please call me at 505-748-3311. Thank you for your time in this matter.

Sincerely,
NAVAJO REFINING COMPANY

Darrell Moore
Environmental Mgr. for Water and Waste

Encl.

TRACE ANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
4725 Ripley Avenue, Suite A El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

May 29, 1998
Receiving Date: 05/12/98
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 05/13/98
Analysis Date: 05/13/98
Sampling Date: 05/11/98
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: NA

TA#	Field Code	POTASSIUM (mg/L)	MAGNESIUM (mg/L)	CALCIUM (mg/L)	SODIUM (mg/L)
T98385	RO Reject	6.8	220	740	110
ICV		98	98	100	97
CCV		97	99	101	97
Reporting Limit		0.50	0.50	0.50	0.50
METHOD BLANK		<0.50	<0.50	<0.50	<0.50
RPD		2	1	1	1
% Extraction Accuracy		115	102	115	103
% Instrument Accuracy		97	98	100	97

METHODS: EPA 200.7.
CHEMIST: RR
SPIKE: 100 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM.
CV: 100 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM.

Director, Dr. Blair Leftwich

5-29-98
Date

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
4725 Ripley Avenue, Suite A El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

May 29, 1998
Receiving Date: 05/12/98
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 05/14/98
Analysis Date: 05/14/98
Sampling Date: 05/11/98
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: NA

TA#	FIELD CODE	CHLORIDE (mg/L)	FLUORIDE (mg/L)	SULFATE (mg/L)	ALKALINITY (mg/L as CaCo3) HC03	C03	TOTAL Cd (mg/L)
T98385	RO Reject	190	3.5	1,700	680	<1.0	<0.01
ICV		12	2.2	12	---	---	1.0
CCV		12	2.2	12	---	---	1.0
REPORTING LIMIT		0.5	0.1	0.5	1.0	1.0	0.01
RPD		0	1	0	1	1	12
% Extraction Accuracy		---*	90	---*	---	---	90
% Instrument Accuracy		102	91	102	93	93	105

LRB SPIKES: SULFATE - RPD = 2
% Extraction Accuracy = 102
***NOTE: Sulfate matrix % Extraction Accuracy low. Blank spikes used due to matrix difficulties.**
Blank spikes in range.

METHODS: EPA 300.0, 310.1, 200.7.
CHEMIST: FLUORIDE/CHLORIDE/SULFATE: JS ALKALINITY: RS TOTAL Cd: RR
SPIKE: 31.25 mg/L CHLORIDE; 6.25 mg/L FLUORIDE; 31.25 mg/L SULFATE.
CV: 12.5 mg/L CHLORIDE; 2.5 mg/L FLUORIDE; 12.5 mg/L SULFATE.
TOTAL Cd SPIKE: 0.20 mg/L TOTAL Cd.
TOTAL Cd CV: 1.0 mg/L TOTAL Cd.

Director, Dr. Blair Leftwich

5-29-98
Date

98385

Page 1 of 1

TraceAnalysis, Inc.

6701 Aberdeen Avenue, Ste. 9 Lubbock, Texas 79424
Tel (806) 794 1296 Fax (806) 794 1298
1 (800) 378 1296

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

LAB Order ID # 237

Company Name: Navajo Refining Co. Phone #:

Address: 501 E. Main Fax #:

Contact Person:

Invoice to:
(If different from above)

Project #: Project Name:

Project Location: Artesia NM Sampler Signature: Darrell Moore

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME
98385	RO Reject	2		X					1		1	5/11/98	15:00

ANALYSIS REQUEST
(Circle or Specify Method No.)

MTBE 8020/602	BTEX 8020/602	TPH	PAH 8270	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC/MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 8080/608	BOD, TSS, PH	X Anions + Cations via IC Ca, Mg, Co3, HCO3 & IC SO4	Turn Around Time if different from standard	Hold
				X										X		

Relinquished by: Darrell Moore Date: 5/11/98 Time: 16:20 Received by: Date: Time:

Relinquished by: Date: Time: Received by: Date: Time:

Relinquished by: Date: Time: Received at Laboratory by: Vicki Wndham Date: 5-12-98 Time: 10:30

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C.O.C.

ORIGINAL COPY

LAB USE ONLY

Intact Y / N

Headspace Y / N

Temp 18 °

Log-in Review

REMARKS:
Metals Only Cadmium. Limit is 0.01 mg/l so need detection limit to get that.

Carrier # Fedex 3720891517

112840-43

Page 1 of 1

TraceAnalysis, Inc.

6701 Aberdeen Avenue, Ste. 9 Lubbock, Texas 79424
Tel (806) 794 1296 Fax (806) 794 1298
1 (800) 378 1296

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

LAB Order ID # 329

Company Name: Navajo
Phone #: (505) 748-3311
Address:
Fax #: ~~748-9077~~
Contact Person: Darrell Moore Fax (505) 748-9077
Invoice to: (If different from above)
Project #:
Project Name: Semi-Annual Evap Ponds
Project Location: Artesia
Sampler Signature: Laurie McDaniel

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME	MTBE 8020/602	BTEX 8020/602	TPH	PAH 8270	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC/MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 8080/608	BOD, TSS, PH	Anions	Metals/Cations	Turn Around Time if different from standard	Hold
112840	MW-3	4		X				X	X	X	X	11/16/98	10:40	X	X													X	X		
41	OCD-6	4		X				X	X	X	X	"	14:00	X	X													X	X		
42	~~OCD-2A~~ MW-2A	4		X				X	X	X	X	"	14:40	X	X													X	X		
43	MW-1	4		X				X	X	X	X	"	15:00	X	X													X	X		

Relinquished by: Date: 11/16/98 Time: 16:15
Received by: Date: Time:
Relinquished by: Date: Time:
Received by: Date: Time:
Relinquished by: Date: Time:
Received at Laboratory by: Nick Windle Date: 11-17-98 Time: 10:00am

LAB USE ONLY
Intact (Y) N
Headspace Y (N)
Temp -2 °
Log-in Review

REMARKS:
Field codes changed per Darrell 11/18

Carrier # FedEx 218107581 1

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C.O.C.

ORIGINAL COPY

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

April 27, 1998

CERTIFIED MAIL
RETURN RECEIPT NO. P-288-259-055

Mr. Darrell Moore
Navajo Refining Company
P.O. Box 159
Artesia, New Mexico 88211-0159

RE: 1st Quarter 1998 Report on RO Reject Water
Navajo Refining Co.
Eddy County, New Mexico

Dear Mr. Moore:

The New Mexico Oil Conservation Division (OCD) has completed a review of Navajo Refining Company (Navajo) "1st Quarter 1998 Report on RO Reject Water, Navajo Refining Co., Eddy County, New Mexico" dated April 1, 1998. Based on the information provided, the OCD is requiring the following information before the 1st quarter 1998 report can be approved:

1. Resample and retest for Chloride, Fluoride, and Cadmium by May 11, 1998. The reporting limit for Cadmium, as well as the remaining constituents, must be at or below Water Quality Control Commission standards or the sample results will not be acceptable to the OCD.
2. A explanation for the elevated levels of Chloride and Fluoride. Chloride was reported at 660 mg/l, the discharge plan limit is 275 mg/l. Fluoride was reported at 31 mg/l, the discharge plan limit is 1.6 mg/l.
3. A revised 1st quarter 1998 report will be submitted to the OCD by June 11, 1998.

If you have any questions, please contact me at (505) 827-7155.

Sincerely,

Mark Ashley
Geologist

xc: OCD Artesia Office

March 15, 1998

Bryan Madrid
Navajo Refining Co.
P.O. Box 159
Artesia, NM 88211-0159

Re: NMOCD C-141 New Forms

Dear Bryan:

NMOCD District I received your recent spill reports marked as initial reports. When you have finalized these corrective actions please complete the new C-141 form enclosed and provide information on closure.

Please note we have amended the C-141 with a disclaimer at the bottom of the page. Please discard the old C-141 and use the new "form" from now on.

If you require any further information or assistance please do not hesitate to call (505-393-6161) or write this office.

Sincerely Yours,

Wayne Price-Environmental Engineer

cc: Chris Williams-NMOCD District I Supervisor
Tim Gumm-NMOCD District II Supervisor
Mark Ashley-Environmental Bureau, Santa Fe, NM
Karen Sharp-Spill file

attachments- new C-141 Form

TELEPHONE
(505) 748-3311

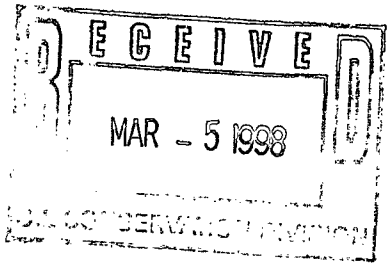
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NAVAJO REFINING COMPANY

501 EAST MAIN STREET ◦ P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159

FAX
(505) 746-6410 ACCTG
(505) 746-6155 EXEC
(505) 748-9077 ENGR
(505) 746-4438 P / L

March 3, 1998



Mark Ashley
Geologist
Environmental Bureau
Oil Conservation Division
2040 S. Pacheco St.
Santa Fe, NM 87505-5472

RE: Gasoline Spill of February 28, 1998 at Navajo Refining Co., Eddy County, NM

Dear Mark,

Enclosed is the Form C-141 for the spill of February 28, 1998. The soil that was picked up has been placed on plastic and will be tested for TCLP. When those results are in, Navajo will notify OCD about the disposal of this waste. If there are any questions, please call me at 505-748-3311. Thank you for your time in this matter.

Sincerely,
NAVAJO REFINING CO.

Darrell Moore
Environmental Mgr. for Water and Waste

Encl.

cc: 2 copies to NMOCD, 811 S. 1st, Artesia, NM 88211

file: Spill Reports

District I - (505) 393-6161
P. O. Box 1940
Hobbs, NM 88241-1980
District II - (505) 748-1283
811 South First
Artesia, NM 88210
District III - (505) 334-6178
1000 Rio Brazos Road
Aztec, NM 87410
District IV - (505) 827-7131

State of New Mexico
Energy, Minerals and Natural Resources Department
Oil Conservation Division
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

Form C- 141
Originated 2/13/97

Submit 2 copies to Appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action
OPERATOR
☒ Initial Report ☐ Final Report

Name	Contact
Navajo Refining Company	Darrell Moore
Address	**Telephone No.**
501 E. Main, Artesia, NM 88210	(505) 748-3311
Facility Name	**Facility Type**
Navajo Refining Co. - Artesia Facility	Petroleum Refinery

Surface Owner	Mineral Owner	Lease No.
Navajo Refining Co.	N/A	N/A

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County

NATURE OF RELEASE

Type of Release	Volume of Release	Volume Recovered
Reformulated Gasoline	100 bbls.	56 bbls.
Source of Release	**Date and Hour of Occurrence**	**Date and Hour of Discovery**
	9:00 a.m. 2/28/98	9:10 a.m. 2/28/98
Was Immediate Notice Given? ☐ Yes ☒ No ☒ Not Required	**If YES, To Whom?**	
By Whom?	**Date and Hour**	
Was a Watercourse Reached? ☐ Yes ☒ No	**If YES, Volume Impacting the Watercourse.**	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.* Navajo has built a new tank (Tk450) that was being used for the first time. When the lines to the tank were hydrotested, a bleeder valve was left open and then covered by a road. When product was put into the tank and developed enough pressure, the leak became visible and the flow was shut off.

Describe Area Affected and Cleanup Action Taken.* The area affected is about 180' x 60' just west of the tank (outside the dike). Navajo's vacuum truck recovered 50 bbls of product. We then dug up 400 yds of cont. soil and placed it on plastic. This soil will be tested to determine disposal options.

Describe General Conditions Prevailing (Temperature, Precipitation, etc.).* Temp. 65 degrees, sunny, no precipitation with a slight breeze.

I hereby certify that the information given above is true and complete to the best of my knowledge and belief.
Signature: Darrell Moore
Printed Name: Darrell Moore
Title: Env. Mgr. for Water & Waste
Date: 3/3/98 Phone: 505-748-3311

OIL CONSERVATION DIVISION

Approved by District Supervisor:
Approval Date: Expiration Date:
Conditions of Approval: Attached ☐

* Attach Additional Sheets If Necessary

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
2040 S. PACHECO
SANTA FE, NEW MEXICO 87505
(505) 827-7131

February 12, 1998

CERTIFIED MAIL
RETURN RECEIPT NO. Z-235-437-229

Mr. Darrell Moore
Navajo Refining Company
P.O. Box 159
Artesia, New Mexico 88211-0159

RE: GROUND WATER REMEDIATION
NAVAJO ARTESIA REFINERY

Dear Mr. Moore:

The New Mexico Oil Conservation Division (OCD) has completed a review of the following Navajo Refining Company (Navajo) documents:

- September 29, 1997 "GROUND WATER REMEDIATION, NAVAJO ARTESIA REFINERY".
- September 1997 "RESULTS OF THE EM34 TERRAIN CONDUCTIVITY INVESTIGATIONS TO IDENTIFY PREFERENTIAL PATHWAYS FOR FLUID MIGRATION AT THE NAVAJO REFINERY, ARTESIA, NEW MEXICO".
- September 1997 "BOREHOLE LITHOLOGIC DATA, SUBSURFACE HYDROCARBON INVESTIGATION, NAVAJO REFINERY, ARTESIA, NEW MEXICO 1991-1997".
- June 30, 1997 "GROUND WATER REMEDIATION AND MONITORING, NAVAJO ARTESIA REFINERY".
- January 27, 1997 "REPORT ON NORTHEAST AREA HYDROCARBON CONTAMINATION"

These documents contain the results of Navajo's recent investigations of ground water contamination at the Artesia Refinery and Navajo's work plan for installation of additional recovery wells and trenches for remediation of contaminated ground water.

The proposed work plan as contained in the above referenced documents is approved with the following conditions:

1. In addition to the planned recovery trenches and wells, Navajo will also install what is identified as the possible future recovery trenches in the June 30, 1997 document.

2. All underground lines used to transmit recovered fluids to the waste water treatment system will be pressure tested to 3 psi above operating pressure prior to system operation.

3. Navajo will install meters at each recovery location such that the volumes of fluids recovered from each recovery location can be determined.

4. Navajo will add monitor wells NP-1 and NP-2 to the refinery's ground water remediation monitoring program. The ground water from monitor wells, the remediation and the treatment system will be sampled and analyzed according to the amended schedule contained in Attachment A. All water quality sampling will be conducted according to EPA approved protocol and laboratory techniques.

5. Navajo will include the results of the underground line pressure testing and descriptions, maps and as built construction disgrams of the recovery trenches and wells in the next annual ground water remediation system and monitoring report.

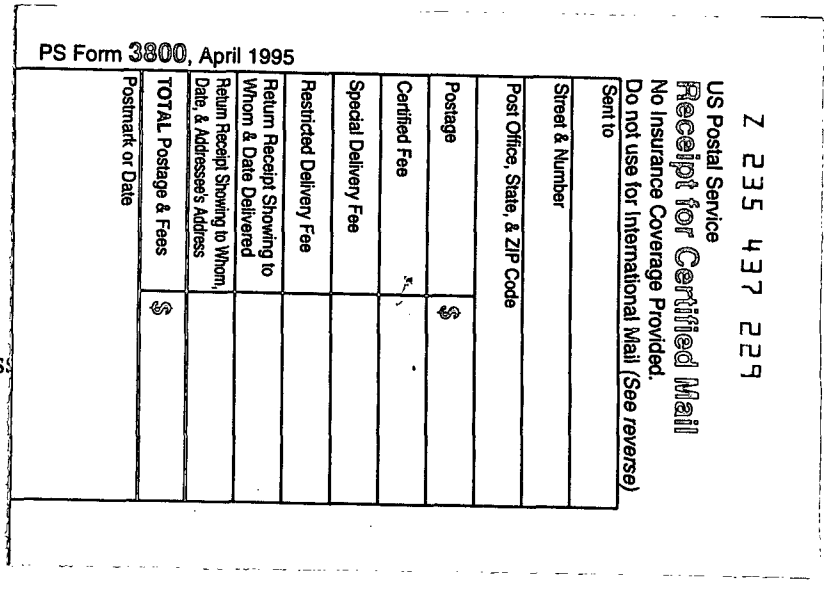
Please be advised that OCD approval does not relieve Navajo of liability if the proposed remediation system fails to adequately remediate contamination related to Navajo's activities. In addition, OCD approval does not relieve Navajo of responsibility for compliance with any other federal, state or local laws and regulations.

If you have any questions, please contact me at (505) 827-7154.

Sincerely,

William C. Olson
Hydrologist
Environmental Bureau

xc: OCD Artesia District Office
David Boyer, Covenant Technical As



ATTACHMENT A

AMENDED NAVAJO ARTESIA REFINERY
GROUND WATER REMEDIATION AND TREATMENT SYSTEM MONITORING
(February 12, 1998)

Sampling point	Biweekly	Monthly	Quarterly	Annually
Air Stripper Effluent		601** 602** PAH's		Cations/anions WQCC metals
RA-2723	602**			
RA-4196		602**		
RA-4798		602**		
RA-313*		602**		
RA-314*		602**		
RA-1331*		602**		
RA-307*		602**		
RA-1227*		602**		
RA-3156			602**	
RA-3353			602**	
KWB-1A			601** 602**	PAH's Cation/anions WQCC metals
KWB-1C			601** 602**	PAH's Cation/anions WQCC metals
KWB-2A			601** 602**	PAH's Cation/anions WQCC metals
KWB-3A			601** 602**	PAH's Cation/anions WQCC metals
KWB-7			601** 602**	PAH's Cation/anions WQCC metals
KWB-9			601** 602**	PAH's Cation/anions WQCC metals
NP-1			601** 602**	PAH's Cations/anions WQCC metals
NP-2			601** 602**	PAH's Cations/anions WQCC metals

TELEPHONE
(505) 748-3311

EASYLINK
62905278
FAX
(505) 746-6410

Navajo REFINING COMPANY

501 EAST MAIN STREET • P. O. DRAWER 159

ARTESIA, NEW MEXICO 88210

FAX NUMBERS:

ACCOUNTING OFFICES: 505/746-6410 MARKETING OFFICES: 505/746-6155

REFINING/ENGINEERING: 505/748-9077 PIPELINE DIVISION: 505/746-4438

PLEASE DELIVER 2 PAGES, INCLUDING THIS COVER SHEET

TO: Mark Ashley PHONE: _____

COMPANY/DEPARTMENT: NMOCD

MESSAGE: Mark, we had a spill this morning. 801 Enclosed. Two copies are being sent to OCD-Artesia. Call me if you have any questions.

FROM: D. Moore DATE: 11/21/97

If you do not receive all pages, please call _____ at 505/748-3311, ext. _____.

NOTE: Unless otherwise indicated or obvious from the nature of the transmittal, the information contained in this facsimile message is privileged and confidential information intended for the use of the individual or entity named above. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error or are not sure whether it is privileged, please immediately notify us by telephone, and return the original message to us at the above address via the U. S. Postal Service. Thank you.

DISTRICT I
P.O.Box 1980, Hobbs, NM 88241-1980

DISTRICT II
P.O. Drawer DD, Artesia, NM 88211-0719

DISTRICT III
1000 Rio Brazos Rd, Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

SUBMIT 2 COPIES TO APPROPRIATE DISTRICT OFFICE IN ACCORDANCE WITH RULE 116 PRINTED ON BACK SIDE OF FORM

NOTIFICATION OF FIRE, BREAKS, SPILLS, LEAKS, AND BLOWOUTS

OPERATOR Navajo Refining Co.						ADDRESS 501 E. Main Artesia NM	TELEPHONE # 505-748-3311
REPORT OF	FIRE	BREAK	SPILL X	LEAK		BLOWOUT	OTHER*
TYPE OF FACILITY	DRLG WELL	PROD WELL	TANK BTRY	PIPE LINE	GASO PLNT	OIL RFY X	OTHER*
FACILITY NAME: Navajo Refining Co.							
LOCATION OF FACILITY Qtr/Qtr Sec. or Footage						SEC.	TWP. / RGE. / COUNTY
DISTANCE AND DIRECTION FROM NEAREST TOWN OR PROMINENT LANDMARK Edge of Artesia, NM							
DATE AND HOUR OF OCCURRENCE 11/21/97 7:00 a.m.						DATE AND HOUR OF DISCOVERY 11/21/97 7:00 a.m.	
WAS IMMEDIATE NOTICE GIVEN?	YES	NO X	NOT REQUIRED X			IF YES, TO WHOM	
BY WHOM						DATE AND HOUR	
TYPE OF FLUID LOST Crude Oil						QUANTITY OF LOSS 20 bbls.	VOLUME RECOVERED 15 bbls.
DID ANY FLUIDS REACH A WATERCOURSE?	YES	NO X	QUANTITY				

IF YES, DESCRIBE FULLY**

DESCRIBE CAUSE OF PROBLEM AND REMEDIAL ACTION TAKEN**
Crude Water Draw Tk 435 was run over by leaving water draw valve open. Crude floating on top of water overflowed tank and went on the ground. Valve was closed.

DESCRIBE AREA AFFECTED AND CLEANUP ACTION TAKEN**
An area in the form of a triangle inside the berm (30'x30'x45') was contaminated. Vacuum truck was called to suck up free product. Absorbent was spread over affected area. Contaminated soil will be dug up, placed on plastic, tested and handled as required.

DESCRIPTION OF AREA	FARMING	GRAZING	URBAN	OTHER* Industrial			
SURFACE CONDITIONS	SANDY	SANDY LOAM	CLAY X	ROCKY	WET	DRY X	SNOW

DESCRIBE GENERAL CONDITIONS PREVAILING (TEMPERATURE, PRECIPITATION, ETC.)**
40°, no pct., no wind.

I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF

SIGNED Darrell Moore PRINTED NAME AND TITLE Darrell Moore Env. Mgr. Water & Waste DATE 11/21/97

*SPECIFY **ATTACH ADDITIONAL SHEETS IF NECESSARY

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

November 19, 1997

CERTIFIED MAIL
RETURN RECEIPT NO. P-288-258-996

Mr. Bryan Madrid
Navajo Refining Company
P.O. Box 159
Artesia, New Mexico 88211-0159

RE: Authorization to Discharge of Hydrotest Water From Tank 838
Eddy County, New Mexico

Dear Mr. Madrid:

The New Mexico Oil Conservation Division (OCD) has completed a review of Navajo Refining Company's (Navajo) letter dated November 14, 1997 requesting the authorization to discharge of approximately 30,500 barrels of test water to the ground surface from the hydrostatic test of tank 838. The proposed location for the discharge is Section 28, Township 18 South, Range 30 East, NMPM, Eddy County, New Mexico. The requested discharge is hereby approved with the following conditions:

1. Permission will be obtained from the landowner(s) prior to discharge.
2. The test water will be discharged onto the ground surface in a manner to prevent erosion.
3. No test waters will be discharged to any lakes, perennial streams, rivers, or any surface bodies of water upon completion of a test.
4. The water will not exceed Water Quality Control Commission standards for ground water.

Please be advised that OCD approval does not relieve Navajo of liability should it later be found that contamination exists which could pose a threat to surface water, ground water, human health or the environment.

If you have any questions please feel free to contact Mark Ashley at (505) 827-7155.

Sincerely,

Roger C. Anderson
Environmental Bureau Chief

RCA/mwa
xc: OCD Artesia Office

TELEPHONE
(505) 748-3311

EASYLINK
62905278

NAVAJO REFINING COMPANY

501 EAST MAIN STREET ◦ P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159

FAX
(505) 746-6410 ACCTG
(505) 746-6155 EXEC
(505) 748-9077 ENGR
(505) 746-4438 P / L

November 14, 1997

RECEIVED
NOV 20 1997

Mark Ashley
Geologist
Environmental Bureau
Oil Conservation Division
2040 S. Pacheco St.
Santa Fe, NM 87505-5472

RE: HYDROTEST WATER FROM TK 838, NAVAJO REFINING CO., ARTESIA, NM

Dear Mark:

The floor on Tank 838, a diesel storage tank, at our Artesia Plant was recently replaced. After completion, the tank was filled with 30,500 barrels of water in order to perform a hydrotest. A sample of this water was taken and sent to Trace for analysis. Enclosed you will find the results of the analysis that show every parameter measured to be below ground water standards.

This water will be discharged to our farm with precautions taken to ensure the water does not pond up. If there are any questions concerning this matter, please call me at (505) 748-3311. Thank you for your time in this matter.

Sincerely,
NAVAJO REFINING COMPANY

Bryan Madrid

Bryan Madrid
Environmental Specialist

Encl.

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

November 13 1997
Receiving Date: 11/04/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

Prep Date: 11/05/97
Analysis Date: 11/05/97
Sampling Date: 11/03/97
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: NA

TOTAL METALS

TA#	FIELD CODE	As (mg/L)	Se (mg/L)	Cd (mg/L)	Pb (mg/L)	Ba (mg/L)	Ag (mg/L)	Cr (mg/L)	Hg (mg/L)	Al (mg/L)	Be (mg/L)
T84694	TK 838	<0.10	<0.01	<0.02	<0.01	<0.20	<0.005	<0.05	<0.001	<0.20	<0.01
QC	Quality Control	5.1	5.0	5.3	5.0	5.2	0.95	5.1	0.005	4.9	5.0
REPORTING LIMIT		0.10	0.01	0.02	0.01	0.20	0.005	0.05	0.001	0.20	0.01
RPD		5	2	4	2	3	0	0	0	1	0
% Extraction Accuracy		96	118	97	94	104	92	97	88	99	105
% Instrument Accuracy		102	99	105	100	104	95	102	100	97	100

TA#	FIELD CODE	B (mg/L)	Co (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Ni (mg/L)	V (mg/L)	Zn (mg/L)	U (mg/L)	Mo (mg/L)
T84694	TK 838	<0.1	<0.03	0.05	0.58	0.06	<0.20	<0.05	<0.02	<5.0	<0.10
QC	Quality Control	—	5.1	4.9	5.0	5.0	5.0	5.0	5.0	—	5.0
REPORTING LIMIT		0.1	0.03	0.02	0.03	0.01	0.20	0.05	0.02	5.0	0.10
RPD		—	0	1	0	0	0	0	0	—	0
% Extraction Accuracy		—	102	91	103	97	96	100	97	—	102
% Instrument Accuracy		—	102	97	99	99	100	99	99	—	100

METHODS: EPA 200.7, 245.1.
CHEMIST: As, Cd, Cr, Ba, Al, Be, Co, Cu, Fe, Mn, Mo, Ni, V, Zn, Se, Pb, Ag, B, U: RR Hg: HC
TOTAL METALS SPIKE: 2.0 mg/L As, Se Cd, Pb, Ba, Cr, Al, Be, Co, Cu, Fe, Mn, Mo, Ni, V, Zn; 0.5 mg/L Ag; 0.005 mg/L Hg; 2.0 mg/L B, U.
TOTAL METALS QC: 5.0 mg/L As, Se, Cd, Pb, Ba, Cr, Al, Be, Co, Cu, Fe, Mn, Mo, Ni, V, Zn; 1.0 mg/L Ag 0.005 mg/L Hg 5.0 mg/L B; 10 mg/L U.

Director, Dr. Blair Leftwich

11-13-97
DATE

NOV-13-97 04:37P
P.01

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

November 13, 1997
Receiving Date: 11/04/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 11/04/97
Analysis Date: 11/05/97
Sampling Date: 11/03/97
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: NA

TA#	Field Code	POTASSIUM (mg/L)	MAGNESIUM (mg/L)	CALCIUM (mg/L)	SODIUM (mg/L)
T84694	TK 838	1.0	48	170	15
QC	Quality Control	45	53	48	50
Reporting Limit		0.30	0.05	0.01	0.5
RPD		0	8	5	0
% Extraction Accuracy		84	97	103	95
% Instrument Accuracy		90	105	97	99

METHODS: EPA 200.7.
CHEMIST: RR
SPIKE: 100 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM.
QC: 50 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM.

BR

Director, Dr. Blair Leftwich

11-13-97

Date

NOV-13-97 04:37P

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
Navajo Refining
Attention Darrell Moore
501 E. Main
Artesia NM 88210

Date: Nov 13, 1997
Date Rec: 11/4/97
Project: N/A
Proj Name: N/A
Proj Loc: N/A

Lab Receiving # : 9711000032
Sampling Date: 11/3/97
Sample Condition: Intact and Cool
Sample Received By: VW

TA#	Field Code	MATRIX	BOD5 (mg/L)	TSS (mg/L)	pH (mg/L)
T 84694	TK 838	Water	<7.5	<1	7.7
Method Blank			0.12	0	--
Reporting Limit			7.5	1	---
QC			196	---	8
RPD			2	2	0
% Instrument Accuracy			98	---	100

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)
BOD	N/A	11/5/97	EPA 405.1	11/10/97	JS	200
TSS	N/A	11/7/97	EPA 160.2	11/7/97	JS	---
pH	N/A	11/4/97	EPA 150.1	11/4/97	JS	7.0

BJ

Director, Dr. Blair Leftwich

11-13-97

Date

TRACE ANALYSIS, INC.
A Laboratory for Advanced Environmental Research and Analysis

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
Navajo Refining
Attention: Darrell Moore
501 E. Main
Artesia NM 88210

Date: Nov 12, 1997
Date Rec: 11/4/97
Project: N/A
Proj Name: N/A
Proj Loc: N/A

Lab Receiving # : 9711000032
Sampling Date: 11/3/97
Sample Condition: Intact and Cool
Sample Received By: VW

PAH in Water (mg/L)	Reporting Limit*	T84694 TK 838	QC	RPD	%EA	%IA
Naphthalene	0.01	ND	92	4	48	115
Acenapthylene	0.01	ND	84	6	49	105
Acenaphthene	0.01	ND	84	6	52	105
Fluorene	0.01	ND	77	4	52	96
Phenanthrene	0.01	ND	95	5	77	119
Anthracene	0.01	ND	95	4	77	119
Fluoranthene	0.01	ND	82	6	68	103
Pyrene	0.01	ND	88	3	91	110
Benzo[a]anthracene	0.01	ND	95	7	73	119
Chrysene	0.01	ND	85	6	98	106
Benzo[b]fluoranthene	0.01	ND	88	2	60	110
Benzo[k]fluoranthene	0.01	ND	86	16	73	108
Benzo[a]pyrene	0.01	ND	91	7	70	114
Indeno[1,2,3-cd]pyrene	0.01	ND	90	9	76	113
Dibenz[a,h]anthracene	0.01	ND	93	9	88	116
Benzo[g,h,i]perylene	0.01	ND	92	8	71	115

ND = Not Detected

*Note: Elevated reporting limit due to matrix effect.

	% RECOVERY
Nitrobenzene-d5 SURR	94
2-Fluorobiphenyl SURR	104
Terphenyl-d14 SURR	120

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)	SPIKE: (mg/L)
PAH	EPA 3510	11/4/97	EPA 8270	11/6/97	RP/HW	80 ea	100 ea

Director, Dr. Blair Leftwich

11-12-97
Date

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING

November 12, 1997
Receiving Date: 11/04/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

Prep Date: 11/10/97
Analysis Date: 11/10/97
Sampling Date: 11/03/97
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: NA

TA#	FIELD CODE	FLUORIDE (mg/L)	CHLORIDE (mg/L)	NITRATE-N (mg/L)	SULFATE (mg/L)	ALKALINITY (mg/L as CaCo3) HC03	C03
T84694	TK 838	2.0	28	9.8	460	180	<1.0
QC	Quality Control	5.0	26	10.4	26	—	—
RPD		0	2	3	1	3	3
% Extraction Accuracy		100	102	105	104	—	—
% Instrument Accuracy		101	102	105	102	—	—
REPORTING LIMIT		1.0	1.0	1.0	10	1.00	1.00

METHODS: EPA 300.0, 310.1.
CHEMIST: CHLORIDE/SULFATE/FLUORIDE/NITRATE-N: RC ALKALINITY: JS
SPIKE: 25 mg/L CHLORIDE; 5.0 mg/L FLUORIDE; 25 mg/L SULFATE; 10 mg/L NITRATE-N.
QC: 25 mg/L CHLORIDE; 5.0 mg/L FLUORIDE; 25 mg/L SULFATE; 10 mg/L NITRATE-N.

Director, Dr. Blair Leftwich

11-12-97
Date

NOV-13-97 04:38P
P.05

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING CO.
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

November 12, 1997
Receiving Date: 11/04/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 11/06/97
Analysis Date: 11/06/97
Sampling Date: 11/03/97
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: NA

TA#	Field Code	CYANIDE (mg/L)	TDS (mg/L)	COD (mg/L)	SPECIFIC CONDUCTANCE (uMHOS/cm)
T84694	TK 838	<0.02	890	<20	960
QC	Quality Control	0.043	---	206	1,416
Reporting Limit		0.02	---	20	---
RPD		3	2	3	0
% Extraction Accuracy		84	---	84	---
% Instrument Accuracy		103	---	81	102

METHODS: EPA 335.2, 160.1, 410.4, 120.1.
CHEMIST: JS
CYANIDE SPIKE AND QC: 0.04 mg/L CYANIDE.
COD SPIKE AND QC: 250 mg/L COD.

BL

Director, Dr. Blair Leftwich

11-12-97

Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

November 14, 1997
Receiving Date: 11/04/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 11/13/97
Analysis Date: 11/13/97
Sampling Date: 11/03/97
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: NA

FIELD CODE: TK 838
TA #: T84694

8260 Compounds	Concentration (ug/L)	Reporting Limit
Dichlorodifluoromethane	ND	1
Chloromethane	ND	1
Vinyl chloride	ND	2
Bromomethane	ND	5
Chloroethane	ND	1
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
Methylene chloride	ND	5
trans-1,2-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
cis-1,2-Dichloroethene	ND	1
Chloroform	ND	1
2,2-Dichloropropane	ND	1
Bromochloromethane	ND	1
1,2-Dichloroethane	ND	1
1,1,1-Trichloroethane	ND	1
Carbon Tetrachloride	ND	1
1,1-Dichloropropene	ND	1
Benzene	ND	1
1,2-Dichloropropane	ND	1
Trichloroethene	ND	1
Dibromomethane	ND	1
Bromodichloromethane	ND	1
cis-1,3-Dichloropropene	ND	1
trans-1,3-Dichloropropene	ND	1
Toluene	5.6	1
1,1,2-Trichloroethane	ND	1
1,3-Dichloropropane	ND	1

NAVAJO REFINING
Project Location: Artesia, NM

TA #: T84694
Field Code: TK 838

8260 Compounds	Concentration (ug/L)	Reporting Limit
Dibromochloromethane	ND	1
1,2-Dibromoethane	ND	1
Tetrachloroethene	ND	1
Chlorobenzene	ND	1
1,1,1,2-Tertachloroethane	ND	1
Ethylbenzene	1.1	1
m & p-Xylene	2.1	1
Bromoform	ND	1
Styrene	ND	1
o-Xylene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,2,3-Trichloropropane	ND	1
Isopropylbenzene	ND	1
Bromobenzene	ND	1
2-Chlorotoluene	ND	1
n-Propylbenzene	ND	1
4-Chlorotoluene	ND	1
1,3,5-Trimethylbenzene	ND	1
tert-Butylbenzene	ND	1
1,2,4-Trimethylbenzene	1.3	1
1,4-Dichlorobenzene	ND	2
sec-Butylbenzene	ND	1
1,3-Dichlorobenzene	ND	2
4-Isopropyltoluene	ND	1
1,2-Dichlorobenzene	ND	2
n-Butylbenzene	ND	1
1,2-Dibromo-3-chloropropane	ND	5
1,2,3-Trichlorobenzene	ND	5
Naphthalene	1.7	1
1,2,4-Trichlorobenzene	ND	5
Hexachlorobutadiene	ND	5

TENTATIVELY IDENTIFIED COMPOUNDS AND ESTIMATED CONCENTRATIONS (ug/L)

	RT	CONC.
(1) Unidentified Hydrocarbon	12.09	1.1
(2) Unidentified Hydrocarbon	17.52	1.0

	% Recovery
Dibromofluoromethane	99
Toluene-d8	94
4-Bromofluorobenzene	95

ND = Not Detected

Methods: EPA SW 846-8260.
CHEMIST: RW

Director, Dr. Blair Leftwich

11-14-97
Date

NATIONAL RESPONSE CENTER - STATE*FAX

** GOVERNMENT USE ONLY ** GOVERNMENT USE ONLY ** GOVERNMENT USE ONLY **
DO NOT RELEASE this information to the public without permission
from the National Response Center (G-OFP-2), U.S. Coast Guard
Headquarters, Washington DC 20593-0001 (202)267-2675.

From: National Response Center
USCG HQ Washington, D.C.
1-800-424-8802

To:
NEW MEXICO ENVIRONMENTAL DEPARTMENT
Incident Report # 407120

INCIDENT DESCRIPTION

*Report taken by MST1 CHEN at 22:32 on 11-OCT-97
Incident Type: FIXED
Incident Cause: OTHER
Affected Area: EAGLE DRAW > PECOS RIVER (3-4 MILES)
The incident occurred on 11-OCT-97 at 18:15 local time.
Affected Medium: WATER

SUSPECTED RESPONSIBLE PARTY

Name:	DARRELL MOORE
Job Title:	DIRECTOR ENV AFF.
Organization:	NAVAJO REFINING CO
Address:	501 EAST MAIN STREET
	ARTESIA, NM 88210
Day Phone:	(505)7483311
Type of Organization:	PRIVATE ENTERPRISE

INCIDENT LOCATION

501 EAST MAIN STREET
ARTESIA, NM 88210

County: EDDY State: NM

RELEASED MATERIAL(S)

CHRIS Code: OWA WASTE OIL
Qty Released: 1.5 BBL(S) Qty in Water: 0 UNK(S)

SOURCE/CAUSE OF INCIDENT

RAINFALL CAUSED OVERFLOW OF OIL WATER SEPERATOR

DAMAGE

Injuries:	Fatalities:	Evacuations:	Damages:	Air Close:	Road Close:
				N	N

REMEDIAL ACTIONS

DEPLOYED BOOMS AND SAND BAGS TO DIVERT MATERIAL TO ON SITE RETENSION BASIN

NOTIFICATIONS BY CALLER

NOTIFICATIONS BY NRC

HSEES PROJECT		(512)4587269
U.S. EPA VI	MR CLARK	(214)6652222
NOAA 1ST CLASS BB RPTS FOR NM		(206)5266344
DOI/OEPC - R6		(505)7663565
NEW MEXICO ENVIRONMENTAL DEPARTMENT		(505)8274308
TNRCC		(512)4637727

NATIONAL RESPONSE CENTER - STATE*FAX
** GOVERNMENT USE ONLY ** GOVERNMENT USE ONLY ** GOVERNMENT USE ONLY **

ADDITIONAL INFORMATION

WILL NOTIFY: NM-OCD (NO WEEKEND NUMBER)

*** END INCIDENT REPORT # 407120 ***

VISIT OUR WEB SITE
http://www.dot.gov/dotinfo/uscg/hq/nrc

P. O. Box 1940
Hobbs, NM 88241-1980
District II - (505) 748-1283
811 South First
Artesia, NM 88210
District III - (505) 334-6178
1000 Rio Brazos Road
Aztec, NM 87410
District IV - (505) 827-7131

Energy Minerals and Natural Resources Department
Oil Conservation Division
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

Originated 2/13/97

Submit 2 copies to Appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action
OPERATOR
☒ Initial Report ☐ Final Report

Name	Contact
Navajo Refining Co.	Darrell Moore
Address: 501 E. Main	Telephone No.: 505-748-3311
Facility Name	Facility Type: Petroleum Refining

Surface Owner	Mineral Owner	Lease No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County

NATURE OF RELEASE

Type of Release	Volume of Release: 1.5 Bbls	Volume Recovered: 1. Bbl
Source of Release: Overflow of API due to heavy rain	Date and Hour of Occurrence: 10/11/97 6:30 p.m.	Date and Hour of Discovery: 10/11/97 6:30 p.m.
Was Immediate Notice Given? ☐ Yes ☒ No ☐ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☒ Yes ☐ No	If YES, Volume Impacting the Watercourse: 1 bbl.	

If a Watercourse was Impacted, Describe Fully.* N. Plant API overflowed during heavy rain (1.1 in. in 30 min). On scene personnel put sand bags and booms up to prevent drainage to Eagle Draw. However, 1 bbl. overflowed grating on Freeman St. and got to Eagle Draw. This hydrocarbon was caught in an eddy, and most was recovered. However, undoubtedly some got down the draw.

Describe Cause of Problem and Remedial Action Taken.* Heavy rains. Booms and sand bags. Absorbent booms were used to recover what product we could.

Describe Area Affected and Cleanup Action Taken.* Eagle Draw has been walked with no apparent impact from hydrocarbons. Absorbent booms probably caught most, if not all, of product.

Describe General Conditions Prevailing (Temperature, Precipitation, etc.).* 60's, heavy rain, dusk.

I hereby certify that the information given above is true and complete to the best of my knowledge and belief.
Signature: Darrell Moore
Printed Name: Darrell Moore
Title: Mgr. for Water and Waste
Date: 10/13/97 Phone: 505-748-3311

OIL CONSERVATION DIVISION

Approved by District Supervisor:
Approval Date: Expiration Date:
Conditions of Approval: Attached ☐

* Attach Additional Sheets If Necessary

TELEPHONE
(505) 748-3311

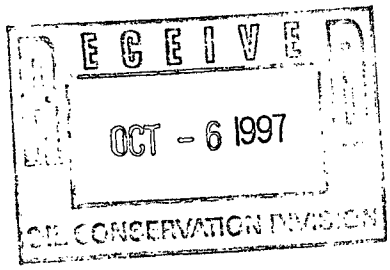
EASYLINK
62905278

NAVAJO REFINING COMPANY

501 EAST MAIN STREET ◦ P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159

FAX
(505) 746-6410 ACCTG
(505) 746-6155 EXEC
(505) 748-9077 ENGR
(505) 746-4438 P / L

October 2, 1997



Mark Ashley
Geologist
Environmental Bureau
Oil Conservation Division
2040 S. Pacheco St.
Santa Fe, NM 87505-5472

RE: HYDROTEST WATER FROM TK 18, NAVAJO REFINING CO., ARTESIA, NM

Dear Mark:

The floor on Tank 18, a slop oil tank, at our Artesia Plant was recently replaced. After completion, the tank was filled with 2,250 barrels of water in order to perform a hydrotest. A sample of this water was taken and sent off to Trace Analytical for analysis. Enclosed you will find the results that show every parameter measured to be below ground water standards.

This water will be discharged to our farm with precautions taken to ensure the water does not pond up. If there are any questions concerning this matter, please call me at (505) 748-3311. Thank you for your time in this matter.

Sincerely,
NAVAJO REFINING COMPANY

Bryan Madrid

Bryan Madrid
Environmental Specialist

Encl.

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
Navajo Refining
Attention: Bryan Madrid
501 E. Main
Artesia NM 88210

Date: Sep 29, 1997
Date Rec: 9/13/97
Project: Artesia
Proj Name: N/A
Proj Loc: Artesia,NM

Lab Receiving # : 9709000232
Sampling Date. 9/12/97
Sample Condition: Intact and Cool
Sample Received By. JH

PAH in Water (mg/L)	Reporting Limit	T81573 TK 18	QC	RPD	%EA	%IA
Naphthalene	0.001	0.001	76	9	71	95
Acenapthylene	0.001	ND	80	6	88	100
Acenaphthene	0.001	ND	75	4	82	94
Fluorene	0.001	ND	73	3	77	91
Phenanthrene	0.001	ND	75	6	84	94
Anthracene	0.001	ND	78	5	82	98
Fluoranthene	0.001	ND	78	7	87	98
Pyrene	0.001	ND	78	8	89	98
Benzo[a]anthracene	0.001	ND	84	8	87	104
Chrysene	0.001	ND	68	9	87	85
Benzo[b]fluoranthene	0.001	ND	79	9	63	99
Benzo[k]fluoranthene	0.001	ND	78	11	77	98
Benzo[a]pyrene	0.001	ND	82	10	80	103
Indeno[1,2,3-cd]pyrene	0.001	ND	93	7	94	116
Dibenz[a,h]anthracene	0.001	ND	76	8	87	95
Benzo[g,h,i]perylene	0.001	ND	81	7	101	101

ND = Not Detected

	% RECOVERY
Nitrobenzene-d5 SURR	73
2-Fluorobiphenyl SURR	78
Terphenyl-d14 SURR	77

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)	SPIKE: (mg/L)
PAH	EPA 3510	9/16/97	EPA 8270	9/25/97	RP/HW	80 ea	100 ea

Director, Dr. Blair Leftwich

9-29-97
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Bryan Madrid
501 E. Main
Artesia, NM 88210

September 24, 1997
Receiving Date: 09/13/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Extraction Date: 09/16/97
Analysis Date: 09/16/97
Sampling Date: 09/12/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

FIELD CODE: TK 16
TA #: T81573

8260 Compounds	Concentration (ug/L)	Reporting Limit
Dichlorodifluoromethane	ND	1
Chloromethane	ND	1
Vinyl chloride	ND	2
Bromomethane	ND	5
Chloroethane	ND	1
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
Methylene chloride	ND	5
trans-1,2-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
cis-1,2-Dichloroethene	ND	1
Chloroform	ND	1
2,2-Dichloropropane	ND	1
Bromochloromethane	ND	1
1,2-Dichloroethane	ND	1
1,1,1-Trichloroethane	ND	1
Carbon Tetrachloride	ND	1
1,1-Dichloropropene	ND	1
Benzene	ND	1
1,2-Dichloropropane	ND	1
Trichloroethene	ND	1
Dibromomethane	ND	1
Bromodichloromethane	ND	1
cis-1,3-Dichloropropene	ND	1
trans-1,3-Dichloropropene	ND	1
Toluene	ND	1
1,1,2-Trichloroethane	ND	1
1,3-Dichloropropane	ND	1

NAVAJO REFINING
Project Location: Artesia, NM

TA #: T81573
Field Code: TK 18

8260 Compounds	Concentration (ug/L)	Reporting Limit
Dibromochloromethane	ND	1
1,2-Dibromoethane	ND	1
Tetrachloroethene	ND	1
Chlorobenzene	ND	1
1,1,1,2-Tertachloroethane	ND	1
Ethylbenzene	ND	1
m & p-Xylene	ND	1
Bromoform	ND	1
Styrene	ND	1
o-Xylene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,2,3-Trichloropropane	ND	1
Isopropylbenzene	ND	1
Bromobenzene	ND	1
2-Chlorotoluene	ND	1
n-Propylbenzene	ND	1
4-Chlorotoluene	ND	1
1,3,5-Trimethylbenzene	ND	1
tert-Butylbenzene	ND	1
1,2,4-Trimethylbenzene	ND	1
1,4-Dichlorobenzene	ND	2
sec-Butylbenzene	ND	1
1,3-Dichlorobenzene	ND	2
4-Isopropyltoluene	ND	1
1,2-Dichlorobenzene	ND	2
n-Butylbenzene	ND	1
1,2-Dibromo-3-chloropropane	ND	5
1,2,3-Trichlorobenzene	ND	5
Naphthalene	1.3	1
1,2,4-Trichlorobenzene	ND	5
Hexachlorobutadiene	ND	5

	% Recovery
Dibromofluoromethane	94
Toluene-d8	96
4-Bromofluorobenzene	92

ND = Not Detected
Methods: EPA SW 846-5030, 8260.
CHEMIST: RW

Director, Dr. Blair Leftwich

9-24-97
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
Navajo Refining
Attention Bryan Madrid
501 E. Main
Artesia NM 00210

Date: Sep 25, 1997
Date Rec: 9/13/97
Project: Artesia
Proj Name: N/A
Proj Loc: Artesia,NM

Lab Receiving # : 9709000232
Sampling Date: 9/12/97
Sample Condition: Intact and Cool
Sample Received By: JH

TA#	Field Code	MATRIX	BOD5 (mg/L)	TSS (mg/L)	pH (mg/L)
T 81573	TK 18	Water	<7.5	11	7.5
Method Blank			0.07	1.5	
Reporting Limit			7.5	1	---
QC			189.5	---	7
RPD			5	0	0
% Instrument Accuracy			95	---	100

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)
BOD	N/A	9/15/97	EPA 405.1	9/20/97	JS	200
TSS	N/A	9/19/97	EPA 160.2	9/19/97	JS	---
pH	N/A	9/13/97	EPA 150.1	9/13/97	JS	7.0

Director, Dr. Blair Leftwich

9-25-97
Date

TRACE ANALYSIS, INC.
A Laboratory for Advanced Environmental Research and Analysis

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING

September 24, 1997
Receiving Date: 09/13/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Attention: Bryan Madrid
501 E. Main
Artesia, NM 88210

Prep Date: 09/15/97
Analysis Date: 09/15/97
Sampling Date: 09/12/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TA#	FIELD CODE	CHLORIDE (mg/L)	FLUORIDE (mg/L)	SULFATE (mg/L)	ALKALINITY (mg/L as CaCo3)
T81573	TK 18	78	1.1	450	160
QC	Quality Control	25	1.02	24	---
RPD		4	2	2	0
% Extraction Accuracy		107	100	96	---
% Instrument Accuracy		97	101	95	---
REPORTING LIMIT		10	0.1	10	1.0

METHODS: EPA 300.0, 310.1, 340.2.
CHEMIST: CHLORIDE/SULFATE: RC FLUORIDE/ALKALINITY: JS
SPIKE: 25 mg/L CHLORIDE; 2.0 mg/L FLUORIDE; 25 mg/L SULFATE.
QC: 23.1 mg/L CHLORIDE; 1.0 mg/L FLUORIDE; 24.1 mg/L SULFATE.

Director, Dr. Blair Leftwich

9-24-97
Date

Oct-01-97 12:32P
P.01

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Bryan Madrid
501 E. Main
Artesia, NM 88210

September 24, 1997
Receiving Date: 09/13/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 09/16/97
Analysis Date: 09/16/97
Sampling Date: 09/12/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TA#	Field Code	POTASSIUM (mg/L)	MAGNESIUM (mg/L)	CALCIUM (mg/L)	SODIUM (mg/L)
T81573	TK 18	1.3	47	170	20
QC	Quality Contro	49	49	51	50
Reporting Limit		0.30	0.01	0.01	0.40
RPD		0	0	0	0
% Extraction Accuracy		105	99	102	117
% Instrument Accuracy		98	97	102	100

METHODS: EPA 200.7.
CHEMIST: RR
SPIKE: 100 mg/L POTASSIUM, MAGNESIUM, CALCIUM. SODIUM.
QC: 50 mg/L POTASSIUM, MAGNESIUM CALCIUM, SODIUM.

Director, Dr. Blair Leftwich

9-24-97
Date

Oct-01-97 12:32P

TRACE ANALYSIS, INC.
6701 Aberdeer Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING

September 24, 1997
Receiving Date: 09/13/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Attention: Darrell Moore
501 E. Main
Artesia, NM 882'0

Prep Date: 09/15/97
Analysis Date: 09/15/97
Sampling Date: 09/12/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TA#	FIELD CODE	COD (mg/L)	NITRATE-N (mg/L)	CYANIDE (mg/L)	TDS (mg/L)	SPECIFIC CONDUCTIVITY (uMHOS/cm)	pH (s.u.)
T81573	T< 18	<20	7.3	<0.02	860	920	7.5
QC	Quality Control	245	9.7	0.04	—	1,411	7.0
RPD		3	1	3	4	2	0
% Extraction Accuracy		94	98	96	—	—	—
% Instrument Accuracy		96	98	99	—	99	100
REPORTING LIMIT		20	1.0	0.02	—	—	—

METHODS: EPA 300.0, 335.2; 120.1, 160.1, 150.1, 410.4.
CHEMIST: RC/JS
SPIKE: 10 mg/L Nitrate-N;0.04 mg/L Cyanide-250 mg/L COD.
QC: 10 mg/L Nitrate-N; 0.04 mg/L Cyanide-250 mg/L COD.

Director, Dr Blair Leftwich

9-24-97
Date

Oct-01-97 12:32P
P.04

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

September 26, 1997
Receiving Date: 09/13/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Bryan Madrid
501 E. Main
Artesia, NM 88210

Prep Date: 09/15,17/97
Analysis Date: 09/17,22/97
Sampling Date: 09/12/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TOTAL METALS

TA# FIELD CODE	As (mg/L)	Cd (mg/L)	Cr (mg/L)	Ba (mg/L)	Be (mg/L)	U (mg/L)	B (mg/L)	Se (mg/L)	Pb (mg/L)	Ag (mg/L)
T81573 TK 18	<0.10	<0.02	<0.05	<0.20	<0.01	<1.0	<0.1	0.02	<0.005	<0.005
QC Quality Control	4.8	4.9	5.0	5.0	5.0	5.0	5.3	5.1	5.0	0.99
METHOD BLANK	**<0.10**	**<0.02**	**<0.05**	**<0.20**	**<0.01**	**<1.0**	**<0.1**	**<0.10**	**<0.005**	**<0.005**
REPORTING LIMIT	0.10	0.02	0.05	0.20	0.01	1.0	0.1	0.10	0.005	0.005
RPD	4	1	2	1	1	4	5	1	1	0
% Extraction Accuracy	110	105	117	113	100	118	107	107	100	117
% Instrument Accuracy	96	98	99	99	99	102	106	101	100	99

	Co (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (mg/L)	Ni (mg/L)	V (mg/L)	Zn (mg/L)	Hg (mg/L)	Al (mg/L)
T81573 TK 18	<0.03	<0.02	0.28	0.17	<0.10	<0.20	<0.05	0.03	<0.001	<0.01
QC Quality Control	5.1	5.0	5.0	5.0	5.0	5.0	4.9	5.0	0.00515	5.1
METHOD BLANK	**<0.03**	**<0.02**	**0.04**	**<0.01**	**<0.10**	**<0.20**	**<0.05**	**0.05**	**—**	**<0.01**
REPORTING LIMIT	0.03	0.02	0.03	0.01	0.10	0.20	0.05	0.02	0.001	0.01
RPD	2	1	1	1	1	2	1	2	0	1
% Extraction Accuracy	122*	107	112	114	118	119	105	109	110	102
% Instrument Accuracy	101	100	99	100	99	99	98	100	103	101

****NOTE: Extraction Accuracy out of limits of 80%-120%.**
METHODS: EPA 200.7, 245.1.
CHEMIST: As, Cd, Cr, Ba, Al, Be, Co, Cu, Fe, Mn, Mo, Ni, V, Zn, Se, Pb, Ag, B, U: RR Hg: HC
TOTAL METALS SPIKE: 2.0 mg/L As, Cd, Cr, Ba, Be, Al, Co, Cu, Fe, Mn, Mo, Ni, V, Zn, B; 4.0 mg/L U; 0.020 mg/L Se; 0.050 mg/L Pb; 0.010 mg/L Ag;
TOTAL METALS QC: 5.0 mg/L As, Cd, Cr, Ba Be, J, B, Se, Pb, Al, Co, Cu, Fe, Mn, Mo, Ni, V Zn, B; 1.0 mg/L Ag; 0.005 mg/L Hg.

BL
Director, Dr. Blair Leftwich

9-26-97
DATE

Oct-01-97 12:32P P.03

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSE.
2040 South Pa.
nta Fe, New M.
5) 827-7131

October 3, 1997

CERTIFIED MAIL
RETURN RECEIPT NO. P-288-258-983

Mr. Bryan Madrid
Navajo Refining Company
P.O. Box 159
Artesia, New Mexico 88211-0159

RE: Authorization to Discharge of Hydrotest Water From Tank 18
Eddy County, New Mexico

Dear Mr. Madrid:

The New Mexico Oil Conservation Division (OCD) has completed a review of Navajo Refining Company's (Navajo) letter (received via fax on October 2, 1997) dated October 2, 1997 requesting the authorization to discharge of approximately 2,250 barrels of test water to the ground surface from the hydrostatic test of tank 18. The proposed location for the discharge is Navajo's farm, Section 28, Township 18 South, Range 30 East, NMPM, Eddy County, New Mexico. The requested discharge is hereby approved with the following conditions:

1. Permission will be obtained from the landowner(s) prior to discharge.
2. The test water will be discharged onto the ground surface in a manner to prevent erosion.
3. No test waters will be discharged to any lakes, perennial streams, rivers, or any surface bodies of water upon completion of a test.
4. The water will not exceed Water Quality Control Commission standards for ground water.

Please be advised that OCD approval does not relieve Navajo of liability should it later be found that contamination exists which could pose a threat to surface water, ground water, human health or the environment.

If you have any questions please feel free to contact Mark Ashley at (505) 827-7155.

Sincerely,

Roger C. Anderson
Environmental Bureau Chief

RCA/mwa
xc: OCD Artesia Office

PS Form 3800, April 1995

US Postal Service
Receipt for Certified Mail
No Insurance Coverage Provided.
Do not use for International Mail (See reverse)

Sent to	
Street & Number	
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Postage	$
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Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date	

P 288 258 983

TELEPHONE
(505) 748-3311

EASYLINK
62905278

REFINING COMPANY

501 EAST MAIN STREET • P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159

FAX
(505) 746-6410 ACCTG
(505) 746-6155 EXEC
(505) 748-9077 ENGR
(505) 746-4438 P / L

October 2, 1997

Mark Ashley
Geologist
Environmental Bureau
Oil Conservation Division
2040 S. Pacheco St.
Santa Fe, NM 87505-5472

RE: HYDROTEST WATER FROM TK 18, NAVAJO REFINING CO., ARTESIA, NM

Dear Mark:

The floor on Tank 18, a slop oil tank, at our Artesia Plant was recently replaced. After completion, the tank was filled with 2,250 barrels of water in order to perform a hydrotest. A sample of this water was taken and sent off to Trace Analytical for analysis. Enclosed you will find the results that show every parameter measured to be below ground water standards.

This water will be discharged to our farm with precautions taken to ensure the water does not pond up. If there are any questions concerning this matter, please call me at (505) 748-3311. Thank you for your time in this matter.

Sincerely,
NAVAJO REFINING COMPANY

Bryan Madrid

Bryan Madrid
Environmental Specialist

Encl.

Post-It® Fax Note 7671	Date	# of pages ▶ 9
To Mark Ashley	From Bryan Madrid	
Co./Dept.	Co.	
Phone #	Phone #	
Fax # (505) 827-8177	Fax #	

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
Navajo Refining
Attention: Bryan Madrid
501 E. Main
Artesia NM 88210

Date: Sep 29, 1997
Date Rec: 9/13/97
Project: Artesia
Proj Name: N/A
Proj Loc: Artesia,NM

Lab Receiving # : 9709000232
Sampling Date. 9/12/97
Sample Condition: Intact and Cool
Sample Received By. JH

PAH in Water (mg/L)

	Reporting Limit	T81573 TK 18	QC	RPD	%EA	%IA
Naphthalene	0.001	0.001	76	9	71	95
Acenapthylene	0.001	ND	80	6	88	100
Acenaphthene	0.001	ND	75	4	82	94
Fluorene	0.001	ND	73	3	77	91
Phenanthrene	0.001	ND	75	6	84	94
Anthracene	0.001	ND	78	5	82	98
Fluoranthene	0.001	ND	78	7	87	98
Pyrene	0.001	ND	78	8	89	98
Benzo[a]anthracene	0.001	ND	84	8	87	105
Chrysene	0.001	ND	68	9	87	85
Benzo[b]fluoranthene	0.001	ND	79	9	63	99
Benzo[k]fluoranthene	0.001	ND	78	11	77	98
Benzo[a]pyrene	0.001	ND	82	10	80	103
Indeno[1,2,3-cd]pyrene	0.001	ND	93	7	94	116
Dibenz[a,h]anthracene	0.001	ND	76	8	87	95
Benzo[g,h,i]perylene	0.001	ND	81	7	101	101

ND = Not Detected

	% RECOVERY
Nitrobenzene-d5 SURR	73
2-Fluorobiphenyl SURR	78
Terphenyl-d14 SURR	77

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)	SPIKE: (mg/L)
PAH	EPA 3510	9/16/97	EPA 8270	9/25/97	RP/HW	80 ea	100 ea

Director, Dr. Blair Leftwich

9-29-97
Date

TRACE ANALYSIS, INC.
A Laboratory for Advanced Environmental Research and Analysis

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1796
FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Bryan Madrid
501 E. Main
Artesia, NM 88210

September 24, 1997
Receiving Date: 09/13/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Extraction Date: 09/16/97
Analysis Date: 09/16/97
Sampling Date: 09/12/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

FIELD CODE: TK 16
TA #: T81573

8260 Compounds	Concentration (ug/L)	Reporting Limit
Dichlorodifluoromethane	ND	1
Chloromethane	ND	1
Vinyl chloride	ND	2
Bromomethane	ND	5
Chloroethane	ND	1
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
Methylene chloride	ND	5
trans-1,2-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
cis-1,2-Dichloroethene	ND	1
Chloroform	ND	1
2,2-Dichloropropane	ND	1
Bromochloromethane	ND	1
1,2-Dichloroethane	ND	1
1,1,1-Trichloroethane	ND	1
Carbon Tetrachloride	ND	1
1,1-Dichloropropene	ND	1
Benzene	ND	1
1,2-Dichloropropane	ND	1
Trichloroethene	ND	1
Dibromomethane	ND	1
Bromodichloromethane	ND	1
cis-1,3-Dichloropropene	ND	1
trans-1,3-Dichloropropene	ND	1
Toluene	ND	1
1,1,2-Trichloroethane	ND	1
1,3-Dichloropropane	ND	1

NAVAJO REFINING
Project Location: Artesia, NM

TA #: T81573
Field Code: TK 18

8260 Compounds	Concentration (ug/L)	Reporting Limit
Dibromochloromethane	ND	1
1,2-Dibromoethane	ND	1
Tetrachloroethene	ND	1
Chlorobenzene	ND	1
1,1,1,2-Tertachloroethane	ND	1
Ethylbenzene	ND	1
m & p-Xylene	ND	1
Bromoform	ND	1
Styrene	ND	1
o-Xylene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,2,3-Trichloropropane	ND	1
Isopropylbenzene	ND	1
Bromobenzene	ND	1
2-Chlorotoluene	ND	1
n-Propylbenzene	ND	1
4-Chlorotoluene	ND	1
1,3,5-Trimethylbenzene	ND	1
tert-Butylbenzene	ND	1
1,2,4-Trimethylbenzene	ND	1
1,4-Dichlorobenzene	ND	2
sec-Butylbenzene	ND	1
1,3-Dichlorobenzene	ND	2
4-Isopropyltoluene	ND	1
1,2-Dichlorobenzene	ND	2
n-Butylbenzene	ND	1
1,2-Dibromo-3-chloropropane	ND	5
1,2,3-Trichlorobenzene	ND	5
Naphthalene	1.3	1
1,2,4-Trichlorobenzene	ND	5
Hexachlorobutadiene	ND	5

	% Recovery
Dibromofluoromethane	94
Toluene-d8	96
4-Bromofluorobenzene	92

ND = Not Detected
Methods: EPA SW 846-5030, 8260.
CHEMIST: RW

Director, Dr. Blair Leftwich

9-24-97
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
Navajo Refining
Attention Bryan Madrid
501 E. Main
Artesia NM 00210

Date: Sep 25, 1997
Date Rec: 9/13/97
Project: Artesia
Proj Name: N/A
Proj Loc: Artesia,NM

Lab Receiving # : 9709000212
Sampling Date: 9/12/97
Sample Condition: Intact and Cool
Sample Received By: JH

TA#	Field Code	MATRIX	BOD5 (mg/L)	TSS (mg/L)	pH (mg/L)
T 81573	TK 18	Water	<7.5	11	7.5
Method Blank			0.07	1.5	
Reporting Limit			7.5	1	---
QC			189.5	---	7
RPD			5	0	0
% Instrument Accuracy			95	---	100

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)
BOD	N/A	9/15/97	EPA 405.1	9/20/97	JS	200
TSS	N/A	9/19/97	EPA 160.2	9/19/97	JS	---
pH	N/A	9/13/97	EPA 150.1	9/13/97	JS	7.0

Director, Dr. Blair Leftwich

9-25-97
Date

TRACE ANALYSIS, INC.
A Laboratory for Advanced Environmental Research and Analysis

TRACE ANALYSIS, INC.

6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING

Attention: Bryan Madrid
501 E. Main
Artesia, NM 88210

September 24, 1997
Receiving Date: 09/13/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 09/15/97
Analysis Date: 09/15/97
Sampling Date: 09/12/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TA#	FIELD CODE	CHLORIDE (mg/L)	FLUORIDE (mg/L)	SULFATE (mg/L)	ALKALINITY (mg/L as CaCo3)
T81573	TK 18	78	1.1	450	180
QC	Quality Control	25	1.02	24	—
RPD		4	2	2	0
% Extraction Accuracy		107	100	96	—
% Instrument Accuracy		97	101	95	—
REPORTING LIMIT		10	0.1	10	1.0

METHODS: EPA 300.0, 310.1, 340.2.
CHEMIST: CHLORIDE/SULFATE: RC FLUORIDE/ALKALINITY: JS
SPIKE: 25 mg/L CHLORIDE; 2.0 mg/L FLUORIDE; 25 mg/L SULFATE.
QC: 23.1 mg/L CHLORIDE; 1.0 mg/L FLUORICE; 24.1 mg/L SULFATE.

Director, Dr. Blair Leftwich

9-24-97
Date

NAVAJO REFINIG ID:505-748-9077 OCT 02'97 13:43 No.024 P.06

TRACEANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Bryan Madrid
501 E. Main
Artesia, NM 88210

September 24, 1997
Receiving Date: 09/13/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 09/16/97
Analysis Date: 09/16/97
Sampling Date: 09/12/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TA#	Field Code	POTASSIUM (mg/L)	MAGNESIUM (mg/L)	CALCIUM (mg/L)	SODIUM (mg/L)
T81573	TK 18	1.3	47	170	20
QC	Quality Contro	49	49	51	50
Reporting Limit		0.30	0.01	0.01	0.40
RPD		0	0	0	0
% Extraction Accuracy		105	99	102	117
% Instrument Accuracy		98	97	102	100

METHODS: EPA 200.7.
CHEMIST: RR
SPIKE: 100 mg/L POTASSIUM, MAGNESIUM, CALCIUM SODIUM.
QC: 50 mg/L POTASSIUM, MAGNESIUM CALCIUM, SODIUM.

Director, Dr. Blair Leftwich

9-24-97
Date

NAVAJO REFINIG
ID:505-748-9077
OCT 02'97 13:44 No.024 P.07

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING

September 24, 1997
Receiving Date: 09/13/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

Prep Date: 09/15/97
Analysis Date: 09/15/97
Sampling Date: 09/12/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TA#	FIELD CODE	COD (mg/L)	NITRATE-N (mg/L)	CYANIDE (mg/L)	TDS (mg/L)	SPECIFIC CONDUCTIVITY (uMHOS/cm)	pH (s.u.)
T81573	TK 18	<20	7.3	<0.02	860	920	7.5
QC	Quality Control	245	9.7	0.04	—	1,411	7.0
RPD		3	1	3	4	2	0
% Extraction Accuracy		94	98	96	—	—	—
% Instrument Accuracy		96	98	99	—	99	100
REPORTING LIMIT		20	1.0	0.02	—	—	—

METHODS: EPA 300.0, 335.2; 120.1, 160.1, 150.1, 410.4.
CHEMIST: RCJS
SPIKE: 10 mg/L Nitrate-N;0.04 mg/L Cyanide-250 mg/L COD.
QC: 10 mg/L Nitrate-N; 0.04 mg/L Cyanide-250 mg/L COD.

BS

Director, Dr. Blair Leftwich

9-24-97

Date

NAVAJO REFINIG ID:505-748-9077 OCT 02'97 13:44 No.024 P.08

TRACEANALYSIS, INC.

6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

September 26, 1997
Receiving Date: 09/13/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Bryan Madrid
501 E. Main
Artesia, NM 88210

Prep Date: 09/15,17/97
Analysis Date: 09/17,22/97
Sampling Date: 09/12/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TOTAL METALS

TA#	FIELD CODE	As (mg/L)	Cd (mg/L)	Cr (mg/L)	Ba (mg/L)	Be (mg/L)	U (mg/L)	B (mg/L)	Se (mg/L)	Pb (mg/L)	Ag (mg/L)
T81573	TK 18	<0.10	<0.02	<0.05	<0.20	<0.01	<1.0	<0.1	0.02	<0.005	<0.005
QC	Quality Control	4.8	4.9	5.0	5.0	5.0	5.0	5.3	5.1	5.0	0.99
METHOD BLANK		**<0.10**	**<0.02**	**<0.05**	**<0.20**	**<0.01**	**<1.0**	**<0.1**	**<0.10**	**<0.005**	**<0.005**
REPORTING LIMIT		0.10	0.02	0.05	0.20	0.01	1.0	0.1	0.10	0.005	0.005
RPD		4	1	2	1	1	4	5	1	1	0
% Extraction Accuracy		110	105	117	113	100	118	107	107	100	117
% Instrument Accuracy		96	98	99	99	99	102	106	101	100	99

TA#	FIELD CODE	Co (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (mg/L)	Ni (mg/L)	V (mg/L)	Zn (mg/L)	Hg (mg/L)	Al (mg/L)
T81573	TK 18	<0.03	<0.02	0.28	0.17	<0.10	<0.20	<0.05	0.03	<0.001	<0.01
QC	Quality Control	5.1	5.0	5.0	5.0	5.0	5.0	4.9	5.0	0.00515	5.1
METHOD BLANK		**<0.03**	**<0.02**	**0.04**	**<0.01**	**<0.10**	**<0.20**	**<0.05**	**0.05**	**—**	**<0.01**
REPORTING LIMIT		0.03	0.02	0.03	0.01	0.10	0.20	0.05	0.02	0.001	0.01
RPD		2	1	1	1	1	2	1	2	0	1
% Extraction Accuracy		122*	107	112	114	118	119	105	109	110	102
% Instrument Accuracy		101	100	99	100	99	99	98	100	103	101

****NOTE: Extraction Accuracy out of limits of 80%-120%.**

METHODS: EPA 200.7, 245.1.

CHEMIST: As, Cd, Cr, Ba, Al, Be, Co, Cu, Fe, Mn, Mo, Ni, V, Zn, Se, Pb, Ag, B, U: RR Hg: HC

TOTAL METALS SPIKE: 2.0 mg/L As, Cd, Cr, Ba, Be, Al, Co, Cu, Fe, Mn, Mo, Ni, V, Zn, B; 4.0 mg/L U; 0.020 mg/L Se; 0.050 mg/L Pb; 0.010 mg/L Ag;

TOTAL METALS QC: 5.0 mg/L As, Cd, Cr, Ba Be, J, B, Se, Pb, Al, Co, Cu, Fe, Mn, Mo, Ni, V Zn, B; 1.0 mg/L Ag; 0.005 mg/L Hg.

Director, Dr. Blair Leftwich

9-26-97
DATE

NAVAJO REFINIG ID:505-748-9077 OCT 02'97 13:45 No.024 P.09

TELEPHONE
(505) 748-3311

EASYLINK
62905278

REFINING COMPANY

501 EAST MAIN STREET ◦ P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159

FAX
(505) 746-6410 ACCTG
(505) 746-6155 EXEC
(505) 748-9077 ENGR
(505) 746-4438 P / L

September 29, 1997

RECEIVED
SEP 30 1997
Oil Conservation Division

Mr. William C. Olson
Hydrologist, Environmental Bureau
New Mexico Oil Conservation Division
2040 S. Pacheco Street
Santa Fe, New Mexico 87505

RE: Ground Water Remediation, Navajo Artesia Refinery

Dear Mr. Olson:

In response to your request of August 15, 1997, Navajo Refining Company is providing additional information with respect to Navajo's ground water remediation and monitoring program at our Artesia Refinery. Included with this information is a report with maps on the results of the electromagnetic (EM) survey conducted at the refinery, confirmatory drilling conducted to verify and assist in interpretation of the EM survey results, and the requested information relating to construction details of recovery wells and trenches, disposition of wastes generated during construction, and handling and disposition of recovered fluids. Specifics on each request are discussed below.

1. An EM survey was conducted in July and August of 1996 with additional survey work performed in May and June of 1997. An interim report has been prepared that discusses the procedures, results, and conclusions of the EM survey. The report is considered interim because additional confirmatory drilling (an estimated 10-12 boreholes) is planned later this fall after harvest of crops is completed to verify and further interpret information developed during the EM survey. The report map shows the locations where one or more borings are thought necessary to complete interpretation of the data. An updated interpretative map and final report will be submitted to OCD after the last of the confirmatory drilling has been completed.
2. The confirmatory drilling that has been conducted so far generally supports the interpretation of the EM survey data with respect to location of major channels. As stated above, additional drilling is considered necessary in the agricultural fields currently under cultivation before a final map can be prepared. Navajo is providing OCD with an updated copy of a 1996 report entitled "Borehole Lithologic Data,

Subsurface Hydrocarbon Investigation, Navajo Refinery, Artesia, New Mexico." The report, first prepared in June, 1996, has been updated to include all available borehole and monitor well information, including results of the confirmatory drilling. A second report prepared in January 1997 entitled "Report on Northeast Area Hydrocarbon Contamination" is also included. This study reports on the work performed to locate and delineate contamination north of well KWB-1 prior to the installation of the planned recovery trench in that area. A response to your specific requests with respect to the work is provided below:

a) A description of the investigation activities for the EM survey and confirmatory drilling is provided in the interim EM survey report and the other two reports listed above.

b) A revised site map showing the location of all existing monitor wells and soil borings is included in the updated Borehole Lithologic Data report. No additional monitor wells were installed as part of the EM survey and confirmatory drilling efforts.

c) No samples were obtained for soils or water quality testing during this effort whose purpose was to locate permeable subsurface channels. Although water quality was not tested, the drilling logs note whether subsurface hydrocarbons were detected in individual drill holes.

d) Water level elevations were not measured as part of this study, and no additional water table maps beyond what Navajo currently provides OCD were produced.

e) Geologic logs and well completion diagrams for each borehole and monitor well are presented in the Borehole Lithologic Data report.

f) No new product thickness maps were produced during this effort. Temporary casings were not installed in the boreholes. Due to the nature of the subsurface material (layered swelling clay and coarse grained material), the boreholes did not commonly remain open below the water table after removal of the drilling augers which generally made measurement of water and product levels impossible. However, if such measurements were taken, they are included as notes on the individual boring logs.

g) Geologic cross sections were produced for the area north of KWB-1 where a recovery trench is to be installed. Sufficient geologic control in the form of numerous borings drilled to delineate the contamination exists to allow preparation of the cross sections. However, in other areas, the confirmatory borings are too widely spaced and the lithology to variable to allow preparation of meaningful cross sections.

3. Schematics, construction details and a site map for the proposed trench and recovery wells at our facility in Artesia are enclosed. Navajo has tentatively decided to put a trench in the area we are calling **NORTHEAST** on the site map. In the other three

areas, **HAZARDOUS WASTE LANDFARM, CLARIFIER, AND EAST OF THE MAIN OFFICE BUILDING**, we are looking at putting in recovery wells with either vacuum enhanced product recovery or jet pump product recovery systems. A pilot test is currently being planned to decide which system will work best in our circumstances.

4. When the trenches and wells are being dug, the waste soils that are generated will be handled as follows:

    * Clean dirt will be separated and used for fill in the trench.
    * Contaminated material will be transported back to the plant and placed on plastic.
    * A composite sample will then be taken of the contaminated material to be analyzed for TCLP and RCI.
    * Depending on the results of the TCLP, the material will be sent to CRI's landfill if **non-hazardous.** If **hazardous**, the material will be put through our onsite hazardous waste process to be turned into cement kiln fuel.

5. Any fluid generated during construction will be brought back to the plant by vacuum truck and put through our waste water system. Once the systems are operational, fluids will be piped back to the plant through underground lines and put into an API oil/water separator. Water will be processed in the waste water system and hydrocarbons will be run back through the refinery for processing.

Navajo is moving ahead with selection of a contractor for installation of the recovery wells. We anticipate beginning work with a pilot recovery project in the vicinity of the North Colony Landfarm in November 1997.

If you have any questions regarding this letter or the enclosed response, please do not hesitate to contact me at (505) 748-3311.

Sincerely,

Darrell Moore

Darrell Moore
Environmental Manager for Water and Waste

lgm

Enclosure

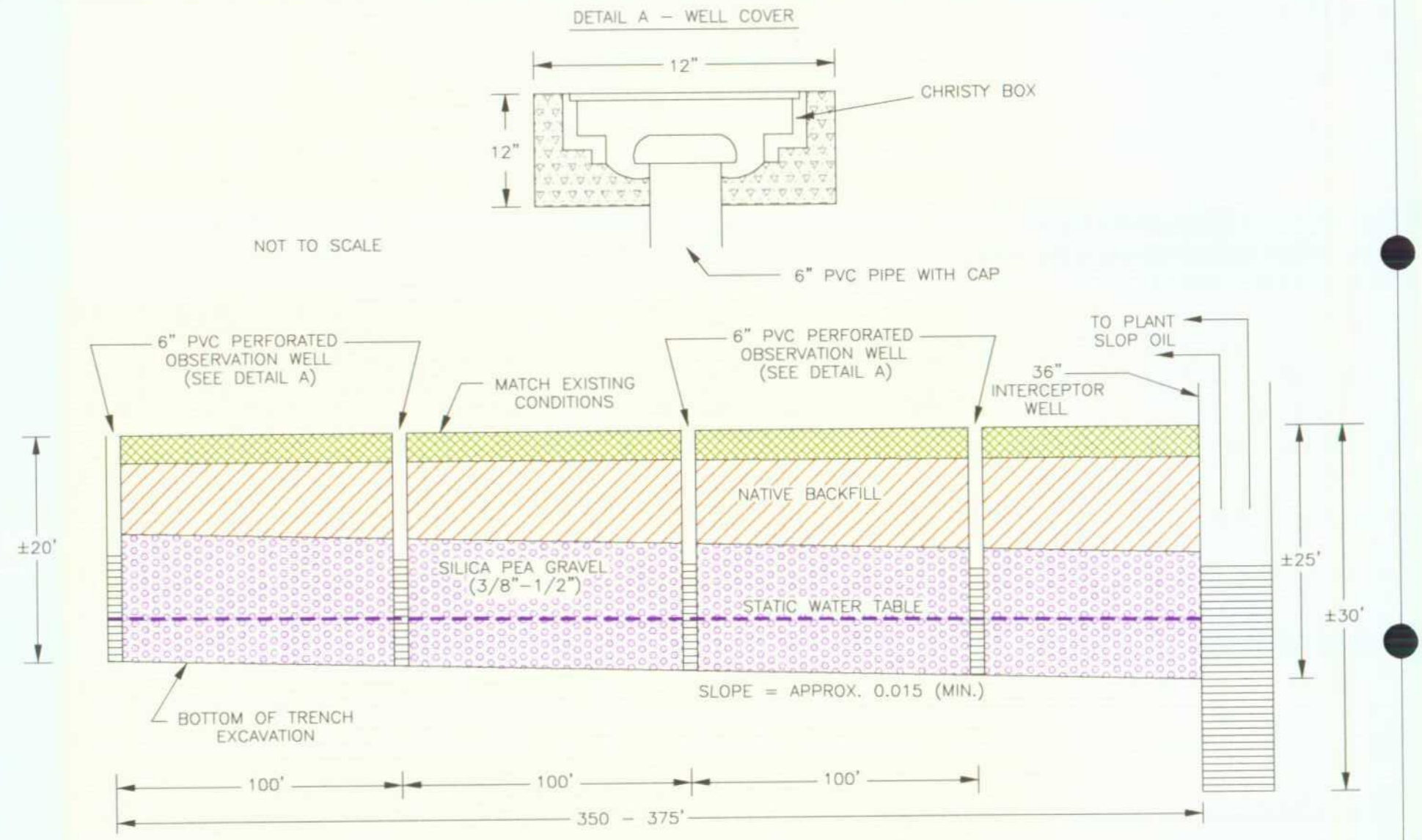


FIGURE 3.1 :CONSTRUCTION DETAILS OF PROPOSED NORTHEAST INTERCEPTOR TRENCH NAVAJO REFINING COMPANY, ARTESIA, NEW MEXICO

NVJINTMO

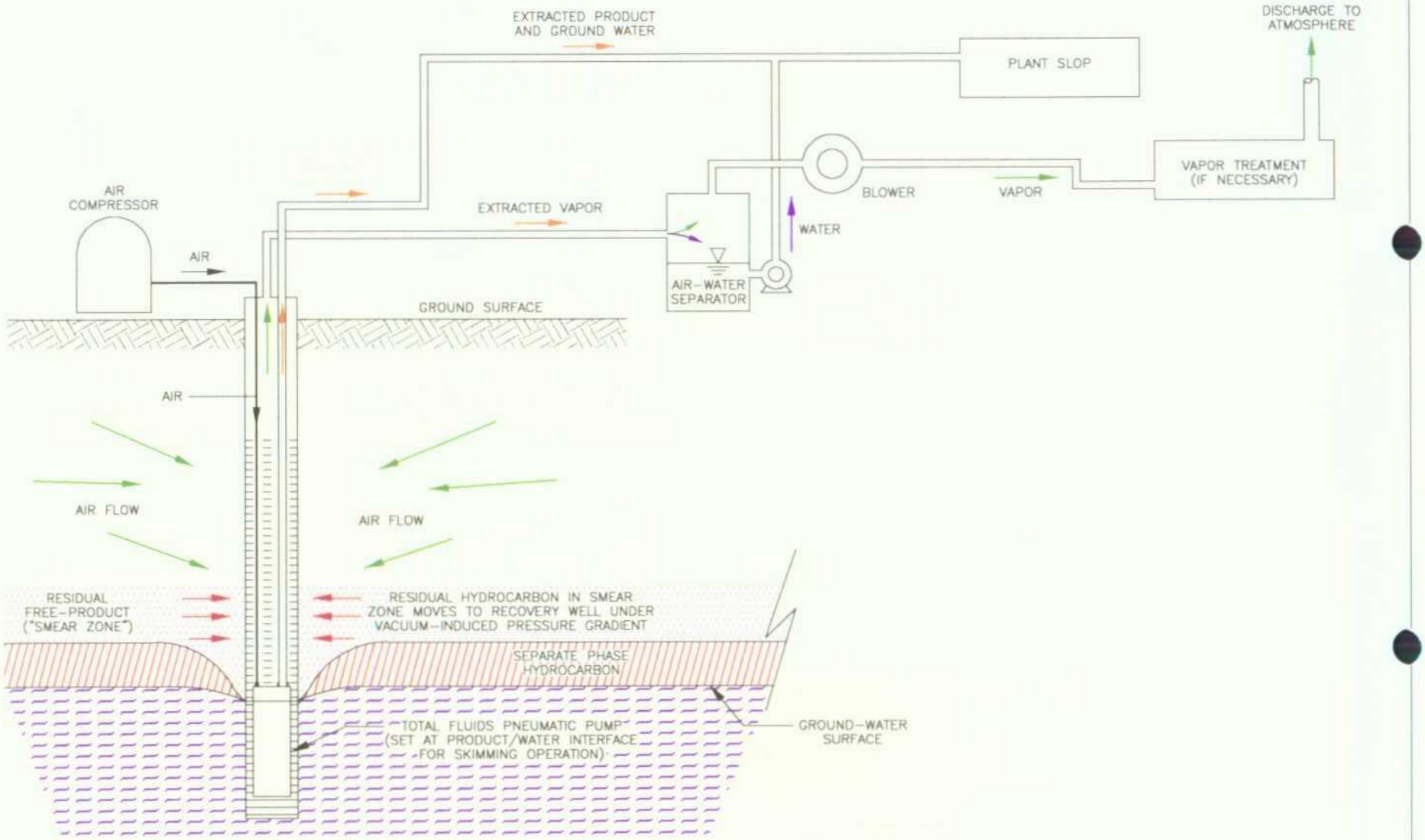


FIGURE 4.2 :TYPICAL VACUUM ENHANCED PRODUCT RECOVERY SYSTEM SCHEMATIC, NAVAJO REFINERY, ARTESIA, NEW MEXICO

NVJTYVRS

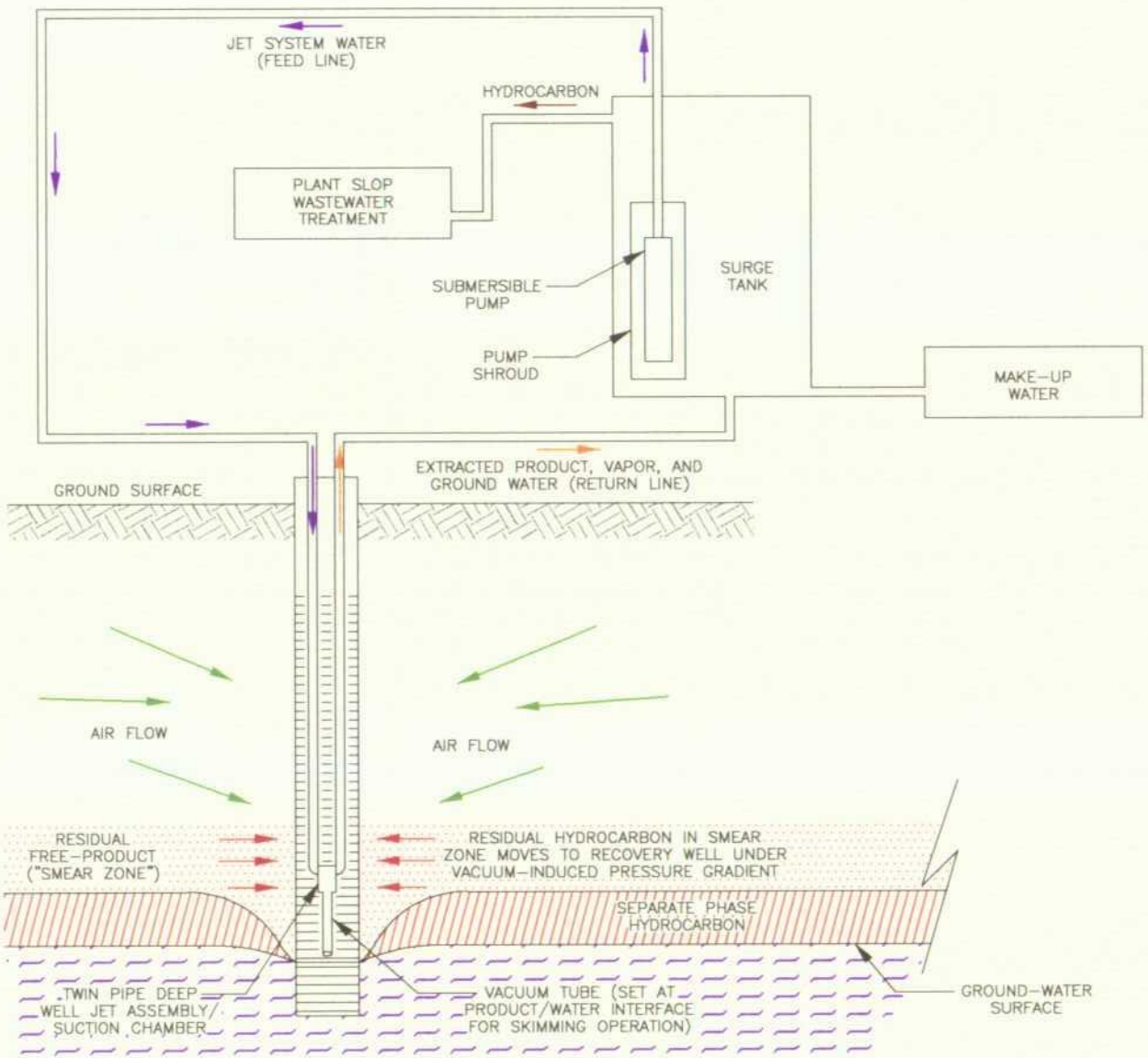


FIGURE 4-3 :TYPICAL JET PUMP PRODUCT RECOVERY SYSTEM SCHEMATIC, NAVAJO REFINING COMPANY, ARTESIA, NEW MEXICO

NAVTYJETP



RECEIVED
SEP 30 1997
Environmental Bureau
Oil Conservation Division

REVISIONS	
Date	By

TRIHYDRO corporation
920 Sheridan Street
Laramie, Wyoming 82070

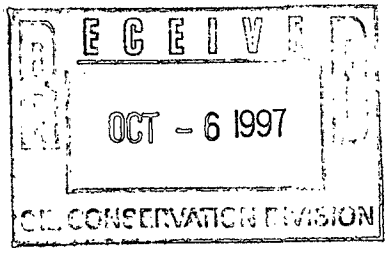
PLATE 1
PROPOSED TRENCH SITES,
NAVAJO REFINING COMPANY,
ARTESIA, NEW MEXICO

Drawn By: BW from Navajo Refining Co. drawing 90-45-D | Chkd By: CN | Date: 9/18/97 | Disk Reference: NAVBASE

COVENANT TECHNICAL ASSOCIATES, INC.

P.O. Box 1458, Cedar Crest, NM 87008 (505) 281-8591 FAX (505) 281-1335

memorandum



Date: 10/3/97

To: Bill Olson, NMOCD

From: David G. Boyer

RE: August 15, 1997 Information Request

Bill –

I am enclosing the January 1997 report entitled report on "Northeast Area Hydrocarbon Contamination", and two replacement maps for placement in their respective reports (I found a mis-labeled boring).

It was good to see you again. Keep me informed on the progress of the search for Bill's replacement.

Dave

DGB/DGB

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
2040 S. PACHECO
SANTA FE, NEW MEXICO 87505
(505) 827-7131

August 15, 1997

CERTIFIED MAIL
RETURN RECEIPT NO. P-410-431-210

Mr. Darrell Moore
Navajo Refining Company
P.O. Box 159
Artesia, New Mexico 88211-0159

RE: GROUND WATER REMEDIATION
NAVAJO ARTESIA REFINERY

Dear Mr. Moore:

The New Mexico Oil Conservation Division (OCD) is in the process of reviewing Navajo Refining Company's (Navajo) June 30, 1997 "GROUND WATER REMEDIATION AND MONITORING, NAVAJO ARTESIA REFINERY". This document contains Navajo's work plan for installation of additional recovery wells at Navajo's Artesia Refinery.

In order for the OCD to complete a review of the above referenced document, the OCD requires that Navajo submit the following information to the OCD by September 30, 1997:

1. The work plan states that the proposed recovery well locations are based upon an electro-magnetic (EM) survey conducted by Navajo. The OCD has no record of receiving a report containing the results of the EM survey. Please provide the OCD with a report containing the procedures, results and conclusions of the EM survey.

2. The work plan states that confirmatory drilling was conducted subsequent to the EM survey to verify the results of the survey. The OCD has no record of receiving a report containing the results of these drilling activities. Please provide the OCD with a report on the confirmatory drilling program. The report will contain:

    a. A description of all investigation activities which occurred including the procedures used during the investigation including conclusions and recommendations.

    b. A site map showing the locations of all newly installed soil borings and/or monitor wells in relation to other pertinent site features.

    c. A summary of any laboratory analytic results of soil and water quality sampling including copies of the laboratory analyses and associated quality assurance/quality control data.

d. If water table elevations were determined, a water table elevation map using the water table elevation of the ground water in all new and previously installed monitor wells.

e. A geologic log and well completion diagram for each borehole and/or monitor well.

f. If product thickness on the water table was measured, a product thickness map using the product thickness on the ground water in all new and previously installed monitor wells.

g. Geologic cross sections showing the spatial relationship of the gravel zones and other lithologic units.

h. Any other information obtained which is pertinent to the investigation of the extent of contamination and the selection of the additional recovery well and trench locations.

3. Please provide the OCD with the proposed construction details and schematics for the recovery wells and trenches.

4. Please provide the OCD with the proposed disposition of all wastes generated during construction of the recovery wells and trenches.

5. Please provide the OCD with information on the proposed handling and disposition of all recovered fluids from the recovery wells and trenches.

Submission of the above requested information will allow the OCD to continue a review of this work plan.

If you have any questions, please contact me at (505) 827-7154.

Sincerely,

William C. Olson
Hydrologist
Environmental Bureau

xc: OCD Artesia District Office
David Boyer, Covenant Technical Associates, Inc.

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TELEPHONE
(505) 748-3311

EASYLINK
62905278

REFINING COMPANY

501 EAST MAIN STREET ◦ P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159

FAX
(505) 746-6410 ACCTG
(505) 746-6155 EXEC
(505) 748-9077 ENGR
(505) 746-4438 P / L

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JUL - 2 1997
OIL CONSERVATION DIVISION

June 30, 1997

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JUL 2 1997
Environmental Bureau
Oil Conservation Division

Mr. William C. Olson, Hydrogeologist
Environmental Bureau
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, New Mexico 87505

CERTIFIED LETTER
P 355 936 447

RE: Ground Water Remediation and Monitoring, Navajo Artesia Refinery

Dear Mr. Olson:

In response to your request of April 1, 1997, Navajo Refining Company is providing OCD with information on additional sites for hydrocarbon product recovery. These sites are described below together with anticipated installation dates. The sites were picked using Electro-Magnetic Surveys so that we could focus on gravel zones. These gravel zones should enhance recovery. Also enclosed is a map showing the location of the proposed recovery systems and a table providing an up-to-date picture of water quality both at water and monitor wells routinely sampled as per OCD requirements, and at other less frequently sampled monitor wells.

A. **Planned Hydrocarbon Product Recovery Locations**

1. The following locations are scheduled to have trenches or horizontal well recovery systems installed by Winter 1997:

a. **North Colony Landfarm** -Two locations on the east side of the landfarm with relatively long segment on the west side of Eagle Draw and a shorter segment on the east side near the Trickle Filter.

b. **Navajo Office / Toolpushers Supply** - Located east of the Navajo parking lot between the Navajo Office and Toolpushers Supply buildings.

c. **North of Monitor Well KWB-1A** - Located approximately between 450 ft. and 650 ft. north of KWB-1A.

2. The following locations are scheduled to have product recovery wells installed in the Winter of 1997. At this time the exact locations are tentative pending completion of the zone of capture calculations.

a. **South of KWB-10** - Two wells are planned for installation adjacent to the dirt farm road. This is the area of greatest "apparent" product thickness. It is anticipated that the locations will be between approximately 200 ft. and 400 ft. south of KWB-10.

b. **South of KWB-8** - Cofirmatory drilling this past May determined the existence of a gravel zone containing hydrocarbon product located between KWB-8 and Highway 82. A recovery well is tentatively scheduled to be located there pending discussion and approval by the Chase Farms owners

B. **Tentative Hydrocarbon Product Recovery Locations**

The following locations are tentatively scheduled to receive recovery trenches or wells pending further hydrologic investigation. Decisions on installation and schedules will be made later this year:

1. **Navajo "Boneyard"** - Two segments located east of the Truck Bypass Road in the vicinity of the TEL area.

2. **Armstrong Field** - Segments near and west of Bolton Road with exact locations to be determined pending confirmatory drilling, hydrologic study, and consultation/approval of the landowner.

Navajo Refining Company will keep your agency apprised of the scheduled for installation of the facilities so as to provide you with an opportunity to have a Santa Fe or Artesia representative present for the installation.

If you have any questions, please do not hesitate to contact me at the above telephone number.

Sincerely,

Darrell Moore

Darrell Moore
Environmental Mgr. for Water and Waste

Enclosure

cc. OCD Artesia, David Boyer, CTA

Table 1. Results of Recent Groundwater Sampling of Navajo Monitor Wells

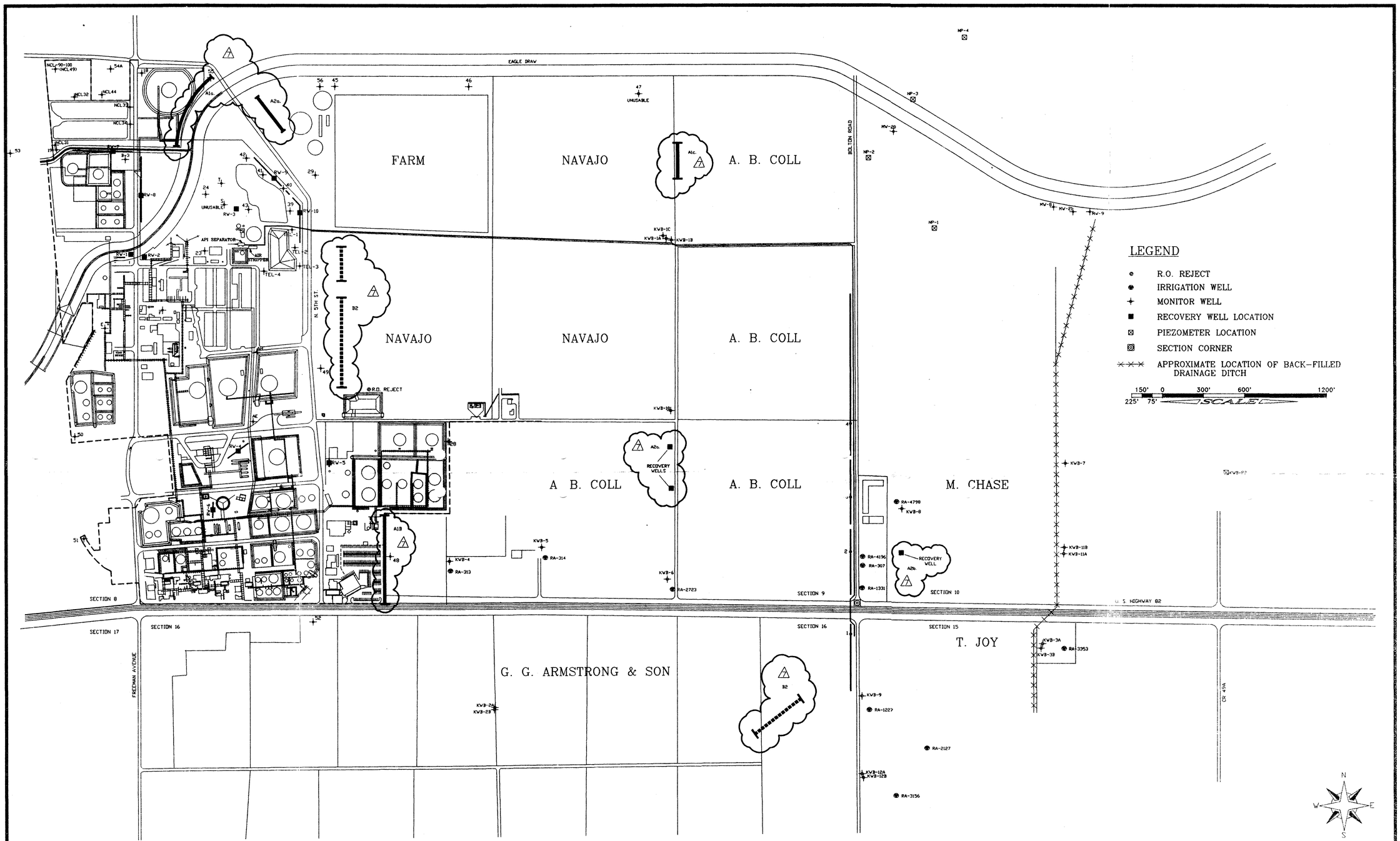
Well Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethyl-benzene (mg/L)	M,P,O Xylene (mg/L)	Total BTEX (mg/L)	MTBE (mg/L)
KWB-1A	04/01/97	<0.001	<0.001	<0.001	<0.001	<0.001	0.017
KWB-1B	06/11/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
KWB-1C*	04/01/97	0.002	<0.001	<0.001	<0.001	<0.001	<0.001
KWB-2A*	04/01/97	<0.001	0.001	<0.001	<0.001	<0.001	<0.001
KWB-2B	06/11/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
KWB-3A	06/11/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
KWB-3B	06/11/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
KWB-7*	04/02/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
KWB-8	06/11/97	0.280	0.012	0.508	0.168	0.968	0.011
KWB-9*	04/01/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
KWB-10	06/11/97	<0.001	<0.001	<0.001	<0.001	<0.001	1.72
KWB-11A*	04/01/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
KWB-11B	06/11/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
KWB-12A	04/01/97	0.002	<0.001	<0.001	<0.001	<0.001	<0.001
KWB-12B	06/11/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
MW-18	06/11/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
MW-45*	06/11/97	<0.001	0.001	<0.001	<0.001	<0.001	<0.001

* Tentatively Identified Compounds (TICs) and estimated concentrations:
KWB-1C: (E)-2-Butene, 0.006 mg/L; 2-methoxy-2-methyl-propane, 0.053 mg/L
KWB-2A: trans-1,3-Dichloropropene 0.002 mg/L
KWB-7: 2-methoxy-2-methyl-propane, 0.007 mg/L
KWB-9: 1,2-Dichloroethane, 0.004 mg/L
KWB-11A: 3-Nitro-1,2-Benzenedicarboxy-HC Acid, 0.006 mg/L
MW-45: trans-1,3-Dichloropropene 0.002 mg/L; Sec-butyl-isopropyl-sulfide, 0.010 mg/L; various unidentified hydrocarbons totaling 0.035 mg/L

Table 2. Results of Recent Groundwater Sampling of Domestic and Irrigation Water Wells Adjacent to Navajo Refinery

Well Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethyl-benzene (mg/L)	M,P,O Xylene (mg/L)	Total BTEX (mg/L)	MTBE (mg/L)
RA-307	05/30/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
RA-313	05/30/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
RA-314	04/17/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
RA-1227	05/30/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
RA-1331	05/30/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
RA-2223	04/01/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
RA-2723	04/17/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
RA-3156	04/02/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
RA-3353	04/02/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
RA-4196*	05/30/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
RA-4798	05/30/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

* Tentatively Identified Compounds (TICs) and estimated concentrations:
RA-4196: TetrahydroFuran, 0.038 mg/L



NOTES

PLANNED TRENCHES

POSSIBLE FUTURE TRENCHES

REFERENCE DRAWINGS

NO.	REVISIONS	BY	CHK.	DATE	APPR.	APPR.
7	PLANNED TRENCHES	LGR	DGJ	6/26/97	DGM	DGJ
6	OCT., 1996 READINGS	DLW	DGJ	10/28/96	DGM	DGJ
5	AUGUST, 1996 READINGS	DLW	DGJ	09/18/96	DGM	DGJ
4	MAY, 1996 READINGS	DLW	DGJ	05/14/96	DGM	DGJ
3	JANUARY, 1996 READINGS	DLW	DGJ	01-11-96	DGM	DGJ
2	SEPTEMBER, 1995 READINGS	PETE	DGJ	10-7-95	DGM	DGJ
1	JUNE, 1995 READINGS	PETE	DGJ	7-13-95	DGM	ILS
0	ISSUED WITH MARCH, 1995 READINGS	PETE	DGJ	3-27-95	DGM	ILS

DRAWING TITLE

GROUNDWATER POTENTIOMETRIC MAP NAVAJO REFINING

NAVAJO REFINING CO.
ENGINEERING DEPARTMENT
P.O. DRAWER 159
ARTESIA, NEW MEXICO

DRAWN BY	CHK'D BY	SCALE
DLW	DGM	AS SHOWN
DATE	APPR BY	DRAWING NUMBER	REV.
3-17-95	ILS	90-44-D	7

RECEIVED
JUL 2 1997
Environmental Bureau
Oil Conservation Division

ISSUED FOR
JUN 30 1997
REFERENCE ONLY

RECEIVED
JUL 02 1997
Environmental Bureau
Oil Conservation Division

TELEPHONE
(505) 748-3311

EASYLINK
62905278

NAVAJO REFINING COMPANY

501 EAST MAIN STREET ◦ P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159

FAX
(505) 746-6410 ACCTG
(505) 746-6155 EXEC
(505) 748-9077 ENGR
(505) 746-4438 P / L

August 28, 1997

Mark Ashley
Geologist
Environmental Bureau
Oil Conservation Division
2040 S. Pacheco St.
Santa Fe, NM 87505-5472

RE: Discharge Plan GW-28 Navajo Refining Co, Eddy County, NM

Dear Mark,

Enclosed please find the results for the soil sampling that was done to determine if there was any lead contamination around three tanks in the plant. This sampling was requested by you in your November 13, 1996 letter (item 6). As you can see, all samples came back No Detect for lead. Navajo is going to have the lead warning signs around these tanks removed so that this issue doesn't come up again.

If there are any questions concerning this matter, please give me a call at 505-748-3311. Thank you for your time in this matter.

Sincerely,
NAVAJO REFINING COMPANY

Darrell Moore

Darrell Moore
Environmental Mgr. for Water and Waste

Encl.

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Bryan Madrid
501 E. Main
Artesia, NM 88210

August 20, 1997
Receiving Date: 08/05/97
Sample Type: Soil
Project No: NA
Project Location: Artesia, NM

Extraction Date: 08/08/97
Analysis Date: 08/19/97
Sampling Date: 08/04/97
Sample Condition: I & C
Sample Received by: JH
Project Name: NA

TA#	FIELD CODE	SPLP Pb (mg/L)
T78965	TK 419 - 1	<0.10
T78966	TK 419 - 2	<0.10
T78967	TK 419 - 3	<0.10
T78968	TK 418 - 4	<0.10
T78969	TK 112 - 5	<0.10
QC	Quality Control	5.0
REPORTING LIMIT		0.10
RPD		6
% Extraction Accuracy		84
% Instrument Accuracy		99

METHODS: EPA SW 846-1312, 6010.
CHEMIST: RR
SPLP Pb SPIKE: 2.0 mg/L SPLP Pb.
SPLP Pb QC: 5.0 mg/L SPLP Pb.

Director, Dr. Blair Leftwich

8-20-97
DATE

78965- 69

069

TraceAnalysis, Inc.

6701 Aberdeen Avenue Lubbock, Texas 79424
Tel (806) 794 1296 Fax (806) 794 1298
1 (800) 378 1296

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: BRYAN MADRID

Phone #:

FAX #:

Company Name & Address: NAVAJO REFINING Co.

Project #:

Project Name :

Project Location: ARTESIA NM

Sampler Signature: Bryan Madrid

ANALYSIS REQUEST

SPECIAL HANDLING

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	MATRIX: SOIL	MATRIX: AIR	MATRIX: SLUDGE	PRESERVATIVE METHOD: HCL	PRESERVATIVE METHOD: HNO3	PRESERVATIVE METHOD: ICE	PRESERVATIVE METHOD: NONE	SAMPLING: DATE	SAMPLING: TIME	BTEX, MTBE	TPH	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	8240 / 8260	8270	SPLP - Pb
78965	TK 419 - 1	1			X					X	X	8/4/97	7:45										X
66	TK 419 - 2	1			X					X	X	8/4/97	8:15										X
67	TK 419 - 3	1			X					X	X	8/4/97	8:40										X
68	TK 418 - 4	1			X					X	X	8/4/97	8:55										X
69	TK 112 - 5	1			X					X	X	8/4/97	9:05										X

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Bryan Madrid	8/4/97	16:15			
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received at Laboratory by:	Date:	Time:
			[illegible]	8/5/97	7:45A

REMARKS

B

3°C FedEx 280 8537 602

217A

C/I

TELEPHONE
(505) 748-3311

EASYLINK
62905278

NAVAJO REFINING COMPANY

501 EAST MAIN STREET ◦ P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159

FAX
(505) 746-6410 ACCTG
(505) 746-6155 EXEC
(505) 748-9077 ENGR
(505) 746-4438 P / L

August 21, 1997

AUG 25 1997

Mark Ashley
Geologist
Environmental Bureau
Oil Conservation Division
2040 S. Pacheco St.
Santa Fe, NM 87505-5472

RE: HYDROTEST WATER FROM TK 972 BEESON STATION, NAVAJO REFINING CO., ARTESIA, NM

Dear Mark:

A new floating roof was installed on Tk 972 at our Beeson Station for Navajo. In order to hydrotest the tank, it was filled with 10,000 bbls. of fresh water. Results from the analysis of water samples taken, which are enclosed, show every parameter measured to be below ground water standards.

The water will be discharged to sand dunes through hay bales with care being taken to ensure that there is no ponding of water. If you have any questions, please call me at (505) 748-3311. Thank you for your time in this matter.

Sincerely,

NAVAJO REFINING COMPANY

Bryan Madrid

Bryan Madrid
Environmental Specialist

Encl.

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock Texas 79424 806•794•1296 FAX 806•794•1298

August 19, 1997
Receiving Date: 08/05/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Bryan Madrid
501 E. Main
Artesia, NM 88210

Prep Date: 08/06/97
Analysis Date: 08/08/97
Sampling Date: 08/04/97
Sample Condition Intact & Cool
Sample Received by: JH
Project Name: NA

TOTAL METALS

TA#	FIELD CODE	As (mg/L)	Cd (mg/L)	Cr (mg/L)	Ba (mg/L)	Be (mg/L)	U (mg/L)	B (mg/L)	Se (mg/L)	Pb (mg/L)	Ag (mg/L)
T78964	TK 972 Beason Station	<0.10	<0.02	<0.05	<0.20	<0.01	<0.1	<0.5	<0.010	<0.005	<0.002
QC	Quality Control	5.0	5.2	5.0	5.0	5.0	5.0	4.7	5.1	5.1	1.0
HIGH		---	***9.0 90%**	***9.2 92%**	***9.4 94%**	***9.0 90%**	---	---	---	---	---
MET BLK	**METHOD BLANK**	**<0.10**	**<0.02**	**<0.05**	**<0.20**	**<0.01**	**0.1**	---	---	---	---
REPORTING LIMIT		0.10	0.02	0.05	0.20	0.01	0.1	0.5	0.010	0.005	0.002
RPD		1	12	4	1	8	20	11	18	2	10
% Extraction Accuracy		108	92	94	95	91	101	85	110	106	110
% Instrument Accuracy		100	103	99	99	99	107	94	102	102	100

TA#	FIELD CODE	Co (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (mg/L)	Ni (mg/L)	V (mg/L)	Zn (mg/L)	Hg (mg/L)	Al (mg/L)
T78964	TK 972 Beason Station	<0.03	<0.02	<0.03	<0.01	<0.10	<0.20	<0.05	<0.02	<0.001	<0.010
QC	Quality Control	5.1	4.9	5.1	5.0	5.1	5.0	5.0	4.9	0.00465	4.9
HIGH		***9.3 93%**	---	***9.4 94%**	***9.3 93%**	***9.2 92%**	***9.2 92%**	***9.3 93%**	***9.4 94%**	---	---
MET BLK	**METHOD BLANK**	**<0.03**	**0.05**	**0.05**	**<0.01**	**<0.10**	**<0.20**	**<0.05**	**0.05**	---	---
REPORTING LIMIT		0.03	0.02	0.03	0.010	0.10	0.20	0.05	0.02	0.001	0.010
RPD		5	5	2	3	3	5	2	1	0	6
% Extraction Accuracy		89	****75**	107	91	94	89	94	88	60	90
% Instrument Accuracy		101	97	101	100	101	100	99	97	93	98

*** NOTE: High is not within limits of 95%-105%.**
****NOTE: Extraction Accuracy out of limits of 80%-120%.**

METHODS: EPA 200.7, 245.1.
CHEMIST: As, Cd Cr, Ba, Al Be, Co, Cu, Fe, Mn, Mo, Ni, V, Zn, Se, Pb, Ag, B, U: RR Hg: HC
TOTAL METALS SPIKE 2.0 mg/L As, Cd, Cr, Ba, Be, Al, Co, cu, Fe, Mn, Mo, Ni, V, Zn; 0.5 mg/L U, B; 0.020 mg/L Se; 0.050 mg/L Pb; 0.010 mg/L Ag;
TOTAL METALS QC: 5.0 mg/L As, Cd, Cr, Ba, Be, U, B Se, Pb, Al, Co, Cu, Fe, Mn, Mo, Ni, V, Zn; 1.0 mg/L Ag; 0.005 mg/L Hg.

Director, Dr. Blair Leftwich

8-19-97
DATE

Aug-20-97 10:46A P.02

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
Navajo Refining
Attention: Bryan Madrid
501 E. Main
Artesia NM 88210

Date: Aug 08, 1997
Date Rec: 8/5/97
Project: Artesia
Proj Name: Navajo
Proj Loc: Artesia,NM

Lab Receiving # : 9708000068
Sampling Date: 8/4/97
Sample Condition: Intact and Cool
Sample Received By: JH

PAH in Water (mg/L)	Reporting Limit	T78964 TK-972 Beason Sta.	QC	RPD	%EA	%LA
Naphthalene	0.001	ND	78	3	66	98
Acenapthylene	0.001	ND	82	6	83	103
Acenaphthene	0.001	ND	84	7	81	105
Fluorene	0.001	ND	85	6	87	106
Phenanthrene	0.001	ND	84	3	94	105
Anthracene	0.001	ND	83	4	98	104
Fluoranthene	0.001	ND	89	4	108	111
Pyrene	0.001	ND	79	6	84	99
Benzo[a]anthracene	0.001	ND	85	5	89	106
Chrysene	0.001	ND	83	5	79	104
Benzo[b]fluoranthene	0.001	ND	84	5	92	105
Benzo[k]fluoranthene	0.001	ND	90	4	98	113
Benzo[a]pyrene	0.001	ND	84	4	98	105
Indeno[1,2,3-cd]pyrene	0.001	ND	66	4	73	83
Dibenz[a,h]anthracene	0.001	ND	66	4	66	83
Benzo[g,h,i]perylene	0.001	ND	65	4	71	81

ND = Not Detected

	% RECOVERY
Nitrobenzene-d5 SURR	78
2-Fluorobiphenyl SURR	83
Terphenyl-d14 SURR	92

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)	SPIKE: (mg/L)
PAH	EPA 3510	8/5/97	EPA 8270	8/5/97	HW/CC	80 ea	100 ea

Director, Dr. Blair Leftwich

8-8-97
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
Navajo Refining
Attention Bryan Madrid
501 E. Main
Artesia NM 88210

Date: Aug 15, 1997
Date Rec: 8/5/97
Project: Artesia
Proj Name: Navajo
Proj Loc: Artesia,NM

Lab Receiving # : 9708000068
Sampling Date: 8/4/97
Sample Condition: Intact and Cool
Sample Received By: JH

TA#	Field Code	MATRIX	BOD5 (mg/L)	TSS (mg/L)	pH (mg/L)
T 78964	TK-972 Beacon Sta.	Water	18	3	7.9
Method Blank			0.11	1	---
Reporting Limit			7.5	1	---
QC			179	---	7
RPD			9	14	0
% Extraction Accuracy			94	---	---
% Instrument Accuracy			90	---	100

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)
BOD	N/A	8/8/97	EPA 405.1	8/13/97	JS	200
TSS	N/A	8/12/97	EPA 160.2	8/12/97	JS	--
pH	N/A	8/5/97	EPA 150.1	8/5/97	JS	7.0

Director Dr. Blair Leftwich

8-15-97
Date

TRACE ANALYSIS, INC.
A Laboratory for Advanced Environmental Research and Analysis

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING CO.
Attention: Bryan Madrid
501 E. Main
Artesia, NM 88210

August 19, 1997
Receiving Date: 08/05/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 08/12/97
Analysis Date: 08/12/97
Sampling Date: 08/04/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TA#	Field Code	COD (mg/L)
T76964	TK 972 Beason Station	<25
QC	Quality Control	254
Reporting Limit		25
RPD		6
% Extraction Accuracy		103
% Instrument Accuracy		102

METHODS: EPA 410.4.
CHEMIST: RC
COD SPIKE AND QC: 250 mg/L COD.

Director, Dr. Blair Leftwich

8-15-97
Date

TRACEANALYSIS, INC.
6701 Aberdeer Avenue Lubbock Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Eryan Madrid
501 E. Main
Artesia, NM 88210

August 19, 1997
Receiving Date: 08/05/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 08/08/97
Analysis Date: 08/12/97
Sampling Date: 08/04/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TA#	Field Code	POTASSIUM (mg/L)	MAGNESIUM (mg/L)	CALCIUM (mg/L)	SODIUM (mg/L)
T78964	TK 972 Beacon Station	2.7	9.6	41	36
QC	Quality Control	46	46	46	47
MET BLK	**METHOD BLANK**	**<0.30**	**0.02**	**0.05**	**<0.40**
HIGH		*9.1 91%	*9.2 92%	*0.1 <1%	*9.3 93%
Reporting Limit		0.30	0.01	0.01	0.40
RPD		2	3	1	2
% Extraction Accuracy		96	99	93	100
% Instrument Accuracy		91	92	92	94

***NOTE: High is out of range of 95%-105%.**

METHODS: EPA 200.7.
CHEMIST: RR
SPIKE: 100 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM.
QC: 50 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM

Director, Dr. Blair Leftwich

8-19-97
Date

Aug-20-97 10:47A P.06

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING

August 19,1997
Receiving Date: 08/05/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Attention: Bryan Madrid
501 E. Main
Artesia, NM 88210

Prep Date: 08/05/97
Analysis Date: 08/05/97
Sampling Date: 08/04/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TA#	FIELD CODE	NITRATE-N (mg/L)	CYANIDE (mg/L)	TDS (mg/L)	SPECIFIC CONDUCTIVITY (uMHOS/cm)	pH (s.u.)
T78964	TK 972 - Beason Station	2.7	<0.02	310	460	7.9
QC	Quality Control	10.6	0.039	—	1,353	7.0
RPD		3	5	1	0	0
% Extraction Accuracy		106	110	—	—	—
% Instrument Accuracy		105	88	—	95	100
REPORTING LIMIT		0.1	0.02	—	—	—

METHODS: EPA 300.0, 335.2; 120.1, 160.1, 150.1.
CHEMIST NITRATE-N/CYANIDE: RC pH/TDS/SPECIFIC CONDUCTANCE: JS
SPIKE: 10 mg/L Nitrate-N;0.04 mg/L Cyanide.
QC: 10 mg/L Nitrate-N; 0.04 mg/L Cyanide.

Director, Dr. Blair Leftwich

8-19-97
Date

Aug-20-97 10:47A P.07

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING

August 19, 1997
Receiving Date: 08/05/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Attention: Bryan Madrid
501 E. Main
Artesia, NM 88210

Prep Date: 08/05/97
Analysis Date: 08/05/97
Sampling Date: 08/04/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TA#	FIELD CODE	CHLORIDE (mg/L)	FLUORIDE (mg/L)	SULFATE (mg/L)	ALKALINITY (mg/L as CaCo3)
T78964	TK 972 - Beason Station	39	0.63	42	140
QC	Quality Control	26	0.91	26	---
RPD		0	3	2	0
% Extraction Accuracy		104	111	102	---
% Instrument Accuracy		103	93	98	---
REPORTING LIMIT		1.0	0.1	1.0	1.0

METHODS: EPA 300.0 310.1, 340.2.
CHEMIST: CHLORIDE/SULFATE: RC FLUORIDE/ALKALINITY: JS
SPIKE: 25 mg/L CHLORIDE; 1.0 mg/L FLUORIDE; 25 mg/L SULFATE.
QC: 26 mg/L CHLORIDE; 1.0 mg/L FLUORIDE; 23 mg/L SULFATE.

Director, Dr. Blair Leftwich

8-19-97
Date

Aug-20-97 10:46A P.08

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Bryan Madrid
501 E. Main
Artesia, NM 88210

August 19, 1997
Receiving Date: 08/05/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 08/13/97
Analysis Date: 08/13/97
Sampling Date: 08/04/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

FIELD CODE: TK 972 Beason Station
TA #: T78964

8260 Compounds	Concentration (ug/L)	Reporting Limit
Dichlorodifluoromethane	ND	1
Chloromethane	ND	1
Vinyl chloride	ND	2
Bromomethane	ND	5
Chloroethane	ND	1
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
Methylene chloride	ND	5
trans-1,2-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
cis-1,2-Dichloroethene	ND	1
Chloroform	ND	1
2,2-Dichloropropane	ND	1
Bromochloromethane	ND	1
1,2-Dichloroethane	ND	1
1,1,1-Trichloroethane	ND	1
Carbon Tetrachloride	ND	1
1,1-Dichloropropene	ND	1
Benzene	ND	1
1,2-Dichloropropane	ND	1
Trichloroethene	ND	1
Dibromomethane	ND	1
Bromodichloromethane	ND	1
cis-1,3-Dichloropropene	ND	1
trans-1,3-Dichloropropene	ND	1
Toluene	ND	1
1,1,2-Trichloroethane	ND	1
1,3-Dichloropropane	ND	1

NAVAJO REFINING
Project Location: Artesia, NM

TA #: T78964
Field Code: TK 972 Beason Statio

8260 Compounds	Concentration (ug/L)	Reporting Limit
Dibromochloromethane	ND	1
1,2-Dibromoethane	ND	1
Tetrachloroethene	ND	1
Chlorobenzene	ND	1
1,1,1,2-Tertachloroethane	ND	1
Ethylbenzene	ND	1
m & p-Xylene	ND	1
Bromoform	ND	1
Styrene	ND	1
o-Xylene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,2,3-Trichloropropane	ND	1
Isopropylbenzene	ND	1
Bromobenzene	ND	1
2-Chlorotoluene	ND	1
n-Propylbenzene	ND	1
4-Chlorotoluene	ND	1
1,3,5-Trimethylbenzene	ND	1
tert-Butylbenzene	ND	1
1,2,4-Trimethylbenzene	ND	1
1,4-Dichlorobenzene	ND	2
sec-Butylbenzene	ND	1
1,3-Dichlorobenzene	ND	2
4-Isopropyltoluene	ND	1
1,2-Dichlorobenzene	ND	2
n-Butylbenzene	ND	1
1,2-Dibromo-3-chloropropane	ND	5
1,2,3-Trichlorobenzene	ND	5
Naphthalene	ND	1
1,2,4-Trichlorobenzene	ND	5
Hexachlorobutadiene	ND	5
	% Recovery	
Dibromofluoromethane	98	
Toluene-d8	100	
4-Bromofluorobenzene	97	

ND = Not Detected

Methods: EPA SW 846-5030, 8260.
CHEMIST: RP

Director, Dr. Blair Leftwich

8-19-97
Date

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☒ Telephone ☐ Personal	Time 7:40AM	Date 8-21-97
Originating Party: MARK ASHLEY	Other Parties: BRIAN MAIORD - NAVAJO	

Subject: HYDROTEST DISCHARGE - TK 972

Discussion: NAVAJO WANTS VERBAL TO DISCHARGE TO THE GROUND BASED ON FAXED SAMPLE RESULTS.

Conclusions or Agreements: RESULTS ARE CLEAN. VERBAL GIVEN. NAVAJO WILL FOLLOW-UP WITH A WRITTEN REQUEST.

Distribution

Signed: Mark Ashley

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☒ Telephone ☐ Personal	Time 11:05AM	Date 8-20-97
Originating Party: MARK ASHLEY	Other Parties: BRYAN MYERS	

Subject: HYDRO TEST DISCHARGE. TK415

Discussion: TWEC (NAVAJO) FAXED RESULTS & REQUESTED VERBAL APPROVAL.

Conclusions or Agreements: DISCHARGE TO NAVAJO FARM. OTEX LAND SPRAYS BUTT BELOW TANK STANDARDS.

Distribution

Signed: Mark Ashley

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock Texas 79424 806•794•1296 FAX 806•794•1298

August 19, 1997
Receiving Date: 08/05/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Bryan Madrid
501 E. Main
Artesia, NM 88210

Prep Date: 08/06/97
Analysis Date: 08/08/97
Sampling Date: 08/04/97
Sample Condition Intact & Cool
Sample Received by: JH
Project Name: NA

TOTAL METALS

TA#	FIELD CODE	As (mg/L)	Cd (mg/L)	Cr (mg/L)	Ba (mg/L)	Be (mg/L)	U (mg/L)	B (mg/L)	Se (mg/L)	Pb (mg/L)	Ag (mg/L)
T78964	TK 972 Beason Station	<0.10	<0.02	<0.05	<0.20	<0.01	<0.1	<0.5	<0.010	<0.005	<0.002
QC	Quality Control	5.0	5.2	5.0	5.0	5.0	5.0	4.7	5.1	5.1	1.0
HIGH		—	***9.0 90%**	***9.2 92%**	***9.4 94%**	***9.0 90%**	—	—	—	—	—
MET BLK	**METHOD BLANK**	**<0.10**	**<0.02**	**<0.05**	**<0.20**	**<0.01**	**0.1**	—	—	—	—
REPORTING LIMIT		0.10	0.02	0.05	0.20	0.01	0.1	0.5	0.010	0.005	0.002
RPD		1	12	4	1	8	20	11	18	2	10
% Extraction Accuracy		108	92	94	95	91	101	85	110	106	110
% Instrument Accuracy		100	103	99	99	99	107	94	102	102	100

TA#	FIELD CODE	Co (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (mg/L)	Ni (mg/L)	V (mg/L)	Zn (mg/L)	Hg (mg/L)	Al (mg/L)
T78964	TK 972 Beason Station	<0.03	<0.02	<0.03	<0.01	<0.10	<0.20	<0.05	<0.02	<0.001	<0.010
QC	Quality Control	5.1	4.9	5.1	5.0	5.1	5.0	5.0	4.9	0.00465	4.9
HIGH		***9.3 93%**	—	***9.4 94%**	***9.3 93%**	***9.2 92%**	***9.2 92%**	***9.3 93%**	***9.4 94%**	—	—
MET BLK	**METHOD BLANK**	**<0.03**	**0.05**	**0.05**	**<0.01**	**<0.10**	**<0.20**	**<0.05**	**0.05**	—	—
REPORTING LIMIT		0.03	0.02	0.03	0.010	0.10	0.20	0.05	0.02	0.001	0.010
RPD		5	5	2	3	3	5	2	1	0	6
% Extraction Accuracy		89	****75**	107	91	94	89	94	88	60	90
% Instrument Accuracy		101	97	101	100	101	100	99	97	93	98

*** NOTE: High is not within limits of 95%-105%.**
****NOTE: Extraction Accuracy out of limits of 80%-120%.**

METHODS: EPA 200.7, 245.1.
CHEMIST: As, Cd Cr, Ba, Al Be, Co, Cu, Fe, Mn, Mo, Ni, V, Zn, Se, Pb, Ag, B, U: RR Hg: HC
TCTAL METALS SPIKE 2.0 mg/L As, Cd, Cr, Ba, Be, Al, Co, cu, Fe, Mn, Mo, Ni, V, Zn; 0.5 mg/L U, B; 0.020 mg/L Se; 0.050 mg/L Pb; 0.010 mg/L Ag;
TCTAL METALS QC: 5.0 mg/L As, Cd, Cr, Ba, Be, U, B Se, Pb, Al, Co, Cu, Fe, Mn, Mo, Ni, V, Zn; 1.0 mg/L Ag; 0.005 mg/L Hg.

Director, Dr. Blair Leftwich

8-19-97
DATE

NAVAJO REFINING
AUG-20-97 15:02
ID:505-748-9077
AUG 20'97 15:02 No.011 P.01

FAX to: Mark Ashley
OCD
(505) 827-8177
9 pages

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
Navajo Refining
Attention: Bryan Madrid
501 E. Main
Artesia NM 88210

Date: Aug 08, 1997
Date Rec: 8/5/97
Project: Artesia
Proj Name: Navajo
Proj Loc: Artesia,NM

Lab Receiving # : 9708000068
Sampling Date: 8/4/97
Sample Condition: Intact and Cool
Sample Received By: JH

PAH in Water (mg/L)

	Reporting Limit	T78964 TX-972 Beason Sta.	QC	RPD	%EA	%IA
Naphthalene	0.001	ND	78	3	66	98
Acenapthylene	0.001	ND	82	6	83	103
Acenaphthene	0.001	ND	84	7	81	105
Fluorene	0.001	ND	85	6	87	106
Phenanthrene	0.001	ND	84	3	94	105
Anthracene	0.001	ND	83	4	98	104
Fluoranthene	0.001	ND	89	4	108	111
Pyrene	0.001	ND	79	6	84	99
Benzo[a]anthracene	0.001	ND	85	5	89	106
Chrysene	0.001	ND	83	5	79	104
Benzo[b]fluoranthene	0.001	ND	84	5	92	105
Benzo[k]fluoranthene	0.001	ND	90	4	98	113
Benzo[a]pyrene	0.001	ND	84	4	98	105
Indeno[1,2,3-cd]pyrene	0.001	ND	66	4	73	83
Dibenz[a,h]anthracene	0.001	ND	66	4	66	83
Benzo[g,h,i]perylene	0.001	ND	65	4	71	81

ND = Not Detected

	% RECOVERY
Nitrobenzene-d5 SURR	78
2-Fluorobiphenyl SURR	83
Terphenyl-d14 SURR	92

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)	SPIKE: (mg/L)
PAH	EPA 3510	8/5/97	EPA 8270	8/5/97	HW/CC	80 ea	100 ea

Director, Dr. Blair Leftwich

8-8-97
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
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ANALYTICAL RESULTS FOR
Navajo Refining
Attention Bryan Madrid
501 E. Main
Artesia NM 88210

Date: Aug 15, 1997
Date Rec: 8/5/97
Project: Artesia
Proj Name: Navajo
Proj Loc: Artesia,NM

Lab Receiving # : 9708000068
Sampling Date: 8/4/97
Sample Condition: Intact and Cool
Sample Received By: JH

TA#	Field Code	MATRIX	BOD5 (mg/L)	TSS (mg/L)	pH (mg/L)
T 78964	TK-972 Beason Sta.	Water	18	3	7.9
Method Blank			0.11	1	---
Reporting Limit			7.5	1	---
QC			179	---	7
RPD			9	14	0
% Extraction Accuracy			94	---	---
% Instrument Accuracy			90	---	100

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)
BOD	N/A	8/8/97	EPA 405.1	8/13/97	JS	200
TSS	N/A	8/12/97	EPA 160.2	8/12/97	JS	--
pH	N/A	8/5/97	EPA 150.1	8/5/97	JS	7.0

BL

Director Dr. Blair Leftwich

8-15-97

Date

TRACE ANALYSIS, INC.
A Laboratory for Advanced Environmental Research and Analysis

6701 Aberdeen Avenue
Lubbock, Texas 79424
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ANALYTICAL RESULTS FOR
NAVAJO REFINING CO.
Attention: Bryan Madrid
501 E. Main
Artesia, NM 88210

August 19, 1997
Receiving Date: 08/05/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 08/12/97
Analysis Date: 08/12/97
Sampling Date: 08/04/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TA#	Field Code	COD (mg/L)
T78964	TK 972 Beason Station	<25
QC	Quality Control	254
Reporting Limit		25
RPD		6
% Extraction Accuracy		103
% Instrument Accuracy		102

METHODS: EPA 410.4.
CHEMIST: RC
COD SPIKE AND QC: 250 mg/L COD.

Director, Dr. Blair Leftwich

8-15-97
Date

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING

August 19, 1997
Receiving Date: 08/05/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Attention: Bryan Madrid
501 E. Main
Artesia, NM 88210

Prep Date: 08/08/97
Analysis Date: 08/12/97
Sampling Date: 08/04/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TA#	Field Code	POTASSIUM (mg/L)	MAGNESIUM (mg/L)	CALCIUM (mg/L)	SODIUM (mg/L)
T78964	TK 972 Beason Station	2.7	9.6	41	36
QC	Quality Control	46	46	46	47
MET BLK	**METHOD BLANK**	**<0.30**	**0.02**	**0.05**	**<0.40**
*HIGH		*9.1 91%	*9.2 92%	*0.1 <1%	*9.3 93%
Reporting Limit		0.30	0.01	0.01	0.40
RPD		2	3	1	2
% Extraction Accuracy		96	99	93	100
% Instrument Accuracy		91	92	92	94

*NOTE: High is out of range of 95%-105%.

METHODS: EPA 200.7.
CHEMIST: RR
SPIKE: 100 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM.
QC: 50 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM

Director, Dr. Blair Leftwich

8-15-97
Date

NAVAJO REFINIG ID:505-748-9077 AUG 20'97 15:05 No.011 P.05

TRACE ANALYSIS, INC.

6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Bryan Madrid
501 E. Main
Artesia, NM 88210

August 19,1997
Receiving Date: 08/05/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 08/05/97
Analysis Date: 08/05/97
Sampling Date: 08/04/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TA#	FIELD CODE	NITRATE-N (mg/L)	CYANIDE (mg/L)	TDS (mg/L)	SPECIFIC CONDUCTIVITY (uMHOS/cm)	pH (s.u.)
T78964	TK 972 - Beason Station	2.7	<0.02	310	460	7.9
QC	Quality Control	10.6	0.039	—	1,353	7.0
RPD		3	5	1	0	0
% Extraction Accuracy		106	110	—	—	—
% Instrument Accuracy		105	88	—	95	100
REPORTING LIMIT		0.1	0.02	—	—	—

METHODS: EPA 300.0, 335.2; 120.1, 160.1, 150.1.
CHEMIST NITRATE-N/CYANIDE: RC pH/TDS/SPECIFIC CONDUCTANCE: JS
SPIKE: 10 mg/L Nitrate-N;0.04 mg/L Cyanide.
QC: 10 mg/L Nitrate-N; 0.04 mg/L Cyanide.

Director, Dr. Blair Leftwich

8-19-97
Date

NAVAJO REFINING
ID:505-748-9077
AUG 20'97 15:06 No.011 P.06

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING

August 19, 1997
Receiving Date: 08/05/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Attention: Bryan Madrid
501 E. Main
Artesia, NM 88210

Prep Date: 08/05/97
Analysis Date: 08/05/97
Sampling Date: 08/04/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TA#	FIELD CODE	CHLORIDE (mg/L)	FLUORIDE (mg/L)	SULFATE (mg/L)	ALKALINITY (mg/L as CaCo3)
T78964	TK 972 - Beason Station	39	0.63	42	140
QC	Quality Control	26	0.91	26	—
RPD		0	3	2	0
% Extraction Accuracy		104	111	102	—
% Instrument Accuracy		103	93	98	—
REPORTING LIMIT		1.0	0.1	1.0	1.0

METHODS: EPA 300.0 310.1, 340.2.
CHEMIST: CHLORIDE/SULFATE: RC FLUORIDE/ALKALINITY: JS
SPIKE: 25 mg/L CHLORIDE; 1.0 mg/L FLUORIDE; 25 mg/L SULFATE.
QC: 26 mg/L CHLORIDE; 1.0 mg/L FLUORIDE; 23 mg/L SULFATE.

Director, Dr. Blair Leftwich

8-19-97
Date

NAVAJO REFINING ID:505-748-9077 AUG 20'97 15:06 No.011 P.07

6701 Aberdeen Avenue
Lubbock, Texas 79424
800•794•1296
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ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Bryan Madrid
501 E. Main
Artesia, NM 88210

August 19, 1997
Receiving Date: 08/05/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 08/13/97
Analysis Date: 08/13/97
Sampling Date: 08/04/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

FIELD CODE: TK 972 Beacon Station
TA #: T78964

8260 Compounds	Concentration (ug/L)	Reporting Limit
Dichlorodifluoromethane	ND	1
Chloromethane	ND	1
Vinyl chloride	ND	2
Bromomethane	ND	5
Chloroethane	ND	1
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
Methylene chloride	ND	5
trans-1,2-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
cis-1,2-Dichloroethene	ND	1
Chloroform	ND	1
2,2-Dichloropropane	ND	1
Bromochloromethane	ND	1
1,2-Dichloroethane	ND	1
1,1,1-Trichloroethane	ND	1
Carbon Tetrachloride	ND	1
1,1-Dichloropropene	ND	1
Benzene	ND	1
1,2-Dichloropropane	ND	1
Trichloroethene	ND	1
Dibromomethane	ND	1
Bromodichloromethane	ND	1
cis-1,3-Dichloropropene	ND	1
trans-1,3-Dichloropropene	ND	1
Toluene	ND	1
1,1,2-Trichloroethane	ND	1
1,3-Dichloropropane	ND	1

NAVAJO REFINING
Project Location: Artesia, NM

TA #: T78864
Field Code: TK 972 Beason Statio

8260 Compounds	Concentration (ug/L)	Reporting Limit
Dibromochloromethane	ND	1
1,2-Dibromoethane	ND	1
Tetrachloroethene	ND	1
Chlorobenzene	ND	1
1,1,1,2-Tertachloroethane	ND	1
Ethylbenzene	ND	1
m & p-Xylene	ND	1
Bromoform	ND	1
Styrene	ND	1
o-Xylene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,2,3-Trichloropropane	ND	1
Isopropylbenzene	ND	1
Bromobenzene	ND	1
2-Chlorotoluene	ND	1
n-Propylbenzene	ND	1
4-Chlorotoluene	ND	1
1,3,5-Trimethylbenzene	ND	1
tert-Butylbenzene	ND	1
1,2,4-Trimethylbenzene	ND	1
1,4-Dichlorobenzene	ND	2
sec-Butylbenzene	ND	1
1,3-Dichlorobenzene	ND	2
4-Isopropyltoluene	ND	1
1,2-Dichlorobenzene	ND	2
n-Butylbenzene	ND	1
1,2-Dibromo-3-chloropropane	ND	5
1,2,3-Trichlorobenzene	ND	5
Naphthalene	ND	1
1,2,4-Trichlorobenzene	ND	5
Hexachlorobutadiene	ND	5
	% Recovery	
Dibromofluoromethane	98	
Toluene-d8	100	
4-Bromofluorobenzene	97	

ND = Not Detected

Methods: EPA SW 846-5030, 8260.
CHEMIST: RP

Director, Dr. Blair Leftwich

8-19-97
Date

Post-it™ brand fax transmittal memo 7671 | # of pages ▸ 7

To MARK ASHLEY	From BRYAN MADRID
Co. OCD	Co. NAVAJO
Dept.	Phone # (505) 7483811
Fax (505) 827-8177	Fax (505) 7489077

6701 Aberdeen Avenue
Lubbock, Texas 79424
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ANALYTICAL RESULT
Navajo Refining
Attention Bryan Mad
501 E. Main
Artesia NM 88210

Date: Aug 15, 1997
Date Rec: 7/23/97
Project: Artesia
Proj Name: Navajo
Proj Loc: Artesia,NM

Lab Receiving # : 9707000435
Sampling Date: 7/22/97
Sample Condition: Intact and Cool
Sample Received By: JH

TA#	Field Code	MATRIX	BOD5 (mg/L)	TSS (mg/L)	pH (mg/L)
T 78072	TK 415 Artesia Sta.	Water	42	5	7.2
	Method Blank		0.11	1	
	Reporting Limit		7.5	1	-
	QC		179	---	7
	RPD		9	14	0
	% Extraction Accuracy		94	---	---
	% Instrument Accuracy		90		100

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)
BOD	N/A	8/8/97	EPA 405.1	8/13/97	JS	200
TSS	N/A	8/12/97	EPA 160.2	8/12/97	JS	---
pH	N/A	7/24/97	EPA 150.1	7/24/97	JS	7.0

Director, Dr. Blair Leftwich

8-15-97
Date

TRACEANALYSIS, INC.
A Laboratory for Advanced Environmental Research and Analysis

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING CO.
Attention: Bryan Madrid
501 E. Main
Artesia, NM 88210

August 19, 1997
Receiving Date: 07/23/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 08/12/97
Analysis Date: 08/12/97
Sampling Date: 07/22/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TA#	Field Code	COD (mg/L)
T78072	TK 415 Artesia Station	<25
QC	Quality Control	254
Reporting Limit		25
RPD		6
% Extraction Accuracy		103
% Instrument Accuracy		102

METHODS: EPA 410.4.
CHEMIST: RC
COD SPIKE AND QC: 250 mg/L COD.

Director, Dr. Blair Leftwich

8-19-97
Date

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

August 19, 1997
Receiving Date: 07/23/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Bryan Madrid
501 E. Main
Artesia, NM 88210

Prep Date: 08/05/97
Analysis Date: 08/06/97
Sampling Date: 07/22/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TOTAL METALS

TA#	FIELD CODE	As (mg/L)	Cd (mg/L)	Cr (mg/L)	Ba (mg/L)	Be (mg/L)	U (mg/L)	B (mg/L)	Se (mg/L)	Pb (mg/L)	Ag (mg/L)
T78072	TK 415 Artesia Station	<0.10	<0.02	<0.05	<0.20	<0.01	<0.1	<0.5	<0.010	<0.005	<0.002
QC	Quality Control	5.0	5.2	5.0	5.0	5.0	5.0	4.7	5.1	5.1	1.0
HIGH		—	*9.0 90%	*9.2 92%	*9.4 94%	*9.0 90%	—	—	—	—	—
MET BL	METHOD BLANK	<0.10	<0.02	<0.05	<0.20	<0.01	0.1	—	—	—	—
REPORTING LIMIT		0.10	0.02	0.05	0.20	0.01	0.1	0.5	0.010	0.005	0.002
RPD		1	12	4	1	8	20	11	18	2	10
% Extraction Accuracy		108	92	94	95	91	101	85	110	106	110
% Instrument Accuracy		100	103	99	99	99	107	94	102	102	100

TA#	FIELD CODE	Co (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (mg/L)	Ni (mg/L)	V (mg/L)	Zn (mg/L)	Hg (mg/L)	Al (mg/L)
T78072	TK 415 Artesia Station	<0.03	<0.02	<0.03	0.01	<0.10	<0.20	<0.05	<0.02	<0.00	<0.010
QC	Quality Control	5.1	4.9	5.1	5.0	5.1	5.0	5.0	4.9	0.00465	4.9
HIGH		*9.3 93%	—	*9.4 94%	*9.3 93%	*9.2 92%	*9.2 92%	*9.3 93%	*9.4 94%	—	—
MET BL	METHOD BLANK	<0.03	0.05	0.05	<0.01	<0.10	<0.20	<0.05	0.05	—	—
REPORTING LIMIT		0.03	0.02	0.03	0.010	0.10	0.20	0.05	0.02	0.001	0.010
RPD		5	5	2	3	3	5	2	1	0	6
% Extraction Accuracy		89	**75	107	91	94	89	94	88	60	90
% Instrument Accuracy		101	97	101	100	101	100	99	97	93	98

* NOTE: High is not within limits of 95%-105%.
**NOTE: Extraction Accuracy out of limits of 80%-120%.

METHODS: EPA 200.7, 245.1.
CHEMIST: As, Cd, Cr, Ba, Al, Be, Co, Cu, Fe, Mn, Mo, Ni, V, Zn, Se, Pb, Ag, B, U: RR Hg: HC
TOTAL METALS SPIKE: 2.0 mg/L As, Cd Cr, Ba, Be, Al, Co, cu, Fe, Mn, Mo, Ni, V, Zn; 0.5 mg/L U, B; 0.020 mg/L Se; 0.050 mg/L Pb; 0.010 mg/L Ag;
TOTAL METALS QC: 5.0 mg/L As, Cd, Cr, Ba, Be, U, B, Se, Pb, Al, Co, Cu, Fe, Mn, Mo, Ni, V, Zn; 1.0 mg/L Ag; 0.005 mg/L Hg.

Director, Dr. Blair Leftwich

8-19-97
DATE

NAVAJO REFINING
ID:505-748-9077
AUG 20'97 7:04 No.002 P.03

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
Navajo Refining
Attention: Bryan Madrid
501 E. Main
Artesia NM 88210

Date: Jul 28, 1997
Date Rec: 7/22/97
Project: Artesia
Proj Name: Navajo
Proj Loc: Artesia,NM

Lab Receiving # : 9707000425
Sampling Date: 7/22/97
Sample Condition: Intact and Cool
Sample Received By: JH

PAH in Water (mg/L)

	Reporting Limit	T78072 TK 415 Artesia Stp.	QC	RPD	%EA	%IA
Naphthalene	0.001	0.004	86	8	66	86
Acenapthylene	0.001	ND	83	17	87	83
Acenaphthene	0.001	ND	80	20	79	80
Fluorene	0.001	ND	83	26	79	83
Phenanthrene	0.001	ND	79	23	87	79
Anthracene	0.001	ND	75	24	80	75
Fluoranthene	0.001	ND	81	22	95	81
Pyrene	0.001	ND	79	22	101	79
Benzo[a]anthracene	0.001	ND	81	20	96	81
Chrysene	0.001	ND	81	22	91	81
Benzo[b]fluoranthene	0.001	ND	80	28	74	80
Benzo[k]fluoranthene	0.001	ND	82	12	105	82
Benzo[a]pyrene	0.001	ND	83	20	91	83
Indeno[1,2,3-cd]pyrene	0.001	ND	67	20	78	67
Dibenz[a,h]anthracene	0.001	ND	66	21	72	66
Benzo[g,h,i]perylene	0.001	ND	65	19	79	65

ND = Not Detected

	% RECOVERY
Nitrobenzene-d5 SURR	54
2-Fluorobiphenyl SURR	58
Terphenyl-d14 SURR	101

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)	SPIKE: (mg/L)
PAH	EPA 3510	7/24/97	EPA 8270	7/24/97	HW/CC	100 ea	100 ea

Director, Dr. Blair Leftwich

7-28-97
Date

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING

August 19, 1997
Receiving Date: 07/23/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Attention: Bryan Madrid
501 E. Main
Artesia, NM 88210

Prep Date: 08/08/97
Analysis Date: 08/12/97
Sampling Date: 07/22/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TA#	Field Code	POTASSIUM (mg/L)	MAGNESIUM (mg/L)	CALCIUM (mg/L)	SODIUM (mg/L)
T78072	TK 415 Artesia Station	1.3	48	160	16
QC	Quality Control	46	46	46	47
MET BLK	**METHOD BLANK**	**<0.30**	**0.02**	**0.05**	**<0.40**
HIGH		*9.1 91%	*9.2 92%	*0.1 <1%	*9.3 93%
Reporting Limit		0.30	0.01	0.01	0.40
RPD		2	3	1	2
% Extraction Accuracy		96	99	93	100
% Instrument Accuracy		91	92	92	94

***NOTE: High is out of range of 95%-105%.**

METHODS: EPA 200.7.
CHEMIST: RR
SPIKE: 100 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM.
QC: 50 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM.

Director, Dr. Blair Leftwich

8-19-97
Date

NAVAJO REFINIG ID:505-748-9077 AUG 20'97 7:06 No.002 P.05

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

TRACE ANALYSIS, INC.
ATTN: MS. JENNIFER O. HARDELL
6701 ABERDEEN AVENUE
LUBBOCK, TEXAS 79424
FAX: 806-794-1296

Receiving Date: 07/24/97
Reporting Date: 07/25/97
Project Name: NONE GIVEN
Project Location: NONE GIVEN
Field Code: 78072 TK415

Analysis Date: 07/25/97
Sampling Date: 07/22/97
Sample Type: WATER
Sample Condition: C&I/ HCl

Volatiles EPA SW 846-8260, (ppm) Compounds	ELT# 11890	PQL	% IA	Method Blank	% EA
Chloromethane	ND	0.001	97	ND	
Vinyl chloride	ND	0.001	93	ND	
Bromomethane	ND	0.001	102	ND	
Chloroethane	ND	0.001	103	ND	
Trichlorofluoromethane	ND	0.001	92	ND	
Acetone	ND	0.01	116	ND	
1,1-Dichloroethene	ND	0.001	111	ND	103
Iodomethane	ND	0.001	89	ND	
Vinyl Acetate	ND	0.001	85	ND	
Carbon Disulfide	ND	0.001	95	ND	
Methylene Chloride	ND	0.001	99	ND	
trans-1,2-Dichloroethene	ND	0.001	106	ND	
1,1-Dichloroethane	ND	0.001	107	ND	
2-Butanone	ND	0.01	117	ND	
cis-1,2-dichloroethene	ND	0.001	101	ND	
Bromochloromethane	ND	0.001	102	ND	
Chloroform	ND	0.001	107	ND	
1,1,1-Trichloroethane	ND	0.001	108	ND	
Carbon Tetrachloride	ND	0.001	107	ND	
Benzene	0.003	0.001	108	ND	100
1,2 Dichloroethane	ND	0.001	115	ND	
Trichloroethene	ND	0.001	103	ND	101
1,2-Dichloropropane	ND	0.001	103	ND	
Dibromomethane	ND	0.001	106	ND	
Bromodichloromethane	ND	0.001	102	ND	
2-Hexanone	ND	0.001	97	ND	
2-Chloroethyl Vinyl ether	ND	0.001	104	ND	
4-Methyl 2-Pentanone	ND	0.01	106	ND	
cis 1,3 Dichloropropene	ND	0.001	109	ND	
Toluene	0.010	0.001	106	ND	101
trans 1,3-Dichloropropene	ND	0.001	111	ND	
1,1,2-Trichloroethane	ND	0.001	108	ND	
Dibromochloromethane	ND	0.001	114	ND	

TRACE ANALYSIS, INC.
ATTN: MS. JENNIFER O. HARDELL
6701 ABERDEEN AVENUE
LUBBOCK, TEXAS 79424
FAX: 806-794-1296

Receiving Date: 07/24/97
Reporting Date: 07/25/97
Project Name: NONE GIVEN
Project Location: NONE GIVEN
Field Code: 78072 TK415

Analysis Date: 07/25/97
Sampling Date: 07/22/97
Sample Type: WATER
Sample Condition: C&I/ HCl

Volatiles EPA SW 846-8260, (ppm) Compounds	ELT# 11890	PQL	% IA	Method Blank	% EA
Tetrachloroethene	ND	0.001	102	ND	
Chlorobenzene	ND	0.001	105	ND	100
1,1,1,2-Tetrachloroethane	ND	0.001	102	ND	
Ethylbenzene	0.005	0.001	106	ND	
m&p Xylene	0.008	0.001	107	ND	
o-Xylene	0.003	0.001	105	ND	
Styrene	ND	0.001	102	ND	
Bromoform	ND	0.001	104	ND	
1,1,2,2-Tetrachloroethane	ND	0.001	99	ND	
1,2,3-Trichloropropane	ND	0.001	103	ND	
1,4-Dichlorobenzene	ND	0.001	98	ND	
1,2-Dichlorobenzene	ND	0.001	97	ND	
1,2-Dibromo-3-Chloropropane	ND	0.001	98	ND	

SYSTEM MONITORING COMPOUNDS	% RECOVERY
Dibromofluoromethane	96
Toluene-d8	96
4-Bromofluorobenzene	98

ND=<PQL

Michael R. Fowler

7-25-97
Date

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING

August 7, 1997
Receiving Date: 07/23/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

Prep Date: 07/24/97
Analysis Date: 07/24/97
Sampling Date: 07/22/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TA#	FIELD CODE	CHLORIDE (mg/L)	FLUORIDE (mg/L)	SULFATE (mg/L)	ALKALINITY (mg/L as CaCo3)
T78072	TK 415 - Artesia Station	34	1.0	520	190
QC	Quality Control	24	0.94	25	—
RPD		2	0	2	1
% Extraction Accuracy		99	104	100	—
% Instrument Accuracy		96	96	97	—
REPORTING LIMIT		1.0	0.1	1.0	1.0

METHODS: EPA 300.0, 310.1, 340.2.
CHEMIST: CHLORIDE/SULFATE: RC FLUORIDE/ALKALINITY: JS
SPIKE: 25 mg/L CHLORIDE; 1.0 mg/L FLUORIDE 25 mg/L SULFATE.
QC: 24 mg/L CHLORIDE; 1.0 mg/L FLUORIDE; 25 mg/L SULFATE.

Director, Dr. Blair Leftwich

8-7-97
Date

MARK ASHLEY
OCD SANTA FE
(505) 827-8177
2 PAGES

NAVAJO REFINIG
ID:505-748-9077
AUG 20'97 8:09 No.004 P.01
FAX TO:

TRACE ANALYSIS, INC.

5701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING

August 7, 1997
Receiving Date: 07/23/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

Prep Date: 07/24/97
Analysis Date: 07/24/97
Sampling Date: 07/22/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TA#	FIELD CODE	NITRATE-N (mg/L)	CYANIDE (mg/L)	TDS (mg/L)	SPECIFIC CONDUCTIVITY (uMHOS/cm)	pH (s.u.)
T78072	TK 415 - Artesia Station	0.38	<0.02	890	1,100	7.2
QC	Quality Control	9.3	0.04	—	1,420	7.0
RPD		2	7	2	0	0
% Extraction Accuracy		100	96	—	—	—
% Instrument Accuracy		97	100	—	100	100
REPORTING LIMIT		1.0	0.02	—	—	—

METHODS: EPA 300.0, 335.2; 120.1, 160.1, 150.1.
CHEMIST: RC/JS
SPIKE: 10 mg/L Nitrate-N;0.04 mg/L Cyanide.
QC: 10 mg/L Nitrate-N; 0.04 mg/L Cyanide

Director, Dr. Blair Leftwich

8-7-97
Date

NAVAJO REFINIG
Aug-[illegible]
ID:505-748-9077
AUG 20'97 8:10 No.004 P.02

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☒ Telephone ☐ Personal	Time 4:10PM	Date 7-31-97
Originating Party		**Other Parties**
MARK ASHLEY		DARRELL MOORE

Subject RO REJECT WATER SAMPLES

Discussion REPORTING LIMITS FOR SOME OF THE CONSTITUENTS WERE ABOVE OUR MAXIMUM CONTAMINATION LEVELS.

Conclusions or Agreements DARRELL WILL REVIEW & MAKE CHANGES FOR NEXT SAMPLING.

Distribution

Signed Mark Ashley

TELEPHONE
(505) 748-3311

EASYLINK
62905278

REFINING COMPANY

501 EAST MAIN STREET ◦ P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159

FAX
(505) 746-6410 ACCTG
(505) 746-6155 EXEC
(505) 748-9077 ENGR
(505) 746-4438 P / L

August 20, 1997

AUG 21 1997

Mark Ashley
Geologist
Environmental Bureau
Oil Conservation Division
2040 S. Pacheco St.
Santa Fe, NM 87505-5472

RE: HYDROTEST WATER FROM TK 415, NAVAJO REFINING CO., ARTESIA, NM

Dear Mark:

Navajo recently entered Tk 415 at our Artesia facility in order to repair the floor. The tank was then filled with 22,500 bbls. of fresh water that we had analyzed. Results from the analysis, which are enclosed, show every parameter measured to be below ground water standards.

This water will be discharged to our farm with precautions taken to ensure the water does not pond up. If there are any questions concerning this matter, please call me at (505) 748-3311. Thank you for your time in this matter.

Sincerely,

NAVAJO REFINING COMPANY

Bryan Madrid

Bryan Madrid
Environmental Specialist

Encl.

TRACEANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

August 7, 1997
Receiving Date: 07/23/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 07/24/97
Analysis Date: 07/24/97
Sampling Date: 07/22/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TA#	FIELD CODE	CHLORIDE (mg/L)	FLUORIDE (mg/L)	SULFATE (mg/L)	ALKALINITY (mg/L as CaCo3)
T78072	TK 415 - Artesia Station	34	1.0	520	190
QC	Quality Control	24	0.94	25	---
RPD		2	0	2	1
% Extraction Accuracy		99	104	100	---
% Instrument Accuracy		96	96	97	---
REPORTING LIMIT		1.0	0.1	1.0	1.0

METHODS: EPA 300.0, 310.1, 340.2.
CHEMIST: CHLORIDE/SULFATE: RC FLUORIDE/ALKALINITY: JS
SPIKE: 25 mg/L CHLORIDE; 1.0 mg/L FLUORIDE 25 mg/L SULFATE.
QC: 24 mg/L CHLORIDE; 1.0 mg/L FLUORIDE; 25 mg/L SULFATE.

Director, Dr. Blair Leftwich

8-7-97
Date

Aug-19-97 02:56P
P.01

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING

August 7, 1997
Receiving Date: 07/23/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

Prep Date: 07/24/97
Analysis Date: 07/24/97
Sampling Date: 07/22/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TA#	FIELD CODE	NITRATE-N (mg/L)	CYANIDE (mg/L)	TDS (mg/L)	SPECIFIC CONDUCTIVITY (uMHOS/cm)	pH (s.u.)
T78072	TK 415 - Artesia Station	0.98	<0.02	890	1,100	7.2
QC	Quality Control	9.3	0.04	---	1,420	7.0
RPD		2	7	2	0	0
% Extraction Accuracy		100	96	---	---	---
% Instrument Accuracy		97	100	---	100	100
REPORTING LIMIT		1.0	0.02	---	---	---

METHODS: EPA 300.0, 335.2; 120.1, 160.1, 150.1.
CHEMIST: RC/JS
SPIKE: 10 mg/L Nitrate-N; 0.04 mg/L Cyanide.
QC: 10 mg/L Nitrate-N; 0.04 mg/L Cyanide

Director, Dr. Blair Leftwich

8-7-97
Date

Aug-19-97 02:58P
P.02

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•791•1796
FAX 806•794•1298

ANALYTICAL RESULTS FOR
Navajo Refining
Attention Bryan Madrid
501 E. Main
Artesia NM 88210

Date: Aug 15, 1997
Date Rec: 7/23/97
Project: Artesia
Proj Name: Navajo
Proj Loc: Artesia, NM

Lab Receiving # : 9707000125
Sampling Date: 7/22/97
Sample Condition: Intact and Cool
Sample Received By: JH

TA#	Field Code	MATRIX	BOD5 (mg/L)	TSS (mg/L)	pH (mg/L)
T 78072	TK 415 Artesia Sta.	Water	42	5	7.2
	Method Blank		0.11	1	
	Reporting Limit		7.5	1	-
	QC		179	---	7
	RPD		9	14	0
	% Extraction Accuracy		94	---	---
	% Instrument Accuracy		90		100

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)
BOD	N/A	8/8/97	EPA 405.1	8/13/97	JS	200
TSS	N/A	8/12/97	EPA 160.2	8/12/97	JS	---
pH	N/A	7/24/97	EPA 150.1	7/24/97	JS	7.0

Director Dr. Blair Leftwich

8-15-97
Date

TRACE ANALYSIS, INC.
A Laboratory for Advanced Environmental Research and Analysis

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

TRACE ANALYSIS, INC.
ATTN: MS. JENNIFER O. HARDELL
6701 ABERDEEN AVENUE
LUBBOCK, TEXAS 79424
FAX: 806-794-1298

Receiving Date: 07/24/97
Reporting Date: 07/25/97
Project Name: NONE GIVEN
Project Location: NONE GIVEN
Field Code: 78072 TK415

Analysis Date: 07/25/97
Sampling Date: 07/22/97
Sample Type: WATER
Sample Condition: C&I/ HCl

Volatiles EPA SW 846-8260, (ppm) Compounds	ELT# 11890	PQL	% IA	Method Blank	% EA
Chloromethane	ND	0.001	97	ND	
Vinyl chloride	ND	0.001	93	ND	
Bromomethane	ND	0.001	102	ND	
Chloroethane	ND	0.001	103	ND	
Trichlorofluoromethane	ND	0.001	92	ND	
Acetone	ND	0.01	116	ND	
1,1-Dichloroethene	ND	0.001	111	ND	103
Iodomethane	ND	0.001	89	ND	
Vinyl Acetate	ND	0.001	85	ND	
Carbon Disulfide	ND	0.001	95	ND	
Methylene Chloride	ND	0.001	99	ND	
trans-1,2-Dichloroethene	ND	0.001	106	ND	
1,1-Dichloroethane	ND	0.001	107	ND	
2-Butanone	ND	0.01	117	ND	
cis-1,2-dichloroethene	ND	0.001	101	ND	
Bromochloromethane	ND	0.001	102	ND	
Chloroform	ND	0.001	107	ND	
1,1,1-Trichloroethane	ND	0.001	108	ND	
Carbon Tetrachloride	ND	0.001	107	ND	
Benzene	0.003	0.001	108	ND	100
1,2 Dichloroethane	ND	0.001	115	ND	
Trichloroethene	ND	0.001	103	ND	101
1,2-Dichloropropane	ND	0.001	103	ND	
Dibromomethane	ND	0.001	106	ND	
Bromodichloromethane	ND	0.001	102	ND	
2-Hexanone	ND	0.001	97	ND	
2-Chloroethyl Vinyl ether	ND	0.001	104	ND	
4-Methyl 2-Pentanone	ND	0.01	106	ND	
cis 1,3 Dichloropropene	ND	0.001	109	ND	
Toluene	0.010	0.001	106	ND	101
trans 1,3-Dichloropropene	ND	0.001	111	ND	
1,1,2-Trichloroethane	ND	0.001	108	ND	
Dibromochloromethane	ND	0.001	114	ND	

TRACE ANALYSIS, INC.
ATTN: MS. JENNIFER O. HARDELL
6701 ABERDEEN AVENUE
LUBBOCK, TEXAS 79424
FAX: 806-794-1296

Receiving Date: 07/24/97
Reporting Date: 07/25/97
Project Name: NONE GIVEN
Project Location: NONE GIVEN
Field Code: 78072 TK415

Analysis Date: 07/25/97
Sampling Date: 07/22/97
Sample Type: WATER
Sample Condition: C&I/ HCl

Volatiles EPA SW 846-8260, (ppm) Compounds	ELT# 11890	PQL	% IA	Method Blank	% EA
Tetrachloroethene	ND	0.001	102	ND	
Chlorobenzene	ND	0.001	105	ND	100
1,1,1,2-Tetrachloroethane	ND	0.001	102	ND	
Ethylbenzene	0.005	0.001	106	ND	
m&p Xylene	0.008	0.001	107	ND	
o-Xylene	0.003	0.001	105	ND	
Styrene	ND	0.001	102	ND	
Bromoform	ND	0.001	104	ND	
1,1,2,2-Tetrachloroethane	ND	0.001	99	ND	
1,2,3-Trichloropropane	ND	0.001	103	ND	
1,4-Dichlorobenzene	ND	0.001	98	ND	
1,2-Dichlorobenzene	ND	0.001	97	ND	
1,2-Dibromo-3-Chloropropane	ND	0.001	98	ND	

SYSTEM MONITORING COMPOUNDS	% RECOVERY
Dibromofluoromethane	96
Toluene-d8	96
4-Bromofluorobenzene	98

ND=<PQL

Michael R. Fowler

7-25-97
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING CO.
Attention: Bryan Madrid
501 E. Main
Artesia, NM 88210

August 19, 1997
Receiving Date: 07/23/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 08/12/97
Analysis Date: 08/12/97
Sampling Date: 07/22/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TA#	Field Code	COD (mg/L)
T/8072	TK 415 Artesia Station	<25
QC	Quality Control	254
Reporting Limit		25
RPD		6
% Extraction Accuracy		103
% Instrument Accuracy		102

METHODS: EPA 410.4.
CHEMIST: RC
COD SPIKE AND QC: 250 mg/L COD.

Director, Dr. Blair Leftwich

8-19-97
Date

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

August 19, 1997
Receiving Date: 07/23/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Bryan Madrid
501 E. Main
Artesia, NM 88210

Prep Date: 08/05/97
Analysis Date: 08/06/97
Sampling Date: 07/22/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TOTAL METALS

TA# FIELD CODE	As (mg/L)	Cd (mg/L)	Cr (mg/L)	Ba (mg/L)	Be (mg/L)	U (mg/L)	B (mg/L)	Se (mg/L)	Pb (mg/L)	Ag (mg/L)
T78072 TK 415 Artesia Station	<0.10	<0.02	<0.05	<0.20	<0.01	<0.1	<0.5	<0.010	<0.005	<0.002
QC Quality Control	5.0	5.2	5.0	5.0	5.0	5.0	4.7	5.1	5.1	1.0
HIGH	---	***9.0 90%**	***9.2 92%**	***9.4 94%**	***9.0 90%**	---	---	---	---	---
MET BL METHOD BLANK	**<0.10**	**<0.02**	**<0.05**	**<0.20**	**<0.01**	**0.1**	---	---	---	---
REPORTING LIMIT	0.10	0.02	0.05	0.20	0.01	0.1	0.5	0.010	0.005	0.002
RPD	1	12	4	1	8	20	11	18	2	10
% Extraction Accuracy	108	92	94	95	91	101	85	110	106	110
% Instrument Accuracy	100	103	99	99	99	107	94	102	102	100

TA# FIELD CODE	Co (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (mg/L)	Ni (mg/L)	V (mg/L)	Zn (mg/L)	Hg (mg/L)	Al (mg/L)
T78072 TK 415 Artesia Station	<0.03	<0.02	<0.03	0.01	<0.10	<0.20	<0.05	<0.02	<0.00	<0.010
QC Quality Control	5.1	4.9	5.1	5.0	5.1	5.0	5.0	4.9	0.00465	4.9
HIGH	***9.3 93%**	---	***9.4 94%**	***9.3 93%**	***9.2 92%**	***9.2 92%**	***9.3 93%**	***9.4 94%**	---	---
MET BL METHOD BLANK	**<0.03**	**0.05**	**0.05**	**<0.01**	**<0.10**	**<0.20**	**<0.05**	**0.05**	---	---
REPORTING LIMIT	0.03	0.02	0.03	0.010	0.10	0.20	0.05	0.02	0.001	0.010
RPD	5	5	2	3	3	5	2	1	0	6
% Extraction Accuracy	89	****75**	107	91	94	89	94	88	60	90
% Instrument Accuracy	101	97	101	100	101	100	99	97	93	98

*** NOTE: High is not within limits of 95%-105%.**
****NOTE: Extraction Accuracy out of limits of 80%-120%.**

METHODS: EPA 200.7, 245.1.
CHEMIST: As, Cd, Cr, Ba, Al, Be, Co, Cu, Fe, Mn, Mo, Ni, V, Zn, Se, Pb, Ag, B, U: RR Hg: HC
TOTAL METALS SPIKE: 2.0 mg/L As, Cd Cr, Ba, Be, Al, Co, cu, Fe, Mn, Mo, Ni, V, Zn; 0.5 mg/L U, B; 0.020 mg/L Se; 0.050 mg/L Pb; 0.010 mg/L Ag;
TOTAL METALS QC: 5.0 mg/L As, Cd, Cr, Ba, Be, U, B, Se, Pb, Al, Co, Cu, Fe, Mn, Mo, Ni, V, Zn; 1.0 mg/L Ag; 0.005 mg/L Hg.

RR
Director, Dr. Blair Leftwich

8-19-97
DATE

Aug-19-97 02:59P
P.07

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
Navajo Refining
Attention: Bryan Madrid
501 E. Main
Artesia NM 88210

Date: Jul 28, 1997
Date Rec: 7/23/97
Project: Artesia
Proj Name: Navajo
Proj Loc: Artesia, NM

Lab Receiving # : 9707000425
Sampling Date: 7/22/97
Sample Condition: Intact and Cool
Sample Received By: JH

PAH in Water (mg/L)	Reporting Limit	T78072 TK 415 Artesia Sta.	QC	RPD	%EA	%IA
Naphthalene	0.001	0.004	86	8	66	86
Acenapthylene	0.001	ND	83	17	87	83
Acenaphthene	0.001	ND	80	20	79	80
Fluorene	0.001	ND	83	26	79	83
Phenanthrene	0.001	ND	79	23	87	79
Anthracene	0.001	ND	75	24	80	75
Fluoranthene	0.001	ND	81	22	95	81
Pyrene	0.001	ND	79	22	101	79
Benzo[a]anthracene	0.001	ND	81	20	96	81
Chrysene	0.001	ND	81	22	91	81
Benzo[b]fluoranthene	0.001	ND	80	28	74	80
Benzo[k]fluoranthene	0.001	ND	82	12	105	82
Benzo[a]pyrene	0.001	ND	83	20	91	83
Indeno[1,2,3-cd]pyrene	0.001	ND	67	20	78	67
Dibenz[a,h]anthracene	0.001	ND	66	21	72	66
Benzo[g,h,i]perylene	0.001	ND	65	19	79	65

ND = Not Detected

	% RECOVERY
Nitrobenzene-d5 SURR	54
2-Fluorobiphenyl SURR	58
Terphenyl-d14 SURR	101

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)	SPIKE: (mg/L)
PAH	EPA 3510	7/24/97	EPA 8270	7/24/97	HW/CC	100 ea	100 ea

Director, Dr. Blair Leftwich

7-28-97
Date

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Bryan Madrid
501 E. Main
Artesia, NM 88210

August 19, 1997
Receiving Date: 07/23/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 08/08/97
Analysis Date: 08/12/97
Sampling Date: 07/22/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TA#	Field Code	POTASSIUM (mg/L)	MAGNESIUM (mg/L)	CALCIUM (mg/L)	SODIUM (mg/L)
T78072	TK 415 Artesia Station	1.3	48	160	16
QC	Quality Control	46	46	46	47
MET BLK	**METHOD BLANK**	**<0.30**	**0.02**	**0.05**	**<0.40**
HIGH		*9.1 91%	*9.2 92%	*0.1 <1%	*9.3 93%
Reporting Limit		0.30	0.01	0.01	0.40
RPD		2	3	1	2
% Extraction Accuracy		96	99	93	100
% Instrument Accuracy		91	92	92	94

***NOTE: High is out of range of 95%-105%.**

METHODS: EPA 200.7.
CHEMIST: RR
SPIKE: 100 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM.
QC: 50 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM.

Director, Dr. Blair Leftwich

8-19-97
Date

AUG-19-97 03:00P P.09

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

June 23, 1997

CERTIFIED MAIL
RETURN RECEIPT NO. P-288-258-934

Mr. Phillip Youngblood
Navajo Refining Company
P.O. Box 159
Artesia, New Mexico 88211-0159

RE: Authorization to Discharge of Hydrotest Water From Tank 970
Eddy County, New Mexico

Dear Mr. Youngblood:

The New Mexico Oil Conservation Division (OCD) has completed a review of Navajo Refining Company's (Navajo) letter dated June 18, 1997 requesting the authorization to discharge of approximately 26,000 barrels of test water to the ground surface from the hydrostatic test of tank 970. The proposed location for the discharge is Section 28, Township 18 South, Range 30 East, NMPM, Eddy County, New Mexico. The requested discharge is hereby approved with the following conditions:

1. Permission will be obtained from the landowner(s) prior to discharge.
2. The test water will be discharged onto the ground surface in a manner to prevent erosion.
3. No test waters will be discharged to any lakes, perennial streams, rivers, or any surface bodies of water upon completion of a test.
4. The water will not exceed Water Quality Control Commission standards for ground water.

Please be advised that OCD approval does not relieve Navajo of liability should it later be found that contamination exists which could pose a threat to surface water, ground water, human health or the environment.

If you have any questions please feel free to contact Mark Ashley at (505) 827-7155.

Sincerely,

Roger C. Anderson
Environmental Bureau Chief

RCA/mwa
xc: OCD Artesia Office

TELEPHONE
(505) 748-3311

EASYLINK
62905278

NAVAJO REFINING COMPANY

501 EAST MAIN STREET ◦ P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159

FAX
(505) 746-6410 ACCTG
(505) 746-6155 EXEC
(505) 748-9077 ENGR
(505) 746-4438 P / L

June 18, 1997

RECEIVED
JUN 20 1997

Mr. Mark Ashley, Geologist
Environment Bureau
Oil Conservation Division
2040 S. Pacheco St.
Santa Fe, NM 87505-5472

VIA Fax

RE: HYDROTEST WATER FROM ARTESIA STATION TANK 970, NAVAJO REFINING CO., ARTESIA, NM

Dear Mark:

Navajo is requesting approval to release 26,000 bbls. of hydrotest water from our 30,000 bbl. Artesia Station Tank 970. We have previously received approval from OCD in letters dated September 10, 1996 and November 8, 1996, granting approval for release, but the tank failed the hydrotest both times. Therefore, we have made repair and performed the hydrotest a third time, which we passed. We are now ready to release the hydrotest water. The analysis of this water is included for your perusal. As was done the previous two times, this water will be released to the sand dunes through hay bales with care being taken to insure that there was no ponding of the water.

If there are any questions concerning this matter, please call me at (505) 748-3311. Thank you for your time in this matter.

Sincerely,

NAVAJO REFINING COMPANY

Darrell Moore

Darrell Moore
Manager for Water and Waste

lgm

Enclosure

cc: ADR

RECEIVED
JUN 20 1997
Environmental Bureau
Oil Conservation Division

VERBAL TO DARRELL MOORE
6-18-97
WATER APPROVAL 6-23-97
MW

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

June 16, 1997
Receiving Date: 06/07/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 06/12/97
Analysis Date: 06/12/97
Sampling Date: 06/06/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TA#	FIELD CODE	CYANIDE (mg/L)
T75157	TK 970 Artesia Station	<0.02
QC	Quality Con	0.035
REPORTING LIMIT		0.02
RPD		3
% Extraction Accuracy		94
% Instrument Accuracy		90

METHODS: EPA 335.2.
CHEMIST: RC
CYANIDE SPIKE AND QC: 0.04 mg/L CYANIDE.

Director, Dr. Blair Leftwich

6-16-97
DATE

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

June 16, 1997
Receiving Date: 06/07/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 06/12/97
Analysis Date: 06/13/97
Sampling Date: 06/06/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TA#	Field Code	POTASSIUM (mg/L)	MAGNESIUM (mg/L)	CALCIUM (mg/L)	SODIUM (mg/L)
T75157	TK 970 Artesia Station	6.3	13	90	70
QC	Quality Control	24	25	26	25
Reporting Limit		0.30	0.01	0.01	0.40
RPD		2	1	4	3
% Extraction Accuracy		100	103	99	106
% Instrument Accuracy		96	98	103	100

METHODS: EPA 200.7.
CHEMIST: RR
SPIKE: 100 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM.
QC: 25 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM.

Director, Dr. Blair Leftwich

6-16-97
Date

Jun-17-97 03:15P
P.06

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

June 16, 1997
Receiving Date: 06/07/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

Prep Date: 06/11/97
Analysis Date 06/11/97
Sampling Date: 06/06/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TOTAL METALS

TA#	FIELD CODE	As (mg/L)	Se (mg/L)	Cd (mg/L)	Cr (mg/L)	Pb (mg/L)	Ag (mg/L)	Ba (mg/L)	Al (mg/L)	Be (mg/L)	B (mg/L)	U (mg/L)
T75157	TK 970 Artesia Station	<0.005	<0.006	<0.02	0.007	<0.010	<0.005	<0.20	<0.025	<0.01	<1.0	<1.0
QC	Quality Control	5.0	4.7	5.1	5.0	4.8	0.24	4.6	4.6	5.3	4.9	5.2
REPORTING LIMIT		0.005	0.006	0.02	0.005	0.010	0.005	0.20	0.025	0.01	1.0	1.0
RPD		4	6	3	4	6	3	4	9	6	4	1
% Extraction Accuracy		92	90	111	106	98	80	96	86	99	108	100
% Instrument Accuracy		101	95	102	101	96	96	92	93	105	98	103

TA#	FIELD CODE	Co (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (mg/L)	Ni (mg/L)	V (mg/L)	Zn (mg/L)	Hg (mg/L)
T75157	TK 970 Artesia Station	<0.03	0.27	0.19	0.01	<0.10	<0.010	<0.05	0.06	<0.001
QC	Quality Control	4.9	4.3	4.9	5.0	5.0	5.0	4.8	4.9	0.0052
REPORTING LIMIT		0.03	0.02	0.03	0.01	0.10	0.010	0.05	0.02	0.001
RPD		4	4	7	3	4	4	7	4	2
% Extraction Accuracy		102	104	80	94	105	106	100	99	104
% Instrument Accuracy		97	85	99	100	99	100	97	97	104

METHODS: EPA 200.7, 245.1.
CHEMIST: As, Cd, Cr, Ba, Al, Be, Co, Cu, Fe, Mn, Mo, Ni, V, Zn, Se, Pb, Ag, B, U: RR Hg: DM
TOTAL METALS SPIKE: 2.0 mg/L As, Se, Cd, Cr, Pb, Ba, Al, Be, B, U, Co, Cu, Fe, Mn, Mo, Ni, V, Zn 0.005 mg/L Hg 0.15 mg/L Ag.
TOTAL METALS QC: 5.0 mg/L As, Se, Cd, Cr, Pb; Ba, Al, Be, B, U, Co, Cu, Fe, Mn, Mo, Ni, V, Zn; 0.005 mg/L Hg. 0.25 mg/L Ag

Director, Dr. Blair Leftwich

6-16-97
DATE

Jun-17-97 03:15P
P.07

NAVAJO REFINING COMPANY

Project Location: Artesia, NM

TA #: T75157

Field Code: TK 970 Artesia Station

8260 Compounds	Concentration (ug/L)	Reporting Limit
Dibromochloromethane	ND	1
1,2-Dibromoethane	ND	1
Tetrachloroethene	ND	1
Chlorobenzene	ND	1
1,1,1,2-Tertachloroethane	ND	1
Ethylbenzene	ND	1
m & p-Xylene	1	1
Bromoform	ND	1
Styrene	ND	1
o-Xylene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,2,3-Trichloropropane	ND	1
Isopropylbenzene	ND	1
Bromobenzene	ND	1
2-Chlorotoluene	ND	1
n-Propylbenzene	ND	1
4 Chlorotoluene	ND	1
1,3,5-Trimethylbenzene	ND	1
tert-Butylbenzene	ND	1
1,2,4-Trimethylbenzene	ND	1
1,4-Dichlorobenzene	ND	2
sec-Butylbenzene	ND	1
1,3-Dichlorobenzene	ND	2
4-Isopropyltoluene	ND	1
1,2-Dichlorobenzene	ND	2
n-Butylbenzene	ND	1
1,2-Dibromo-3-chloropropane	ND	5
1,2,3-Trichlorobenzene	ND	5
Naphthalene	ND	1
1,2,4-Trichlorobenzene	ND	5
Hexachlorobutadiene	ND	5

	% Recovery
Dibromofluoromethane	101
Toluene-d8	101
4-Bromofluorobenzene	96

ND = Not Detected

Methods: EPA SW 846-5030, 8260.
CHEMIST: RP

Director, Dr. Blair Leftwich

6-16-97
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1796
FAX 806•794•1298

ANALYTICAL RESULTS FOR
Navajo Refining
Attention Darrell Moore
501 E. Main
Artesia NM 00210

Date: Jun 16, 1997
Date Rec: 6/7/97
Project: Artesia
Proj Name: Navajo
Proj Loc: Artesia,NM

Lab Receiving # : 9706000133
Sampling Date: 6/6/97
Sample Condition: Intact and Cool
Sample Received By: JH

TA#	Field Code	BOD5 (mg/L)	TSS (mg/L)	pH (s.u.)
T75157	TK 970 Artesia Sta	<7.5	4	7.8
RPD		6	10	0
% Instrument Accuracy:		108	N/A	100

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST
BOD	N/A	6/11/97	EPA 405.1	6/16/97	JT
TSS	N/A	6/11/97	EPA 160.2	6/11/97	JT
pH	N/A	6/7/97	EPA 150.1	6/7/97	JT

Director, Dr. Blair Leftwich

6-16-97
Date

TRACE ANALYSIS, INC.
A Laboratory for Advanced Environmental Research and Analysis

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
Navajo Refining
Attention Darrell Moore
501 E. Main
Artesia NM 88210

Date: Jun 16, 1997
Date Rec: 6/7/97
Project: Artesia
Proj Name: Navajo
Proj Loc: Artesia,NM

Lab Receiving # : 9706000133
Sampling Date: 6/6/97
Sample Condition: Intact and Cool
Sample Received By: JH

TA#	Field Code	MATRIX	TDS (mg/L)
T75157	TK 970 Artesia Station	Water	370
RPD			11

Reporting Limit: 10

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST
TDS	N/A	6/11/97	EPA 160.1	6/9/97	RC

Director, Dr. Blair Leftwich

6-16-97
Date

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

June , 1997
Receiving Date: 06/07/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 06/10/97
Analysis Date 06/10/97
Sampling Date: 06/06/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TA#	FIELD CODE	COD (mg/L)	NO3-N (mg/L)	CHLORIDE (mg/L)	FLUORIDE (mg/L)	SULFATE (mg/L)	ALKALINITY (mg/L as CaCo3) HCO3	ALKALINITY (mg/L as CaCo3) CO3	SPECIFIC CONDUCTANCE (uMHOS/cm)
T75157	TK 970 Artesia Station	110	2.5	42	0.70	43	140	<1.0	460
QC	Quality Control	258			0.83		---	---	1,420
RPD		5			1		2	2	0
% Extraction Accuracy		108			82		---	---	---
% Instrument Accuracy		101			87		---	---	101
REPORTING LIMIT		20		1.0	0.1	1.0	10	10	---

METHODS: EPA 410.4, 300.0, 340.2, 310.1, 120.1.
CHEMIST: COD: JT CHLORIDE/NO3-N/SO4: FLUORIDE/ALKALINITY/SPECIFIC CONDUCTANCE: JS
SPIKE: 50 mg/L CHLORIDE; 5.0 mg/L FLUORIDE; 50 mg/L SULFATE.
QC 25.0 mg/L CHLORIDE; 1.0 mg/L FLUORIDE; 25.0 mg/L SULFATE.

Director, Dr. Blair Leftwich

6-16-97
Date

NM 9251 X

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
Navajo Refining
Attention: Darrell Moore
501 E. Main
Artesia NM 88210

Date: Jun 16, 1997
Date Rec: 6/7/97
Project: Artesia
Proj Name: Navajo
Proj Loc: Artesia,NM

Lab Receiving # : 9706000133
Sampling Date: 6/6/97
Sample Condition: Intact and Cool
Sample Received By: JH

PAH in Water (mg/L)	Reporting Limit	T75157 K 970 Artesia Static	QC	RPD	%EA	%IA
Naphthalene	0.001	ND	74	16	82	93
Acenapthylene	0.001	ND	77	9	98	96
Acenaphthene	0.001	ND	80	8	91	100
Fluorene	0.001	ND	74	8	95	93
Phenanthrene	0.001	ND	77	6	96	96
Anthracene	0.001	ND	84	5	91	105
Fluoranthene	0.001	ND	79	5	98	99
Pyrene	0.001	ND	76	0	97	95
Benzo[a]anthracene	0.001	ND	76	3	91	95
Chrysene	0.001	ND	77	4	84	96
Benzo[b]fluoranthene	0.001	ND	85	9	70	106
Benzo[k]fluoranthene	0.001	ND	73	8	88	91
Benzo[a]pyrene	0.001	ND	77	7	74	96
Indeno[1,2,3-cd]pyrene	0.001	ND	76	3	67	95
Dibenz[a,h]anthracene	0.001	ND	77	0	60	96
Benzo[g,h,i]perylene	0.001	ND	76	2	67	95

ND = Not Detected

	% RECOVERY
Nitrobenzene-d5 SURR	57
2-Fluorobiphenyl SURR	58
Terphenyl-d14 SURR	111

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)	SPIKE: (mg/L)
PAH	EPA 3510	6/9/97	EPA 8270	6/10/97	MC/CC	80 ea	100 ea

Director, Dr. Blair Leftwich

6-16-97
Date

State of New Mexico
ENVIRONMENT DEPARTMENT
Hazardous & Radioactive Materials Bureau
2044 Galisteo
P.O. Box 26110
Santa Fe, New Mexico 87502
(505) 827-1557
Fax (505) 827-1544

GARY E. JOHNSON
GOVERNOR

MARK E. WEIDLER
SECRETARY

EDGAR T. THORNTON, III
DEPUTY SECRETARY

May 31, 1997

Mr. Darrell Moore
Senior Environmental Specialist
Navajo Refining Company
501 East Main Street
P.O. Box 159
Artesia, New Mexico 88211-0159

Dear Mr. Moore:

RE: SAMPLING AND DISPOSAL OF PIPELINE FILTERS

The New Mexico Environment Department (NMED), Hazardous and Radioactive Materials Burreau (HRMB), has received your letter requesting concurrence with your sampling logic/procedures regarding the above referenced pipeline filters. First of all, how long have these filters been generated and from what locations? How many times have analyses have been performed on your "composite" type samples? Exactly what analyses have been performed? Why is arsenic the only hazardous constituent refered to in your sampling procedures? What are the benzene levels in these filters? How did you arrive at the conclusion that 7 to 8 randomly picked filters from a total of as many as 300 filters was a representative composite sample? And finally, how have you been disposing of these filters prior to this sampling scheme?

NMED/HRMB can not concur with your sampling logic/procedures until these questions are answered. If you wish to discuss these concerns or supply NMED/HRMB with any further information, please contact me at (505) 827-1558.

Sincerely,

John M. Tymkowych

John M. Tymkowych
RCRA Inspection Enforcement Program Manager
Hazardous and Radioactive Materials Bureau
New Mexico Environment Department

cc: Benito Garcia, Chief, HRMB
Roger Anderson, Chief, Environmental Bureau, OCD

TELEPHONE
(505) 748-3311

EASYLINK
62905278

NAVAJO REFINING COMPANY

501 EAST MAIN STREET • P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159

FAX
(505) 746-6410 ACCTG
(505) 746-6155 EXEC
(505) 748-9077 ENGR
(505) 746-4438 P / L

May 16, 1997

Mr. Benito Garcia, Chief
Hazardous and Radioactive Material Bureau
New Mexico Environment Department
2048 Galisteo
Santa Fe, NM 87505

Re: SAMPLING AND DISPOSAL OF PIPELINE FILTERS

Dear Mr. Garcia:

We request your concurrence with the method by which we sample and dispose of spent pipeline cartridge filters. These filters are used to filter solids out of finished gasoline and diesel. During normal operations, we generate an average of about 500 spent cartridge filters per month. Past testing has indicated that a small number of them have been over the TCLP limit for arsenic. However, the vast majority of the filters are non-hazardous.

It is not economically practical to have TLCP testing performed on each individual cartridge filter. Since we dispose of the cartridge filters in discrete bin - load batches of 250-300 filters per batch, we believe it appropriate to perform TCLP testing on a batch- by- batch basis rather than testing each individual cartridge filter. For the past 5 months, we have randomly picked out 7-8 filters out of each batch to make up a composite sample to be analyzed for TCLP arsenic. In every instance so far, the composite sample has TCLP tested well below 5 ppm arsenic, and in most cases has been non-detect. Based on this knowledge, we now believe it appropriate to dispose of the filters as non-hazardous. For the time being, we will continue to perform TCLP testing on each batch. At some point, we may elect to use knowledge of process to discontinue or decrease the frequency of the testing. If so, we will request your approval at that time.

Meanwhile, we request NMED's concurrence with our procedures and would appreciate any thoughts you may have. If there are any questions concerning this matter, please call me at (505) 748-3311. Thank you for your time in this matter.

Sincerely,

NAVAJO REFINING COMPANY

Darrell Moore
Sr. Environmental Specialist

lgm

cc: Mr. Roger Anderson, Environmental Bureau, Oil Conservation Division, 2040 S. Pacheco St., Santa Fe, NM 87505-5472
Mr. Phil Youngblood, Navajo Refining Company

OIL CONSERVATION DIVISION
ARTESIA, NEW MEX. 88210

TO: Roger Anderson

FROM: Bryan Arrant

DATE: 4-16-97

NUMBER OF SHEETS (INCLUDING TRANSMITTAL SHEET) 3

IF YOU HAVE ANY PROBLEMS WITH THIS TRANSMISSION, PLEASE CALL 505-748-1283.

FAX NUMBER (505) 748-9720

TELEPHONE
(505) 748-3311

EASYLINK
62905278

Navajo REFINING COMPANY

501 EAST MAIN STREET • P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159

FAX
(505) 746-6410 ACCTG
(505) 746-6155 EXEC
(505) 748-9077 ENGR
(505) 746-4438 P / L

October 30, 1996

Mr. Bryan Arrant
New Mexico Oil Conservation Division
811 S. First Street
Artesia, NM 88210

Re: Tank 56 Sweet Naphtha Spill
October 27, 1996

Dear Mr. Arrant:

Enclosed you should find two (2) copies of the OCD spill report form addressing a spill at the refinery on Sunday, October 27, 1996. Navajo appreciates you taking time at such short notice to come by and observe the drilling and investigation at the spill site on Tuesday, October 29, 1996.

As you know, Navajo completed 4 borings at the low spots where the spilled product pooled. These worst case spots indicated limited subsurface contamination with no spill material seen deeper than 6 feet and most restricted to the upper 2 feet. Based on these findings, the initially reported spill volume of 300 Bbls. has been revised down to 150 Bbls. Calculation of the volume of impacted soil and using fluid holding capacity of the soil from previous studies, indicates a loss of product to the ground of approximately 70-80 Bbls. This volume combined with the volume recovered by vacuum truck at the scene (70 Bbls.) gives a calculated combined release of 150 Bbls.

Per our discussions at the scene, Navajo proposes that natural attenuation will most effectively deal with the spill residue in the soil. The naturally arid climate and generally sunny weather will volatilize the spill residue rapidly, particularly since the majority of the residue is in the upper 2 feet of soil. Keep in mind that this site is an active tank farm in a refinery that has operated at this location for the past 70 years. The soil impacted by this spill was not pristine, having seen previous spills.

If you need any additional information, please call me at (505) 748-3311.

Sincerely,

David G. Griffin
Manager of Environmental
Affairs for Water & Waste

DGG/sb

DISTRICT I
P.O.Box 1980, Hobbs, NM 88241-1980
DISTRICT II
P.O. Drawer DD, Artesia, NM 88211-0719
DISTRICT III
1000 Rio Brazos Rd, Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

SUBMIT 2 COPIES TO APPROPRIATE DISTRICT OFFICE IN ACCORDANCE WITH RULE 116 PRINTED ON BACK SIDE OF FORM

NOTIFICATION OF FIRE, BREAKS, SPILLS, LEAKS, AND BLOWOUTS

OPERATOR: NAVAJO REFINING CO.						ADDRESS: 501 E. MAIN ST. ARTESIA, NM	TELEPHONE #: (505)748-3
REPORT OF	FIRE	BREAK	SPILL: X	LEAK	BLOWOUT	OTHER*	
TYPE OF FACILITY	DRLG WELL	PROD WELL	TANK BTRY	PIPE LINE	GASO PLNT	OIL RFY: X	OTHER*

FACILITY NAME: NAVAJO'S ARTESIA REFINERY

LOCATION OF FACILITY Qtr/Qtr Sec. or Footage	SEC.	TWP.	RGE.	COUNTY

DISTANCE AND DIRECTION FROM NEAREST TOWN OR PROMINENT LANDMARK: 501 E. MAIN ST. ARTESIA

DATE AND HOUR OF OCCURRENCE	10/27/96	7:30 P.M.	DATE AND HOUR OF DISCOVERY	10/27/96	7:45 P.M.

WAS IMMEDIATE NOTICE GIVEN?	YES	NO	NOT REQUIRED: X	IF YES, TO WHOM
BY WHOM				DATE AND HOUR

TYPE OF FLUID LOST	QUANTITY OF LOSS	VOLUME RECOVERED
SWEET HEAVY NAPHTHA	150 BBLS	70 BBLS

DID ANY FLUIDS REACH A WATERCOURSE?	YES	NO: X	QUANTITY

IF YES, DESCRIBE FULLY**

DESCRIBE CAUSE OF PROBLEM AND REMEDIAL ACTION TAKEN**
NAVAJO HAD TEMPORARILY REROUTED THE SWEET NAPHTHA CHARGE FROM TANKAGE TO THE CCR REFORMER. THIS WAS DONE SO THAT THE NAPHTHA DESULFURIZER UNIT COULD BE SHUTDOWN SO THAT CONNECTIONS COULD BE MADE FOR A NEW UNIT. THE TEMPORARY REROUTE RESULTED IN ONE SET OF OPERATORS CONTROLLING THE REFORMER AND ANOTHER SET RESPONSIBLE FOR TRANSFERRING SWEET NAPHTHA FROM ONE STORAGE TANK TO ANOTHER (TANK 56). A MISSED COMMUNICATIONS BETWEEN OPERATORS RESULTED

DESCRIBE AREA AFFECTED AND CLEANUP ACTION TAKEN** IN THE OVERFILL OF TANK 56. THE SPILL WAS LIMITED TO THE AREA ADJACENT TO TANK 56 AND REMAINED INSIDE SECONDARY CONTAINMENT. THE FREE LIQUID WAS VACUUMED UP AND RETURNED TO THE REFINERY. NAVAJO'S FIRE TEAM STOOD BY WHILE THE PRODUCT WAS VACUUMED UP.

DESCRIPTION OF AREA	FARMING	GRAZING	URBAN	OTHER*: HEAVY INDUSTRY

SURFACE CONDITIONS	SANDY	SANDY LOAM	CLAY: X	ROCKY	WET	DRY: X	SNOW

DESCRIBE GENERAL CONDITIONS PREVAILING (TEMPERATURE, PRECIPITATION, ETC.)**
WIND OUT OF THE NORTHWEST AT 11 MPH. TEMPERATURE WAS 43°F.

I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF

SIGNED: David G. Griffin

PRINTED NAME AND TITLE: DAVID G. GRIFFIN MANAGER OF ENVIRONMENTAL AFFAIRS FOR WATER & WASTE

DATE: 10/28/96

TELEPHONE
(505) 748-3311

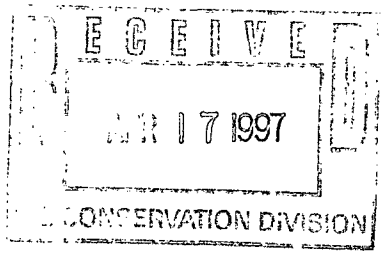
EASYLINK
62905278

NAVAJO REFINING COMPANY

501 EAST MAIN STREET ◦ P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159

FAX
(505) 746-6410 ACCTG
(505) 746-6155 EXEC
(505) 748-9077 ENGR
(505) 746-4438 P / L

April 14, 1997



Mr. Mark Ashley, Geologist
Environment Bureau
Oil Conservation Division
2040 S. Pacheco St.
Santa Fe, NM 87505-5472

RE: HYDROTEST WATER FROM BEESON STATION TANK , NAVAJO REFINING CO., ARTESIA, NM

Dear Mark:

Per verbal approval from Roger Anderson, Navajo recently released 5,500 bbls. of hydrotest water from our Beeson Station Tank at the Artesia facility. This tank was drained to install an internal floating roof. The analysis of this water is included for your perusal. We are below ground water standards for every parameter measured except iron and manganese. Of course the tank is made of iron so that is not a big surprise. This water was released to the sand dunes through hay bales with care being taken to insure that there was no ponding of the water.

If there are any questions concerning this matter, please call me at (505) 748-3311. Thank you for your time in this matter.

Sincerely,

NAVAJO REFINING COMPANY

Darrell Moore

Darrell Moore
Sr. Environmental Specialist

lgm

Enclosure

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

April 02, 1997
Receiving Date: 03/27/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 03/27/97
Analysis Date: 03/27/97
Sampling Date: 03/26/97
Sample Condition: I & C
Sample Received by: JH
Project Name: NA

TA#	FIELD CODE	COD (mg/L)	pH (s.u.)	(NO3-NO2)-N (mg/L)	BOD5 (mg/L)	TSS (mg/L)	TDS (mg/L)	SPECIFIC CONDUCTIVITY (uMHOS/cm)
T69985	Beeson Sta. Tank Hydrotes	21	7.0	2.9	<7.5	130	230	470
QC	Quality Control	271	7.0	1.3	182	---	---	1,430
REPORTING LIMIT		20	---	0.10	7.5	---	---	---
RPD		0	0	1	2	0	5	0
% Extraction Accuracy		102	---	83	---	---	---	---
% Instrument Accuracy		105	100	103	91	---	---	102

METHODS: EPA 410.4, 353.3, 120.1, 150.1, 405.1, 160.2, 160.1.
CHEMIST: COD/(NO3-NO2)-N/SPECIFIC CONDUCTANCE/TDS: MS pH/BOD5/TSS: JT
(NO3-NO2-)-N SPIKE: 1.51 mg/L (NO3-NO2)-N.
(NO3-NO2-)-N QC: 1.333 mg/L (NO3-NO2)-N.
COD SPIKE: 750 mg/L COD.
COD QC: 250 mg/L COD.

Director, Dr. Blair Leftwich

4-2-97
DATE

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

April 02, 1997
Receiving Date: 03/27/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 04/02/97
Analysis Date: 04/02/97
Sampling Date: 03/26/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TA#	Field Code	POTASSIUM (mg/L)	MAGNESIUM (mg/L)	CALCIUM (mg/L)	SODIUM (mg/L)
T69985	Beeson Station Tank Hydrotest	3.2	8.5	41	37
QC	Quality Control	26	24	24	24
Reporting Limit		0.30	0.10	0.10	0.40
RPD		3	2	2	3
% Extraction Accuracy		89	85	83	83
% Instrument Accuracy		103	96	96	95

METHODS: EPA 200.7.
CHEMIST: RR
SPIKE: 150 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM.
QC: 25 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM.

Director, Dr. Blair Leftwich

4-2-97
Date

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

April 02, 1997
Receiving Date: 03/27/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 03/27/97
Analysis Date: 03/27/97
Sampling Date: 03/26/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TA#	FIELD CODE	CHLORIDE (mg/L)	FLUORIDE (mg/L)	SULFATE (mg/L)	ALKALINITY (mg/L as CaCo3) HCO3	CO3
T69985	Beeson Station Tank Hydrotest	38	0.77	45	114	<1.00
QC	Quality Control	24	1.00	25	---	---
RPD		0	5	0	1	1
% Extraction Accuracy		96	119	100	---	---
% Instrument Accuracy		96	102	100	---	---
REPORTING LIMIT		1.0	0.1	1.0	10	10

METHODS: EPA 300.0, 310.1, 340.2.
CHEMIST: ALKALINITY/CHLORIDE/SULFATE: MS FLUORIDE: JH/MS
SPIKE: 25 mg/L CHLORIDE, SULFATE; 0.91 mg/L FLUORIDE.
QC: 24 mg/L CHLORIDE; 1.0 mg/L FLUORIDE; 25 mg/L SULFATE.

BL
Director, Dr. Blair Leftwich

4-2-97
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

April 02, 1997
Receiving Date: 03/27/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 04/01/97
Analysis Date: 04/01/97
Sampling Date: 03/26/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TA#	FIELD CODE	CYANIDE (mg/L)
T69985	Beeson Sta. Tank Hydrotest	<0.01
QC	Quality C	0.04
REPORTING LIMIT		0.01
RPD		3
% Extraction Accuracy		94
% Instrument Accuracy		100

METHODS: EPA 335.2.
CHEMIST: MS
CYANIDE SPIKE AND QC: 0.04 mg/L CYANIDE.

Director, Dr. Blair Leftwich

4-2-97
DATE

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING CO.
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

April 07, 1997
Receiving Date: 03/27/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Extraction Date: 04/05/97
Analysis Date: 04/05/97
Sampling Date: 03/26/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TA#	Field Code	REACTIVE SULFIDES (ppm)
	EPA LIMIT =	500
T69985	Beeson Sta. Tank Hydrotest	<10
REPORTING LIMIT		10
RPD		0

METHODS: EPA SW 846-2.1.1.
CHEMIST: JT

Director, Dr. Blair Leftwich

4-7-97
Date

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

April 4, 1997
Receiving Date: 03/27/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

Prep Date: 03/31/97
Analysis Date: 03/31/97
Sampling Date: 03/26/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TOTAL METALS

TA#	FIELD CODE	As (mg/L)	Cr (mg/L)	Cd (mg/L)	Ba (mg/L)	U (mg/L)	Mo (mg/L)	Zn (mg/L)	Ni (mg/L)	Be (mg/L)	Fe (mg/L)	Mn (mg/L)
T69985	Beeson Sta. Tank Hydrotest	<0.10	<0.05	<0.02	<0.20	<0.50	<0.10	0.23	<0.20	<0.01	20	0.27
QC	Quality Control	5.3	4.8	5.0	5.0	---	4.8	4.9	4.9	4.6	4.9	4.8
REPORTING LIMIT		0.10	0.05	0.02	0.20	0.50	0.10	0.02	0.20	0.01	0.10	0.05
RPD		2	4	3	4	---	4	4	4	4	1	4
% Extraction Accuracy		115	104	105	80	---	103	103	104	100	125	103
% Instrument Accuracy		106	97	100	100	---	96	97	98	92	98	96

TA#	FIELD CODE	Co (mg/L)	V (mg/L)	Cu (mg/L)	Al (mg/L)	B (mg/L)	Hg (mg/L)	Se (mg/L)	Pb (mg/L)	Ag (mg/L)
T69985	Beeson Sta. Tank Hydrotest	<0.05	<0.05	<0.05	<0.20	<0.10	<0.001	<0.005	0.005	<0.001
QC	Quality Control	5.0	4.7	4.8	4.6	5.3	0.0051	0.097	0.025	0.0027
REPORTING LIMIT		0.05	0.05	0.05	0.20	0.10	0.001	0.005	0.005	0.001
RPD		2	4	5	5	2	2	2	1	1
% Extraction Accuracy		110	102	99	93	100	94	94	112	86
% Instrument Accuracy		101	94	95	93	106	101	97	104	104

METHODS: EPA 200.7, 239.2, 270.2, 272.2, 245.1.
CHEMIST: As, Cd, Cr, Ba, Al, Be, Co, Cu, Fe, Mn, Mo, Ni, V, Zn, Se, Pb, Ag, B, U: RR Hg: CB
TOTAL METALS SPIKE: 0.100 mg/L Se; 2.0 mg/L As, Cd, Cr, Ba, Be, Co, Cu, Fe, Mn, Mo, Ni, V, Zn, Al; 0.025 mg/L Pb; 0.005 mg/L Hg; 0.50 mg/L B; 0.010 mg/L Ag.
TOTAL METALS QC: 0.100 mg/L Se: 5.0 mg/L As, Cd, Cr, Ba, Be, Co, Cu, Fe, Mn, Mo, Ni, V, Zn, Al; 0.025 mg/L Pb; 0.005 mg/L Hg; 5.0 mg/L B; 0.0025 mg/L Ag.

Director, Dr. Blair Leftwich

4-4-97
DATE

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

April 2, 1997
Receiving Date: 03/27/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 04/02/97
Analysis Date: 04/02/97
Sampling Date: 03/26/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

FIELD CODE: Beeson Sta. Tank Hydrotest
TA #: T69985

8240 Compounds	Concentration (ug/L)	Reporting Limit
Dichlorodifluoromethane	ND	1
Chloromethane	ND	1
Vinyl chloride	ND	1
Bromomethane	ND	5
Chloroethane	ND	1
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
Iodomethane	ND	5
Carbon disulfide	ND	1
Methylene chloride	ND	5
trans-1,2-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
Vinyl acetate	ND	1
2-Butanone	ND	50
Chloroform	ND	1
1,1,1-Trichloroethane	ND	1
1,2-Dichloroethane	ND	1
Benzene	1	1
Carbon Tetrachloride	ND	1
1,2-Dichloropropane	ND	1
Trichloroethene	ND	1
Bromodichloromethane	ND	1
cis-1,3-Dichloropropene	ND	1
4-Methyl-2-pentanone	ND	50
trans-1,3-Dichloropropene	ND	1
Toluene	9	1
1,1,2-Trichloroethane	ND	1
2-Hexanone	ND	50

FIELD CODE: Beeson Sta. Tank Hydrotest
TA #: T69985

8240 Compounds	Concentration (ug/L)	Reporting Limit
Dibromochloromethane	ND	1
Tetrachloroethene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	1	1
m & p-Xylene	4	1
Bromoform	ND	1
Styrene	7	1
o-Xylene	2	1
1,1,2,2-Tetrachloroethane	ND	1
trans 1,4-Dichloro-2-butene	ND	5
cis 1,4-Dichloro-2-butene	ND	5
1,4-Dichlorobenzene	ND	2
1,3-Dichlorobenzene	ND	2
1,2-Dichlorobenzene	ND	2

SURROGATES	% RECOVERY
Dibromofluoromethane	99
Toluene-d8	100
4-Bromofluorobenzene	98

ND = Not Detected

METHODS: EPA SW 846-5030; EPA 8260.
CHEMIST: RP

Director, Dr. Blair Leftwich

4-2-97
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
Navajo Refining
Attention: Darrell Moore
501 E. Main
Artesia NM 88210

Date: Apr 02, 1997
Date Rec: 3/27/97
Project: Artesia
Proj Name: Navajo
Proj Loc: Artesia,NM

Lab Receiving # : 9703000461
Sampling Date: 3/26/97
Sample Condition: Intact and Cool
Sample Received By: JH

PAH in Water (mg/L)

	Reporting Limit	T69985 n Sta. Tank Hydr	QC	RPD	%EA	%IA
Naphthalene	0.001	ND	73	1	75	91
Acenapthylene	0.001	ND	77	2	94	96
Acenaphthene	0.001	ND	80	2	86	100
Fluorene	0.001	ND	77	2	94	96
Phenanthrene	0.001	ND	80	1	95	100
Anthracene	0.001	0.001	78	1	89	98
Fluoranthene	0.001	ND	80	3	103	100
Pyrene	0.001	ND	78	3	105	98
Benzo[a]anthracene	0.001	ND	76	2	103	95
Chrysene	0.001	ND	78	4	93	98
Benzo[b]fluoranthene	0.001	ND	84	3	90	105
Benzo[k]fluoranthene	0.001	ND	72	10	121	90
Benzo[a]pyrene	0.001	ND	77	6	98	96
Indeno[1,2,3-cd]pyrene	0.001	ND	73	7	93	91
Dibenz[a,h]anthracene	0.001	ND	75	8	87	94
Benzo[g,h,i]perylene	0.001	ND	70	7	91	88

ND = Not Detected

	% RECOVERY
Nitrobenzene-d5 SURR	47
2-Fluorobiphenyl SURR	51
Terphenyl-d14 SURR	73

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)	SPIKE: (mg/L)
PAH	EPA 3510	3/31/97	EPA 8270	4/1/97	HC/CC	80 ea	100 ea

Director, Dr. Blair Leftwich

4-2-97
Date

69985

4161

TraceAnalysis, Inc.

6701 Aberdeen Avenue Lubbock, Texas 79424
Tel (806) 794 1296 Fax (806) 794 1298
1 (800) 378 1296

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Darrell Moore
Phone #:
FAX #:
Company Name & Address: Navajo Refining Co.
Project #:
Project Name :
Project Location: Artesia NM
Sampler Signature: Darrell Moore

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME
69985	Beeson Station Tank Hydrotest	7		X								3/26/97	14:00

ANALYSIS REQUEST

BTEX, MTBE	TPH	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	8240 / 8260	8270	PAH's	General Chemistry	Cations/Anions	Cyanide
		X					X		X	X	X	X

SPECIAL HANDLING

Turn around # of days	Fax ASAP	Hold

Relinquished by: Darrell Moore **Date:** 3/26/97 **Time:** 16:15
Received by: **Date:** **Time:**

Relinquished by: **Date:** **Time:**
Received by: **Date:** **Time:**

Relinquished by: **Date:** **Time:**
Received at Laboratory by: [illegible] **Date:** 3/27/96 **Time:** 9:50 A

REMARKS Metals as RO Reject sample received @ 1°/-24°F
General Chemistry - TSS, TDS, BOD 5, pH, EC, nitrates, and COD
Fax what you have finished by April 1, 1997 Noon!! Add Reactive 5-pm Thu 4-4-96

CT

RAC

TELEPHONE
(505) 748-3311

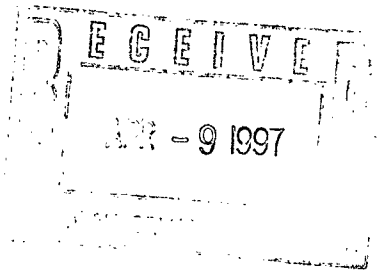
EASYLINK
62905278

NAVAJO REFINING COMPANY

501 EAST MAIN STREET ◦ P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159

FAX
(505) 746-6410 ACCTG
(505) 746-6155 EXEC
(505) 748-9077 ENGR
(505) 746-4438 P / L

April 7, 1997



Mark Ashley
Geologist
Environmental Bureau
Oil Conservation Division
2040 S. Pacheco St.
Santa Fe, NM 87505-5472

RE: HYDROTEST WATER FROM TK 63, NAVAJO REFINING CO., ARTESIA, NM

Dear Mark,

Per verbal approval from Roger Anderson, Navajo recently released 30,000 bbls. of hydrotest water from our Tk 63 at the Artesia facility. This tank had had the floor replaced. The analysis of this water is included for your perusal. We are below ground water standards for every parameter measured except iron. Of course the tank is made of iron so that is not a big surprise. This water was released to our farm with care being taken to insure that there was no ponding of the water.

If there are any questions concerning this matter, please call me at 505-748-3311. Thank you for your time in this matter.

Sincerely,

NAVAJO REFINING CO.

Darrell Moore

Darrell Moore
Sr. Environmental Specialist

Encl.

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

March 26, 1997
Receiving Date: 03/12/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

Prep Date: 03/13/97
Analysis Date: 03/13/97
Sampling Date: 03/11/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TOTAL METALS

LA#	FIELD CODE	As (mg/L)	Cr (mg/L)	Cd (mg/L)	Ba (mg/L)	U (mg/L)	Mo (mg/L)	Zn (mg/L)	Ni (mg/L)	Be (mg/L)	Fe (mg/L)	Mn (mg/L)
T69025	TK 63	<0.10	<0.05	<0.02	<0.20	<0.50	<0.10	<0.05	<0.20	<0.01	1.3	0.14
QC	Quality Control	4.6	5.0	5.1	5.0	5.1	5.1	5.0	5.1	5.0	5.1	5.1
REPORTING LIMIT		0.10	0.05	0.02	0.20	0.50	0.10	0.05	0.20	0.01	0.03	0.05
RPD		2	3	4	8	6	5	5	8	4	4	4
% Extraction Accuracy		89	93	96	104	105	102	96	95	97	97	96
% Instrument Accuracy		92	100	101	99	102	101	100	102	100	101	101

LA#	FIELD CODE	Co (mg/L)	V (mg/L)	Cu (mg/L)	Al (mg/L)	B (mg/L)	Hg (mg/L)	Se (mg/L)	Pb (mg/L)	Ag (mg/L)
T69025	TK 63	<0.03	<0.05	<0.02	<0.20	<0.03	<0.001	<0.005	<0.005	<0.002
QC	Quality Control	5.1	5.0	5.0	5.0	5.1	0.0048	0.104	0.025	0.0026
REPORTING LIMIT		0.03	0.05	0.02	0.20	0.03	0.001	0.005	0.005	0.002
RPD		2	5	4	6	19	2	6	0	6
% Extraction Accuracy		96	98	96	100	81	94	103	108	107
% Instrument Accuracy		102	100	100	100	101	98	104	100	104

METHODS: EPA 200.7, 239.2, 270.2, 272.2, 245.1.
CHEMIST: As, Cd, Cr, Ba, Al, Be, Co, Cu, Fe, Mn, Mo, Ni, V, Zn, Se, Pb, Ag, B, U: RR Hg: CB
TOTAL METALS SPIKE: 2.0 mg/L As, Cd, Cr, Ba, Al, Be, Co, Cu, Fe, Mn, Mo, Ni, V, Zn; 0.005 mg/L Hg; 6.0 mg/L U; 5.0 mg/L B; 0.100 mg/L Ag; 0.200 mg/L Se; 0.025 mg/L Pb.
TOTAL METALS QC: 5.0 mg/L As, Cd, Cr, Ba, Al, Be, Co, Cu, Fe, Mn, Mo, Ni, V, Zn, U, B; 0.005 Hg; 0.0025 mg/L Ag; 0.100 mg/L Se; 0.025 mg/L Pb.

BL

Director, Dr. Blair Leftwich

3-26-97

DATE

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

March 21, 1997
Receiving Date: 03/12/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 03/12/97
Analysis Date: 03/12/97
Sampling Date: 03/11/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TA#	FIELD CODE	CHLORIDE (mg/L)	FLUORIDE (mg/L)	SULFATE (mg/L)	ALKALINITY (mg/L as CaCo3) HCO3	CO3
T69025	TK 63	18	1.1	420	160	<1.00
QC	Quality Control	25	0.99	25	---	---
RPD		0	0	0	0	0
% Extraction Accuracy		100	98	108	---	---
% Instrument Accuracy		98	100	100	---	---
REPORTING LIMIT		1.0	0.1	1.0	10	10

METHODS: EPA 300.0, 310.1, 340.2.
CHEMIST: Chloride/Fluoride/Sulfate: MS Alkalinity: RCD
SPIKE: 25 mg/L CHLORIDE; 5.0 mg/L FLUORIDE; 25 mg/L SULFATE.
QC: 25.0 mg/L CHLORIDE; 1.0 mg/L FLUORIDE; 25.0 mg/L SULFATE.

Director, Dr. Blair Leftwich

3-21-97
Date

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

March 21, 1997
Receiving Date: 03/12/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 03/17/97
Analysis Date: 03/17/97
Sampling Date: 03/11/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TA#	Field Code	POTASSIUM (mg/L)	MAGNESIUM (mg/L)	CALCIUM (mg/L)	SODIUM (mg/L)
T69025	TK 63	2.9	48	150	19
QC	Quality Control	25	25	26	25
Reporting Limit		0.3	0.01	0.01	0.4
RPD		1	1	0	1
% Extraction Accuracy		95	105	116	96
% Instrument Accuracy		101	100	102	100

METHODS: EPA 200.7.
CHEMIST: RR
SPIKE: 100 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM.
QC: 25 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM.

Director, Dr. Blair Leftwich

3-21-97
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

March 21, 1997
Receiving Date: 03/12/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 03/12/97
Analysis Date: 03/12/97
Sampling Date: 03/11/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TA#	FIELD CODE	COD (mg/L)	pH (s.u.)	NITRATE-N (mg/L)	TDS (mg/L)	SPECIFIC CONDUCTIVITY (uMHOS/cm)	CYANIDE (mg/L)
T69025	TK 63	<20	7.5	<1.0	920	1,200	<0.01
QC	Quality Control	271	7.0	10	---	1,405	0.043
REPORTING LIMIT		20	---	1.0	---	---	0.01
RPD		4	0	0	0	0	8
% Extraction Accuracy		105	---	100	---	---	91
% Instrument Accuracy		105	100	99	---	99	101

METHODS: EPA 160.1, 335.2, 300.0.
CHEMIST: NITRATE-N/TDS/SPECIFIC CONDUCTIVITY/CYANIDE/COD: MS pH: JT
NITRATE-N SPIKE: 10 mg/L NITRATE-N.
NITRATE-N QC: 10 mg/L NITRATE-N.
CYANIDE SPIKE AND QC: 0.04 mg/L CYANIDE.
COD SPIKE: 750 mg/L COD.
COD QC: 250 mg/L COD.

Director, Dr. Blair Leftwich

3-21-97
DATE

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

Analytical Results for
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

March 21, 1997 PO #

SAMPLE #	FIELD CODE	Date of Receiving	Date of Analysis	BOD5 (mg/L)	TSS (mg/L)	pH (s.u.)
T69025	TK 63	03/12/97	03/12/97	<15	<1	7.5
QC	Quality Control			193	---	7.0

METHODS: EPA 405.1, 160.2, 150.1.
CHEMIST: BOD5, TSS, pH: JT

QUALITY CONTROL SUMMARY

BOD5 RPD = 4
BOD5 Accuracy = 96%
TSS RPD = 8
pH RPD = 0
pH Instrument Accuracy = 100%

BE 3-21-97

Director, Dr. Blair Leftwich DATE

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
Navajo Refining
Attention: Darrell Moore
501 E. Main
Artesia NM 88210

Date: Mar 14, 1997
Date Rec: 3/12/97
Project: Artesia
Proj Name: Navajo
Proj Loc: Artesia,NM

Lab Receiving # : 9703000190
Sampling Date: 3/11/97
Sample Condition: Intact and Cool
Sample Received By: JH

PAH in Water (mg/L)	Reporting Limit *	T69025 TK63	QC	RPD	%EA	%IA
Naphthalene	0.002	ND	72	22	52	90
Acenapthylene	0.002	ND	74	16	77	93
Acenaphthene	0.002	ND	77	15	72	96
Fluorene	0.002	0.002	71	9	86	89
Phenanthrene	0.002	ND	79	1	99	99
Anthracene	0.002	0.007	73	1	83	91
Fluoranthene	0.002	ND	74	4	98	93
Pyrene	0.002	ND	79	4	98	99
Benzo[a]anthracene	0.002	ND	73	10	85	91
Chrysene	0.002	ND	76	10	73	95
Benzo[b]fluoranthene	0.002	ND	80	4	77	100
Benzo[k]fluoranthene	0.002	ND	64	23	77	80
Benzo[a]pyrene	0.002	ND	74	13	73	93
Indeno[1,2,3-cd]pyrene	0.002	ND	77	14	71	96
Dibenz[a,h]anthracene	0.002	ND	78	16	65	98
Benzo[g,h,i]perylene	0.002	ND	76	14	71	95

ND = Not Detected

*Note: Elevated reporting limit due to petroleum hydrocarbon inteferences.

	% RECOVERY
Nitrobenzene-d5 SURR	67
2-Fluorobiphenyl SURR	66
Terphenyl-d14 SURR	108

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)	SPIKE: (mg/L)
PAH	EPA 3510	3/12/97	EPA 8270	3/12/97	RD/CC	80 ea	100 ea

Director, Dr. Blair Leftwich

3-14-97
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
Navajo Refining
Attention: Darrell Moore
501 E. Main
Artesia NM 88210

Date: Mar 17, 1997
Date Rec: 3/12/97
Project: Artesia
Proj Name: Navajo
Proj Loc: Artesia,NM

Lab Receiving # : 9703000190
Sampling Date: 3/11/97
Sample Condition: Intact and Cool
Sample Received By: JH

8240 compounds in Water (ug/L)	T69025 TK63	Reporting Limit	QC	RPD	%EA	%IA
Dichlorodifluoromethane	ND	1				
Chloromethane	ND	1	100			100
Vinyl chloride	ND	1	100			100
Bromoethane	ND	5				
Chloroethane	ND	1				
Trichlorofluoromethane	ND	1				
1,1-Dichloroethene	ND	1	110	6	95	110
Iodomethane	ND	5				
Carbon disulfide	ND	1				
Methylene chloride	ND	5				
trans-1,2-Dichloroethene	ND	1				
1,1-Dichloroethane	ND	1	106			106
Vinyl acetate	ND	1				
2-Butanone	ND	50				
Chloroform	ND	1	104			104
1,1,1-Trichloroethane	ND	1				
1,2-Dichloroethane	ND	1				
Benzene	ND	1		8	99	
Carbon Tetrachloride	ND	1				
1,2-Dichloropropane	ND	1	105			105
Trichloroethene	ND	1		9	98	
Bromodichloroethane	ND	1				
cis-1,3-Dichloropropene	ND	1				
4-Methyl-2-pentanone	ND	50				
trans-1,3-Dichloropropene	ND	1				
Toluene	ND	1	109	7	96	109
1,1,2-Trichloroethane	ND	1				
2-Hexanone	ND	50				
Dibromochloromethane	ND	1				
Tetrachloroethane	ND	1				
Chlorobenzene	ND	1	103	7	101	103
Ethylbenzene	ND	1	108			108
m –p-Xylene	2	1				
Bromoform	ND	1	105			105
Styrene	ND	1				
o-Xylene	ND	1				
1,1,2,2-Tetrachloroethane	ND	1	104			104
trans 1,4-Dichloro-2-butene	ND	5				
cis 1,4-Dichloro-2-butene	ND	5				
1,4-Dichlorobenzene	ND	2				
1,3-Dichlorobenzene	ND	2				
1,2-Dichlorobenzene	ND	2				

ND = Not Detected

ANALYTICAL RESULTS FOR
Navajo Refining
Attention: Darrell Moore
501 E. Main
Artesia NM 88210

Date: Mar 17, 1997
Date Rec: 3/12/97
Project: Artesia
Proj Name: Navajo
Proj Loc: Artesia,NM

Lab Receiving # : 9703000190
Sampling Date: 3/11/97
Sample Condition: Intact and Cool
Sample Received By: JH

	% RECOVERY
Dibromofluoromethane SURR	99
Toluene-d8 SURR	99
4-Bromofluorobenzene SURR	101

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (ug/L)	SPIKE: (ug/L)
8240	EPA 5030	3/12/97	EPA 8260	3/12/97	RP	100 ea	100 ea

Director, Dr. Blair Leftwich

3-17-97
Date

69025

190

TraceAnalysis, Inc.

6701 Aberdeen Avenue Lubbock, Texas 79424
Tel (806) 794 1296 Fax (806) 794 1298
1 (800) 378 1296

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Darrell Moore
Phone #:
FAX #:
Company Name & Address: Navajo Refining Co.
Project #:
Project Name :
Project Location: Artesia NM
Sampler Signature: Darrell Moore

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME	BTEX, MTBE	TPH	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	8240 / 8260	8270	PAH's	General Chemistry	Cations / Anions	Cyanide
69025	TK 63	7		X				(2) X	(1) X	(2 ll) X	(2) X	3/11/97	9:00			X					X*		X*	X*	X*	X*

ANALYSIS REQUEST

SPECIAL HANDLING: Turn around # of days; Fax ASAP; Hold

Relinquished by: Darrell Moore	Date: 3/11/97	Time: 16:15	Received by:
Relinquished by:	Date:	Time:	Received by:
Relinquished by:	Date:	Time:	Received at Laboratory by: G. Date: 3/12/97 Time: 9:25 B

REMARKS: Metals as RO Reject
General Chemistry - TSS, TDS, BOD, pH
EC, nitrates, COD
Need results rushed !!!
Fax Complete 3/26-97 gdl

3-21

C/I

71AH

State of New Mexico
ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT
Santa Fe, New Mexico 87505

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☑ Telephone ☐ Personal | Time 1615 | Date 4/4/97

Originating Party	Other Parties
Phil Youngblood – Navajo Refining	Bill Olson - Envir. Bureau

Subject

Tank 972 - Loco Hills

Discussion

Faxed analyses of hydrotest water
Want to discharge to ground surface through hay bales near Loco Hills
Water is fresh water from Double Eagle water line

Conclusions or Agreements

Gave verbal approval with following conditions:
1.) original analyses will be sent to OCD
2.) No discharge to waterways

Distribution

Signed Bill Olson

APR-04-1997 17:12 FROM NAVAJO PIPELINE TO 15058278177 P.01

FAX

Date

Number of pages including cover sheet

TO: New Mexico Environment Dept.

ATTN: Bill Olson

Phone

Fax Phone (505) 827-8177

FROM:

Navajo Refining Company
PO Box 159
Artesia, NM 88211-0159

Phone 505-748-3311

Fax Phone 505-746-4438

If you have any problems with this transmission or do not receive all pages, please contact Lori Dade at 505-748-3311, ext. 202.

CC:

REMARKS: ☐ Urgent ☐ For your review ☐ Reply ASAP ☐ Please Comment

Water analysis @ Tank 972 Located in Loco Hills N.M.

NOTE: Unless otherwise indicated or obvious from the nature of this transmittal, the information contained in this facsimile message is privileged and confidential information intended for the use of the individual or entity named above. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error or are not sure whether it is privileged, please immediately notify us by telephone, and return the original message to us at the above address via the U.S. Postal Service. Thank you.

505-827-8177

TRACE ANALYSIS, INC.

6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

April 4, 1997
Receiving Date: 03/27/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

Prep Date: 03/31/97
Analysis Date: 03/31/97
Sampling Date: 03/25/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TOTAL METALS

TA#	FIELD CODE	As (mg/L)	Cr (mg/L)	Cd (mg/L)	Ba (mg/L)	U (mg/L)	Mo (mg/L)	Zn (mg/L)	Ni (mg/L)	Be (mg/L)	Fe (mg/L)	Mn (mg/L)
T59985	Beeson Sta. Tank Hydrotest	<0.10	<0.05	<0.02	<0.20	<0.10	<0.10	0.23	<0.23	<0.01	20	0.27
QC	Quality Control	5.3	4.8	5.0	5.0	---	4.8	4.9	4.9	4.6	4.9	4.8
REPORTING LIMIT		0.10	0.05	0.02	0.20	0.30	0.10	0.02	0.20	0.01	0.10	0.05
RPD		2	4	3	4	---	4	4	4	4	1	4
% Extraction Accuracy		115	104	105	80	---	103	103	104	100	125	103
% Instrument Accuracy		106	97	100	100	---	96	97	98	92	98	96

TA#	FIELD CODE	Co (mg/L)	V (mg/L)	Cu (mg/L)	Al (mg/L)	B (mg/L)	Hg (mg/L)	Se (mg/L)	Pb (mg/L)	Ag (mg/L)
T59985	Beeson Sta. Tank Hydrotest	<0.05	<0.05	<0.05	<0.20	<0.10	<0.001	<0.005	0.005	<0.001
QC	Quality Control	5.0	4.7	4.8	4.6	5.1	0.0051	0.097	0.025	0.0027
REPORTING LIMIT		0.05	0.05	0.05	0.20	0.10	0.001	0.005	0.005	0.001
RPD		2	4	5	5	2	2	2	1	1
% Extraction Accuracy		110	102	99	93	100	94	94	112	86
% Instrument Accuracy		101	94	95	93	105	101	97	104	104

METHODS: EPA 200.7, 239.2, 270.2, 272.2, 245.1.
CHEMIST: As, Cd, Cr, Ba, Al, Be, Co, Cu, Fe, Mn, Mo, Ni, V, Zn, Se, Pb, Ag, B, U: RR Hg: CH
TOTAL METALS SPIKE: 0.100 mg/L Se; 2.0 mg/L As, Cd, Cr, Ba, Be, Co, Cu, Fe, Mn, Mo, Ni, V, Zn, Al; 0.025 mg/L Pb; 0.005 mg/L Hg; 0.50 mg/L B; 0.010 mg/L Ag.
TOTAL METALS QC: 0.100 mg/L Se; 5.0 mg/L As, Cd, Cr, Ba, Be, Co, Cu, Fe, Mn, Mo, Ni, V, Zn, Al; 0.025 mg/L Pb; 0.005 mg/L Hg; 5.0 mg/L B; 0.0025 mg/L Ag.

Director, Dr. Blair Leftwich

4-4-97
DATE

APR-04-1997 17:13 FROM NAVAJO PIPELINE TO 15058278177 P.02
Apr-04-97 04:09P

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

April 2, 1997
Receiving Date: 03/27/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 04/02/97
Analysis Date: 04/02/97
Sampling Date: 03/26/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

FIELD CODE: Beeson Sta. Tank Hydrotest
TA #: T69985

8240 Compounds	Concentration (ug/L)	Reporting Limit
Dichlorodifluoromethane	ND	1
Chloromethane	ND	1
Vinyl chloride	ND	1
Bromomethane	ND	5
Chloroethane	ND	1
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
Iodomethane	ND	5
Carbon disulfide	ND	1
Methylene chloride	ND	5
trans-1,2-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
Vinyl acetate	ND	1
2-Butanone	ND	50
Chloroform	ND	1
1,1,1-Trichloroethane	ND	1
1,2-Dichloroethane	ND	1
Benzene	1	1
Carbon Tetrachloride	ND	1
1,2-Dichloropropane	ND	1
Trichloroethene	ND	1
Bromodichloromethane	ND	1
cis-1,3-Dichloropropene	ND	1
4-Methyl-2-pentanone	ND	50
trans-1,3-Dichloropropene	ND	1
Toluene	9	1
1,1,2-Trichloroethane	ND	1
2-Hexanone	ND	50

NAVAJO REFINING
Project Location: Artesia, NM

FIELD CODE: Monsen Sta. Tank Hydrotest
TA #: 269985

8260 compounds	Concentration (ug/L)	Reporting Limit
Dibromochloromethane	ND	1
Tetrachloroethene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	1	1
m & p-Xylene	4	1
Bromoform	ND	1
Styrene	7	1
o-Xylene	2	1
1,1,2,2-Tetrachloroethane	ND	1
trans 1,4-Dichloro-2-butene	ND	5
cis 1,4-Dichloro-2-butene	ND	5
1,4-Dichlorobenzene	ND	2
1,3-Dichlorobenzene	ND	2
1,2-Dichlorobenzene	ND	2

SURROGATES	% RECOVERY
Dibromofluoromethane	99
Toluene-d8	100
4-Bromofluorobenzene	98

ND = Not Detected

METHODS: EPA SW 846-5030; EPA 8260.
CHEMIST: RP

Director, Dr. Blair Leftwich

4-2-97
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
Navajo Refining
Attention: Darrell Moore
501 E. Main
Artesia NM 88210

Date: Apr 02, 1997
Date Rec: 3/27/97
Project: Artesia
Proj Name: Navajo
Proj Loc: Artesia,NM

Lab Receiving # : 9703000461
Sampling Date: 3/26/97
Sample Condition: Intact and Cool
Sample Received By: JH

PAH in Water (mg/L)	Reporting Limit	T69985 n Sta. Tank Hydr	QC	RPD	%EA	%IA
Naphthalene	0.001	ND	73	1	75	91
Acenapthylene	0.001	ND	77	2	94	96
Acenaphthene	0.001	ND	80	2	86	100
Fluorene	0.001	ND	77	2	94	96
Phenanthrene	0.001	ND	80	1	95	100
Anthracene	0.001	0.001	78	1	89	98
Fluoranthene	0.001	ND	80	3	103	100
Pyrene	0.001	ND	78	3	105	98
Benzo[a]anthracene	0.001	ND	76	2	103	95
Chrysene	0.001	ND	78	4	93	98
Benzo[b]fluoranthene	0.001	ND	84	3	90	105
Benzo[k]fluoranthene	0.001	ND	72	10	121	90
Benzo[a]pyrene	0.001	ND	77	6	98	96
Indeno[1,2,3-cd]pyrene	0.001	ND	73	7	93	91
Dibenz[a,h]anthracene	0.001	ND	75	8	87	94
Benzo[g,h,i]perylene	0.001	ND	70	7	91	88

ND = Not Detected

	% RECOVERY
Nitrobenzene-d5 SURR	47
2-Fluorobiphenyl SURR	51
Terphenyl-d14 SURR	73

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)	SPIKE: (mg/L)
PAH	EPA 3510	3/31/97	EPA 8270	4/1/97	HC/CC	80 ea	100 ea

Director, Dr. Blair Leftwich

4-2-97
Date

670' Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 W. Main
Artesia, NM 88210

April 02, 1997
Receiving Date: 03/27/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 03/27/97
Analysis Date: 03/27/97
Sampling Date: 03/26/97
Sample Condition: I & C
Sample Received by: JH
Project Name: NA

TA#	FIELD CODE	COD (mg/L)	pH (s.u.)	(NO3-NO2)-N (mg/L)	BOD5 (mg/L)	TSS (mg/L)	TDS (mg/L)	SPECIFIC CONDUCTIVITY (uMHOS/cm)
T69985	Beeson Sta. Tank Hydrotes	21	7.0	2.9	<7.5	130	230	470
QC	Quality Control	271	7.0	1.3	182	---	---	1,430
REPORTING LIMIT		20	---	0.10	7.5	---	---	---
RPD		0	0	1	2	0	5	0
% Extraction Accuracy		102	---	83	---	---	---	---
% Instrument Accuracy		105	100	103	91	---	---	102

METHODS: EPA 410.4, 353.3, 120.1, 150.1, 405.1, 160.2, 160.1.
CHEMIST: COD/(NO3-NO2)-N/SPECIFIC CONDUCTANCE/TDS: MS pH/BOD5/TSS: JT
(NO3-NO2-)-N SPIKE: 1.51 mg/L (NO3-NO2)-N.
(NO3-NO2-)-N QC: 1.333 mg/L (NO3-NO2)-N.
COD SPIKE: 750 mg/L COD.
COD QC: 250 mg/L COD.

Director, Dr. Blair Leftwich

4-2-97
DATE

TRACE ANALYSIS, INC.
A Laboratory for Advanced Environmental Research and Analysis

TRACEANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

April 02, 1997
Receiving Date: 03/27/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 04/02/97
Analysis Date: 04/02/97
Sampling Date: 03/26/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TA#	Field Code	POTASSIUM (mg/L)	MAGNESIUM (mg/L)	CALCIUM (mg/L)	SODIUM (mg/L)
T69985	Beeson Station Tank Hydrotest	3.2	8.5	41	37
QC	Quality Control	26	24	24	24
Reporting Limit		0.30	0.10	0.10	0.40
RPD		3	2	2	3
% Extraction Accuracy		89	85	83	83
% Instrument Accuracy		103	96	96	95

METHODS: EPA 200.7.
CHEMIST: RR
SPIKE: 150 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM.
QC: 25 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM.

Director, Dr. Blair Leftwich

4-2-97
Date

APR-04-1997 17:15 FROM NAVAJO PIPELINE TO 15058278177 P.07
Apr-04-97 04:11P P.06

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

April 02, 1997
Receiving Date: 03/27/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 03/27/97
Analysis Date: 03/27/97
Sampling Date: 03/26/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TA#	FIELD CODE	CHLORIDE (mg/L)	FLUORIDE (mg/L)	SULFATE (mg/L)	ALKALINITY (mg/L as CaCo3) HCO3	CO3
T69985	Beeson Station Tank Hydrotest	38	0.77	45	114	<1.00
QC	Quality Control	24	1.00	25	---	---
RPD		0	5	0	1	1
% Extraction Accuracy		96	119	100	---	---
% Instrument Accuracy		96	102	100	---	---
REPORTING LIMIT		1.0	0.1	1.0	10	10

METHODS: EPA 300.0, 310.1, 340.2.
CHEMIST: ALKALINITY/CHLORIDE/SULFATE: MS FLUORIDE: JH/MS
SPIKE: 25 mg/L CHLORIDE, SULFATE; 0.91 mg/L FLUORIDE.
QC: 24 mg/L CHLORIDE; 1.0 mg/L FLUORIDE; 25 mg/L SULFATE.

BI
Director, Dr. Blair Leftwich

4-2-97
Date

APR-04-1997 17:16 FROM NAVAJO PIPELINE TO 15058278177 P.08
Apr-04-97 04:11P

6701 Aberdeen Avenue
Lubbock, Texas 79424
800•378•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

April 02, 1997
Receiving Date: 03/27/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 04/01/97
Analysis Date: 04/01/97
Sampling Date: 03/26/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TA#	FIELD CODE	CYANIDE (mg/L)
T69985	Beeson Sta. Tank Hydrotest	<0.01
QC	Quality C	0.04
REPORTING LIMIT		0.01
RPD		3
% Extraction Accuracy		94
% Instrument Accuracy		100

METHOD: EPA 335.2.
CHEMIST: MS
CYANIDE SPIKE AND QC: 0.04 mg/L CYANIDE.

Director, Dr. Blair Leftwich

4-2-97
DATE

TRACE ANALYSIS, INC.
A Laboratory for Advanced Environmental Research and Analysis

State of New Mexico
ENVIRONMENT DEPARTMENT
Hazardous & Radioactive Materials Bureau
2044 Galisteo
P.O. Box 26110
Santa Fe, New Mexico 87502
(505) 827-1557
Fax (505) 827-1544

GARY E. JOHNSON
GOVERNOR

MARK E. WEIDLER
SECRETARY

EDGAR T. THORNTON, III
DEPUTY SECRETARY

Fax Cover Sheet

Date March 26 '97

To: Roger Anderson
Company: OCD
Phone: 7-7152
Fax: 7-8177

From: Mike LE Scouarnec ⇒ PM, # 827-1558
Company Hazardous & Radioactive Materials
Phone: (505)- 827-1557
Fax (505)-827-1544

Pages including this cover page: 9

3-31-97 11AM
CALLED BRYAN ARRANT ABOUT THIS SPILL. HE WILL UPDATE ROGER ANDERSON.
MARK ASHLEY

Comments:

check with GW or OCD

New Mexico State Police
Hazardous Materials Emergency Response
Accident/Incident Report

JAN 15
CHEMICAL SAFETY OFFICE

SP DISTRICT: 03	**County:** LEA			**HazMat No.:** H 96-03-17
FROM: Date: 12/18/96	Time: 1445	**TO:** Date: 01/02/97	Time: 0915	**TYPE** ☐ Accident ☒ Incident

PREMISE TYPE ☐ Highway ☐ Plant ☐ Service Station ☐ Tracks ☐ Residence ☐ Business ☐ Rail Yard ☒ Other: FIELD

Specific Location:
FIELD EUNICE GATHERING SYSTEM: SEC. 26 TOWNSHIP 22 SOUTH RANGE 37 EAST

Complainant Name: NEW MEXICO STATE POLICE			Res. Phone: (505) 392-5588
Address: P.O. BOX 1069	**City:** HOBBS	**State:** NM	Bus. Phone: (505) 392-5588
Carrier Name: EOTT ENERGY CORP.	**Person Contacted:** LENNAH H. FROST		Res. Phone: (915) 687-2040
Address: 5806 E. HIGHWAY 80	**City:** MIDLAND	**State:** TX	Bus. Phone: (915) 687-2040
Shipper/Facility Name:	**Person Contacted:**		Res. Phone: ( )
Address:	**City:**	**State:**	Bus. Phone: ( )
Driver Name:	**SSN:**	**DOB:**	Res. Phone: ( )
Address:	**City:**	**State:**	Bus. Phone: ( )

Make:	**Model:**	**Year:**	**VIN:**	**License No.:**

Hazardous Material Name(s): CRUDE OIL

REFERENCE MATERIAL USED
☒ DOT ERG ☐ Other:
☐ NIOSH Pocket Guide
ID. # UN 1270
NA

MATERIAL TYPE *(check all that apply)*
☐ Solid ☒ Liquid ☐ Gas ☐ Explosive ☐ Corrosive ☐ Poison ☐ Radioactive

MARKINGS N/A
Was Vehicle Placarded Correctly? ☐ Yes ☐ No
N/A
Were Containers Labeled Correctly? ☐ Yes ☐ No

SHIPPED BY ☐ Truck Trailer ☐ Storage Tank ☐ Train Box Car ☐ Air Cargo ☐ Tanker Truck ☒ Pipeline ☐ Train Tank Car ☐ Other:

PACKAGE/CONTAINER
☐ Fuel Tank ☐ Bulk ☐ Box ☐ Bag ☐ Drum/Barrel ☐ Cylinder ☒ Other: PIPE

MATERIAL RELEASE ☒ Leak ☐ Spill ☐ Vapors ☐ Mist ☐ Runoff ☐ None ☐ Other:

Quantity Released: 200 BARRELS
Release Contained? ☒ Yes ☐ No
Material Involved in Fire? ☐ Yes ☒ No

AREA INVOLVED ☒ Rural ☐ Urban ☐ Industrial ☐ Livestock ☐ Other:

ENVIRONMENTAL CONTAMINATION ☐ Air ☒ Ground ☐ Water

WEATHER CONDITIONS ☒ Clear ☐ Partly Cloudy ☐ Rain ☐ Snow ☐ Overcast ☒ Visibility: 1 miles Temp: 17 (F) Wind: 5 mph Direction: W-SW

revised July 6, 1994

Responding Departments/Agencies *(not required if this information is recorded on ICS Form 201 or 214)*

RESOURCE TYPE FUNCTION	RESOURCE NAME	PHONE NUMBER
CLEAN UP	B & H CONSTRUCTION HWY 207 EUNICE,NM 88231	505-394-2588

PROTECTIVE CLOTHING USED

- ☐ Level A *(full encapsulation/SCBA)*
- ☐ Level B *(chem-resistant coveralls/SCBA)*
- ☐ Level C *(chem-resistant coveralls/respirator)*
- ☐ Firefighter Turn-Out Gear *(Bunker Gear)*
- ☐ SCBA
- ☒ No special protection required
- ☐ Other: _____

PUBLIC/RESIDENTS *(place number of persons involved beside category)* N/A

___ Evacuated ___ Injured ___ Exposed/Contaminated ___ Fatalities

RESPONSE PERSONNEL *(place number of personnel involved beside category)*

___ Evacuated ___ Injured 6 Exposed/Contaminated ___ Fatalities

Evacuation Distance: NONE	FROM: Date:	Time:	TO: Date:	Time:

HIGHWAY ROUTES ☒ Open ☐ Closed *If closed, distance from scene:*

SUMMARY OF ACCIDENT/INCIDENT *(not required if information is on page 2 of ICS Form 201)*

LINE RUPTURED SPILLING CRUDE OIL ON GROUND IN FIELD. OIL RAN APPROXIMATELY 50 FEET SOUTH ONTO DIRT ROAD. PARTIALLY CONTAINED IN ROADWAY.

ACTION TAKEN *(not required if information is on either ICS Form 214 or page 2 of ICS Form 201)*

OIL ABOVE GROUND PICKED UP BY EOTT. APPROXIMATELY 165 BARRELS. OIL IN GROUND PICKED UP BY B & H CONSTRUCTION AND DISPOSED OF AT EDI LAND FARM IN EUNICE. NM.

FOLLOW-UP ACTION REQUIRED

ON 01-02-97 I WAS CONTACTED BY LENNAH FROST ADVISING THAT THE CLEANUP WAS COMPLETE. I WENT TO SCENE AND ALSO DID A VISUAL VERIFICATION.

COMMENTS

EMERGENCY RESPONSE OFFICER *(print)* JOHN A. BARNES	HEADQUARTERS ERO FALONI SEBOTTA
ERO SIGNATURE	SAFETY OFFICER E.J. FOURATT

revised July 6, 1994

MAR-25-97 09:16 From:NAVAJO REFINING COMPANY 15057466410 T-836 P.01/03 Job-875

TELEPHONE
(505) 748-3311

Navajo REFINING COMPANY
501 EAST MAIN STREET • P. O. DRAWER 159
ARTESIA, NEW MEXICO 88210

EASYLINK
62905278
FAX
(505) 746-6410

FAX NUMBERS:

ACCOUNTING OFFICES:	505/746-6410	MARKETING OFFICES:	505/746-6155
REFINING/ENGINEERING:	505/748-9077	PIPELINE DIVISION:	505/746-4438

PLEASE DELIVER 3 PAGES, INCLUDING THIS COVER SHEET

TO: Michael Le Scoumak PHONE: _____

COMPANY/DEPARTMENT: NMED Haz-Waste

MESSAGE: Here's the report on the Th 56 Spill.

FROM: D. Moore DATE: 3/25/97

If you do not receive all pages, please call _____ at 505/748-3311, ext. _____.

NOTE: Unless otherwise indicated or obvious from the nature of the transmittal, the information contained in this facsimile message is privileged and confidential information intended for the use of the individual or entity named above. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error or are not sure whether it is privileged, please immediately notify us by telephone, and return the original message to us at the above address via the U. S. Postal Service. Thank you.

TELEPHONE
(505) 748-3311

EASYLINK
62905278

Navajo REFINING COMPANY

501 EAST MAIN STREET • P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159

FAX
(505) 746-6410 ACCTG
(505) 746-6155 EXEC
(505) 748-9077 ENGR
(505) 746-4438 P / L

October 30, 1996

Mr. Bryan Arrant
New Mexico Oil Conservation Division
811 S. First Street
Artesia, NM 88210

Re: Tank 56 Sweet Naphtha Spill
October 27, 1996

Dear Mr. Arrant:

Enclosed you should find two (2) copies of the OCD spill report form addressing a spill at the refinery on Sunday, October 27, 1996. Navajo appreciates you taking time at such short notice to come by and observe the drilling and investigation at the spill site on Tuesday, October 29, 1996.

As you know, Navajo completed 4 borings at the low spots where the spilled product pooled. These worst case spots indicated limited subsurface contamination with no spill material seen deeper than 6 feet and most restricted to the upper 2 feet. Based on these findings, the initially reported spill volume of 300 Bbls. has been revised down to 150 Bbls. Calculation of the volume of impacted soil and using fluid holding capacity of the soil from previous studies, indicates a loss of product to the ground of approximately 70-80 Bbls. This volume combined with the volume recovered by vacuum truck at the scene (70 Bbls.) gives a calculated combined release of 150 Bbls.

Per our discussions at the scene, Navajo proposes that natural attenuation will most effectively deal with the spill residue in the soil. The naturally arid climate and generally sunny weather will volatilize the spill residue rapidly, particularly since the majority of the residue is in the upper 2 feet of soil. Keep in mind that this site is an active tank farm in a refinery that has operated at this location for the past 70 years. The soil impacted by this spill was not pristine, having seen previous spills.

If you need any additional information, please call me at (505) 748-3311.

Sincerely,

David G. Griffin
Manager of Environmental
Affairs for Water & Waste

DGG/sb

DISTRICT I
P.O.Box 1980, Hobbs, NM 88241-1980
DISTRICT II
P.O. Drawer DD, Artesia, NM 88211-0719
DISTRICT III
1000 Rio Brazos Rd, Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

SUBMIT 2 COPIES TO APPROPRIATE DISTRICT OFFICE IN ACCORDANCE WITH RULE 116 PRINTED ON BACK SIDE OF FORM

NOTIFICATION OF FIRE, BREAKS, SPILLS, LEAKS, AND BLOWOUTS

OPERATOR: NAVAJO REFINING CO.						ADDRESS: 501 E. MAIN ST. ARTESIA, NM	TELEPHONE #: (505)748-33
REPORT OF	FIRE	BREAK	SPILL X	LEAK		BLOWOUT	OTHER*
TYPE OF FACILITY	DRLG WELL	PROD WELL	TANK BTRY	PIPE LINE	GASO PLNT	OIL RFY X	OTHER*

FACILITY NAME: NAVAJO'S ARTESIA REFINERY

LOCATION OF FACILITY Qtr/Qtr Sec. or Footage	SEC.	TWP.	RGE.	COUNTY

DISTANCE AND DIRECTION FROM NEAREST TOWN OR PROMINENT LANDMARK: 501 E. MAIN ST. ARTESIA

DATE AND HOUR OF OCCURRENCE	10/27/96	7:30 P.M.	DATE AND HOUR OF DISCOVERY	10/27/96	7:45 P.M.
WAS IMMEDIATE NOTICE GIVEN?	YES	NO	NOT REQUIRED X	IF YES, TO WHOM	
BY WHOM				DATE AND HOUR	
TYPE OF FLUID LOST	SWEET HEAVY NAPHTHA		QUANTITY OF LOSS	150 BBLS	VOLUME RECOVERED 70 BBLS
DID ANY FLUIDS REACH A WATERCOURSE?	YES	NO X	QUANTITY		

IF YES, DESCRIBE FULLY**

DESCRIBE CAUSE OF PROBLEM AND REMEDIAL ACTION TAKEN**
NAVAJO HAD TEMPORARILY REROUTED THE SWEET NAPHTHA CHARGE FROM TANKAGE TO THE CCR REFORMER. THIS WAS DONE SO THAT THE NAPHTHA DESULFURIZER UNIT COULD BE SHUTDOWN SO THAT CONNECTIONS COULD BE MADE FOR A NEW UNIT. THE TEMPORARY REROUTE RESULTED IN ONE SET OF OPERATORS CONTROLLING THE REFORMER AND ANOTHER SET RESPONSIBLE FOR TRANSFERRING SWEET NAPHTHA FROM ONE STORAGE TANK TO ANOTHER (TANK 56). A MISSED COMMUNICATIONS BETWEEN OPERATORS RESULTED

DESCRIBE AREA AFFECTED AND CLEANUP ACTION TAKEN** IN THE OVERFILL OF TANK 56. THE SPILL WAS LIMITED TO THE AREA ADJACENT TO TANK 56 AND REMAINED INSIDE SECONDARY CONTAINMENT. THE FREE LIQUID WAS VACUUMED UP AND RETURNED TO THE REFINERY. NAVAJO'S FIRE TEAM STOOD BY WHILE THE PRODUCT WAS VACUUMED UP.

DESCRIPTION OF AREA	FARMING	GRAZING	URBAN	OTHER* HEAVY INDUSTRY			
SURFACE CONDITIONS	SANDY	SANDY LOAM	CLAY X	ROCKY	WET	DRY X	SNOW

DESCRIBE GENERAL CONDITIONS PREVAILING (TEMPERATURE, PRECIPITATION, ETC.)**
WIND OUT OF THE NORTHWEST AT 11 MPH. TEMPERATURE WAS 43°F.

I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF

SIGNED [signature] PRINTED NAME AND TITLE: DAVID G. GRIFFIN MANAGER OF ENVIRONMENTAL AFFAIRS FOR WATER & WASTE DATE: 10/28/96

*SPECIFY **ATTACH ADDITIONAL SHEETS IF NECESSARY

New Mexico State Police
Hazardous Materials Emergency Response
Accident/Incident Report

Follow-up on this.

SP DISTRICT: 03	County: EDDY			HazMat No.: H 960311
FROM: Date: 10/27/96	Time: 1930	TO: Date: 10/28/96	Time: UNKNOWN	TYPE ☒ Accident ☐ Incident

PREMISE TYPE ☐ Highway ☒ Plant ☐ Service Station ☐ Tracks ☐ Residence ☐ Business ☐ Rail Yard ☐ Other:

Specific Location: TANK # 56

Complainant Name: NAVAJO REFINING COMPANY			Res. Phone: ( )
Address: 501 E. MAIN	City: ARTESIA	State: NM	Bus. Phone: (505) 748-3311
Carrier Name:	Person Contacted:		Res. Phone: ( )
Address:	City:	State:	Bus. Phone: ( )
Shipper/Facility Name:	Person Contacted:		Res. Phone: ( )
Address:	City:	State:	Bus. Phone: ( )
Owner Name:	SSN:	DOB:	Res. Phone: ( )
Address:	City:	State:	Bus. Phone: ( )

Make: Model: Year: VIN: License No.:

Hazardous Material Name(s): NAPHTHA

REFERENCE MATERIAL USED ☒ DOT ERG ☐ Other: ID #: UN 1153
☐ NIOSH Pocket Guide NA

MATERIAL TYPE (check all that apply) ☐ Solid ☒ Liquid ☐ Gas ☐ Explosive ☐ Corrosive ☐ Poison ☐ Radioactive

MARKINGS N/A
Was Vehicle Placarded Correctly? ☐ Yes ☐ No Were Containers Labeled Correctly? ☐ Yes ☐ No

SHIPPED BY ☐ Truck Trailer ☐ Storage Tank ☐ Train Box Car ☐ Air Cargo ☐ Tanker Truck ☒ Pipeline ☐ Train Tank Car ☐ Other:

PACKAGE/CONTAINER ☒ Fuel Tank ☐ Bulk ☐ Box ☐ Bag ☐ Drum/Barrel ☐ Cylinder ☐ Other:

MATERIAL RELEASE ☐ Leak ☒ Spill ☐ Vapors ☐ Mist ☐ Runoff ☐ None ☐ Other:

Quantity Released: 150 - 300 BARRELS | Release Contained? ☒ Yes ☐ No | Material Involved in Fire? ☐ Yes ☒ No

AREA INVOLVED ☐ Rural ☐ Urban ☒ Industrial ☐ Livestock ☐ Other: ENVIRONMENTAL CONTAMINATION ☐ Air ☒ Ground ☐ Water

WEATHER CONDITIONS ☐ Clear ☐ Partly Cloudy ☐ Rain ☐ Snow ☒ Overcast ☐ Visibility: ____ miles Temp: 40 (F) Wind: 11 mph Direction: NW

Responding Departments/Agencies *(not required if this information is recorded on ICS Form 201 or 214)*

RESOURCE TYPE FUNCTION	RESOURCE NAME	PHONE NUMBER
PREVENTION - FIRE	NAVAJO FIRE DEPT	505-746-3311
CLEAN-UP - SPILL	NAVAJO FIRE DEPT	505-746-3311

PROTECTIVE CLOTHING USED

- ☐ Level A *(full encapsulation/SCBA)*
- ☐ Level B *(chem-resistant coveralls/SCBA)*
- ☐ Level C *(chem-resistant coveralls/respirator)*
- ☒ Firefighter Turn-Out Gear *(Bunker Gear)*
- ☐ SCBA
- ☐ No special protection required
- ☐ Other:

PUBLIC/RESIDENTS *(place number of persons involved beside category)*

0 Evacuated 0 Injured 0 Exposed/Contaminated 0 Fatalities

RESPONSE PERSONNEL *(place number of personnel involved beside category)*

0 Evacuated 0 Injured 0 Exposed/Contaminated 0 Fatalities

Evacuation Distance: N/A	FROM: Date:	Time:	TO: Date:	Time:

HIGHWAY ROUTES ☒ Open ☐ Closed *If closed, distance from scene:*

SUMMARY OF ACCIDENT/INCIDENT *(not required if information is on page 2 of ICS Form 201)*

SEE PAGE TWO.

ACTION TAKEN *(not required if information is on either ICS Form 214 or page 2 of ICS Form 201)*

SEE PAGE TWO

FOLLOW-UP ACTION REQUIRED

CHECK THE AREA CLEAN UP PROGRESS

COMMENTS

THE TIMELY DELAY ON NOTIFYING THE STATE POLICE AND ARTESIA FIRE DEPT SHOULD BE NOTED.

EMERGENCY RESPONSE OFFICER *(print)* RICK MARTIN	HEADQUARTERS ERO MAX JOHNSON
ERO SIGNATURE Rick Martin	SAFETY OFFICER

New Mexico State Police
Hazardous Materials Emergency Response
Accident/Incident Report

SUPPLEMENTAL FORM

CONTINUATION OF: NAPHTHA SPILL - NAVAJO REFINERY | HAZMAT NO. H 960311

ON SUNDAY OCT 27TH AT APPROXIMATELY 1929 HOURS WHILE ON PATROL I DID OBSERVE TRAFFIC STOPPED ALONG THE SHOULDERS OF US-285 NEAR THE EAGLE DRAW BRIDGE IN ARTESIA. I THEN OBSERVED A FIRE TRUCK WITH THE EMERGENCY EQUIPMENT ON. THE FIRE TRUCK WAS LOCATED ON THE NAVAJO REFINERY FACILITIES.

I THEN CONTACTED THE ARTESIA POLICE DEPT. THE DISPATCHER, LIZ WITHERSPOON ADVISED THAT SHE WAS NOT AWARE OF ANY THING GOING ON AT NAVAJO.

AT APPROXIMATELY 1946 HOURS THE ARTESIA DISPATCH ADVISED ME TO CALL THEM BY TELEPHONE.

ON THE TELEPHONE (CELLULAR) THE DISPATCHER ADVISED SOMETHING WAS GOING ON AT THE REFINERY AND WOULD I GO TO THAT LOCATION AND ADVISE OF THE SITUATION.

AT 1955 HOURS I DID ARRIVE ON SCENE AND WAS MET BY JOE YSUSI PROCESS SAFETY MANAGER. MR. YSUSI ADVISE HE HAD JUST BEEN MADE OF THE SITUATION AND ARRIVED ON SCENE.

MR. YSUSI ADVISED BETWEEN 150-300 BARRELS OF (SWEET) NAPHTHA HAD BEEN SPILLED FROM TANK #54. THE SPILL OCCURRED PROBABLY DUE TO INATTENTION BY A WORKER CHANGING THE TANK TO OVER SPILL. THE ARTESIA FIRE DEPT. CHIEF ROY LAGSDON ARRIVED ON SCENE AND WAS ALSO BRIEFED.

DAVE GRIFFIN NAVAJO SOIL REMEDIATION REMOVAL ARRIVED AND ADVISE THE SPILL WAS CONTAINED BY DIKES.

FIRE CHIEF NAVAJO FIRE, BOB WORTHINGTON WAS ON SCENE AND ADVISE ME A PUMPER / VACCUM WAS VACCUMING UP THE SPILL. THE SPILL WAS APPROXIMATELY 3 INCHES DEEP AND DUE TO THE COLD TEMPERATURE NO READING WAS MADE ON THE VAPOR METER. THE SPILL HAD TRAVELED AN APPROXIMATE DISTANCE OF 150 YARDS ACCORDING TO DAVE GRIFFIN SOIL REMEDIATION REMOVAL SUPERVISOR.

THE SPILL WAS VACCUMED UP AT APPROXIMATELY 2020 HOURS PHIL YEARGAIN ADVISED STATE POLICE RODWELL OF THE SITUATION.

THE CLEAN UP IS EXPECTED TO CONTINUE 10/28/96. THE SOIL CONTAMINATION DEPTH WILL BE MEASURED AND THE CONTAMINATED SOIL REMOVED. THIS ACCORDING TO DAVE GRIFFIN.

TELEPHONE
(505) 748-3311

EASYLINK
62905278

REFINING COMPANY

501 EAST MAIN STREET ◦ P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159

FAX
(505) 746-6410 ACCTG
(505) 746-6155 EXEC
(505) 748-9077 ENGR
(505) 746-4438 P / L

April 7, 1997

RECEIVED
APR 10 1997
CONSERVATION DIVISION

RECEIVED
APR 11 1997
Environmental Bureau
Oil Conservation Division

CERTIFIED MAIL/RETURN RECEIPT
P 355 936 453

Mr. Bill Olson
Hydrogeologist
Environmental Bureau
Oil Conservation Division
2040 S. Pacheco St.
Santa Fe, NM 87505-5472

RE: GROUND WATER REMEDIATION AND MONITORING
NAVAJO ARTESIA REFINERY
EDDY COUNTY, NEW MEXICO

Dear Mr. Olson:

Per your letter of April 1, 1997, Navajo is sending the annual PAH, metals, cations/anions, and halogenated organic analysis from the wells you mentioned. This should satisfy the requirements of paragraphs number 1 and 2.

We will be sending the work plan for additional ground water and product recovery wells by the July 1, 1997 date alluded to in your letter. Dave Boyer is working on that at the present time.

If you have any questions, please call me at 505-748-3311. Thank you for your time in this matter.

Sincerely,
NAVAJO REFINING COMPANY

Darrell Moore
Sr. Environmental Specialist

Encl.

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

February 11, 1997
Receiving Date: 01/21/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 01/23/97
Analysis Date: 01/23/97
Sampling Date: 01/20/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: Annual Off Site Wells

TA#	FIELD CODE	CHLORIDE (mg/L)	FLUORIDE (mg/L)	SULFATE (mg/L)	ALKALINITY (mg/L as CaCo3) HCO3	CO3	TOTAL ALKALINITY (mg/L as CaCo3)
T66013	KWB- 1A	260	1.4	3,600	430	<1	430
T66014	KWB- 1C	300	1.4	3,300	540	<1	540
T66015	KWB- 2A	130	1.1	1,700	460	<1	460
T66016	KWB- 3A	380	0.5	2,800	333	<1	330
T66017	KWB-11A	460	1.1	1,300	690	<1	690
T66018	KWB- 7	400	1.1	760	710	<1	710
T66019	KWB- 9	150	0.6	1,200	460	<1	460
T66020	MW-45	670	2.4	2,700	280	<1	280
T66021	KWB-12	120	0.7	1,900	330	<1	330
T66022	MW-18	200	1.3	960	400	<1	400
QC	Quality Control	26	0.87	28	---	---	---
RPD		4	0	8	0	0	0
% Extraction Accuracy		103	85	104	---	---	---
% Instrument Accuracy		102	91	107	---	---	---
REPORTING LIMIT		1.0	0.1	1.0	1	1	1

METHODS: EPA 300.0, 310.1, 340.2.
CHEMIST: Chloride/Sulfate: MS Alkalinity: RCD Fluoride: MS/RP
SPIKE: 5,000 mg/L CHLORIDE; 2.0 mg/L FLUORIDE; 5,000 mg/L SULFATE.
QC: 25 mg/L CHLORIDE; 1.0 mg/L FLUORIDE; 25 mg/L SULFATE.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

2-25-97
Date

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

February 19, 1997
Receiving Date: 01/21/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 01/22/97
Analysis Date: 02/16/97
Sampling Date: 01/20/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: Annual Off Site Wells

TA#	Field Code	POTASSIUM (mg/L)	MAGNESIUM (mg/L)	CALCIUM (mg/L)	SODIUM (mg/L)
T66013	KWB- 1A	1.8	620	700	340
T66014	KWB- 1C	2.3	550	730	380
T66015	KWB- 2A	0.88	230	500	140
T66016	KWB- 3A	1.4	270	750	430
T66017	KWB-11A	1.1	260	450	300
T66018	KWB- 7	1.2	230	350	250
T66019	KWB- 9	0.59	180	440	150
T66020	MW-45	12	430	800	620
T66021	KWB-12	9.8	250	800	290
T66022	MW-18	0.80	230	390	87
QC	Quality Control	245	25.9	25.9	26.8
Reporting Limit		0.30	0.10	0.10	0.10
RPD		12	12	10	10
% Extraction Accuracy		75	101	124	100
% Instrument Accuracy		98	101	104	107

METHODS: EPA 200.7.
CHEMIST: RR
SPIKE: 125 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM.
QC: 25 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

2/21/97
Date

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

February 25, 1997
Receiving Date: 01/21/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

Prep Date: 01/21/97
Analysis Date: 01/22/97
Sampling Date: 01/20/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: Annual Off Site Wells

TOTAL METALS

TA#	FIELD CODE	As (mg/L)	Cr (mg/L)	Cd (mg/L)	Ba (mg/L)	U (mg/L)	Mo (mg/L)	Zn (mg/L)	Ni (mg/L)	Be (mg/L)	Fe (mg/L)	Mn (mg/L)
T66013	KWB-1A	<0.10	<0.05	<0.02	<0.20	<10	<0.10	<0.10	<0.10	<0.10	<0.10	0.15
T66014	KWB-1C	<0.10	<0.05	<0.02	<0.20	<10	<0.10	<0.10	<0.10	<0.10	0.73	0.17
T66015	KWB-2A	<0.10	<0.05	<0.02	<0.20	<10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
QC	Quality Control	5.4	5.1	5.2	5.1	5.2	5.2	5.1	5.1	5.1	5.1	5.1
MTH BLK	**METHOD BLANK**	**<0.10**	**<0.05**	**<0.02**	---	---	**<0.10**	**0.09**	**<0.10**	**<0.10**	**0.23**	**<0.10**
REPORTING LIMIT		0.10	0.05	0.02	0.20	10	0.10	0.10	0.10	0.10	0.10	0.10
RPD		14	13	13	13	5	13	12	13	12	9	13
% Extraction Accuracy		105	75	75	75	96	80	80	75	80	110	80
% Instrument Accuracy		108	102	104	102	103	104	102	102	102	102	102

TA#	FIELD CODE	Co (mg/L)	V (mg/L)	Cu (mg/L)	Al (mg/L)	B (mg/L)	Hg (mg/L)	Se (mg/L)	Pb (mg/L)	Ag (mg/L)
T66013	KWB-1A	<0.10	<0.10	<0.10	<0.10	<1.0	<0.001	<0.010	0.009	<0.002
T66014	KWB-1C	<0.10	<0.10	<0.10	<0.10	<1.0	<0.001	<0.010	<0.005	0.025
T66015	KWB-2A	<0.10	<0.10	<0.10	0.89	<1.0	<0.001	<0.010	<0.005	0.021
QC	Quality Control	5.2	5.1	5.0	5.0	5.2	0.0046	0.095	0.025	0.0105
MTH BLK	**METHOD BLANK**	**<0.10**	**<0.10**	**<0.10**	**0.19**	**5.1**	---	---	---	**0.014**
REPORTING LIMIT		0.10	0.10	0.10	0.10	1.0	0.001	0.010	0.005	0.002
RPD		25	12	12	12	2	4	2	7	0
% Extraction Accuracy		75	80	80	75	102	97	108	120	120
% Instrument Accuracy		104	102	100	100	104	95	95	100	105

METHODS: EPA 200.7, 239.2, 270.2, 272.2, 245.1.
CHEMIST: As, Cd, Cr, Ba, Al, Be, Co, Cu, Fe, Mn, Mo, Ni, V, Zn, Se, Pb, Ag, B, U: RR Hg: CB
TOTAL METALS SPIKE: 0.005 mg/L Hg, Pb; 6.0 mg/L B; 2.0 mg/L Mo, Al, Fe, Co, Mn, As, Cd, Cr, Ba, Ni, Zn, Cu, Be, V; 10 mg/L U; 0.050 mg/L Se; 0.005 mg/L Ag.
TOTAL METALS QC: 0.005 mg/L Hg; 0.025 mg/L Pb; 5.0 mg/L B, Mo, Al, Fe, Co, Mn, As, Cd, Cr, Ba, Ni, Zn, Cu, Be, V; 5.2 mg/L U; 0.100 mg/L Se; 0.010 mg/L Ag.

BL
Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

2-25-97
DATE

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

February 25, 1997
Receiving Date: 01/21/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

Prep Date: 01/21/97
Analysis Date: 01/22/97
Sampling Date: 01/20/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: Annual Off Site Wells

TOTAL METALS

TA#	FIELD CODE	As (mg/L)	Cr (mg/L)	Cd (mg/L)	Ba (mg/L)	U (mg/L)	Mo (mg/L)	Zn (mg/L)	Ni (mg/L)	Be (mg/L)	Fe (mg/L)	Mn (mg/L)
T66016	KWB-3A	<0.10	0.11	0.04	<0.20	<10	<0.10	<0.10	0.13	<0.10	0.24	<0.10
T66017	KWB-11A	<0.10	0.08	0.04	<0.20	<10	<0.10	0.10	<0.10	<0.10	<0.10	<0.10
QC	Quality Control	5.4	5.1	5.2	5.1	5.2	5.2	5.1	5.1	5.1	5.1	5.1
MTH BLK	**METHOD BLANK**	**<0.10**	**0.06**	**<0.02**	**---**	**---**	**<0.10**	**0.09**	**<0.10**	**<0.10**	**0.23**	**<0.10**
REPORTING LIMIT		0.10	0.05	0.02	0.20	10	0.10	0.10	0.10	0.10	0.10	0.10
RPD		14	13	13	13	5	13	12	13	12	9	13
% Extraction Accuracy		105	75	75	75	96	80	80	75	80	110	80
% Instrument Accuracy		108	102	104	102	103	104	102	102	102	102	102

TA#	FIELD CODE	Co (mg/L)	V (mg/L)	Cu (mg/L)	Al (mg/L)	B (mg/L)	Hg (mg/L)	Se (mg/L)	Pb (mg/L)	Ag (mg/L)
T66016	KWB-3A	<0.10	0.19	<0.10	0.62	<1.0	<0.001	<0.010	<0.005	0.005
T66017	KWB-11A	<0.10	0.18	<0.10	0.58	<1.0	<0.001	<0.010	<0.005	<0.002
QC	Quality Control	5.2	5.1	5.0	5.0	5.2	0.0046	0.095	0.025	0.0105
MTH BLK	**METHOD BLANK**	**<0.10**	**<0.10**	**<0.10**	**0.19**	**5.1**	**---**	**---**	**---**	**0.014**
REPORTING LIMIT		0.10	0.10	0.10	0.10	1.0	0.001	0.010	0.005	0.002
RPD		25	12	12	12	2	4	2	7	0
% Extraction Accuracy		75	80	80	75	102	97	108	120	120
% Instrument Accuracy		104	102	100	100	104	95	95	100	105

METHODS: EPA 200.7, 239.2, 270.2, 272.2, 245.1.
CHEMIST: As, Cd, Cr, Ba, Al, Be, Co, Cu, Fe, Mn, Mo, Ni, V, Zn, Se, Pb, Ag, B, U: RR Hg: CB
TOTAL METALS SPIKE: 0.005 mg/L Hg, Pb; 6.0 mg/L B; 2.0 mg/L Mo, Al, Fe, Co, Mn, As, Cd, Cr, Ba, Ni, Zn, Cu, Be, V; 10 mg/L U; 0.050 mg/L Se; 0.005 mg/L Ag.
TOTAL METALS QC: 0.005 mg/L Hg; 0.025 mg/L Pb; 5.0 mg/L B, Mo, Al, Fe, Co, Mn, As, Cd, Cr, Ba, Ni, Zn, Cu, Be, V; 5.2 mg/L U; 0.100 mg/L Se; 0.010 mg/L Ag.

BL

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

2-25-97

DATE

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

February 25, 1997
Receiving Date: 01/21/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

Prep Date: 01/21/97
Analysis Date: 01/22/97
Sampling Date: 01/20/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: Annual Off Site Wells

TOTAL METALS

TA#	FIELD CODE	As (mg/L)	Cr (mg/L)	Cd (mg/L)	Ba (mg/L)	U (mg/L)	Mo (mg/L)	Zn (mg/L)	Ni (mg/L)	Be (mg/L)	Fe (mg/L)	Mn (mg/L)
T66018	KWB-7	<0.10	<0.05	<0.02	<0.20	<10	<0.10	<0.10	<0.10	<0.10	0.27	2.1
T66019	KWB-9	<0.10	<0.05	<0.02	<0.20	<10	<0.10	<0.10	<0.10	<0.10	0.15	<0.10
T66020	MW-45	<0.10	<0.05	<0.02	<0.20	<10	<0.10	<0.10	<0.10	<0.10	0.52	0.25
QC	Quality Control	5.4	5.1	5.2	5.1	5.2	5.2	5.1	5.1	5.1	5.1	5.1
MTH BLK	**METHOD BLANK**	**<0.10**	**<0.05**	**<0.02**	---	---	**<0.10**	**0.09**	**<0.10**	**<0.10**	**0.23**	**<0.10**
REPORTING LIMIT		0.10	0.05	0.02	0.20	10	0.10	0.10	0.10	0.10	0.10	0.10
RPD		14	13	13	13	5	13	12	13	12	9	13
% Extraction Accuracy		105	75	75	75	96	80	80	75	80	110	80
% Instrument Accuracy		108	102	104	102	103	104	102	102	102	102	102

TA#	FIELD CODE	Co (mg/L)	V (mg/L)	Cu (mg/L)	Al (mg/L)	B (mg/L)	Hg (mg/L)	Se (mg/L)	Pb (mg/L)	Ag (mg/L)
T66018	KWB-7	<0.10	<0.10	<0.10	0.59	<1.0	<0.001	<0.010	<0.005	0.005
T66019	KWB-9	<0.10	<0.10	<0.10	<0.10	<1.0	<0.001	<0.010	<0.005	0.015
T66020	MW-45	<0.10	<0.10	<0.10	0.79	<1.0	<0.001	<0.010	<0.005	0.014
QC	Quality Control	5.2	5.1	5.0	5.0	5.2	0.0046	0.096	0.025	0.0105
MTH BLK	**METHOD BLANK**	**<0.10**	**<0.10**	**<0.10**	**0.19**	**5.1**	---	---	---	**0.014**
REPORTING LIMIT		0.10	0.10	0.10	0.10	1.0	0.001	0.010	0.005	0.001
RPD		25	12	12	12	2	4	2	0	0
% Extraction Accuracy		75	80	80	75	102	97	108	120	120
% Instrument Accuracy		104	102	100	100	104	95	96	100	105

METHODS: EPA 200.7, 239.2, 270.2, 272.2, 245.1.
CHEMIST: As, Cd, Cr, Ba, Al, Be, Co, Cu, Fe, Mn, Mo, Ni, V, Zn, Se, Pb, Ag, B, U: RR Hg: CB
TOTAL METALS SPIKE: 0.005 mg/L Hg, Pb; 6.0 mg/L B; 2.0 mg/L Mo, Al, Fe, Co, Mn, As, Cd, Cr, Ba, Ni, Zn, Cu, Be, V; 10 mg/L U; 0.050 mg/L Se; 0.005 mg/L Ag.
TOTAL METALS QC: 0.005 mg/L Hg; 0.025 mg/L Pb; 5.0 mg/L B, Mo, Al, Fe, Co, Mn, As, Cd, Cr, Ba, Ni, Zn, Cu, Be, V; 5.2 mg/L U; 0.100 mg/L Se; 0.010 mg/L Ag.

BL
Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

2-25-97
DATE

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

February 25, 1997
Receiving Date: 01/21/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

Prep Date: 01/21/97
Analysis Date: 01/22/97
Sampling Date: 01/20/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: Annual Off Site Wells

TOTAL METALS

TA#	FIELD CODE	As (mg/L)	Cr (mg/L)	Cd (mg/L)	Ba (mg/L)	U (mg/L)	Mo (mg/L)	Zn (mg/L)	Ni (mg/L)	Be (mg/L)	Fe (mg/L)	Mn (mg/L)
T66021	KWB-12	<0.10	0.06	<0.02	0.27	<10	<0.10	0.11	<0.10	<0.10	25	0.35
T66022	MW-18	<0.10	<0.05	0.02	<0.20	<10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
QC	Quality Control	5.4	5.1	5.2	5.1	5.2	5.2	5.1	5.1	5.1	5.1	5.1
MTH BLK	**METHOD BLANK**	**<0.10**	**<0.05**	**<0.02**	---	---	**<0.10**	**<0.09**	**<0.10**	**<0.10**	**0.23**	**<0.10**
REPORTING LIMIT		0.10	0.05	0.02	0.20	10	0.10	0.10	0.10	0.10	0.10	0.10
RPD		14	13	13	13	5	13	12	13	12	9	13
% Extraction Accuracy		105	75	75	75	96	80	80	75	80	110	80
% Instrument Accuracy		108	102	104	102	103	104	102	102	102	102	102

TA#	FIELD CODE	Co (mg/L)	V (mg/L)	Cu (mg/L)	Al (mg/L)	B (mg/L)	Hg (mg/L)	Se (mg/L)	Pb (mg/L)	Ag (mg/L)
T66021	KWB-12	<0.10	<0.10	<0.10	0.28	<1.0	<0.001	<0.010	<0.005	0.002
T66022	MW-18	<0.10	<0.10	<0.10	0.40	<1.0	<0.001	<0.01	<0.005	<0.002
QC	Quality Control	5.2	5.1	5.0	5.0	5.2	0.0046	0.096	0.025	0.0105
MTH BLK	**METHOD BLANK**	**<0.10**	**<0.10**	**<0.10**	**0.19**	**5.1**	---	---	---	**0.014**
REPORTING LIMIT		0.10	0.10	0.10	0.10	1.0	0.001	0.010	0.005	0.001
RPD		25	12	12	12	2	4	2	0	0
% Extraction Accuracy		75	80	80	75	102	97	108	120	120
% Instrument Accuracy		104	102	100	100	104	95	96	100	105

METHODS: EPA 200.7, 239.2, 270.2, 272.2, 245.1.
CHEMIST: As, Cd, Cr, Ba, Al, Be, Co, Cu, Fe, Mn, Mo, Ni, V, Zn, Se, Pb, Ag, B, U: RR Hg: CB
TOTAL METALS SPIKE: 0.005 mg/L Hg, Pb; 6.0 mg/L B; 2.0 mg/L Mo, Al, Fe, Co, Mn, As, Cd, Cr, Ba, Ni, Zn, Cu, Be, V; 10 mg/L U; 0.050 mg/L Se; 0.005 mg/L Ag.
TOTAL METALS QC: 0.005 mg/L Hg; 0.025 mg/L Pb; 5.0 mg/L B, Mo, Al, Fe, Co, Mn, As, Cd, Cr, Ba, Ni, Zn, Cu, Be, V; 5.2 mg/L U; 0.100 mg/L Se; 0.010 mg/L Ag.

BL 2-25-97

Director, Dr. Blair Leftwich — DATE
Director, Dr. Bruce McDonell

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

February 19, 1997
Receiving Date: 01/21/97
Sample Type: Water
Sampling Date: 01/20/97
Sample Condition: I & C
Sample Received by: JH
Project Location: Artesia, NM
Project Name: Annual Of Site Wel
Extraction Date: 01/22/97
Analysis Date: 01/23/97

PAH — Reporting — T66013

8270 Compounds (mg/L)	Limit	KWB-1A	QC	RPD	%EA	%IA
Naphthalene	0.001	ND	77	19	53	96
Acenaphthylene	0.001	ND	76	15	64	95
Acenaphthene	0.001	ND	79	18	62	99
Fluorene	0.001	ND	73	17	70	91
Phenanthrene	0.001	ND	78	6	88	98
Anthracene	0.001	ND	78	8	76	98
Fluoranthene	0.001	ND	79	0	85	99
Pyrene*	0.001	ND	76	3	89	95
Benzo[a]anthracene	0.001	ND	76	2	91	95
Chrysene	0.001	ND	80	3	117	100
Benzo[b]fluoranthene	0.001	ND	95	4	91	119
Benzo[k]fluoranthene	0.001	ND	77	3	114	96
Benzo[a]pyrene	0.001	ND	82	2	96	103
Indeno[1,2,3-cd]pyrene	0.001	ND	70	1	77	88
Dibenz[a,h]anthracene	0.001	ND	68	1	70	85
Benzo[g,h,i]perylene	0.001	ND	67	1	73	84
2-Methylnaphthalene	0.001	ND	---	---	---	---
1-Methylnaphthalene	0.001	ND	---	---	---	---

ND = Not Detected

	% RECOVERY
Nitrobenzene-d5 SURR	45
2-Fluorobiphenyl SURR	45
Terphenyl-d14 SURR	124

METHODS: EPA SW 846-8270, 3510.
CHEMIST: RD/CC

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

2/24/97
DATE

6701 Aberdeen Avenue
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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

February 19, 1997
Receiving Date: 01/21/97
Sample Type: Water
Sampling Date: 01/20/97
Sample Condition: I & C
Sample Received by: JH
Project Location: Artesia, NM
Project Name: Annual Of Site Wel
Extraction Date: 01/22/97
Analysis Date: 01/23/97

PAH	Reporting	T66014				
8270 Compounds (mg/L)	Limit	KWB-1C	QC	RPD	%EA	%IA
Naphthalene	0.001	ND	77	19	53	96
Acenaphthylene	0.001	ND	76	15	64	95
Acenaphthene	0.001	ND	79	18	62	99
Fluorene	0.001	ND	73	17	70	91
Phenanthrene	0.001	ND	78	6	88	98
Anthracene	0.001	ND	78	8	76	98
Fluoranthene	0.001	ND	79	0	85	99
Pyrene*	0.001	ND	76	3	89	95
Benzo[a]anthracene	0.001	ND	76	2	91	95
Chrysene	0.001	ND	80	3	117	100
Benzo[b]fluoranthene	0.001	ND	95	4	91	119
Benzo[k]fluoranthene	0.001	ND	77	3	114	96
Benzo[a]pyrene	0.001	ND	82	2	96	103
Indeno[1,2,3-cd]pyrene	0.001	ND	70	1	77	88
Dibenz[a,h]anthracene	0.001	ND	68	1	70	85
Benzo[g,h,i]perylene	0.001	ND	67	1	73	84
2-Methylnaphthalene	0.001	ND	---	---	---	---
1-Methylnaphthalene	0.001	ND	---	---	---	---

ND = Not Detected

	% RECOVERY
Nitrobenzene-d5 SURR	55
2-Fluorobiphenyl SURR	55
Terphenyl-d14 SURR	110

METHODS: EPA SW 846-8270, 3510.
CHEMIST: RD/CC

Director, Dr. Blair Leftwich — DATE 2/24/97
Director, Dr. Bruce McDonell

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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

February 19, 1997
Receiving Date: 01/21/97
Sample Type: Water
Sampling Date: 01/20/97
Sample Condition: I & C
Sample Received by: JH
Project Location: Artesia, NM
Project Name: Annual Of Site Wel
Extraction Date: 01/22/97
Analysis Date: 01/23/97

PAH — Reporting — T66015

8270 Compounds (mg/L)	Limit	KWB-2A	QC	RPD	%EA	%IA
Naphthalene	0.001	ND	77	19	53	96
Acenaphthylene	0.001	ND	76	15	64	95
Acenaphthene	0.001	ND	79	18	62	99
Fluorene	0.001	ND	73	17	70	91
Phenanthrene	0.001	ND	78	6	88	98
Anthracene	0.001	ND	78	8	76	98
Fluoranthene	0.001	ND	79	0	85	99
Pyrene*	0.001	ND	76	3	89	95
Benzo[a]anthracene	0.001	ND	76	2	91	95
Chrysene	0.001	ND	80	3	117	100
Benzo[b]fluoranthene	0.001	ND	95	4	91	119
Benzo[k]fluoranthene	0.001	ND	77	3	114	96
Benzo[a]pyrene	0.001	ND	82	2	96	103
Indeno[1,2,3-cd]pyrene	0.001	ND	70	1	77	88
Dibenz[a,h]anthracene	0.001	ND	68	1	70	85
Benzo[g,h,i]perylene	0.001	ND	67	1	73	84
2-Methylnaphthalene	0.001	ND	---	---	---	---
1-Methylnaphthalene	0.001	ND	---	---	---	---

ND = Not Detected

	% RECOVERY
Nitrobenzene-d5 SURR	56
2-Fluorobiphenyl SURR	54
Terphenyl-d14 SURR	129

METHODS: EPA SW 846-8270, 3510.
CHEMIST: RD/CC

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Director, Dr. Bruce McDonell

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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

February 19, 1997
Receiving Date: 01/21/97
Sample Type: Water
Sampling Date: 01/20/97
Sample Condition: I & C
Sample Received by: JH
Project Location: Artesia, NM
Project Name: Annual Of Site Wel
Extraction Date: 01/22/97
Analysis Date: 01/24/97

PAH — Reporting Limit — T66016

8270 Compounds (mg/L)	Reporting Limit	KWB-3A	QC	RPD	%EA	%IA
Naphthalene	0.001	ND	77	19	53	96
Acenaphthylene	0.001	ND	76	15	64	95
Acenaphthene	0.001	ND	78	18	62	98
Fluorene	0.001	ND	71	17	70	89
Phenanthrene	0.001	ND	80	6	88	100
Anthracene	0.001	ND	78	8	76	98
Fluoranthene	0.001	ND	78	0	85	98
Pyrene*	0.001	ND	78	3	89	98
Benzo[a]anthracene	0.001	ND	78	2	91	98
Chrysene	0.001	ND	80	3	117	100
Benzo[b]fluoranthene	0.001	ND	87	4	91	109
Benzo[k]fluoranthene	0.001	ND	89	3	114	111
Benzo[a]pyrene	0.001	ND	82	2	96	103
Indeno[1,2,3-cd]pyrene	0.001	ND	68	1	77	85
Dibenz[a,h]anthracene	0.001	ND	66	1	70	83
Benzo[g,h,i]perylene	0.001	ND	65	1	73	81
2-Methylnaphthalene	0.001	ND	---	---	---	---
1-Methylnaphthalene	0.001	ND	---	---	---	---

ND = Not Detected

	% RECOVERY
Nitrobenzene-d5 SURR	61
2-Fluorobiphenyl SURR	61
Terphenyl-d14 SURR	134

METHODS: EPA SW 846-8270, 3510.
CHEMIST: RD/CC

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Director, Dr. Bruce McDonell

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ALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

February 19, 1997
Receiving Date: 01/21/97
Sample Type: Water
Sampling Date: 01/20/97
Sample Condition: I & C
Sample Received by: JH
Project Location: Artesia, NM
Project Name: Annual Of Site Wel
Extraction Date: 01/24/97
Analysis Date: 01/24/97

PAH — Reporting — T66017

8270 Compounds (mg/L)	Limit	KWB-11A	QC	RPD	%EA	%IA
Naphthalene	0.001	ND	77	19	53	96
Acenaphthylene	0.001	ND	76	15	64	95
Acenaphthene	0.001	ND	78	18	62	98
Fluorene	0.001	ND	71	17	70	89
Phenanthrene	0.001	ND	80	6	88	100
Anthracene	0.001	ND	78	8	76	98
Fluoranthene	0.001	ND	78	0	85	98
Pyrene*	0.001	ND	78	3	89	98
Benzo[a]anthracene	0.001	ND	78	2	91	98
Chrysene	0.001	ND	80	3	117	100
Benzo[b]fluoranthene	0.001	ND	87	4	91	109
Benzo[k]fluoranthene	0.001	ND	89	3	114	111
Benzo[a]pyrene	0.001	ND	82	2	96	103
Indeno[1,2,3-cd]pyrene	0.001	ND	68	1	77	85
Dibenz[a,h]anthracene	0.001	ND	66	1	70	83
Benzo[g,h,i]perylene	0.001	ND	65	1	73	81
2-Methylnaphthalene	0.001	ND	---	---	---	---
1-Methylnaphthalene	0.001	ND	---	---	---	---

ND = Not Detected

	% RECOVERY
Nitrobenzene-d5 SURR	59
2-Fluorobiphenyl SURR	58
Terphenyl-d14 SURR	123

METHODS: EPA SW 846-8270, 3510.
CHEMIST: RD/CC

2/21/97
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Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

February 19, 1997
Receiving Date: 01/21/97
Sample Type: Water
Sampling Date: 01/20/97
Sample Condition: I & C
Sample Received by: JH
Project Location: Artesia, NM
Project Name: Annual Of Site Wel
Extraction Date: 01/22/97
Analysis Date: 01/24/97

PAH — Reporting — T66018

8270 Compounds (mg/L)	Limit	KWB-7	QC	RPD	%EA	%IA
Naphthalene	0.001	ND	77	19	53	96
Acenaphthylene	0.001	ND	76	15	64	95
Acenaphthene	0.001	ND	78	18	62	98
Fluorene	0.001	ND	71	17	70	89
Phenanthrene	0.001	ND	80	6	88	100
Anthracene	0.001	ND	78	8	76	98
Fluoranthene	0.001	ND	78	0	85	98
Pyrene*	0.001	ND	78	3	89	98
Benzo[a]anthracene	0.001	ND	78	2	91	98
Chrysene	0.001	ND	80	3	117	100
Benzo[b]fluoranthene	0.001	ND	87	4	91	109
Benzo[k]fluoranthene	0.001	ND	89	3	114	111
Benzo[a]pyrene	0.001	ND	82	2	96	103
Indeno[1,2,3-cd]pyrene	0.001	ND	68	1	77	85
Dibenz[a,h]anthracene	0.001	ND	66	1	70	83
Benzo[g,h,i]perylene	0.001	ND	65	1	73	81
2-Methylnaphthalene	0.001	ND	---	---	---	---
1-Methylnaphthalene	0.001	ND	---	---	---	---

ND = Not Detected

	% RECOVERY
Nitrobenzene-d5 SURR	58
2-Fluorobiphenyl SURR	58
Terphenyl-d14 SURR	108

METHODS: EPA SW 846-8270, 3510.
CHEMIST: RD/CC

Director, Dr. Blair Leftwich
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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

February 19, 1997
Receiving Date: 01/21/97
Sample Type: Water
Sampling Date: 01/20/97
Sample Condition: I & C
Sample Received by: JH
Project Location: Artesia, NM
Project Name: Annual Of Site Wel
Extraction Date: 01/24/97
Analysis Date: 01/24/97

PAH — Reporting — T66019

8270 Compounds (mg/L)	Limit	KWB-9	QC	RPD	%EA	%IA
Naphthalene	0.001	ND	77	19	53	96
Acenaphthylene	0.001	ND	76	15	64	95
Acenaphthene	0.001	ND	78	18	62	98
Fluorene	0.001	ND	71	17	70	89
Phenanthrene	0.001	ND	80	6	88	100
Anthracene	0.001	ND	78	8	76	98
Fluoranthene	0.001	ND	78	0	85	98
Pyrene*	0.001	ND	78	3	89	98
Benzo[a]anthracene	0.001	ND	78	2	91	98
Chrysene	0.001	ND	80	3	117	100
Benzo[b]fluoranthene	0.001	ND	87	4	91	109
Benzo[k]fluoranthene	0.001	ND	89	3	114	111
Benzo[a]pyrene	0.001	ND	82	2	96	103
Indeno[1,2,3-cd]pyrene	0.001	ND	68	1	77	85
Dibenz[a,h]anthracene	0.001	ND	66	1	70	83
Benzo[g,h,i]perylene	0.001	ND	65	1	73	81
2-Methylnaphthalene	0.001	ND	---	---	---	---
1-Methylnaphthalene	0.001	ND	---	---	---	---

ND = Not Detected

	% RECOVERY
Nitrobenzene-d5 SURR	60
2-Fluorobiphenyl SURR	63
Terphenyl-d14 SURR	116

METHODS: EPA SW 846-8270, 3510.
CHEMIST: RD/CC

Director, Dr. Blair Leftwich — DATE 2/21/97
Director, Dr. Bruce McDonell

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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

February 19, 1997
Receiving Date: 01/21/97
Sample Type: Water
Sampling Date: 01/20/97
Sample Condition: I & C
Sample Received by: JH
Project Location: Artesia, NM
Project Name: Annual Of Site Wel
Extraction Date: 01/22/97
Analysis Date: 01/23/97

PAH Reporting T66020

8270 Compounds (mg/L)	Limit	MW-45	QC	RPD	%EA	%IA
Naphthalene	0.001	ND	77	19	53	96
Acenaphthylene	0.001	ND	76	15	64	95
Acenaphthene	0.001	ND	79	18	62	99
Fluorene	0.001	ND	73	17	70	91
Phenanthrene	0.001	ND	78	6	88	98
Anthracene	0.001	ND	78	8	76	98
Fluoranthene	0.001	ND	79	0	85	99
Pyrene*	0.001	ND	76	3	89	95
Benzo[a]anthracene	0.001	ND	76	2	91	95
Chrysene	0.001	ND	80	3	117	100
Benzo[b]fluoranthene	0.001	ND	95	4	91	119
Benzo[k]fluoranthene	0.001	ND	77	3	114	96
Benzo[a]pyrene	0.001	ND	82	2	96	103
Indeno[1,2,3-cd]pyrene	0.001	ND	70	1	77	88
Dibenz[a,h]anthracene	0.001	ND	68	1	70	85
Benzo[g,h,i]perylene	0.001	ND	67	1	73	84
2-Methylnaphthalene	0.001	ND	---	---	---	---
1-Methylnaphthalene	0.001	ND	---	---	---	---

ND = Not Detected

	% RECOVERY
Nitrobenzene-d5 SURR	52
2-Fluorobiphenyl SURR	55
Terphenyl-d14 SURR	96

METHODS: EPA SW 846-8270, 3510.
CHEMIST: RD/CC

2/21/97

Director, Dr. Blair Leftwich — DATE
Director, Dr. Bruce McDonell

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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

February 19, 1997
Receiving Date: 01/21/97
Sample Type: Water
Sampling Date: 01/20/97
Sample Condition: I & C
Sample Received by: JH
Project Location: Artesia, NM
Project Name: Annual Of Site Wel
Extraction Date: 01/22/97
Analysis Date: 01/23/97

PAH — Reporting — T66021

8270 Compounds (mg/L)	Limit	KWB-12	QC	RPD	%EA	%IA
Naphthalene	0.001	0.001	77	19	53	96
Acenaphthylene	0.001	ND	76	15	64	95
Acenaphthene	0.001	ND	79	18	62	99
Fluorene	0.001	ND	73	17	70	91
Phenanthrene	0.001	ND	78	6	88	98
Anthracene	0.001	ND	78	8	76	98
Fluoranthene	0.001	ND	79	0	85	99
Pyrene*	0.001	ND	76	3	89	95
Benzo[a]anthracene	0.001	ND	76	2	91	95
Chrysene	0.001	ND	80	3	117	100
Benzo[b]fluoranthene	0.001	ND	95	4	91	119
Benzo[k]fluoranthene	0.001	ND	77	3	114	96
Benzo[a]pyrene	0.001	ND	82	2	96	103
Indeno[1,2,3-cd]pyrene	0.001	ND	70	1	77	88
Dibenz[a,h]anthracene	0.001	ND	68	1	70	85
Benzo[g,h,i]perylene	0.001	ND	67	1	73	84
2-Methylnaphthalene	0.001	ND	---	---	---	---
1-Methylnaphthalene	0.001	ND	---	---	---	---

ND = Not Detected

	% RECOVERY
Nitrobenzene-d5 SURR	61
2-Fluorobiphenyl SURR	64
Terphenyl-d14 SURR	107

METHODS: EPA SW 846-8270, 3510.
CHEMIST: RD/CC

Director, Dr. Blair Leftwich — DATE 2/21/97
Director, Dr. Bruce McDonell

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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

February 19, 1997
Receiving Date: 01/21/97
Sample Type: Water
Sampling Date: 01/20/97
Sample Condition: I & C
Sample Received by: JH
Project Location: Artesia, NM
Project Name: Annual Of Site Wel
Extraction Date: 01/22/97
Analysis Date: 01/23/97

PAH — Reporting — T66022

8270 Compounds (mg/L)	Limit	MW-18	QC	RPD	%EA	%IA
Naphthalene	0.001	ND	77	19	53	96
Acenaphthylene	0.001	ND	76	15	64	95
Acenaphthene	0.001	ND	79	18	62	99
Fluorene	0.001	ND	73	17	70	91
Phenanthrene	0.001	ND	78	6	88	98
Anthracene	0.001	ND	78	8	76	98
Fluoranthene	0.001	ND	79	0	85	99
Pyrene*	0.001	ND	76	3	89	95
Benzo[a]anthracene	0.001	ND	76	2	91	95
Chrysene	0.001	ND	80	3	117	100
Benzo[b]fluoranthene	0.001	ND	95	4	91	119
Benzo[k]fluoranthene	0.001	ND	77	3	114	96
Benzo[a]pyrene	0.001	ND	82	2	96	103
Indeno[1,2,3-cd]pyrene	0.001	ND	70	1	77	88
Dibenz[a,h]anthracene	0.001	ND	68	1	70	85
Benzo[g,h,i]perylene	0.001	ND	67	1	73	84
2-Methylnaphthalene	0.001	ND	---	---	---	---
1-Methylnaphthalene	0.001	ND	---	---	---	---

ND = Not Detected

	% RECOVERY
Nitrobenzene-d5 SURR	56
2-Fluorobiphenyl SURR	60
Terphenyl-d14 SURR	106

METHODS: EPA SW 846-8270, 3510.
CHEMIST: RD/CC

Director, Dr. Blair Leftwich — DATE 2/21/97
Director, Dr. Bruce McDonell

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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

February 19, 1997
Receiving Date: 01/21/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 01/22/97
Analysis Date: 01/22/97
Sampling Date: 01/20/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: Off Site Wells

FIELD CODE: KWB-1A
TA #: T66013

624 Compounds	Reporting Limit	Concentration (ug/L)
Dichlorodifluoromethane	1	ND
Chloromethane	1	ND
Vinyl chloride	1	ND
Bromomethane	5	ND
Chloroethane	1	ND
Trichlorofluoromethane	1	ND
1,1-Dichloroethene	1	ND
Iodomethane	5	ND
Carbon disulfide	1	ND
Methylene chloride	5	ND
trans-1,2-Dichloroethene	1	ND
1,1-Dichloroethane	1	ND
Vinyl acetate	1	ND
2-Butanone	50	ND
Chloroform	1	ND
1,1,1-Trichloroethane	1	ND
1,2-Dichloroethane	1	ND
Benzene	1	5
Carbon Tetrachloride	1	ND
1,2-Dichloropropane	1	ND
Trichloroethene	1	ND
Bromodichloromethane	1	ND
cis-1,3-Dichloropropene	1	ND
4-Methyl-2-pentanone	50	ND
trans-1,3-Dichloropropene	1	ND
Toluene	1	ND
1,1,2-Trichloroethane	1	ND
2-Hexanone	50	ND

NAVAJO REFINING COMPANY
Project Location: Artesia, NM
Project Name: Off Site Wells

FIELD CODE: KWB-1A
TA#: T66013

624 Compounds	Reporting Limit	Concentration ug/L)
Dibromochloromethane	1	ND
Tetrachloroethene	1	ND
Chlorobenzene	1	ND
Ethylbenzene	1	ND
m & p-Xylene	1	2
Bromoform	1	ND
Styrene	1	ND
o-Xylene	1	ND
1,1,2,2-Tetrachloroethane	1	ND
trans 1,4-Dichloro-2-butene	5	ND
cis 1,4-Dichloro-2-butene	5	ND
1,4-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,2-Dichlorobenzene	2	ND
1,2-Dibromoethane	5	ND
MTBE	2	5

SURROGATES	**% RECOVERY**
Dibromofluoromethane	99
Toluene-d8	99
4-Bromofluorobenzene	98

ND = Not Detected

METHODS: EPA 624.
CHEMIST: RP

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

2/21/97
Date

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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

February 19, 1997
Receiving Date: 01/21/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 01/22/97
Analysis Date: 01/22/97
Sampling Date: 01/20/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: Off Site Wells

FIELD CODE: KWB-1C
TA #: T66014

624 Compounds	Reporting Limit	Concentration (ug/L)
Dichlorodifluoromethane	1	ND
Chloromethane	1	ND
Vinyl chloride	1	ND
Bromomethane	5	ND
Chloroethane	1	ND
Trichlorofluoromethane	1	ND
1,1-Dichloroethene	1	ND
Iodomethane	5	ND
Carbon disulfide	1	ND
Methylene chloride	5	ND
trans-1,2-Dichloroethene	1	ND
1,1-Dichloroethane	1	ND
Vinyl acetate	1	ND
2-Butanone	50	ND
Chloroform	1	ND
1,1,1-Trichloroethane	1	ND
1,2-Dichloroethane	1	ND
Benzene	1	3
Carbon Tetrachloride	1	ND
1,2-Dichloropropane	1	ND
Trichloroethene	1	ND
Bromodichloromethane	1	ND
cis-1,3-Dichloropropene	1	ND
4-Methyl-2-pentanone	50	ND
trans-1,3-Dichloropropene	1	ND
Toluene	1	ND
1,1,2-Trichloroethane	1	ND
2-Hexanone	50	ND

NAVAJO REFINING COMPANY
Project Location: Artesia, NM
Project Name: Off Site Wells

FIELD CODE: KWB-1C
TA#: T66014

624 Compounds	Reporting Limit	Concentration ug/L)
Dibromochloromethane	1	ND
Tetrachloroethene	1	ND
Chlorobenzene	1	ND
Ethylbenzene	1	ND
m & p-Xylene	1	ND
Bromoform	1	ND
Styrene	1	ND
o-Xylene	1	ND
1,1,2,2-Tetrachloroethane	1	ND
trans 1,4-Dichloro-2-butene	5	ND
cis 1,4-Dichloro-2-butene	5	ND
1,4-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,2-Dichlorobenzene	2	ND
1,2-Dibromoethane	5	ND
MTBE	2	64

TENTATIVELY IDENTIFIED COMPOUNDS AND ESTIMATED CONCENTRATIONS (ug/L)

	RT	CONC.
(1) 2,3-dimethyl-butane	8.66	7

SURROGATES	% RECOVERY
Dibromofluoromethane	103
Toluene-d8	98
4-Bromofluorobenzene	99

ND = Not Detected

METHODS: EPA 624.
CHEMIST: RP

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

2/21/97
Date

6701 Aberdeen Avenue
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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

February 19, 1997
Receiving Date: 01/21/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 01/22/97
Analysis Date: 01/22/97
Sampling Date: 01/20/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: Off Site Wells

FIELD CODE: KWB-2A
TA #: T66015

624 Compounds	Reporting Limit	Concentration (ug/L)
Dichlorodifluoromethane	1	ND
Chloromethane	1	ND
Vinyl chloride	1	ND
Bromomethane	5	ND
Chloroethane	1	ND
Trichlorofluoromethane	1	ND
1,1-Dichloroethene	1	ND
Iodomethane	5	ND
Carbon disulfide	1	ND
Methylene chloride	5	ND
trans-1,2-Dichloroethene	1	ND
1,1-Dichloroethane	1	ND
Vinyl acetate	1	ND
2-Butanone	50	ND
Chloroform	1	ND
1,1,1-Trichloroethane	1	ND
1,2-Dichloroethane	1	ND
Benzene	1	1
Carbon Tetrachloride	1	ND
1,2-Dichloropropane	1	ND
Trichloroethene	1	ND
Bromodichloromethane	1	ND
cis-1,3-Dichloropropene	1	ND
4-Methyl-2-pentanone	50	ND
trans-1,3-Dichloropropene	1	ND
Toluene	1	ND
1,1,2-Trichloroethane	1	ND
2-Hexanone	50	ND

NAVAJO REFINING COMPANY
Project Location: Artesia, NM
Project Name: Off Site Wells

FIELD CODE: KWB-2A
TA#: T66015

624 Compounds	Reporting Limit	Concentration ug/L)
Dibromochloromethane	1	ND
Tetrachloroethene	1	ND
Chlorobenzene	1	ND
Ethylbenzene	1	ND
m & p-Xylene	1	2
Bromoform	1	ND
Styrene	1	ND
o-Xylene	1	ND
1,1,2,2-Tetrachloroethane	1	ND
trans 1,4-Dichloro-2-butene	5	ND
cis 1,4-Dichloro-2-butene	5	ND
1,4-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,2-Dichlorobenzene	2	ND
1,2-Dibromoethane	5	ND

SURROGATES	**% RECOVERY**
Dibromofluoromethane	101
Toluene-d8	98
4-Bromofluorobenzene	99

ND = Not Detected

METHODS: EPA 624.
CHEMIST: RP

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Director, Dr. Bruce McDonell

2/21/97
Date

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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

February 19, 1997
Receiving Date: 01/21/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 01/22/97
Analysis Date: 01/22/97
Sampling Date: 01/20/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: Off Site Wells

FIELD CODE: KWB-3A
TA #: T66016

624 Compounds	Reporting Limit	Concentration (ug/L)
Dichlorodifluoromethane	1	ND
Chloromethane	1	ND
Vinyl chloride	1	ND
Bromomethane	5	ND
Chloroethane	1	ND
Trichlorofluoromethane	1	ND
1,1-Dichloroethene	1	ND
Iodomethane	5	ND
Carbon disulfide	1	ND
Methylene chloride	5	ND
trans-1,2-Dichloroethene	1	ND
1,1-Dichloroethane	1	ND
Vinyl acetate	1	ND
2-Butanone	50	ND
Chloroform	1	ND
1,1,1-Trichloroethane	1	ND
1,2-Dichloroethane	1	ND
Benzene	1	ND
Carbon Tetrachloride	1	ND
1,2-Dichloropropane	1	ND
Trichloroethene	1	ND
Bromodichloromethane	1	ND
cis-1,3-Dichloropropene	1	ND
4-Methyl-2-pentanone	50	ND
trans-1,3-Dichloropropene	1	ND
Toluene	1	ND
1,1,2-Trichloroethane	1	ND
2-Hexanone	50	ND

NAVAJO REFINING COMPANY
Project Location: Artesia, NM
Project Name: Off Site Wells

FIELD CODE: KWB-3A
TA#: T66016

624 Compounds	Reporting Limit	Concentration ug/L)
Dibromochloromethane	1	ND
Tetrachloroethene	1	ND
Chlorobenzene	1	ND
Ethylbenzene	1	ND
m & p-Xylene	1	ND
Bromoform	1	ND
Styrene	1	ND
o-Xylene	1	ND
1,1,2,2-Tetrachloroethane	1	ND
trans 1,4-Dichloro-2-butene	5	ND
cis 1,4-Dichloro-2-butene	5	ND
1,4-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,2-Dichlorobenzene	2	ND
1,2-Dibromoethane	5	ND

SURROGATES	**% RECOVERY**
Dibromofluoromethane	103
Toluene-d8	98
4-Bromofluorobenzene	99

ND = Not Detected

METHODS: EPA 624.
CHEMIST: RP

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2/21/97
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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

February 19, 1997
Receiving Date: 01/21/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 01/22/97
Analysis Date: 01/22/97
Sampling Date: 01/20/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: Off Site Wells

FIELD CODE: KWB-11A
TA #: T66017

624 Compounds	Reporting Limit	Concentration (ug/L)
Dichlorodifluoromethane	1	ND
Chloromethane	1	ND
Vinyl chloride	1	ND
Bromomethane	5	ND
Chloroethane	1	ND
Trichlorofluoromethane	1	ND
1,1-Dichloroethene	1	ND
Iodomethane	5	ND
Carbon disulfide	1	ND
Methylene chloride	5	ND
trans-1,2-Dichloroethene	1	ND
1,1-Dichloroethane	1	ND
Vinyl acetate	1	ND
2-Butanone	50	ND
Chloroform	1	ND
1,1,1-Trichloroethane	1	ND
1,2-Dichloroethane	1	ND
Benzene	1	ND
Carbon Tetrachloride	1	ND
1,2-Dichloropropane	1	ND
Trichloroethene	1	ND
Bromodichloromethane	1	ND
cis-1,3-Dichloropropene	1	ND
4-Methyl-2-pentanone	50	ND
trans-1,3-Dichloropropene	1	ND
Toluene	1	ND
1,1,2-Trichloroethane	1	ND
2-Hexanone	50	ND

NAVAJO REFINING COMPANY
Project Location: Artesia, NM
Project Name: Off Site Wells

FIELD CODE: KWB-11A
TA#: T66017

624 Compounds	Reporting Limit	Concentration ug/L)
Dibromochloromethane	1	ND
Tetrachloroethene	1	ND
Chlorobenzene	1	ND
Ethylbenzene	1	ND
m & p-Xylene	1	ND
Bromoform	1	ND
Styrene	1	ND
o-Xylene	1	ND
1,1,2,2-Tetrachloroethane	1	ND
trans 1,4-Dichloro-2-butene	5	ND
cis 1,4-Dichloro-2-butene	5	ND
1,4-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,2-Dichlorobenzene	2	ND
1,2-Dibromoethane	5	ND

SURROGATES	**% RECOVERY**
Dibromofluoromethane	106
Toluene-d8	100
4-Bromofluorobenzene	100

ND = Not Detected

METHODS: EPA 624.
CHEMIST: RP

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2/21/97
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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

February 19, 1997
Receiving Date: 01/21/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 01/22/97
Analysis Date: 01/22/97
Sampling Date: 01/20/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: Off Site Wells

FIELD CODE: KWB-7
TA #: T66018

624 Compounds	Reporting Limit	Concentration (ug/L)
Dichlorodifluoromethane	1	ND
Chloromethane	1	ND
Vinyl chloride	1	ND
Bromomethane	5	ND
Chloroethane	1	ND
Trichlorofluoromethane	1	ND
1,1-Dichloroethene	1	ND
Iodomethane	5	ND
Carbon disulfide	1	ND
Methylene chloride	5	ND
trans-1,2-Dichloroethene	1	ND
1,1-Dichloroethane	1	ND
Vinyl acetate	1	ND
2-Butanone	50	ND
Chloroform	1	ND
1,1,1-Trichloroethane	1	ND
1,2-Dichloroethane	1	4
Benzene	1	ND
Carbon Tetrachloride	1	ND
1,2-Dichloropropane	1	ND
Trichloroethene	1	ND
Bromodichloromethane	1	ND
cis-1,3-Dichloropropene	1	ND
4-Methyl-2-pentanone	50	ND
trans-1,3-Dichloropropene	1	ND
Toluene	1	ND
1,1,2-Trichloroethane	1	ND
2-Hexanone	50	ND

NAVAJO REFINING COMPANY
Project Location: Artesia, NM
Project Name: Off Site Wells

FIELD CODE: KWB-7
TA#: T66018

624 Compounds	Reporting Limit	Concentration ug/L)
Dibromochloromethane	1	ND
Tetrachloroethene	1	ND
Chlorobenzene	1	ND
Ethylbenzene	1	ND
m & p-Xylene	1	ND
Bromoform	1	ND
Styrene	1	ND
o-Xylene	1	ND
1,1,2,2-Tetrachloroethane	1	ND
trans 1,4-Dichloro-2-butene	5	ND
cis 1,4-Dichloro-2-butene	5	ND
1,4-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,2-Dichlorobenzene	2	ND
1,2-Dibromoethane	5	ND
MTBE	2	10

SURROGATES	**% RECOVERY**
Dibromofluoromethane	104
Toluene-d8	98
4-Bromofluorobenzene	95

ND = Not Detected

METHODS: EPA 624.
CHEMIST: RP

Director, Dr. Blair Leftwich
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2/21/97
Date

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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

February 19, 1997
Receiving Date: 01/21/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 01/22/97
Analysis Date: 01/22/97
Sampling Date: 01/20/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: Off Site Wells

FIELD CODE: KWB-9
TA #: T66019

624 Compounds	Reporting Limit	Concentration (ug/L)
Dichlorodifluoromethane	1	ND
Chloromethane	1	ND
Vinyl chloride	1	ND
Bromomethane	5	ND
Chloroethane	1	ND
Trichlorofluoromethane	1	ND
1,1-Dichloroethene	1	ND
Iodomethane	5	ND
Carbon disulfide	1	ND
Methylene chloride	5	ND
trans-1,2-Dichloroethene	1	ND
1,1-Dichloroethane	1	ND
Vinyl acetate	1	ND
2-Butanone	50	ND
Chloroform	1	ND
1,1,1-Trichloroethane	1	ND
1,2-Dichloroethane	1	4
Benzene	1	ND
Carbon Tetrachloride	1	ND
1,2-Dichloropropane	1	ND
Trichloroethene	1	ND
Bromodichloromethane	1	ND
cis-1,3-Dichloropropene	1	ND
4-Methyl-2-pentanone	50	ND
trans-1,3-Dichloropropene	1	ND
Toluene	1	ND
1,1,2-Trichloroethane	1	ND
2-Hexanone	50	ND

NAVAJO REFINING COMPANY
Project Location: Artesia, NM
Project Name: Off Site Wells

FIELD CODE: KWB-9
TA#: T66019

624 Compounds	Reporting Limit	Concentration ug/L)
Dibromochloromethane	1	ND
Tetrachloroethene	1	ND
Chlorobenzene	1	ND
Ethylbenzene	1	ND
m & p-Xylene	1	ND
Bromoform	1	ND
Styrene	1	ND
o-Xylene	1	ND
1,1,2,2-Tetrachloroethane	1	ND
trans 1,4-Dichloro-2-butene	5	ND
cis 1,4-Dichloro-2-butene	5	ND
1,4-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,2-Dichlorobenzene	2	ND
1,2-Dibromoethane	5	ND

SURROGATES	**% RECOVERY**
Dibromofluoromethane	102
Toluene-d8	100
4-Bromofluorobenzene	100

ND = Not Detected

METHODS: EPA 624.
CHEMIST: RP

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

2/21/97
Date

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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

February 19, 1997
Receiving Date: 01/21/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 01/22/97
Analysis Date: 01/22/97
Sampling Date: 01/20/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: Off Site Wells

FIELD CODE: MW-45
TA #: T66020

624 Compounds	Reporting Limit	Concentration (ug/L)
Dichlorodifluoromethane	1	ND
Chloromethane	1	ND
Vinyl chloride	1	ND
Bromomethane	5	ND
Chloroethane	1	ND
Trichlorofluoromethane	1	ND
1,1-Dichloroethene	1	ND
Iodomethane	5	ND
Carbon disulfide	1	ND
Methylene chloride	5	ND
trans-1,2-Dichloroethene	1	ND
1,1-Dichloroethane	1	ND
Vinyl acetate	1	ND
2-Butanone	50	ND
Chloroform	1	ND
1,1,1-Trichloroethane	1	ND
1,2-Dichloroethane	1	ND
Benzene	1	ND
Carbon Tetrachloride	1	ND
1,2-Dichloropropane	1	ND
Trichloroethene	1	ND
Bromodichloromethane	1	ND
cis-1,3-Dichloropropene	1	ND
4-Methyl-2-pentanone	50	ND
trans-1,3-Dichloropropene	1	ND
Toluene	1	1
1,1,2-Trichloroethane	1	ND
2-Hexanone	50	ND

NAVAJO REFINING COMPANY
Project Location: Artesia, NM
Project Name: Off Site Wells

FIELD CODE: MW-45
TA#: T66020

624 Compounds	Reporting Limit	Concentration ug/L)
Dibromochloromethane	1	ND
Tetrachloroethene	1	ND
Chlorobenzene	1	ND
Ethylbenzene	1	ND
m & p-Xylene	1	2
Bromoform	1	ND
Styrene	1	ND
o-Xylene	1	1
1,1,2,2-Tetrachloroethane	1	ND
trans 1,4-Dichloro-2-butene	5	ND
cis 1,4-Dichloro-2-butene	5	ND
1,4-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,2-Dichlorobenzene	2	ND
1,2-Dibromoethane	5	ND

TENTATIVELY IDENTIFIED COMPOUNDS AND ESTIMATED CONCENTRATIONS (ug/L)

	RT	CONC.
(1) 2-(ethyl thio)-propane	14.21	6
(2) Sec-butyl-isopropyl-sulfide	17.60	13
(3) Unidentified hydrocarbon	18.73	94
(4) 2-[(1-methylethyl)thio]-Pentane	19.28	5
(5) Unidentified hydrocarbon	20.50	9
(6) Unidentified hydrocarbon	20.76	16
(7) Unidentified hydrocarbon	21.53	8
(8) Unidentified hydrocarbon	22.94	12

SURROGATES	% RECOVERY
Dibromofluoromethane	107
Toluene-d8	98
4-Bromofluorobenzene	99

ND = Not Detected

METHODS: EPA 624.
CHEMIST: RP

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

2/21/97
Date

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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

February 19, 1997
Receiving Date: 01/21/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 01/22/97
Analysis Date: 01/22/97
Sampling Date: 01/20/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: Off Site Wells

FIELD CODE: KWB-12
TA #: T66021

624 Compounds	Reporting Limit	Concentration (ug/L)
Dichlorodifluoromethane	1	ND
Chloromethane	1	ND
Vinyl chloride	1	ND
Bromomethane	5	ND
Chloroethane	1	ND
Trichlorofluoromethane	1	ND
1,1-Dichloroethene	1	ND
Iodomethane	5	ND
Carbon disulfide	1	ND
Methylene chloride	5	ND
trans-1,2-Dichloroethene	1	ND
1,1-Dichloroethane	1	ND
Vinyl acetate	1	ND
2-Butanone	50	ND
Chloroform	1	ND
1,1,1-Trichloroethane	1	ND
1,2-Dichloroethane	1	ND
Benzene	1	2
Carbon Tetrachloride	1	ND
1,2-Dichloropropane	1	ND
Trichloroethene	1	ND
Bromodichloromethane	1	ND
cis-1,3-Dichloropropene	1	ND
4-Methyl-2-pentanone	50	ND
trans-1,3-Dichloropropene	1	ND
Toluene	1	ND
1,1,2-Trichloroethane	1	ND
2-Hexanone	50	ND

NAVAJO REFINING COMPANY
Project Location: Artesia, NM
Project Name: Off Site Wells

FIELD CODE: KWB-12
TA#: T66021

624 Compounds	Reporting Limit	Concentration ug/L)
Dibromochloromethane	1	ND
Tetrachloroethene	1	ND
Chlorobenzene	1	ND
Ethylbenzene	1	2
m & p-Xylene	1	18
Bromoform	1	ND
Styrene	1	ND
o-Xylene	1	5
1,1,2,2-Tetrachloroethane	1	ND
trans 1,4-Dichloro-2-butene	5	ND
cis 1,4-Dichloro-2-butene	5	ND
1,4-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,2-Dichlorobenzene	2	ND
1,2-Dibromoethane	5	ND

TENTATIVELY IDENTIFIED COMPOUNDS AND ESTIMATED CONCENTRATIONS (ug/L)

	RT	CONC.
(1) Unidentified hydrocarbon	18.73	11
(2) 1-ethyl-3-methyl-benzene	19.47	5
(3) 1,3,5-trimethyl-benzene	20.34	9

SURROGATES	**% RECOVERY**
Dibromofluoromethane	107
Toluene-d8	98
4-Bromofluorobenzene	98

ND = Not Detected

METHODS: EPA 624.
CHEMIST: RP

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

2/21/97
Date

6701 Aberdeen Avenue
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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

February 19, 1997
Receiving Date: 01/21/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 01/22/97
Analysis Date: 01/22/97
Sampling Date: 01/20/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: Off Site Wells

FIELD CODE: MW-18
TA #: T66022

624 Compounds	Reporting Limit	Concentration (ug/L)
Dichlorodifluoromethane	1	ND
Chloromethane	1	ND
Vinyl chloride	1	ND
Bromomethane	5	ND
Chloroethane	1	ND
Trichlorofluoromethane	1	ND
1,1-Dichloroethene	1	ND
Iodomethane	5	ND
Carbon disulfide	1	ND
Methylene chloride	5	ND
trans-1,2-Dichloroethene	1	ND
1,1-Dichloroethane	1	ND
Vinyl acetate	1	ND
2-Butanone	50	ND
Chloroform	1	ND
1,1,1-Trichloroethane	1	ND
1,2-Dichloroethane	1	ND
Benzene	1	ND
Carbon Tetrachloride	1	ND
1,2-Dichloropropane	1	ND
Trichloroethene	1	ND
Bromodichloromethane	1	ND
cis-1,3-Dichloropropene	1	ND
4-Methyl-2-pentanone	50	ND
trans-1,3-Dichloropropene	1	ND
Toluene	1	1
1,1,2-Trichloroethane	1	ND
2-Hexanone	50	ND

NAVAJO REFINING COMPANY
***Project Location:* Artesia, NM**
Project Name: Off Site Wells

FIELD CODE: MW-18
TA#: T66022

624 Compounds	Reporting Limit	Concentration ug/L)
Dibromochloromethane	1	ND
Tetrachloroethene	1	ND
Chlorobenzene	1	ND
Ethylbenzene	1	ND
m & p-Xylene	1	ND
Bromoform	1	ND
Styrene	1	ND
o-Xylene	1	ND
1,1,2,2-Tetrachloroethane	1	ND
trans 1,4-Dichloro-2-butene	5	ND
cis 1,4-Dichloro-2-butene	5	ND
1,4-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,2-Dichlorobenzene	2	ND
1,2-Dibromoethane	5	ND

SURROGATES	**% RECOVERY**
Dibromofluoromethane	113
Toluene-d8	97
4-Bromofluorobenzene	99

ND = Not Detected

METHODS: EPA 624.
CHEMIST: RP

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

2/21/97
Date

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FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING CO.
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

March 19, 1997
Receiving Date: 03/12/97
Sample Type: Cartridge Filters
Project No: NA
Project Location: El Paso

Prep Date: 03/13/97
Analysis Date: 03/18/97
Sampling Date: 03/11/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TA#	FIELD CODE	TCLP As (mg/L)
	EPA LIMIT =	5.0
T69047	Cartridge Filters	<0.10
QC	Quality Control	5.2
REPORTING LIMIT		0.10
RPD		4
% Extraction Accuracy		111
% Instrument Accuracy		104

METHODS: EPA SW 846-1311, 6010.
CHEMIST: RR
TCLP As SPIKE: 2.0 mg/L TCLP As.
TCLP As QC: 5.0 mg/L TCLP As.

3-19-97

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

DATE

69047

195

TraceAnalysis, Inc.

6701 Aberdeen Avenue Lubbock, Texas 79424
Tel (806) 794 1296 Fax (806) 794 1298
1 (800) 378 1296

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Darrell Moore
Phone #:
FAX #:

Company Name & Address: Navajo Refining Co.

Project #:
Project Name :

Project Location: El Paso
Sampler Signature:

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	Other	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME
69047	Cartridge Filters							X				X	3/11/97	14:00

ANALYSIS REQUEST: BTEX, MTBE | TPH | Total Metals Ag As Ba Cd Cr Pb Hg Se | TCLP Metals Ag As Ba Cd Cr Pb Hg Se | TCLP Volatiles | TCLP Semi Volatiles | RCI | 8240 / 8260 | 8270 | X TCLP As

SPECIAL HANDLING: Turn around # of days | Fax ASAP | Hold

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Darrell Moore	3/11/97	16:15			
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received at laboratory by:	Date:	Time:
				3/12/97	0950

REMARKS: Make a composite sample. We want one result.

CT

71AM

TELEPHONE
(505) 748-3311

EASYLINK
62905278

NAVAJO REFINING COMPANY

501 EAST MAIN STREET ◦ P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159

FAX
(505) 746-6410 ACCTG
(505) 746-6155 EXEC
(505) 748-9077 ENGR
(505) 746-4438 P / L

AUG – 6 '97

March 26, 1997

Mark Ashley
Geologist
Environmental Bureau
Oil Conservation Division
2040 S. Pacheco St.
Santa Fe, NM 87505-5472

RE: HYDROTEST WATER FROM TK 63, NAVAJO REFINING CO., ARTESIA, NM

Dear Mark,

Navajo recently entered Tk 63 at our Artesia facility and replaced the floor and a nozzle. We have now filled the tank with 30,000 bbls. of fresh water which we have had analyzed. That analysis is included for your perusal. We are below ground water standards for every parameter measured except iron. Of course the tank is made of iron so that is not a big surprise.

This water will be discharged to our farm and precautions will be taken to ensure that the water does not pond up. If there are any questions concerning this matter, please call me at 505-748-3311. Thank you for your time in this matter.

Sincerely,

NAVAJO REFINING CO.

Darrell Moore
Sr. Environmental Specialist

Encl.

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

March 12, 1997

CERTIFIED MAIL
RETURN RECEIPT NO. P-288-258-916

Mr. Phillip Youngblood
Navajo Refining Company
P.O. Box 159
Artesia, New Mexico 88211-0159

RE: Authorization to Discharge of Hydrotest Water From Tank 12
Artesia Refinery
Eddy County, New Mexico

Dear Mr. Youngblood:

The New Mexico Oil Conservation Division (OCD) has completed a review of Navajo Refining Company's (Navajo) letter dated March 10, 1997 requesting the authorization to discharge of approximately 31,500 barrels of test water to the ground surface from the hydrostatic test of tank 12. The proposed location for the discharge is Navajo's farm located in Section 28, Township 18 South, Range 30 East, NMPM, Eddy County, New Mexico. The requested discharge is hereby approved with the following conditions:

1. Permission will be obtained from the landowner(s) prior to discharge.

2. The test water will be discharged onto the ground surface in a manner to prevent erosion, pooling, or ponding.

3. No test waters will be discharged to any lakes, perennial streams, rivers, or any surface bodies of water.

4. Navajo will assume full responsibility for all remediation required to correct any impacts to the environment as a result of the discharge.

Please be advised that OCD approval does not relieve Navajo Refining Company of liability should it later be found that contamination exists which could pose a threat to surface water, ground water, human health or the environment. In addition, OCD approval does not relieve Navajo Refining Company of responsibility for compliance with any other federal, state or local laws and/or regulations.

If you have any questions please feel free to contact Mark Ashley at (505) 827-7155.

Sincerely,

Roger C. Anderson
Environmental Bureau Chief

RCA/mwa

xc: OCD Artesia Office

TELEPHONE
(505) 748-3311

EASYLINK
62905278

NAVAJO REFINING COMPANY

501 EAST MAIN STREET ◦ P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159

FAX
(505) 746-6410 ACCTG
(505) 746-6155 EXEC
(505) 748-9077 ENGR
(505) 746-4438 P / L

RECEIVED
MAR 17 1997
OIL CONSERVATION DIVISION

March 10, 1997

Mark Ashley
Geologist
Environmental Bureau
Oil Conservation Division
2040 S. Pacheco St.
Santa Fe, NM 87505-5472

CERTIFIED MAIL/RETURN RECEIPT
P 155 358 598

RE: HYDROTEST WATER FROM TK 12, NAVAJO REFINING CO., ARTESIA, NM

Dear Mark,

Navajo recently entered Tk 12 at our Artesia facility and replaced the floor, did some roof repairs and replaced a nozzle. We have now filled the tank with 31,500 bbls. of fresh water which we have had analyzed. That analysis is included for your perusal. We are above ground water standards for iron, which is the material the tank is made of. There are no other parameters which exceed WQCC standards.

This water will be discharged to our farm and precautions will be taken to ensure that the water does not pond up. If there are any questions concerning this matter, please call me at 505-748-3311. Thank you for your time in this matter.

Sincerely,

NAVAJO REFINING CO.

Darrell Moore

Darrell Moore
Sr. Environmental Specialist

Encl.

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

Analytical Results for
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

March 12, 1997 PO #

SAMPLE #	FIELD CODE	Date of Receiving	Date of Analysis	BOD5 (mg/L)	TSS (mg/L)	pH (s.u.)
T68306	TK12	02/28/97	03/01/97	<7.5	9	7.8
QC	Quality Control			199	---	7.0

METHODS: EPA 405.1, 160.2, 150.1.
CHEMIST: BOD5, TSS, pH: JT

QUALITY CONTROL SUMMARY

BOD5 RPD = 3
BOD5 Accuracy = 99%
TSS RPD = 9
pH RPD = 0
pH Instrument Accuracy = 100%

Director, Dr. Blair Leftwich

3-12-97
DATE

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

March 06, 1997
Receiving Date: 02/28/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

Report Date: 02/28/97
Analysis Date: 02/28/97
Sampling Date: 02/27/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TOTAL METALS

TA#	FIELD CODE	As (mg/L)	Cr (mg/L)	Cd (mg/L)	Ba (mg/L)	U (mg/L)	Mo (mg/L)	Zn (mg/L)	Ni (mg/L)	Be (mg/L)	Fe (mg/L)	Mn (mg/L)
T68306	TK12	<0.10	<0.05	<0.02	<0.20	<0.20	<0.10	0.22	<0.20	<0.01	2.0	0.10
QC	Quality Control	5.4	5.3	5.2	5.2	5.3	5.2	5.2	5.2	5.5	5.2	5.3
REPORTING LIMIT		0.10	0.05	0.02	0.20	0.20	0.10	0.02	0.20	0.01	0.03	0.10
RPD		2	4	0	1	5	0	1	5	2	1	1
% Extraction Accuracy		102	105	98	103	79	105	101	99	108	113	99
% Instrument Accuracy		107	106	104	105	102	105	104	105	110	104	106

TA#	FIELD CODE	Co (mg/L)	V (mg/L)	Cu (mg/L)	Al (mg/L)	B (mg/L)	Hg (mg/L)	Se (mg/L)	Pb (mg/L)	Ag (mg/L)
T68306	TK12	<0.03	<0.05	0.10	<0.20	<1.0	<0.001	<0.005	<0.005	<0.001
QC	Quality Control	5.1	5.4	5.1	5.4	5.1	0.0049	0.105	0.0235	0.0024
REPORTING LIMIT		0.03	0.05	0.02	0.20	1.0	0.001	0.005	0.005	0.001
RPD		1	2	2	2	11	2	3	1	1
% Extraction Accuracy		96	107	96	90	96	102	89	110	97
% Instrument Accuracy		101	108	103	108	102	96	105	94	96

METHODS: EPA 200.7, 239.2, 270.2, 272.2, 245.1.
CHEMIST: As, Cd, Cr, Ba, Al, Be, Co, Cu, Fe, Mn, Mo, Ni, V, Zn, Se, Pb, Ag, B, U: RR Hg: CB
TOTAL METALS SPIKE: 0.005 mg/L Hg; 2.0 mg/L As, Cd, Cr, Ba, Be, Co, Cu, Fe, Mn, Mo, Ni, V, Zn; 1.5 mg/L Al; 8.0 mg/L U; 5.0 mg/L B; 0.040 mg/L Se; 0.025 mg/L Pb; 0.0015 mg/L Ag.
TOTAL METALS QC: 0.005 mg/L Hg; 5.0 mg/L As, Cd, Cr, Ba, Al, Be, Co, Cu, Fe, Mn, Mo, Ni, V, Zn, U, B; 0.100 mg/L Se; 0.025 mg/L Pb; 0.0025 mg/L Ag.

Director, Dr. Blair Leftwich

3-6-97
DATE

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

March 04, 1997
Receiving Date: 02/28/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 03/03/97
Analysis Date: 03/03/97
Sampling Date: 02/27/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TA#	Field Code	POTASSIUM (mg/L)	MAGNESIUM (mg/L)	CALCIUM (mg/L)	SODIUM (mg/L)
T68306	TK12	1.3	51	170	17
QC	Quality Control	26	25	25	26
MTH BLK	**METHOD BLANK**	**<0.30**	**<0.10**	**0.19**	**0.79**
Reporting Limit		0.30	0.10	0.10	0.40
RPD		1	1	2	0
% Extraction Accuracy		101	102	99	102
% Instrument Accuracy		103	101	102	105

METHODS: EPA 200.7.
CHEMIST: RR
SPIKE: 100 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM.
QC: 25 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM.

Director, Dr. Blair Leftwich

3-4-97
Date

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

March 4, 1997
Receiving Date: 02/28/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 02/28/97
Analysis Date: 02/28/97
Sampling Date: 02/27/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TA#	FIELD CODE	SPECIFIC CONDUCTIVITY (uMHOs/cm)	CHLORIDE (mg/L)	FLUORIDE (mg/L)	SULFATE (mg/L)	ALKALINITY (mg/L as CaCo3) HCO3	ALKALINITY (mg/L as CaCo3) CO3	COD (mg/L)
T68306	TK12	1,000	18	1.0	420	170	<1.0	<20
QC	Quality Control	1,330	23	0.98	24	---	---	265
RPD		0	2	2	0	0	0	4
% Extraction Accuracy		---	96	108	98	---	---	103
% Instrument Accuracy		93	94	100	96	---	---	105
EPORTING LIMIT		---	1.0	0.1	1.0	10	10	20

METHODS: EPA 300.0, 310.1, 340.2, 410.4, 120.1
CHEMIST: Chloride/Fluoride/Sulfate/COD/Conductivity: MS Alkalinity: MS/HC
SPIKE: 500 mg/L CHLORIDE, SULFATE; 0.91 mg/L FLUORIDE, 750 mg/L COD.
QC: 24 mg/L CHLORIDE, SULFATE; 1.0 mg/L FLUORIDE, 250 mg/L COD.

Director, Dr. Blair Leftwich

3-4-97
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

March 04, 1997
Receiving Date: 02/28/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 02/28/97
Analysis Date: 02/28/97
Sampling Date: 02/27/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

TA#	FIELD CODE	NO3-N (mg/L)	TDS (mg/L)	CYANIDE (mg/L)
T68306	TK12	<1.0	850	<0.01
QC	Quality Control	4.0	---	0.038
REPORTING LIMIT		1.0	---	0.01
RPD		0	0	8
% Extraction Accuracy		98	---	89
% Instrument Accuracy		96	---	99

METHODS: EPA 160.1, 335.2, 300.0.
CHEMIST: MS
NO3-N SPIKE: 200 mg/L NO3-N.
NO3-N QC: 4.5 mg/L NO3-N.

Director, Dr. Blair Leftwich

3-4-97
DATE

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

March 04, 1997
Receiving Date: 02/28/97
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 02/28/97
Analysis Date: 02/28/97
Sampling Date: 02/27/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: NA

FIELD CODE: TK12
TA #: T68306

8240 Compounds	Concentration (ug/L)	Reporting Limit
Dichlorodifluoromethane	ND	1
Chloromethane	ND	1
Vinyl chloride	ND	1
Bromomethane	ND	5
Chloroethane	ND	1
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
Iodomethane	ND	5
Carbon disulfide	ND	1
Methylene chloride	5	5
trans-1,2-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
Vinyl acetate	ND	1
2-Butanone	ND	50
Chloroform	ND	1
1,1,1-Trichloroethane	ND	1
1,2-Dichloroethane	ND	1
Benzene	5	1
Carbon Tetrachloride	ND	1
1,2-Dichloropropane	ND	1
Trichloroethene	ND	1
Bromodichloromethane	ND	1
cis-1,3-Dichloropropene	ND	1
4-Methyl-2-pentanone	ND	50
trans-1,3-Dichloropropene	ND	1
Toluene	16	1
1,1,2-Trichloroethane	ND	1
2-Hexanone	ND	50

FIELD CODE: TK12
TA #: T68306

8240 Compounds	Concentration (ug/L)	Reporting Limit
Dibromochloromethane	ND	1
Tetrachloroethene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	5	1
m & p-Xylene	11	1
Bromoform	ND	1
Styrene	ND	1
o-Xylene	6	1
1,1,2,2-Tetrachloroethane	ND	1
trans 1,4-Dichloro-2-butene	ND	5
cis 1,4-Dichloro-2-butene	ND	5
1,4-Dichlorobenzene	ND	2
1,3-Dichlorobenzene	ND	2
1,2-Dichlorobenzene	ND	2

Tentatively Identified Compounds and Estimated Concentrations (ug/L)

	RT	CONC.
(1) 1-ethyl-2-methyl-Benzene	19.40	5
(2) 1,3,5-trimethyl-Benzene	20.27	8

SURROGATES	% RECOVERY
Dibromofluoromethane	98
Toluene-d8	100
4-Bromofluorobenzene	98

ND = Not Detected

METHODS: EPA SW 846-5030; EPA 8260.
CHEMIST: RP

Director, Dr. Blair Leftwich

3-4-97
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
Navajo Refining
Attention: Darrell Moore
501 E. Main
Artesia NM 88210

Date: Mar 04, 1997
Date Rec: 2/28/97
Project: Artesia
Proj Name: Navajo
Proj Loc: Artesia,NM

Lab Receiving # : 9702000419
Sampling Date: 2/27/97
Sample Condition: Intact and Cool
Sample Received By: JH

PAH in Water (mg/L)	Reporting Limit *	T68306 TK12	QC	RPD	%EA	%IA
Naphthalene	0.002	ND	75	26	61	94
Acenapthylene	0.002	ND	75	26	74	94
Acenaphthene	0.002	ND	72	24	66	90
Fluorene	0.002	ND	70	15	79	88
Phenanthrene	0.002	ND	74	5	89	93
Anthracene	0.002	ND	77	4	84	96
Fluoranthene	0.002	ND	72	0	99	90
Pyrene	0.002	ND	71	1	97	89
Benzo[a]anthracene	0.002	ND	72	2	105	90
Chrysene	0.002	ND	78	2	96	98
Benzo[b]fluoranthene	0.002	ND	75	10	68	94
Benzo[k]fluoranthene	0.002	ND	78	7	101	98
Benzo[a]pyrene	0.002	ND	75	1	87	94
Indeno[1,2,3-cd]pyrene	0.002	ND	83	2	94	104
Dibenz[a,h]anthracene	0.002	ND	82	3	90	103
Benzo[g,h,i]perylene	0.002	ND	84	4	96	105

ND = Not Detected

*Note: Elevated reporting limit due to petroleum hydrocarbon inteferences.

	% RECOVERY
Nitrobenzene-d5 SURR	62
2-Fluorobiphenyl SURR	65
Terphenyl-d14 SURR	92

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)	SPIKE: (mg/L)
PAH	EPA 3510	2/28/97	EPA 8270	2/28/97	RD/CC	80 ea	100 ea

Director, Dr. Blair Leftwich

3-4-97
Date

68306 BOD TSS

419

TraceAnalysis, Inc.

6701 Aberdeen Avenue Lubbock, Texas 79424
Tel (806) 794 1296 Fax (806) 794 1298
1 (800) 378 1296

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Darrell Moore
Phone #: 505-748-3311
FAX #: 505-748-9077

Company Name & Address: Navajo Refining Co.

Project #:
Project Name :

Project Location: Artesia
Sampler Signature: Darrell Moore

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME
68306	TH12	7		X				(2) X	(2) X	(4) X	(2) X	2/27/97	14:30

ANALYSIS REQUEST

BTEX, MTBE	TPH	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	(8240) 8260 ·	8270	PAH's,	General Chemistry	Cation/Anions	Cyanide.
		X					X		X	X	X	X

SPECIAL HANDLING

Turn around # of days	Fax ASAP	Hold

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Darrell Moore	2/27/97	16:15			
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received at Laboratory by: G. O'Farrell	Date: 2/28/97	Time: 10:15A

REMARKS Metals as RO Reject
General Chemistry - TSS, TDS, BOD, pH, EC, nitrates, COD.
Need results rushed !
F 3/5/97

3-12

CI

59AD

TELEPHONE
(505) 748-3311

EASYLINK
62905278

NAVAJO REFINING COMPANY

501 EAST MAIN STREET ◦ P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159

FAX
(505) 746-6410 ACCTG
(505) 746-6155 EXEC
(505) 748-9077 ENGR
(505) 746-4438 P / L

February 26, 1997

RECEIVED
MAR - 5 1997
CONSERVATION DIVISION

Mr. Bill Olson
Hydrogeologist
Environmental Bureau
Oil Conservation Division
2040 S. Pacheco St.
Santa Fe, NM 87505-5472

CERTIFIED MAIL/RETURN RECEIPT
P 355 936 430

RE: 1996 Annual Ground Water and Treatment System Monitoring Report, Navajo Refining

Dear Bill,

Enclosed please find four ground water potentiometric maps, four product thickness maps, thirteen graphs depicting elevation and thickness vs. time, Oil Recovery Report for FY 1996, and the analysis from monitor, residential, and irrigation wells relating to the Ground Water and Treatment System Monitoring that is taking place at Navajo Refining. Per your agencies letter of June 14, 1996, the reporting frequency of this report was changed from quarterly to yearly.

For 1996, Navajo pumped 14,856,916 gallons of water out of our recovery wells and 180,868 gallons of product. All water that is pumped out of these wells is sent to our waste water plant to be treated and then to the Evaporation Ponds to be disposed. Product is taken to the various API oil/water separators and is eventually introduced back into the refinery for reprocessing. You will notice that wells number 9 and 10 did not operate for much of the year. These wells are located along the east side of the Truck By Pass Landfarm. We found that these wells were producing copious amounts of water and virtually no product. With the reduced capacity of our Evaporation Ponds, due to the closure of Ponds #1 and #2, we had to reduce the water that those ponds were seeing. The logical choice was these two recovery wells. As the weather warms up, we will put these wells back on line.

We have included several graphs showing the thickness of product vs. time. These graphs may be slightly misleading, although we won't know for sure for several months. You will notice that almost all the wells show a large drop in thickness from May 96 to Aug 96. This is probably largely due to the fact that in June 96 we bailed each well. We have a suspicion that these thicknesses in May 96 were an accumulation over the years. Some of the wells went right back to their former levels, however, the majority have shown slight decreases since that time.

The analysis that we did for the year shows several 1 ppb hits on different wells. We haven't seen any sustained numbers in any of the irrigation wells or the residential wells. However, we have started to see the leading edge of the plume reaching KWB-7 and KWB-11. These monitor wells are in the center of Mack Chase's pecan orchard. If you remember, we sited the recovery wells on Bolton Road knowing that part of the plume was past this point. We feel that this is the part of the plume now reaching KWB 7 and KWB 11.

We have also started to see some BTEX in KWB 9 and KWB 12. These wells are located on Joy's Farm south of the pecan orchard. Also, RA 1227, which is the irrigation well on the Joy Farm, shows a persistent 1- 2 ppb hit of MTBE. However, it seems to be holding steady and has not increased. You will notice that analysis for December 1996 is missing due to a miscommunication on our part. We missed sampling RA-2723 twice (bi-weekly) and RA-4196 and RA-4798 once each. We have since sampled these wells back on their regular schedule with no signs of contamination.

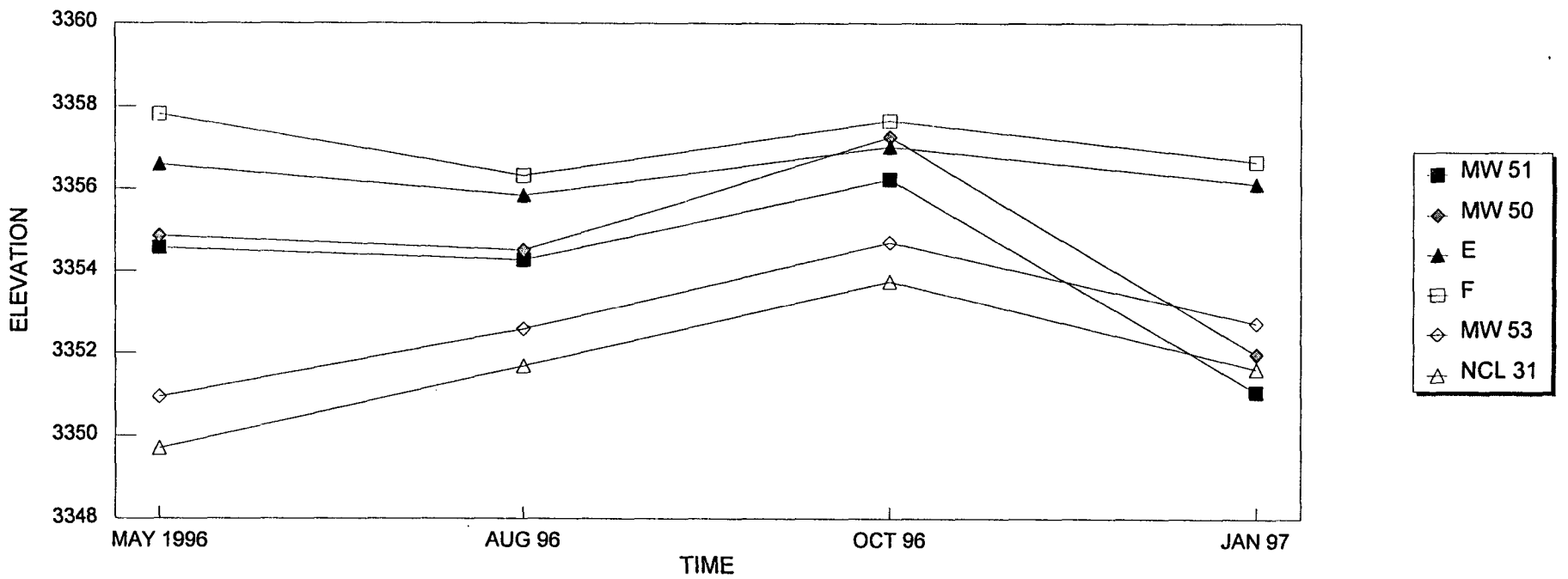
We feel that the program is working well at both recovering lost product and insuring the safety of drinking and irrigation water in the area. Navajo is working with Dave Boyer on selecting sites for additional recovery wells to further enhance the success of this program. I thank you for your time in this matter. As always, if there are any questions, please feel free to call me at 505-748-3311.

Sincerely,
Navajo Refining Co.

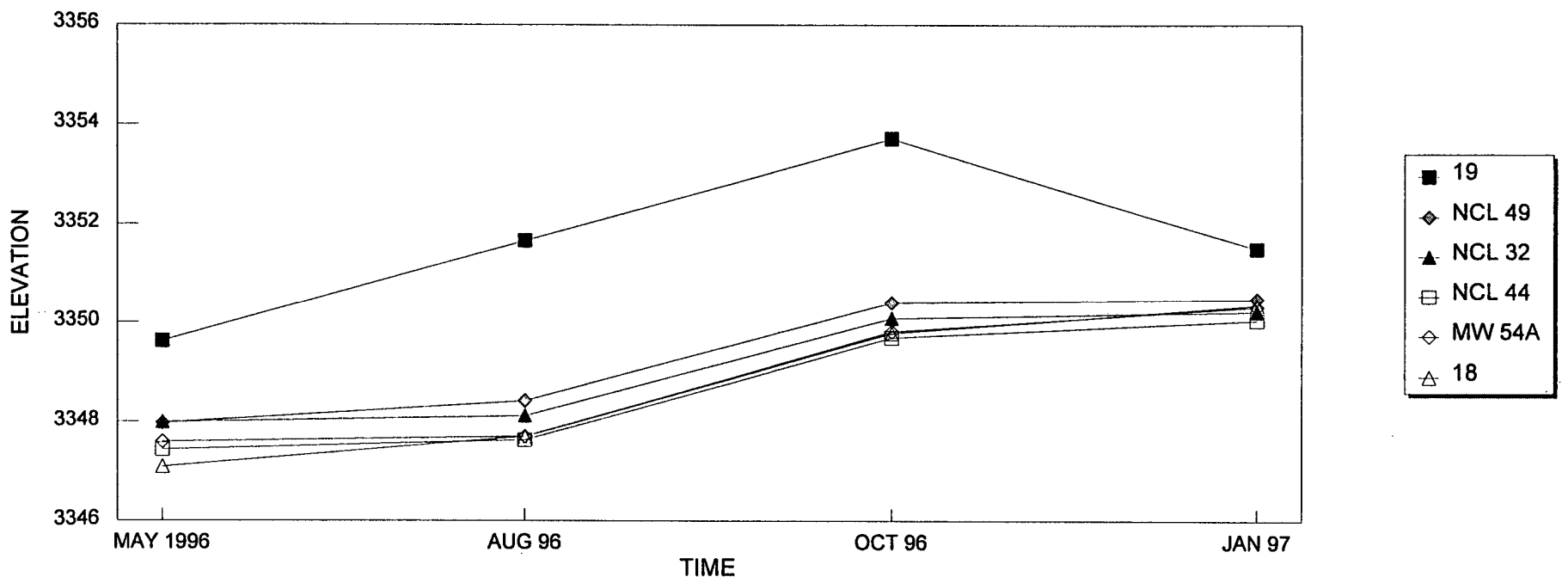
Darrell Moore
Sr. Environmental Specialist

Encl.

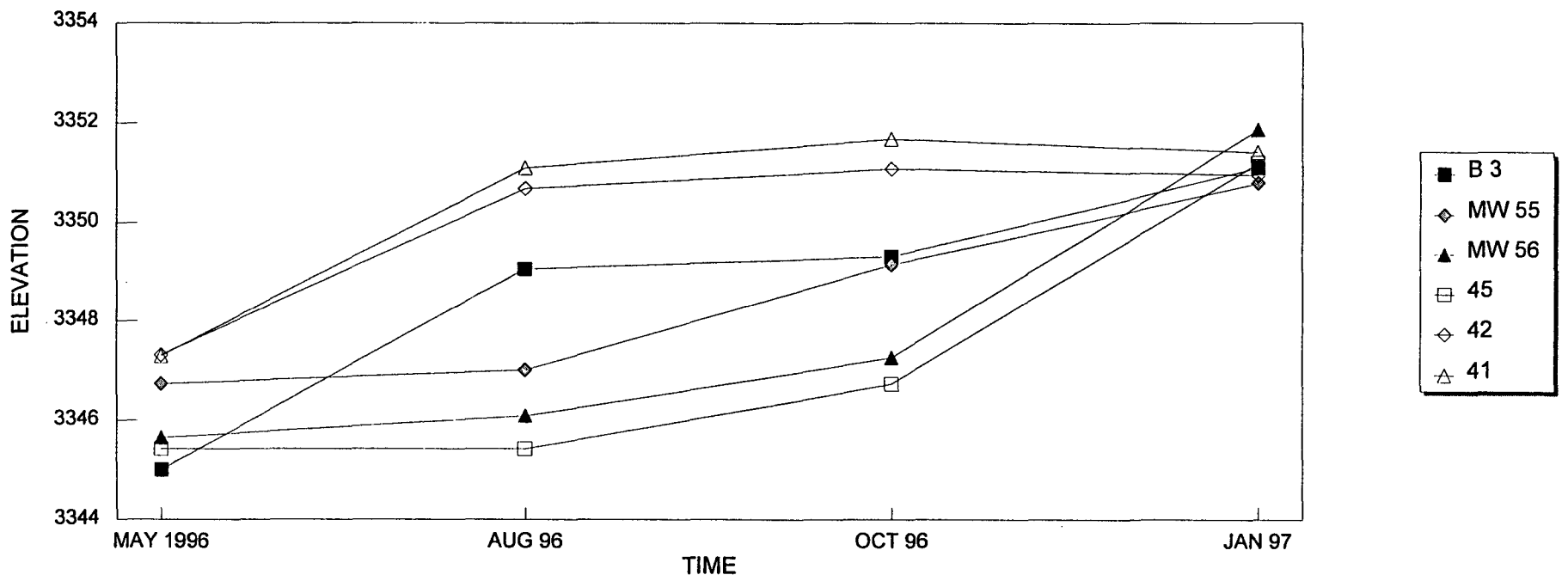
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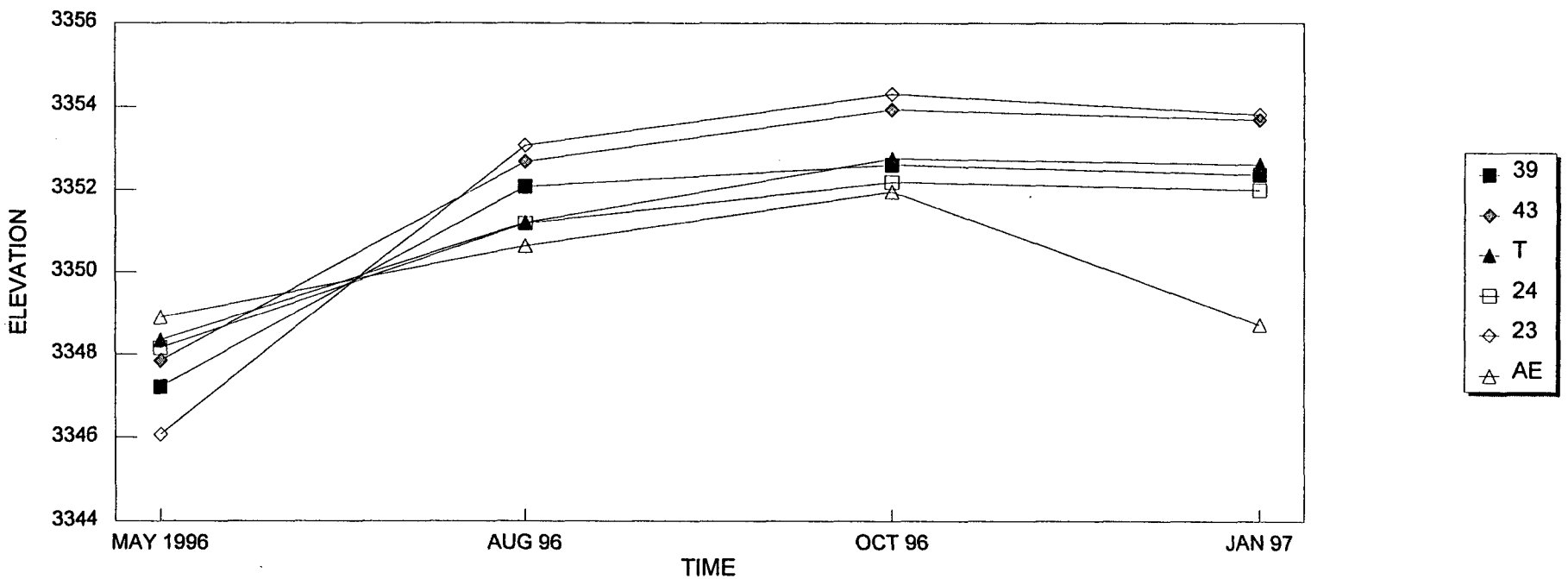
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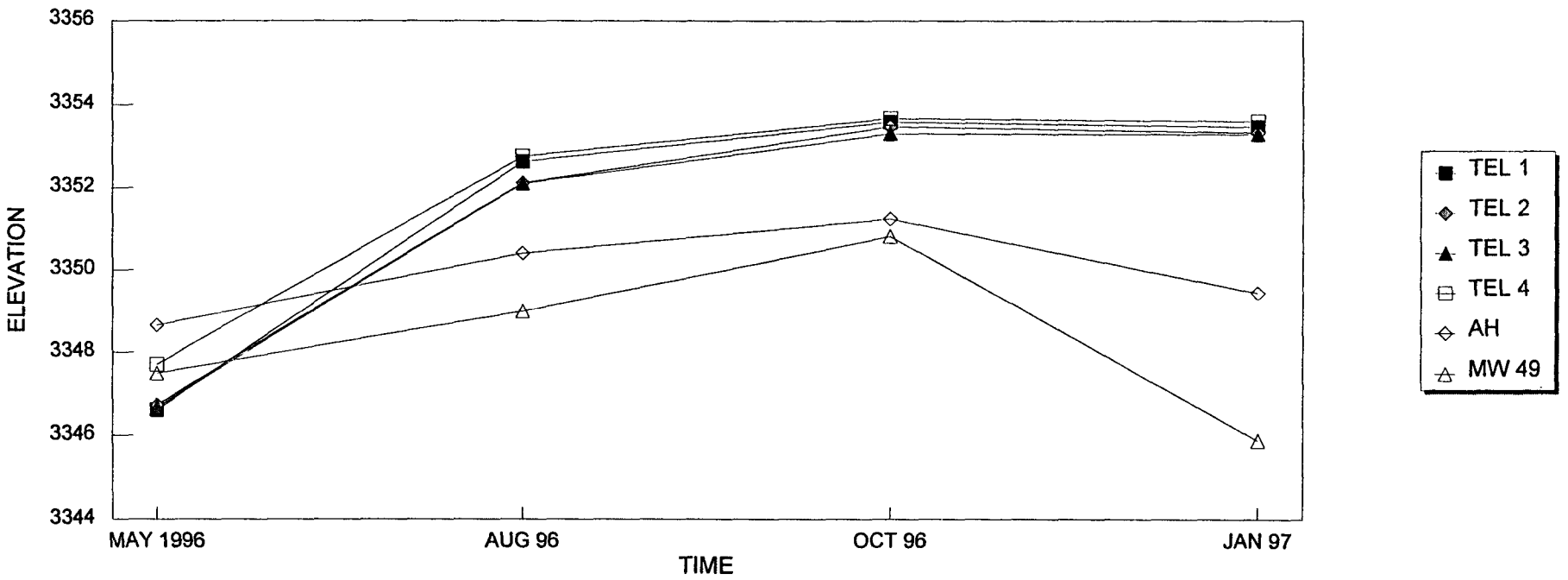
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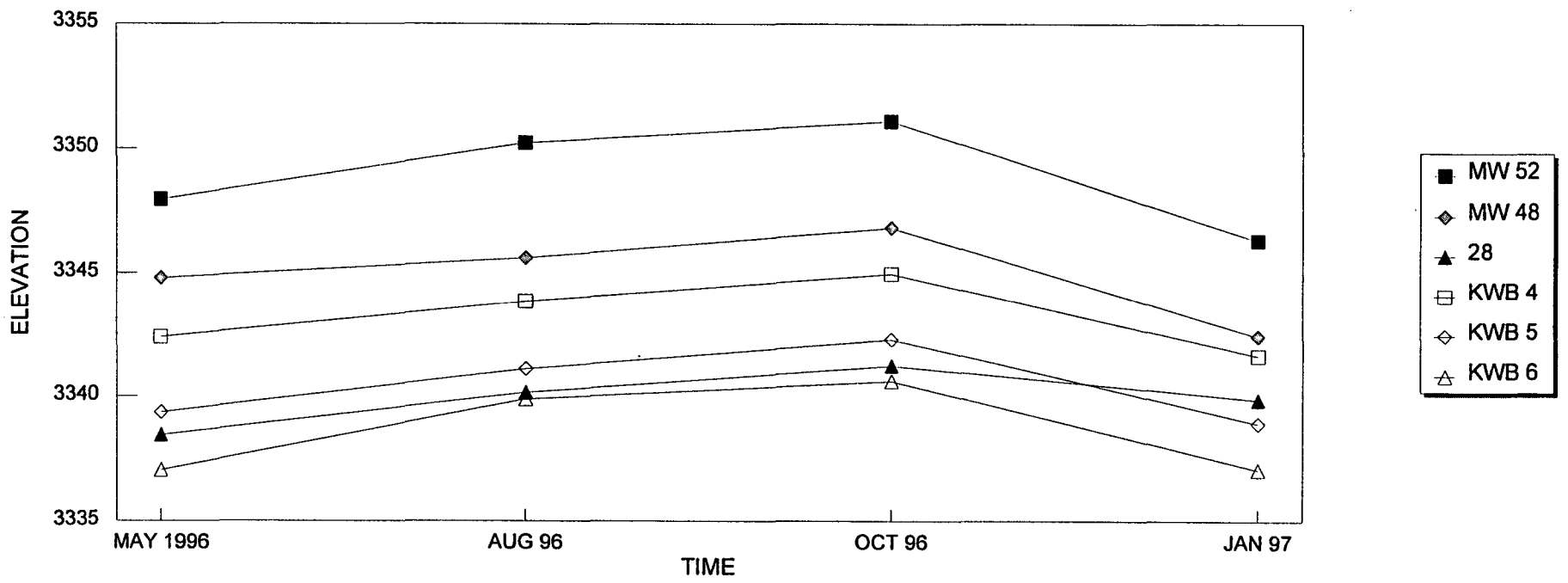
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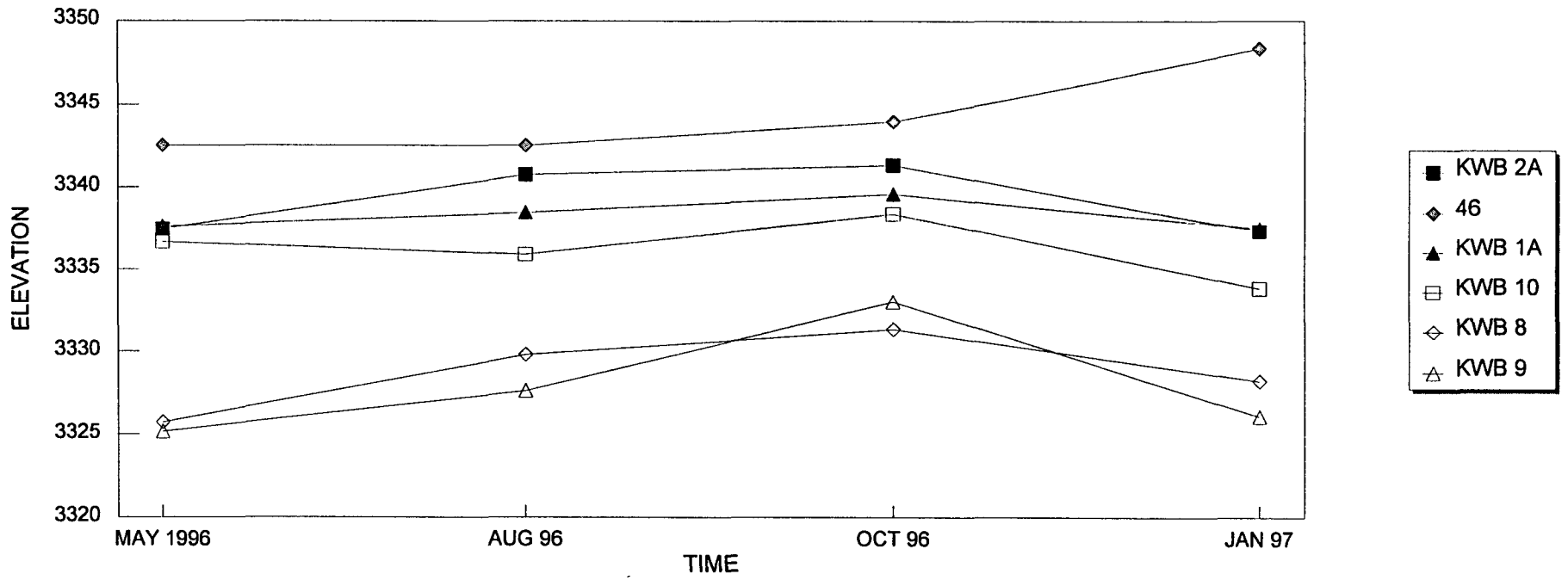
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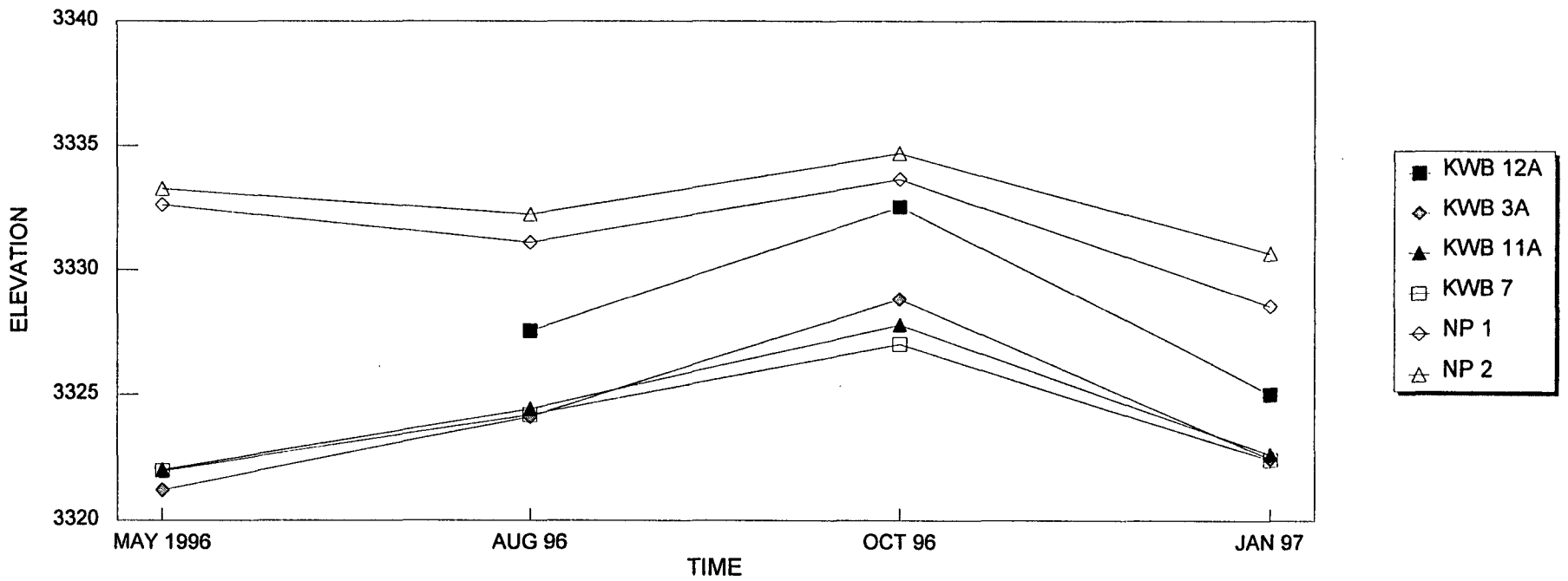
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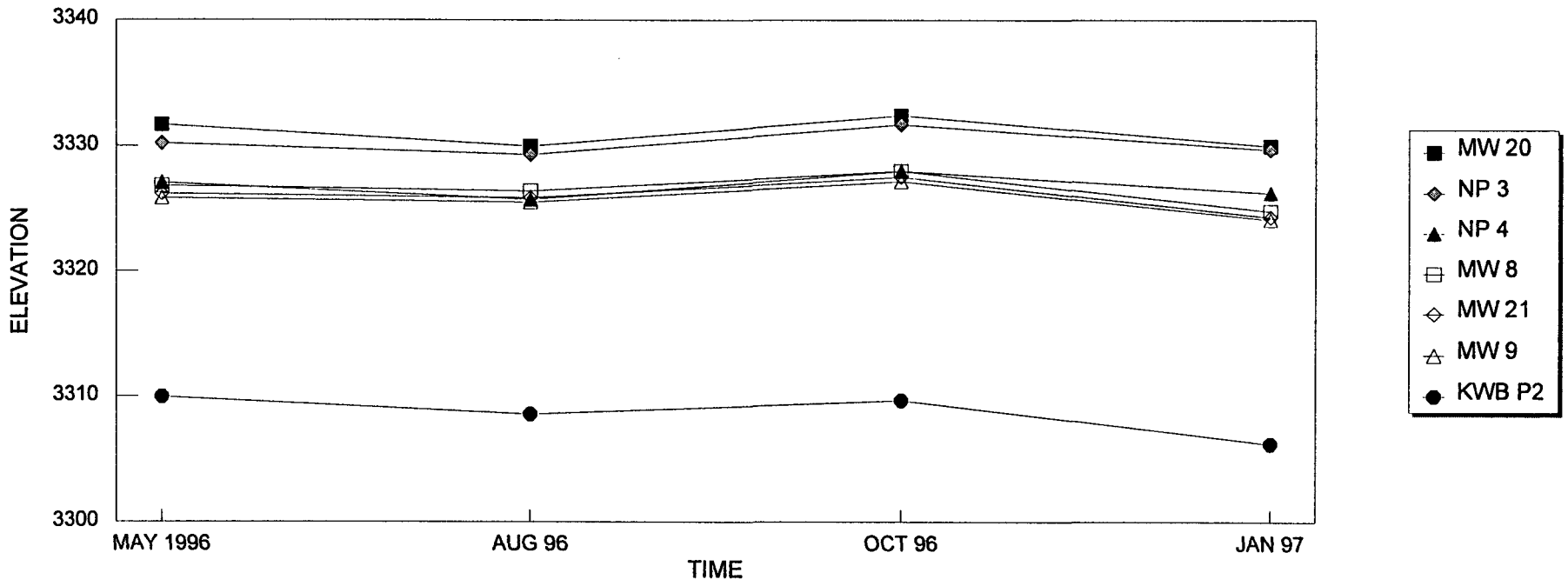
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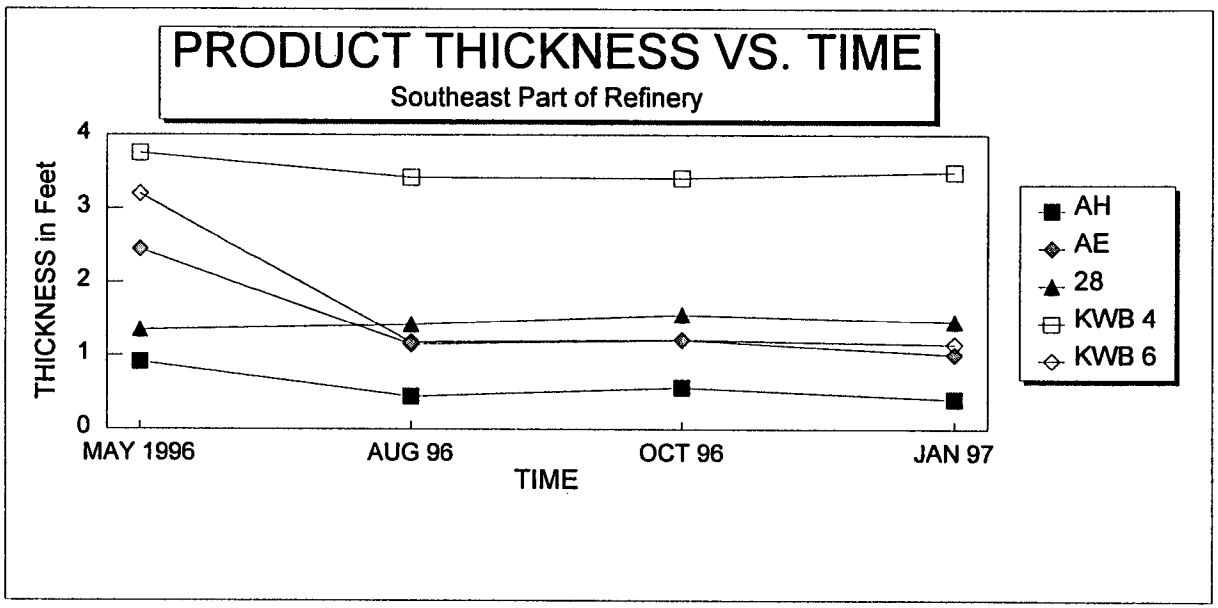


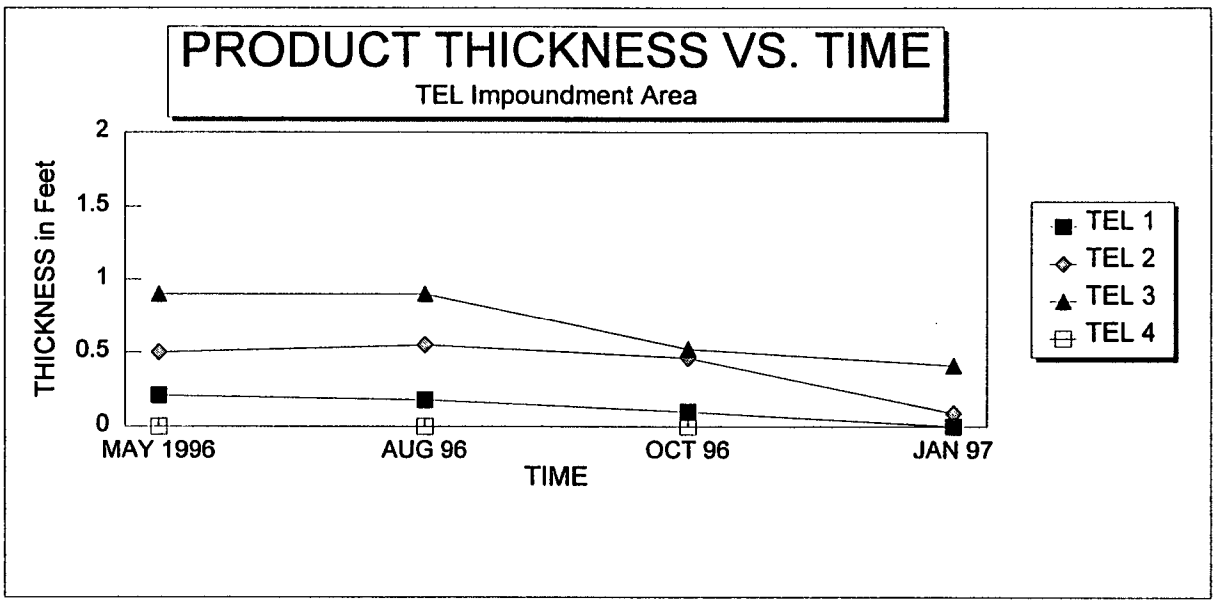
ELEVATION VS. TIME

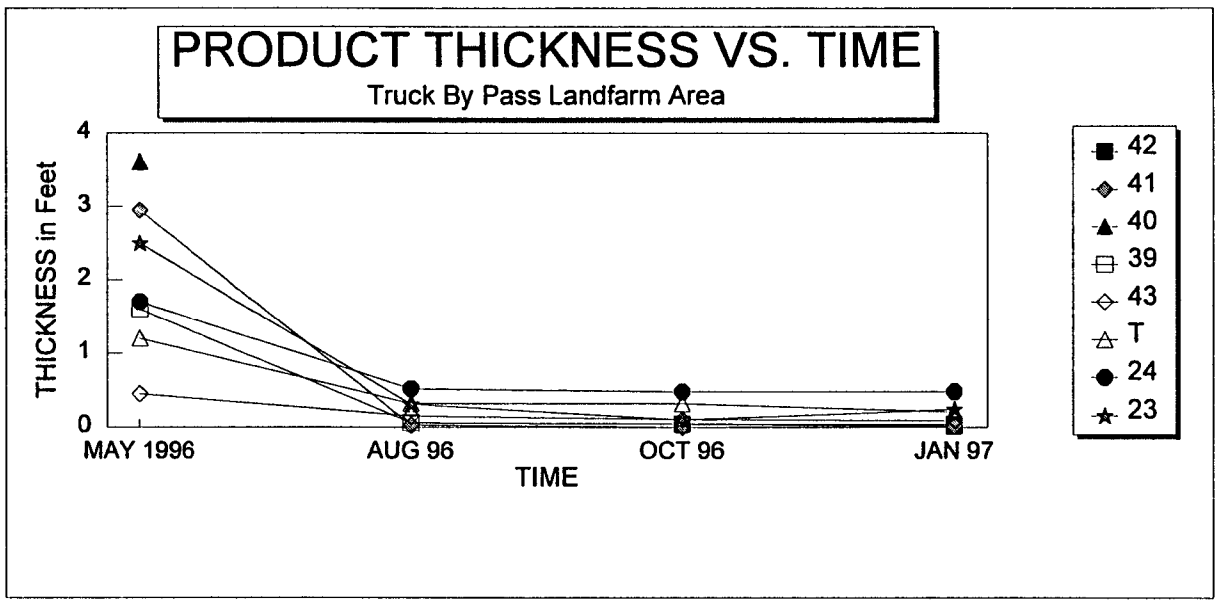


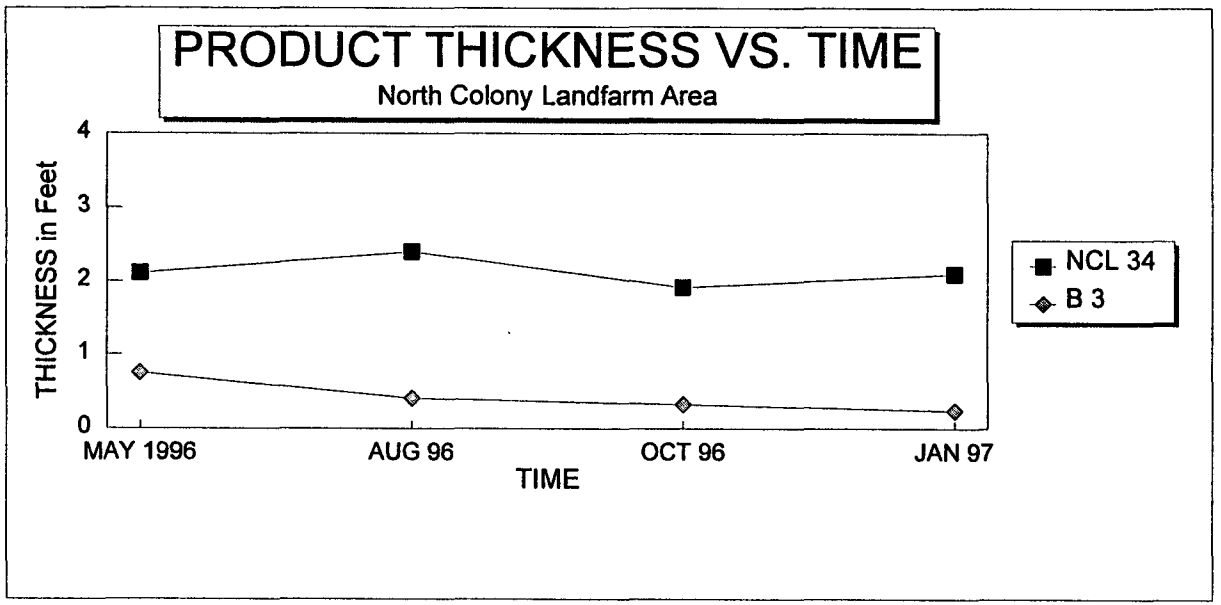
ELEVATION VS. TIME




PRODUCT THICKNESS VS. TIME
Southeast Part of Refinery
THICKNESS in Feet
4
3
2
1
0
MAY 1996
AUG 96
OCT 96
JAN 97
TIME
AH
AE
28
KWB 4
KWB 6


PRODUCT THICKNESS VS. TIME
TEL Impoundment Area
THICKNESS in Feet
2
1.5
1
0.5
0
MAY 1996
AUG 96
OCT 96
JAN 97
TIME
TEL 1
TEL 2
TEL 3
TEL 4


PRODUCT THICKNESS VS. TIME
Truck By Pass Landfarm Area
THICKNESS in Feet
4
3
2
1
0
MAY 1996
AUG 96
OCT 96
JAN 97
TIME
42
41
40
39
43
T
24
23


PRODUCT THICKNESS VS. TIME
North Colony Landfarm Area
THICKNESS in Feet
4
3
2
1
0
MAY 1996
AUG 96
OCT 96
JAN 97
TIME
NCL 34
B 3

pg. 1

Oil Recovery Well Report For FY 96

01 Jan 96 To 01 Jan 97 13 Jan 97

H20 Produced

	Gallons	Barrels
1st Quarter	2812104	66955
2nd Quarter	2372323	56484
3rd Quarter	3848841	91639
4th Quarter	5823648	138658
Total H20 Produced	14856916 Gallons	353736 Barrels

Oil Production

1st Quarter	39691	945
2nd Quarter	35437	844
3rd Quarter	78580	1871
4th Quarter	27160	647
Total Oil Recovered	180868 Gallons	4306 Barrels

180868@.65 per gl = $117,564

pg.1 1st Quarter Oil Recovery Well Report

01 Jan 96 To 01 April 96 14 April 96

Totals

Total Production

	Gallons	Barrels
Total H20 Production 1st Quarter	2812104	66955
Total Oil Production 1st Quarter	39691	945

H20 GPM Flow	21.5	Gallons
H20 BPD	735.8	Barrels
Oil GPM Flow	0.3	Gallons
Oil BPD	10.8	Barrels

pg.2

1st Quarter Oil Recovery Well Report

01 Jan 96 To 01 April 96

14 April 96

H20 Data

Well #	Total H20 Produced	Highest Produced	Lowest Produced	Avg H20 Produced
1	2664	936	0	205
2	23760	19440	0	1828
4	76608	17568	0	5893
5	1152	432	0	89
7	1224864	316080	0	94220
8	414432	120960	0	31879

Total in plant H20 1743480 Gallons 41511.4 Barrels

Bolton Rd. Wells

1	0	0	0	0
2	426960	120960	0	32843
3	120096	119880	0	9238
4	521568	101520	0	40121

Total Bolton Rd. H20 1068624 Gallons 25443.4 Barrels

Total H20 Production in gallons 2812104 Gallons 66954.85 Barrels

pg. 3 1st Quarter Oil Recovery Well Report

01 Jan 96 To 01 April 96 14 April 96

H20 Data

* All Data In Gallons

wk	Well# 1	Well#2	Well#4	Well# 5	Well# 7	Well# 8	Weekly Totals	GPM
1	504.0	19440.0	2952.0	0.0	103320.0	120960.0	247176.0	24.5
2	936.0	0.0	144.0	432.0	119016.0	120672.0	241200	23.9
3	360.0	72.0	0.0	144.0	22320.0	78480.0	101376.0	10.1
4	0.0	0.0	2016.0	72.0	2160.0	0.0	4248.0	0.4
5	72.0	0.0	12312.0	72.0	66960.0	0.0	79416.0	7.9
6	0.0	4248.0	4032.0	432.0	119520.0	10296.0	138528.0	13.7
7	144.0	0.0	8928.0	0.0	120960.0	0.0	130032.0	12.9
8	72.0	0.0	17568.0	0.0	316080.0	0.0	333720.0	33.1
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	0.0	0.0	12024.0	0.0	113256.0	47232.0	172512.0	17.1
12	144.0	0.0	6984.0	0.0	121464.0	17784.0	146376.0	14.5
13	432.0	0.0	9648.0	0.0	119808.0	19008.0	148896.0	14.8

Bolton Rd Wells

WK	Well# 11	Well# 12	Well#13	Well#14	Weekly Totals	GPM
1	0.0	0.0	0.0	5040.0	5040.0	0.5
2	0.0	0.0	0.0	7200.0	7200.0	0.7
3	0.0	64080.0	0.0	0.0	64080.0	6.4
4	0.0	120960.0	0.0	0.0	120960.0	12.0
5	0.0	120960.0	0.0	57888.0	178848.0	17.7
6	0.0	120960.0	0.0	34920.0	155880.0	15.5
7	0.0	0.0	0.0	100800.0	100800.0	10.0
8	0.0	0.0	0.0	101520.0	101520.0	10.1
9	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0
11	0.0	0.0	0.0	68040.0	68040.0	6.8
12	0.0	0.0	216.0	66888.0	67104.0	6.7
13	0.0	0.0	119880.0	79272.0	199152.0	19.8

pg. 4

1st Quarter Oil Recovery Well Report

01 Jan 96 To 01 April 96

14 April 96

Oil Data

All Data in Gallons

Well #	Total Oil Produced	Peak Oil Production	Low Oil Production	Average Production
1	8109.0	2424.0	0.0	623.8
2	1541.1	478.5	0.0	118.5
4	6308.1	1254.7	0.0	485.2
5	15216.5	6712.2	0.0	1170.5
7	2293.6	676.0	0.0	176.4
8	6125.2	2692.3	0.0	471.2
10	0.0	0.0	0.0	0.0

Total Oil Produced Inplant 39593.5 Gallons 942.7 Barrels

Bolton Rd. Wells

1	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0
3	97.4	92.3	0.0	7.5
4	0.0	0.0	0.0	123.4

Total Oil Produced Bolton Rd. 97.4 Gallons 2.3 Barrels

Total Oil 1st Quarter 39690.9 Gallons 945.0 Barrels

pg. 5

1st Quarter Oil Recovery Well Report

01 Jan 96 To 01 April 96 — 14 April 96

Oil Data

All Data In Gallons

Week #	Well # 1	2	4	5	7	8	wk total	GPM
1	2424.0	184.0	1254.7	1052.4	615.0	316.6	5846.7	0.6
2	1808.0	197.1	299.0	182.2	676.0	361.8	3524.1	0.3
3	1558.0	132.9	0.0	888.5	347.3	148.0	3074.7	0.3
4	10.2	109.7	156.8	1114.9	325.2	29.0	1745.8	0.2
5	925.0	76.3	931.6	1079.5	205.2	0.0	3217.6	0.3
6	1080.2	51.9	296.8	1697.5	118.9	345.1	3590.4	0.4
7	34.4	65.7	721.0	1049.2	0.0	0.0	1870.3	0.2
8	113.7	478.5	719.8	6712.2	0.2	0	8024.4	0.8
9	0	0	0	0	0	0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	70.7	73.9	927.3	0.0	5.7	0.0	1077.6	0.1
12	72.2	110.4	519.0	639.5	0.0	2232.4	3573.5	0.4
13	12.6	60.7	482.1	800.6	0.1	2692.3	4048.4	0.4

Bolton Rd. Wells

Week #	1	2	3	4	Wk Totals	GPM
1	0.0	0.0	1.1	0.2	1.3	0.0
2	0.0	0.0	0.3	1.1	1.4	0.0
3	0.0	0.0	0.2	0.1	0.3	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.2	4.5	4.8	0.0
7	0.0	0.0	92.3	86.7	179.0	0.0
8	0.0	0.0	0.8	1.0	1.8	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0
11	0.0	0.0	1.7	0.0	1.7	0.0
12	0.0	0.0	0.2	861.7	861.9	0.1
13	0.0	0.0	0.5	649.3	649.8	0.1

1st Quarter Oil Recovery Well Report
01 Jan 96 To 01 April 96
Flow Rates

14 April 96

H20 Flow Rate Data

Well #	Quarterly H20 Flow Rate Per Well	gpm	gph
1		0.0	1.2
2		0.2	10.9
4		0.6	35.1
5		0.0	0.5
7		9.3	560.8
8		3.2	189.8
	In Plant Flow Rate	2.2	133.0
Bolton Rd Wells		gpm	gph
1		0.0	0.0
2		3.3	195.5
3		0.9	55.0
4		4.0	238.8
	Bolton Rd Flow rate	2.0	122.3
Average H20 Flow Rate For 1st Quarter		3.2	194.2

	gpm	gph
Total in Plant H20 Flow	13.3	798.3
Total Bolton Rd H20 Flow Rate	8.2	489.3
1st Quarter H20 Flow Rate	21.5	1287.6

1st Quarter Oil Recovery Wells Report
01 Jan 96 To 01 April 96 14 April 96
Flow Rates

Oil Flow Rate Data

Well #	Quarterly Oil Flow Rate Per Well	gpm	gph
1		0.1	3.7
2		0.0	0.7
4		0.0	2.9
5		0.1	7.0
7		0.0	1.1
8		0.0	2.8
	In Plant Flow Rate	0.1	3.0
Bolton Rd Wells		gpm	gph
1		0.0	0.0
2		0.0	0.0
3		0.0	0.0
4		0.0	0.0
	Bolton Rd Flow Rate	0.0	0.0
Average Oil Flow Rate For 1st Quarter		0.1	1.5

	gpm	gph
Total In Plant Oil Flow Rate	0.3	18.1
Total Bolton Rd Oil Flow Rate	0.0	0.8
Total 1st Quarter Oil Flow Rate	0.3	18.9

pg.1 2nd Quarter Oil Recovery Well Report

01 April To 01 July 96 09 JUly 96

Totals

Total Production

	Gallons	Barrels
Total H20 Production 2nd Quarter	2372323	56484
Total Oil Production 2nd Quarter	35437	844

H20 GPM Flow	18.1	Gallons
H20 BPD	620.7	Barrels
Oil GPM Flow	0.3	Gallons
Oil BPD	10.9	Barrels

pg. 2

2nd Quarter Oil Recovery Well Report

01 April T0 01 July 96 — 09 July 96

H20 Data

Well #	Total H20 Produced	Highest Produced	Lowest Produced	Avg H20 Produced
1	10296	1728	0	792
2	216	144	0	17
4	15120	6840	0	1163
5	0	0	0	0
7	267192	97632	0	20553
8	545256	155304	2592	41943

Total in plant H20 838080 Gallons 19954.3 Barrels

Bolton Rd. Wells

1	0	0	0	0
2	475128	121680	0	36548
3	383288	75960	0	29484
4	675826	120240	0	51987

Total Bolton Rd. H20 1534243 Gallons 36529.6 Barrels

Total H20 Production in gallons 2372323 Gallons 56483.87 Barrels

pg. 3 2nd Quarter Oil Recovery Well Report

01 April To 01 July 96 09 July 96

H20 Data

* All Data In Gallons

wk	Well# 1	Well#2	Well#4	Well# 5	Well# 7	Well# 8	Weekly Totals	GPM
1	0.0	0.0	2304.0	0.0	97632.0	17208.0	117144.0	11.6
2	0.0	0.0	6840.0	0.0	0.0	2592.0	9432	0.9
3	144.0	0.0	0.0	0.0	0.0	21168.0	21312.0	2.1
4	864.0	144.0	0.0	0.0	21096.0	13464.0	35568.0	3.5
5	144.0	0.0	0.0	0.0	9144.0	155304.0	164592.0	16.3
6	1152.0	0.0	0.0	0.0	4320.0	18504.0	23976.0	2.4
7	1080.0	0.0	0.0	0.0	360.0	28800.0	30240.0	3.0
8	432.0	0.0	288.0	0.0	3672.0	105552.0	109944.0	10.9
9	1368.0	0.0	216.0	0.0	9936.0	100368.0	111888.0	11.1
10	1080.0	0.0	0.0	0.0	2160.0	13968.0	17208.0	1.7
11	720.0	0.0	1872.0	0.0	38448.0	20952.0	61992.0	6.2
12	1584.0	0.0	2808.0	0.0	36936.0	21960.0	63288.0	6.3
13	1728.0	72.0	792.0	0.0	43488.0	25416.0	71496.0	7.1

Bolton Rd Wells

WK	Well# 11	Well# 12	Well#13	Well#14	Weekly Totals	GPM
1	0.0	0.0	0.0	120240.0	120240.0	11.9
2	0.0	0.0	0.0	100080.0	100080.0	9.9
3	0.0	0.0	0.0	40320.0	40320.0	4.0
4	0.0	0.0	0.0	82512.0	82512.0	8.2
5	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	32.2	34.4	66.6	0.0
7	0.0	0.0	23760.0	0.0	23760.0	2.4
8	0.0	121680.0	24408.0	0.0	146088.0	14.5
9	0.0	27432.0	70992.0	24480.0	122904.0	12.2
10	0.0	120672.0	75960.0	103680.0	300312.0	29.8
11	0.0	0.0	75600.0	105840.0	181440.0	18.0
12	0.0	120456.0	66384.0	98640.0	285480.0	28.3
13	0.0	84888.0	46152.0	0.0	131040.0	13.0

pg. 4

2nd Quarter Oil Recovery Well Report

01 April To 01 July 96 09 July 96

Oil Data

All Data in Gallons

Well #	Total Oil Produced	Peak Oil Production	Low Oil Production	Average Production
1	2433.4	740.7	1.2	187.2
2	960.9	221.1	8.0	73.9
4	8442.1	5210.9	54.2	649.4
5	5683.2	1102.4	168.5	437.2
7	7644.3	2734.9	0.1	588.0
8	9043.9	2874.1	21.9	695.7
10	0.0	0.0	0.0	0.0

Total Oil Produced Inplant 34207.8 Gallons 814.5 Barrels

Bolton Rd. Wells

1	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0
3	1229.6	278.0	0.0	94.6
4	0.0	0.0	0.0	594.9

Total Oil Produced Bolton Rd. 1229.6 Gallons 29.3 Barrels

Total Oil 2nd Quarter 35437.4 Gallons 843.7 Barrels

pg. 5

2nd Quarter Oil Recovery Well Report

01 April to 01 July 96

09 July 96

Oil Data

All Data In Gallons

Week #	Well # 1	2	4	5	7	8	wk total	GPM
1	12.4	24.2	147.1	522.7	10.2	2342.1	3058.7	0.3
2	740.7	124.0	349.6	271.2	9.0	2874.1	4368.6	0.4
3	1.2	44.9	5210.9	168.5	2156.1	365.5	7947.1	0.8
4	2.8	41.5	88.3	511.0	1.7	279.9	925.2	0.1
5	302.6	33.4	376.3	346.6	0.1	36.0	1095.0	0.1
6	303.4	51.5	227.0	424.3	3.2	524.4	1533.8	0.2
7	363.3	81.9	189.0	341.1	1.4	655.0	1631.7	0.2
8	300.5	56.3	254.4	259.4	2734.9	1581.3	5186.8	0.5
9	310.9	8	162.1	401	30.9	21.9	934.8	0.1
10	11.4	124.5	515.3	488.6	655.3	159.4	1954.5	0.2
11	2.5	62.9	54.2	1102.4	941.1	113.7	2276.8	0.2
12	30.7	86.7	75.3	284.2	835.0	43.7	1355.6	0.1
13	51.0	221.1	792.6	562.2	265.4	46.9	1939.2	0.2

Bolton Rd. Wells

Week #	1	2	3	4	Wk Totals	GPM
1	0.0	0.0	1.4	417.3	418.7	0.0
2	0.0	0.0	77.7	6.5	84.2	0.0
3	0.0	0.0	246.0	9.8	255.8	0.0
4	0.0	0.0	140.1	900.1	1040.2	0.1
5	0.0	0.0	74.2	2003.7	2077.9	0.2
6	0.0	0.0	0.1	1571.9	1572.0	0.0
7	0.0	0.0	0.0	1956.1	1956.1	0.2
8	0.0	0.0	0.0	29.9	29.9	0.0
9	0.0	0.0	0.3	747.1	747.4	0.1
10	0.0	0.0	136.8	0.0	136.8	0.0
11	0.0	0.0	178.1	85.6	263.7	0.0
12	0.0	0.0	278.0	5.4	283.4	0.0
13	0.0	0.0	96.9	0.0	96.9	0.0

2nd Quarter Oil Recovery Well Report
01 April To 01 July 96 09 JUly 96
Flow Rates

H20 Flow Rate Data

Well #	Quarterly H20 Flow Rate Per Well	gpm	gph
1		0.1	4.7
2		0.0	0.1
4		0.1	6.9
5		0.0	0.0
7		2.0	122.3
8		4.2	249.7
	In Plant Flow Rate	1.1	64.0
Bolton Rd Wells		gpm	gph
1		0.0	0.0
2		3.6	217.5
3		2.9	175.5
4		5.2	309.4
	Bolton Rd Flow rate	2.9	175.6
Average H20 Flow Rate For 2nd Quarter		2.5	151.8

	gpm	gph
Total in Plant H20 Flow	6.4	383.7
Total Bolton Rd H20 Flow Rate	11.7	702.5
2nd Quarter H20 Flow Rate	18.1	1086.2

pg.1

3rd Quarter Oil Recovery Well Report

01 July To 01 Oct 96

30 sept 96

Total Production

	Gallons	Barrels
Total H20 Production 3rd Quarter	3848841	91639
Total Oil Production 3rd Quarter	78580	1871

H20 GPM Flow	29.4	Gallons
H20 BPD	1007.0	Barrells
Oil GPM Flow	0.6	Gallons
Oil BPD	20.6	Barrells

pg. 2

3rd Quarter Oil Recovery Well Report

01 July To 01 Oct 96 30 Sept 96

H20 Data

Well #	Total H20 Produced	Highest Produced	Lowest Produced	Avg H20 Produced
1	56448	21240	0	4342
2	164088	103608	0	12622
4	173097	121032	0	13315
5	0	0	0	0
7	644040	135648	0	49542
8	493992	111600	0	37999

Total in plant H20 1531665 Gallons

Bolton Rd. Wells

1	143280	105840	0	11022
2	640080	157680	0	49237
3	717552	157320	0	55196
4	816264	295704	0	62790

Total Bolton Rd. H20 2317176 Gallons

Total H20 Production in gallons 3848841 Gallons

pg. 3 3rd. Quarter Oil Recovery Well Report

01 July To 01 Oct 96 30 Sept 96

H20 Data

* All Data In Gallons

wk	Well# 1	Well#2	Well#4	Well# 5	Well# 7	Well# 8	Weekly Totals	GPM
1	2088.0	0.0	2880.0	0.0	34992.0	27000.0	66960.0	6.6
2	1584.0	144.0	1296.0	0.0	46368.0	28872.0	78264	7.8
3	21240.0	0.0	3321.0	0.0	64512.0	47952.0	137025.0	13.6
4	2088.0	0.0	3312.0	0.0	65808.0	46728.0	117936.0	11.7
5	2232.0	0.0	6696.0	0.0	135648.0	98784.0	243360.0	24.1
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	1296.0	0.0	1944.0	0.0	75096.0	56520.0	134856.0	13.4
8	1296.0	0.0	3168.0	0.0	75096.0	63792.0	143352.0	14.2
9	5328.0	0.0	9648.0	0.0	132408.0	111600.0	258984.0	25.7
10	4176.0	0.0	7128.0	0.0	14112.0	12744.0	38160.0	3.8
11	3888.0	0.0	5112.0	0.0	0.0	0.0	9000.0	0.9
12	5472.0	60336.0	7560.0	0.0	0.0	0.0	73368.0	7.3
13	5760.0	103608.0	121032.0	0.0	0.0	0.0	230400.0	22.9

Bolton Rd Wells

WK	Well# 11	Well# 12	Well#13	Well#14	Weekly Totals	GPM
1	0.0	84672.0	58968.0	0.0	143640.0	14.3
2	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	65880.0	49680.0	56520.0	172080.0	17.1
9	37440.0	157680.0	157320.0	137880.0	490320.0	48.6
10	105840.0	119088.0	118944.0	106560.0	450432.0	44.7
11	0.0	88200.0	88344.0	98640.0	275184.0	27.3
12	0.0	0.0	119952.0	120960.0	240912.0	23.9
13	0.0	124560.0	124344.0	295704.0	544608.0	54.0

pg. 4

3rd Quarter Oil Recovery Well Report

01 July T0 01 Oct 96 — 30 Sept 96

Oil Data

All Data in Gallons

Well #	Total Oil Produced	Peak Oil Production	Low Oil Production	Average Production
1	10272.1	6757.7	0.0	790.2
2	18575.7	4884.6	0.0	1428.9
4	10821.7	4738.0	0.0	832.4
5	17619.1	4561.8	0.0	1355.3
7	10551.9	5340.8	0.0	811.7
8	7255.5	2661.3	0.0	558.1
10	0.0	0.0	0.0	0.0

Total Oil Produced Inplant 75096.0 Gallons

Bolton Rd. Wells

1	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0
3	192.5	49.0	0.0	14.8
4	3291.4	1652.2	0.0	253.2

Total Oil Produced Bolton Rd. 3483.9 Gallons

Total Oil 3rd Quarter 78579.9 Gallons

pg. 5

3rd Quarter Oil Recovery Well Report

01 July To 01 Oct 96 — 30 Sept 96

Oil Data

	Well #						All Data In Gallons	
Week #	1	2	4	5	7	8	wk total	GPM
1	222.7	133.3	1833.6	867.2	30.7	108.9	3196.4	0.3
2	302.3	26.5	598.4	613.9	14.3	56.7	1612.1	0.2
3	328.4	293.0	482.8	1233.5	14.6	3.8	2356.1	0.2
4	341.3	1326.8	348.1	1066.9	78.0	159.9	3321.0	0.3
5	621.3	4858.3	4738.0	1712.5	59.6	178.8	12168.5	1.2
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	444.7	0.0	0.0	1022.7	11.1	96.1	1574.6	0.2
8	306.2	38.6	1934.5	1807.7	10	66.7	4163.7	0.4
9	6757.7	302.3	188.7	2146.7	38.6	100.8	9534.8	0.9
10	261.3	4884.6	414.5	1476.1	4364.3	2492.4	13893.2	1.4
11	196.9	1644.1	102.7	8.3	5340.8	1330.1	8622.9	0.9
12	236.2	347.5	88.3	4561.8	589.9	2661.3	8485.0	0.8
13	253.1	4720.7	92.1	1101.8	0.0	0.0	6167.7	0.6

Bolton Rd. Wells

Week #	1	2	3	4	Wk Totals	GPM
1	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	44.0	0.0	44.0	0.0
9	0.0	0.0	44.6	1652.2	1696.8	0.2
10	0.0	0.0	49.0	1633.7	1682.7	0.2
11	0.0	0.0	8.2	5.5	13.7	0.0
12	0.0	0.0	46.7	0.0	46.7	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0

3rd Quarter Oil Recovery Well Report
01 July To 01 Oct 96 30 Sept 96

H20 Flow Rate Data

Well #	Quarterly H20 Flow Rate Per Well	gpm	gph
1		0.4	25.8
2		1.3	75.1
4		1.3	79.3
5		0.0	0.0
7		4.9	294.9
8		3.8	226.2
	In Plant Flow Rate	1.9	116.9
Bolton Rd Wells		gpm	gph
1		1.1	65.6
2		4.9	293.1
3		5.5	328.5
4		6.2	373.7
	Bolton Rd Flow rate	4.4	265.2
Average H20 Flow Rate For 3rd Quarter		4.2	249.5

	gpm	gph
Total in Plant H20 Flow	11.7	701.3
Total Bolton Rd H20 Flow Rate	17.7	1061.0
3rd Quarter H20 Flow Rate	29.4	1762.3

3Rd Quarter Oil Recovery Wells Report
01 July To 01 Oct 96 30 Sept 96

Oil Flow Rate Data

Well #	Quarterly Oil Flow Rate Per Well	gpm	gph
1		0.1	4.7
2		0.1	8.5
4		0.1	5.0
5		0.1	8.1
7		0.1	4.8
8		0.1	3.3
	In Plant Flow Rate	0.1	5.7
Bolton Rd Wells		gpm	gph
1		0.0	0.0
2		0.0	0.0
3		0.0	0.1
4		0.0	1.5
	Bolton Rd Flow Rate	0.0	0.4
Average Oil Flow Rate For 3rd Quarter		0.1	3.3

	gpm	gph
Total In Plant Oil Flow Rate	0.6	34.4
Total Bolton Rd Oil Flow Rate	0.0	1.6
Total 3rd Quarter Oil Flow Rate	0.6	36.0

pg.1 4th Quarter Oil Recovery Well Report

01 Oct 96 To 01 Jan 97 13 Jan 97

Totals

Total Production

	Gallons	Barrels
Total H20 Production 4th Quarter	5823648	138658
Total Oil Production 4th Quarter	27160	647

H20 GPM Flow	44.4	Gallons
H20 BPD	1523.7	Barrels
Oil GPM Flow	0.2	Gallons
Oil BPD	7.0	Barrels

4th Quarter Oil Recovery Well Report

01 Oct 96 To 01 Jan 97 13 Jan 97

H20 Data

Well #	Total H20 Produced	Highest Produced	Lowest Produced	Avg H20 Produced
1	41112	5256	792	3162
2	979704	121176	0	75362
4	140040	71856	0	10772
5	60408	48960	0	4647
7	1060272	116424	9432	81559
8	909936	114408	9216	69995

Total in plant H20 3191472 Gallons 75987.4 Barrels

Bolton Rd. Wells

1	864	864	0	66
2	1337976	345096	0	102921
3	389016	124344	0	29924
4	904320	295704	15336	69563

Total Bolton Rd. H20 2632176 Gallons 62670.9 Barrels

Total H20 Production in gallons 5823648 Gallons 138658.2 Barrels

pg. 3 4th Quarter Oil Recovery Well Report

01 Oct To 01 Jan 97 13 Jan 97

H20 Data

* All Data In Gallons

wk	Well# 1	Well#2	Well#4	Well# 5	Well# 7	Well# 8	Weekly Totals	GPM
1	5256.0	30600.0	8352.0	48960.0	116424.0	114408.0	324000.0	32.1
2	4536.0	42840.0	72.0	1296.0	105192.0	96984.0	250920	24.9
3	3456.0	0.0	0.0	1512.0	88560.0	82728.0	176256.0	17.5
4	2664.0	101520.0	0.0	1800.0	96696.0	78192.0	280872.0	27.9
5	2088.0	120456.0	0.0	2664.0	95544.0	77688.0	298440.0	29.6
6	3240.0	121176.0	0.0	1368.0	93456.0	72144.0	291384.0	28.9
7	2808.0	120096.0	0.0	0.0	77400.0	61344.0	261648.0	26.0
8	2520.0	98928.0	0.0	0.0	76248.0	62064.0	239760.0	23.8
9	2880.0	120600.0	43272.0	72.0	83592.0	65376.0	315792.0	31.3
10	2952.0	102672.0	16488.0	0.0	83376.0	66456.0	271944.0	27.0
11	3312.0	4896.0	71856.0	0.0	67752.0	56088.0	203904.0	20.2
12	792.0	576.0	0.0	504.0	9432.0	9216.0	20520.0	2.0
13	4608.0	115344.0	0.0	2232.0	66600.0	67248.0	256032.0	25.4

Bolton Rd Wells

WK	Well# 11	Well# 12	Well#13	Well#14	Weekly Totals	GPM
1	0.0	118800.0	118656.0	76392.0	313848.0	31.1
2	0.0	345096.0	91224.0	61272.0	497592.0	49.4
3	0.0	107496.0	54360.0	50832.0	212688.0	21.1
4	864.0	117720.0	432.0	15336.0	134352.0	13.3
5	0.0	120528.0	0.0	44568.0	165096.0	16.4
6	0.0	121104.0	0.0	80352.0	201456.0	20.0
7	0.0	120672.0	0.0	55728.0	176400.0	17.5
8	0.0	105120.0	0.0	32256.0	137376.0	13.6
9	0.0	50400.0	0.0	38304.0	88704.0	8.8
10	0.0	6480.0	0.0	51984.0	58464.0	5.8
11	0.0	0.0	0.0	51696.0	51696.0	5.1
12	0.0	0.0	0.0	49896.0	49896.0	5.0
13	0.0	124560.0	124344.0	295704.0	544608.0	54.0

pg. 4

4th Quarter Oil Recovery Well Report

01 Oct 96 To 01 Jan 97 13 Jan 97

Oil Data

All Data in Gallons

Well #	Total Oil Produced	Peak Oil Production	Low Oil Production	Average Production
1	3022.6	666.7	0.0	232.5
2	2811.1	1411.3	0.0	216.2
4	9242.6	2875.0	0.0	711.0
5	3312.2	770.8	17.2	254.8
7	3537.0	1185.7	0.0	272.1
8	468.2	384.2	0.0	36.0
10	0.0	0.0	0.0	0.0

Total Oil Produced Inplant 22393.7 Gallons 533.2 Barrels

Bolton Rd. Wells

1	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0
3	2131.7	623.6	0.0	164.0
4	2634.3	731.8	0.4	202.6

Total Oil Produced Bolton Rd. 4766.0 Gallons 113.5 Barrels

Total Oil 4th Quarter 27159.7 Gallons 646.7 Barrels

pg. 5

4th Quarter Oil Recovery Well Report

01 Oct 96 To 01 Jan 97 — 13 Jan 97

Oil Data

All Data In Gallons

Week #	Well # 1	2	4	5	7	8	wk total	GPM
1	222.7	1411.3	1259.1	35.1	0.0	13.8	2942.0	0.3
2	197.2	97.5	2875.0	104.8	0.0	0.0	3274.5	0.3
3	114.7	0.0	528.2	542.7	486.8	0.3	1672.7	0.2
4	197.9	941.2	1835.4	330.5	308.3	0.0	3613.3	0.4
5	176.7	88.4	783.4	397.2	112.8	0.4	1558.9	0.2
6	34.3	42.0	78.1	362.4	93.4	20.0	630.2	0.1
7	0.0	0.0	333.4	17.2	248.6	11.7	610.9	0.1
8	0	35.6	334.8	19.5	131.7	0	521.6	0.1
9	301.3	86.3	410.3	139	129.4	1	1067.3	0.1
10	505.0	89.8	67.5	108.5	151.1	0.0	921.9	0.1
11	666.7	13.7	538.7	122.6	689.2	29.0	2059.9	0.2
12	52.7	3.8	0.0	361.9	0.0	7.8	426.2	0.0
13	553.4	1.5	198.7	770.8	1185.7	384.2	3094.3	0.3

Bolton Rd. Wells

Week #	1	2	3	4	Wk Totals	GPM
1	0.0	0.0	0.0	3.8	3.8	0.0
2	0.0	0.0	309.8	0.4	310.2	0.0
3	0.0	0.0	623.6	179.4	803.0	0.1
4	0.0	0.0	571.1	3.6	574.7	0.1
5	0.0	0.0	492.0	400.1	892.1	0.1
6	0.0	0.0	129.9	222.7	352.6	0.0
7	0.0	0.0	0.0	731.8	731.8	0.1
8	0.0	0.0	0.0	170.8	170.8	0.0
9	0.0	0.0	0.0	144.4	144.4	0.0
10	0.0	0.0	0.0	285.2	285.2	0.0
11	0.0	0.0	5.3	227.5	232.8	0.0
12	0.0	0.0	0.0	84.9	84.9	0.0
13	0.0	0.0	0.0	179.7	179.7	0.0

4th Quarter Oil Recovery Well Report
01 Oct 96 To 01 Jan 97 13 Jan 97

H20 Flow Rate Data

Well #	Quarterly H20 Flow Rate Per Well	gpm	gph
1		0.3	18.8
2		7.5	448.6
4		1.1	64.1
5		0.5	27.7
7		8.1	485.5
8		6.9	416.6
	In Plant Flow Rate	4.1	243.5
Bolton Rd Wells		gpm	gph
1		0.0	0.4
2		10.2	612.6
3		3.0	178.1
4		6.9	414.1
	Bolton Rd Flow rate	5.0	301.3
Average H20 Flow Rate For 4th Quarter		6.6	394.2

	gpm	gph
Total in Plant H20 Flow	24.4	1461.3
Total Bolton Rd H20 Flow Rate	20.1	1205.2
4th Quarter H20 Flow Rate	44.4	2666.5

4th Quarter Oil Recovery Wells Report

01 Oct 96 To 01 Jan 97 13 Jan 97

Oil Flow Rate Data

Well #	Quarterly Oil Flow Rate Per Well	gpm	gph
1		0.0	1.4
2		0.0	1.3
4		0.1	4.2
5		0.0	1.5
7		0.0	1.6
8		0.0	0.2
	In Plant Flow Rate	0.0	1.7
Bolton Rd Wells		gpm	gph
1		0.0	0.0
2		0.0	0.0
3		0.0	1.0
4		0.0	1.2
	Bolton Rd Flow Rate	0.0	0.5
Average Oil Flow Rate For 4th Quarter		0.0	1.4

	gpm	gph
Total In Plant Oil Flow Rate	0.2	10.3
Total Bolton Rd Oil Flow Rate	0.0	2.0
Total 4thQuarter Oil Flow Rate	0.2	12.3

4th Quarter Oil Recovery Wells Report

01 April To 01 July 96 — 09 July 96

Flow Rates

Oil Flow Rate Data

Well #	Quarterly Oil Flow Rate Per Well	gpm	gph
1		0.0	1.1
2		0.0	0.4
4		0.1	3.9
5		0.0	2.6
7		0.1	3.5
8		0.1	4.1
	In Plant Flow Rate	0.0	2.6
Bolton Rd Wells		gpm	gph
1		0.0	0.0
2		0.0	0.0
3		0.0	0.6
4		0.0	0.0
	Bolton Rd Flow Rate	0.0	0.1
Average Oil Flow Rate For 2nd Quarter		0.0	1.4

	gpm	gph
Total In Plant Oil Flow Rate	0.3	15.7
Total Bolton Rd Oil Flow Rate	0.1	3.4
Total 2nd Quarter Oil Flow Rate	0.3	19.0

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

January 22, 1996
Receiving Date: 01/19/96
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 01/19/96
Analysis Date: 01/19/96
Sampling Date: 01/18/96
Sample Condition: Intact & Cool
Sample Received by: ML
Project Name: NA

TA#	Field Code	MTBE (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYL-BENZENE (ug/L)	M,P,O XYLENE (ug/L)	TOTAL BTEX (ug/L)
T47112	RA 2723	<1	<1	<1	<1	<1	<1
T47113	RA 4798	<1	<1	<1	<1	<1	<1
QC	Quality Control	108	98	95	97	320	
Reporting Limit		1	1	1	1	1	
RPD		2	2	3	2	1	
% Extraction Accuracy		110	97	92	97	107	
% Instrument Accuracy		109	98	96	98	107	

METHODS: EPA SW 846-8020, 5030.
MTBE/BTEX SPIKE AND QC: 100 ug/L MTBE/BTEX.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

1-22-96
Date

TraceAnalysis, Inc.

6701 Aberdeen Avenue Lubbock, Texas 79424
Tel (806) 794 1296 Fax (806) 794 1298
1 (800) 378 1296

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: DARRELL MOORE

Phone #: 505-748-3311

FAX #: 505-748-9717

Company Name & Address: NAVAJO REFINING CO. ARTESIA NM 88210

Project #:

Project Name :

Project Location: ARTESIA

Sampler Signature:

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME	ANALYSIS REQUEST: BTEX, MTBE	TPH	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	8240 / 8260	8270
	RO REJECT	2		X								1/18/16	14:20	X								
	RA 2113	2	40ml	"								"	14:30	X								
	RA 4798	2	"	"								"	14:45	X								
	[illegible]																					

SPECIAL HANDLING: Turn around # of days; Fax ASAP; Hold

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
S. NAVARRO	1-18-16	16:30			
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received at Laboratory by:	Date:	Time:

REMARKS

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

February 1, 1996
Receiving Date: 01/31/96
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 01/31/96
Analysis Date: 01/31/96
Sampling Date: 01/30/96
Sample Condition: Intact & Cool
Sample Received by: ML
Project Name: NA

TA#	Field Code	MTBE (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYL-BENZENE (ug/L)	M,P,O XYLENE (ug/L)	TOTAL BTEX (ug/L)
T47585	RA 2723	<1	<1	<1	<1	<1	<1
QC	Quality Control	107	99	98	100	333	
Reporting Limit		1	1	1	1	1	
RPD		5	5	6	6	5	
% Extraction Accuracy		107	98	96	99	108	
% Instrument Accuracy		108	100	98	100	112	

METHODS: EPA SW 846-8020, 5030.
MTBE/BTEX SPIKE AND QC: 100 ug/L MTBE/BTEX.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

2-1-96
Date

TraceAnalysis, Inc.

6701 Aberdeen Avenue Lubbock, Texas 79424
Tel (806) 794 1296 Fax (806) 794 1298
1 (800) 378 1296

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: DANNELL MANOE

Phone #: (505) 748-3311

FAX #: (505) 748-9077

Company Name & Address: NAVAJO REFINING CO. ARTESIA NM 88210

Project #:

Project Name :

Project Location: ARTESIA

Sampler Signature: [signature]

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME	BTEX, MTBE	TPH	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	8240 / 8260	8270
	RW Effluent Quarterly	2		X					X			1-30-96	1330			See		See			
	NW Cooling Tower Quarterly	2	40ml	X							X	1-30-96	13:45		X		See		See			
	NW Cooling Tower Quarterly	2	40ml	X							X	1-30-96	13:55		X		See		See			
	RW 272.3	2	40ml	X							X	1-30-96	14:05	X								

SPECIAL HANDLING: Turn around # of days; Fax ASAP; Hold

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
[signature]	1-30-96	16:30			
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received at Laboratory by:	Date:	Time:

REMARKS

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

February 16, 1996
Receiving Date: 02/15/96
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 02/15/96
Analysis Date: 02/15/96
Sampling Date: 02/14/96
Sample Condition: Intact & Cool
Sample Received by: ML
Project Name: NA

TA#	Field Code	MTBE (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYL-BENZENE (ug/L)	M,P,O XYLENE (ug/L)	TOTAL BTEX (ug/L)
T48253	RA 2723	<1	<1	<1	<1	<1	<1
T48254	RA 4796	<1	<1	1	<1	<1	1
T48255	RA 4798	<1	<1	<1	<1	<1	<1
QC	Quality Control	95	95	95	92	306	
Reporting Limit		1	1	1	1	1	
RPD		4	3	6	3	2	
% Extraction Accuracy		94	94	95	90	101	
% Instrument Accuracy		96	96	96	92	102	

METHODS: EPA SW 846-8020, 5030.
MTBE/BTEX SPIKE AND QC: 100 ug/L MTBE/BTEX.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

2-16-96
Date

TraceAnalysis, Inc.

6701 Aberdeen Avenue Lubbock, Texas 79424
Tel (806) 794 1296 Fax (806) 794 1298
1 (800) 378 1296

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: DAVID HUNT

Phone #:

FAX #:

Company Name & Address: NM [illegible] ARTESIA NM

Project #:

Project Name :

Project Location: ARTESIA

Sampler Signature:

ANALYSIS REQUEST

SPECIAL HANDLING

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE		PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE		SAMPLING: DATE	TIME	BTEX, MTBE	TPH	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	8240 / 8260	8270					Turn around # of days	Fax ASAP	Hold		
	RD Depot Location	2		X						X	X	X																				
	NA 2	2	40ml	X							X					X																
	NA 3	2	40ml	X							X					X																
	NA 4	2	40ml	X							X					X																
																X																

Relinquished by: Date: Time:
2/11/15 16:30

Received by: Date: Time:

Relinquished by: Date: Time:

Received by: Date: Time:

Relinquished by: Date: Time:

Received at Laboratory by: Date: Time:

REMARKS

TraceAnalysis, Inc.

6701 Aberdeen Avenue Lubbock, Texas 79424
Tel (806) 794 1296 Fax (806) 794 1298
1 (800) 378 1296

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: DAVID MOSE

Phone #:

FAX #:

Company Name & Address: NAVAJO REFINING CO ARTESIA NM 88210

Project #:

Project Name :

Project Location: ARTESIA

Sampler Signature:

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE		PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE		SAMPLING: DATE	TIME	BTEX, MTBE	TPH	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	8240 / 8260	8270	
	NAVAJO REFINING COMPANY	2		X										2/26/16	11:00			3		1	1	1			
	ALKY COOLING TOWER INLET	2	4oz	X								X		2/26/16	11:55			S		4	4	1			
	ALKY COOLING TOWER OUTLET	2	4oz	X								X		2/26/16	12:00			S		4	4	1			
	ALKY	2	4oz	X								X		2/26/16	12:15	X									

SPECIAL HANDLING

Turn around # of days

Fax ASAP

Hold

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
	2/26/16	16:30			
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received at Laboratory by:	Date:	Time:

REMARKS

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

March 04, 1996
Receiving Date: 03/01/96
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 03/03/96
Analysis Date: 03/03/96
Sampling Date: 02/28/96
Sample Condition: Intact & Cool
Sample Received by: ML
Project Name: NA

TA#	Field Code	MTBE (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYL-BENZENE (ug/L)	M,P,O XYLENE (ug/L)	TOTAL BTEX (ug/L)
T48952	RA 2723	<1	<1	<1	<1	<1	<1
QC	Quality Control	105	99	96	95	309	
Reporting Limit		1	1	1	1	1	
RPD		10	8	8	8	7	
% Extraction Accuracy		109	105	102	100	107	
% Instrument Accuracy		105	100	96	96	104	

METHODS: EPA SW 846-8020, 5030.
MTBE/BTEX SPIKE AND QC: 100 ug/L MTBE/BTEX.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-4-96
Date

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

April 15, 1996
Receiving Date: 04/13/96
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

Prep Date: 04/14/96
Analysis Date: 04/14/96
Sampling Date: 04/08-10/96
Sample Condition: Intact & Cool
Sample Received by: DH
Project Name: NA

TA#	Field Code	MTBE (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYL-BENZENE (ug/L)	M,P,O XYLENE (ug/L)	TOTAL BTEX (ug/L)
T50999	RA - 2723	<1	<1	<1	<1	<1	<1
T51000	RA - 1331	<1	<1	<1	<1	<1	<1
T51001	RA - 307	<1	<1	<1	<1	<1	<1
T51002	RA - 4196	<1	<1	<1	<1	<1	<1
T51003	RA - 4798	<1	<1	<1	<1	<1	<1
T51004	RA - 314	<1	<1	<1	<1	<1	<1
T51005	RA - 313	<1	<1	<1	<1	<1	<1
T51006	KWB - 2A	<1	<1	<1	<1	<1	<1
T51007	KWB - 3A	<1	<1	<1	<1	<1	<1
T51008	KWB - 9	<1	<1	<1	<1	<1	<1
T51009	KWB - 11A	<1	<1	<1	<1	<1	<1
T51010	KWB - 12A	<1	<1	<1	<1	<1	<1
T51011	RA - 3156	<1	<1	<1	<1	<1	<1
T51012	RA - 3353	<1	<1	<1	<1	<1	<1
T51013	RA - 1227	<1	<1	<1	<1	<1	<1
T51014	KWB - 1A	<1	<1	<1	<1	<1	<1
T51015	KWB - 1C	<1	<1	<1	<1	<1	<1
T51016	MW - 18	<1	<1	<1	<1	<1	<1
T51017	MW - 45	<1	<1	<1	<1	<1	<1
T51018	KWB - 7	<1	<1	<1	<1	<1	<1
QC	Quality Control	99	102	102	101	204	
Reporting Limit		1	1	1	1	1	
RPD		10	12	12	13	16	
% Extraction Accuracy		97	102	101	100	102	
% Instrument Accuracy		99	102	102	101	102	

METHODS: EPA SW 846-8020, 5030.
MTBE/BTEX SPIKE AND QC: 100 ug/L MTBE/BTEX.

BL
Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

4-15-96
Date

TraceAnalysis, Inc.

6701 Aberdeen Avenue Lubbock, Texas 79424
Tel (806) 794 1296 Fax (806) 794 1298
1 (800) 378 1296

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Darrell Moore
Phone #: 505-748-3311
FAX #: 505-748-9077

Company Name & Address: Navajo Refining

Project #:
Project Name :

Project Location: Artesia NM
Sampler Signature: Darrell Moore

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME	ANALYSIS REQUEST: BTEX, MTBE	TPH	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	8240 / 8260	8270	
	RA 2723	2	40ml	X				X				4/8/96	9:00	X									
	RA-1331	"	"	"				"				"	9:15	X									
	RA 307	"	"	"				"				"	9:40	X									
	RA-4196	"	"	"				"				"	10:20	X									
	RA-4798	"	"	"				"				"	10:45	X									
	RA-314	"	"	"				"				"	11:20	X									
	RA-313	"	"	"				"				"	12:00	X									
	KWB-2A	"	"	"				"				"	13:30	X									
	KWB-3A	"	"	"				"				"	14:30	X									
	KWB-9	"	"	"				"				"	15:15	X									
	KWB-11A	"	"	"				"				4/9/96	8:00	X									

SPECIAL HANDLING: Turn around # of days; Fax ASAP; Hold

Relinquished by: Darrell Moore	**Date:** 4/11/96	**Time:** 16:15
Relinquished by:	**Date:**	**Time:**
Relinquished by:	**Date:**	**Time:**

Received by:	**Date:**	**Time:**
Received by:	**Date:**	**Time:**
Received at Laboratory by:	**Date:**	**Time:**

REMARKS All samples kept on ice.

TraceAnalysis, Inc.

6701 Aberdeen Avenue Lubbock, Texas 79424
Tel (806) 794 1296 Fax (806) 794 1298
1 (800) 378 1296

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: | **Phone #:** | **FAX #:**

Company Name & Address:

Project #: | **Project Name :**

Project Location: | **Sampler Signature:**

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME	ANALYSIS REQUEST: BTEX, MTBE	TPH	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	8240 / 8260	8270	SPECIAL HANDLING: Turn around # of days	Fax ASAP	Hold
	KWB-12A	2	40ml	X				X				4/6/16	9:15	X											
	BA 3156	"	"	"				"				" "	10:00	X											
	BA-3353	"	"	"				"				" "	10:15	X											
	BA-1227	"	"	"				"				" "	10:40	X											
	KWB-1A	"	"	"				"				" "	13:30	X											
	KWB-1C	"	"	"				"				" "	14:40	X											
	MW-18	"	"	"				"				4/10/16	12:15	X											
	MW-45	"	"	"				"				" "	14:30	X											
	KWB-7	"	"	"				"				" "	16:00	X											

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received at Laboratory by:	Date:	Time:

REMARKS

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

April 25, 1996
Receiving Date: 04/24/96
Sample Type: Water
Project No: NA
Project Location: Artesia

Prep Date: 04/24/96
Analysis Date: 04/24/96
Sampling Date: 04/23/96
Sample Condition: Intact & Cool
Sample Received by: ML
Project Name: NA

TA#	Field Code	MTBE (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYL-BENZENE (ug/L)	M,P,O XYLENE (ug/L)	TOTAL BTEX (ug/L)
T51533	RA 2723	<1	<1	<1	<1	<1	<1
T51534	RA 4196	<1	<1	<1	<1	<1	<1
T51535	RA 4798	<1	<1	<1	<1	<1	<1
T51536	RA 314	<1	<1	<1	<1	<1	<1
T51537	RA 1227	<1	<1	<1	<1	<1	<1
T51538	RA 307	<1	<1	<1	<1	<1	<1
T51539	RA 1331	<1	<1	<1	<1	<1	<1
QC	Quality Control	99	102	103	101	195	
Reporting Limit		1	1	1	1	1	
RPD		2	1	1	2	2	
% Extraction Accuracy		100	104	105	102	98	
% Instrument Accuracy		99	102	103	101	98	

METHODS: EPA SW 846-8020, 5030.
MTBE/BTEX SPIKE AND QC: 100 ug/L MTBE/BTEX.

BS

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

4-25-96
Date

51532-39

TraceAnalysis, Inc.

6701 Aberdeen Avenue Lubbock, Texas 79424
Tel (806) 794 1296 Fax (806) 794 1298
1 (800) 378 1296

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: DARRELL MOORE

Phone #:

FAX #:

Company Name & Address: NAVAJO REFINING CO

Project #:

Project Name :

Project Location: ARTESIA

Sampler Signature:

ANALYSIS REQUEST

SPECIAL HANDLING

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME	BTEX, MTBE	TPH	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	8240 / 8260	8270
51532	RO REJECT BIWEEKLY	2	1L 250mL	X					X			4/23/96	13:40				See			List		
33	RA 2723	2	40mL	X							X	"	13:35	X								
34	RA 4196	2	"	X							X	"	13:55	X								
35	RA 4798	2	"	X							X	"	14:05	X								
36	RA 314	2	"	X							X	"	14:30	X								
37	RA 1227	2	"	X							X	"	14:45	X								
38	RA 307	2	"	X							X	"	14:55	X								
39	RA 1331	2	"	X							X	"	15:30	X								

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
	4/23/96	16:15			
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received at Laboratory by: M Lopez	4-24-96	11:25

REMARKS

115 AK

Faxed 5-28

NAVAJO TX 33, XCS

CI

B471

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

May 03, 1996
Receiving Date: 05/01/96
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 05/02/96
Analysis Date: 05/02/96
Sampling Date: 04/30/96
Sample Condition: Intact & Cool
Sample Received by: SH
Project Name: NA

TA#	Field Code	MTBE (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYL-BENZENE (ug/L)	M,P,O XYLENE (ug/L)	TOTAL BTEX (ug/L)
T51848	RA - 2723	<1	<1	<1	<1	<1	<1
QC	Quality Control	91	95	103	93	176	
Reporting Limit		1	1	1	1	1	
RPD		4	4	3	3	2	
% Extraction Accuracy		92	97	96	94	90	
% Instrument Accuracy		91	95	103	93	88	

METHODS: EPA SW 846-8020, 5030.
CHEMIST: McD
MTBE/BTEX SPIKE AND QC: 100 ug/L MTBE/BTEX.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

5-6-96
Date

TraceAnalysis, Inc.

6701 Aberdeen Avenue Lubbock, Texas 79424
Tel (806) 794 1296 Fax (806) 794 1298
1 (800) 378 1296

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: DARRELL MOORE

Phone #:

FAX #:

Company Name & Address: NAVAJO REFINING CO

Project #:

Project Name :

Project Location: ARTESIA

Sampler Signature:

ANALYSIS REQUEST

SPECIAL HANDLING

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME	BTEX, MTBE	TPH	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	8240 / 8260	8270
51847	RO REJECT BIWEEKLY	2	2 Gal 1L	X					X		X	4/30/96	12:30			SEE		LIST				
48	RA 2723	2	40ml	X							X	"	12:40	X								
49	ALKY COOLING TOWER INLET	2	40ml	X							X	"	13:30			SEE		LIST				
50	ALKY COOLING TOWER OUTLET	2	"	X							X	"	13:30			SEE		LIST				

SPECIAL HANDLING: Turn around # of days; Fax ASAP; Hold

Relinquished by:	**Date:** 4/30/96	**Time:** 16:15	**Received by:**	**Date:**	**Time:**
Relinquished by:	**Date:**	**Time:**	**Received by:**	**Date:**	**Time:**
Relinquished by:	**Date:**	**Time:**	**Received at Laboratory by:**	**Date:** 5-1-96	**Time:** 11:15A

REMARKS

Faxed 6-1

NAVBTX48.XLS (349) NAVTPHMO.XLS (SEND IF ML) 122AI

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

May 14, 1996
Receiving Date: 05/13/96
Sample Type: Water
Project No: NA
Project Location: Artesia

Prep Date: 05/13/96
Analysis Date: 05/13/96
Sampling Date: 05/10/96
Sample Condition: Intact & Cool
Sample Received by: SH
Project Name: NA

TA#	Ficld Code	MTBE (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYL-BENZENE (ug/L)	M,P,O XYLENE (ug/L)	TOTAL BTEX (ug/L)
T52194	RA 2723	<1	<1	<1	<1	<1	<1
T52195	RA 1331	<1	<1	<1	<1	<1	<1
T52196	RA 307	<1	<1	<1	<1	<1	<1
T52197	RA 4196	<1	<1	<1	<1	<1	<1
T52198	RA 4798	<1	<1	<1	<1	<1	<1
T52199	RA 313	<1	<1	<1	<1	<1	<1
T52200	RA 1227	2	<1	<1	<1	<1	<1
QC	Quality Control	96	104	106	100	191	
Reporting Limit		1	1	1	1	1	
RPD		2	2	11	1	2	
% Extraction Accuracy		95	104	109	101	96	
% Instrument Accuracy		96	104	106	100	96	

METHODS: EPA SW 846-8020, 5030.
CHEMIST: MTBE/BTEX: McD
MTBE/BTEX SPIKE AND QC: 100 ug/L MTBE/BTEX.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

5-14-96
Date

TraceAnalysis, Inc.

6701 Aberdeen Avenue Lubbock, Texas 79424
Tel (806) 794 1296 Fax (806) 794 1298
1 (800) 378 1296

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: DARRELL MOORE

Phone #:

FAX #:

Company Name & Address: NAVAJO REFINING CO.

Project #:

Project Name :

Project Location: ARTESIA

Sampler Signature:

ANALYSIS REQUEST

SPECIAL HANDLING

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME	BTEX, MTBE	TPH	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	8240 / 8260	8270	Turn around # of days	Fax ASAP	Hold
	NONEJECT BINEFFLY	2	250ml 1L	X					X		X	5/13/96	13.50			SEC		LIST							
	RA 2723	2	40ml	X				X				"	14.15	X			"								
	RA 1331	"	"	X				X				"	14.45				"								
	RA 507	"	"	X				X				"	14.50				"								
	RA 4176	"	"	X				Y				"	14.23				"								
	RA 4196	"	"	X				Y				"	14.30				"								
	RA 313	"	"	X				X				"	14.55				"								
	RA 1227	"	"	X				X				"	15.25				"								

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
	5/13/96	14:15			
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received at Laboratory by:	Date:	Time:

REMARKS

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

June 03, 1996
Receiving Date: 06/01/96
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 06/01/96
Analysis Date: 06/01/96
Sampling Date: 05/31/96
Sample Condition: Intact & Cool
Sample Received by: DH
Project Name: NA

TA#	Field Code	MTBE (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYL-BENZENE (ug/L)	M,P,O XYLENE (ug/L)	TOTAL BTEX (ug/L)
T53428	RA-2723	<1	<1	<1	<1	<1	<1
QC	Quality Control	102	92	90	88	176	
Reporting Limit		1	1	1	1	1	
RPD		3	2	2	2	2	
% Extraction Accuracy		104	94	93	91	90	
% Instrument Accuracy		102	92	90	88	88	

METHODS: EPA SW 846-8020, 5030.
CHEMIST: DH
MTBE/BTEX SPIKE AND QC: 100 ug/L MTBE/BTEX.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

6-4-96
Date

TraceAnalysis, Inc.

6701 Aberdeen Avenue Lubbock, Texas 79424
Tel (806) 794 1296 Fax (806) 794 1298
1 (800) 378 1296

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Darrell Moore
Phone #: 505-748-3311
FAX #: 505-748-9077

Company Name & Address: Navajo Refining

Project #:
Project Name :

Project Location: Artesia, NM
Sampler Signature: Darrell Moore

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	Other	SAMPLING: DATE	TIME	BTEX, MTBE	TPH	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	8240 / 8260	8270
	RO Reject B. Wtr	2		X					1		1		5/31/96	8:30				See	List				
	Alky Cooling Twr Inlet	2		X				2					" "	8:45				See	List				
	Alky Cooling Twr Outlet	2		X				2					" "	8:50				See	List				
	TK 37	1			X						1		" "	9:10				X					
	KA-2123	2		X				2					" "	9:20	X								

ANALYSIS REQUEST

SPECIAL HANDLING

Turn around # of days
Fax ASAP
Hold

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Darrell Moore	5/31/96	16:15			
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received at Laboratory by:	Date:	Time:

REMARKS On TK 37, only TCLP Pb

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

June 17, 1996
Receiving Date: 06/14/96
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

Prep Date: 06/14/96
Analysis Date: 06/14/96
Sampling Date: 06/10,12,13/96
Sample Condition: Intact & Cool
Sample Received by: SH
Project Name: NA

TA#	Field Code	MTBE (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYL-BENZENE (ug/L)	M,P,O XYLENE (ug/L)	TOTAL BTEX (ug/L)
T54062	RA - 313	<1	<1	<1	<1	<1	<1
T54063	RA - 2723	<1	<1	<1	<1	<1	<1
T54064	RA - 1227	1	<1	<1	<1	<1	<1
T54065	RA - 1331	<1	<1	<1	<1	<1	<1
T54066	RA - 307	<1	<1	<1	<1	<1	<1
T54067	RA - 4196	<1	1	<1	<1	<1	1
T54068	RA - 3353	<1	<1	<1	<1	<1	<1
T54069	KWB - 1A	<1	<1	<1	<1	<1	<1
T54070	KWB - 1C	<1	<1	<1	<1	<1	<1
T54071	KWB - 3A	<1	<1	<1	<1	<1	<1
T54072	MW - 45	<1	<1	<1	<1	<1	<1
T54073	RA - 4798	<1	<1	<1	<1	<1	<1
T54074	KWB - 9	<1	<1	<1	<1	<1	<1
T54075	KWB - 12A	<1	<1	<1	<1	<1	<1
T54076	RA - 3156	<1	<1	<1	<1	<1	<1
T54077	KWB - 11A	1	<1	<1	<1	<1	<1
T54078	KWB - 7	4	<1	<1	<1	<1	<1
T54079	KWB - 2A	<1	<1	<1	<1	<1	<1
T54080	MW - 18	<1	<1	<1	<1	<1	<1
T54082	RA - 314	<1	<1	<1	<1	<1	<1
QC	Quality Control	90	90	91	93	273	
Reporting Limit		1	1	1	1	1	
RPD		3	1	2	2	1	
% Extraction Accuracy		89	88	90	93	90	
% Instrument Accuracy		90	90	91	93	91	

METHODS: EPA SW 846-8020, 5030.
CHEMIST: McD
MTBE/BTEX SPIKE AND QC: 100 ug/L MTBE/BTEX.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

6-17-96
Date

TraceAnalysis, Inc.

6701 Aberdeen Avenue Lubbock, Texas 79424
Tel (806) 794 1296 Fax (806) 794 1298
1 (800) 378 1296

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Darrell Moore **Phone #:** 748-3311 **FAX #:** 748-9077

Company Name & Address: Navajo Refining

Project #: **Project Name :**

Project Location: Artesia NM **Sampler Signature:** Darrell Moore

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME	BTEX, MTBE	TPH	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	8240 / 8260	8270
	RM 313	2	40ml	X				X				6/10/96	9:45	X								
	RM 2723	"	"	"				"				"	9:55	X								
	RM 1227	"	"	"				"				"	10:05	X								
	RM 1331	"	"	"				"				"	10:10	X								
	RM 307	"	"	"				"				"	10:15	X								
	RM 4196	"	"	"				"				"	10:20	X								
	RM 3353	"	"	"				"				6/12/96	10:00	X								
	KWB 1A	"	"	"				"				"	10:20	X								
	KWB 1C	"	"	"				"				"	11:00	X								
	KWB 3A	"	"	"				"				"	13:00	X								
	MW 45	"	"	"				"				"	14:10	X								

SPECIAL HANDLING: Turn around # of days; Fax ASAP; Hold

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Darrell Moore	6/13/96	14:15			
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received at Laboratory by:	Date:	Time:

REMARKS All samples kept on ice at all times.

TraceAnalysis, Inc.

6701 Aberdeen Avenue Lubbock, Texas 79424
Tel (806) 794 1296 Fax (806) 794 1298
1 (800) 378 1296

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: | **Phone #:** | **FAX #:**

Company Name & Address: Navajo Refining

Project #: | **Project Name :**

Project Location: | **Sampler Signature:**

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE		SAMPLING: DATE	TIME	BTEX, MTBE	TPH	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	8240 / 8260	8270						Turn around # of days	Fax ASAP	Hold		
	RA 4798	2	40ml	X				X					6/13/96	8:50	X																	
	KWB-9	"	"	"				"					" "	9:00	X																	
	KWB-12A	"	"	"				"					" "	9:10	X																	
	RA-3156	"	"	"				"					" "	9:30	X																	
	KWB-11A	"	"	"				"					" "	10:00	X																	
	KWB-7	"	"	"				"					" "	10:15	X																	
	KWB 21	"	"	"				"					" "	10:50	X																	
	MW-18	"	"	"				"					" "	11:40	X																	
	EO Project Bi Wkly	2		"					X		X		" "	13:00	X																	
	RA 314	"		"				X					" "	14:00	X																	
	SH Re Hab 19.5'	4		"				2				2	6/14/96	13:00	X																	

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received at Laboratory by:	Date:	Time:

REMARKS

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

July 01, 1996
Receiving Date: 06/29/96
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 06/30/96
Analysis Date: 06/30/96
Sampling Date: 06/28/96
Sample Condition: Intact & Cool
Sample Received by: ML
Project Name: NA

TA#	Field Code	MTBE (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYL-BENZENE (ug/L)	M,P,O XYLENE (ug/L)	TOTAL BTEX (ug/L)
T54949	RA 2723	<1	<1	<1	<1	<1	<1
QC	Quality Control	93	92	92	93	300	
Reporting Limit		1	1	1	1	1	
RPD		0	4	4	3	1	
% Extraction Accuracy		92	93	94	96	109	
% Instrument Accuracy		93	92	92	93	100	

METHODS: EPA SW 846-8020, 5030.
CHEMIST: McD
MTBE/BTEX SPIKE AND QC: 100 ug/L MTBE/BTEX.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

7-1-96
Date

TraceAnalysis, Inc.

6701 Aberdeen Avenue Lubbock, Texas 79424
Tel (806) 794 1296 Fax (806) 794 1298
1 (800) 378 1296

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Darrell Moore

Phone #:

FAX #:

Company Name & Address: Navajo

Project #:

Project Name :

Project Location: Artesia

Sampler Signature:

ANALYSIS REQUEST

SPECIAL HANDLING

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME	BTEX, MTBE	TPH	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	8240 / 8260	8270	Turn around # of days	Fax ASAP	Hold
	Utility Cooling Tower Inlet	2	40ml	X				X		X		6/20/96	14:00			See List									
	" " " Outlet	"	"	"				"		"		"	14:05												
	RW-2223	"	"	"				"		"		"	14:30	X											
	RO Reject Utility	14		"				X	X	X	X	X	15:15			See List									

Relinquished by: Darrell Moore **Date:** 6/20/96 **Time:** 18:15

Received by: **Date:** **Time:**

Relinquished by: **Date:** **Time:**

Received by: **Date:** **Time:**

Relinquished by: **Date:** **Time:**

Received at Laboratory by: **Date:** **Time:**

REMARKS

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

July 16, 1996
Receiving Date: 07/13/96
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 07/15/96
Analysis Date: 07/15/96
Sampling Date: 07/12/96
Sample Condition: Intact & Cool
Sample Received by: DH
Project Name: NA

TA#	Field Code	MTBE (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYL-BENZENE (ug/L)	M,P,O XYLENE (ug/L)	TOTAL BTEX (ug/L)
T55624	RA-314	<1	<1	<1	<1	<1	<1
T55625	RA-2723	1	<1	<1	1	1	2
T55626	RA-1227	<1	<1	<1	<1	<1	<1
T55627	RA-1331	<1	<1	<1	<1	<1	<1
T55628	RA-307	<1	<1	<1	<1	<1	<1
T55629	RA-4196	<1	<1	<1	<1	<1	<1
T55630	RA-4798	<1	<1	<1	<1	<1	<1
QC	Quality Control	100	98	97	97	285	
Reporting Limit		1	1	1	1	1	
RPD		18	7	5	6	3	
% Extraction Accuracy		106	102	101	98	97	
% Instrument Accuracy		100	98	97	97	95	

METHODS: EPA SW 846-8020, 5030.
CHEMIST: RW
MTBE/BTEX SPIKE AND QC: 100 ug/L MTBE/BTEX.

BF

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

7-16-96
Date

TraceAnalysis, Inc.

6701 Aberdeen Avenue Lubbock, Texas 79424
Tel (806) 794 1296 Fax (806) 794 1298
1 (800) 378 1296

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Darrell Moore
Phone #: 505 748-3311
FAX #: 505 748-9077

Company Name & Address: Navajo Refining

Project #:
Project Name :

Project Location: Artesia
Sampler Signature: Darrell Moore

ANALYSIS REQUEST

SPECIAL HANDLING

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME	BTEX, MTBE	TPH	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	8240 / 8260	8270	COD	TOC	Ammonia	TSS, Cond., pH	Turn around # of days	Fax ASAP	Hold
	12" Hydrotest	5		X								7/11/96	12:00																
	RA 314	2		X				X(2)				7/12/96	13:30	X															
	RA 2723	"		"				"				" "	13:45	X															
	RA 1227	"		"				"				" "	14:00	X															
	RA 1331	"		"				"				" "	14:15	X															
	RA 307	"		"				"				" "	14:30	X															
	RA 4196	"		"				"				" "	14:45	X															
	RA 4798	"		"				"				" "	15:00	X															
	RO Reject Biwkly	"		"					X		X	" "	15:15	X		See	List												

Relinquished by: Darrell Moore **Date:** 7/11/96 **Time:** 16:15
Received by: **Date:** **Time:**

Relinquished by: **Date:** **Time:**
Received by: **Date:** **Time:**

Relinquished by: **Date:** **Time:**
Received at Laboratory by: **Date:** **Time:**

REMARKS Hydrotest water was kept on ice.

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

August 5, 1996
Receiving Date: 07/31/96
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 08/01/96
Analysis Date: 08/01/96
Sampling Date: 07/26/96
Sample Condition: Intact & Cool
Sample Received by: SH
Project Name: NA

TA#	Field Code	MTBE (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYL-BENZENE (ug/L)	M,P,O XYLENE (ug/L)	TOTAL BTEX (ug/L)
T56413	RA 2723	<1	<1	<1	<1	<1	<1
QC	Quality Control	105	106	103	101	317	
Reporting Limit		1	1	1	1	1	
RPD		2	2	2	2	2	
% Extraction Accuracy		97	99	94	92	90	
% Instrument Accuracy		105	106	103	101	106	

CHEMIST: RW
METHODS: EPA SW 846-8020, 5030.
MTBE/BTEX SPIKE AND QC: 100 ug/L MTBE/BTEX.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

8-5-96
Date

TraceAnalysis, Inc.

6701 Aberdeen Avenue Lubbock, Texas 79424
Tel (806) 794 1296 Fax (806) 794 1298
1 (800) 378 1296

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Darrell Moore
Phone #:
FAX #:
Company Name & Address: Navajo Refining
Project #:
Project Name :
Project Location: Artesia NM
Sampler Signature: Darrell Moore

ANALYSIS REQUEST

SPECIAL HANDLING

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME	BTEX, MTBE	TPH	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	8240 / 8260	8270	Turn around # of days	Fax ASAP	Hold
	RO Reject B.Wkly	2		X					(X)		(X)	7/26/96	1000			See	List								
	RA 2723	2	40ml	X				(X)				" "	1100	X											

Relinquished by: Darrell Moore	**Date:** 7/26/96	**Time:** 18:15	**Received by:**
Relinquished by:	**Date:**	**Time:**	**Received by:**
Relinquished by:	**Date:**	**Time:**	**Received at Laboratory by:**

REMARKS

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

August 15, 1996
Receiving Date: 08/06/96
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 08/12/96
Analysis Date: 08/12/96
Sampling Date: 08/05/96
Sample Condition: Intact & Cool
Sample Received by: SH
Project Name: NA

TA#	Field Code	MTBE (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYL-BENZENE (ug/L)	M,P,O XYLENE (ug/L)	TOTAL BTEX (ug/L)
T56717	RA - 313	<1	<1	<1	<1	<1	<1
T56718	RA - 2723	<1	<1	<1	<1	<1	<1
T56719	RA - 1227	2	<1	<1	<1	<1	<1
T56720	RA - 1331	<1	<1	<1	<1	<1	<1
T56721	RA - 307	<1	<1	<1	<1	<1	<1
T56722	RA - 4196	<1	<1	<1	<1	<1	<1
T56723	RA - 4798	<1	<1	<1	<1	<1	<1
QC	Quality Control	101	101	102	102	295	
Reporting Limit		1	1	1	1	1	
RPD		3	2	3	3	2	
% Extraction Accuracy		102	98	100	100	97	
% Instrument Accuracy		101	101	102	102	98	

METHODS: EPA SW 846-8020, 5030.
CHEMIST: RW
MTBE/BTEX SPIKE AND QC: 100 ug/L MTBE/BTEX.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

8-15-96
Date

56717 - 25

TraceAnalysis, Inc.

6701 Aberdeen Avenue Lubbock, Texas 79424
Tel (806) 794 1296 Fax (806) 794 1298
1 (800) 378 1296

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Darrell Moore
Phone #: 505-748-3311
FAX #: 505-748-9077

Company Name & Address: Navajo Refining Co.

Project #:
Project Name :

Project Location: Artesia NM
Sampler Signature: Darrell Moore

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	Other	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME	BTEX, MTBE	TPH	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	8240 / 8260	8270
56717	RA-313	2		X					X		X		8/5/96	1000	X								
18	RA-2723	2		"					"		"		" "	1015	X								
19	RA-1227	"		"					"		"		" "	1025	X								
20	RA-1331	"		"					"		"		" "	1035	X								
21	RA-307	"		"					"		"		" "	1045	X								
22	RA-4196	"		"					"		"		" "	1050	X								
23	RA-4798	"		"					"		"		" "	1100	X								
24	Brick + Refractory from B-1	1						X				X	" "	1115			X	X	X	X			
25	Bolton Rd Recovery Well Soil	1						X				X	" "	1130			X	X	X	X			

SPECIAL HANDLING: Turn around # of days; Fax ASAP; Hold

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Darrell Moore	8/5/96	16:15			
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received at Laboratory by:	Date:	Time:
				8/6/96	10:35A

REMARKS

CI

NAVBTX17.XLS (377)

219AF

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

August 22, 1996
Receiving Date: 08/20/96
Sample Type: Water
Project No: NA
Project Location: Artesia, NM 88210

Prep Date: 08/20/96
Analysis Date: 08/20/96
Sampling Date: 08/16/96
Sample Condition: Intact & Cool
Sample Received by: SH
Project Name: NA

TA#	Field Code	MTBE (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYL-BENZENE (ug/L)	M,P,O XYLENE (ug/L)	TOTAL BTEX (ug/L)
T57509	RA - 2723	<1	<1	<1	<1	<1	<1
QC	Quality Control	108	105	104	104	301	
Reporting Limit		1	1	1	1	1	
RPD		7	8	8	8	1	
% Extraction Accuracy		114	110	110	109	109	
% Instrument Accuracy		108	105	104	104	100	

METHODS: EPA SW 846-8020, 5030.
CHEMIST: RW
MTBE/BTEX SPIKE AND QC: 100 ug/L MTBE/BTEX.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

8-22-96
Date

TraceAnalysis, Inc.

6701 Aberdeen Avenue Lubbock, Texas 79424
Tel (806) 794 1296 Fax (806) 794 1298
1 (800) 378 1296

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Darrell Moore

Phone #: 505 748 3311

FAX #: 505-748-9077

Company Name & Address: Navajo Refining Co.

Project #:

Project Name :

Project Location: Artesia NM 88210

Sampler Signature: Darrell Moore

ANALYSIS REQUEST

SPECIAL HANDLING

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME	BTEX, MTBE	TPH	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	8240 / 8260	8270	Turn around # of days	Fax ASAP	Hold
57508	RO Reject Biwkly	2		X					(1) X	X	(1) X	8/16/96	13:00			3			2	X					
09	RA-2723	2	40ml	X				X		X		" "	13:00	X											

Relinquished by: Darrell Moore **Date:** 8/16/96 **Time:** 16:15

Received by: **Date:** **Time:**

Relinquished by: **Date:** **Time:**

Received by: **Date:** **Time:**

Relinquished by: **Date:** **Time:**

Received at Laboratory by: **Date:** 8-20-96 **Time:** 9:35A

REMARKS

F 8-22-96

4-11

B

NM BTX 09. XLS (3SI)

CI

233AB

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

August 28, 1996
Receiving Date: 08/26/96
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 08/26/96
Analysis Date: 08/26/96
Sampling Date: 08/23/96
Sample Condition: Intact & Cool
Sample Received by: ML
Project Name: NA

TA#	Field Code	MTBE (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYL-BENZENE (ug/L)	M,P,O XYLENE (ug/L)	TOTAL BTEX (ug/L)
T57986	RA - 1227	<1	<1	<1	<1	<1	<1
T57987	RA - 2723	<1	<1	<1	<1	<1	<1
T57988	RA - 4196	<1	<1	<1	<1	<1	<1
T57989	RA - 4798	<1	<1	<1	<1	<1	<1
T57990	RA - 313	<1	<1	<1	<1	<1	<1
T57991	RA - 314	<1	<1	<1	<1	<1	<1
T57992	RA - 1331	<1	<1	<1	<1	<1	<1
T57993	RA - 307	<1	<1	<1	<1	<1	<1
QC	Quality Control	100	103	106	106	317	
Reporting Limit		1	1	1	1	1	
RPD		3	2	3	2	3	
% Extraction Accuracy		104	104	106	105	105	
% Instrument Accuracy		100	103	106	106	106	

METHODS: EPA SW 846-8020, 5030.
CHEMIST: RW
MTBE/BTEX SPIKE AND QC: 100 ug/L MTBE/BTEX.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

8-28-96
Date

57986-96

TraceAnalysis, Inc.

6701 Aberdeen Avenue Lubbock, Texas 79424
Tel (806) 794 1296 Fax (806) 794 1298
1 (800) 378 1296

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Darrell Moore
Phone #:
FAX #:
Company Name & Address: Navajo Refining
Project #:
Project Name :
Project Location: Artesia NM
Sampler Signature:

ANALYSIS REQUEST

SPECIAL HANDLING

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME	BTEX, MTBE	TPH 8015	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	8240 / 8260	8270	Turn around # of days	Fax ASAP	Hold
57986	RA-1227	12	40 ml	X				X				5/23/96	10:00	X											
87	RA 2723	2	"	"				"				" "	10:10	X											
88	RA-4196	"	"	"				"				" "	10:25	X											
89	RA-4798	"	"	"				"				" "	10:35	X											
90	RA-313	1	"	"				"				" "	10:50	X											
91	RA-314	2	"	"				"				" "	11:00	X											
92	RA-1331	"	"	"				"				" "	11:15	X											
93	RA-307	"	"	"				"				" "	11:25	X											
94	Alky Cooling Twr Inlet	"	"	"				"				" "	12:00		X			See	List						
95	" " " outlet	"	"	"				"				" "	12:10		X			See	List						
96	RO Reject Bi Wkly	"		"					X		X	" "	12:30					See	List						

Relinquished by: Darrell Moore **Date:** 5/23/96 **Time:** 14:15
Received by: **Date:** **Time:**

Relinquished by: **Date:** **Time:**
Received by: **Date:** **Time:**

Relinquished by: **Date:** **Time:**
Received at Laboratory by: M Rojas **Date:** 8-26-96 **Time:** 10:30

REMARKS

B

CI

AAVMod94.XLS

239AB (382)

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention Darrell Moore
501 E. Main
Artesia NM 88210

Date: Sep 25, 1996
Date Rec: 9/18/96
Project: ARTESIA
Proj Name: NAVAJO
Proj Loc: ARTESIA,NM

Lab Receiving # : 9609000174
Sampling Init Date: 9/17/96
Sampling Compl Date: 9/17/96
Samples Intact, Cool: Yes
Sample Received By: ML

TA#	Field Code	MATRIX	MTBE (mg/L)	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL-BENZENE (mg/L)	M,P,O XYLENE (mg/L)	TOTAL BTEX (mg/L)
T59009	RA-2723	Water	<.001	<.001	<.001	<.001	<.001	<.001
QC			0.088	0.098	0.097	0.097	0.286	
RPD			2	2	2	3	2	
% Extraction Accuracy			88	95	95	95	95	
% Instrument Accuracy			88	98	97	97	95	
Reporting Limit:			0.001	0.001	0.001	0.001	0.001	

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)	SPIKE: (mg/L)
MTBE/BTEX	EPA 5030	9/23/96	EPA 8020	9/23/96	RW	0.100ea	.1 ea

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

9-25-96
Date

TraceAnalysis, Inc.

6701 Aberdeen Avenue Lubbock, Texas 79424
Tel (806) 794 1296 Fax (806) 794 1298
1 (800) 378 1296

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Darrell Moore

Phone #: 505-787-3311

FAX #: 505-787-9077

Company Name & Address: Navajo Refining

Project #:

Project Name :

Project Location: Artesia NM

Sampler Signature: Darrell Moore

ANALYSIS REQUEST

SPECIAL HANDLING

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME	BTEX, MTBE	TPH	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	8240 / 8260	8270
	RO Report Only	12		X				X (2)	X (3)	X (4)	X (5)	9/17/96	14:00				See		List			
	RA 2723	2	40 ml	X				X (2)		X		"	14:20	X								

Turn around # of days

Fax ASAP

Hold

Relinquished by: Darrell Moore	**Date:** 9/17/96	**Time:** 16:15	**Received by:**
Relinquished by:	**Date:**	**Time:**	**Received by:**
Relinquished by:	**Date:**	**Time:**	**Received at Laboratory by:**

REMARKS

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

October 11, 1996
Receiving Date: 10/21/9
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 10/09/96
Analysis Date: 10/09/96
Sampling Date: 10/01-02/96
Sample Condition: Intact & Cool
Sample Received by: ML
Project Name: NA

TA#	FIELD CODE	MTBE (mg/L)	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL-BENZENE (mg/L)	M,P,O XYLENE (mg/L)	TOTAL BTEX (mg/L)
T59794	RA-313	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T59795	RA-2723	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T59796	RA-314	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T59797	RA-1227	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T59798	RA-1331	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T59799	RA-307	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T59800	RA-4196	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T59801	RA-4798	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T59802	KWB-9	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T59803	KWB-12A	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T59804	RA-3156	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T59805	KWB-11A	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T59806	KWB-7	0.017	<0.001	<0.001	<0.001	<0.001	<0.001
T59807	KWB-2A	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T59808	KWB-3A	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T59809	RA-3353	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T59810	KWB-1A	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T59811	KWB-1C	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T59812	MW-18	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T59813	MW-45	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
QC	Quality Control	0.098	0.104	0.105	0.106	0.106	
REPORTING LIMIT		0.001	0.001	0.001	0.001	0.001	
RPD		4	1	1	2	2	
% Extraction Accuracy		95	103	103	105	104	
% Instrument Accuracy		98	104	105	106	106	

METHODS: EPA SW 846-8020, 5030.
CHEMIST: RW
MTBE/BTEX SPIKE AND QC: 0.100 mg/L MTBE/BTEX.

BF
Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

10-14-96
Date

TraceAnalysis, Inc.

6701 Aberdeen Avenue Lubbock, Texas 79424
Tel (806) 794 1296 Fax (806) 794 1298
1 (800) 378 1296

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Darrell Moore
Phone #: 505-748-3311
FAX #: 505-748-9077

Company Name & Address: Navajo Refining Co.

Project #:
Project Name :

Project Location: Artesia NM
Sampler Signature: Darrell Moore

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME	BTEX, MTBE	TPH	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	8240 / 8260	8270
59794	RA · 313	2	40ml	X				X		X		10/1/96	8:00	X								
95	RA · 2723	"	"	"				"		"		" "	8:15	X								
96	RA · 314	"	"	"				"		"		" "	8:40	X								
97	RA · 1227	"	"	"				"		"		" "	9:00	X								
98	RA · 1331	"	"	"				"		"		" "	9:15	X								
99	RA · 307	"	"	"				"		"		" "	9:30	X								
800	RA · 4196	"	"	"				"		"		" "	9:50	X								
1	RA · 4798	"	"	"				"		"		" "	10:20	X								
2	KWB-9	"	"	"				"		"		" "	11:20	X								
3	KWB-12A	"	"	"				"		"		" "	12:30	X								
4	RA · 3156	"	"	"				"		"		" "	14:00	X								

SPECIAL HANDLING: Turn around # of days; Fax ASAP; Hold

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Darrell Moore	10/2/96	16:15			
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received at Laboratory by: M Rojas	Date: 10-2-96	Time: 10:30 CT

REMARKS

10-1-V

NAVBTX 94.XLS 278AD

(396)

TraceAnalysis, Inc.

6701 Aberdeen Avenue Lubbock, Texas 79424
Tel (806) 794 1296 Fax (806) 794 1298
1 (800) 378 1296

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: | Phone #: | FAX #:

Company Name & Address: NANAKO

Project #: | Project Name :

Project Location: | Sampler Signature:

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME	ANALYSIS REQUEST: BTEX, MTBE	TPH	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	8240 / 8260	8270
59805	KWB-11A	2	40ml	X				X		X		10/1/96	15:15	X								
6	KWB-7	"	"	"				"		"		"	16:30	X								
7	KWB-2A	"	"	"				"		"		10/2/96	8:15	X								
8	KWB-3A	"	"	"				"		"		"	9:40	X								
9	RA-3353	"	"	"				"		"		"	10:00	X								
10	KWB-1A	"	"	"				"		"		"	11:15	X								
11	KWB-1C	"	"	"				"		"		"	13:00	X								
12	MW-18	"	"	"				"		"		"	14:10	X								
13	MW-45	"	"	"				"		"		"	15:10	X								

SPECIAL HANDLING: Turn around # of days | Fax ASAP | Hold

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received at Laboratory by: M Chgb	Date: 10-4-96	Time: 10-30

REMARKS

278AD

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

October 14, 1996
Receiving Date: 10/12/96
Sample Type: Water
Project No: NA
Project Location: Orla, TX & Artesia, NM

Prep Date: 10/13/96
Analysis Date: 10/13/96
Sampling Date: 10/11/96
Sample Condition: Intact & Cool
Sample Received by: ML
Project Name: NA

TA#	FIELD CODE	MTBE (mg/L)	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL-BENZENE (mg/L)	M,P,O XYLENE (mg/L)	TOTAL BTEX (mg/L)
T60351	RA-2723	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
QC	Quality Control	0.100	0.097	0.096	0.096	0.285	
REPORTING LIMIT		0.001	0.001	0.001	0.001	0.001	
RPD		2	3	2	2	2	
% Extraction Accuracy		105	100	100	101	100	
% Instrument Accuracy		100	97	96	96	95	

METHODS: EPA SW 846-8020, 5030.
CHEMIST: RDH
MTBE/BTEX SPIKE AND QC: 0.100 mg/L MTBE/BTEX.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

10-14-96
Date

TraceAnalysis, Inc.

6701 Aberdeen Avenue Lubbock, Texas 79424
Tel (806) 794 1296 Fax (806) 794 1298
1 (800) 378 1296

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Darrell Moore

Phone #:

FAX #:

Company Name & Address: Navajo Refining Co.

Project #:

Project Name :

Project Location: Orla, Tx

Sampler Signature:

ANALYSIS REQUEST

SPECIAL HANDLING

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME	BTEX, MTBE	~~TPH 418.1~~	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	8240 / 8260	8270	Oil - Grease	TOC	COD
	12" Pipeline - Orla	W		X								10/8/96	8:30										X	X	X
	RO Reject B. Wtly	2		X					X	X	X	10/1/96	2:30			See List									
	RA-2723	2		X				X				10/1/96	2:45	X											

SPECIAL HANDLING	
Turn around # of days	
Fax ASAP	
Hold	

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Darrell Moore	10/1/96	16:15			
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received at Laboratory by:	Date:	Time:

REMARKS

Samples kept on ice.

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
Navajo Refining
Attention Darrell Moore
501 E. Main
Artesia NM 88210

Date: Nov 13, 1996
Date Rec: 11/8/96
Project: ARTESIA
Proj Name: NAVAJO
Proj Loc: ARTESIA,NM

Lab Receiving # : 9611000127
Sampling Date: 11/7/96
Sample Condition: Intact and Cool
Sample Received By: ML

TA#	Field Code	MATRIX	MTBE (mg/L)	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL-BENZENE (mg/L)	M,P,O XYLENE (mg/L)	TOTAL BTEX (mg/L)
T 62049	RA-2723	Water	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
QC			0.107	0.108	0.107	0.106	0.324	
RPD			3	0	0	0	0	
% Extraction Accuracy			107	106	105	104	105	
% Instrument Accuracy			107	108	107	106	108	
Reporting Limit:			0.001	0.001	0.001	0.001	0.001	

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)	SPIKE: (mg/L)
MTBE/BTEX	EPA 5030	11/12/96	EPA 8020	11/12/96	RW	0.100 ea	.1 ea

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

11-13-96
Date

127

TraceAnalysis, Inc.

6701 Aberdeen Avenue Lubbock, Texas 79424
Tel (806) 794 1296 Fax (806) 794 1298
1 (800) 378 1296

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Darrell Moore

Phone #: (505) 748-3311

FAX #: (505) 748-9077

Company Name & Address: Navajo Refinery

Project #:

Project Name :

Project Location: Artesia, NM

Sampler Signature: Elizabeth Peterson

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME	BTEX, MTBE	TPH	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	8240 / 8260	8270
62049	RA-2723	2	40ml	X				X		X		11/7/96	14:20	X								

ANALYSIS REQUEST

SPECIAL HANDLING

Turn around # of days
Fax ASAP
Hold

Relinquished by: Elizabeth Peterson	**Date:** 11/7/96	**Time:** 16:15
Relinquished by:	**Date:**	**Time:**
Relinquished by:	**Date:**	**Time:**

Received by:	**Date:**	**Time:**
Received by:	**Date:**	**Time:**
Received at Laboratory by: M Lopez	**Date:** 11-8-96	**Time:** 10:45

REMARKS

B

11-13

CT

313AJ

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
Navajo Refining
Attention Darrell Moore
501 E. Main
Artesia NM 88210

Date: Nov 26, 1996
Date Rec: 11/21/96
Project: ARTESIA
Proj Name: NAVAJO
Proj Loc: ARTESIA,NM

Lab Receiving # : 9611000399
Sampling Date: 11/20/96
Sample Condition: Intact and Cool
Sample Received By: ML

TA#	Field Code	MATRIX	MTBE (mg/L)	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL-BENZENE (mg/L)	M,P,O XYLENE (mg/L)	TOTAL BTEX (mg/L)
T 63182	RA-4798	Water	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T 63183	RA-4196	Water	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T 63184	RA-2723	Water	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
QC			0.104	0.103	0.103	0.105	0.313	
RPD			1	1	0	0	1	
% Extraction Accuracy			108	106	107	109	106	
% Instrument Accuracy			104	103	103	105	104	
Reporting Limit:			0.001	0.001	0.001	0.001	0.001	

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)	SPIKE: (mg/L)
MTBE/BTEX	EPA 5030	11/22/96	EPA 8020	11/22/96	BM	0.100 ea	.100 ea

BL

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

11-26-96
Date

TraceAnalysis, Inc.

6701 Aberdeen Avenue Lubbock, Texas 79424
Tel (806) 794 1296 Fax (806) 794 1298
1 (800) 378 1296

399

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Darrell Moore
Phone #:
FAX #:
Company Name & Address: Navajo Refining
Project #:
Project Name :
Project Location: Artesia
Sampler Signature: Elizabeth Peterson

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME	BTEX, MTBE	TPH	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	8240 / 8260	8270
03182	RA-4798	2		X				X		X		11/20/96	14:00	X								
83	RA-4196	"		"				"		"		" "	14:10	X								
84	RA-2723	"		"				"		"		" "	14:20	X								

SPECIAL HANDLING: Turn around # of days; Fax ASAP; Hold

Relinquished by: Darrell Moore **Date:** 11/20/96 **Time:** 16:15
Received by: **Date:** **Time:**

Relinquished by: **Date:** **Time:**
Received by: **Date:** **Time:**

Relinquished by: **Date:** **Time:**
Received at Laboratory by: M Dow **Date:** 11-21-96 **Time:** 11:40

REMARKS

11-27

CT

326 AV

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

February 17, 1997

CERTIFIED MAIL
RETURN RECEIPT NO. P-288-258-904

Mr. Phillip Youngblood
Navajo Refining Company
P. O. Drawer 159
Artesia, New Mexico 88211-0159

RE: Discharge Plans GW-028 and GW-014
Artesia and Lovington Refineries
Eddy and Lea County, New Mexico

Dear Mr. Youngblood:

The New Mexico Oil Conservation Division has received Navajo Refining Company's (Navajo) request dated February 7, 1997 for an extension to submit the required information as part of Navajo's discharge plan renewal for the Artesia and Lovington refineries. Pursuant to Water Quality Control Commission Regulations, and for good cause shown, an extension to May 16, 1997 is hereby approved.

Please be advised this extension does not relieve Navajo of liability should their operation result in pollution of surface waters, ground waters or the environment.

Sincerely,

Mark Ashley
Geologist

xc: OCD Artesia Office
OCD Hobbs Office

DISTRICT I
P.O.Box 1980, Hobbs, NM 88241-1980

DISTRICT II
P.O. Drawer DD, Artesia, NM 88211-0719

DISTRICT III
1000 Rio Brazos Rd, Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

RECEIVED
MAR 10 '97
OIL CON. DIV.
DIST. 2

SUBMIT 2 COPIES TO APPROPRIATE DISTRICT OFFICE IN ACCORDANCE WITH RULE 116 PRINTED ON BACKSIDE OF FORM

NOTIFICATION OF FIRE, BREAKS, SPILLS, LEAKS, AND BLOWOUTS

OPERATOR	Navajo Refining Co.				ADDRESS 501 E. Main		TELEPHONE # 505-748-3311
REPORT OF	FIRE	BREAK	SPILL X	LEAK	BLOWOUT	OTHER*	
TYPE OF FACILITY	DRLG WELL	PROD WELL	TANK BTRY	PIPE LINE	GASO PLNT	OIL RFY X	OTHER*
FACILITY NAME:	Navajo Refinery - Artesia						
LOCATION OF FACILITY Qtr/Qtr Sec. or Footage					SEC.	TWP.	RGE. COUNTY
DISTANCE AND DIRECTION FROM NEAREST TOWN OR PROMINENT LANDMARK							
DATE AND HOUR OF OCCURRENCE	3/6/97				DATE AND HOUR OF DISCOVERY	3/6/97 11:00 a.m.	
WAS IMMEDIATE NOTICE GIVEN?	Yes	No X	NOT REQUIRED		IF YES, TO WHOM	OCD - Santa Fe (Mark Ashley)	
BY WHOM	Darrell Moore				DATE AND HOUR	3/7/97 9:00 a.m.	
TYPE OF FLUID LOST	C.				QUANTITY OF LOSS	5 bbls.	VOLUME RECOVERED 5 bbls.
DID ANY FLUIDS REACH A WATERCOURSE?	YES	NO X			QUANTITY		

IF YES, DESCRIBE FULLY**

DESCRIBE CAUSE OF PROBLEM AND REMEDIAL ACTION TAKEN**
Seal on pump let go. Immediately after discovery, vaccuum truck called to begin clean-up.

DESCRIBE AREA AFFECTED AND CLEANUP ACTION TAKEN**
A 50' x 50' area inside Tank dike of Tk 110 in the southeast corner. Clean-up of contaminated soil will begin as soon as possible.

DESCRIPTION OF AREA	FARMING	GRAZING	URBAN	OTHER* Heavy Industrial			
SURFACE CONDITIONS	SANDY	SANDY LOAM	CLAY X	ROCKY	WET	DRY X	SNOW

DESCRIBE GENERAL CONDITIONS PREVAILING (TEMPERATURE, PRECIPITATION, ETC.)**
No wind. Sunny 70° F

I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF

SIGNED Darrell Moore PRINTED NAME AND TITLE Darrell Moore Sr. Env. Spec. 3/9/97

*SPECIFY ATTACH ADDITIONAL SHEETS IF NECESSARY

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

December 18, 1996

CERTIFIED MAIL
RETURN RECEIPT NO. P-288-258-884

Mr. Phillip Youngblood
Navajo Refining Company
P.O. Box 159
Artesia, New Mexico 88211-0159

RE: Authorization to Discharge of Hydrotest Water From Tank 433
Artesia Refinery
Eddy County, New Mexico

Dear Mr. Youngblood:

The New Mexico Oil Conservation Division (OCD) has completed a review of Navajo Refining Company's (Navajo) letter dated December 10, 1996 requesting the authorization to discharge of approximately 50,000 barrels of test water to the ground surface from the hydrostatic test of tank 433. The location of the discharge is Navajo's farm. The requested discharge is hereby approved with the following conditions:

1. The test water will be discharged onto the ground surface in a manner to prevent ponding and erosion.

2. No test waters will be discharged to any lakes, perennial streams, rivers, or any surface bodies of water upon completion of a test.

Please be advised that OCD approval does not relieve Navajo Refining Company of liability should it later be found that contamination exists which could pose a threat to surface water, ground water, human health or the environment. In addition, OCD approval does not relieve Navajo Refining Company of responsibility for compliance with any other federal, state or local laws and/or regulations.

If you have any questions please feel free to contact Mark Ashley at (505) 827-7155.

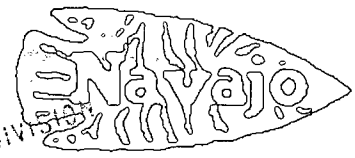
Sincerely,

Roger C. Anderson
Environmental Bureau Chief

RCA/mwa
xc: OCD Artesia Office

TELEPHONE
(505) 748-3311

EASYLINK
62905278



REFINING COMPANY

501 EAST MAIN STREET ◦ P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159

FAX
(505) 746-6410 ACCTG
(505) 746-6155 EXEC
(505) 748-9077 ENGR
(505) 746-4438 P / L

96 DE 11 AM 8 52

December 10, 1996

Mark Ashley
Geologist
Environmental Bureau
Oil Conservation Division
2040 S. Pacheco St.
Santa Fe, NM 87505-5472

RE: HYDROTEST WATER FROM TK 433, NAVAJO REFINING CO., ARTESIA, NM

Dear Mark,

I had a phone call with Roger this morning concerning the hydrotest water from our TK 433. This tank was in asphalt service and will be returned to the same service. Repairs were made to the tank and it was filled with approximately 50000 bbls of well water. In February of 1995, Navajo analyzed the hydrotest water from TK 431. This tank was also in asphalt service. Roger told me this morning that he would allow us to use this analysis as long as we certify that the products are the same. I hereby certify that the product that was in TK 431 (asphalt) and the product in TK 433 (asphalt) are the same; therefore, the analysis from TK 431 should mirror the water that will be discharged from TK 433. I've enclosed a copy of the March 1995 analysis from TK 431.

This water will be discharged to our farm and precautions will be taken to ensure that the water does not pond up. If there are any questions concerning this matter, please call me at 505-748-3311. Thank you for your time in this matter.

Sincerely,

NAVAJO REFINING CO.

Darrell Moore

Darrell Moore
Sr. Environmental Specialist

Encl.

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

Analysis Date: 02/22/95
Sampling Date: 02/20/95
Sample Condition: Intact & Cool
Sample Received by: JW
Project Name: NA

March 02, 1995
Receiving Date: 02/21/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

TA#	FIELD CODE	TOTAL CN- (mg/L)
T32383	TK 431	<0.01
QC	Quality Control	0.04
	% Precision	100
	% Extraction Accuracy	95
	% Instrument Accuracy	99
	Detection Limit	0.01

METHODS: EPA 335.2.
TOTAL CN- SPIKE AND QC: Sample and Blank spiked with 0.04 mg/L TOTAL CN-.

3-2-95
DATE

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue • Lubbock, Texas 79424 • 806•794•1296 • FAX 806•794•1298

ANALYTICAL RESULTS FOR

NAVAJO REFINING

Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

March 02, 1995
Receiving Date: 02/21/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 02/21/95
Sampling Date: 02/20/95
Sample Condition: Intact & Cool
Sample Received by: JW
Project Name: NA

TA#	FIELD CODE	NITRATE-N (mg/L)	pH (s.u.)	CHLORIDE (mg/L)	FLUORIDE (mg/L)	SULFATE (mg/L)	PHENOLS (mg/L)	TDS (mg/L)
T32383	TK 431	0.55	7.4	17	1.2	573	<0.002	846
QC	Quality Control	1.00	7.0	504	1.0	10	0.801	---
% Precision		97	100	100	100	103	104	99
% Extraction Accuracy		101	---	103	102	86	98	---
% Instrument Accuracy		100	100	101	103	98	101	---
DETECTION LIMIT		0.01	---	1	0.1	1	0.002	---

METHODS: EPA 375.4, 353.3, 340.2; 4500 Cl-B, 160.1, 150.1, 420.1.
QC: Blank Spiked with 500 mg/L CHLORIDE; 1.0 mg/L FLUORIDE; 10 mg/L SULFATE; 1.00 mg/L NITRATE; 0.8 mg/L PHENOLS.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-2-95
Date

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue • Lubbock, Texas 79424 • 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR

NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

March 02, 1995
Receiving Date: 02/21/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 02/28/95
Sampling Date: 02/20/95
Sample Condition: Intact & Cool
Sample Received by: JW
Project Name: NA

TOTAL METALS

TA#	FIELD CODE	As (mg/L)	Mo (mg/L)	Cr (mg/L)	Zn (mg/L)	Cd (mg/L)	Ni (mg/L)	Fe (mg/L)	Co (mg/L)	Mn (mg/L)	Cu (mg/L)	Pb (mg/L)
T32383	TK 431	<0.1	<0.05	<0.01	0.02	<0.01	<0.05	12.7	<0.05	0.6	<0.05	<0.05
QC	Quality Control	5.05	5.06	5.08	4.96	5.06	5.05	5.02	4.95	5.0	5.00	5.0
DETECTION LIMIT		0.1	0.05	0.01	0.01	0.01	0.05	0.01	0.05	0.1	0.05	0.05
% Precision		105	107	105	104	106	105	102	99	104	102	107
% Extraction Accuracy		110	111	107	105	108	100	115	96	105	106	110
% Instrument Accuracy		101	101	102	99	101	101	100	99	100	100	100

TA#	FIELD CODE	Ag (mg/L)	Al (mg/L)	B (mg/L)	Ba (mg/L)	U (mg/L)	Hg (mg/L)	Se (mg/L)
T32383	TK 431	<0.01	<0.08	<0.05	0.06	<0.5	<0.001	0.002
QC	Quality Control	9.73	5.16	5.18	5.07	10.4	0.022	0.050
DETECTION LIMIT		0.01	0.08	0.05	0.5	0.5	0.001	0.001
% Precision		107	102	99	106	95	100	100
% Extraction Accuracy		117	100	94	99	95	100	76
% Instrument Accuracy		97	103	104	101	106	100	100

METHODS: EPA 200.7.

TOTAL METALS QC: Blank spiked with 5.00 mg/L As, Mo, Cr, Zn, Cd, Ni, Fe, Co, Cu, Al, B, Ba; 5.0 mg/L Mn, Pb; 10.0 mg/L Ag; 9.8 mg/L U; 0.022 mg/L Hg; 0.050 mg/L Se.

BS

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-2-95
DATE

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

March 02, 1995

Receiving Date: 02/21/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 02/26/95
Sampling Date: 02/20/95
Sample Condition: Intact & Cool
Sample Received by: JW
Project Name: NA

EPA 8240 Compounds (ppb)	T32383 TK 431	Detection Limit
Dichlorodifluoromethane	ND	1
Chloromethane	ND	1
Vinyl chloride	ND	2
Bromomethane	ND	1
Chloroethane	ND	1
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
Iodomethane	ND	1
Carbon disulfide	ND	1
Methylene chloride	ND	1
trans-1,2-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
Vinyl acetate	ND	1
2-Butanone	ND	100
Chloroform	ND	1
1,1,1-Trichloroethane	ND	1
1,2-Dichloroethane	ND	1
Benzene	ND	1
Carbon Tetrachloride	ND	1
1,2-Dichloropropane	ND	1
Trichloroethene	ND	1
Bromodichloromethane	ND	1
cis-1,3-Dichloropropene	ND	1
4-Methyl-2-pentanone	ND	100
trans-1,3-Dichloropropene	ND	1
Toluene	ND	1
1,1,2-Trichloroethane	ND	1
2-Hexanone	ND	100

NAVAJO REFINING
Project Location: Artesia, NM

EPA 8240 Compounds ug/m3 (mg/m3)	T32383 TK 431	Detection Limit
Dibromochloromethane	ND	1
Tetrachloroethene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
m,& p-Xylene	ND	1
Bromoform	ND	1
Styrene	ND	1
o-Xylene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
trans 1,4-Dichloro-2-butene	ND	5
cis 1,4-Dichloro-2-butene	ND	5
1,4-Dichlorobenzene	ND	2
1,3-Dichlorobenzene	ND	2
1,2-Dichlorobenzene	ND	2

SURROGATES	% RECOVERY
Dibromofluoromethane	88
Toluene-d8	95
4-Bromofluorobenzene	101

*ND = Not Detected

METHODS: EPA 8240.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-2-95
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

March 02, 1995
Receiving Date: 02/21/95
Sample Type: Water
Sample Condition: I & C
Sample Received by: JW
Project Location: Artesia, NM
Analysis Date: 02/26/95

PAH's T32383

EPA 8270 (ppm)	DL	TK 431	QC	%P	%EA	%IA
Naphthalene	0.001	ND	0.523			105
Acenaphthylene	0.001	ND	0.526			105
Acenaphthene	0.001	ND	0.508	99	81	102
Fluorene	0.001	ND	0.508			102
Phenanthrene	0.001	ND	0.481			96
Anthracene	0.001	ND	0.500			100
Fluoranthene	0.001	ND	0.508			102
Pyrene	0.001	ND	0.500	99	89	100
Benz[a]anthracene	0.001	ND	0.498			100
Chyrsene	0.001	ND	0.491			98
Benzo[b]fluoranthene	0.001	ND	0.473			95
Benzo[k]fluoranthene	0.001	ND	0.420			84
Benzo[a]pyrene	0.001	ND	0.491			98
Indeno[1,2,3-cd]pyrene	0.001	ND	0.442			88
Dibenz[a,h]anthracene	0.001	ND	0.494			99
Benzo[g,h,i]perylene	0.001	ND	0.501			100

*ND = Not Detected

	% RECOVERY
2-Fluorophenol SURR	44
Phenol-d6 SURR	26
Nitrobenzene-d5 SURR	66
2-Fluorobiphenyl SURR	77
2,4,6-Tribromophenol SURR	72
Terphenyl-d14 SURR	94

METHODS: EPA 8270.

Director, Dr. Blair Leftwich

3-2-95
DATE

Director, Dr. Bruce McDonell

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

March 02, 1995
Receiving Date: 02/21/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/01/95
Sampling Date: 02/20/95
Sample Condition: Intact & Cool
Sample Received by: JW
Project Name: NA

TA#	FIELD CODE	PCB's (ppm)
T32383	TK 431	<0.0001
QC	Quality Control	0.0051
DETECTION LIMIT		0.0001
% Precision		106
% Extraction Accuracy		91
% Instrument Accuracy		103

METHODS: EPA SW 846-3510, 8080.
PCB SPIKE AND QC: Sample Spiked with 0.005 ppm PCB and Blank spiked with 0.005 ppm PCB.

3-2-95

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

DATE

052 AH

TraceAnalysis, Inc.

6701 Aberdeen Avenue · Lubbock, Texas 79424
Tel (806) 794 1296 Fax (806) 794 1298

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Darrell Moore
Phone #: 505-748-3311
FAX #: 505-746-9077

Company Name & Address: Navajo Refining

Project #:
Project Name :

Project Location: Artesia NM
Sampler Signature: Darrell Moore

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	OTHER	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	OTHER	SAMPLING: DATE	TIME	BTEX, MTBE	TPH	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	TDS	RCI
32383	TK 431	8		X							X	X		2/20/95	16:00			X			X		X

ANALYSIS REQUEST

SPECIAL HANDLING: Turn around # of days; Fax ASAP; Report TWC direct; Hold

Relinquished by:	Date:	Times:	Received by:
Darrell Moore	2/20/95	16:00	
Relinquished by:	Date:	Times:	Received by:
Relinquished by:	Date:	Times:	Received by Laboratory:
			[illegible] 2-21-95 0[illegible]

REMARKS: Need results faxed ASAP

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☒ Telephone ☐ Personal	Time	Date
	11:00 AM	11-22-96

Originating Party	Other Parties
DAVE GRIFFIN - NAVAJO	ROGER ANDERSON, PAT SANCHEZ, MARK ASHLEY

Subject DISCHARGE PLAN RENEWALS FOR ARTESIA + LOVINGTON

Discussion NAVAJO WANTS TO PROPOSE ALTERNATIVES TO CONDITIONS #3, 4, 8, + DISPOSAL OF CONSTRUCTION TRASH. THEY ALSO WANT TO EXTEND THEIR RESPONSE TIME FOR APPROVAL FROM 5 DAYS TO 10 DAYS.

Conclusions or Agreements THE OCD ASKED NAVAJO TO SUBMIT ALTERNATIVES, AND THE OCD ALLOWED AN EXTENSION FOR SUBMITTAL THE SIGNED CONDITIONS.

Distribution xc: FILE, PAT SANCHEZ, ROGER ANDERSON

Signed Mark Ashley

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

November 8, 1996

CERTIFIED MAIL
RETURN RECEIPT NO. P-288-258-870

Mr. Phillip Youngblood
Navajo Refining Company
P.O. Box 159
Artesia, New Mexico 88211-0159

RE: Authorization to Discharge of Hydrotest Water From Tank 970
Eddy County, New Mexico

Dear Mr. Youngblood:

The New Mexico Oil Conservation Division (OCD) has completed a review of Navajo Refining Company's (Navajo) letter dated November 5, 1996 requesting the authorization to discharge of approximately 12,000 barrels of test water to the ground surface from the hydrostatic test of tank 970. The proposed location for the discharge is Section 28, Township 18 South, Range 30 East, NMPM, Eddy County, New Mexico. The requested discharge is hereby approved with the following conditions:

1. Permission will be obtained from the landowner(s) prior to discharge.

2. The test water will be discharged onto the ground surface in a manner to prevent erosion.

3. No test waters will be discharged to any lakes, perennial streams, rivers, or any surface bodies of water upon completion of a test.

4. The water will not exceed Water Quality Control Commission standards for ground water.

Please be advised that OCD approval does not relieve Navajo of liability should it later be found that contamination exists which could pose a threat to surface water, ground water, human health or the environment.

If you have any questions please feel free to contact Mark Ashley at (505) 827-7155.

Sincerely,

Roger C. Anderson
Environmental Bureau Chief
RCA/mwa
xc: OCD Artesia Office

P 288 258 870

US Postal Service
Receipt for Certified Mail
No Insurance Coverage Provided.
Do not use for International Mail (See reverse)

Sent to	
Street & Number	
Post Office, State, & ZIP Code	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date	

PS Form 3800, April 1995

TELEPHONE
(505) 748-3311

EASYLINK
62905278

NAVAJO REFINING COMPANY

501 EAST MAIN STREET ◦ P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159

FAX
(505) 746-6410 ACCTG
(505) 746-6155 EXEC
(505) 748-9077 ENGR
(505) 746-4438 P / L

November 5, 1996

Mark Ashley
Geologist
Environmental Bureau
Oil Conservation Division
2040 S. Pacheco St.
Santa Fe, NM 87505-5472

RE: HYDROTEST WATER FROM TK 970, NAVAJO REFINING CO., ARTESIA, NM

Dear Mark,

As we discussed on the phone, we are re-testing Tank 970. This tank is located in Sec. 28, T18S, R28E and was in crude service. The roof of the tank was replaced and primary and secondary seals were added. After repairs, this tank was filled with fresh water on August 26, 1996. It was then sampled on August 28, 1996 and those results were sent to you. A total of 15,000 barrels of water were put into this tank and discharged per OCD's letter of September 10, 1996. During this first hydrotest, several leaks were found in the tank which were subsequently repaired. We have now re-filled the tank with 12,000 barrels of well water to test it again. No product was introduced into the tank between the two tests; therefore, we are requesting to be allowed to discharge this water under the same conditions that were spelled out in the September 10, 1996 letter.

If there are any questions concerning this matter, please call me at 505-748-3311. Thank you for your time in this matter.

Sincerely,

NAVAJO REFINING CO.

Darrell Moore

Darrell Moore
Sr. Environmental Specialist

September 26, 1996

Mark Ashley
OCD District IV (Santa Fe)
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

RE: NAVAJO REFINING COMPANY DISCHARGE PLAN RENEWAL APPLICATION

Dear Mark Ashley,

The following were my observations of what needed to corrected at the Navajo Refiining Company facility in which you, Pat Sanchez and myself conducted the days of July 29,30 and 31, 1996.

1) Most product drums were elevated on wooden pallets or some type artifice, however a number of "55 gal" drums were not in compliance to OCD guidelines. As noted were (3) metal drums in thearea of the trucking facility, and (4) in the area of the carbon black facilitiy.

2) A 2 1/2' x2 1/2' sump in the fueling bay area was seen to be lacking secondary containment. At the time of visual inspection we suggested to Navajo that some type of fiberglass liner be installed.

3) At the railroad loading rack area numerous "drip" buckets were in need of secondary containment such as metal trays.

4) On the western perimeter of the trucking facility an elevated diesel tank also lacked secondary containment or be needed to be placed out of service as suggested by Navajo at the time of our inspection.

5) A large open concrete pit located by the asphalt loading rack contained asphalt mixed with cotton seed hulls. Navajo management team informed us that this "concotion" would be sent out to CRI. This pit either needs to be dug out and closed.

6) An elevated vessel containing hypochlorine manufactured by Unichem, tank #1304, lacked secondary containment in that same area.

7) A 20'x40' cement lined pit adjacent to tank # 132-TC?? in the tank farm area was in need of closure.

8) Tank #130-TK was found to be leaking slightly around its base.

Overall the vast size and complexity of a plant such as Navajo Refining in my view is best measured by looking at the "big" picture. What needs to be in compliance and what we as an agency expect Navajo Refining to do in order to fullfill those requirements. Prevention of spills from hazardous and non-hazardous wastes in all cases is the least expensive and most sought after solution. I feel that the managment team and workers involved at Navajo Refining take a deligent and pro-active approach to this philosophy.

Therefore, the following are areas which I feel what needs to be focused on by Navajo and the envormental bureau of the OCD.

1) In review of Navajo's Discharge Plan Renewal dated June, 1996, the company addresses the issue of sewer integrity testing, treatment programs and renovation projects in which the North Division is to be completed by January of next year. Where do they stand in terms of having this project completed and others forecast to be completed?

2) The issue of the" Underground Hydrocarbon Testing Program" in which 17 pipelines remain and which I assume are still in active use. How often are these remaining 17 lines tested?

3) The number of monitor wells which are scattered throughout the area and the ones going to the waste settlement ponds. How often are these wells inspected and are we getting some type of report?

4) Finally, Navajo's daily routine inspection of the facility insures us and the public that safety and enviromental concerns are addressed accordingly.

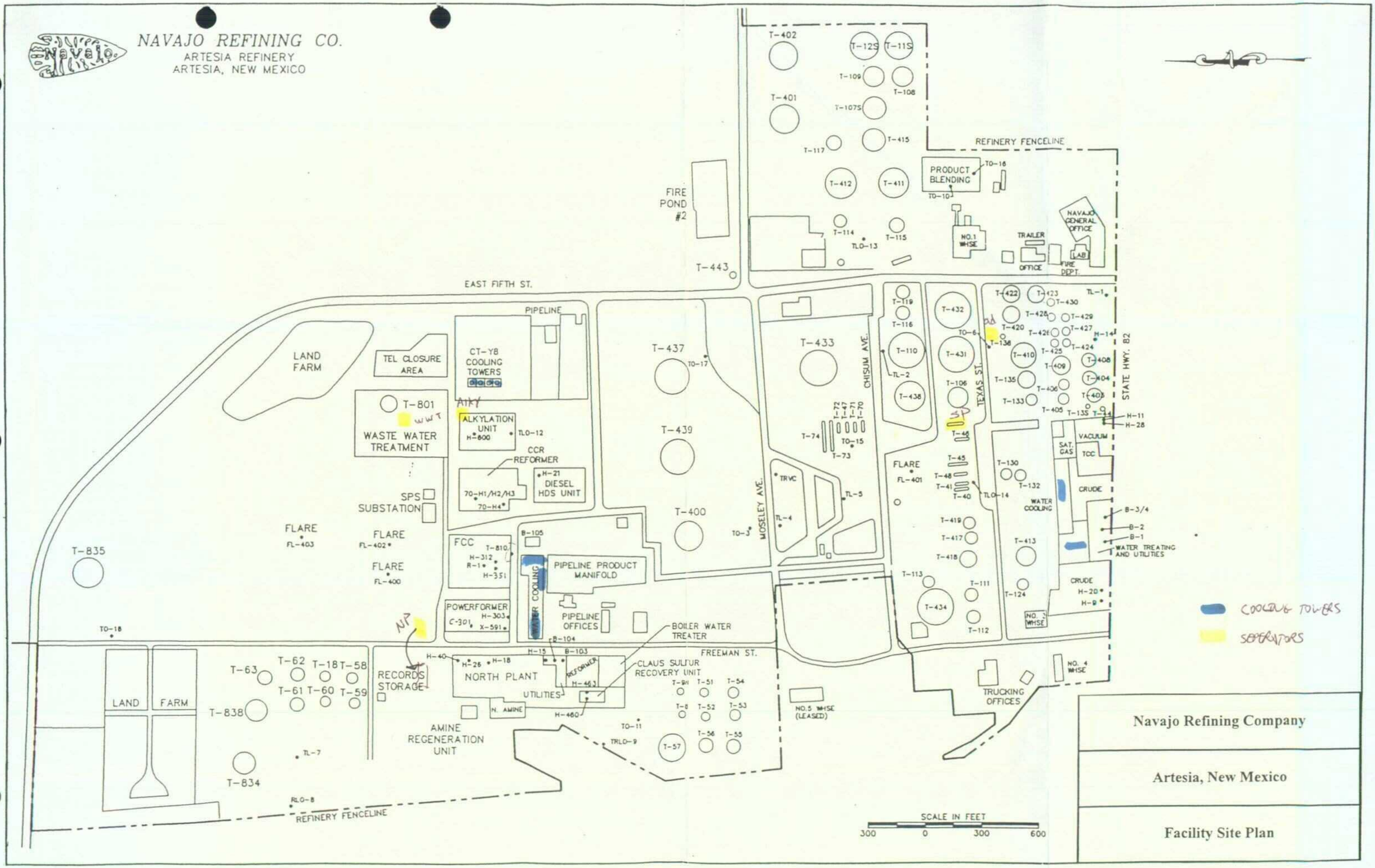
In review of this letter, if you have any questions,comments or words of wisdom, I welcome your response.

Bryan Arrant

Bryan Arrant

NAVAJO REFINING CO.

ARTESIA REFINERY
ARTESIA, NEW MEXICO



Navajo Refining Company
Artesia, New Mexico
Facility Site Plan

TELEPHONE
(505) 748-3311

EASYLINK
62905278

REFINING COMPANY

501 EAST MAIN STREET ◦ P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159

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(505) 746-6410 ACCTG
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September 26, 1996

RECEIVED
OCT 2 1996
Environmental Bureau
Oil Conservation Division

Mr. Roger Anderson
Oil Conservation Division
Environmental Bureau
2040 S. Pacheco St.
Santa Fe, NM 87505-5472

Certified Mail
P 355 936 201

RE: Sampling of RO Reject Water, Navajo Refining Co., Eddy County, NM

Dear Mr. Anderson,

In response to our August 7, 1996 letter, Mark Ashley telephoned me requesting that Navajo provide graphs and any other information to help OCD make a determination on our RO Reject stream. We have enclosed numerous graphs including all 20 metals we are currently required to sample. The graphs show the amount in mg/l of each parameter along with the WQCC limit and the 75% limit that was set in OCD's letter of April 27, 1993.

When this stream first came on line, OCD made the provision that after an adequate period, the frequency and parameters would be reviewed. We feel there is more than enough data at this time to show that this water is completely harmless to the environment. Hopefully, these graphs and charts will help you in your determination.

You will notice that we did not graph any of the organics, pesticides, or volatiles because we have never had so much as 1 ppm of any of these parameters. As you can see by the graphs, several metals including barium, copper, iron, mercury, molybdenum, lead, uranium, vanadium, and zinc have never had a single excursion over the 75% limit. In addition, boron, cobalt and selenium have had only two excursions, beryllium and manganese three, and chromium four. This is out of a minimum of 61 sampling events in the case of iron, mercury, and manganese and a maximum of up to 70 events for some of the others. As for the parameters that are sampled quarterly; cyanide, TDS, chlorine, radium, and fecal coliform have been no detect throughout. Several of the parameters including BOD5, TSS, and conductivity have no limits set by the regs or your April 27, 1993 letter. Finally, you will notice that the sample collected on July 12, 1996 has an inordinate amount of sulfate and chloride. These two parameters have been relatively consistent throughout our sampling. On July 12, 1996 they went off the board. We feel very confident that this is lab error and we are having the lab look into these results.

As we said in our previous letter, Navajo is spending approximately $15,000 in direct costs every year to have this analysis done. This does not include manpower and other indirect costs. If there is an upset in the RO units, the reject water could only improve thereby making it impossible to negatively impact the ground water. In three years of analysis, you have seen the worst water we can discharge. We now have over $45,000 of results that show this water to be totally safe. It is a waste of resources to continue the frequency of this sampling as it now stands. We look forward to hearing any new proposals that OCD may have regarding this stream.

If you have any questions concerning this matter, please call me at 505-748-3311. Thank you for your consideration of this matter.

Sincerely,

Darrell Moore
Sr. Environmental Specialist

RO REJECT ANALYSIS

BIWEEKLY SAMPLES

		Limits	75% Limit					QRTLY							QRTLY						QRTLY			
DATE SAMPLED				05/17/93	06/03/93	06/15/93	07/02/93	08/11/93	09/21/93	10/21/93	11/12/93	11/18/93	12/02/93	12/17/93	01/12/94	01/26/94	02/16/94	02/28/94	03/10/94	03/30/94	04/08/94	04/21/94	05/06/94	05/16/94
SODIUM	mg/l	no limit		NM	125	134	123	137	136	143	156	318	159	154	154	145	193	144	134	210	144	171	13.9	143
POTASSIUM	mg/l	no limit		NM	3.4	3.9	3	7	3	4	4.6	4.5	4.9	3.1	3	3	3.9	3.4	3.9	4.2	4.1	4.9	3.2	3.2
CALCIUM	mg/l	no limit		NM	442	448	413	511	542	515	511	605	513	510	480	528	513	426	360	503	468	474	42.7	450
MAGNESIUM	mg/l	no limit		NM	143	146	148	166	175	167	173	180	177	175	160	186	184	147	132	136	161	177	15.3	166
CHLORIDE	mg/l	275	206.25	**254**	**237**	**227**	**212**	192	**214**	**218**	**261**	**257**	**266**	**266**	**269**	**278**	**267**	**259**	**227**	**304**	**234**	**257**	**248**	**262**
SULFATE	mg/l	2661	1995.75	1640	1520	1650	1660	1570	1610	1500	1517	1218	**2080**	**2235**	1559	1803	102	38	1473	1458	899	1622	1328	1314
CARBONATE	mg/l	no limit		NM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BICARBONATE	mg/l	no limit		NM	328	311	376	348	428	389	311	347	368	317	367	322	332	709	286	265	255	306	285	351
FLUORIDE	mg/l	2.5	1.875	**2.2**	1.8	1.6	1.7	**2.3**	NM						**2.8**	**2.7**	**2.24**	**2.2**	**2.2**	**2.4**	**2.3**	ND	**2.32**	**2.5**
METALS																								
AG	mg/l	0.0004	0.0003	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AL	mg/l	0.087	0.06525	ND	**0.14**	ND	ND	ND	**0.1**	**0.6**	ND	ND	ND	ND	ND	ND	**0.2**	ND	**0.4**	ND	ND	ND	**0.1**	**0.2**
AS	mg/l	0.1	0.075	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B	mg/l	0.75	0.5625	0.08	0.09	0.1	0.07	ND	ND	ND	ND	ND	0.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.06
BA	mg/l	1	0.75	0.06	0.06	0.06	0.06	0.04	0.05	0.06	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.12	ND	ND	ND	ND
BE	mg/l	0.018	0.0135	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CD	mg/l	0.01	0.0075	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CO	mg/l	0.05	0.0375	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CR	mg/l	0.05	0.0375	0.01	ND	ND	0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CU	mg/l	1	0.75	0.03	ND	0.02	0.04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FE	mg/l	1	0.75					ND						0.3	0.05	ND	ND	ND	ND	ND	ND	ND	0.13	0.15
HG	mg/l	0.000042	0.000031					ND						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MN	mg/l	0.2	0.15					ND						ND	**0.34**	ND	ND	ND	ND	ND	ND	ND	ND	ND
MO	mg/l	1	0.75	0.2	ND	0.16	0.12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
NI	mg/l	0.2	0.15					0.01						ND	ND	ND	ND	0.02	ND	ND	ND	ND	ND	ND
PB	mg/l	0.006	0.0045					0.02						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SE	mg/l	0.012	0.009	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
U	mg/l	5	3.75	ND	ND	ND	0.006	0.1	ND	ND	1.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
V	mg/l	0.282	0.2115	ND	ND	0.01	ND	0.01	ND	ND	ND	0.07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ZN	mg/l	10	7.5	0.02	ND	0.02	0.02	0.04	0.03	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.01	0.03
RADIUM 226	pCi/l	30	22.5					0.6+/- 0.4							ND						ND			
RADIUM 228	pCi/l	30	22.5					ND							ND						ND			
NO3-N															0.8						0.8			
pH		6.6 - 8.6						7							7.26						7.29			
PHENOLS	mg/l	0.005	0.00375												ND						ND			
COD	mg/l	125	93.75					ND							22						49			
NH3-N	mg/l	0.00007	0.0000525												0.1						0.72			
CN-	mg/l	0.018	0.0135					ND							ND						ND			
FECAL COLIFORM								ND							ND						ND			
BOD5	mg/l							ND							ND						ND			
TSS	mg/l							4							13						14			
CONDUCTIVITY								3790																
TDS	mg/l	4555	3416.25					3100																
ALKALINTY AS CaCO3	mg/l							286							367						255			
HARDNESS AS CaCO3	mg/l							1960																
CHLORINE	mg/l	30	22.5																					
TOTAL WATER DISCHARGED QRTRLY (GAL)								70827030							35327141						37665125			
EAGLE DRAW (GAL)								21865776							4342921						0			
FARM (GAL)								**48961254**							30984220						37665125			

RO REJECT ANALYSIS

BIWEEKLY SAMPLES

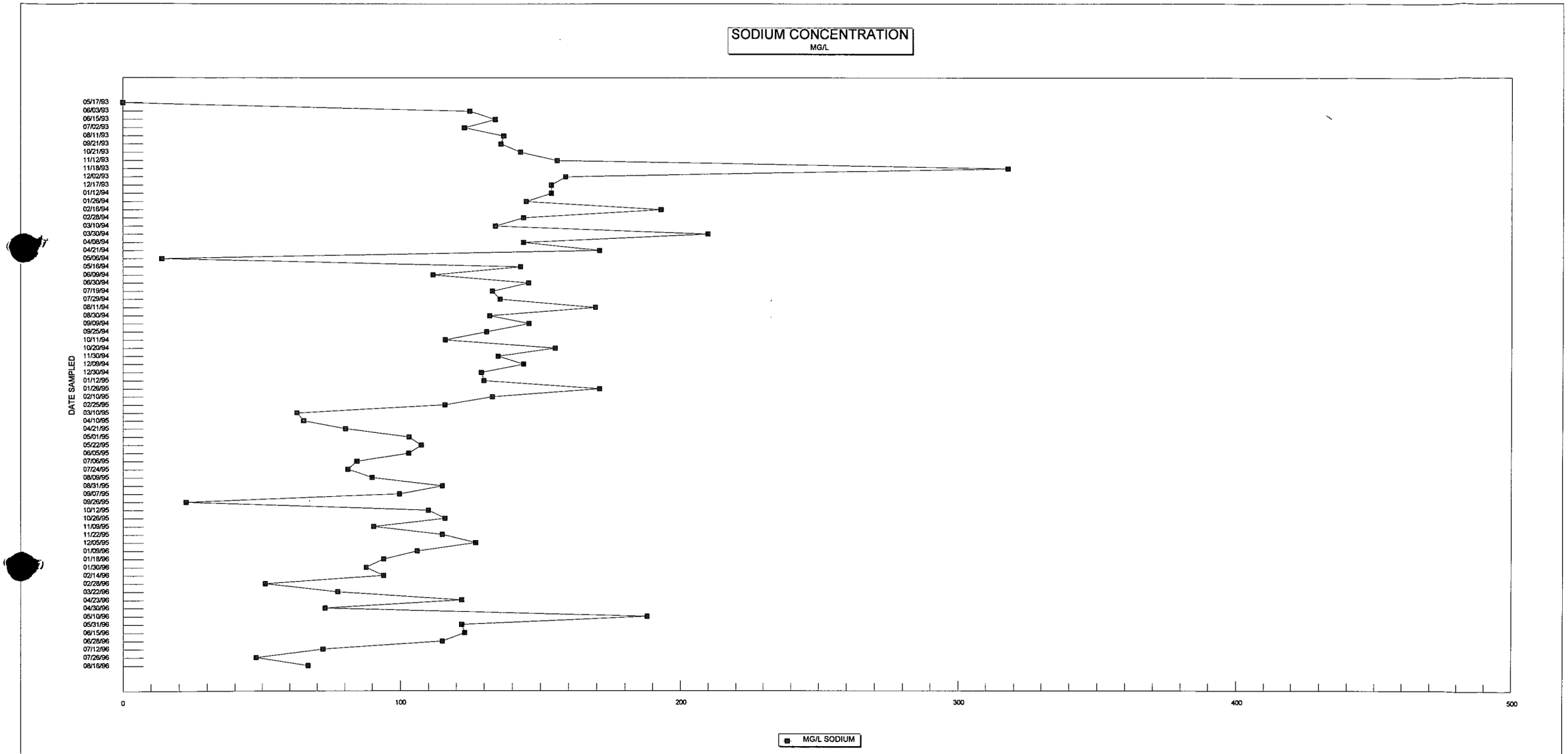
DATE SAMPLED		Limits	75% Limit	06/09/94	06/30/94	07/19/94	QRTLY 07/29/94	08/11/94	08/30/94	QRTLY 09/09/94	09/25/94	10/11/94	10/20/94	11/30/94	QRTLY 12/09/94	12/30/94	01/12/95	01/26/95	02/10/95	02/25/95	QRTLY 03/10/95	04/10/95	04/21/95	05/01/95	05/22/95	QRTLY 06/05/95	07/06/95	07/24/95
SODIUM	mg/l	no limit		111.7	145.8	133	135.6	169.5	132	**146**	130.9	116.1	155.3	135	**144**	129	130	171	133	116	**62.7**	65.1	80.4	103.1	107.4	**103**	84.4	81.3
POTASSIUM	mg/l	no limit		4.8	3.2	3.3	3.1	3.6	3.6	**3.7**	4	3.5	3	3.2	**3.6**	ND	0.4	3.3	3.3	4	**1.8**	4	3.1	3.3	0.3	**4**	2.4	4
CALCIUM	mg/l	no limit		154	585.7	399.3	460.2	707	523.1	**523.2**	490	532.5	545.5	542	**550**	182	534	589	510	160	**207**	547.29	520.17	503.54	549	**532**	563	599
MAGNESIUM	mg/l	no limit		80.5	248.7	140.2	161.5	258	186	**188.3**	196	191.1	200.7	193	**21.8**	504	203	209	176	454	**75.9**	176.9	165.5	162.8	170	**179**	181	194
CHLORIDE	mg/l	275	206.25	**221**	**253**	**218.3**	**237**	222.9	218	**227.6**	209	195	223	204	**197**	214	211	225	205	161	**210**	7.3	106	158	147	**127**	108	103
SULFATE	mg/l	2661	1995.75	1747	**2916**	1772	**2078**	1577	2830	**2080**	1953	2202	1944	1682	**2096**	1578	1641	1495	1562	1626	**729**	1791	1901	1211	2460	**2890**	1257	1260
CARBONATE	mg/l	no limit		0	0	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	0	**0**	0	0	0	0	**0**	0	0
BICARBONATE	mg/l	no limit		317	338	323	311	323	346	**322.8**	311	346	311	323	**280**	323	334	231	286	288	**310**	187	177	182	317	**323**	256	203
FLUORIDE	mg/l	2.5	1.875	2.05	2.4	2.59	2.4	2.5	2.5	**2.5**	2.4	2.3	2.2	2.49	**2.3**	2.4	2.3	2.7	2.4	2.3	**2.4**	2.4	2.3	2.3	2.5	**2.5**	2.2	2.3
METALS																												
AG	mg/l	0.0004	0.0003	2.65	ND	ND	ND	ND	ND	**0.012**	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	**ND**	ND	ND
AL	mg/l	0.087	0.06525	0.49	0.11	ND	0.2	ND	0.3	**0.28**	0.4	ND	ND	ND	**0.13**	ND	ND	ND	ND	ND	**0.11**	0.08	ND	ND	0.09	**ND**	0.14	1.16
AS	mg/l	0.1	0.075	ND	ND	ND	0.1	ND	ND	**ND**	ND	ND	ND	ND	**ND**	0.2	ND	ND	ND	ND	**ND**	0.1	ND	ND	0.7	**ND**	0.1	ND
B	mg/l	0.75	0.5625	0.05	ND	0.06	ND	ND	0.28	**0.06**	ND	ND	0.05	0.12	**ND**	ND	ND	ND	ND	ND	**ND**	ND	ND	0.82	0.02	**ND**	ND	ND
BA	mg/l	1	0.75	ND	ND	0.1	0.08	0.15	0.1	**0.09**	0.09	0.08	ND	ND	**ND**	ND	ND	ND	ND	ND	**ND**	0.06	ND	0.06	ND	**0.05**	0.08	0.16
BE	mg/l	0.018	0.0135	ND	ND	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	**ND**	ND	ND
CD	mg/l	0.01	0.0075	ND	ND	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	**ND**	0.02	0.01	ND	ND	ND	**0.01**	0.12	ND	0.04	ND	**ND**	ND	ND
CO	mg/l	0.05	0.0375	ND	ND	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	**ND**	ND	ND
CR	mg/l	0.05	0.0375	ND	ND	0.01	ND	ND	0.02	**0.01**	ND	ND	ND	ND	**ND**	0.02	0.01	ND	ND	ND	**ND**	0.15	ND	0.05	0.01	**ND**	ND	0.02
CU	mg/l	1	0.75	ND	ND	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	ND	**ND**	ND	ND	ND	0.01	**ND**	ND	ND
FE	mg/l	1	0.75	0.55	ND	ND	0.14	ND	0.08	**0.11**	ND	ND	0.12	0.17	**ND**	0.04	0.03	0.04	0.09	0.02	**ND**	ND	0.06	ND	0.03	**0.08**	ND	ND
HG	mg/l	0.000042	0.000031	ND	ND	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	**ND**	ND	ND
MN	mg/l	0.2	0.15	0.53	ND	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	**ND**	ND	ND
MO	mg/l	1	0.75	ND	ND	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	**ND**	0.07	0.06	ND	ND	ND	**ND**	ND	ND	ND	ND	**ND**	ND	ND
NI	mg/l	0.2	0.15	ND	ND	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	ND	**ND**	0.08	ND	0.08	ND	**ND**	ND	ND
PB	mg/l	0.006	0.0045	ND	ND	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	**ND**	ND	ND
SE	mg/l	0.012	0.009	ND	ND	ND	ND	ND	ND	**ND**	0.001	ND	0.002	ND	**ND**	ND	ND	0.005	ND	ND	**0.001**	ND	ND	0.002	0.002	**0.001**	ND	0.002
U	mg/l	5	3.75	ND	ND	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	**ND**	ND	ND
V	mg/l	0.282	0.2115	ND	ND	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	**ND**	ND	ND
ZN	mg/l	10	7.5	0.01	ND	0.01	0.01	0.01	0.07	**0.05**	0.01	ND	0.02	ND	**ND**	0.02	0.01	ND	ND	ND	**ND**	ND	ND	ND	ND	**ND**	ND	ND
TOTAL RADIUM							ND																					
NO3-N							ND			**0.83**					**0.58**						**0.49**					**0.6**		
pH		6.6 - 8.6					2.1			**7.1** *					**7.8**						**7.9**					**6.9**		
PHENOLS	mg/l	0.005	0.00375				7.3			**ND**					**ND**						**ND**					**ND**		
COD	mg/l	125	93.75				0.133			**98**					**ND**						**ND**					**ND**		
NH3-N	mg/l	0.00007	0.0000525				29			**0.08**					**0.64**						**0.1**					**0.6**		
CN-	mg/l	0.018	0.0135				0.07			**ND**					**ND**						**ND**					**ND**		
FECAL COLIFORM							ND			**ND**					**NF**						**0**					**ND**		
BOD5	mg/l						ND			**ND**					**ND**						**ND**					**ND**		
TSS	mg/l						ND			**<1**					**<1**						**5**					**10**		
CONDUCTIVITY							ND			**3102**					**3097**						**3066**					**2940**		
TDS	mg/l	4555	3416.25				3302			**2928**					**2776**						**2880**					**2777**		
ALKALINITY AS CaCO3	mg/l						3139														**0**							
HARDNESS AS CaCO3	mg/l																											
CHLORINE	mg/l	30	22.5							**0.1**					**ND**						**ND**					**ND**		
TOTAL WATER DISCHARGED QRTRLY (GAL)							49361300			**11914778**					**34261715**						**33052273**					**32695458**		
EAGLE DRAW (GAL)							11700006			**5681741**					**7314860**						**23871086**					**0**		
FARM (GAL)							37661294			**6233037**					**26946855**						**9181187**					**32695458**		

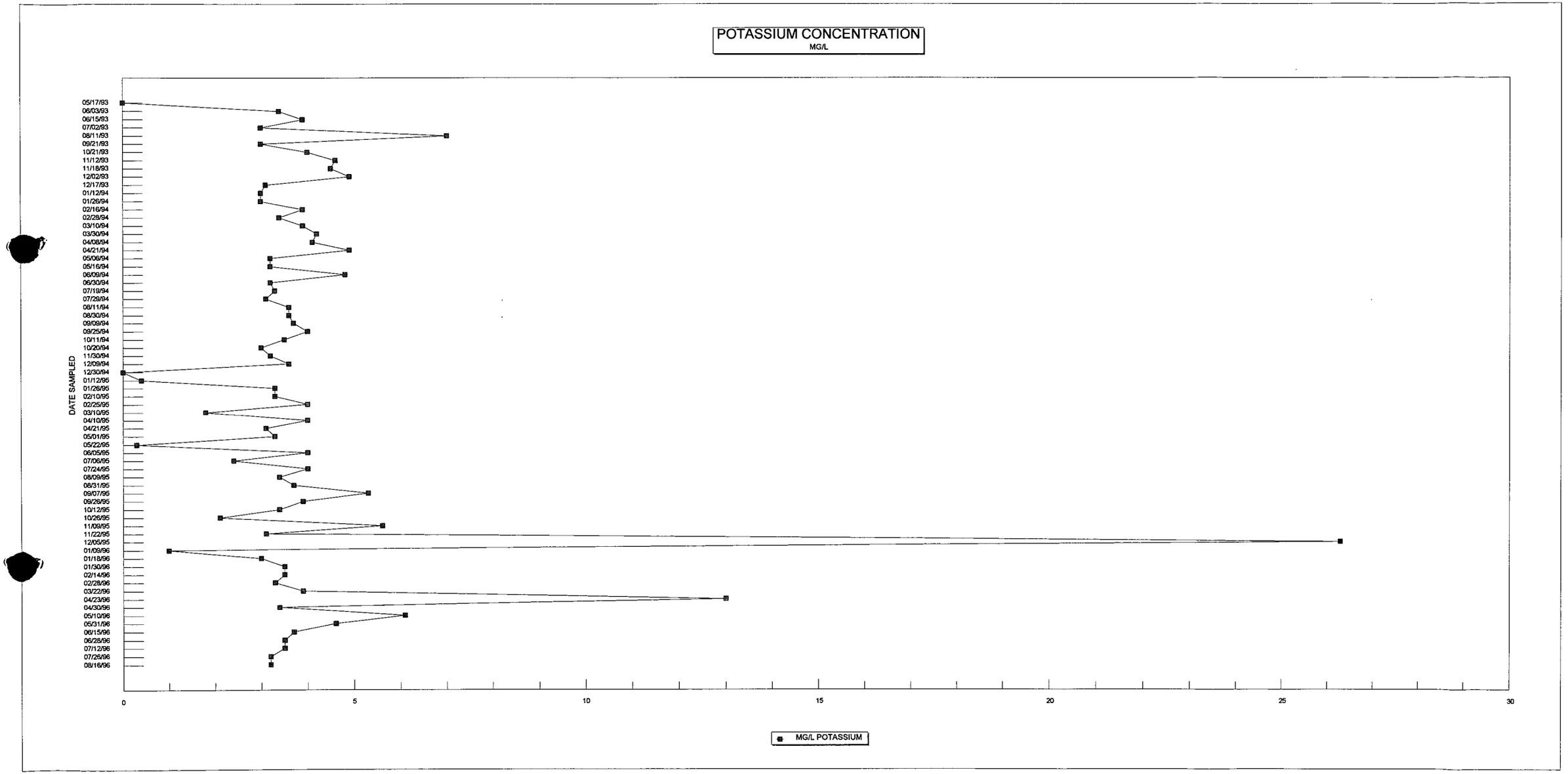
* Only hit we've had on phenol. Highly suspicious since this stream never sees anything like this.

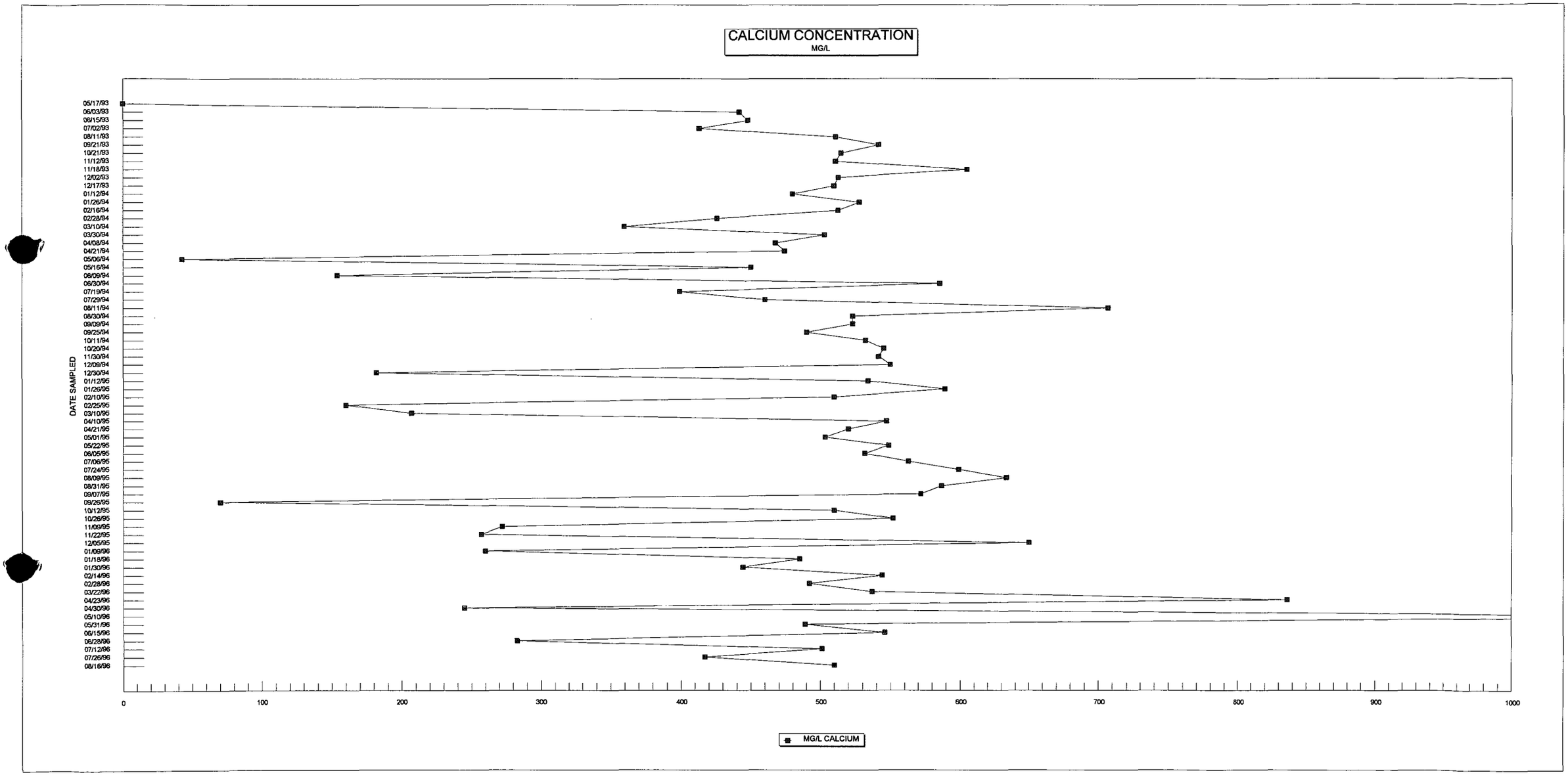
RO REJECT ANALYSIS

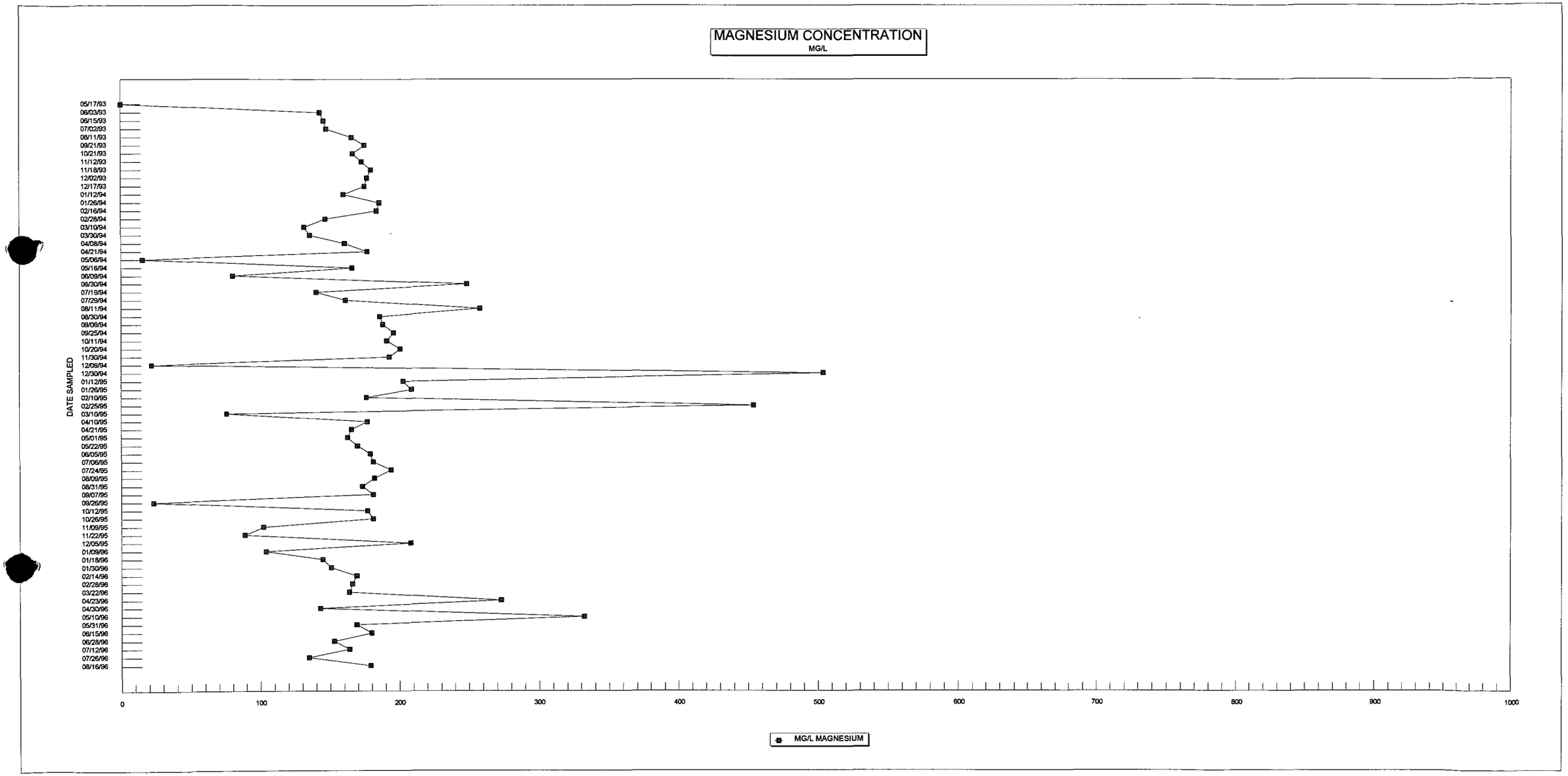
BIWEEKLY SAMPLES

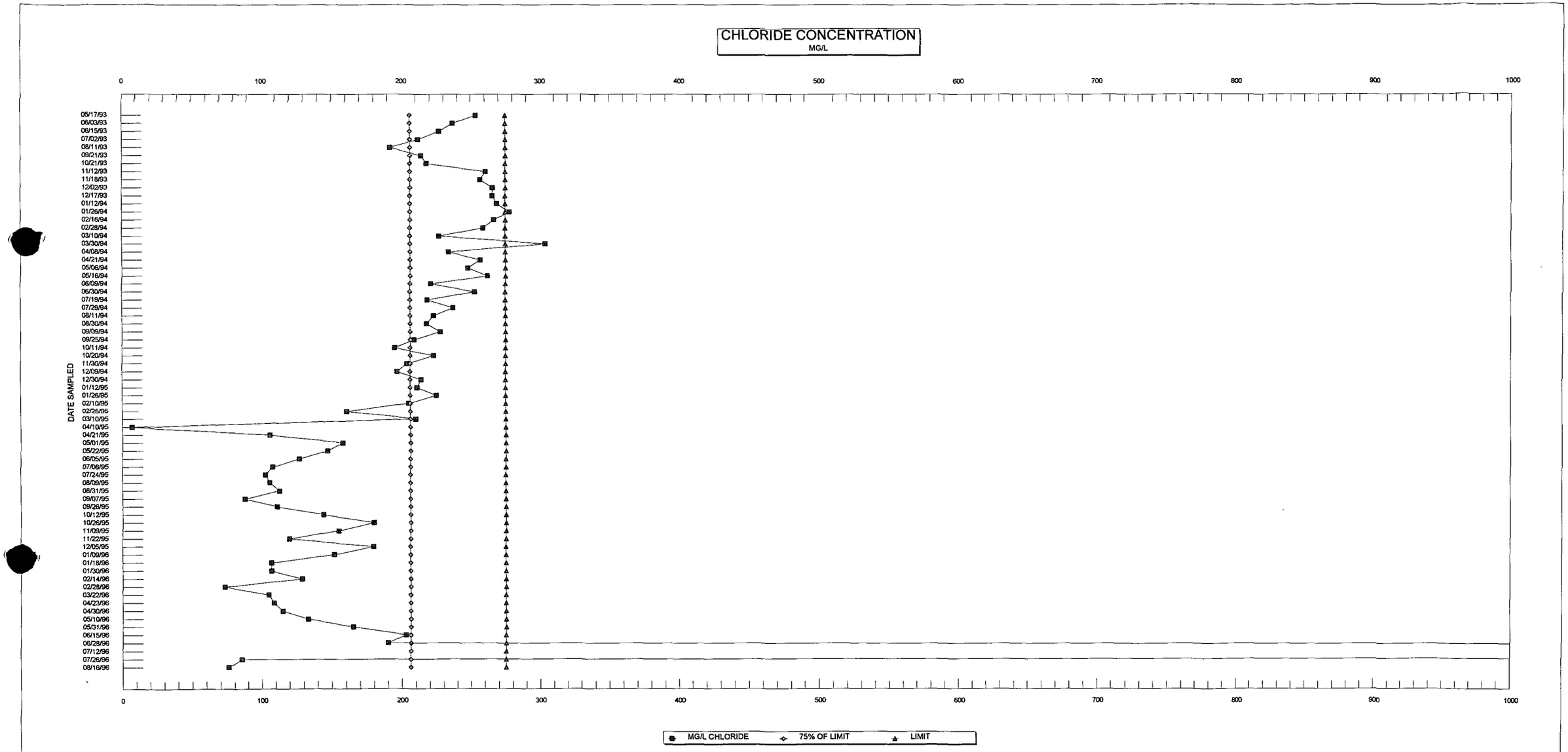
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SODIUM	mg/l	no limit		89.96	115	99.7	22.4	110	116	90.5	115	127	106	94	87.6	94	51.2	77.5	122	72.9	188	122	123	115	72.1	47.8	66.7
POTASSIUM	mg/l	no limit		3.4	3.7	5.3	3.9	3.4	2.1	5.6	3.1	26.3	1	3	3.5	3.5	3.3	3.9	13	3.4	6.1	4.6	3.7	3.5	3.5	3.2	3.2
CALCIUM	mg/l	no limit		634	587	572	70.6	510	552	272.1	257	650	260	485	444.3	544	492	537	836	245	1,200	489	546	283	501	417	510
MAGNESIUM	mg/l	no limit		182	173	181	23.2	177	181	102.1	88.7	208	104	145	150.8	169	166	164	273	143	332	169	180	153	164	135	179
CHLORIDE	mg/l	275	206.25	106	113	88	111	144	180	155	120	180	152	107	107	129	73	105	109	115	133	165	203	190	11500	85.5	76
SULFATE	mg/l	2661	1995.75	1268	1551	1679	1417	1544	1560	1440	1995	5897	1216	1824	1235	1938	1492	2821	703	1913	1,657	1,378	2,390	1980	160000	1600	2150
CARBONATE	mg/l	no limit		0	0	0	0	0	0	0	0	0	ND	ND	ND	ND	ND	ND	0	0	0	0	0	0	0	0	0
BICARBONATE	mg/l	no limit		209	163	197	248	332	290	324	369	320	229	285	264	236	288	193	110	120	234	230	248	238	292	38	300
FLUORIDE	mg/l	2.5	1.875	2.2	2.4	2.4	2.4	2.6	2.27	2.45	9.9	2.42	2.3	2.3	2.5	2.7	2.4	2.7	2.3	2.8	3.1	2.4	2.4	2.5	2.4	1.8	3
METALS																											
AG	mg/l	0.0004	0.0003	ND	0.0009	ND	ND	ND	ND	0.014	ND	0.0013	ND	0.002	ND	ND	ND	0.004	ND	ND	0.0003	ND	0.0003	ND	ND	ND	ND
AL	mg/l	0.087	0.06525	0.38	1.8	1.4	2.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.6	ND	0.3	ND	ND	ND	ND	ND	ND	ND	ND
AS	mg/l	0.1	0.075	0.3	0.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.4	0.2	1	0.2	0.2	1.6	0.7	0.2	ND	ND	ND
B	mg/l	0.75	0.5625	ND	ND	0.08	ND	ND	ND	ND	ND	0.04	ND	0.42	ND	0.31	ND	ND	ND	ND	ND	0.04	0.05	ND	0.64	ND	ND
BA	mg/l	1	0.75	ND	0.11	0.08	ND	0.06	ND	ND	ND	ND	ND	ND	ND	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BE	mg/l	0.018	0.0135	ND	ND	ND	ND	ND	ND	ND	ND	0.02	ND	ND	ND	ND	ND	ND	ND	0.1	0.1	ND	ND	ND	ND	ND	ND
CD	mg/l	0.01	0.0075	ND	ND	ND	ND	ND	ND	ND	ND	0.05	ND	ND	ND	ND	0.03	ND	0.02	ND	ND	ND	ND	ND	ND	ND	ND
CO	mg/l	0.05	0.0375	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.06	ND	0.13	ND	ND	ND	ND	ND	ND	ND	ND
CR	mg/l	0.05	0.0375	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.11	ND	0.13	ND	ND	ND	ND	ND	ND	ND	ND
CU	mg/l	1	0.75	ND	0.02	ND	0.03	ND	ND	ND	ND	0.02	ND	ND	ND	ND	0.07	ND	0.09	0.11	0.11	ND	ND	ND	ND	ND	ND
FE	mg/l	1	0.75	ND	0.06	0.14	ND	0.1	ND	ND	ND	ND	ND	ND	ND	0.2	0.1	ND	0.12	0.21	0.14	ND	ND	ND	0.11	ND	ND
HG	mg/l	0.000042	0.000031	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MN	mg/l	0.2	0.15	ND	ND	ND	ND	0.02	ND	ND	ND	ND	ND	ND	ND	ND	0.06	0.23	0.02	0.03	ND	ND	ND	0.02	0.03	0.02	0.08
MO	mg/l	1	0.75	ND	ND	0.1	ND	0.04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.02	ND	ND	ND
NI	mg/l	0.2	0.15	ND	ND	ND	0.2	0.6	1.2	1.4	5.4	0.6	0.6	ND	ND	ND	ND	ND	ND	6.9	6.3	ND	ND	8.6	ND	ND	ND
PB	mg/l	0.006	0.0045	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.003	ND	ND	ND	ND	0.001	ND	ND	ND	ND	ND	ND	ND
SE	mg/l	0.012	0.009	ND	ND	0.002	ND	ND	ND	ND	ND	ND	ND	0.005	ND	ND	0.006	ND	ND	ND	ND	0.005	0.006	0.029	0.071	ND	ND
U	mg/l	5	3.75	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
V	mg/l	0.282	0.2115	ND	0.07	ND	ND	ND	ND	ND	ND	0.05	ND	ND	ND	ND	0.13	ND	0.14	0.13	0.13	ND	ND	ND	ND	ND	ND
ZN	mg/l	10	7.5	ND	ND	0.03	ND	ND	ND	0.04	ND	ND	ND	ND	0.13	ND	0.03	ND	0.06	0.26	0.13	0.04	0.03	ND	0.02	ND	ND
TOTAL RADIUM												4+/-2						2+/-1						2+/-1			
NO3-N							0.31					ND						0.83						0.3			
pH		6.6 - 8.6					7.4					6.9						6.8						7			
PHENOLS	mg/l	0.005	0.00375				ND					ND						ND						ND			
COD	mg/l	125	93.75				ND					21.3						ND						ND			
NH3-N	mg/l	0.00007	0.0000525				ND					36.4						0.9						ND			
CN-	mg/l	0.018	0.0135				ND					ND						ND						ND			
FECAL COLIFORM							ND					0						ND						not found			
BOD5	mg/l						7					6						ND						ND			
TSS	mg/l						6					ND						ND						8			
CONDUCTIVITY							2687					5356						2507						3,203			
TDS	mg/l	4555	3416.25				1095					2957						3039						3,076			
ALKALINTY AS CaCO3	mg/l						248																	238			
HARDNESS AS CaCO3	mg/l																							0			
CHLORINE	mg/l	30	22.5				ND					ND						0.1						ND			
TOTAL WATER DISCHARGED QRTRLY (GAL)							32231232					34411249						34023979						33143564			
EAGLE DRAW (GAL)							0					535304						25328962						0			
FARM (GAL)							32231232					33875945						8695017						33143564			

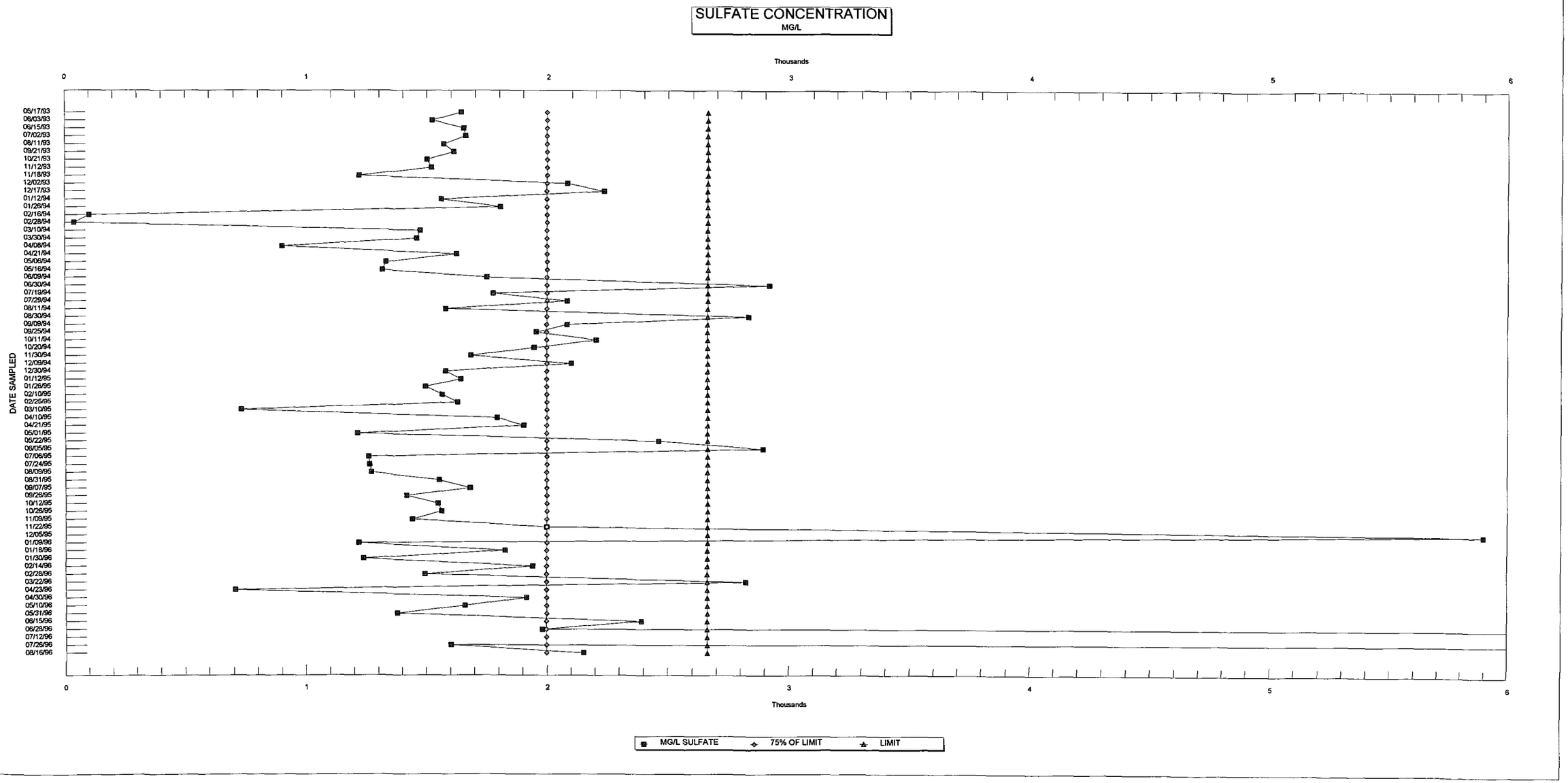

SODIUM CONCENTRATION
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200
300
400
500
MG/L SODIUM

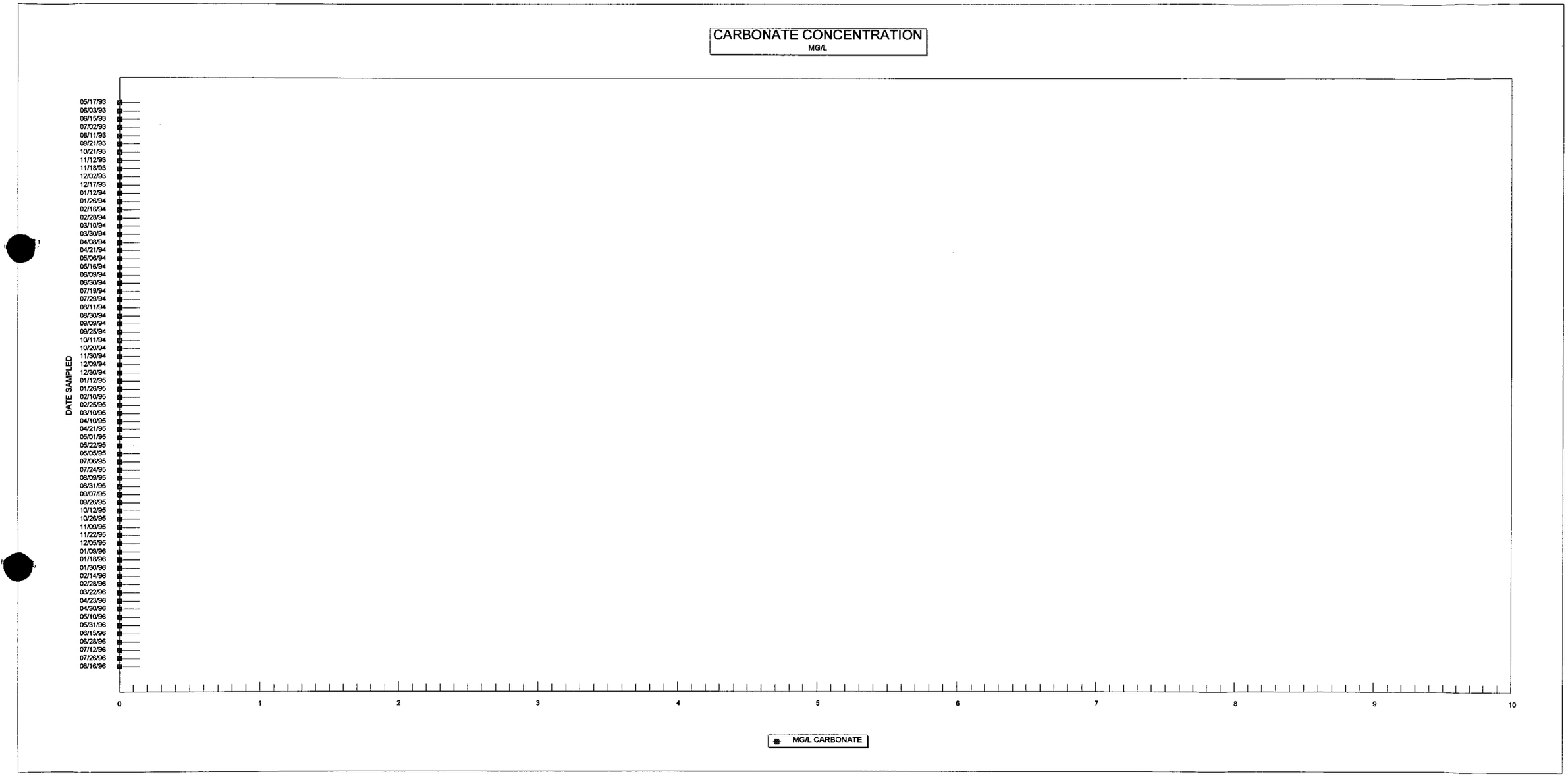

POTASSIUM CONCENTRATION
MG/L
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30
MG/L POTASSIUM

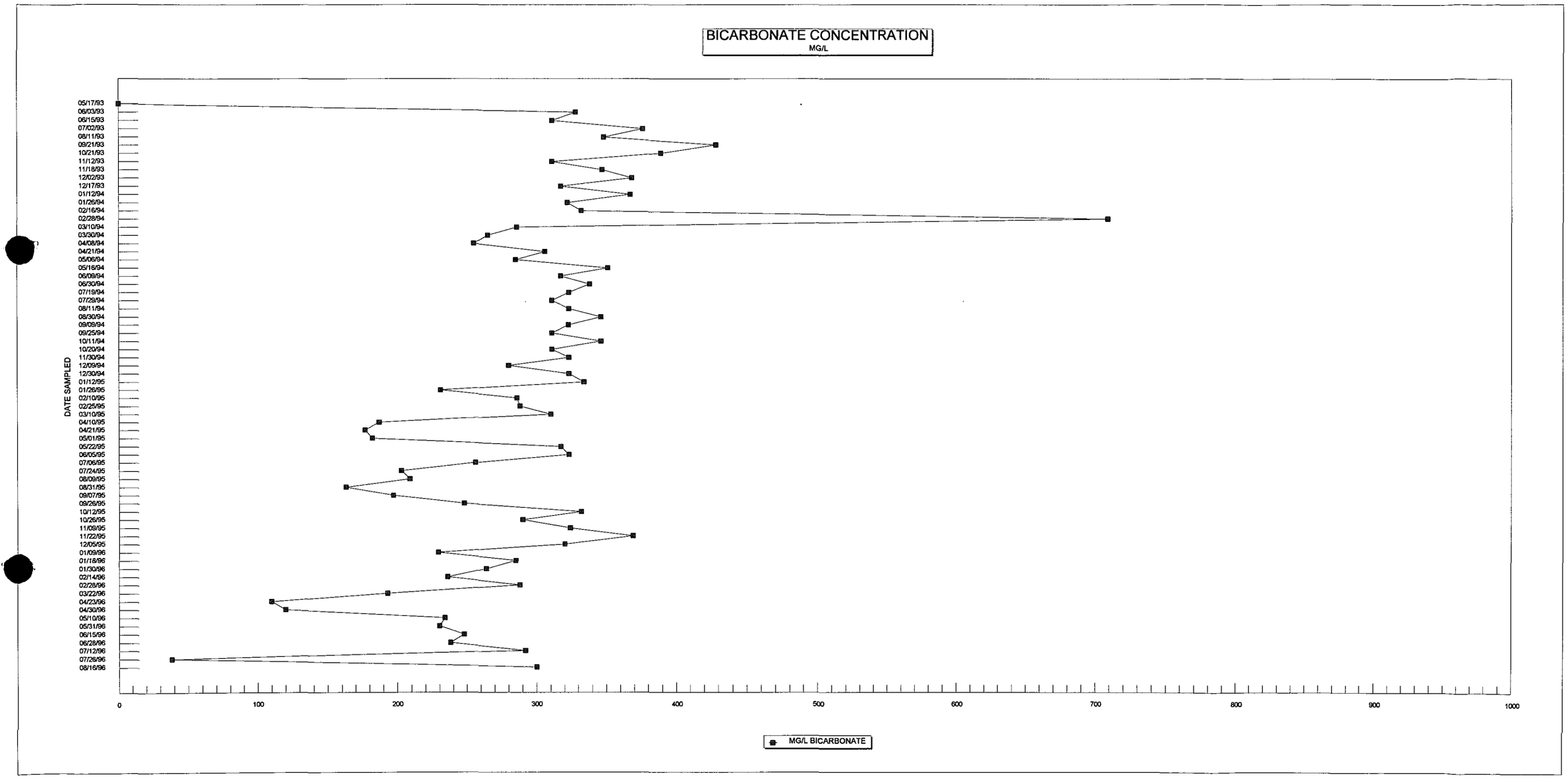

CALCIUM CONCENTRATION
MG/L
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MG/L CALCIUM

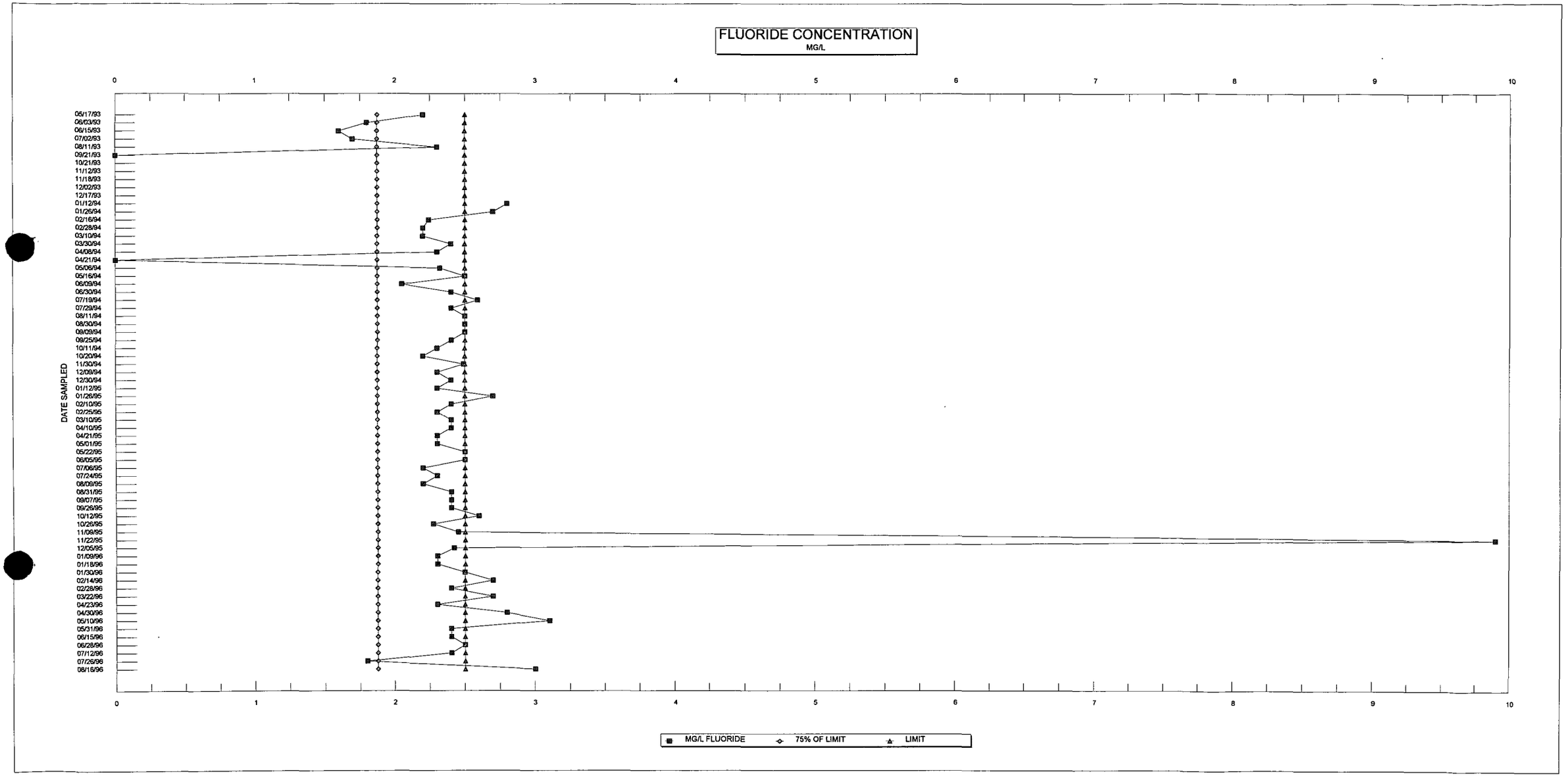

MAGNESIUM CONCENTRATION
MG/L
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MG/L MAGNESIUM

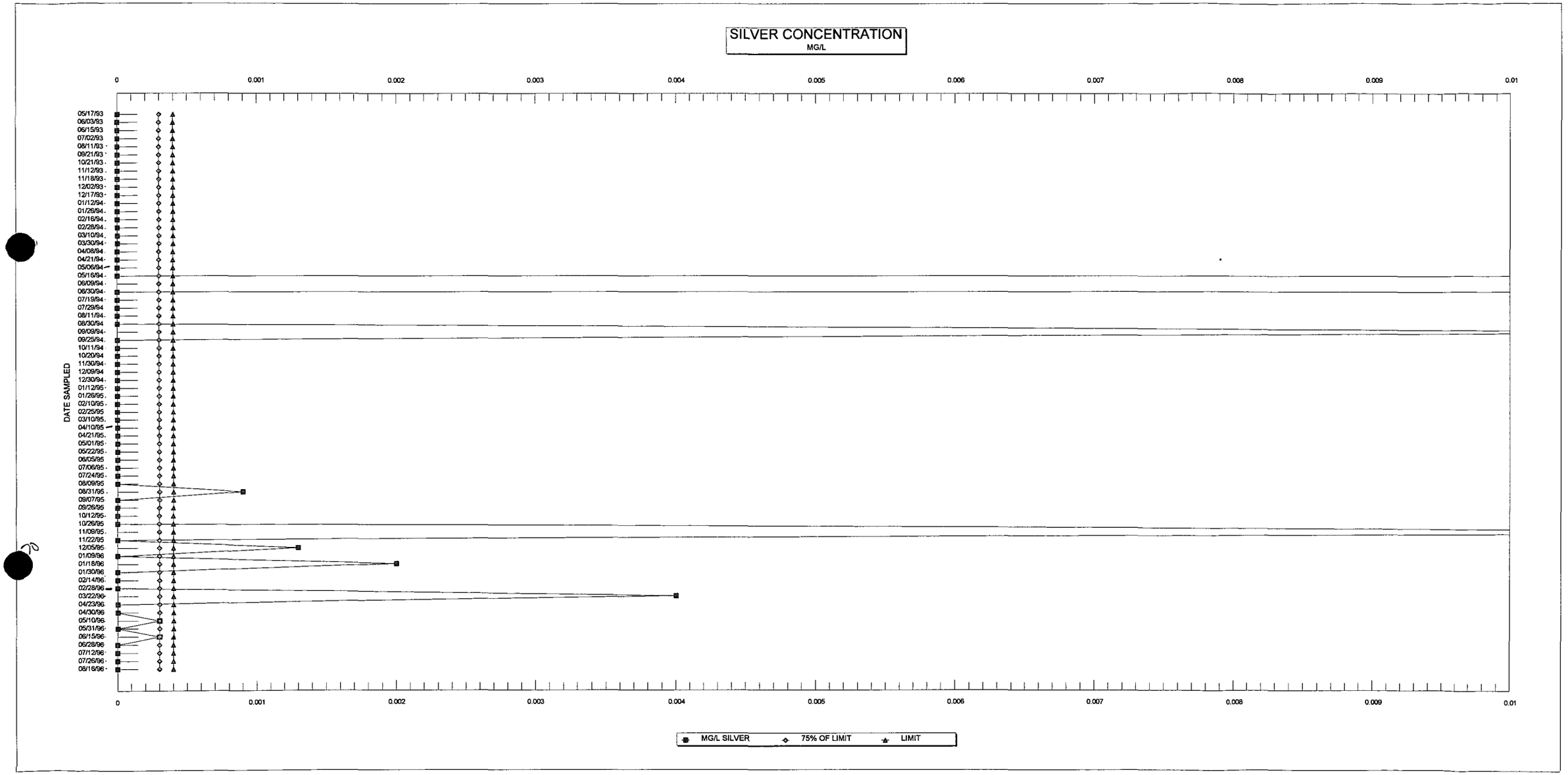

CHLORIDE CONCENTRATION
MG/L
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200
300
400
500
600
700
800
900
1000
DATE SAMPLED
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MG/L CHLORIDE
75% OF LIMIT
LIMIT

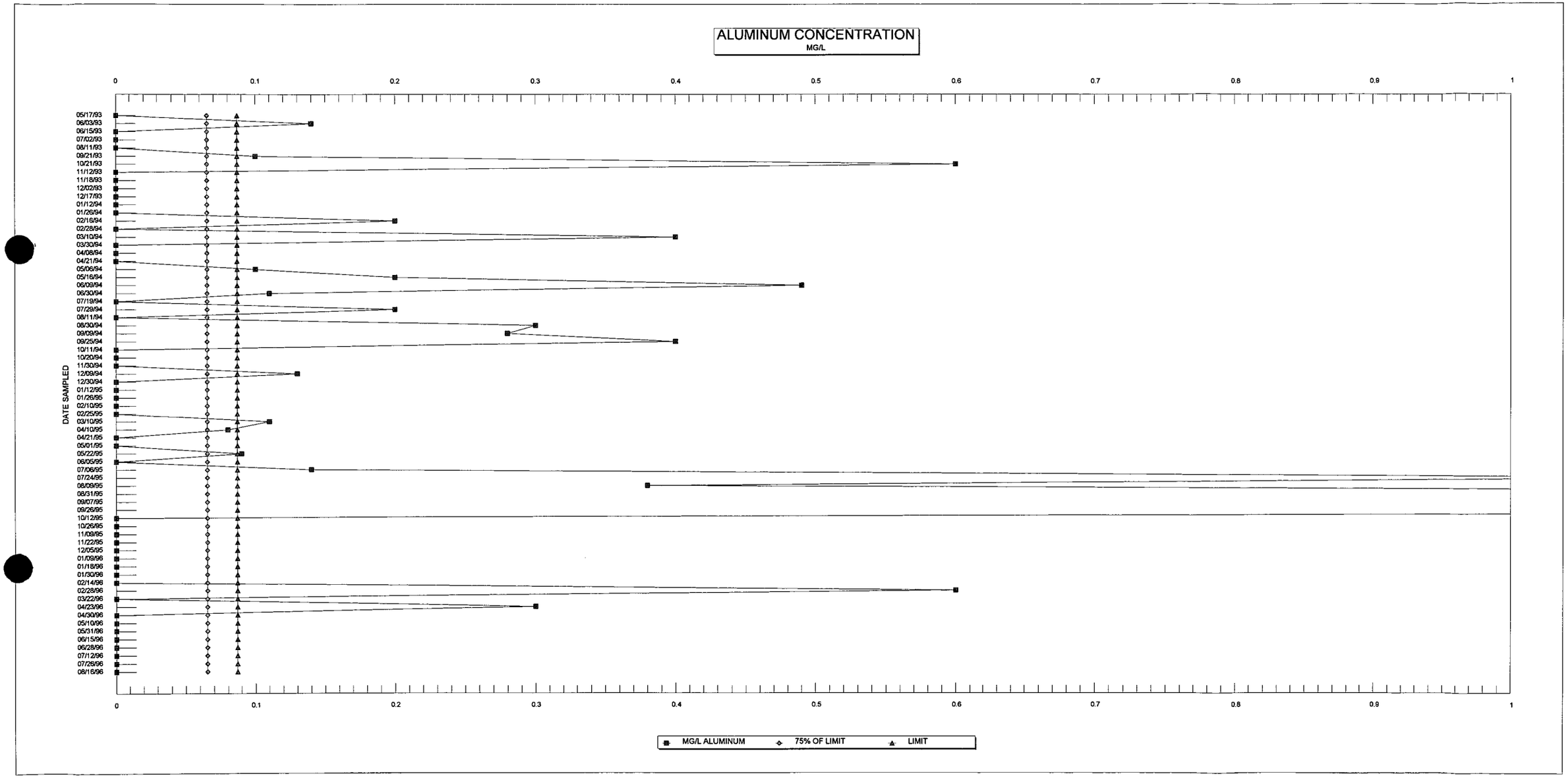

SULFATE CONCENTRATION
MG/L
Thousands
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MG/L SULFATE
75% OF LIMIT
LIMIT

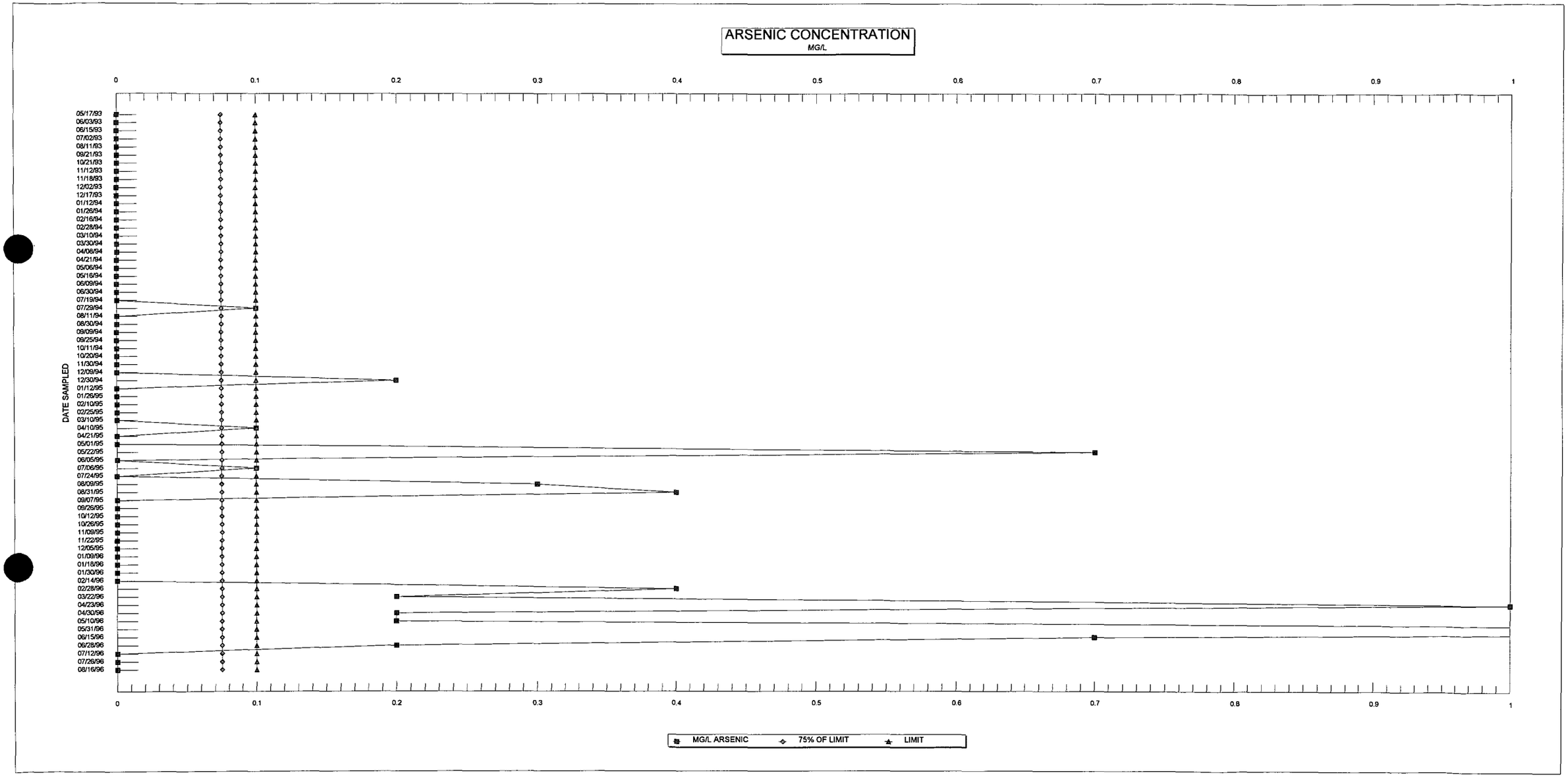

CARBONATE CONCENTRATION
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MG/L CARBONATE

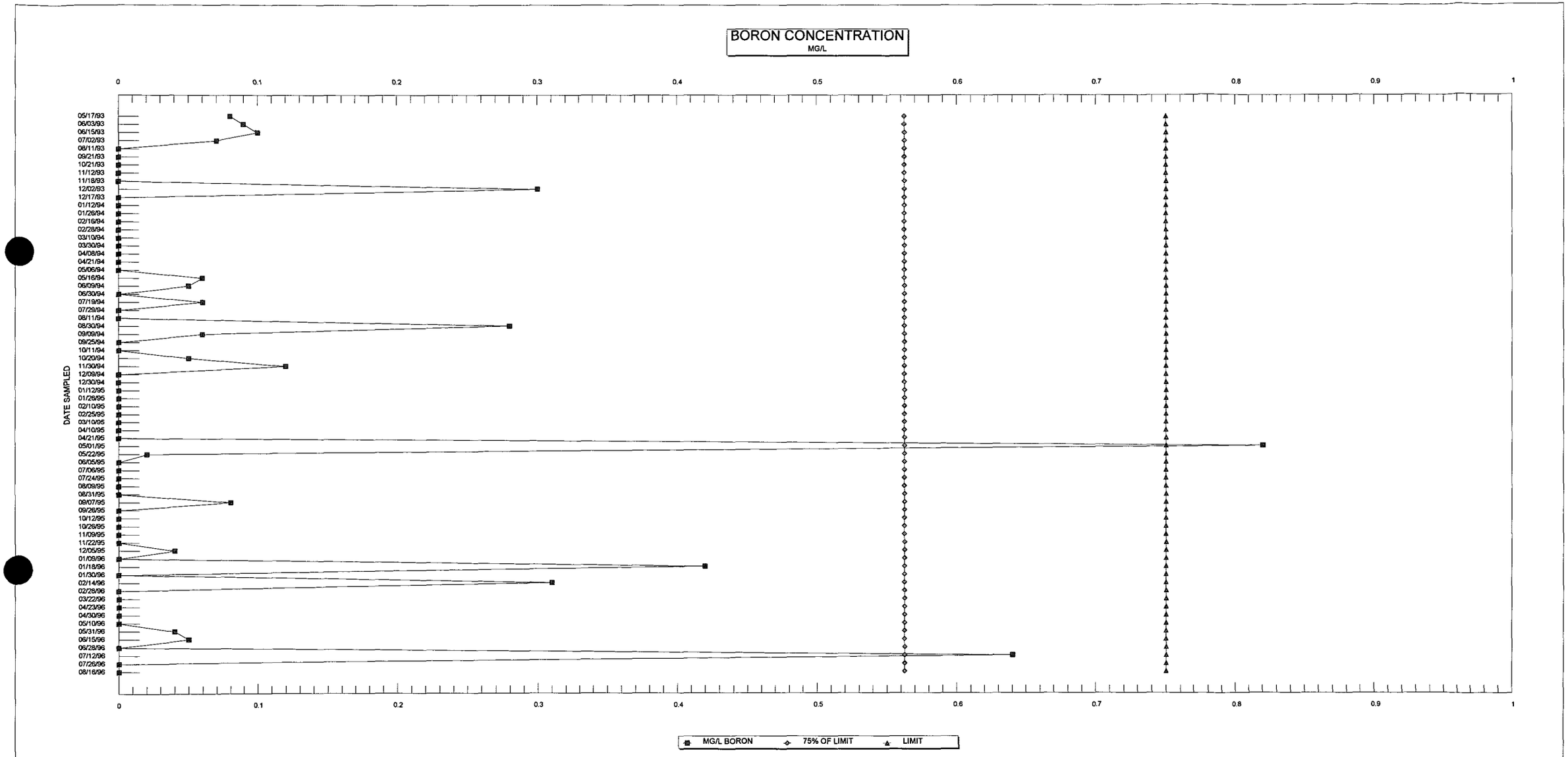

BICARBONATE CONCENTRATION
MG/L
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07/02/93
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10/26/95
11/09/95
11/22/95
12/05/95
01/09/96
01/18/96
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02/28/96
03/22/96
04/23/96
04/30/96
05/10/96
05/31/96
06/15/96
06/28/96
07/12/96
07/26/96
08/16/96
0
100
200
300
400
500
600
700
800
900
1000
MG/L BICARBONATE

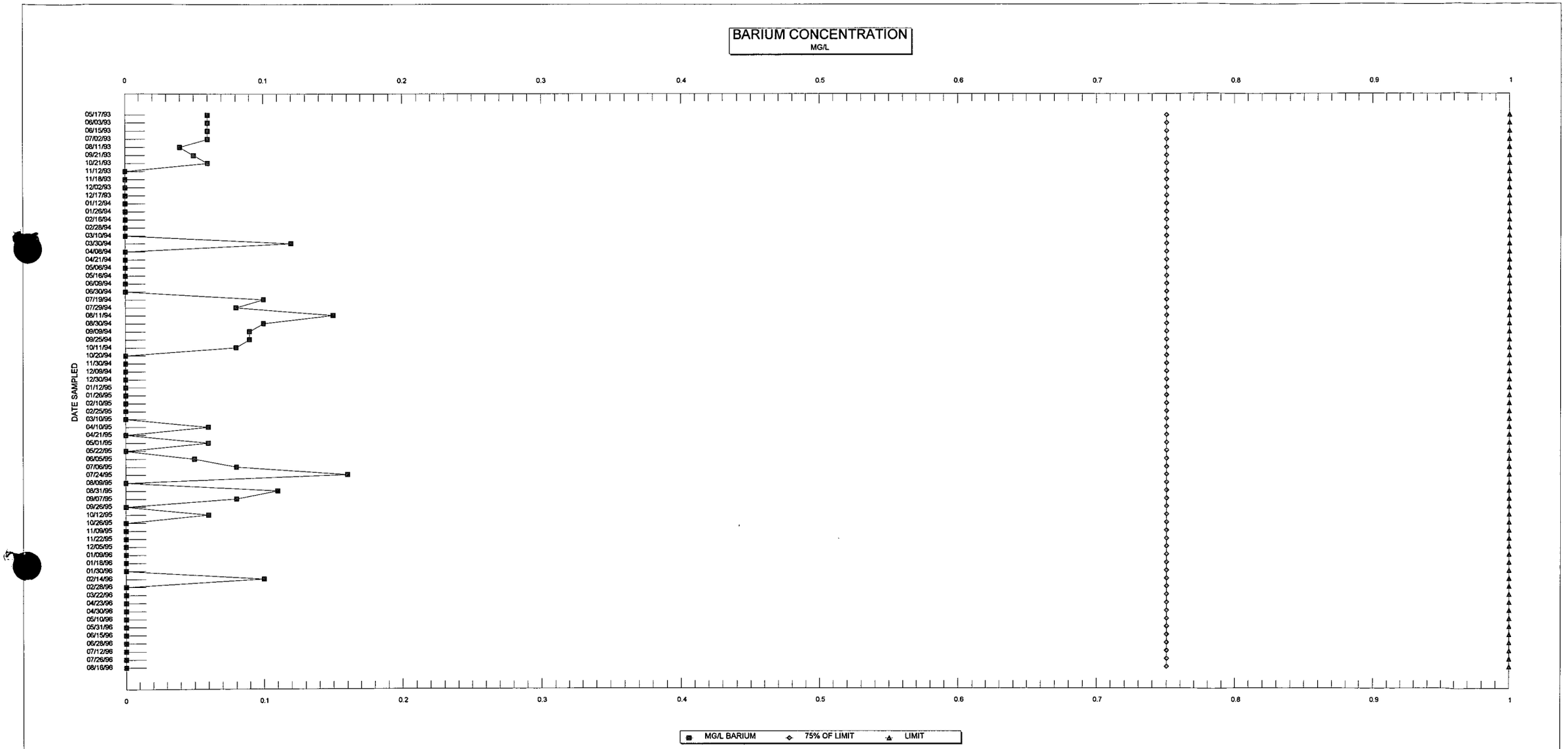

FLUORIDE CONCENTRATION
MG/L
0
1
2
3
4
5
6
7
8
9
10
DATE SAMPLED
05/17/93
06/03/93
06/15/93
07/02/93
08/11/93
09/21/93
10/21/93
11/12/93
11/18/93
12/02/93
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01/09/96
01/18/96
01/30/96
02/14/96
02/28/96
03/22/96
04/23/96
04/30/96
05/10/96
05/31/96
06/15/96
06/28/96
07/12/96
07/26/96
08/16/96
MG/L FLUORIDE
75% OF LIMIT
LIMIT

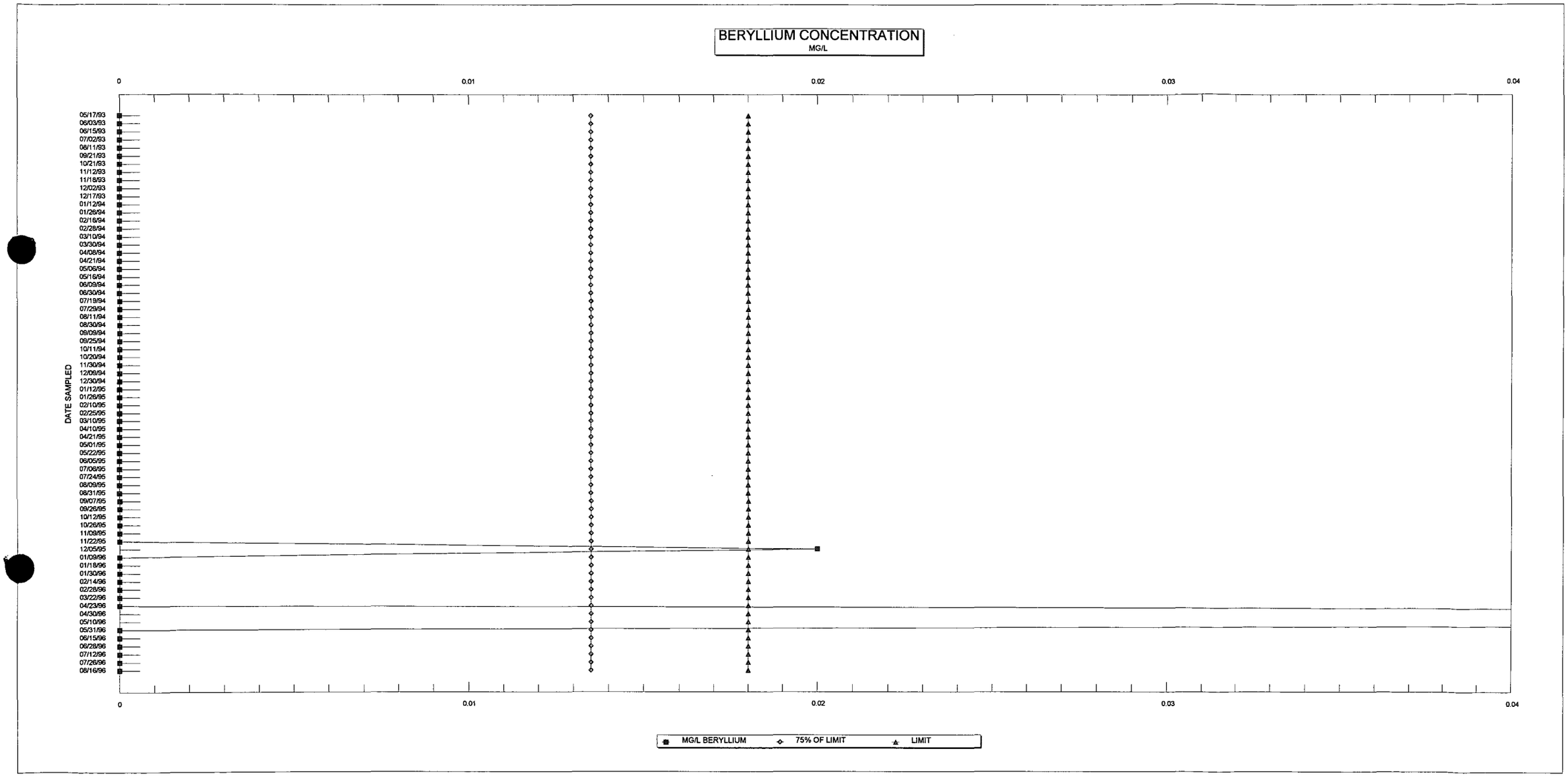

SILVER CONCENTRATION
MG/L
0
0.001
0.002
0.003
0.004
0.005
0.006
0.007
0.008
0.009
0.01
DATE SAMPLED
05/17/93
06/03/93
06/15/93
07/02/93
08/11/93
09/21/93
10/21/93
11/12/93
11/18/93
12/02/93
12/17/93
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01/18/96
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02/14/96
02/28/96
03/22/96
04/23/96
04/30/96
05/10/96
05/31/96
06/15/96
06/28/96
07/12/96
07/26/96
08/16/96
MG/L SILVER
75% OF LIMIT
LIMIT

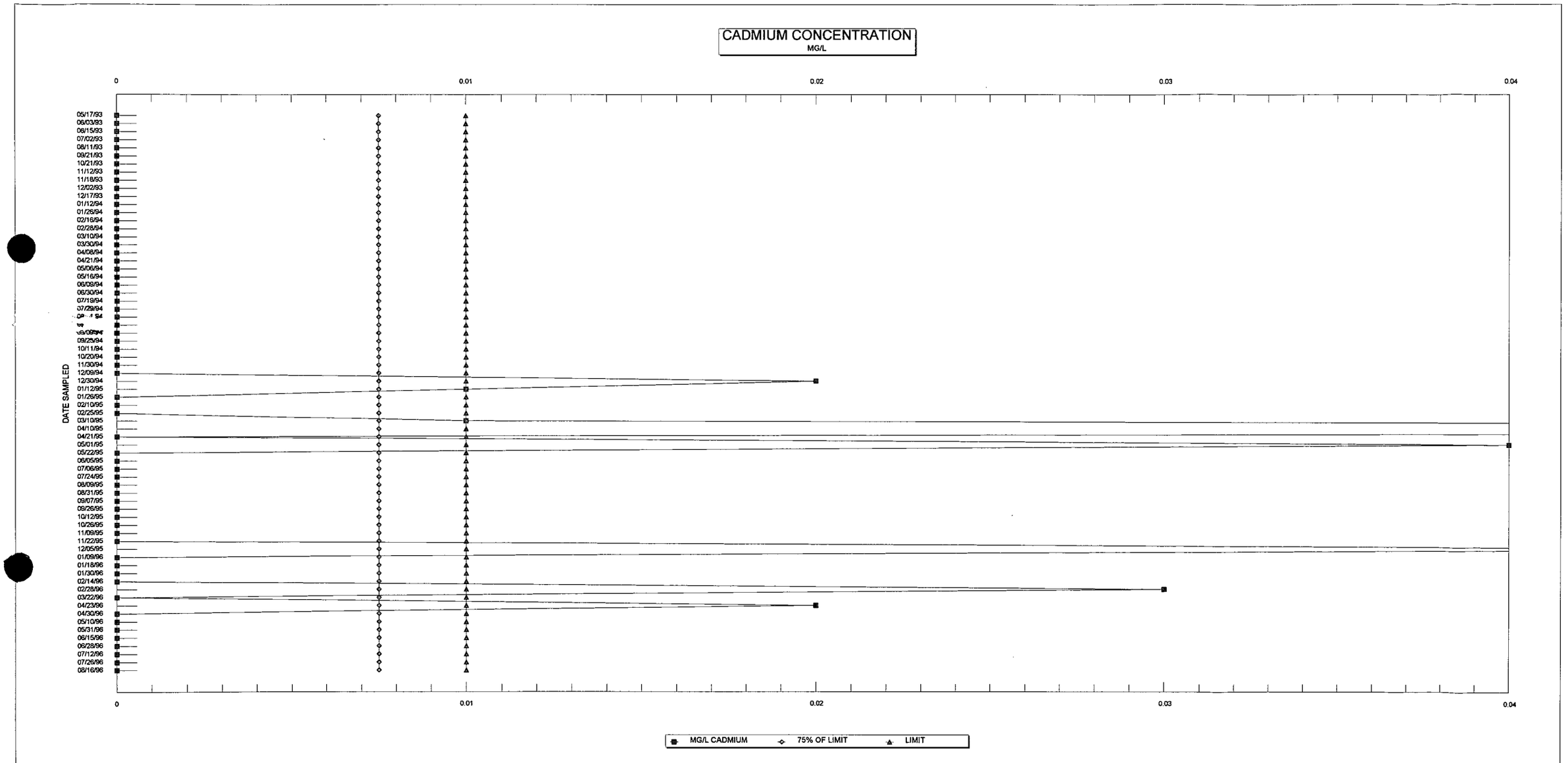

ALUMINUM CONCENTRATION
MG/L
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
DATE SAMPLED
05/17/93
06/03/93
06/15/93
07/02/93
08/11/93
09/21/93
10/21/93
11/12/93
11/18/93
12/02/93
12/17/93
01/12/94
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02/16/94
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03/10/94
03/30/94
04/08/94
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04/23/96
04/30/96
05/10/96
05/31/96
06/15/96
06/28/96
07/12/96
07/26/96
08/16/96
MG/L ALUMINUM
75% OF LIMIT
LIMIT

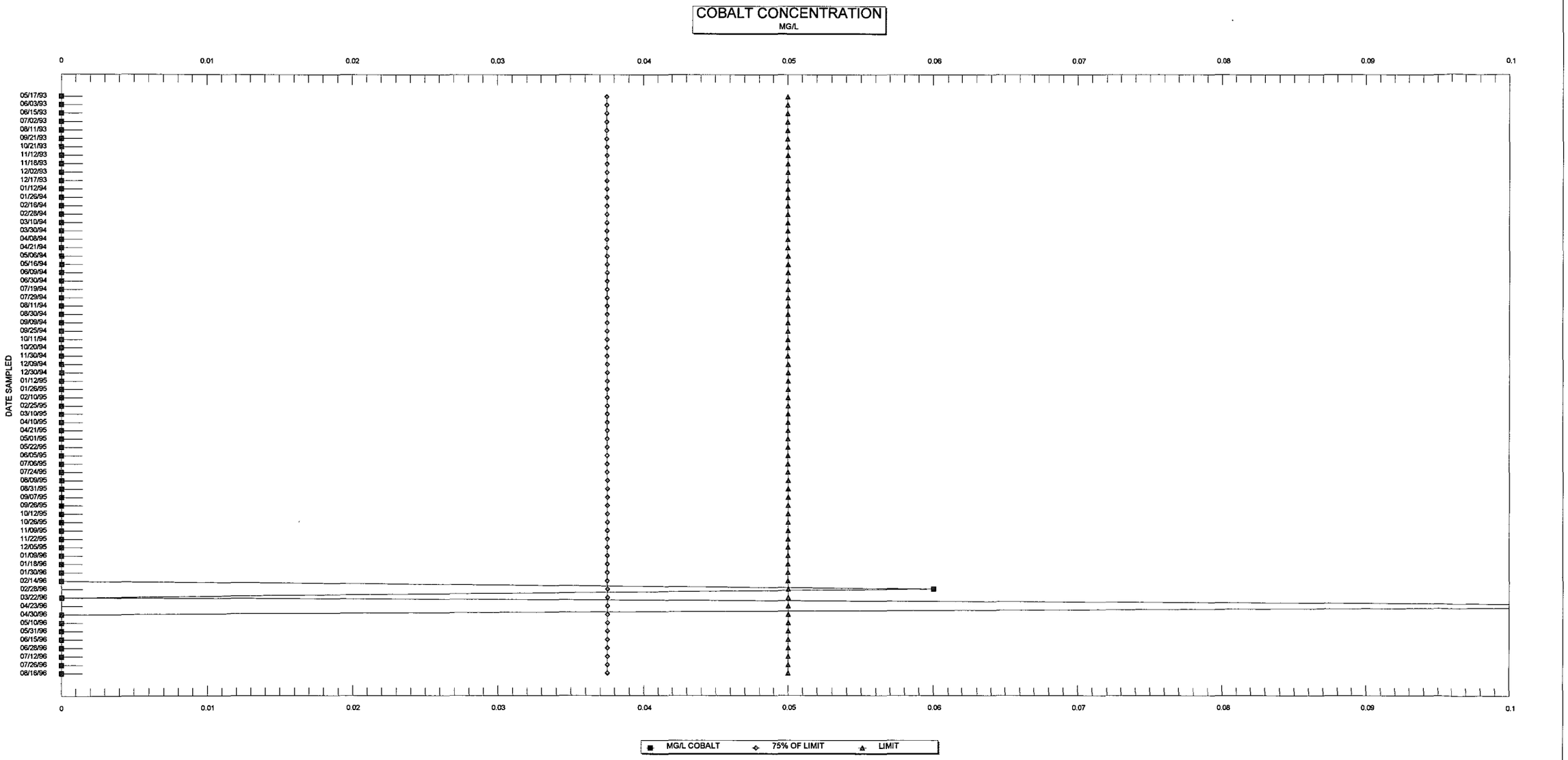

ARSENIC CONCENTRATION
MG/L
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
DATE SAMPLED
05/17/93
06/03/93
06/15/93
07/02/93
08/11/93
09/21/93
10/21/93
11/12/93
11/18/93
12/02/93
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03/30/94
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04/21/94
05/05/94
05/16/94
06/09/94
06/30/94
07/19/94
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04/23/96
04/30/96
05/10/96
05/31/96
06/15/96
06/28/96
07/12/96
07/26/96
08/16/96
MG/L ARSENIC
75% OF LIMIT
LIMIT

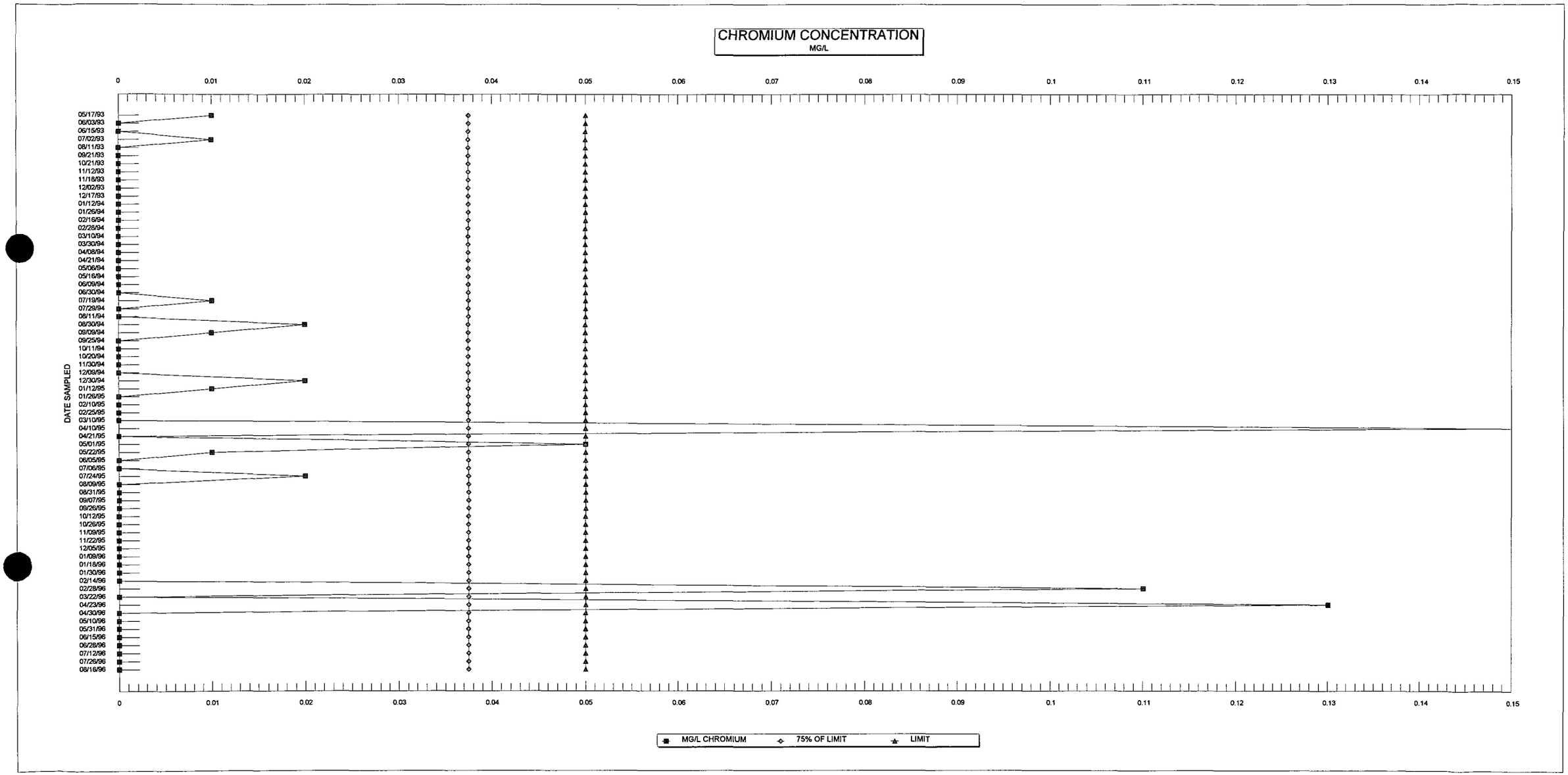

BORON CONCENTRATION
MG/L
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
DATE SAMPLED
05/17/93
06/03/93
06/15/93
07/02/93
08/11/93
09/21/93
10/21/93
11/12/93
11/18/93
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02/15/94
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03/10/94
03/30/94
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05/05/94
05/16/94
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04/23/96
04/30/96
05/10/96
05/31/96
06/15/96
06/28/96
07/12/96
07/26/96
08/16/96
MG/L BORON
75% OF LIMIT
LIMIT

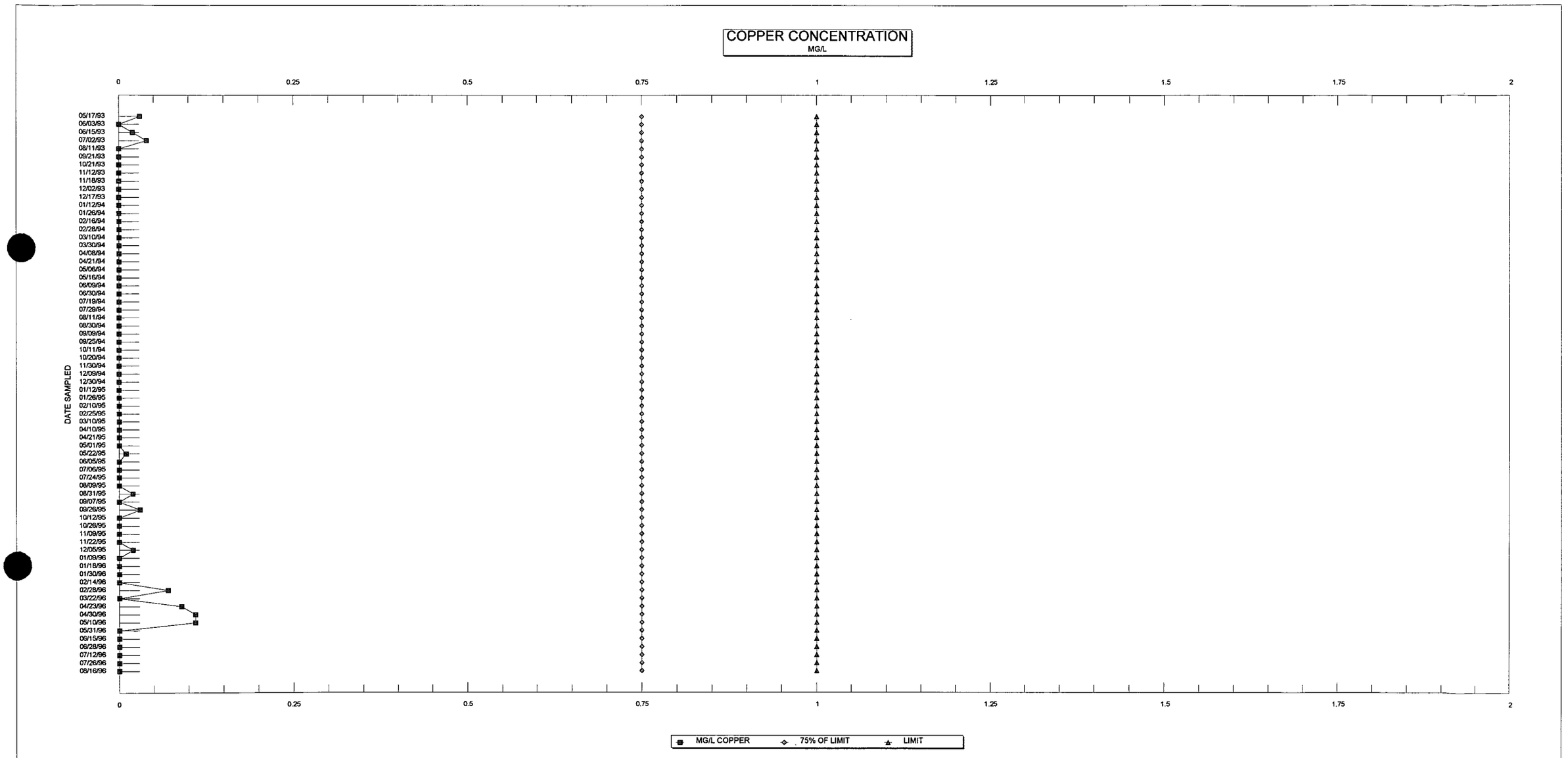

BARIUM CONCENTRATION
MG/L
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
DATE SAMPLED
05/17/93
06/03/93
06/15/93
07/02/93
08/11/93
09/21/93
10/21/93
11/12/93
11/18/93
12/02/93
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05/16/94
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07/19/94
07/29/94
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04/23/96
04/30/96
05/10/96
05/31/96
06/15/96
06/28/96
07/12/96
07/26/96
08/16/96
MG/L BARIUM
75% OF LIMIT
LIMIT

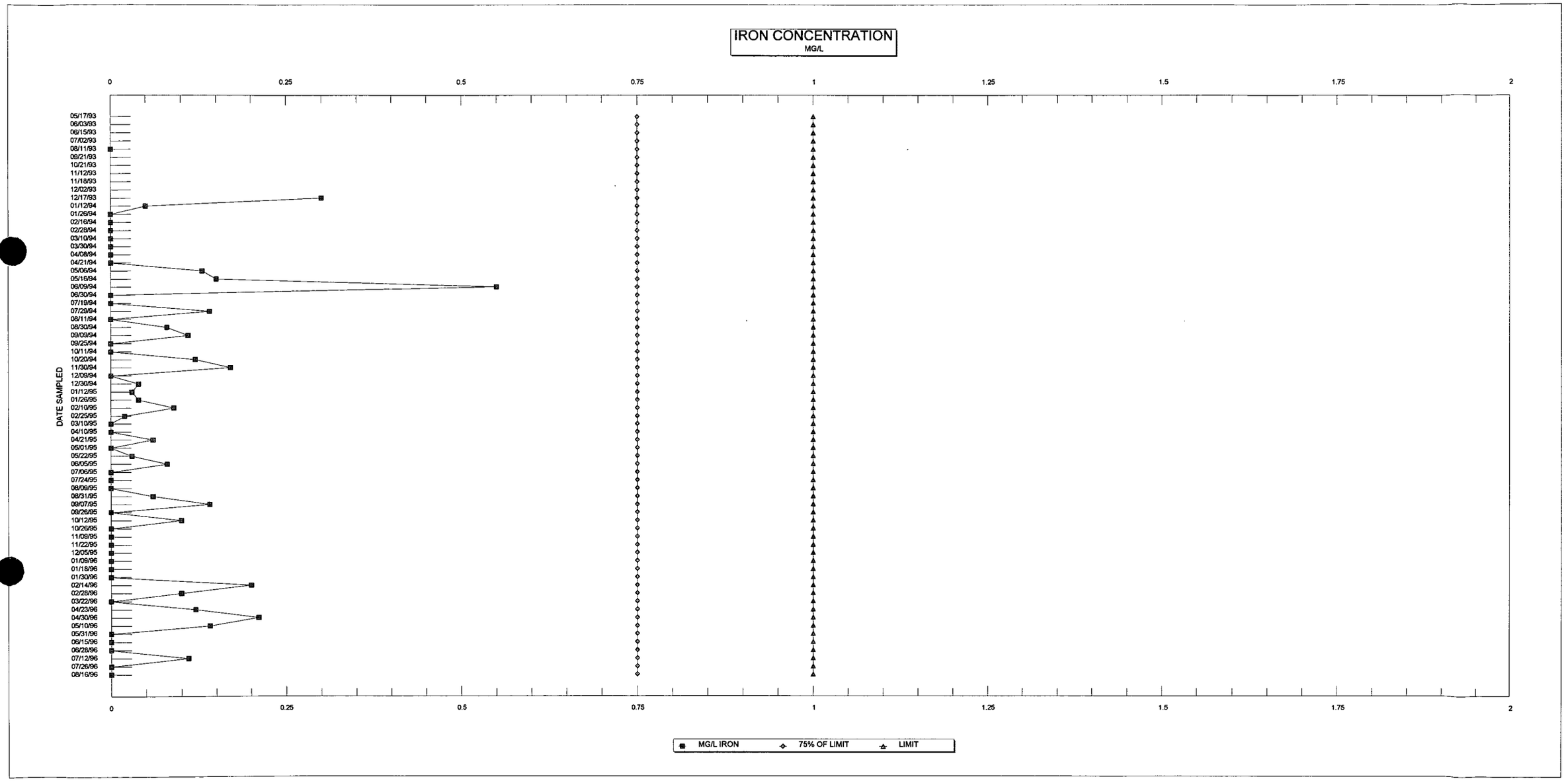

BERYLLIUM CONCENTRATION
MG/L
0
0.01
0.02
0.03
0.04
DATE SAMPLED
05/17/93
06/03/93
06/15/93
07/02/93
08/11/93
09/21/93
10/21/93
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11/18/93
12/02/93
12/17/93
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01/26/94
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02/28/94
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04/08/94
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05/16/94
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06/30/94
07/19/94
07/29/94
08/11/94
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09/25/94
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01/18/96
01/30/96
02/14/96
02/28/96
03/22/96
04/23/96
04/30/96
05/10/96
05/31/96
06/15/96
06/28/96
07/12/96
07/26/96
08/16/96
MG/L BERYLLIUM
75% OF LIMIT
LIMIT

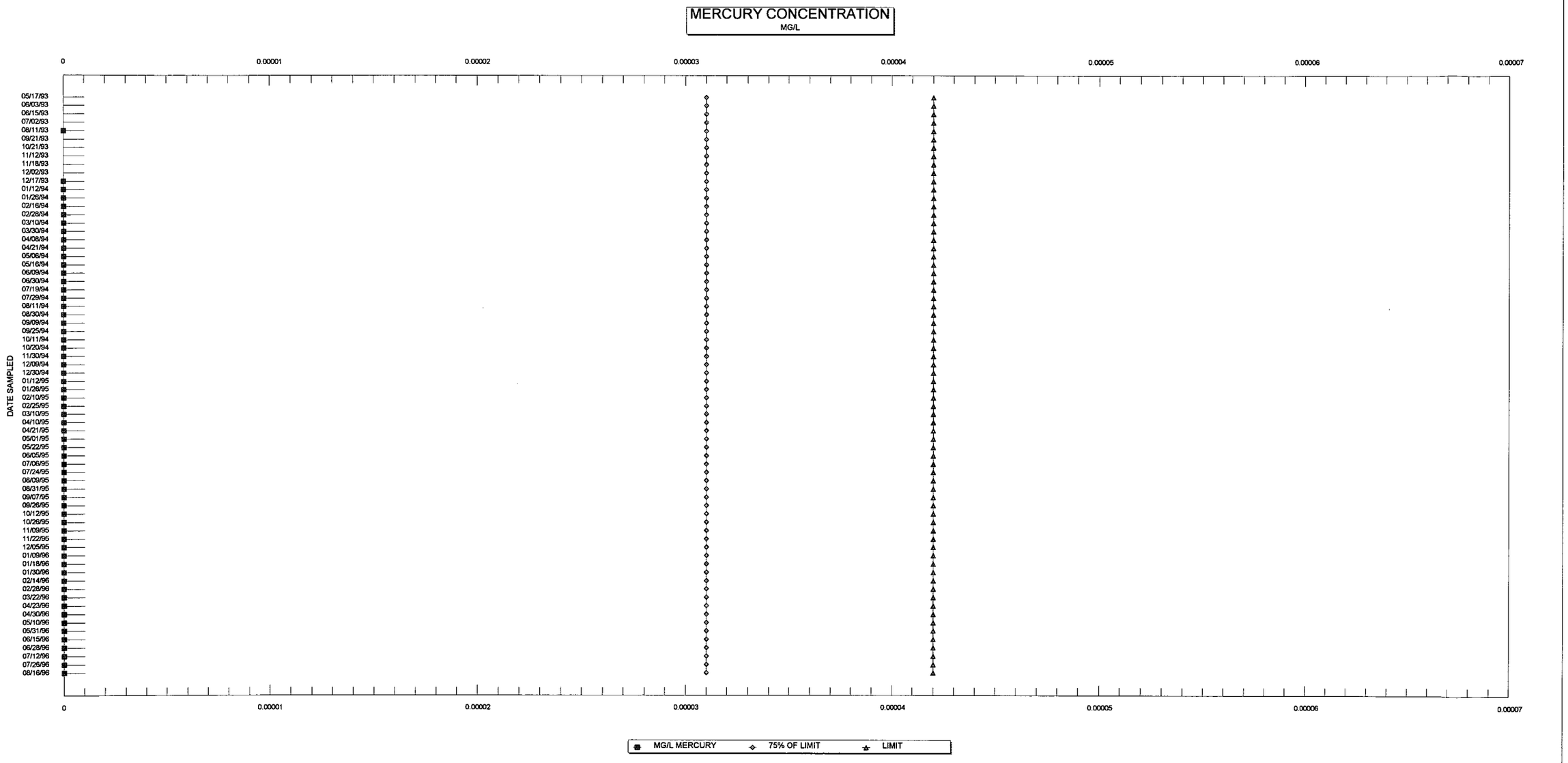

CADMIUM CONCENTRATION
MG/L
0
0.01
0.02
0.03
0.04
DATE SAMPLED
05/17/93
06/03/93
06/15/93
07/02/93
08/11/93
09/21/93
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04/23/96
04/30/96
05/10/96
05/31/96
06/15/96
06/28/96
07/12/96
07/26/96
08/16/96
MG/L CADMIUM
75% OF LIMIT
LIMIT

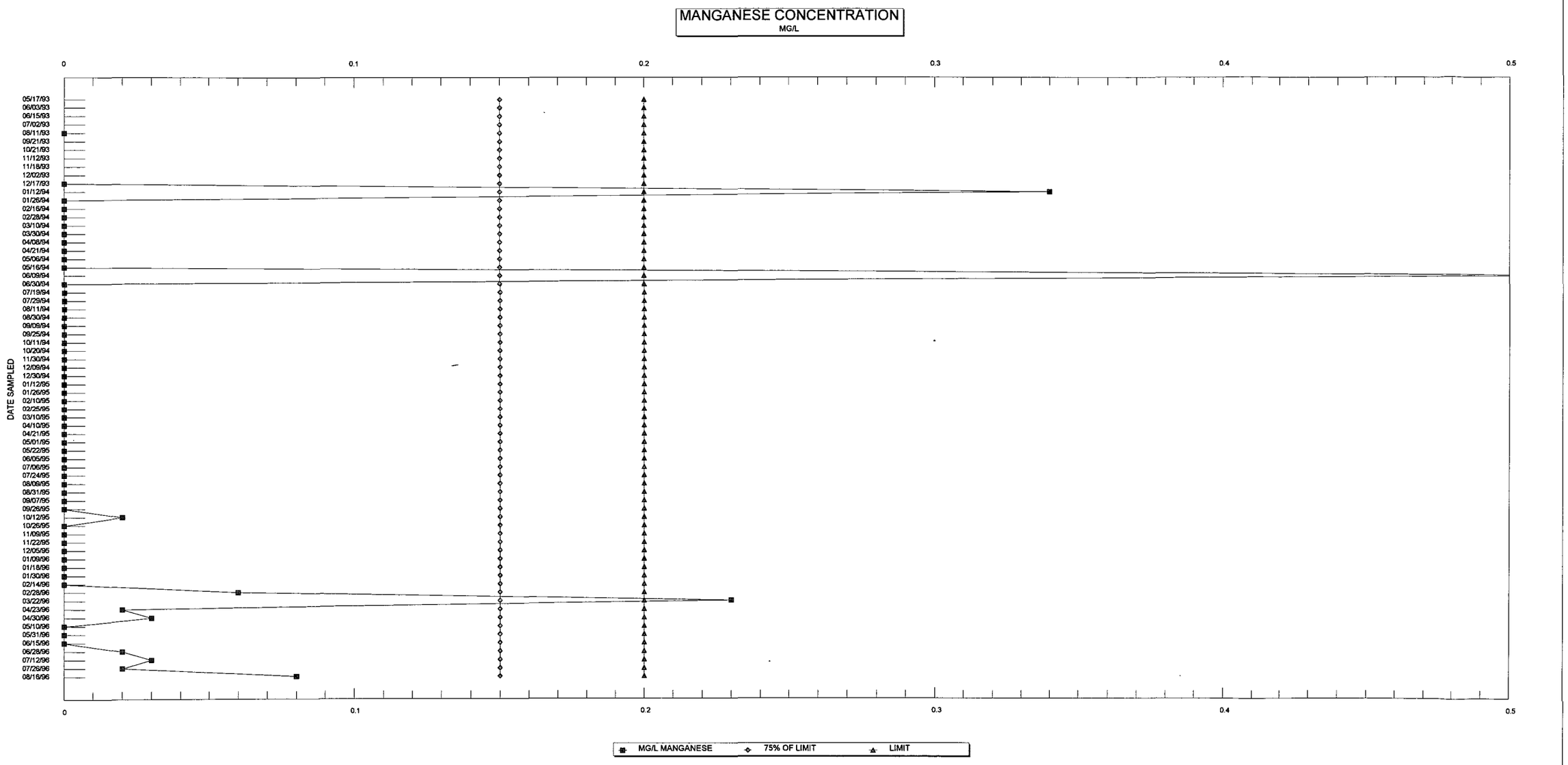

COBALT CONCENTRATION
MG/L
0
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
0.09
0.1
DATE SAMPLED
05/17/93
06/03/93
06/15/93
07/02/93
08/11/93
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11/12/93
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12/02/83
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04/23/96
04/30/96
05/10/96
05/31/96
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06/28/96
07/12/96
07/26/96
08/16/96
MG/L COBALT
75% OF LIMIT
LIMIT

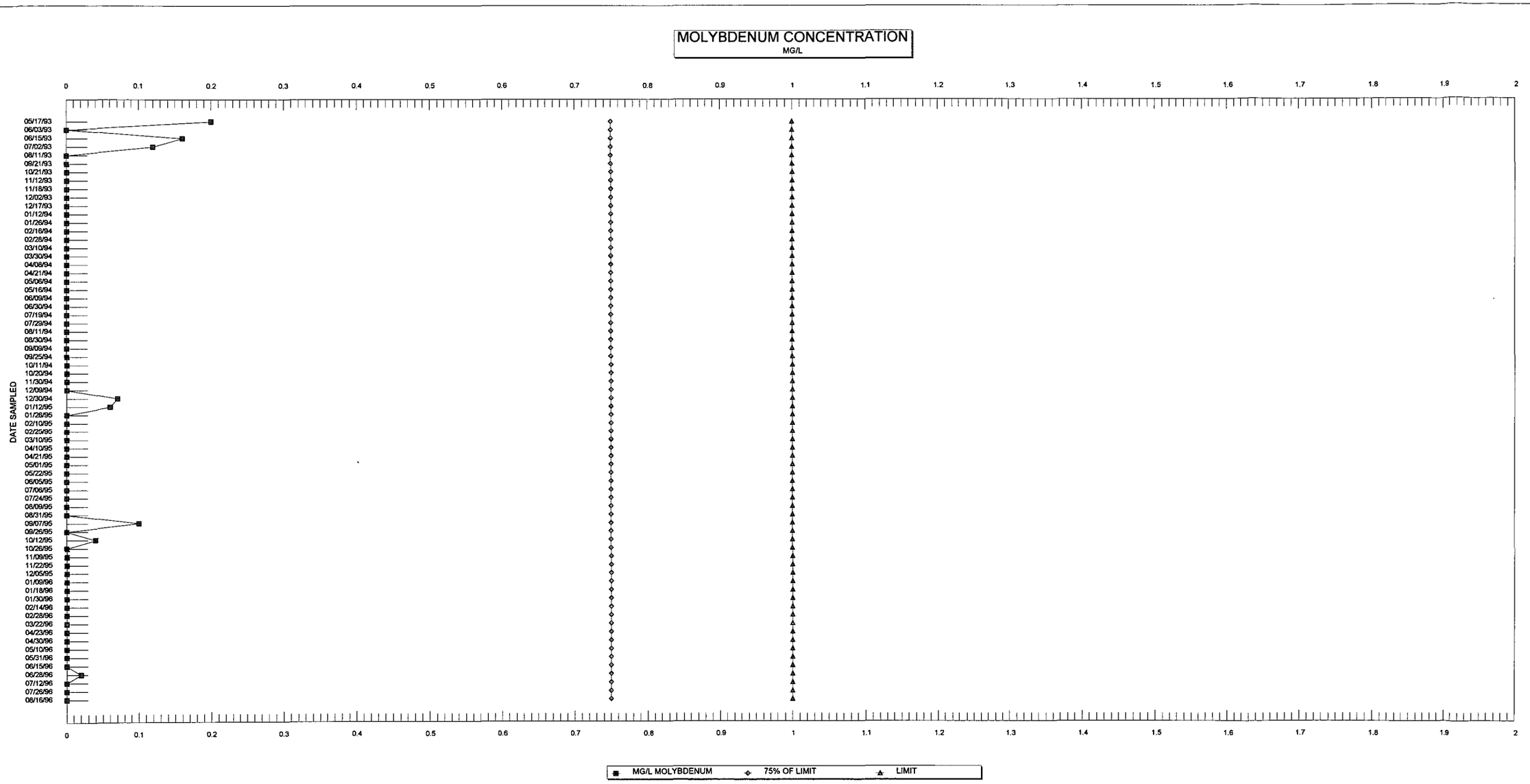

CHROMIUM CONCENTRATION
MG/L
0
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
0.09
0.1
0.11
0.12
0.13
0.14
0.15
DATE SAMPLED
05/17/93
06/03/93
06/15/93
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04/30/96
05/10/96
05/31/96
06/15/96
06/28/96
07/12/96
07/26/96
08/16/96
MG/L CHROMIUM
75% OF LIMIT
LIMIT

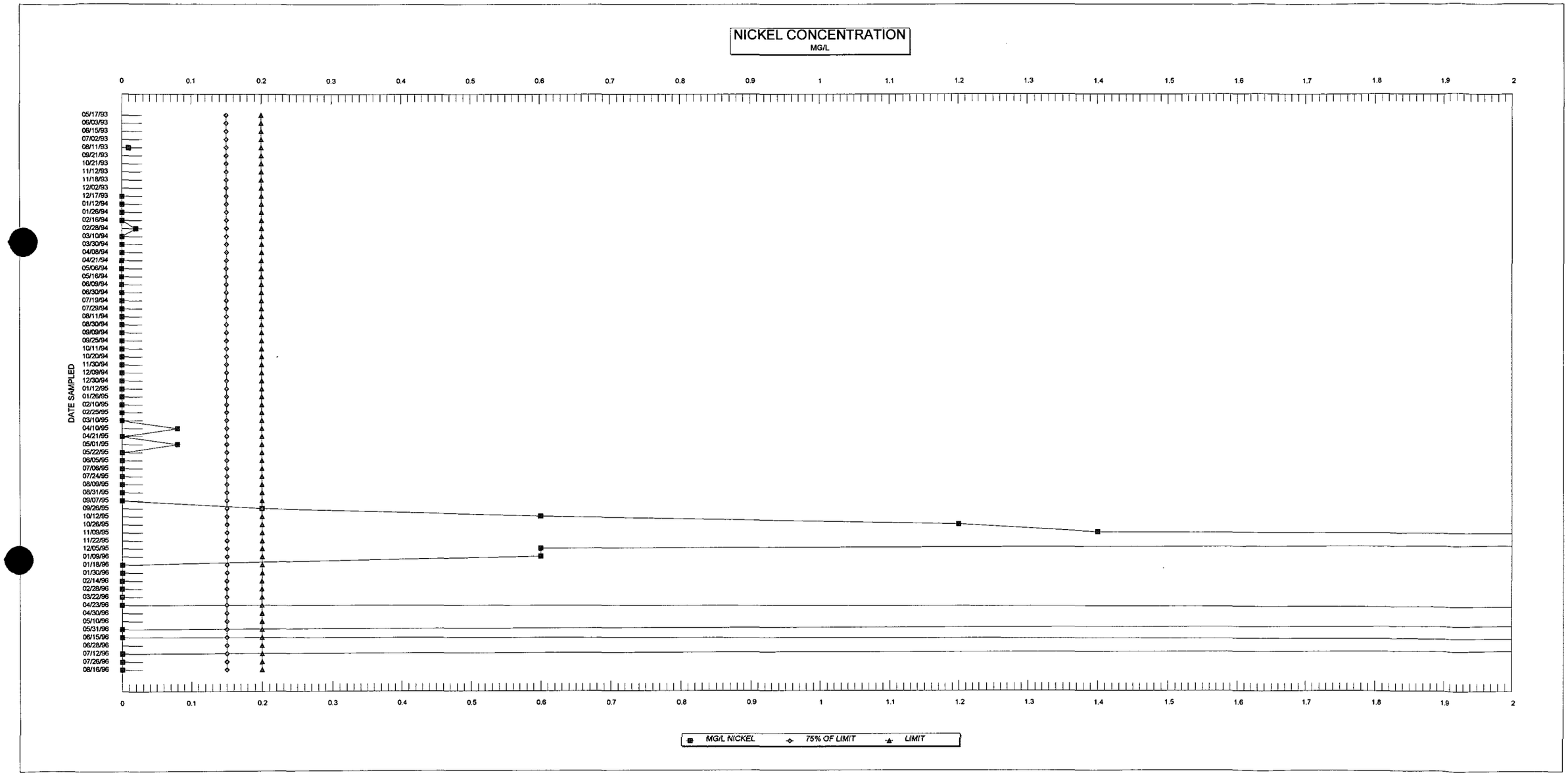

COPPER CONCENTRATION
MG/L
0
0.25
0.5
0.75
1
1.25
1.5
1.75
2
DATE SAMPLED
05/17/93
06/03/93
06/15/93
07/02/93
08/11/93
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04/23/96
04/30/96
05/10/96
05/31/96
06/15/96
06/28/96
07/12/96
07/26/96
08/16/96
MG/L COPPER
75% OF LIMIT
LIMIT

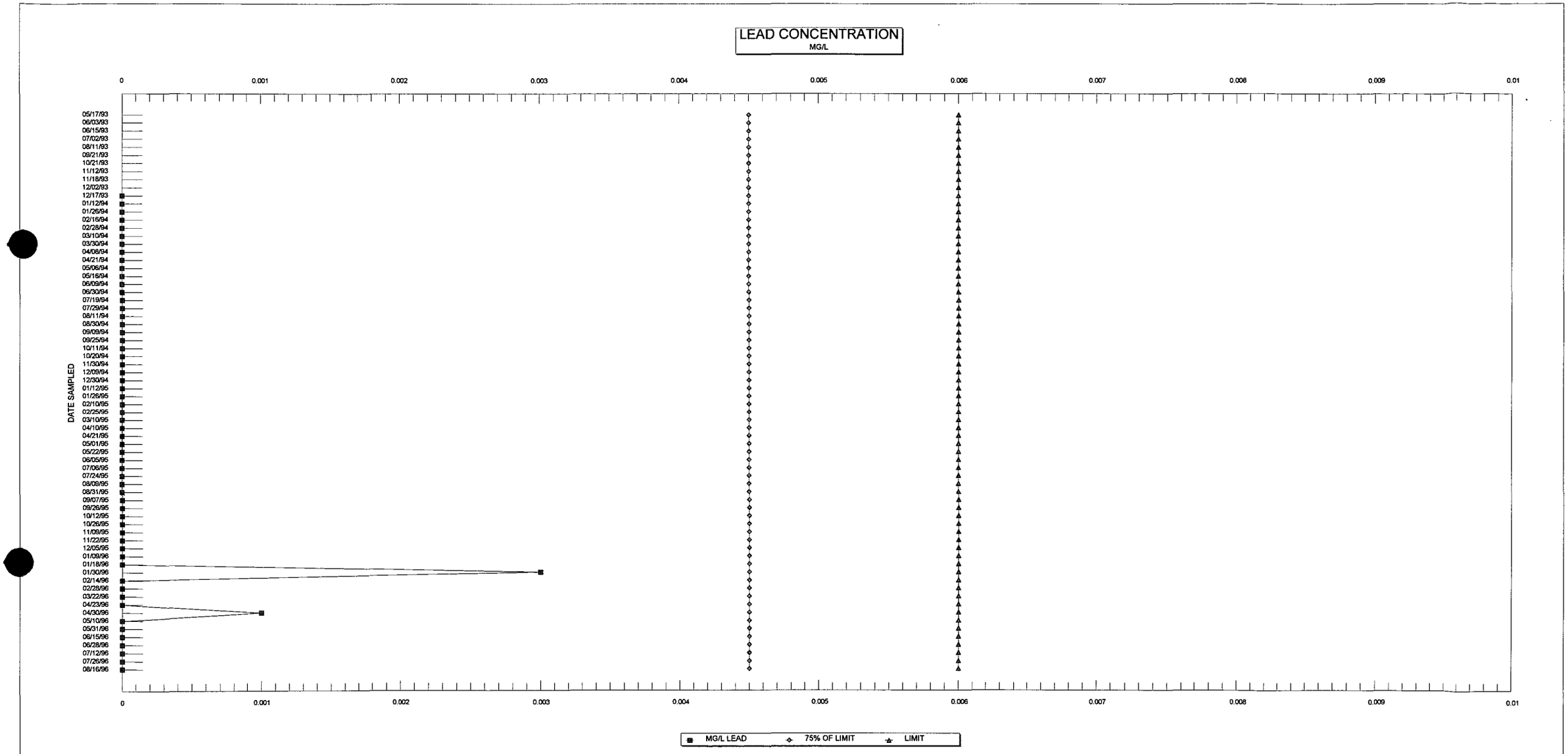

IRON CONCENTRATION
MG/L
0
0.25
0.5
0.75
1
1.25
1.5
1.75
2
DATE SAMPLED
05/17/93
06/03/93
06/15/93
07/02/93
08/11/93
09/21/93
10/21/93
11/12/93
11/18/93
12/02/93
12/17/93
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04/23/96
04/30/96
05/10/96
05/31/96
06/15/96
06/28/96
07/12/96
07/26/96
08/16/96
MG/L IRON
75% OF LIMIT
LIMIT

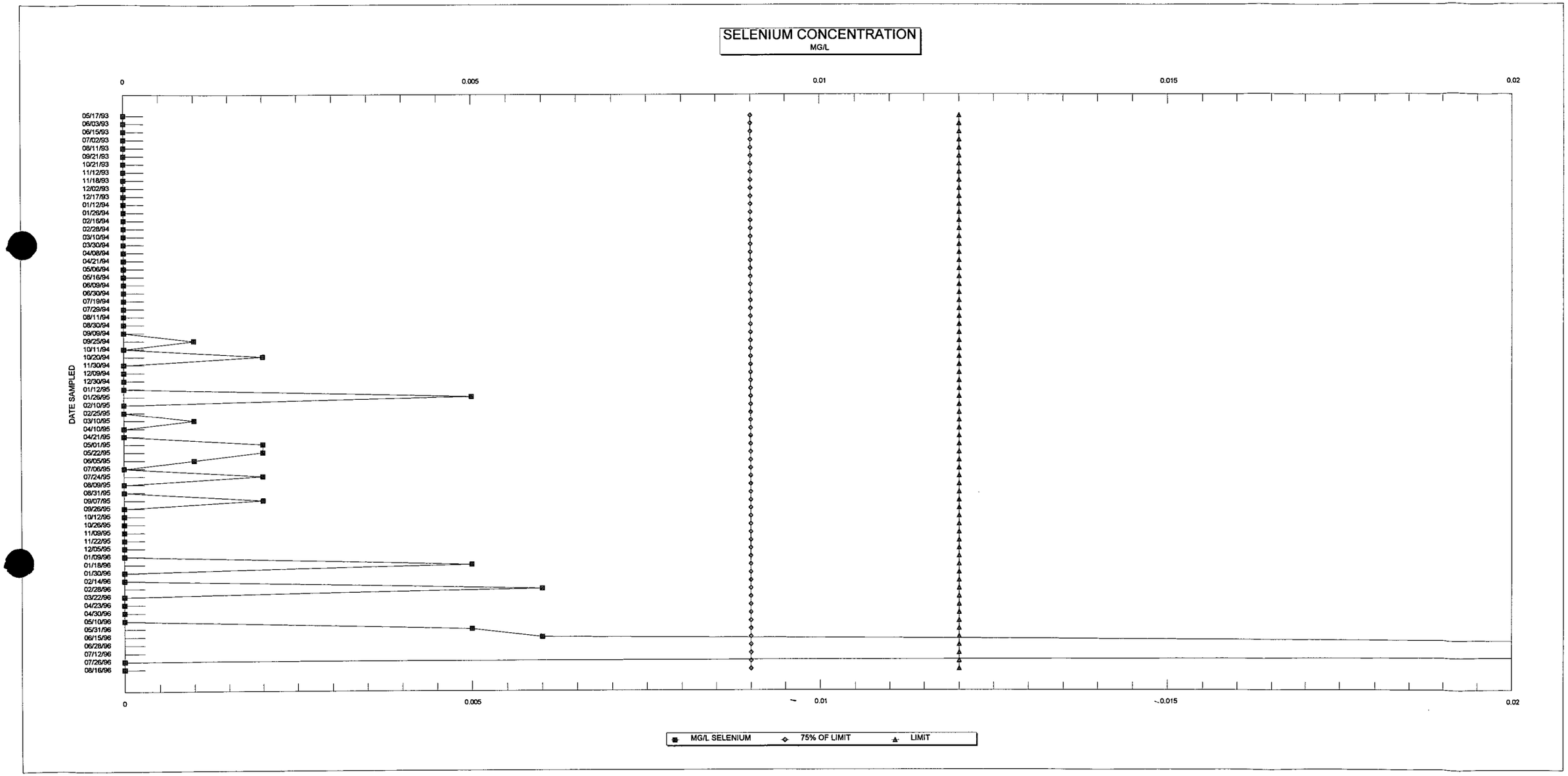

MERCURY CONCENTRATION
MG/L
0
0.00001
0.00002
0.00003
0.00004
0.00005
0.00006
0.00007
DATE SAMPLED
05/17/93
06/03/93
06/15/93
07/02/93
08/11/93
09/21/93
10/21/93
11/12/93
11/18/93
12/02/93
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04/23/96
04/30/96
05/10/96
05/31/96
06/15/96
06/28/96
07/12/96
07/26/96
08/16/96
MG/L MERCURY
75% OF LIMIT
LIMIT

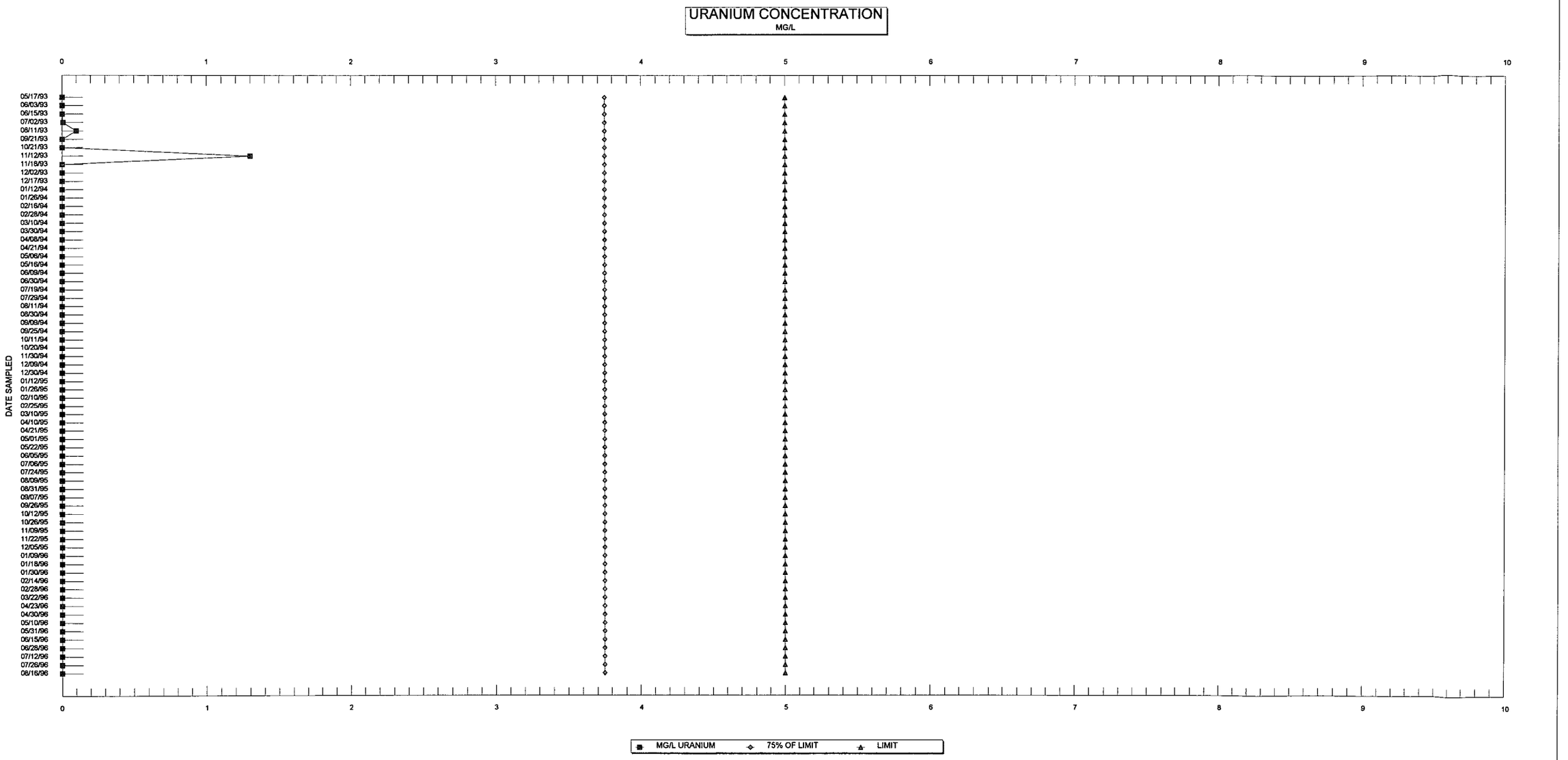

MANGANESE CONCENTRATION
MG/L
0
0.1
0.2
0.3
0.4
0.5
DATE SAMPLED
05/17/93
06/03/93
06/15/93
07/02/93
08/11/93
09/21/93
10/21/93
11/12/93
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04/23/96
04/30/96
05/10/96
05/31/96
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06/28/96
07/12/96
07/26/96
08/16/96
MG/L MANGANESE
75% OF LIMIT
LIMIT

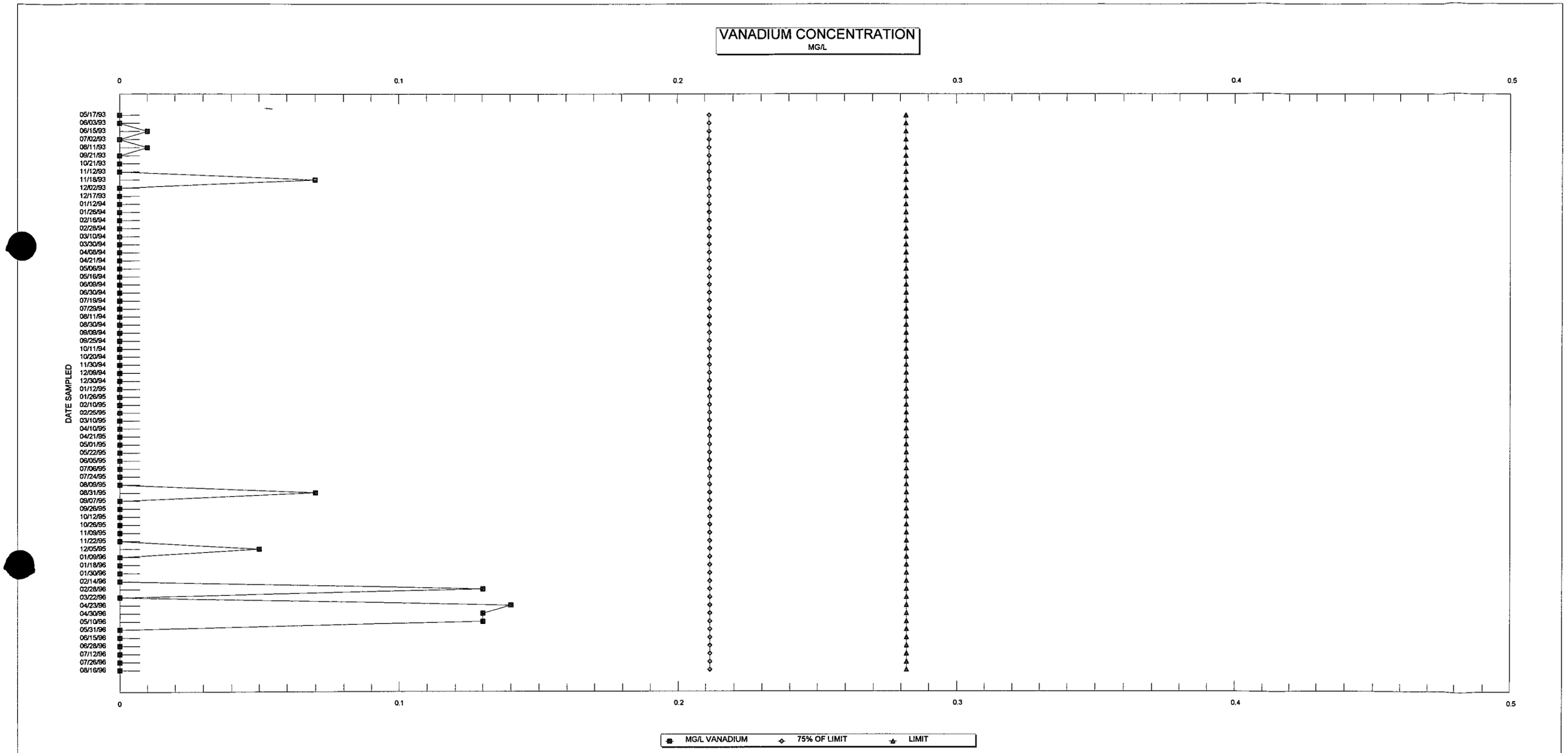

MOLYBDENUM CONCENTRATION
MG/L
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
1.1
1.2
1.3
1.4
1.5
1.6
1.7
1.8
1.9
2
DATE SAMPLED
05/17/93
06/03/93
06/15/93
07/02/93
08/11/93
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04/23/96
04/30/96
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05/31/96
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07/26/96
08/16/96
MG/L MOLYBDENUM
75% OF LIMIT
LIMIT

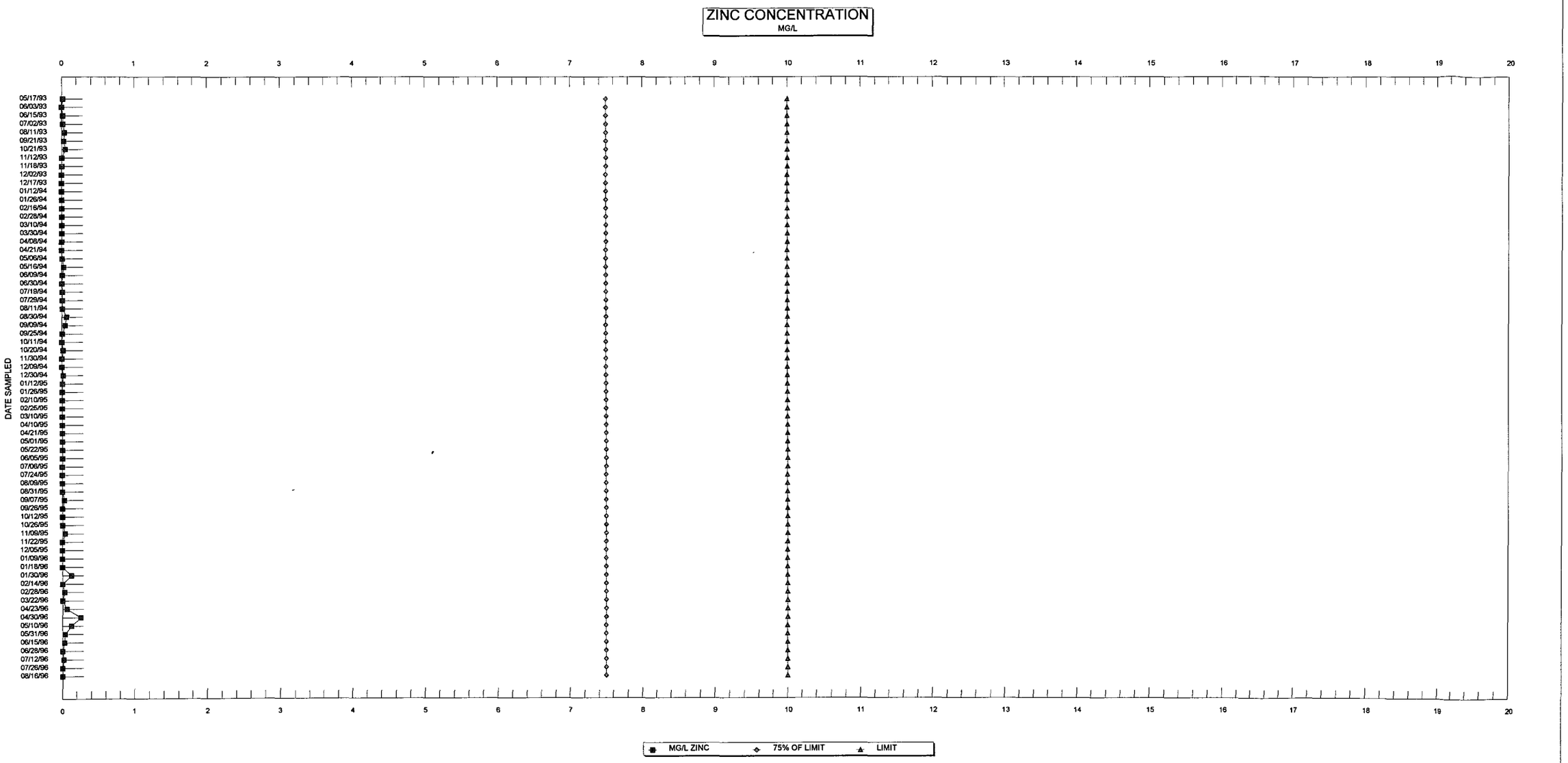

NICKEL CONCENTRATION
MG/L
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
1.1
1.2
1.3
1.4
1.5
1.6
1.7
1.8
1.9
2
DATE SAMPLED
05/17/93
06/03/93
06/15/93
07/02/93
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04/23/96
04/30/96
05/10/96
05/31/96
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06/28/96
07/12/96
07/26/96
08/16/96
MG/L NICKEL
75% OF LIMIT
LIMIT

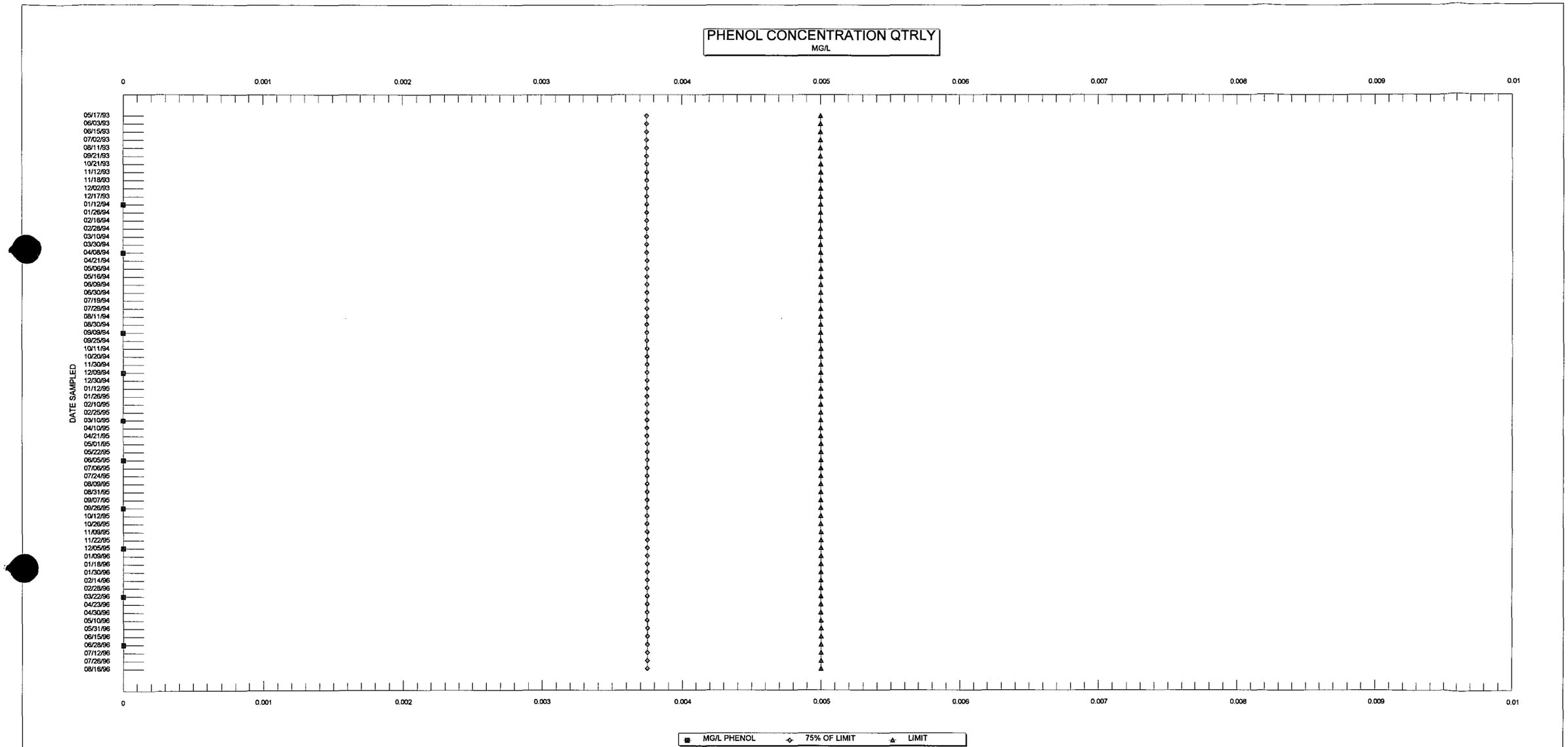

LEAD CONCENTRATION
MG/L
0
0.001
0.002
0.003
0.004
0.005
0.006
0.007
0.008
0.009
0.01
DATE SAMPLED
05/17/93
06/03/93
06/15/93
07/02/93
08/11/93
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04/23/96
04/30/96
05/10/96
05/31/96
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07/26/96
08/16/96
MG/L LEAD
75% OF LIMIT
LIMIT

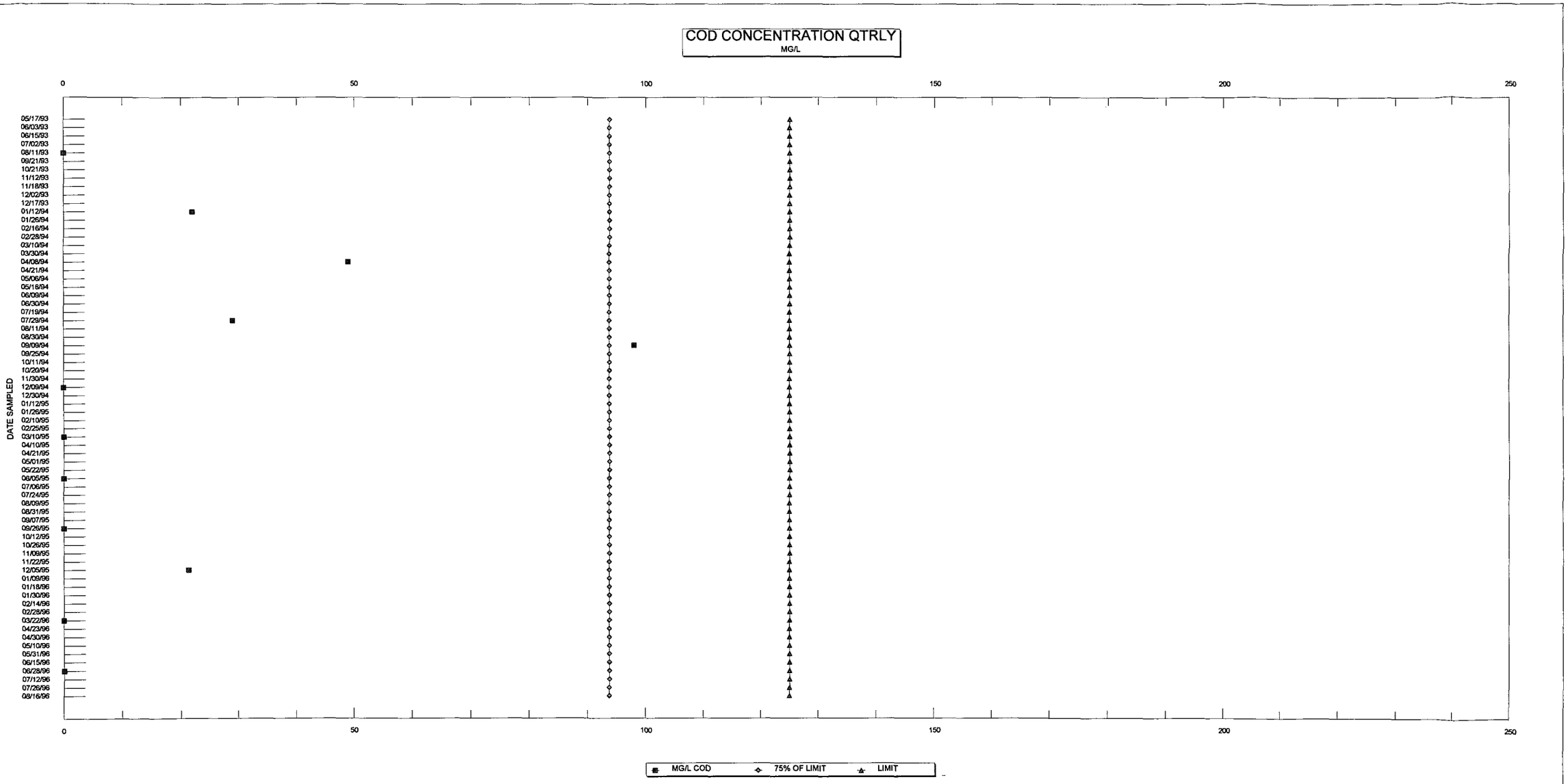

SELENIUM CONCENTRATION
MG/L
0
0.005
0.01
0.015
0.02
DATE SAMPLED
05/17/93
06/03/93
06/15/93
07/02/93
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06/28/96
07/12/96
07/26/96
08/16/96
MG/L SELENIUM
75% OF LIMIT
LIMIT

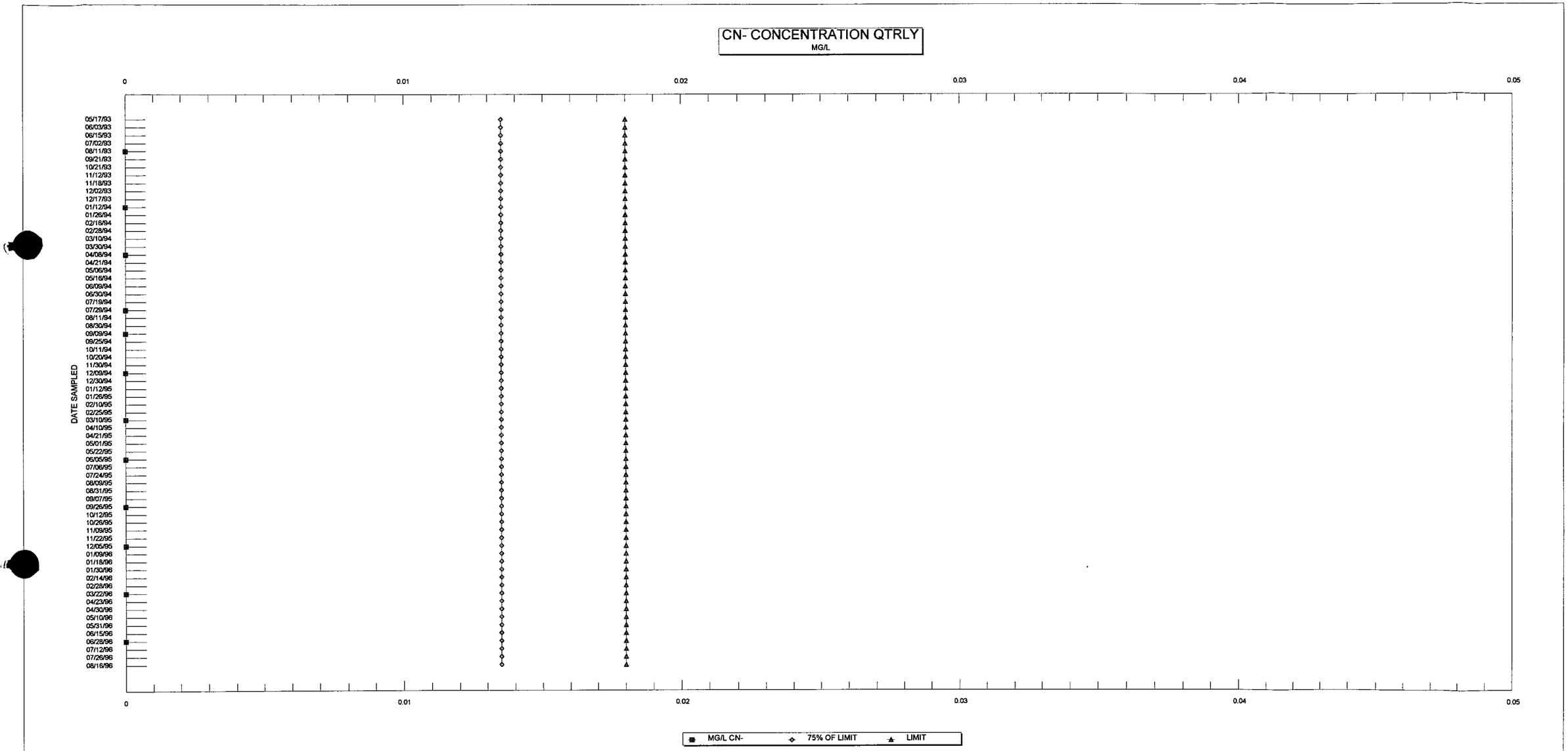

URANIUM CONCENTRATION
MG/L
0
1
2
3
4
5
6
7
8
9
10
DATE SAMPLED
05/17/93
06/03/93
06/15/93
07/02/93
08/11/93
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11/18/93
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04/23/96
04/30/96
05/10/96
05/31/96
06/15/96
06/28/96
07/12/96
07/26/96
08/16/96
MG/L URANIUM
75% OF LIMIT
LIMIT

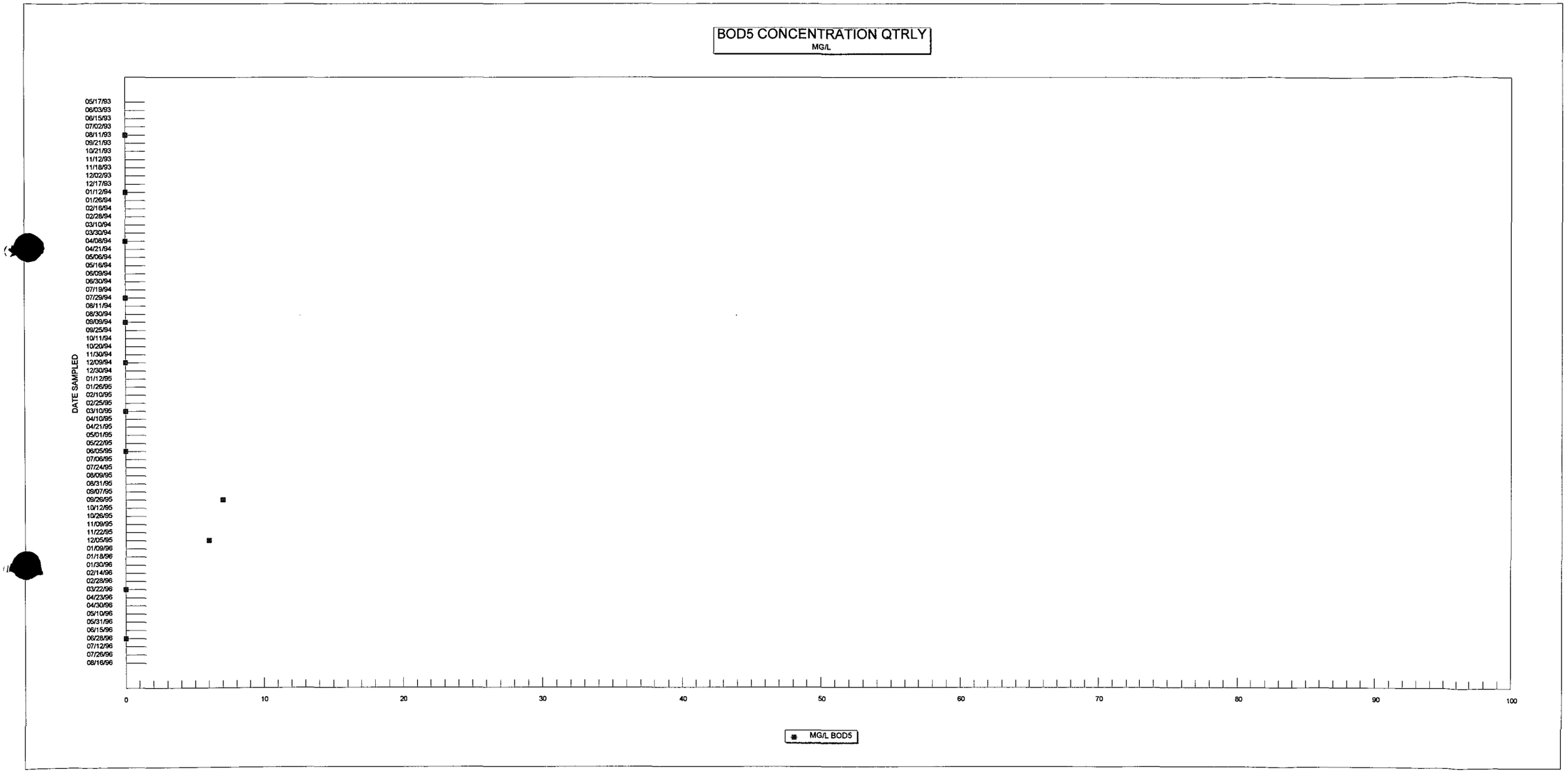

VANADIUM CONCENTRATION
MG/L
0
0.1
0.2
0.3
0.4
0.5
DATE SAMPLED
05/17/93
06/03/93
06/15/93
07/02/93
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08/16/96
MG/L VANADIUM
75% OF LIMIT
LIMIT

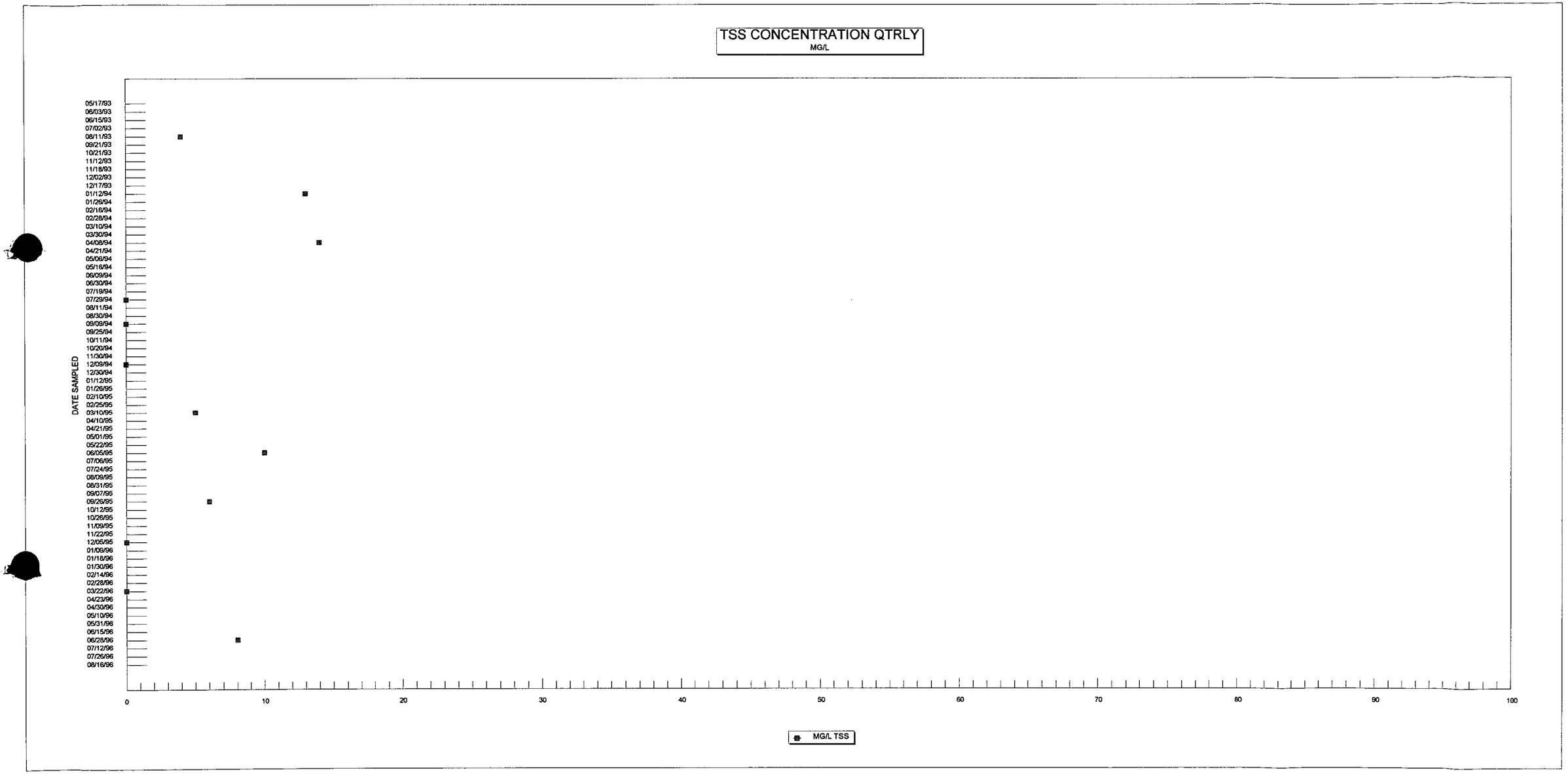

ZINC CONCENTRATION
MG/L
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
DATE SAMPLED
05/17/93
06/03/93
06/15/93
07/02/93
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05/10/96
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08/16/96
MG/L ZINC
75% OF LIMIT
LIMIT

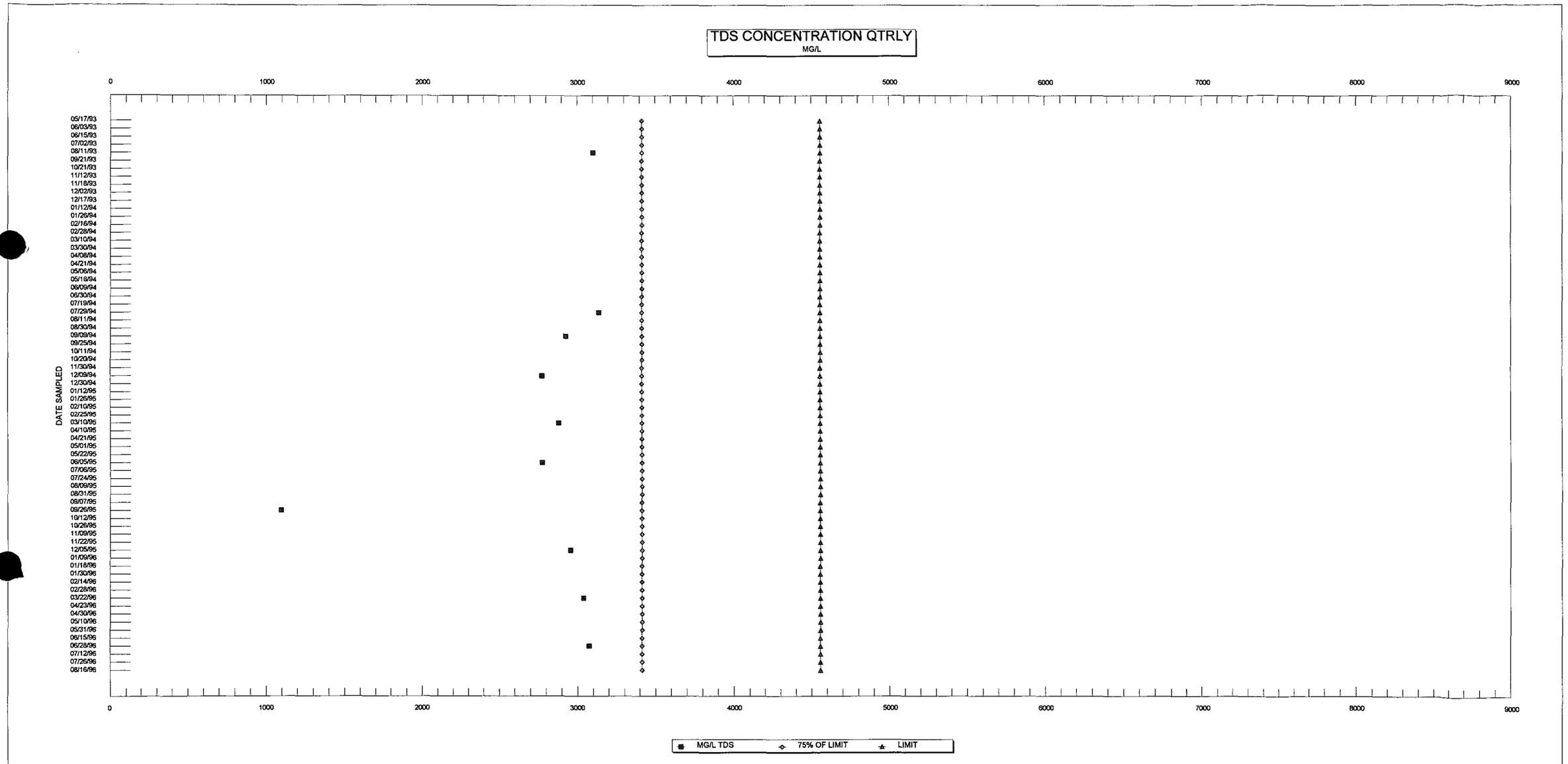

PHENOL CONCENTRATION QTRLY
MG/L
0
0.001
0.002
0.003
0.004
0.005
0.006
0.007
0.008
0.009
0.01
DATE SAMPLED
05/17/93
06/03/93
06/15/93
07/02/93
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04/30/96
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05/31/96
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07/12/96
07/26/96
08/16/96
MG/L PHENOL
75% OF LIMIT
LIMIT

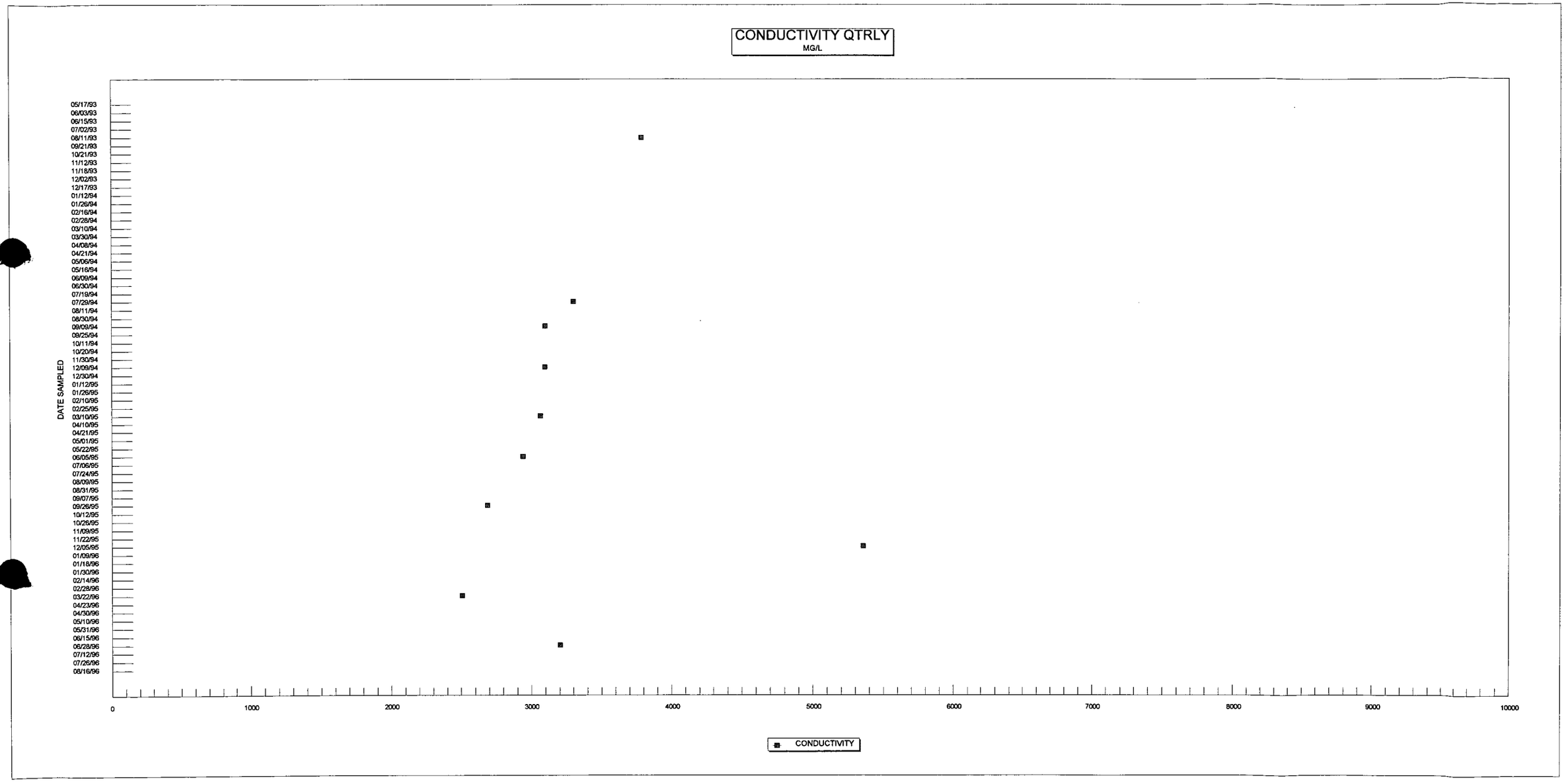

COD CONCENTRATION QTRLY
MG/L
0
50
100
150
200
250
DATE SAMPLED
05/17/93
06/03/93
06/15/93
07/02/93
08/11/93
09/21/93
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MG/L COD
75% OF LIMIT
LIMIT

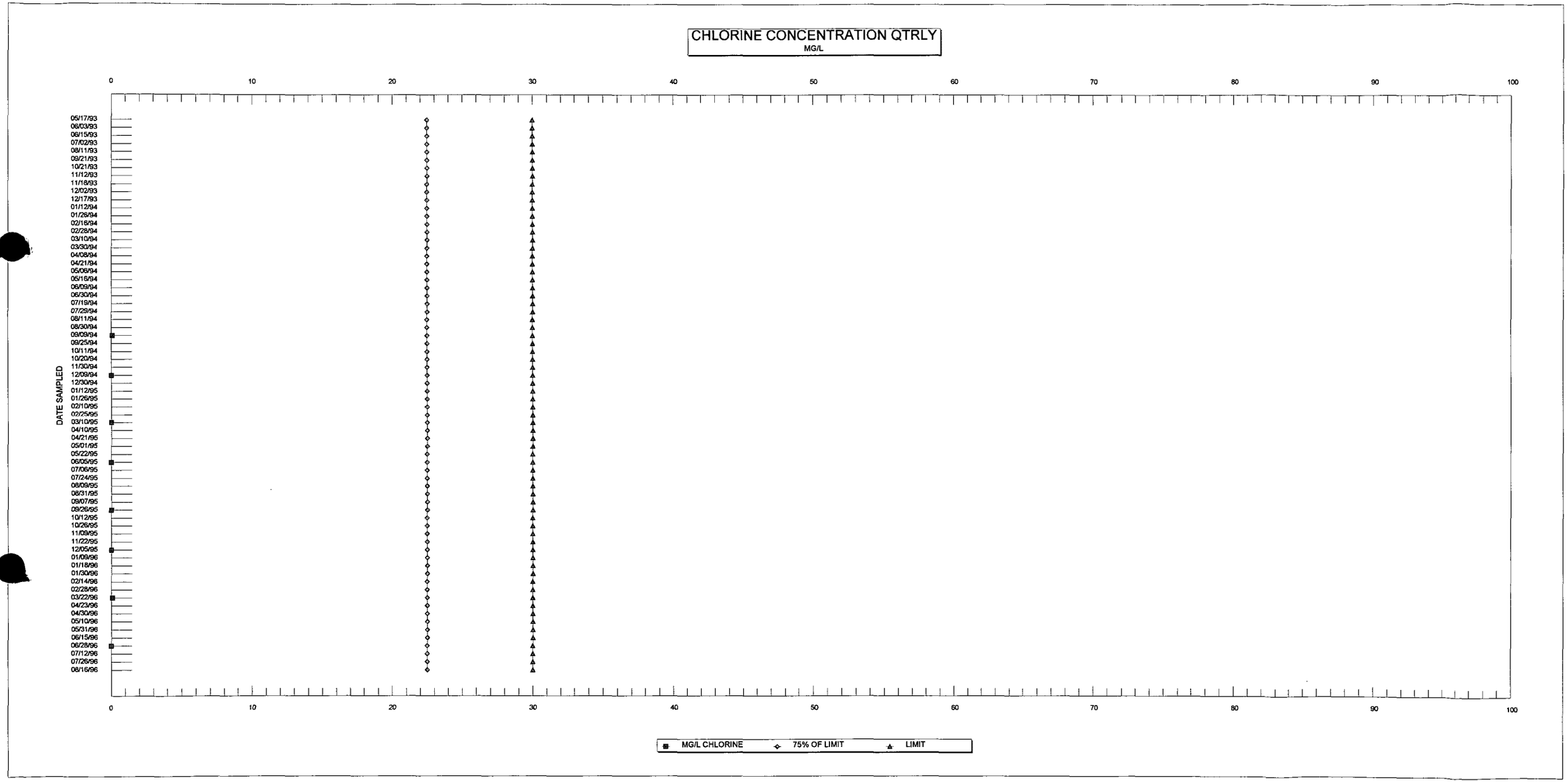

CN- CONCENTRATION QTRLY
MG/L
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MG/L CN-
75% OF LIMIT
LIMIT


BOD5 CONCENTRATION QTRLY
MG/L
DATE SAMPLED
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MG/L BOD5


TSS CONCENTRATION QTRLY
MG/L
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MG/L TSS


TDS CONCENTRATION QTRLY
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MG/L TDS
75% OF LIMIT
LIMIT


CONDUCTIVITY QTRLY
MG/L
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CHLORINE CONCENTRATION QTRLY
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08/16/96
MG/L CHLORINE
75% OF LIMIT
LIMIT

TELEPHONE
(505) 748-3311

EASYLINK
62905278

NAVAJO REFINING COMPANY

501 EAST MAIN STREET ○ P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159

FAX
(505) 746-6410 ACCTG
(505) 746-6155 EXEC
(505) 748-9077 ENGR
(505) 746-4438 P / L

September 13, 1996

Certified Mail/Return Receipt
P 355 936 199

Mark Ashley
Geologist
Environmental Bureau
Oil Conservation Division
2040 S. Pacheco St.
Santa Fe, NM 87505-5472

RE: HYDROTEST WATER FROM TK 970, NAVAJO REFINING CO., ARTESIA, NM

Dear Mark,

We are currently in the process of hydrotesting our Tank 970. This tank is located in Sec. 28, T18S, R28E and is in crude service. The roof of the tank was replaced and primary and secondary seals were added. After repairs, this tank was filled with fresh water on August 26, 1996. It was then sampled on August 28, 1996 and those results are enclosed. A total of 15,000 barrels of water were put into this tank which can hold 36,000 bbls. We are requesting to be allowed to discharge this water to the ground.

As you can see, we had no busts on any WQCC ground water parameters. The solvent that was used to clean the bottom of the tank shows up on the analysis as 1,1-Dichloroethane, 1,1-Dichlorethene and 1,1,1-Trichloroethane. What little amounts of these parameters that are in this water will be stripped out by the movement of the water as it is discharged. If there are any questions, please call me at 505-748-3311. Thank you for your time and attention to this matter. We truly appreciate it.

Sincerely,

NAVAJO REFINING CO.

Darrell Moore

Darrell Moore
Environmental Specialist

Encl.

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING CO.
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

August 21, 1996
Receiving Date: 08/14/96
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Extraction Date: 08/18/96
Analysis Date: 08/19/96
Sampling Date: 08/13/96
Sample Condition: Intact & Cool
Sample Received by: SH
Project Name: NA

TA#	Field Code	TRPHC (mg/L)
T57220	Artesia Station TK970	<0.200
QC	Quality Control	103
Reporting Limit		0.200
RPD		3
% Extraction Accuracy		102
% Instrument Accuracy		103

METHODS: EPA 418.1
CHEMIST: AG
TRPHC SPIKE: 8.5 mg/kg TRPHC.
TRPHC QC: 100 mg/L TRPHC.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

8-21-96
Date

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

August 28, 1996
Receiving Date: 08/14/96
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

Prep Date: 08/14/96
Analysis Date: 08/15/96
Sampling Date: 08/13/96
Sample Condition: Intact & Cool
Sample Received by: SH
Project Name: NA

TOTAL METALS

TA#	FIELD CODE	As (mg/L)	Ba (mg/L)	Cd (mg/L)	Cr (mg/L)	Mn (mg/L)	Ni (mg/L)	Hg (mg/L)	B (mg/L)	U (mg/L)	Se (mg/L)	Ag (mg/L)
T57220	Artesia Station TK970	<0.10	<0.20	<0.02	<0.05	<0.02	<0.20	<0.001	0.44	<0.50	<0.005	<0.001
QC	Quality Control	4.93	4.8	0.11	0.45	1.15	1.17	0.0051	4.28	3.93	0.096	0.0122
REPORTING LIMIT		0.10	0.20	0.02	0.05	0.02	0.20	0.001	0.03	0.50	0.005	0.001
RPD		4	0	2	1	1	0	4	38	39	2	5
% Extraction Accuracy		104	95	87	88	91	91	104	109	99	93	96
% Instrument Accuracy		99	96	91	90	92	94	102	107	98	96	98

TA#	FIELD CODE	Pb (mg/L)	Cu (mg/L)	Zn (mg/L)	Al (mg/L)	Be (mg/L)	Co (mg/L)	Fe (mg/L)	Mo (mg/L)	V (mg/L)
T57220	Artesia Station TK970	<0.001	<0.02	0.03	0.59	<0.01	<0.03	1.23	<0.10	<0.05
QC	Quality Control	0.0250	0.61	1.13	5.22	0.13	1.2	2.36	1.87	1.02
REPORTING LIMIT		0.001	0.02	0.02	0.2	0.01	0.03	0.03	0.10	0.05
RPD		4	0	0	0	2	1	1	6	4
% Extraction Accuracy		96	96	88	101	95	94	90	95	83
% Instrument Accuracy		104	97	90	104	104	96	94	94	102

METHODS: EPA 200.7, 239.2, 270.2, 272.2, 245.1.
CHEMIST: As,Ba,Cd,Cr,Mn,Ni,B,U,Se,Ag,Pb,Cu,Zn,Al,Be,Co,Fe,Mo,V: RR Hg: RC
TOTAL METALS SPIKE: 8.0 mg/L As, Ba, Al; 0.2 mg/L Cd, Be; 0.8 mg/L Cr; 2.0 mg/L Mn, Ni, B, U, Zn, Co, Mo, V; 0.0050 mg/L Hg; 0.500 mg/L Se; 0.0025 mg/L Ag; 0.025 mg/L Pb; 1.0 mg/L Cu; 4.0 mg/L Fe.
TOTAL METALS QC: 5.0 mg/L As, Ba, Al; 0.13 mg/L Cd, Be; 0.5 mg/L Cr; 1.25 mg/L Mn, Ni, Zn, Co; 0.0050 mg/L Hg; 4.0 mg/L B, U; 0.100 mg/L Se; 0.0125 mg/L Ag; 0.0250 mg/L Pb; 0.63 mg/L Cu; 2.5 mg/L Fe; 2.0 mg/L Mo

BS
Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

8-28-96
DATE

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

August 28, 1996
Receiving Date: 08/14/96
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 08/21/96
Analysis Date: 08/21/96
Sampling Date: 08/13/96
Sample Condition: Intact & Cool
Sample Received by: SH
Project Name: NA

Field Code: Artesia Station TK970
TA #: T57220

EPA 8240 Compounds	Concentration (ug/L)	Reporting Limit
Dichlorodifluoromethane	ND	1
Chloromethane	ND	1
Vinyl chloride	ND	1
Bromomethane	ND	5
Chloroethane	ND	1
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	9	1
Iodomethane	ND	5
Carbon disulfide	ND	1
Methylene chloride	ND	5
trans-1,2-Dichloroethene	ND	1
1,1-Dichloroethane	4	1
Vinyl acetate	ND	1
2-Butanone	ND	50
Chloroform	ND	1
1,1,1-Trichloroethane	58	1
1,2-Dichloroethane	ND	1
Benzene	ND	1
Carbon Tetrachloride	ND	1
1,2-Dichloropropane	ND	1
Trichloroethene	ND	1
Bromodichloromethane	ND	1
cis-1,3-Dichloropropene	ND	1
4-Methyl-2-pentanone	ND	50
trans-1,3-Dichloropropene	ND	1
Toluene	ND	1
1,1,2-Trichloroethane	ND	1
2-Hexanone	ND	50

Project Location: Artesia, NM

Field Code: Artesia Station TK970
TA #T57220

EPA 8240 Compounds	Concentration (ug/L)	Reporting Limit
Dibromochloromethane	ND	1
Tetrachloroethene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
m & p-Xylene	ND	1
Bromoform	ND	1
Styrene	ND	1
o-Xylene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
trans 1,4-Dichloro-2-butene	ND	5
cis 1,4-Dichloro-2-butene	ND	5
1,4-Dichlorobenzene	ND	2
1,3-Dichlorobenzene	ND	2
1,2-Dichlorobenzene	ND	2

SURROGATES	**% RECOVERY**
Dibromofluoromethane	101
Toluene-d8	107
4-Bromofluorobenzene	98

METHODS: EPA SW 846-5030; EPA 8260.
CHEMIST: RP

ND = Not Detected



Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

8-28-96
Date

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING

August 28, 1996
Receiving Date: 08/14/96
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

Prep Date: 08/19/96
Analysis Date: 08/19/96
Sampling Date: 08/13/96
Sample Condition: Intact & Cool
Sample Received by: SH
Project Name: NA

TA#	Field Code	POTASSIUM (mg/L)	MAGNESIUM (mg/L)	CALCIUM (mg/L)	SODIUM (mg/L)
T57220	Artesia Station TK970	3.6	10.8	45.2	39.6
QC	Quality Control	27.55	25.0	21.45	27.5
Reporting Limit		0.3	0.01	0.01	0.4
RPD		0	0	0	0
% Extraction Accuracy		113	100	85	106
% Instrument Accuracy		110	100	98	110

METHODS: EPA 200.7.
CHEMIST: RR
SPIKE: 100.0 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM.
QC: 25.0 mg/L POTASSIUM, MAGNESIUM, SODIUM; 22.0 mg/L CALCIUM.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

8-28-96
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

August 27, 1996
Receiving Date: 08/14/96
Sample Type: Water
Project Location: Artesia, NM
Sampling Date: 08/13/96
Sample Condition: I & C
Sample Received by: SH
Extraction Date: 08/14/96
Analysis Date: 08/16/96

T57220

PAH

8270 Compounds (mg/L)	Reporting Limit	Artesia Stn. TK 970	QC	RPD	%EA	%IA
Naphthalene	0.001	ND	106	5	83	106
Acenaphthylene	0.001	ND	110	4	85	110
Acenaphthene	0.001	ND	113	5	87	113
Fluorene	0.001	ND	111	5	95	111
Phenanthrene	0.001	ND	113	5	87	113
Anthracene	0.001	ND	106	4	85	106
Fluoranthene	0.001	ND	112	3	89	112
Pyrene	0.001	ND	110	3	94	110
Benzo[a]anthracene	0.001	ND	105	4	91	105
Chrysene	0.001	ND	106	0	91	106
Benzo[b]fluoranthene	0.001	ND	116	11	102	116
Benzo[k]fluoranthene	0.001	ND	112	19	120	112
Benzo[a]pyrene	0.001	ND	113	5	104	113
Indeno[1,2,3-cd]pyrene	0.001	ND	113	14	91	113
Dibenz[a,h]anthracene	0.001	ND	105	18	77	105
Benzo[g,h,i]perylene	0.001	ND	115	14	95	115

*ND = Not Detected

	% RECOVERY
Nitrobenzene-d5 SURR	61
2-Fluorobiphenyl SURR	61
Terphenyl-d14 SURR	68

METHODS: EPA SW 846-8270, 3510.

8-28-96

Director, Dr. Blair Leftwich — DATE
Director, Dr. Bruce McDonell

57220

TraceAnalysis, Inc.

6701 Aberdeen Avenue Lubbock, Texas 79424
Tel (806) 794 1296 Fax (806) 794 1298
1 (800) 378 1296

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Darrell Moore
Phone #:
FAX #:
Company Name & Address: Navajo Refining Co.
Project #:
Project Name :
Project Location: Artesia NM
Sampler Signature:

ANALYSIS REQUEST

SPECIAL HANDLING

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME	BTEX, MTBE	TPH	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	(8240) 8260	8270	PAH's	Turn around # of days	Fax ASAP	Hold
57220	Artesia Station TK 970	5		X				(2) X	(1) X	(ICE) X	(2) X	8/13/96			X*	X					X*		X*			

Relinquished by: Darrell Moore **Date:** 8/13/96 **Time:** 16:15
Received by: **Date:** **Time:**

Relinquished by: **Date:** **Time:**
Received by: **Date:** **Time:**

Relinquished by: **Date:** **Time:**
Received at Laboratory by: **Date:** 8-14-96 **Time:** 9:45A

REMARKS Metals - same as RO Reject (See List)

CI

227AC

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

April 06, 1994
Receiving Date: 04/01/94
Sample Type: Solid
Project No: NA
Project Location: NA

Analysis Date: 04/02/94
Sampling Date: NA
Sample Condition: Intact & Cool
Sample Received by: McD
Project Name: NA

TA#	Field Code	REACTIVITY Sulfides (ppm)	REACTIVITY Cyanides (ppm)	CORROSIVITY pH (s.u.)	IGNITABILITY
T20016	FFE #21	<25.0	<2.5	7.23	Nonignitable
QC	Quality Control	---	---	7.0	---
% Precision		100	100	100	100
% Extraction Accuracy		---	---	---	---
% Instrument Accuracy		---	---	100	---

METHODS: EPA SW 846-2.1.3, 2.1.2, 2.1.1.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

4-6-94
DATE

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

August 5, 1996
Receiving Date: 08/01/96
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 08/01/96
Analysis Date: 08/01/96
Sampling Date: 07/31/96
Sample Condition: Intact & Cool
Sample Received by: SH
Project Name: NA

TA#	Field Code	MTBE (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYL-BENZENE (ug/L)	M,P,O XYLENE (ug/L)	TOTAL BTEX (ug/L)
T56453	Pond #6 OCD Split	<1	<1	<1	<1	<1	<1
T56454	TCC Cooling Tower Split	<1	<1	<1	<1	<1	<1
T56456	Trickling Filter Split	<1	26	29	7	37	99
QC	Quality Control	105	106	103	101	317	
Reporting Limit		1	1	1	1	1	
RPD		2	2	2	2	2	
% Extraction Accuracy		97	99	94	92	90	
% Instrument Accuracy		105	106	103	101	106	

CHEMIST: RW
METHODS: EPA SW 846-8020, 5030.
MTBE/BTEX SPIKE AND QC: 100 ug/L MTBE/BTEX.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

8-5-96
Date

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

August 20, 1996
Receiving Date: 08/01/96
Sample Type: Water
Project No: NA
Project Location: NA

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

Prep Date: 08/02/96
Analysis Date: 08/05/96
Sampling Date: 07/31/96
Sample Condition: Intact & Cool
Sample Received by: SH
Project Name: NA

TOTAL METALS

TA#	FIELD CODE	As (mg/L)	Ba (mg/L)	Cd (mg/L)	Cr (mg/L)	Cu (mg/L)	Al (mg/L)	Fe (mg/L)	Be (mg/L)	Co (mg/L)	Mn (mg/L)	Mo (mg/L)
T56453	Pond #6 OCD Split	1.2	<0.20	<0.02	<0.05	<0.02	0.24	0.16	<0.01	<0.03	0.80	<0.1
T56454	TCC Cooling Tower Split	<0.10	<0.20	<0.02	<0.05	<0.02	0.22	0.63	<0.01	<0.03	0.12	<0.1
T56455	RO Reject OCD Split	<0.10	<0.20	<0.02	<0.05	<0.02	<0.20	<0.10	<0.01	<0.03	0.01	<0.1
T56456	Trickling Filter Split	<0.10	<0.20	<0.02	<0.05	<0.02	0.32	2.14	<0.01	<0.03	0.12	<0.1
QC	Quality Control	4.77	4.8	0.12	0.5	0.58	4.84	2.35	0.12	1.21	1.17	1.95
REPORTING LIMIT		0.1	0.2	0.02	0.05	0.02	0.2	0.10	0.01	0.03	0.01	0.1
RPD		9	5	3	3	2	2	2	2	1	2	4
% Extraction Accuracy		99	77	94	94	89	91	89	97	91	90	95
% Instrument Accuracy		95	96	99	99	93	97	94	98	96	94	98

CHEMIST: RR/CB/RC
METHODS: EPA 200.7.
TOTAL METALS SPIKE: 8.0 mg/L As, Ba, Al; 0.2 mg/L Cd, Be; 0.8 mg/L Cr; 2.0 mg/L Co, Mn, Mo; 1.0 mg/L Cu; 4.0 mg/L Fe.
TOTAL METALS QC: 5.0 mg/L As, Ba, Al; 0.13 mg/L Cd, Be; 1.25 mg/L Co, Mn; 0.63 mg/L Cu; 2.5 mg/L Fe; 2.0 mg/L Mo; 0.5 mg/L Cr.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

8-20-96
DATE

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

August 20, 1996
Receiving Date: 08/01/96
Sample Type: Water
Project No: NA
Project Location: NA

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

Prep Date: 08/02/96
Analysis Date: 08/05/96
Sampling Date: 07/31/96
Sample Condition: Intact & Cool
Sample Received by: SH
Project Name: NA

TOTAL METALS

TA#	FIELD CODE	Ni (mg/L)	V (mg/L)	Zn (mg/L)	Hg (mg/L)	U (mg/L)	B (mg/L)	Se (mg/L)	Pb (mg/L)	Ag (mg/L)
T56453	Pond #6 OCD Split	<0.20	<0.05	<0.02	<0.001	<0.5	1.2	0.142	0.011	<0.0002
T56454	TCC Cooling Tower Split	<0.20	<0.05	0.05	<0.001	<0.5	1.6	<0.005	<0.001	<0.0002
T56455	RO Reject OCD Split	<0.20	<0.05	<0.02	<0.001	<0.5	0.29	0.022	<0.001	<0.0002
T56456	Trickling Filter Split	<0.20	<0.05	0.08	<0.001	<0.5	<0.03	0.107	<0.001	<0.0002
QC	Quality Control	1.19	1.05	1.18	0.0051	4.19	3.34	0.107	0.0255	0.0120
REPORTING LIMIT		0.2	0.05	0.02	0.001	0.5	0.03	0.005	0.001	0.0002
RPD		3	3	3	10	4	11	4	0	3
% Extraction Accuracy		91	88	91	101	94	104	104	90	85
% Instrument Accuracy		96	84	95	102	105	83	107	102	96

CHEMIST: RR/CB/RC
TOTAL METALS SPIKE: 2.0 mg/L Ni, V, Zn, B; 0.0050 mg/L Hg; 12.0 mg/L U; 0.110 mg/L Se; 0.020 mg/L Pb; 0.0020 mg/L Ag.
TOTAL METALS QC: 1.25 mg/L Ni, V, Zn; 0.0050 mg/L Hg; 4.0 mg/L U, B; 0.100 mg/L Se; 0.0250 mg/L Pb; 0.0125 mg/L Ag.
METHODS: EPA 200.7, 239.2, 270.2, 272.2, 245.1.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

8-20-96
DATE

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING

August 20, 1996
Receiving Date: 08/01/96
Sample Type: Water
Project No: NA
Project Location: NA

Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

Prep Date: 08/05/96
Analysis Date: 08/05/96
Sampling Date: 07/31/96
Sample Condition: Intact & Cool
Sample Received by: SH
Project Name: NA

TA#	FIELD CODE	CHLORIDE (mg/L)	FLUORIDE (mg/L)	SULFATE (mg/L)	ALKALINITY (mg/L as CaCo3) HCO3	CO3
T56453	Pond #6 OCD Split	2,220	46.1	2,680	62	0
T56454	TCC Cooling Tower Split	229	2.4	1,610	190	0
T56455	RO Reject OCD Split	125	2.6	1,480	304	0
T56456	Trickling Filter OCD Split	434	144	533	0	0
QC	Quality Control	23.8	0.87	24.0	---	---
RPD		0	0	1	3	3
% Extraction Accuracy		89	85	96	---	---
% Instrument Accuracy		95	90	96	---	---
REPORTING LIMIT		0.5	0.1	1	10	10

METHODS: EPA 300.0, 310.0, 340.2.
CHEMIST: MS
SPIKE: 50 mg/L CHLORIDE; 5.0 mg/L FLUORIDE; 50 mg/L SULFATE.
QC: 23.6 mg/L CHLORIDE; 1.0 mg/L FLUORIDE; 24.0 mg/L SULFATE.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

8-20-96
Date

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

August 20, 1996
Receiving Date: 08/01/96
Sample Type: Water
Project No: NA
Project Location: NA

Prep Date: 08/02/96
Analysis Date: 08/05/96
Sampling Date: 07/31/96
Sample Condition: Intact & Cool
Sample Received by: SH
Project Name: NA

TA#	Field Code	POTASSIUM (mg/L)	MAGNESIUM (mg/L)	CALCIUM (mg/L)	SODIUM (mg/L)
T56453	Pond #6 OCD Split	113	152	94	1,880
T56454	TCc Cooling Tower Split	25.5	166	468	154
T56455	RO Reject OCD Split	4.3	157	492	67.2
T56456	Trickling Filter OCD Split	17.9	38.7	23.6	434
QC	Quality Control	22.8	23.4	23.8	24.7
Reporting Limit		0.3	0.01	0.01	0.4
RPD		5	1	1	1
% Extraction Accuracy		102	91	92	100
% Instrument Accuracy		91	94	95	99

METHODS: EPA 200.7.
CHEMIST: RR/CB
SPIKE: 100.0 mg/L POTASSIUM, MAGNESIUM, CALCIUM, 50 mg/L SODIUM.
QC: 25.0 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

8-20-96
Date

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

Prep Date: 08/02/96

August 20, 1996
Receiving Date: 08/01/96
Sample Type: Water
Project No: NA
Project Location: NA

Analysis Date: 08/02/96
Sampling Date: 07/31/96
Sample Condition: Intact & Cool
Sample Received by: SH
Project Name: NA

TA#	FIELD CODE	pH (s.u.)	SPECIFIC CONDUCTANCE (mg/L)	TSS (mg/L)	TDS (mg/L)	BOD5 (mg/L)
T56453	Pond #6 OCD Split	7.9	11,164	24	8,180	13
T56454	TCC Cooling Tower Split	8.2	3,243	4	3,357	<8
T56455	RO Reject OCD Split	7.0	2,870	<1	3,030	<8
T56456	Trickling Filter OCD Split	3.5	2,904	44	1,644	<8
QC	Quality Control	7.0	1,353	---	---	186
RPD		0	1	4	4	1
% Extraction Accuracy		---	---	---	---	96
% Instrument Accuracy		100	96	---	---	88

METHODS: EPA 150.1, 405.1, 160.1, 160.2, 120.1.
CHEMIST: MS/JT

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

9-20-96
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

August 20, 1996
Receiving Date: 08/01/96
Sample Type: Water
Project Location: NA
Sampling Date: 07/31/96
Sample Condition: I & C
Sample Received by: SH
Extraction Date: 08/02/96
Analysis Date: 08/04/96

T56453

PAH Reporting Pond #6

8270 Compounds (mg/L)	Limit	OCD Split	QC	RPD	%EA	%IA
Naphthalene	0.01	ND	98	9	46	98
Acenaphthylene	0.01	ND	101	26	65	101
Acenaphthene	0.01	ND	104	27	67	104
Fluorene	0.01	ND	111	32	82	111
Phenanthrene	0.01	ND	105	13	85	105
Anthracene	0.01	ND	109	12	86	109
Fluoranthene	0.01	ND	107	2	92	107
Pyrene	0.01	ND	94	3	80	94
Benzo[a]anthracene	0.01	ND	97	3	80	97
Chrysene	0.01	ND	99	1	95	99
Benzo[b]fluoranthene	0.01	ND	117	2	92	117
Benzo[k]fluoranthene	0.01	ND	114	2	93	114
Benzo[a]pyrene	0.01	ND	102	2	89	102
Indeno[1,2,3-cd]pyrene	0.01	ND	91	1	67	91
Dibenz[a,h]anthracene	0.01	ND	94	10	68	94
Benzo[g,h,i]perylene	0.01	ND	85	0	63	85

*ND = Not Detected

	% RECOVERY
Nitrobenzene-d5 SURR	94
2-Fluorobiphenyl SURR	96
Terphenyl-d14 SURR	124

CHEMIST: RD/CC

METHODS: EPA SW 846-8270, 3510.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

8-20-96
DATE

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

August 20, 1996
Receiving Date: 08/01/96
Sample Type: Water
Project Location: NA
Sampling Date: 07/31/96
Sample Condition: I & C
Sample Received by: SH
Extraction Date: 08/02/96
Analysis Date: 08/04/96

T56454

PAH Reporting TCC Cooling

8270 Compounds (mg/L)	Limit	Tower	QC	RPD	%EA	%IA
Naphthalene	0.001	ND	98	9	46	98
Acenaphthylene	0.001	ND	101	26	65	101
Acenaphthene	0.001	ND	104	27	67	104
Fluorene	0.001	ND	111	32	82	111
Phenanthrene	0.001	ND	105	13	85	105
Anthracene	0.001	ND	109	12	86	109
Fluoranthene	0.001	ND	107	2	92	107
Pyrene	0.001	ND	94	3	80	94
Benzo[a]anthracene	0.001	ND	97	3	80	97
Chrysene	0.001	ND	99	1	95	99
Benzo[b]fluoranthene	0.001	ND	117	2	92	117
Benzo[k]fluoranthene	0.001	ND	114	2	93	114
Benzo[a]pyrene	0.001	ND	102	2	89	102
Indeno[1,2,3-cd]pyrene	0.001	ND	91	1	67	91
Dibenz[a,h]anthracene	0.001	ND	94	10	68	94
Benzo[g,h,i]perylene	0.001	ND	85	0	63	85

*ND = Not Detected

	% RECOVERY
Nitrobenzene-d5 SURR	46
2-Fluorobiphenyl SURR	43
Terphenyl-d14 SURR	107

CHEMIST: RD/CC

METHODS: EPA SW 846-8270, 3510.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

8-20-96
DATE

6701 Aberdeen Avenue
Lubbock, Texas 79424
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FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

August 20, 1996
Receiving Date: 08/01/96
Sample Type: Water
Project Location: NA
Sampling Date: 07/31/96
Sample Condition: I & C
Sample Received by: SH
Extraction Date: 08/02/96
Analysis Date: 08/04/96

T56456

PAH 8270 Compounds (mg/L)	Reporting Limit	Trickling Filter	QC	RPD	%EA	%IA
Naphthalene	0.01	0.049	98	9	46	98
Acenaphthylene	0.01	ND	101	26	65	101
Acenaphthene	0.01	ND	104	27	67	104
Fluorene	0.01	ND	111	32	82	111
Phenanthrene	0.01	ND	105	13	85	105
Anthracene	0.01	ND	109	12	86	109
Fluoranthene	0.01	ND	107	2	92	107
Pyrene	0.01	ND	94	3	80	94
Benzo[a]anthracene	0.01	ND	97	3	80	97
Chrysene	0.01	ND	99	1	95	99
Benzo[b]fluoranthene	0.01	ND	117	2	92	117
Benzo[k]fluoranthene	0.01	ND	114	2	93	114
Benzo[a]pyrene	0.01	ND	102	2	89	102
Indeno[1,2,3-cd]pyrene	0.01	ND	91	1	67	91
Dibenz[a,h]anthracene	0.01	ND	94	10	68	94
Benzo[g,h,i]perylene	0.01	ND	85	0	63	85

*ND = Not Detected

	% RECOVERY
Nitrobenzene-d5 SURR	102
2-Fluorobiphenyl SURR	98
Terphenyl-d14 SURR	122

CHEMIST: RD/CC

METHODS: EPA SW 846-8270, 3510.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

8-20-96
DATE

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

August 16, 1996
Receiving Date: 008/02/96
Sample Type: Water
Project No: NA
Project Location: Lea Refining

Prep Date: 08/09/96
Analysis Date: 08/09/96
Sampling Date: 08/01/96
Sample Condition: Intact & Cool
Sample Received by: SH
Project Name: NA

TA#	FIELD CODE	CHLORIDE (mg/L)	FLUORIDE (mg/L)	SULFATE (mg/L)	ALKALINITY (mg/L as CaCo3) HCO3	CO3
T56551	Effluent to POTW (OCD) Lea	802	1.40	149	130	0
T56552	Cooling Tower (OCD) Lea	701	3.32	257	36	0
QC	Quality Control	25.4	4.82	24.6	---	---
RPD		1	0	0	3	3
% Extraction Accuracy		102	96	97	---	---
% Instrument Accuracy		102	97	98	---	---
REPORTING LIMIT		1.0	0.1	1	10	10

METHODS: EPA 300.0, 310.1, 340.2.
SPIKE: 50 mg/L CHLORIDE; 10 mg/L FLUORIDE; 50 mg/L SULFATE.
QC: 25.4 mg/L CHLORIDE; 4.83 mg/L FLUORIDE; 24.2 mg/L SULFATE.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

8-22-96
Date

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

August 16, 1996
Receiving Date: 08/02/96
Sample Type: Water
Project No: NA
Project Location: Lea Refining

Prep Date: 08/03/96
Analysis Date: 08/13/96
Sampling Date: 08/01/96
Sample Condition: Intact & Cool
Sample Received by: SH
Project Name: NA

TA#	Field Code	pH (s.u.)	TSS (mg/L)	TDS (mg/L)	SPECIFIC CONDUCTIVITY (mg/L)
T56551	Effluent to POTW (OCD) Lea	7.5	4	1,884	3,062
T56552	Cooling Tower (OCD) Lea	7.2	4	1,788	2,938
QC	Quality Control	7.0	---	---	1,353
Reporting Limit		---	---	---	---
RPD		0	5	4	1
% Extraction Accuracy		---	---	---	---
% Instrument Accuracy		100	---	---	96

METHODS: EPA 150.1, 160.1, 160.2, 120.1.
CHEMIST: MS

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

8-22-96
Date

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

August 6, 1996
Receiving Date: 08/02/96
Sample Type: Water
Project No: NA
Project Location: Lea Refining

Prep Date: 08/05/96
Analysis Date: 08/05/96
Sampling Date: 08/01/96
Sample Condition: Intact & Cool
Sample Received by: SH
Project Name: NA

TA#	Field Code	MTBE (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYL-BENZENE (ug/L)	M,P,O XYLENE (ug/L)	TOTAL BTEX (ug/L)
T56551	Effluent to POTW (OCD) Lea	<10	1,200	144	333	447	2,124
T56552	Cooling Tower (OCD) Lea	<1	<1	<1	<1	<1	<1
QC	Quality Control	95	89	90	92	304	
Reporting Limit		1	1	1	1	1	
RPD		1	3	4	3	1	
% Extraction Accuracy		95	91	95	97	99	
% Instrument Accuracy		96	90	90	92	101	

CHEMIST: RW
METHODS: EPA SW 846-8020, 5030.
MTBE/BTEX SPIKE AND QC: 100 ug/L MTBE/BTEX.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

8-6-96
Date

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

August 16, 1996
Receiving Date: 08/02/96
Sample Type: Water
Project No: NA
Project Location: Lea Refining

Prep Date: 08/03/96
Analysis Date: 08/13/96
Sampling Date: 08/01/96
Sample Condition: Intact & Cool
Sample Received by: SH
Project Name: NA

TA#	Field Code	POTASSIUM (mg/L)	MAGNESIUM (mg/L)	CALCIUM (mg/L)	SODIUM (mg/L)
T56551	Effluent to POTW (OCD) Lea	8.6	27.7	169	356
T56552	Cooling Tower (OCD) Lea	10.1	17.4	139	356
QC	Quality Control	26.9	25.25	23.05	27.7
Reporting Limit		0.3	0.01	0.01	0.4
RPD		0	0	0	0
% Extraction Accuracy		90	100	99	95
% Instrument Accuracy		108	101	92	111

METHODS: EPA 200.7.
QC: 25.0 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM.
SPIKE: 100.0 mg/L POTASSIUM, SODIUM, MAGNESIUM, CALCIUM.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

8-21-96
Date

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

August 21, 1996
Receiving Date: 08/02/96
Sample Type: Water
Project No: NA
Project Location: Lea Refining

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

Prep Date: 08/03/96
Analysis Date: 08/13/96
Sampling Date: 08/01/96
Sample Condition: Intact & Cool
Sample Received by: SH
Project Name: NA

TOTAL METALS

TA#	FIELD CODE	As (mg/L)	Cd (mg/L)	Cr (mg/L)	Ba (mg/L)	Al (mg/L)	Be (mg/L)	Co (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (mg/L)
T56551	Effluent to POTW (OCD) Lea	<0.20	<0.02	<0.05	0.30	<0.20	<0.01	<0.03	<0.02	0.57	0.12	<0.10
QC	Quality Control	5.01	0.12	0.46	4.93	5.26	0.12	1.15	0.62	2.37	1.18	1.88
REPORTING LIMIT		0.20	0.02	0.05	0.20	0.20	0.01	0.03	0.02	0.10	0.01	0.10
RPD		3	7	1	0	0	0	3	0	1	0	0
% Extraction Accuracy		93	94	101	102	104	108	97	100	115	100	97
% Instrument Accuracy		100	95	93	99	105	96	92	99	95	95	94

TA#	FIELD CODE	Ni (mg/L)	V (mg/L)	Zn (mg/L)	B (mg/L)	U (mg/L)	Hg (mg/L)	Se (mg/L)	Pb (mg/L)	Ag (mg/L)
T56551	Effluent to POTW (OCD) Lea	<0.20	<0.05	0.08	0.55	<0.50	<0.001	<0.005	<0.001	<0.0002
QC	Quality Control	1.2	1.08	1.18	4.28	3.93	0.00485	0.102	0.025	0.0122
REPORTING LIMIT		0.20	0.05	0.05	0.03	0.5	0.001	0.005	0.001	0.0002
RPD		0	0	0	38	39	4	0	13	3
% Extraction Accuracy		95	93	92	109	99	102	70	115	85
% Instrument Accuracy		96	86	94	107	98	97	102	96	98

METHODS: EPA 200.7, 239.2, 270.2, 272.2, 245.1.
CHEMIST: RR/RC/CB
TOTAL METALS SPIKE: 8.0 mg/L As, Ba, Al; 0.2 mg/L Cd, Be; 0.8 mg/L Cr; 2.0 mg/L Co, Mn, Mo, Ni, V, Zn, B; 1.0 mg/L Cu; 4.0 mg/L Fe; 12 mg/L U; 0.110 mg/L Se; 0.010 mg/L Pb; 0.0020 mg/L Ag; 0.005 mg/L Hg.
TOTAL METALS QC: 5.0 mg/L As, Ba, Al; 0.13 mg/L Cd, Be; 0.5 mg/L Cr; 1.25 mg/L Co, Mn, Ni, V, Zn; 0.63 mg/L Cu; 2.5 mg/L Fe; 2.0 mg/L Mo; 4.0 mg/L B, U; 0.107 mg/L Se; 0.025 mg/L Pb; 0.0125 mg/L Ag; 0.005 mg/L Hg.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

8-21-96
DATE

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

August 21, 1996
Receiving Date: 08/02/96
Sample Type: Water
Project No: NA
Project Location: Lea Refining

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

Prep Date: 08/03/96
Analysis Date: 08/13/96
Sampling Date: 08/01/96
Sample Condition: Intact & Cool
Sample Received by: SH
Project Name: NA

TOTAL METALS

TA#	FIELD CODE	As (mg/L)	Cd (mg/L)	Cr (mg/L)	Ba (mg/L)	Al (mg/L)	Be (mg/L)	Co (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (mg/L)
T56552	Cooling Tower (OCD) Lea	<0.20	<0.02	<0.05	0.21	0.81	<0.01	<0.03	0.05	1.68	0.06	<0.10
QC	Quality Control	5.01	0.12	0.46	4.93	5.26	0.12	1.15	0.62	2.37	1.18	1.88
REPORTING LIMIT		0.20	0.02	0.05	0.20	0.20	0.01	0.03	0.02	0.10	0.01	0.10
RPD		3	7	1	0	0	0	3	0	1	0	0
% Extraction Accuracy		93	94	101	102	104	108	97	100	115	100	97
% Instrument Accuracy		100	95	93	99	105	96	92	99	95	95	94

TA#	FIELD CODE	Ni (mg/L)	V (mg/L)	Zn (mg/L)	B (mg/L)	U (mg/L)	Hg (mg/L)	Se (mg/L)	Pb (mg/L)	Ag (mg/L)
T56552	Cooling Tower (OCD) Lea	<0.20	<0.05	3.74	1.8	<0.50	<0.001	<0.005	0.003	<0.0002
QC	Quality Control	1.2	1.08	1.18	4.28	3.93	0.00485	0.102	0.025	0.0122
REPORTING LIMIT		0.20	0.05	0.05	0.03	0.5	0.001	0.005	0.001	0.0002
RPD		0	0	0	38	39	4	0	13	3
% Extraction Accuracy		95	93	92	109	99	102	70	115	85
% Instrument Accuracy		96	86	94	107	98	97	102	96	98

METHODS: EPA 200.7, 239.2, 270.2, 272.2, 245.1.
CHEMIST: RR/RC/CB
TOTAL METALS SPIKE: 8.0 mg/L As, Ba, Al; 0.2 mg/L Cd, Be; 0.8 mg/L Cr; 2.0 mg/L Co, Mn, Mo, Ni, V, Zn, B; 1.0 mg/L Cu; 4.0 mg/L Fe; 12 mg/L U; 0.110 mg/L Se; 0.010 mg/L Pb; 0.0020 mg/L Ag; 0.005 mg/L Hg.
TOTAL METALS QC: 5.0 mg/L As, Ba, Al; 0.13 mg/L Cd, Be; 0.5 mg/L Cr; 1.25 mg/L Co, Mn, Ni, V, Zn; 0.63 mg/L Cu; 2.5 mg/L Fe; 2.0 mg/L Mo; 4.0 mg/L B, U; 0.107 mg/L Se; 0.025 mg/L Pb; 0.0125 mg/L Ag; 0.005 mg/L Hg.

BS
Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

8-21-96
DATE

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

August 16, 1996
Receiving Date: 08/02/96
Sample Type: Water
Project Location: Lea Refining
Sampling Date: 08/01/96
Sample Condition: I & C
Sample Received by: SH
Extraction Date: 08/05/96
Analysis Date: 08/06/96

T56551

PAH

8270 Compounds (mg/L)	Reporting Limit*	Effluent to POTW	QC	RPD	%EA	%IA
Naphthalene	0.01	0.040	102	8	51	102
Acenaphthylene	0.01	ND	103	27	68	103
Acenaphthene	0.01	ND	105	28	66	105
Fluorene	0.01	ND	116	33	85	116
Phenanthrene	0.01	ND	114	13	84	114
Anthracene	0.01	ND	110	13	85	110
Fluoranthene	0.01	ND	114	3	90	114
Pyrene	0.01	ND	92	1	78	92
Benzo[a]anthracene	0.01	ND	98	0	85	98
Chrysene	0.01	ND	100	3	99	100
Benzo[b]fluoranthene	0.01	ND	96	13	110	96
Benzo[k]fluoranthene	0.01	ND	102	2	89	102
Benzo[a]pyrene	0.01	ND	113	2	95	113
Indeno[1,2,3-cd]pyrene	0.01	ND	87	2	66	87
Dibenz[a,h]anthracene	0.01	ND	90	8	64	90
Benzo[g,h,i]perylene	0.01	ND	83	2	63	83

*Elevated reporting limits due to hydrocarbon interferences

*ND = Not Detected

	% RECOVERY
Nitrobenzene-d5 SURR	84
2-Fluorobiphenyl SURR	82
Terphenyl-d14 SURR	118

METHODS: EPA SW 846-8270, 3510.

CHEMIST: RD/CC

8-16-96

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

DATE

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

August 16, 1996
Receiving Date: 08/02/96
Sample Type: Water
Project Location: Lea Refining
Sampling Date: 08/01/96
Sample Condition: I & C
Sample Received by: SH
Extraction Date: 08/05/96
Analysis Date: 08/06/96

T56552

PAH 8270 Compounds (mg/L)	Reporting Limit	Cooling Tower	QC	RPD	%EA	%IA
Naphthalene	0.001	ND	102	8	51	102
Acenaphthylene*	0.001	ND	103	27	68	103
Acenaphthene*	0.001	ND	105	28	66	105
Fluorene*	0.001	ND	116	33	85	116
Phenanthrene	0.001	ND	114	13	84	114
Anthracene	0.001	ND	110	13	85	110
Fluoranthene	0.001	ND	114	3	90	114
Pyrene	0.001	ND	92	1	78	92
Benzo[a]anthracene	0.001	ND	98	0	85	98
Chrysene	0.001	ND	100	3	99	100
Benzo[b]fluoranthene	0.001	ND	96	13	110	96
Benzo[k]fluoranthene	0.001	ND	102	2	89	102
Benzo[a]pyrene	0.001	ND	113	2	95	113
Indeno[1,2,3-cd]pyrene	0.001	ND	87	2	66	87
Dibenz[a,h]anthracene	0.001	ND	90	8	64	90
Benzo[g,h,i]perylene	0.001	ND	83	2	63	83

*Estimated concentration . Surrogate recovery out of limits.

*ND = Not Detected

	% RECOVERY
Nitrobenzene-d5 SURR	35
2-Fluorobiphenyl SURR	32
Terphenyl-d14 SURR	68

METHODS: EPA SW 846-8270, 3510.

CHEMIST: RD/CC

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

8-22-96
DATE

56551-52 K

TraceAnalysis, Inc.

6701 Aberdeen Avenue Lubbock, Texas 79424
Tel (806) 794 1296 Fax (806) 794 1298
1 (800) 378 1296

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Darrell Moore
Phone #:
FAX #:
Company Name & Address: Navajo Refining
Project #:
Project Name :
Project Location: Lea Refining
Sampler Signature:

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME	BTEX, MTBE	TPH	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	8240 / 8260	8270	General Chemistry	PAH's	Cations / Anions
56551	Effluent to POTW (OCD)	5		X				(2) X	(2) X		(2) X	8/1/96	8:30	X		X							X	X	X
52	Cooling Tower (OCD)	"		"				"	"		"	"	8:40	"		"							"	"	"
	~~Alky Cooling Tow. F~~																								

Relinquished by: Darrell Moore **Date:** 8/1/96 **Time:** 16:15
Received by: **Date:** **Time:**

Relinquished by: **Date:** **Time:**
Received by: **Date:** **Time:**

Relinquished by: **Date:** **Time:**
Received at Laboratory by: **Date:** 8-2-96 **Time:** 10:00A

CS

REMARKS Metals - same metals as on RO
Reject Biwkly.
General Chemistry includes TSS, TDS, pH, Conductivity

215AG

ANALYSIS REQUEST / **SPECIAL HANDLING**

Turn around # of days
Fax ASAP
Hold

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

September 10, 1996

CERTIFIED MAIL
RETURN RECEIPT NO. P-288-258-847

Mr. Phillip Youngblood
Navajo Refining Company
P.O. Box 159
Artesia, New Mexico 88211-0159

RE: Authorization to Discharge of Hydrotest Water From Tank 970
Eddy County, New Mexico

Dear Mr. Youngblood:

The New Mexico Oil Conservation Division (OCD) has completed a review of Navajo Refining Company's (Navajo) letter dated September 9, 1996 requesting the authorization to discharge of approximately 15,000 barrels of test water to the ground surface from the hydrostatic test of tank 970. The proposed location for the discharge is Section 28, Township 18 South, Range 30 East, NMPM, Eddy County, New Mexico. The requested discharge is hereby approved with the following conditions:

1. Permission will be obtained from the landowner(s) prior to discharge.

2. The test water will be discharged onto the ground surface in a manner to prevent erosion.

3. No test waters will be discharged to any lakes, perennial streams, rivers, or any surface bodies of water upon completion of a test.

Please be advised that OCD approval does not relieve Navajo of liability should it later be found that contamination exists which could pose a threat to surface water, ground water, human health or the environment.

If you have any questions please feel free to contact Mark Ashley at (505) 827-7155.

Sincerely,

Roger C. Anderson
Environmental Bureau Chief

RCA/mwa
xc: OCD Artesia Office

American Environmental Network, Inc.

AEN I.D. 608304

August 27, 1996

NMOCD
2040 SOUTH PACHECO
SANTA FE, NEW MEXICO 87505

Project Name (none)
Project Number (none)

Attention: MARK ASHLEY

On 8/2/96 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 601/602 was performed by American Environmental Network (NM), Inc., Albuquerque, NM.

Item 25 analyses were performed by American Environmental Network (AZ), Inc., 9830 S. 51st Street, Suite B-113, Phoenix, AZ. The RPD for the Cation/Anion Balance on some samples was high due to large result values and some parameters not being requested.

All other analyses were performed by American Environmental Network (FL), Inc., 11 East Olive Road, Pensacola, FL.

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

Kimberly D. McNeill
Project Manager

H. Mitchell Rubenstein, Ph. D.
Laboratory Manager

MR: mt

Enclosure

American Environmental Network, Inc.

CLIENT	: NMOCD	AEN I.D.	: 608304
PROJECT #	: (none)	DATE RECEIVED	: 8/2/96
PROJECT NAME	: (none)	REPORT DATE	: 8/27/96

AEN ID. #		CLIENT DESCRIPTION		MATRIX	DATE COLLECTED
01		96311400		AQUEOUS	7/31/96
02		96311402	NE POND	AQUEOUS	7/31/96
03		96311404		AQUEOUS	7/31/96
04		96311406		AQUEOUS	7/31/96
05		96311425	COOLING TOWER	AQUEOUS	7/31/96
06		96311427		AQUEOUS	7/31/96
07	ARTESIA	96311433	RO REJECT	AQUEOUS	7/31/96
08		96311435		AQUEOUS	7/31/96
09		96311440		AQUEOUS	7/31/96
10		96311442	FINAL EFF.	AQUEOUS	7/31/96
11		96311444	TRICKLING FILTER	AQUEOUS	7/31/96
12		96311446		AQUEOUS	7/31/96
13		96010830	FINAL EFF.	AQUEOUS	8/1/96
14	LOVINGTON	96010832		AQUEOUS	8/1/96
15		96010835		AQUEOUS	8/1/96
16		96010845	- COOLING TOWER	AQUEOUS	8/1/96
17		TRIP BLANK		AQUEOUS	7/24/96

American Environmental Network, Inc.

CLIENT : AMERICAN ENV. NETWORK OF NM, INC. DATE RECEIVED : 08/03/96
PROJECT # : 608304
PROJECT NAME : (NONE)
ATI I.D. : 608548

ATI #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	608304-02	AQUEOUS	07/31/96
02	608304-06	AQUEOUS	07/31/96
03	608304-08	AQUEOUS	07/31/96
04	608304-10	AQUEOUS	07/31/96
05	608304-13	AQUEOUS	08/01/96
06	608304-16	AQUEOUS	08/01/96

----- TOTALS -----

MATRIX	# SAMPLES
AQUEOUS	6

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.

American Environmental Network, Inc.

GENERAL CHEMISTRY RESULTS

ATI I.D. : 608548

CLIENT : AMERICAN ENV. NETWORK OF NM, INC. DATE RECEIVED : 08/03/96
PROJECT # : 608304
PROJECT NAME : (NONE)

PARAMETER	UNITS	01	02	03	04	05
CARBONATE (CACO3)	MG/L	<1	<1	<1	<1	<1
BICARBONATE (CACO3)	MG/L	67	132	319	<1	121
HYDROXIDE (CACO3)	MG/L	<1	<1	<1	<1	<1
TOTAL ALKALINITY (AS CACO3)	MG/L	67	132	319	<1	121
BROMIDE (EPA 300.0)	MG/L	7	6	5	1.7	2.9
CHLORIDE (EPA 325.2)	MG/L	2300	220	103	430	710
CONDUCTIVITY, (UMHOS/CM)		10,200	3250	2870	2910	2590
FLUORIDE (EPA 340.2)	MG/L	56	2.77	2.71	142	1.28
PH (EPA 150.1)	UNITS	7.3	8.2	7.0	3.6	7.0
SULFATE (EPA 375.2)	MG/L	3200	2000	1800	600	190
T. DISSOLVED SOLIDS (160.1)	MG/L	8200	3500	3100	1700	1700

American Environmental Network, Inc.

GENERAL CHEMISTRY RESULTS

ATI I.D. : 608548

CLIENT : AMERICAN ENV. NETWORK OF NM, INC. DATE RECEIVED : 08/03/96
PROJECT # : 608304
PROJECT NAME : (NONE)

PARAMETER	UNITS	06
CARBONATE (CACO3)	MG/L	<1
BICARBONATE (CACO3)	MG/L	37
HYDROXIDE (CACO3)	MG/L	<1
TOTAL ALKALINITY (AS CACO3)	MG/L	37
BROMIDE (EPA 300.0)	MG/L	<0.6
CHLORIDE (EPA 325.2)	MG/L	640
CONDUCTIVITY, (UMHOS/CM)		2600
FLUORIDE (EPA 340.2)	MG/L	4.17
PH (EPA 150.1)	UNITS	7.1
SULFATE (EPA 375.2)	MG/L	270
T. DISSOLVED SOLIDS (160.1)	MG/L	1800

American Environmental Network, Inc.

GENERAL CHEMISTRY - QUALITY CONTROL

CLIENT : AMERICAN ENV. NETWORK OF NM, INC.
PROJECT # : 608304
PROJECT NAME : (NONE) ATI I.D. : 608548

PARAMETER	UNITS	ATI I.D.	SAMPLE RESULT	DUP. RESULT	RPD	SPIKED SAMPLE	SPIKE CONC	% REC
CARBONATE	MG/L	60854801	<1	<1	NA	NA	NA	NA
BICARBONATE	MG/L		67	66	2	NA	NA	NA
HYDROXIDE	MG/L		<1	<1	NA	NA	NA	NA
TOTAL ALKALINITY	MG/L		67	66	2	NA	NA	NA
BROMIDE	MG/L	60854801	7	7	0	13	7	86
CHLORIDE	MG/L	60854701	49	49	0	100	50	102
CONDUCTIVITY(UMHOS/CM)		60854801	10,200	10,200	0	NA	NA	NA
FLUORIDE	MG/L	60854801	2.77	2.65	4	5.64	3.00	96
PH	UNITS	60854401	7.6	7.6	0	NA	NA	NA
SULFATE	MG/L	60863201	14	13	7	32	20	90
TOTAL DISSOLVED SOLIDS	MG/L	60854801	8200	8200	0	NA	NA	NA
TOTAL DISSOLVED SOLIDS	MG/L	60854701	290	290	0	NA	NA	NA

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

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

American Environmental Network, Inc.

METALS RESULTS

ATI I.D. : 608548

CLIENT : AMERICAN ENV. NETWORK OF NM, INC. DATE RECEIVED : 08/03/96
PROJECT # : 608304
PROJECT NAME : (NONE)

PARAMETER	UNITS	01	02	03	04	05
CALCIUM (EPA 200.7/6010)	MG/L	96 [4]	600	530	16 [3]	190
POTASSIUM (EPA 200.7/6010)	MG/L	140	28	3.8	22	10
MAGNESIUM (EPA 200.7/6010)	MG/L	120	130	180	47	28
SODIUM (EPA 200.7/6010)	MG/L	3000	570	530	540	370

American Environmental Network, Inc.

METALS RESULTS

ATI I.D. : 608548

CLIENT : AMERICAN ENV. NETWORK OF NM, INC. DATE RECEIVED : 08/03/96
PROJECT # : 608304
PROJECT NAME : (NONE)

PARAMETER	UNITS	06
CALCIUM (EPA 200.7/6010)	MG/L	170
POTASSIUM (EPA 200.7/6010)	MG/L	29
MAGNESIUM (EPA 200.7/6010)	MG/L	20
SODIUM (EPA 200.7/6010)	MG/L	380

American Environmental Network, Inc.

METALS - QUALITY CONTROL

CLIENT : AMERICAN ENV. NETWORK OF NM, INC.
PROJECT # : 608304
PROJECT NAME : (NONE) ATI I.D. : 608548

PARAMETER	UNITS	ATI I.D.	SAMPLE RESULT	DUP. RESULT	RPD	SPIKED SAMPLE	SPIKE CONC	% REC
CALCIUM	MG/L	60849906	46	46	0	94	50	96
CALCIUM	MG/L	60854803	530	550	4	420	50	0*
POTASSIUM	MG/L	60788003	2.4	2.5	4	110	100	108
MAGNESIUM	MG/L	60854803	180	180	0	160	25	0*
SODIUM	MG/L	60854803	69	69	0	160	50	182*

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

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

* Result out of limits due to sample matrix interference

American Environmental Network, Inc.

DATE: 08-27-96

ION BALANCE

ATI ACCESSION NUMBER:	608304-02
SAMPLE IDENTIFICATION:	96311402
CLIENT:	NMOCD

ANIONS	RESULT MG/L	FACTOR ME/L	TOTAL	
ALKALINITY (AS CACO3)	67.000	0.02000	1.34000	
CHLORIDE	2300.000	0.02821	64.88300	
FLUORIDE	56.000	0.05264	2.94784	
NITRATE AS N	N/A	0.01613	0.00000	
SULFATE	3200.000	0.02082	66.62400	
		TOTAL ANIONS		135.7948

CATIONS	RESULT	FACTOR	TOTAL	
ALUMINUM	N/A	0.11119	0.00000	
CALCIUM	96.000	0.04990	4.7904	
POTASSIUM	140.000	0.02558	3.58120	
MAGNESIUM	120.000	0.08229	9.87480	
SODIUM	3000.000	0.04350	130.50000	
COPPER	NA	0.03147	0.00000	
IRON	NA	0.05372	0.00000	
MANGANESE	NA	0.03640	0.00000	
ZINC	NA	0.03059	0.00000	
		TOTAL CATIONS		148.7464
		%RPD (<10%)		9.10
TOTAL ANIONS/CATIONS	(CALCULATED)	8952.200		
TOTAL DISSOLVED SOLIDS	(ANALYZED)	8200	%RPD (<15%)	8.77
ELECTRICAL COND.		10200	TDS/EC RATIO (0.65+/-0.1)	0.80392

American Environmental Network, Inc.

DATE: 08-27-96

ION BALANCE

ATI ACCESSION NUMBER:	608304-06
SAMPLE IDENTIFICATION:	96311427
CLIENT:	NMOCD

ANIONS	RESULT MG/L	FACTOR ME/L	TOTAL	
ALKALINITY (AS CACO3)	132.000	0.02000	2.64000	
CHLORIDE	220.000	0.02821	6.20620	
FLUORIDE	2.770	0.05264	0.14581	
NITRATE AS N	N/A	0.01613	0.00000	
SULFATE	2000.000	0.02082	41.64000	
		TOTAL ANIONS		50.63201

CATIONS	RESULT	FACTOR	TOTAL	
ALUMINUM	N/A	0.11119	0.00000	
CALCIUM	600.000	0.04990	29.94	
POTASSIUM	28.000	0.02558	0.71624	
MAGNESIUM	130.000	0.08229	10.69770	
SODIUM	570.000	0.04350	24.79500	
COPPER	NA	0.03147	0.00000	
IRON	NA	0.05372	0.00000	
MANGANESE	NA	0.03640	0.00000	
ZINC	NA	0.03059	0.00000	
		TOTAL CATIONS		66.14894
		%RPD (<10%)		26.57
TOTAL ANIONS/CATIONS	(CALCULATED)	3629.970		
TOTAL DISSOLVED SOLIDS	(ANALYZED)	3500	%RPD (<15%)	3.65
ELECTRICAL COND.		3250	TDS/EC RATIO (0.65+/-0.1)	1.07692

American Environmental Network, Inc.

DATE: 08-27-96

ION BALANCE

ATI ACCESSION NUMBER:	608304-08
SAMPLE IDENTIFICATION:	96311435
CLIENT:	NMOCD

ANIONS	RESULT MG/L	FACTOR ME/L	TOTAL	
ALKALINITY (AS CACO3)	319.000	0.02000	6.38000	
CHLORIDE	103.000	0.02821	2.90563	
FLUORIDE	2.710	0.05264	0.14265	
NITRATE AS N	N/A	0.01613	0.00000	
SULFATE	1800.000	0.02082	37.47600	
		TOTAL ANIONS		46.90428

CATIONS	RESULT	FACTOR	TOTAL	
ALUMINUM	N/A	0.11119	0.00000	
CALCIUM	530.000	0.04990	26.447	
POTASSIUM	3.800	0.02558	0.09720	
MAGNESIUM	180.000	0.08229	14.81220	
SODIUM	530.000	0.04350	23.05500	
COPPER	NA	0.03147	0.00000	
IRON	NA	0.05372	0.00000	
MANGANESE	NA	0.03640	0.00000	
ZINC	NA	0.03059	0.00000	
		TOTAL CATIONS		64.4114
		%RPD (<10%)		31.45
TOTAL ANIONS/CATIONS	(CALCULATED)	3340.910		
TOTAL DISSOLVED SOLIDS	(ANALYZED)	3100	%RPD (<15%)	7.48
ELECTRICAL COND.		2870	TDS/EC RATIO (0.65+/-0.1)	1.08014

American Environmental Network, Inc.

DATE: 08-27-96

ION BALANCE

ATI ACCESSION NUMBER:	608304-10
SAMPLE IDENTIFICATION:	96311442
CLIENT:	NMOCD

ANIONS	RESULT MG/L	FACTOR ME/L	TOTAL	
ALKALINITY (AS CACO3)	<1.0	0.02000	0.00000	
CHLORIDE	430.000	0.02821	12.13030	
FLUORIDE	142.000	0.05264	7.47488	
NITRATE AS N	N/A	0.01613	0.00000	
SULFATE	600.000	0.02082	12.49200	
		TOTAL ANIONS		32.09718

CATIONS	RESULT	FACTOR	TOTAL	
ALUMINUM	N/A	0.11119	0.00000	
CALCIUM	16.000	0.04990	0.7984	
POTASSIUM	22.000	0.02558	0.56276	
MAGNESIUM	47.000	0.08229	3.86763	
SODIUM	540.000	0.04350	23.49000	
COPPER	NA	0.03147	0.00000	
IRON	NA	0.05372	0.00000	
MANGANESE	NA	0.03640	0.00000	
ZINC	NA	0.03059	0.00000	
		TOTAL CATIONS		28.71879
		%RPD (<10%)		11.11
TOTAL ANIONS/CATIONS	(CALCULATED)	1797.000		
TOTAL DISSOLVED SOLIDS	(ANALYZED)	1700	%RPD (<15%)	5.55
ELECTRICAL COND.		2910	TDS/EC RATIO (0.65+/-0.1)	0.58419

American Environmental Network, Inc.

DATE: 08-27-96

ION BALANCE

ATI ACCESSION NUMBER:	608304-13
SAMPLE IDENTIFICATION:	96010830
CLIENT:	NMOCD

ANIONS	RESULT MG/L	FACTOR ME/L	TOTAL	
ALKALINITY (AS CACO3)	121.000	0.02000	2.42000	
CHLORIDE	710.000	0.02821	20.02910	
FLUORIDE	1.280	0.05264	0.06738	
NITRATE AS N	N/A	0.01613	0.00000	
SULFATE	190.000	0.02082	3.95580	
		TOTAL ANIONS		26.47228

CATIONS	RESULT	FACTOR	TOTAL	
ALUMINUM	N/A	0.11119	0.00000	
CALCIUM	190.000	0.04990	9.481	
POTASSIUM	10.000	0.02558	0.25580	
MAGNESIUM	28.000	0.08229	2.30412	
SODIUM	370.000	0.04350	16.09500	
COPPER	NA	0.03147	0.00000	
IRON	NA	0.05372	0.00000	
MANGANESE	NA	0.03640	0.00000	
ZINC	NA	0.03059	0.00000	
		TOTAL CATIONS		28.13592
		%RPD (<10%)		6.09
TOTAL ANIONS/CATIONS	(CALCULATED)	1571.880		
TOTAL DISSOLVED SOLIDS	(ANALYZED)	1700	%RPD (<15%)	7.83
ELECTRICAL COND.		2590	TDS/EC RATIO (0.65+/-0.1)	0.65637

American Environmental Network, Inc.

DATE: 08-27-96

ION BALANCE

ATI ACCESSION NUMBER:	608304-16
SAMPLE IDENTIFICATION:	96010845
CLIENT:	NMOCD

ANIONS	RESULT MG/L	FACTOR ME/L	TOTAL	
ALKALINITY (AS CACO3)	37.000	0.02000	0.74000	
CHLORIDE	640.000	0.02821	18.05440	
FLUORIDE	4.170	0.05264	0.21951	
NITRATE AS N	N/A	0.01613	0.00000	
SULFATE	270.000	0.02082	5.62140	
		TOTAL ANIONS		24.63531

CATIONS	RESULT	FACTOR	TOTAL	
ALUMINUM	N/A	0.11119	0.00000	
CALCIUM	170.000	0.04990	8.483	
POTASSIUM	29.000	0.02558	0.74182	
MAGNESIUM	20.000	0.08229	1.64580	
SODIUM	380.000	0.04350	16.53000	
COPPER	NA	0.03147	0.00000	
IRON	NA	0.05372	0.00000	
MANGANESE	NA	0.03640	0.00000	
ZINC	NA	0.03059	0.00000	
		TOTAL CATIONS		27.40062
		%RPD (<10%)		10.63
TOTAL ANIONS/CATIONS	(CALCULATED)	1535.370		
TOTAL DISSOLVED SOLIDS	(ANALYZED)	1800	%RPD (<15%)	15.87
ELECTRICAL COND.		2600	TDS/EC RATIO (0.65+/-0.1)	0.69231

American Environmental Network, Inc.

"FINAL REPORT FORMAT - MULTIPLE"

Accession: 608166
Client: AMERICAN ENVIRONMENTAL NETWORK OF NEW MEXICO
Project Number: 608304
Project Name: NMOCD
Project Location: N/S
Test: Group of Single Metals
QcLevel: II

Parameter:	Unit:	Result:	R.L:	Batch:	Q:
Client ID: 608304-01			Lab ID:001		
SILVER (6010)	MG/L	ND	0.01	A6W161	
ALUMINUM (6010)	MG/L	ND	0.06	L6W161	
ARSENIC (6010)	MG/L	0.83	0.05	R6W161	
BORON (6010)	MG/L	0.90	0.09	O6W161	
BARIUM (6010)	MG/L	0.04	0.01	B6W161	
BERYLLIUM (6010)	MG/L	ND	0.004	Y6W161	
CALCIUM (6010)	MG/L	90	1	I6W161	
CADMIUM (6010)	MG/L	ND	0.005	C6W161	
COBALT (6010)	MG/L	ND	0.01	T6W161	
CHROMIUM (6010)	MG/L	ND	0.01	H6W161	
COPPER (6010)	MG/L	ND	0.01	F6W161	
IRON (6010)	MG/L	0.08	0.02	N6W161	
POTASSIUM (6010)	MG/L	110	2	X6W161	
MAGNESIUM (6010)	MG/L	160	0.2	J6W161	
MANGANESE (6010)	MG/L	0.79	0.01	G6W161	
MOLYBDENUM (6010)	MG/L	ND	0.01	D6W161	
SODIUM (6010)	MG/L	2300	1	16W161	+
NICKEL (6010)	MG/L	ND	0.02	E6W161	
LEAD (6010)	MG/L	ND	0.05	P6W161	
ANTIMONY (6010)	MG/L	ND	0.06	36W161	
SELENIUM (6010)	MG/L	ND	0.1	S6W161	
SILICON (6010)	MG/L	32	0.5	26W161	+
THALLIUM (6010)	MG/L	ND	0.1	46W161	
VANADIUM (6010)	MG/L	ND	0.01	V6W161	
ZINC (6010)	MG/L	0.05	0.02	56W161	

Comments:

American Environmental Network, Inc.

"FINAL REPORT FORMAT - MULTIPLE"

Accession: 608166
Client: AMERICAN ENVIRONMENTAL NETWORK OF NEW MEXICO
Project Number: 608304
Project Name: NMOCD
Project Location: N/S
Test: Group of Single Metals
QcLevel: II

Parameter:	Unit:	Result:	R.L:	Batch:	Q:
Client ID: 608304-05			Lab ID:003		
SILVER (6010)	MG/L	ND	0.01	A6W161	
ALUMINUM (6010)	MG/L	ND	0.06	L6W161	
ARSENIC (6010)	MG/L	ND	0.05	R6W161	
BORON (6010)	MG/L	0.16	0.09	O6W161	
BARIUM (6010)	MG/L	0.03	0.01	B6W161	
BERYLLIUM (6010)	MG/L	ND	0.004	Y6W161	
CALCIUM (6010)	MG/L	460	1	I6W161	
CADMIUM (6010)	MG/L	ND	0.005	C6W161	
COBALT (6010)	MG/L	ND	0.01	T6W161	
CHROMIUM (6010)	MG/L	ND	0.01	H6W161	
COPPER (6010)	MG/L	0.07	0.01	F6W161	
IRON (6010)	MG/L	0.50	0.02	N6W161	
POTASSIUM (6010)	MG/L	25	2	X6W161	
MAGNESIUM (6010)	MG/L	170	0.2	J6W161	
MANGANESE (6010)	MG/L	0.11	0.01	G6W161	
MOLYBDENUM (6010)	MG/L	ND	0.01	D6W161	
SODIUM (6010)	MG/L	180	0.2	16W161	
NICKEL (6010)	MG/L	ND	0.02	E6W161	
LEAD (6010)	MG/L	ND	0.05	P6W161	
ANTIMONY (6010)	MG/L	ND	0.06	36W161	
SELENIUM (6010)	MG/L	ND	0.1	S6W161	
SILICON (6010)	MG/L	19	0.1	26W161	
THALLIUM (6010)	MG/L	ND	0.1	46W161	
VANADIUM (6010)	MG/L	ND	0.01	V6W161	
ZINC (6010)	MG/L	ND	0.02	56W161	

Comments:

American Environmental Network, Inc.

"FINAL REPORT FORMAT - MULTIPLE"

Accession: 608166
Client: AMERICAN ENVIRONMENTAL NETWORK OF NEW MEXICO
Project Number: 608304
Project Name: NMOCD
Project Location: N/S
Test: Group of Single Metals
QcLevel: II

Parameter:	Unit:	Result:	R.L:	Batch:	Q:
Client ID: 608304-07			Lab ID:004		
SILVER (6010)	MG/L	ND	0.01	A6W161	
ALUMINUM (6010)	MG/L	ND	0.06	L6W161	
ARSENIC (6010)	MG/L	ND	0.05	R6W161	
BORON (6010)	MG/L	ND	0.09	O6W161	
BARIUM (6010)	MG/L	0.06	0.01	B6W161	
BERYLLIUM (6010)	MG/L	ND	0.004	Y6W161	
CALCIUM (6010)	MG/L	490	1	I6W161	
CADMIUM (6010)	MG/L	ND	0.005	C6W161	
COBALT (6010)	MG/L	ND	0.01	T6W161	
CHROMIUM (6010)	MG/L	ND	0.01	H6W161	
COPPER (6010)	MG/L	ND	0.01	F6W161	
IRON (6010)	MG/L	ND	0.02	N6W161	
POTASSIUM (6010)	MG/L	3	2	X6W161	
MAGNESIUM (6010)	MG/L	170	0.2	J6W161	
MANGANESE (6010)	MG/L	ND	0.01	G6W161	
MOLYBDENUM (6010)	MG/L	ND	0.01	D6W161	
SODIUM (6010)	MG/L	66	0.2	16W161	
NICKEL (6010)	MG/L	ND	0.02	E6W161	
LEAD (6010)	MG/L	ND	0.05	P6W161	
ANTIMONY (6010)	MG/L	ND	0.06	36W161	
SELENIUM (6010)	MG/L	ND	0.1	S6W161	
SILICON (6010)	MG/L	16	0.1	26W161	
THALLIUM (6010)	MG/L	ND	0.1	46W161	
VANADIUM (6010)	MG/L	0.01	0.01	V6W161	
ZINC (6010)	MG/L	ND	0.02	56W161	

Comments:

American Environmental Network, Inc.

"FINAL REPORT FORMAT - MULTIPLE"

Accession: 608166
Client: AMERICAN ENVIRONMENTAL NETWORK OF NEW MEXICO
Project Number: 608304
Project Name: NMOCD
Project Location: N/S
Test: Group of Single Metals
QcLevel: II

Parameter:	Unit:	Result:	R.L:	Batch:	Q:
Client ID: 608304-09			Lab ID:005		
SILVER (6010)	MG/L	ND	0.01	A6W161	
ALUMINUM (6010)	MG/L	0.14	0.06	L6W161	
ARSENIC (6010)	MG/L	0.27	0.05	R6W161	
BORON (6010)	MG/L	0.31	0.09	O6W161	
BARIUM (6010)	MG/L	ND	0.01	B6W161	
BERYLLIUM (6010)	MG/L	ND	0.004	Y6W161	
CALCIUM (6010)	MG/L	24	1	I6W161	
CADMIUM (6010)	MG/L	ND	0.005	C6W161	
COBALT (6010)	MG/L	0.01	0.01	T6W161	
CHROMIUM (6010)	MG/L	0.02	0.01	H6W161	
COPPER (6010)	MG/L	ND	0.01	F6W161	
IRON (6010)	MG/L	2.2	0.02	N6W161	
POTASSIUM (6010)	MG/L	19	2	X6W161	
MAGNESIUM (6010)	MG/L	41	0.2	J6W161	
MANGANESE (6010)	MG/L	0.12	0.01	G6W161	
MOLYBDENUM (6010)	MG/L	ND	0.01	D6W161	
SODIUM (6010)	MG/L	460	0.2	16W161	
NICKEL (6010)	MG/L	ND	0.02	E6W161	
LEAD (6010)	MG/L	ND	0.05	P6W161	
ANTIMONY (6010)	MG/L	ND	0.06	36W161	
SELENIUM (6010)	MG/L	ND	0.1	S6W161	
SILICON (6010)	MG/L	12	0.1	26W161	
THALLIUM (6010)	MG/L	ND	0.1	46W161	
VANADIUM (6010)	MG/L	ND	0.01	V6W161	
ZINC (6010)	MG/L	0.06	0.02	56W161	

Comments:

American Environmental Network, Inc.

"FINAL REPORT FORMAT - MULTIPLE"

Accession: 608166
Client: AMERICAN ENVIRONMENTAL NETWORK OF NEW MEXICO
Project Number: 608304
Project Name: NMOCD
Project Location: N/S
Test: Group of Single Metals
QcLevel: II

Parameter:	Unit:	Result:	R.L:	Batch:	Q:
Client ID: 608304-13			Lab ID:007		
SILVER (6010)	MG/L	ND	0.01	A6W161	
ALUMINUM (6010)	MG/L	ND	0.06	L6W161	
ARSENIC (6010)	MG/L	0.11	0.05	R6W161	
BORON (6010)	MG/L	0.38	0.09	O6W161	
BARIUM (6010)	MG/L	0.19	0.01	B6W161	
BERYLLIUM (6010)	MG/L	ND	0.004	Y6W161	
CALCIUM (6010)	MG/L	160	1	I6W161	
CADMIUM (6010)	MG/L	ND	0.005	C6W161	
COBALT (6010)	MG/L	ND	0.01	T6W161	
CHROMIUM (6010)	MG/L	ND	0.01	H6W161	
COPPER (6010)	MG/L	ND	0.01	F6W161	
IRON (6010)	MG/L	0.48	0.02	N6W161	
POTASSIUM (6010)	MG/L	10	2	X6W161	
MAGNESIUM (6010)	MG/L	23	0.2	J6W161	
MANGANESE (6010)	MG/L	0.10	0.01	G6W161	
MOLYBDENUM (6010)	MG/L	ND	0.01	D6W161	
SODIUM (6010)	MG/L	330	0.2	16W161	
NICKEL (6010)	MG/L	ND	0.02	E6W161	
LEAD (6010)	MG/L	ND	0.05	P6W161	
ANTIMONY (6010)	MG/L	ND	0.06	36W161	
SELENIUM (6010)	MG/L	ND	0.1	S6W161	
SILICON (6010)	MG/L	19	0.1	26W161	
THALLIUM (6010)	MG/L	ND	0.1	46W161	
VANADIUM (6010)	MG/L	0.02	0.01	V6W161	
ZINC (6010)	MG/L	0.06	0.02	56W161	

Comments:

American Environmental Network, Inc.

"FINAL REPORT FORMAT - MULTIPLE"

Accession: 608166
Client: AMERICAN ENVIRONMENTAL NETWORK OF NEW MEXICO
Project Number: 608304
Project Name: NMOCD
Project Location: N/S
Test: Group of Single Metals
QcLevel: II

Parameter:	Unit:	Result:	R.L:	Batch:	Q:
Client ID: 608304-16			Lab ID:009		
SILVER (6010)	MG/L	ND	0.01	A6W161	
ALUMINUM (6010)	MG/L	0.15	0.06	L6W161	
ARSENIC (6010)	MG/L	ND	0.05	R6W161	
BORON (6010)	MG/L	1.9	0.09	O6W161	
BARIUM (6010)	MG/L	0.18	0.01	B6W161	
BERYLLIUM (6010)	MG/L	ND	0.004	Y6W161	
CALCIUM (6010)	MG/L	150	1	I6W161	
CADMIUM (6010)	MG/L	ND	0.005	C6W161	
COBALT (6010)	MG/L	ND	0.01	T6W161	
CHROMIUM (6010)	MG/L	0.03	0.01	H6W161	
COPPER (6010)	MG/L	0.02	0.01	F6W161	
IRON (6010)	MG/L	1.8	0.02	N6W161	
POTASSIUM (6010)	MG/L	24	2	X6W161	
MAGNESIUM (6010)	MG/L	17	0.2	J6W161	
MANGANESE (6010)	MG/L	0.06	0.01	G6W161	
MOLYBDENUM (6010)	MG/L	ND	0.01	D6W161	
SODIUM (6010)	MG/L	390	0.2	16W161	
NICKEL (6010)	MG/L	ND	0.02	E6W161	
LEAD (6010)	MG/L	ND	0.05	P6W161	
ANTIMONY (6010)	MG/L	ND	0.06	36W161	
SELENIUM (6010)	MG/L	ND	0.1	S6W161	
SILICON (6010)	MG/L	24	0.5	26W161	+
THALLIUM (6010)	MG/L	ND	0.1	46W161	
VANADIUM (6010)	MG/L	0.03	0.01	V6W161	
ZINC (6010)	MG/L	4.3	0.02	56W161	

Comments:

American Environmental Network, Inc.

"FINAL REPORT FORMAT - MULTIPLE"

Accession: 608166
Client: AMERICAN ENVIRONMENTAL NETWORK OF NEW MEXICO
Project Number: 608304
Project Name: NMOCD
Project Location: N/S
Test: Group of Single Metals

Client Id:	Lab Id:	Matrix:	Date/Time Sampled:	Date Received:
608304-01	001	WATER	31-JUL-96 1400	03-AUG-96
608304-05	003	WATER	31-JUL-96 1425	03-AUG-96
608304-07	004	WATER	31-JUL-96 1433	03-AUG-96
608304-09	005	WATER	31-JUL-96 1440	03-AUG-96
608304-13	007	WATER	01-AUG-96 0830	03-AUG-96
608304-16	009	WATER	01-AUG-96 0845	03-AUG-96

"Method Report Summary"

Accession Number: 608166
Client: AMERICAN ENVIRONMENTAL NETWORK OF NEW MEXICO
Project Number: 608304
Project Name: NMOCD
Project Location: N/S
Test: Group of Single Metals

Client Sample Id:	Parameter:	Unit:	Result:
608304-01	ARSENIC (6010)	MG/L	0.83
	BORON (6010)	MG/L	0.90
	BARIUM (6010)	MG/L	0.04
	CALCIUM (6010)	MG/L	90
	IRON (6010)	MG/L	0.08
	POTASSIUM (6010)	MG/L	110
	MAGNESIUM (6010)	MG/L	160
	MANGANESE (6010)	MG/L	0.79
	SODIUM (6010)	MG/L	2300
	SILICON (6010)	MG/L	32
	ZINC (6010)	MG/L	0.05
608304-05	BORON (6010)	MG/L	0.16
	BARIUM (6010)	MG/L	0.03
	CALCIUM (6010)	MG/L	460
	COPPER (6010)	MG/L	0.07
	IRON (6010)	MG/L	0.50
	POTASSIUM (6010)	MG/L	25
	MAGNESIUM (6010)	MG/L	170
	MANGANESE (6010)	MG/L	0.11
	SODIUM (6010)	MG/L	180
	SILICON (6010)	MG/L	19
608304-07	BARIUM (6010)	MG/L	0.06
	CALCIUM (6010)	MG/L	490
	POTASSIUM (6010)	MG/L	3
	MAGNESIUM (6010)	MG/L	170
	SODIUM (6010)	MG/L	66
	SILICON (6010)	MG/L	16
	VANADIUM (6010)	MG/L	0.01
608304-09	ALUMINUM (6010)	MG/L	0.14
	ARSENIC (6010)	MG/L	0.27
	BORON (6010)	MG/L	0.31
	CALCIUM (6010)	MG/L	24
	COBALT (6010)	MG/L	0.01
	CHROMIUM (6010)	MG/L	0.02
	IRON (6010)	MG/L	2.2
	POTASSIUM (6010)	MG/L	19
	MAGNESIUM (6010)	MG/L	41
	MANGANESE (6010)	MG/L	0.12
	SODIUM (6010)	MG/L	460
	SILICON (6010)	MG/L	12
	ZINC (6010)	MG/L	0.06
608304-13	ARSENIC (6010)	MG/L	0.11
	BORON (6010)	MG/L	0.38
	BARIUM (6010)	MG/L	0.19
	CALCIUM (6010)	MG/L	160

American Environmental Network, Inc.

"Method Report Summary"

Accession Number: 608166
Client: AMERICAN ENVIRONMENTAL NETWORK OF NEW MEXICO
Project Number: 608304
Project Name: NMOCD
Project Location: N/S
Test: Group of Single Metals

Client Sample Id:	Parameter:	Unit:	Result:
	IRON (6010)	MG/L	0.48
	POTASSIUM (6010)	MG/L	10
	MAGNESIUM (6010)	MG/L	23
	MANGANESE (6010)	MG/L	0.10
	SODIUM (6010)	MG/L	330
	SILICON (6010)	MG/L	19
	VANADIUM (6010)	MG/L	0.02
	ZINC (6010)	MG/L	0.06
608304-16	ALUMINUM (6010)	MG/L	0.15
	BORON (6010)	MG/L	1.9
	BARIUM (6010)	MG/L	0.18
	CALCIUM (6010)	MG/L	150
	CHROMIUM (6010)	MG/L	0.03
	COPPER (6010)	MG/L	0.02
	IRON (6010)	MG/L	1.8
	POTASSIUM (6010)	MG/L	24
	MAGNESIUM (6010)	MG/L	17
	MANGANESE (6010)	MG/L	0.06
	SODIUM (6010)	MG/L	390
	SILICON (6010)	MG/L	24
	VANADIUM (6010)	MG/L	0.03
	ZINC (6010)	MG/L	4.3

American Environmental Network, Inc.

"Metals Quality Control Report"

Parameter:	SILVER	ALUMINUM	ARSENIC	BORON	BARIUM	BERYLLIUM
Batch Id:	A6W161	L6W161	R6W161	O6W161	B6W161	Y6W161
Blank Result:	<0.01	<0.06	<0.05	<0.09	<0.01	<0.004
Anal. Method:	6010	6010	6010	6010	6010	6010
Prep. Method:	3010	3010	3010	3010	3010	3010
Analysis Date:	09-AUG-96	09-AUG-96	09-AUG-96	09-AUG-96	09-AUG-96	09-AUG-96
Prep. Date:	09-AUG-96	09-AUG-96	09-AUG-96	09-AUG-96	09-AUG-96	09-AUG-96
Sample Duplication						
Sample Dup:	608260-4	608260-4	608260-4	608260-4	608260-4	608260-4
Rept Limit:	<0.01	<0.06	<0.05	<0.09	<0.01	<0.004
Sample Result:	1.9	1.9	1.9	1.9	1.8	1.7
Dup Result:	1.9	1.9	1.8	1.9	1.8	1.7
Sample RPD:	0	0	5	0	0	0
Max RPD:	20	20	20	20	20	20
Dry Weight%	N/A	N/A	N/A	N/A	N/A	N/A
Matrix Spike						
Sample Spiked:	608260-4	608260-4	608260-4	608260-4	608260-4	608260-4
Rept Limit:	<0.01	<0.06	<0.05	<0.09	<0.01	<0.004
Sample Result:	<0.01	<0.06	<0.05	<0.09	0.02	<0.004
Spiked Result:	1.9	1.9	1.9	1.9	1.8	1.7
Spike Added:	2.0	2.0	2.0	2.0	2.0	2.0
% Recovery:	95	95	95	95	89	85
% Rec Limits:	75-125	75-125	75-125	75-125	75-125	75-125
Dry Weight%	N/A	N/A	N/A	N/A	N/A	N/A
ICV						
ICV Result:	5.0	5.0	4.9	5.0	5.0	5.0
True Result:	5.0	5.0	5.0	5.0	5.0	5.0
% Recovery:	100	100	98	100	100	100
% Rec Limits:	90-110	90-110	90-110	90-110	90-110	90-110
LCS						
LCS Result:	1.8	1.9	2.0	2.0	1.9	1.9
True Result:	2.0	2.0	2.0	2.0	2.0	2.0
% Recovery:	90	95	100	100	95	95
% Rec Limits:	80-120	80-120	80-120	80-120	80-120	80-120

American Environmental Network, Inc.

"Metals Quality Control Report"

Parameter:	CALCIUM	CADMIUM	COBALT	CHROMIUM	COPPER	IRON
Batch Id:	I6W161	C6W161	T6W161	H6W161	F6W161	N6W161
Blank Result:	<1	<0.005	<0.01	<0.01	<0.01	<0.02
Anal. Method:	6010	6010	6010	6010	6010	6010
Prep. Method:	3010	3010	3010	3010	3010	3010
Analysis Date:	09-AUG-96	09-AUG-96	09-AUG-96	09-AUG-96	09-AUG-96	09-AUG-96
Prep. Date:	09-AUG-96	09-AUG-96	09-AUG-96	09-AUG-96	09-AUG-96	09-AUG-96
Sample Duplication						
Sample Dup:	608260-4	608260-4	608260-4	608260-4	608260-4	608260-4
Rept Limit:	<1	<0.005	<0.01	<0.01	<0.01	<0.02
Sample Result:	410	1.8	1.7	1.8	1.8	4.3
Dup Result:	410	1.8	1.7	1.8	1.9	4.3
Sample RPD:	0	0	0	0	5	0
Max RPD:	20	20	20	20	20	20
Dry Weight%	N/A	N/A	N/A	N/A	N/A	N/A
Matrix Spike						
Sample Spiked:	608260-4	608260-4	608260-4	608260-4	608260-4	608260-4
Rept Limit:	<1	<0.005	<0.01	<0.01	<0.01	<0.02
Sample Result:	400	<0.005	<0.01	<0.01	<0.01	2.5
Spiked Result:	410	1.8	1.7	1.8	1.8	4.3
Spike Added:	20F	2.0	2.0	2.0	2.0	2.0
% Recovery:	50	90	85	90	90	90
% Rec Limits:	75-125	75-125	75-125	75-125	75-125	75-125
Dry Weight%	N/A	N/A	N/A	N/A	N/A	N/A
ICV						
ICV Result:	10	5.0	5.0	5.1	5.1	5.1
True Result:	10	5.0	5.0	5.0	5.0	5.0
% Recovery:	100	100	100	102	102	102
% Rec Limits:	90-110	90-110	90-110	90-110	90-110	90-110
LCS						
LCS Result:	19	1.9	2.0	2.0	1.9	2.0
True Result:	20	2.0	2.0	2.0	2.0	2.0
% Recovery:	95	95	100	100	95	100
% Rec Limits:	80-120	80-120	80-120	80-120	80-120	80-120

American Environmental Network, Inc.

"Metals Quality Control Report"

Parameter:	POTASSIUM	MAGNESIUM	MANGANESE	MOLYBDENUM	SODIUM	NICKEL
Batch Id:	X6W161	J6W161	G6W161	D6W161	16W161	E6W161
Blank Result:	<2	<0.2	<0.01	<0.01	<0.2	<0.02
Anal. Method:	6010	6010	6010	6010	6010	6010
Prep. Method:	3010	3010	3010	3010	3010	3010
Analysis Date:	09-AUG-96	09-AUG-96	09-AUG-96	09-AUG-96	09-AUG-96	09-AUG-96
Prep. Date:	09-AUG-96	09-AUG-96	09-AUG-96	09-AUG-96	09-AUG-96	09-AUG-96
Sample Duplication						
Sample Dup:	608260-4	608260-4	608260-4	608260-4	608260-4	608260-4
Rept Limit:	<2	<0.2	<0.01	<0.01	<0.2	<0.02
Sample Result:	23	300	2.5	1.8	370	1.8
Dup Result:	23	300	2.5	1.8	370	1.8
Sample RPD:	0	0	0	0	0	0
Max RPD:	20	20	20	20	20	20
Dry Weight%	N/A	N/A	N/A	N/A	N/A	N/A
Matrix Spike						
Sample Spiked:	608260-4	608260-4	608260-4	608260-4	608260-4	608260-4
Rept Limit:	<2	<0.2	<0.01	<0.01	<0.2	<0.02
Sample Result:	3	290	0.77	<0.01	360	0.05
Spiked Result:	23	300	2.5	1.8	370	1.8
Spike Added:	20	20F	2.0	2.0	20F	2.0
% Recovery:	100	50	87	90	50	88
% Rec Limits:	75-125	75-125	75-125	75-125	75-125	75-125
Dry Weight%	N/A	N/A	N/A	N/A	N/A	N/A
ICV						
ICV Result:	50	5.0	5.0	5.0	9.7	5.0
True Result:	50	5.0	5.0	5.0	10	5.0
% Recovery:	100	100	100	100	97	100
% Rec Limits:	90-110	90-110	90-110	90-110	90-110	90-110
LCS						
LCS Result:	20	20	2.0	2.0	19	2.0
True Result:	20	20	2.0	2.0	20	2.0
% Recovery:	100	100	100	100	95	100
% Rec Limits:	80-120	80-120	80-120	80-120	80-120	80-120

American Environmental Network, Inc.

"Metals Quality Control Report"

Parameter:	LEAD	ANTIMONY	SELENIUM	SILICON	THALLIUM	VANADIUM
Batch Id:	P6W161	36W161	S6W161	26W161	46W161	V6W161
Blank Result:	<0.05	<0.06	<0.1	<0.1	<0.1	<0.01
Anal. Method:	6010	6010	6010	6010	6010	6010
Prep. Method:	3010	3010	3010	3010	3010	3010
Analysis Date:	09-AUG-96	09-AUG-96	09-AUG-96	09-AUG-96	09-AUG-96	09-AUG-96
Prep. Date:	09-AUG-96	09-AUG-96	09-AUG-96	09-AUG-96	09-AUG-96	09-AUG-96
Sample Duplication						
Sample Dup:	608260-4	608260-4	608260-4	608120-2	608260-4	608260-4
Rept Limit:	<0.05	<0.06	<0.1	<0.1	<0.1	<0.01
Sample Result:	1.7	1.9	1.9	17	1.7	1.8
Dup Result:	1.7	1.9	1.9	18	1.7	1.8
Sample RPD:	0	0	0	6	0	0
Max RPD:	20	20	20	20	20	20
Dry Weight%	N/A	N/A	N/A	N/A	N/A	N/A
Matrix Spike						
Sample Spiked:	608260-4	608260-4	608260-4	608120-2	608260-4	608260-4
Rept Limit:	<0.05	<0.06	<0.1	<0.1	<0.1	<0.01
Sample Result:	<0.05	<0.06	<0.1	16	<0.1	<0.01
Spiked Result:	1.7	1.9	1.9	17	1.7	1.8
Spike Added:	2.0	2.0	2.0	2.0F	2.0	2.0
% Recovery:	85	95	95	50	85	90
% Rec Limits:	75-125	75-125	75-125	75-125	75-125	75-125
Dry Weight%	N/A	N/A	N/A	N/A	N/A	N/A
ICV						
ICV Result:	5.0	5.0	5.1	5.2	4.9	5.0
True Result:	5.0	5.0	5.0	5.0	5.0	5.0
% Recovery:	100	100	102	104	98	100
% Rec Limits:	90-110	90-110	90-110	90-110	90-110	90-110
LCS						
LCS Result:	1.9	1.9	2.0	1.9	1.9	1.9
True Result:	2.0	2.0	2.0	2.0	2.0	2.0
% Recovery:	95	95	100	95	95	95
% Rec Limits:	80-120	80-120	80-120	80-120	80-120	80-120

American Environmental Network, Inc.

"Metals Quality Control Report"

Parameter:	ZINC
Batch Id:	56W161
Blank Result:	<0.02
Anal. Method:	6010
Prep. Method:	3010
Analysis Date:	09-AUG-96
Prep. Date:	09-AUG-96

Sample Duplication

Sample Dup:	608260-4
Rept Limit:	<0.02
Sample Result:	1.8
Dup Result:	1.9
Sample RPD:	5
Max RPD:	20
Dry Weight%	N/A

Matrix Spike

Sample Spiked:	608260-4
Rept Limit:	<0.02
Sample Result:	0.03
Spiked Result:	1.8
Spike Added:	2.0
% Recovery:	89
% Rec Limits:	75-125
Dry Weight%	N/A

ICV

ICV Result:	5.1
True Result:	5.0
% Recovery:	102
% Rec Limits:	90-110

LCS

LCS Result:	2.0
True Result:	2.0
% Recovery:	100
% Rec Limits:	80-120

American Environmental Network, Inc.

"Quality Control Comments"

Batch Id:	Comments:
A6W161	ANALYST: JLH
A6W161	The results reported under "Sample Duplication" are the MS/MSD.
L6W161	ANALYST: JLH
L6W161	The results reported under "Sample Duplication" are the MS/MSD.
R6W161	ANALYST: JLH
R6W161	The results reported under "Sample Duplication" are the MS/MSD.
O6W161	ANALYST: JLH
O6W161	The results reported under "Sample Duplication" are the MS/MSD.
B6W161	ANALYST: JLH
B6W161	The results reported under "Sample Duplication" are the MS/MSD.
Y6W161	ANALYST: JLH
Y6W161	The results reported under "Sample Duplication" are the MS/MSD.
I6W161	ANALYST: JLH
I6W161	The results reported under "Sample Duplication" are the MS/MSD.
C6W161	ANALYST: JLH
C6W161	The results reported under "Sample Duplication" are the MS/MSD.
T6W161	ANALYST: JLH
T6W161	The results reported under "Sample Duplication" are the MS/MSD.
H6W161	ANALYST: JLH
H6W161	The results reported under "Sample Duplication" are the MS/MSD.
F6W161	ANALYST: JLH
F6W161	The results reported under "Sample Duplication" are the MS/MSD.
N6W161	ANALYST: JLH
N6W161	The results reported under "Sample Duplication" are the MS/MSD.
X6W161	ANALYST: JLH
X6W161	The results reported under "Sample Duplication" are the MS/MSD.
J6W161	ANALYST: JLH
J6W161	The results reported under "Sample Duplication" are the MS/MSD.
G6W161	ANALYST: JLH
G6W161	The results reported under "Sample Duplication" are the MS/MSD.
D6W161	ANALYST: JLH
D6W161	The results reported under "Sample Duplication" are the MS/MSD.
16W161	ANALYST: JLH
16W161	The results reported under "Sample Duplication" are the MS/MSD.
E6W161	ANALYST: JLH
E6W161	The results reported under "Sample Duplication" are the MS/MSD.
P6W161	ANALYST: JLH
P6W161	The results reported under "Sample Duplication" are the MS/MSD.
36W161	ANALYST: JLH
36W161	The results reported under "Sample Duplication" are the MS/MSD.
S6W161	ANALYST: JLH
S6W161	The results reported under "Sample Duplication" are the MS/MSD.
26W161	ANALYST: JLH
26W161	The results reported under "Sample Duplication" are the MS/MSD.
46W161	ANALYST: JLH
46W161	The results reported under "Sample Duplication" are the MS/MSD.
V6W161	ANALYST: JLH
V6W161	The results reported under "Sample Duplication" are the MS/MSD.
56W161	ANALYST: JLH
56W161	The results reported under "Sample Duplication" are the MS/MSD.

----- Common Footnotes Metals -----

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

FROM ANALYSIS REPORT:
RL= REPORTING LIMIT BASED ON METHOD DETECTION LIMIT STUDIES.
Q= QUALIFIER (FOOTNOTE)

FROM QUALITY CONTROL REPORT:
RPD= RELATIVE PERCENT DEVIATION.
RPT LIMIT= REPORTING LIMIT BASED ON METHOD DETECTION LIMIT STUDIES.

NOTE: THE UNITS REPORTED ON THE QUALITY CONTROL REPORT ARE REPORTED ON AN AS RUN BASIS.

SW-846, 3rd Edition, latest revision.
EPA 600/4-79-020, Revised March 1983.
NIOSH Manual of Analytical Methods, 4th Edition.
Standard Methods For the Examination of Water and Wastewater, 18th Edition, 1992.
Methods For the Determination of Metals in Environmental Samples - Supplement I, EPA 600/R-94-111, May 1994.

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American Environmental Network, Inc.

GAS CHROMOTOGRAPHY RESULTS

TEST : PURGEABLE HALOCARBONS / AROMATICS (EPA601/602)
CLIENT : NMOCD AEN I.D.: 608304
PROJECT # : (none)
PROJECT NAME : (none)

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
04	96311406	AQUEOUS	7/31/96	NA	8/5/96	5
12	96311446	AQUEOUS	7/31/96	NA	8/5/96	10
15	96010835	AQUEOUS	8/1/96	NA	8/5/96	50

PARAMETER	DET. LIMIT	UNITS	04	12	15
BENZENE	0.5	**UG/L**	< 2.5	**12**	**1900**
BROMODICHLORMETHANE	0.2	UG/L	< 1.0	< 2.0	< 10
BROMOFORM	0.5	UG/L	< 2.5	< 5.0	< 25
BROMOMETHANE	1.0	UG/L	< 5.0	< 10	< 50
CARBON TETRACHLORIDE	0.2	UG/L	< 1.0	< 2.0	< 10
CHLOROBENZENE	0.5	UG/L	< 2.5	< 5.0	< 25
CHLOROETHANE	0.5	UG/L	< 2.5	< 5.0	< 25
CHLOROFORM	0.5	UG/L	< 2.5	< 5.0	< 25
CHLOROMETHANE	1.0	UG/L	< 5.0	< 10	< 50
DIBROMOCHLOROMETHANE	0.2	UG/L	< 1.0	< 2.0	< 10
1,2-DIBROMOETHANE (EDB)	0.2	UG/L	< 1.0	< 2.0	< 10
1,2-DICHLOROBENZENE	0.5	UG/L	< 2.5	< 5.0	< 25
1,3-DICHLOROBENZENE	0.5	UG/L	< 2.5	< 5.0	< 25
1,4-DICHLOROBENZENE	0.5	UG/L	< 2.5	< 5.0	< 25
1,1-DICHLOROETHANE	0.3	UG/L	< 1.5	< 3.0	< 15
1,2-DICHLOROETHANE (EDC)	0.5	UG/L	< 2.5	< 5.0	< 25
1,1-DICHLOROETHENE	0.2	UG/L	< 1.0	< 2.0	< 10
cis-1,2-DICHLOROETHENE	0.2	UG/L	< 1.0	< 2.0	< 10
trans-1,2-DICHLOROETHENE	1.0	UG/L	< 5.0	< 10	< 50
1,2-DICHLOROPROPANE	0.2	UG/L	< 1.0	< 2.0	< 10
cis-1,3-DICHLOROPROPENE	0.2	UG/L	< 1.0	< 2.0	< 10
trans-1,3-DICHLOROPROPENE	0.2	UG/L	< 1.0	< 2.0	< 10
ETHYLBENZENE	0.5	**UG/L**	< 2.5	**6.2**	**660**
METHYL-t-BUTYL ETHER	2.5	UG/L	< 13	< 25	< 130
METHYLENE CHLORIDE	2.0	UG/L	< 10	< 20	< 100
1,1,2,2-TETRACHLOROETHANE	0.5	UG/L	< 2.5	< 5.0	< 25
TETRACHLOROETHENE	0.5	UG/L	< 2.5	< 5.0	< 25
TOLUENE	0.5	**UG/L**	< 2.5	**23**	**270**
1,1,1-TRICHLOROETHANE	1.0	UG/L	< 5.0	< 10	< 50
1,1,2-TRICHLOROETHANE	0.2	UG/L	< 1.0	< 2.0	< 10
TRICHLOROETHENE	0.3	UG/L	< 1.5	< 3.0	< 15
TRICHLOROFLUOROMETHANE	0.2	UG/L	< 1.0	< 2.0	< 10
VINYL CHLORIDE	0.5	UG/L	< 2.5	< 5.0	< 25
TOTAL XYLENES	0.5	**UG/L**	< 2.5	**27**	**900**
SURROGATE:					
BROMOCHLOROMETHANE (%)			100	99	100
SURROGATE LIMITS	(73 - 117)				
TRIFLUOROTOLUENE (%)			76	92	94
SURROGATE LIMITS	(69 - 117)				

CHEMIST NOTES:
N/A

American Environmental Network, Inc.

GAS CHROMOTOGRAPHY RESULTS

TEST : PURGEABLE HALOCARBONS / AROMATICS (EPA601/602)
CLIENT : NMOCD AEN I.D.: 608304
PROJECT # : (none)
PROJECT NAME : (none)

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
17	TRIP BLANK	AQUEOUS	7/24/96	NA	8/5/96	1

PARAMETER	DET. LIMIT	UNITS	17
BENZENE	0.5	UG/L	< 0.5
BROMODICHLORMETHANE	0.2	UG/L	< 0.2
BROMOFORM	0.5	UG/L	< 0.5
BROMOMETHANE	1.0	UG/L	< 1.0
CARBON TETRACHLORIDE	0.2	UG/L	< 0.2
CHLOROBENZENE	0.5	UG/L	< 0.5
CHLOROETHANE	0.5	UG/L	< 0.5
CHLOROFORM	0.5	UG/L	< 0.5
CHLOROMETHANE	1.0	UG/L	< 1.0
DIBROMOCHLOROMETHANE	0.2	UG/L	< 0.2
1,2-DIBROMOETHANE (EDB)	0.2	UG/L	< 0.2
1,2-DICHLOROBENZENE	0.5	UG/L	< 0.5
1,3-DICHLOROBENZENE	0.5	UG/L	< 0.5
1,4-DICHLOROBENZENE	0.5	UG/L	< 0.5
1,1-DICHLOROETHANE	0.3	UG/L	< 0.3
1,2-DICHLOROETHANE (EDC)	0.5	UG/L	< 0.5
1,1-DICHLOROETHENE	0.2	UG/L	< 0.2
cis-1,2-DICHLOROETHENE	0.2	UG/L	< 0.2
trans-1,2-DICHLOROETHENE	1.0	UG/L	< 1.0
1,2-DICHLOROPROPANE	0.2	UG/L	< 0.2
cis-1,3-DICHLOROPROPENE	0.2	UG/L	< 0.2
trans-1,3-DICHLOROPROPENE	0.2	UG/L	< 0.2
ETHYLBENZENE	0.5	UG/L	< 0.5
METHYL-t-BUTYL ETHER	2.5	UG/L	< 2.5
METHYLENE CHLORIDE	2.0	UG/L	< 2.0
1,1,2,2-TETRACHLOROETHANE	0.5	UG/L	< 0.5
TETRACHLOROETHENE	0.5	UG/L	< 0.5
TOLUENE	0.5	UG/L	< 0.5
1,1,1-TRICHLOROETHANE	1.0	UG/L	< 1.0
1,1,2-TRICHLOROETHANE	0.2	UG/L	< 0.2
TRICHLOROETHENE	0.3	UG/L	< 0.3
TRICHLOROFLUOROMETHANE	0.2	UG/L	< 0.2
VINYL CHLORIDE	0.5	UG/L	< 0.5
TOTAL XYLENES	0.5	UG/L	< 0.5
SURROGATE:			
BROMOCHLOROMETHANE (%)			99
SURROGATE LIMITS	(73 - 117)		
TRIFLUOROTOLUENE (%)			103
SURROGATE LIMITS	(69 - 117)		

CHEMIST NOTES:
N/A

American Environmental Network, Inc.

GAS CHROMOTOGRAPHY RESULTS
REAGENT BLANK

TEST	: PURGEABLE HALOCARBONS / AROMATICS (EPA 601/602)		
BLANK I.D.	: 080596	AEN I.D.	: 608304
CLIENT	: NMOCD		
PROJECT #	: (none)	DATE ANALYZED	: 8/5/96
PROJECT NAME	: (none)	SAMPLE MATRIX	: AQUEOUS

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
BROMODICHLORMETHANE	UG/L	<0.2
BROMOFORM	UG/L	<0.5
BROMOMETHANE	UG/L	<1.0
CARBON TETRACHLORIDE	UG/L	<0.2
CHLOROBENZENE	UG/L	<0.5
CHLOROETHANE	UG/L	<0.5
CHLOROFORM	UG/L	<0.5
CHLOROMETHANE	UG/L	<1.0
DIBROMOCHLOROMETHANE	UG/L	<0.2
1,2-DIBROMOETHANE (EDB)	UG/L	<0.2
1,2-DICHLOROBENZENE	UG/L	<0.5
1,3-DICHLOROBENZENE	UG/L	<0.5
1,4-DICHLOROBENZENE	UG/L	<0.5
1,1-DICHLOROETHANE	UG/L	<0.3
1,2-DICHLOROETHANE (EDC)	UG/L	<0.5
1,1-DICHLOROETHENE	UG/L	<0.2
cis-1,2-DICHLOROETHENE	UG/L	<0.2
trans-1,2-DICHLOROETHENE	UG/L	<1.0
1,2-DICHLOROPROPANE	UG/L	<0.2
cis-1,3-DICHLOROPROPENE	UG/L	<0.2
trans-1,3-DICHLOROPROPENE	UG/L	<0.2
ETHYLBENZENE	UG/L	<0.5
METHYL -t-BUTYL ETHER	UG/L	<2.5
METHYLENE CHLORIDE	UG/L	<2.0
1,1,2,2-TETRACHLOROETHANE	UG/L	<0.5
TETRACHLOROETHENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
1,1,1-TRICHLOROETHANE	UG/L	<1.0
1,1,2-TRICHLOROETHANE	UG/L	<0.2
TRICHLOROETHENE	UG/L	<0.3
TRICHLOROFLUOROMETHANE	UG/L	<0.2
VINYL CHLORIDE	UG/L	<0.5
TOTAL XYLENES	UG/L	<0.5
SURROGATE:		
BROMOCHLOROMETHANE (%)		112
SURROGATE LIMITS	(73 - 117)	
TRIFLUOROTOLUENE (%)		100
SURROGATE LIMITS	(69 - 117)	

CHEMIST NOTES:
N/A

American Environmental Network, Inc.

GAS CHROMOTOGRAPHY RESULTS
REAGENT BLANK

TEST	: PURGEABLE HALOCARBONS / AROMATICS (EPA 601/602)		
BLANK I.D.	: 080696	AEN I.D.	: 608304
CLIENT	: NMOCD		
PROJECT #	: (none)	DATE ANALYZED	: 8/6/96
PROJECT NAME	: (none)	SAMPLE MATRIX	: AQUEOUS

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
BROMODICHLORMETHANE	UG/L	<0.2
BROMOFORM	UG/L	<0.5
BROMOMETHANE	UG/L	<1.0
CARBON TETRACHLORIDE	UG/L	<0.2
CHLOROBENZENE	UG/L	<0.5
CHLOROETHANE	UG/L	<0.5
CHLOROFORM	UG/L	<0.5
CHLOROMETHANE	UG/L	<1.0
DIBROMOCHLOROMETHANE	UG/L	<0.2
1,2-DIBROMOETHANE (EDB)	UG/L	<0.2
1,2-DICHLOROBENZENE	UG/L	<0.5
1,3-DICHLOROBENZENE	UG/L	<0.5
1,4-DICHLOROBENZENE	UG/L	<0.5
1,1-DICHLOROETHANE	UG/L	<0.3
1,2-DICHLOROETHANE (EDC)	UG/L	<0.5
1,1-DICHLOROETHENE	UG/L	<0.2
cis-1,2-DICHLOROETHENE	UG/L	<0.2
trans-1,2-DICHLOROETHENE	UG/L	<1.0
1,2-DICHLOROPROPANE	UG/L	<0.2
cis-1,3-DICHLOROPROPENE	UG/L	<0.2
trans-1,3-DICHLOROPROPENE	UG/L	<0.2
ETHYLBENZENE	UG/L	<0.5
METHYL -t-BUTYL ETHER	UG/L	<2.5
METHYLENE CHLORIDE	UG/L	<2.0
1,1,2,2-TETRACHLOROETHANE	UG/L	<0.5
TETRACHLOROETHENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
1,1,1-TRICHLOROETHANE	UG/L	<1.0
1,1,2-TRICHLOROETHANE	UG/L	<0.2
TRICHLOROETHENE	UG/L	<0.3
TRICHLOROFLUOROMETHANE	UG/L	<0.2
VINYL CHLORIDE	UG/L	<0.5
TOTAL XYLENES	UG/L	<0.5
SURROGATE:		
BROMOCHLOROMETHANE (%)		101
SURROGATE LIMITS	(73 - 117)	
TRIFLUOROTOLUENE (%)		102
SURROGATE LIMITS	(69 - 117)	

CHEMIST NOTES:
N/A

American Environmental Network, Inc.

GAS CHROMOTOGRAPHY QUALITY CONTROL
MSMSD

TEST : PURGEABLE HALOCARBONS / AROMATICS (EPA 601/602)
MSMSD # : 608304-04 AEN I.D. : 608304
CLIENT : NMOCD
PROJECT # : (none) DATE ANALYZED : 8/5-6/96
PROJECT NAME : (none) SAMPLE MATRIX : AQUEOUS
UNITS : UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<2.5	10.0	11.7	117	11.5	115	2	(82 -128)	20
TOLUENE	<2.5	10.0	12.1	121	11.7	117	3	(87 -128)	20
1,1-DICHLOROETHENE	<1.0	10.0	10.8	108	11.2	112	4	(44 - 120)	20
TRICHLOROETHENE	<1.5	10.0	11.9	119	12.1	121	2	(89 - 127)	20
CHLOROBENZENE	<2.5	10.0	11.9	119	12.2	122	2	(87 - 124)	20

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.

"FINAL REPORT FORMAT - SINGLE"

Accession:	608166
Client:	AMERICAN ENVIRONMENTAL NETWORK OF NEW MEXICO
Project Number:	608304
Project Name:	NMOCD
Project Location:	N/S
Test:	POLYNUCLEAR AROMATICS BY 610
Analysis Method:	610/Federal Register, 40 CFR, Part 136, Appendix A.
Extraction Method:	610/Federal Register, 40 CFR, Part 136, Appendix A.
Matrix:	WATER
QC Level:	II

Lab Id:	002	Sample Date/Time:	31-JUL-96 1404
Client Sample Id:	608304-03	Received Date:	03-AUG-96
Batch: PAW141		Extraction Date:	06-AUG-96
Blank: B	Dry Weight %: N/A	Analysis Date:	11-AUG-96

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/L	ND	1	
ACENAPHTHYLENE	UG/L	ND	1	
ANTHRACENE	UG/L	ND	1	
BENZO(a)ANTHRACENE	UG/L	ND	1	
BENZO(a)PYRENE	UG/L	ND	1	
BENZO(b)FLUORANTHENE	UG/L	ND	1	
BENZO(g,h,i)PERYLENE	UG/L	ND	1	
BENZO(k)FLUORANTHENE	UG/L	ND	1	
CHRYSENE	UG/L	ND	1	
DIBENZO(a,h)ANTHRACENE	UG/L	ND	1	
FLUORANTHENE	UG/L	ND	1	
FLUORENE	UG/L	1	1	
INDENO(1,2,3-cd)PYRENE	UG/L	ND	1	
NAPHTHALENE	UG/L	ND	1	
PHENANTHRENE	UG/L	ND	1	
PYRENE	UG/L	ND	1	
1-METHYLNAPHTHALENE	UG/L	ND	1	
2-METHYLNAPHTHALENE	UG/L	ND	1	
2-CHLOROANTHRACENE	%REC/SURR	55	28-138	
ANALYST	INITIALS	JBT		

Comments:

American Environmental Network, Inc.

"FINAL REPORT FORMAT - SINGLE"

Accession:	608166
Client:	AMERICAN ENVIRONMENTAL NETWORK OF NEW MEXICO
Project Number:	608304
Project Name:	NMOCD
Project Location:	N/S
Test:	POLYNUCLEAR AROMATICS BY 610
Analysis Method:	610/Federal Register, 40 CFR, Part 136, Appendix A.
Extraction Method:	610/Federal Register, 40 CFR, Part 136, Appendix A.
Matrix:	WATER
QC Level:	II

Lab Id:	006	Sample Date/Time:	31-JUL-96 1444
Client Sample Id:	608304-11	Received Date:	03-AUG-96
Batch: PAW141		Extraction Date:	06-AUG-96
Blank: B	Dry Weight %: N/A	Analysis Date:	11-AUG-96

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/L	ND	10	
ACENAPHTHYLENE	UG/L	62	10	
ANTHRACENE	UG/L	ND	10	
BENZO(a)ANTHRACENE	UG/L	ND	10	
BENZO(a)PYRENE	UG/L	20	10	
BENZO(b)FLUORANTHENE	UG/L	43	10	
BENZO(g,h,i)PERYLENE	UG/L	50	10	
BENZO(k)FLUORANTHENE	UG/L	30	10	
CHRYSENE	UG/L	ND	10	
DIBENZO(a,h)ANTHRACENE	UG/L	82	10	
FLUORANTHENE	UG/L	59	10	
FLUORENE	UG/L	ND	10	
INDENO(1,2,3-cd)PYRENE	UG/L	ND	10	
NAPHTHALENE	UG/L	ND	10	
PHENANTHRENE	UG/L	ND	10	
PYRENE	UG/L	140	10	
1-METHYLNAPHTHALENE	UG/L	ND	10	
2-METHYLNAPHTHALENE	UG/L	320	10	
2-CHLOROANTHRACENE	%REC/SURR	D	28-138	
ANALYST	INITIALS	JBT		

Comments:
D = DILUTED OUT.

American Environmental Network, Inc.

"FINAL REPORT FORMAT - SINGLE"

Accession:	608166
Client:	AMERICAN ENVIRONMENTAL NETWORK OF NEW MEXICO
Project Number:	608304
Project Name:	NMOCD
Project Location:	N/S
Test:	POLYNUCLEAR AROMATICS BY 610
Analysis Method:	610/Federal Register, 40 CFR, Part 136, Appendix A.
Extraction Method:	610/Federal Register, 40 CFR, Part 136, Appendix A.
Matrix:	WATER
QC Level:	II

Lab Id:	008	Sample Date/Time:	01-AUG-96 0832
Client Sample Id:	608304-14	Received Date:	03-AUG-96
Batch: PAW141		Extraction Date:	06-AUG-96
Blank: B	Dry Weight %: N/A	Analysis Date:	11-AUG-96

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/L	ND	10	
ACENAPHTHYLENE	UG/L	ND	10	
ANTHRACENE	UG/L	ND	10	
BENZO(a)ANTHRACENE	UG/L	ND	10	
BENZO(a)PYRENE	UG/L	ND	10	
BENZO(b)FLUORANTHENE	UG/L	ND	10	
BENZO(g,h,i)PERYLENE	UG/L	ND	10	
BENZO(k)FLUORANTHENE	UG/L	ND	10	
CHRYSENE	UG/L	ND	10	
DIBENZO(a,h)ANTHRACENE	UG/L	ND	10	
FLUORANTHENE	UG/L	13	10	
FLUORENE	UG/L	ND	10	
INDENO(1,2,3-cd)PYRENE	UG/L	ND	10	
NAPHTHALENE	UG/L	ND	10	
PHENANTHRENE	UG/L	ND	10	
PYRENE	UG/L	ND	10	
1-METHYLNAPHTHALENE	UG/L	ND	10	
2-METHYLNAPHTHALENE	UG/L	ND	10	
2-CHLOROANTHRACENE	%REC/SURR	D	28-138	
ANALYST	INITIALS	JBT		

Comments:
D = DILUTED OUT.

American Environmental Network, Inc.

"Method Report Summary"

Accession Number: 608166
Client: AMERICAN ENVIRONMENTAL NETWORK OF NEW MEXICO
Project Number: 608304
Project Name: NMOCD
Project Location: N/S
Test: POLYNUCLEAR AROMATICS BY 610

Client Sample Id:	Parameter:	Unit:	Result:
608304-03	FLUORENE	UG/L	1
608304-11	ACENAPHTHYLENE	UG/L	62
	BENZO(a)PYRENE	UG/L	20
	BENZO(b)FLUORANTHENE	UG/L	43
	BENZO(g,h,i)PERYLENE	UG/L	50
	BENZO(k)FLUORANTHENE	UG/L	30
	DIBENZO(a,h)ANTHRACENE	UG/L	82
	FLUORANTHENE	UG/L	59
	PYRENE	UG/L	140
	2-METHYLNAPHTHALENE	UG/L	320
608304-14	FLUORANTHENE	UG/L	13

American Environmental Network, Inc.

"QC Report"

Title: Water Blank
Batch: PAW141
Analysis Method: 610/Federal Register, 40 CFR, Part 136, Appendix A.
Extraction Method: 610/Federal Register, 40 CFR, Part 136, Appendix A.

Blank Id: B Date Analyzed: 11-AUG-96 Date Extracted: 06-AUG-96

Parameters:	Units:	Results:	Reporting Limits:
ACENAPHTHENE	UG/L	ND	1
ACENAPHTHYLENE	UG/L	ND	1
ANTHRACENE	UG/L	ND	1
BENZO(a)ANTHRACENE	UG/L	ND	1
BENZO(a)PYRENE	UG/L	ND	1
BENZO(b)FLUORANTHENE	UG/L	ND	1
BENZO(g,h,i)PERYLENE	UG/L	ND	1
BENZO(k)FLUORANTHENE	UG/L	ND	1
CHRYSENE	UG/L	ND	1
DIBENZO(a,h)ANTHRACENE	UG/L	ND	1
FLUORANTHENE	UG/L	ND	1
FLUORENE	UG/L	ND	1
INDENO(1,2,3-cd)PYRENE	UG/L	ND	1
NAPHTHALENE	UG/L	ND	1
PHENANTHRENE	UG/L	ND	1
PYRENE	UG/L	ND	1
1-METHYLNAPHTHALENE	UG/L	ND	1
2-METHYLNAPHTHALENE	UG/L	ND	1
2-CHLOROANTHRACENE	%REC/SURR	77	28-138
ANALYST	INITIALS	JBT	

Comments:

American Environmental Network, Inc.

"QC Report"

Title: Water Reagent
Batch: PAW141
Analysis Method: 610/Federal Register, 40 CFR, Part 136, Appendix A.
Extraction Method: 610/Federal Register, 40 CFR, Part 136, Appendix A.

RS Date Analyzed: 10-AUG-96
RSD Date Analyzed: 10-AUG-96
RS Date Extracted: 05-AUG-96
RSD Date Extracted: 05-AUG-96

Parameters:	Spike Added	Sample Conc	RS Conc	RS %Rec	RSD Conc	RSD %Rec	RPD	RPD Lmts	Rec Lmts
ACENAPHTHYLENE	10.0	<1	5.9	59	5.6	56	5	46	46-110
BENZO(k)FLUORANTHENE	10.0	<1	9.1	91	9.4	94	3	30	58-128
CHRYSENE	10.0	<1	9.3	93	9.5	95	2	29	62-129
PHENANTHRENE	10.0	<1	8.9	89	9.0	90	1	28	61-116
PYRENE	10.0	<1	10.1	101	10.3	103	2	26	62-120
Surrogates:									
2-CHLOROANTHRACENE				93		95			28-138

Comments:

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

American Environmental Network, Inc.

"QC Report"

Title: Water Matrix
Batch: PAW141
Analysis Method: 610/Federal Register, 40 CFR, Part 136, Appendix A.
Extraction Method: 610/Federal Register, 40 CFR, Part 136, Appendix A.

Dry Weight %: N/A
Sample Spiked: 608158-2

MS Date Analyzed: 10-AUG-96
MSD Date Analyzed: 10-AUG-96

MS Date Extracted: 05-AUG-96
MSD Date Extracted: 05-AUG-96

Parameters:	Spike Added	Sample Conc	MS Conc	MS %Rec	MSD Conc	MSD %Rec	RPD	RPD Lmts	Rec Lmts
ACENAPHTHYLENE	10.0	<1	4.5	45	4.7	47	4	42	14-135
BENZO(k)FLUORANTHENE	10.0	<1	5.7	57	5.9	59	3	58	25-142
CHRYSENE	10.0	<1	7.1	71	7.7	77	8	51	3-176
PHENANTHRENE	10.0	<1	8.0	80	9.3	93	15	55	27-146
PYRENE	10.0	<1	9.2	92	10.2	102	10	47	15-157
Surrogates:									
2-CHLOROANTHRACENE				88		101			28-138

Comments:

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

American Environmental Network, Inc.

Common notation for Organic reporting

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

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

ORGANIC SOILS ARE REPORTED ON A DRYWEIGHT BASIS.

ND = NOT DETECTED ABOVE REPORTING LIMIT.

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

RPD = RELATIVE PERCENT DIFFERENCE (OR DEVIATION)

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

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

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

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

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

SW = STEVE WILHITE
PL = PAUL LESCHENSKY
RW = ROBERT WOLFE
BV = BEN VAUGHN
BC = BETH COLEMAN
KS = KENDALL SMITH
KK = KERRY KUST
DWB = DAVID W. BOWERS
RP = ROB PEREZ
JBT = JENNIFER TORRANCE

American Environmental Network (NM), Inc.
Albuquerque • Phoenix • Pensacola • Portland • Pleasant Hills • Columbia

CHAIN OF CUSTODY

DATE: 7-31-96 PAGE: 1 OF 2

AEN LAB I.D. JC 8/2/96
608303 608304

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: MARK ASHLEY

COMPANY: NMOCD
ADDRESS: 2040 S. PACHECO
SANTA FE, NM 87505
PHONE: (505) 827-7155
FAX: (505) 827-8177

BILL TO: NMOCD
COMPANY: SAME
ADDRESS:

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.
~~9631400~~	7-31-96	~~2:00PM~~	WATER	
9631400	7/31/96	2:00PM	WATER	-01
9631402	7/31/96	2:02PM	"	-02
9631404	7/31/96	2:04PM	"	-03
9631406	7/31/96	2:06PM	"	-04
9631425	7/31/96	2:25PM	"	-05
9631427	7/31/96	2:27PM	"	-06
9631433	7/31/96	2:33PM	"	-07
9631435	7/31/96	2:35PM	"	-08

ANALYSIS REQUEST

Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct/Inject	601/602	(M8015) Gas/Purge & Trap	Gasoline/BTEX & MTBE (M8015/8020)	BTXE/MTBE (8020)	BTEX & Chlorinated Aromatics (602/8020)	BTEX/MTBE/EDC & EDB (8020/8010/Short)	Chlorinated Hydrocarbons (601/8010)	504 EDB ☐ / DBCP ☐	Polynuclear Aromatics (610/8310)	Volatile Organics (624/8240) GC/MS	Volatile Organics (8260) GC/MS	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	General Chemistry: ITEM 25	Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals: 6010	NUMBER OF CONTAINERS
						✓		✓		✓						✓					✓	
																					✓	1
																✓						1
										✓												2
		✓																				2
																					✓	1
																✓					⊘	1
																					✓	1
																✓						1

PROJECT INFORMATION	
PROJ. NO.:	
PROJ. NAME:	
P.O. NO.:	
SHIPPED VIA:	

SAMPLE RECEIPT	
NO. CONTAINERS	11
CUSTODY SEALS	Y / N / NA
RECEIVED INTACT	X
BLUE ICE/ICE	20°C

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

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

CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER

METHANOL PRESERVATION ☐

COMMENTS: FIXED FEE ☐

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.
Signature: Mark Ashley Time: 9:25AM	Signature: Time:
Printed Name: MARK ASHLEY Date: 8-1-96	Printed Name: Date:
Company: NMOCD	Company:
RECEIVED BY: 1.	**RECEIVED BY: (LAB) 2.**
Signature: Time:	Signature: Time: 1015
Printed Name: Date:	Printed Name: John Caldwell Date: 8/2/96
Company:	American Enviromental Network (NM), Inc.

DISTRIBUTION: White, Canary - AEN Pink - ORIGINATOR

American Environmental Network (NM), Inc.
Albuquerque • Phoenix • Pensacola • Portland • Pleasant Hills • Columbia

CHAIN OF CUSTODY

DATE: 7/31/96 - 8/1/96 PAGE: 2 OF 2

AEN LAB I.D. 8/2/96 608303 608304

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: MARK ASHLEY

COMPANY: NMOCD
ADDRESS: 2040 South Pacheco
Santa Fe, NM 87505
PHONE: (505)-827-7155
FAX: (505)-827-8177

BILL TO: NMOCD
COMPANY: SAME
ADDRESS:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.
96311440	7/31/96	2:40 PM	Water	-09
96311442	"	2:42	"	-10
96311444	"	2:44	"	-11
96311446	"	2:46	"	-12
96010830	8/1/96	8:30AM	"	-13
96010832	8/1/96	8:32AM	"	-14
96010835	8/1/96	8:35AM	"	-15
96010845	8/1/96	8:45AM	"	-16
9601	8/1/96			
9601	8/1/96			

Petroleum Hydrocarbons (418.1) TRPH
(MOD.8015) Diesel/Direct/Inject 601/602
(M8015) Gas/Purge & Trap
Gasoline/BTEX & MTBE (M8015/8020)
BTXE/MTBE (8020)
BTEX & Chlorinated Aromatics (602/8020)
BTEX/MTBE/EDC & EDB (8020/8010/Short)
Chlorinated Hydrocarbons (601/8010)
504 EDB ☐ / DBCP ☐
Polynuclear Aromatics (610/8310)
Volatile Organics (624/8240) GC/MS
Volatile Organics (8260) GC/MS
Pesticides/PCB (608/8080)
Herbicides (615/8150)
Base/Neutral/Acid Compounds GC/MS (625/8270)
General Chemistry: ITEMS 25
Priority Pollutant Metals (13)
Target Analyte List Metals (23)
RCRA Metals (8)
RCRA Metals by TCLP (Method 1311)
Metals: 6010
NUMBER OF CONTAINERS

96311440																	✓						✓			1
96311442																	✓									1
96311444											✓															2
96311446		✓																								2
96010830																	✓						✓			2
96010832											✓															2
96010835		✓																								3
96010845																	✓						✓			2
9601											✓															2
9601		✓																								2

PROJECT INFORMATION	
PROJ. NO.:	
PROJ. NAME:	
P.O. NO.:	
SHIPPED VIA:	

SAMPLE RECEIPT	
NO. CONTAINERS	17
CUSTODY SEALS	Y / N (NA)
RECEIVED INTACT	Y
BLUE ICE/ICE	20°C

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

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

CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER

METHANOL PRESERVATION ☐

COMMENTS: FIXED FEE ☐ JC 8/2/96

TB 7/24, 1530 AQ -17

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.
Signature: Mark Ashley Time: 9:25AM	Signature: Time:
Printed Name: MARK ASHLEY Date: 8-1-96	Printed Name: Date:
Company: NMOCD	Company:
RECEIVED BY: 1.	**RECEIVED BY: (LAB) 2.**
Signature: Time:	Signature: Time: 1015
Printed Name: Date:	Printed Name: John Hall Date: 8/2/96
Company:	American Enviromental Network (NM), Inc.

DISTRIBUTION: White, Canary - AEN Pink - ORIGINATOR

inter - LAB

American Environmental Network (NM), Inc.

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CHAIN OF CUSTODY

DATE: 8/2 PAGE: 1 OF 1

AEN LAB I.D. 608548

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PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: K McNeill

COMPANY: AEN-ALB

ADDRESS:

PHONE:

FAX:

BILL TO:

COMPANY:

ADDRESS:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct/Inject	Ithan 25 (see sheet)	(M8015) Gas/Purge & Trap	Gasoline/BTEX & MTBE (M8015/8020)	BTXE/MTBE (8020)	BTEX & Chlorinated Aromatics (602/8020)	BTEX/MTBE/EDC & EDB (8020/8010/Short)	Chlorinated Hydrocarbons (601/8010)	504 EDB ☐ / DBCP ☐	Polynuclear Aromatics (610/8310)	Volatile Organics (624/8240) GC/MS	Volatile Organics (8260) GC/MS	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	General Chemistry:	Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals:	NUMBER OF CONTAINERS
608304-02	7/31	1402	AQ	1			X																				1
-06	↓	1427	↓	2			X																				1
-08		1435		3			X																				1
-10		1442		4			X																				1
-13	8/1	0830		5			X																				1
-16	↓	0845	↓	6			X																				1

PROJECT INFORMATION	
PROJ. NO.:	608304
PROJ. NAME:	
P.O. NO.:	
SHIPPED VIA:	

SAMPLE RECEIPT	
NO. CONTAINERS	6
CUSTODY SEALS	Y / N / NA (N)
RECEIVED INTACT	Y
BLUE ICE/ICE	Blue

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

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

CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER

METHANOL PRESERVATION ☐

COMMENTS: FIXED FEE ☐

To PHX

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.
Signature: John Caldwell Time: 1700	Signature: Time:
Printed Name: John Caldwell Date: 8/2/96	Printed Name: Date:
Company: AEN-ALB	Company:
RECEIVED BY: 1.	**RECEIVED BY: (LAB) 2.**
Signature: Time:	Signature: Time: 1045
Printed Name: Date:	Printed Name: Melanie Grangroo Date: 8/3/96
Company:	American Environmental Network (NM), Inc.

American Environmental Network (NM), Inc.

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CHAIN OF CUSTODY

DATE: 7-31-96 PAGE: 1 OF 2

AEN LAB I.D.: [illegible]

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER:	MARK ASHLEY
COMPANY:	NMOCD
ADDRESS:	2040 S. PACHECO
	SANTA FE, NM 87505
PHONE:	(505) 827-7155
FAX:	(505) 827-8177
BILL TO:	NMOCD
COMPANY:	SAME
ADDRESS:	

SAMPLE I.D.	DATE	TIME	MATRIX	LAB I.D.	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct/Inject	(M8015) Gas/Purge & Trap	Gasoline/BTEX & MTBE (M8015/8020)	BTXE/MTBE (8020)	BTEX & Chlorinated Aromatics (602/8020)	BTEX/MTBE/EDC & EDB (8020/8010/Short)	Chlorinated Hydrocarbons (601/8010)	504 EDB ☐ / DBCP ☐	Polynuclear Aromatics (610/8310)	Volatile Organics (624/8240) GC/MS	Volatile Organics (8260) GC/MS	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	General Chemistry: ITEM 25	Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals: 6010	NUMBER OF CONTAINERS
~~9631400~~	7-31-96	2:00PM	WATER							✓		✓		✓						✓					✓	3
9631400	7/31/96	2:00PM	WATER	-01																					✓	3
9631402	7/31/96	2:00PM	"	-02																✓						3
9631404	7/31/96	2:00PM	"	-03										✓												3
9631406	7/31/96	2:00PM	"	-04			✓																			3
9631425	7/31/96	2:25PM	"	-05																					✓	3
9631427	7/31/96	2:27PM	"	-06																✓					✓	3
9631433	7/31/96	2:33PM	"	-07																					✓	3
9631435	7/31/96	2:35PM	"	-08																✓						3

ANALYSIS REQUEST

PROJECT INFORMATION	PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS
PROJ. NO.:	(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒
PROJ. NAME:	CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER
P.O. NO.:	METHANOL PRESERVATION ☐
SHIPPED VIA:	COMMENTS: FIXED FEE ☐

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.
Signature: Mark Ashley Time: 9:25AM	Signature: Time:
Printed Name: MARK ASHLEY Date: 8-1-96	Printed Name: Date:
Company: NMOCD	Company:
RECEIVED BY:	RECEIVED BY (LAB):
Signature: Time:	Signature:
Printed Name: Date:	Printed Name: Date:
Company:	American Environmental Network (NM), Inc.

American Environmental Network (NM), Inc.

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CHAIN OF CUSTODY

DATE: 7/31/8/1/96 PAGE: 2 OF 2

AEN LAB I.D.

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PROJECT MANAGER:	MARK ASHLEY
COMPANY:	NMOCD
ADDRESS:	2040 South Pacheco Santa Fe, NM 87505
PHONE:	(505)-827-7155
FAX:	(505)-827-8177
BILL TO:	NMOCD
COMPANY:	SAME
ADDRESS:	

SAMPLE I.D.	DATE	TIME	MATRIX	LAB I.D.
96311440	7/31/96	2:40 PM	Water	-09
96311442	"	2:42	"	-10
96311444	"	2:44	"	-11
96311446	"	2:46	"	-12
96010830	[redacted]	8:38AM	"	-13
96010832	8/1/96	8:32AM	"	-14
96010835	8/1/96	8:35AM	"	-15
96010845	[redacted]	8:45AM	"	-16
9601	8/1/96			
9601	8/1/96			

ANALYSIS REQUEST

Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct/Inject	6 1/2 6	(M8015) Gas/Purge & Trap	Gasoline/BTEX & MTBE (M8015/8020)	BTXE/MTBE (8020)	BTEX & Chlorinated Aromatics (602/8020)	BTEX/MTBE/EDC & EDB (8020/8010/Short)	Chlorinated Hydrocarbons (601/8010)	504 EDB ☐ / DBCP ☐	Polynuclear Aromatics (610/8310)	Volatile Organics (624/8240) GC/MS	Volatile Organics (8260) GC/MS	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	General Chemistry: ITEMS 25		Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals: Pb
										✓						✓						✓
																✓						
										✓												
		✓																				
																✓						✓
										✓												
		✓																				
																✓						✓
										✓												
		✓																				

PROJECT INFORMATION	PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS
PROJ. NO.:	(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒
PROJ. NAME:	CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER
P.O. NO.:	METHANOL PRESERVATION ☐
SHIPPED VIA:	COMMENTS: FIXED FEE ☐ JC 8/2/96
	TB 7/24, 1530 AQ -17

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.
Signature: Mark Ashley Time: 9:25AM	Signature: Time:
Printed Name: MARK ASHLEY Date: 8-1-96	Printed Name: Date:
Company: NMOCD	Company:
RECEIVED BY:	RECEIVED BY: (LAB)
Signature: Time:	Signature: [redacted]
Printed Name: Date:	Printed Name: [redacted] Date:
Company:	[redacted]

608/166

American Environmental Network (NM), Inc.

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CHAIN OF CUSTODY

DATE: 7-31-96 PAGE: 1 OF 2

AEN LAB I.D. [redacted]

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PROJECT MANAGER: MARK ASHLEY

COMPANY: NMOCD
ADDRESS: 2040 S. PACHECO
SANTA FE, NM 87505
PHONE: (505) 827-7155
FAX: (505) 827-8177

BILL TO: NMOCD.
COMPANY: SAME
ADDRESS:

ANALYSIS REQUEST

SAMPLE I.D.	DATE	TIME	MATRIX	LAB I.D.	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct/Inject	(M8015) Gas/Purge & Trap	Gasoline/BTEX & MTBE (M8015/8020)	BTXE/MTBE (8020)	BTEX & Chlorinated Aromatics (602/8020)	BTEX/MTBE/EDC & EDB (8020/8010/Short)	Chlorinated Hydrocarbons (601/8010)	504 EDB ☐ / DBCP ☐	Polynuclear Aromatics (610/8310)	Volatile Organics (624/8240) GC/MS	Volatile Organics (8260) GC/MS	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	General Chemistry: ITEM 25	Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals: 6010	NUMBER OF CONTAINERS
~~9631400~~	~~7/31/96~~	~~2:00PM~~	~~WATER~~							✓		✓		✓						✓					✓	
9631400	7/31/96	2:00PM	WATER	-01																					✓	
9631402	7/31/96	2:02PM	"	-02																✓						
9631404	7/31/96	2:04PM	"	-03										✓												
9631406	7/31/96	2:06PM	"	-04			✓																			
9631425	7/31/96	2:25PM	"	-05																					✓	
9631427	7/31/96	2:27PM	"	-06																✓					⊘	
9631433	7/31/96	2:33PM	"	-07																					✓	
9631435	7/31/96	2:35PM	"	-08																✓						

PROJECT INFORMATION

PROJ. NO.:
PROJ. NAME:
P.O. NO.:
SHIPPED VIA:

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

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

CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER

METHANOL PRESERVATION ☐

COMMENTS: FIXED FEE ☐

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.
Signature: Mark Ashley Time: 9:25AM	Signature: Time:
Printed Name: MARK ASHLEY Date: 8-1-96	Printed Name: Date:
Company: NMOCD	Company:
RECEIVED BY:	RECEIVED BY: (LAB)
Signature: Time:	Signature: [redacted]
Printed Name: Date:	Printed Name: [redacted] Date:
Company:	American Environmental Network (NM)

TELEPHONE
(505) 748-3311

EASYLINK
62905278

REFINING COMPANY

501 EAST MAIN STREET ◦ P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159

FAX
(505) 746-6410 ACCTG
(505) 746-6155 EXEC
(505) 748-9077 ENGR
(505) 746-4438 P / L

August 9, 1996

Mr. Roger Anderson
Oil Conservation Division
Environmental Bureau
2040 S. Pacheco St.
Santa Fe, NM 87505-5472

RE: Sampling of RO Reject Water, Navajo Refining Co., Eddy County, NM

Dear Mr. Anderson,

This letter is sent in regard to Navajo Refining's permit modification of our discharge plan GW-28 which allows us to put our Reverse Osmosis (RO) Reject water on our farm or into Eagle Draw. This permit is administered by OCD and the parameters we monitor for were set up by OCD. We have now been sampling this stream well over three years and would like to take this opportunity to re-evaluate the sampling schedule and parameters.

When this stream first came on line, OCD made the provision that after an adequate period, the frequency and parameters would be reviewed. We feel there is more than enough data at this time to show that this water is completely harmless to the environment. We are running analysis on organics, pesticides, **even volatiles** that have no way to get into this water. It is no surprise that the analysis for these parameters have been no detect without exception. Further, nearly half of the metals we look for have **never had a single excursion above your 75% limit of WQCC standards!** Finally, there are a whole host of other analysis that is required quarterly that either have never exceeded your limits or there are no limits in the regs. These include chlorine, cyanide, radium, and fecal coliform. Navajo is spending approximately $15,000 in direct costs every year to have this analysis done. This does not include manpower and other indirect costs. Surely we could better use those resources in other areas of the plant. There is no inherent way to contaminate the underlying aquifers. If there is an upset in the RO units, the reject water could only improve thereby making it impossible to negatively impact the ground water. In three years of analysis, you have seen the worst water we can discharge. We now have over $45,000 of results that show this water to be totally safe. It is a waste of time and money to continue with this sampling.

We request that the current sampling schedule be done away with and that in its place we sample for conductivity on a monthly basis. Everything that we are sampling for now can be correlated to conductivity.

If you have any questions concerning this matter, please call me at 505-748-3311. Thank you for your consideration of this matter.

Sincerely,

Phillip L. Youngblood
Director of Environmental Affairs

American Environmental Network (NM), Inc.

Albuquerque ◦ Phoenix ◦ Pensacola ◦ Portland ◦ Pleasant Hills ◦ Columbia

CHAIN OF CUSTODY

DATE: _____ PAGE: 1 OF 2

AEN LAB I.D.

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER:

COMPANY:

ADDRESS:

PHONE:

FAX:

BILL TO:

COMPANY:

ADDRESS:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.

Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct/Inject	(M8015) Gas/Purge & Trap	Gasoline/BTEX & MTBE (M8015/8020)	BTXE/MTBE (8020)	BTEX & Chlorinated Aromatics (602/8020)	BTEX/MTBE/EDC & EDB (8020/8010/Short)	Chlorinated Hydrocarbons (601/8010)	504 EDB ☐ / DBCP ☐	Polynuclear Aromatics (610/8310)	Volatile Organics (624/8240) GC/MS	Volatile Organics (8260) GC/MS	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	General Chemistry:	Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals:	NUMBER OF CONTAINERS

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

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

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

CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER

METHANOL PRESERVATION ☐

COMMENTS: FIXED FEE ☐

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.
Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:
Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: (LAB) 2.**
Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:
Company:	American Enviromental Network (NM), Inc.

American Environmental Network (NM), Inc.

Albuquerque • Phoenix • Pensacola • Portland • Pleasant Hills • Columbia

CHAIN OF CUSTODY

DATE: [illegible] PAGE: 1 OF 2

AEN LAB I.D.

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: MARK ASHLEY

COMPANY: NMOCD

ADDRESS: 2040 South Pacheco
Santa Fe, NM 87505

PHONE: (505) 827-7152

FAX: (505) 827-8177

BILL TO: NMOCD

COMPANY: SAME

ADDRESS:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.
[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	"	[illegible]	"	
[illegible]	"	[illegible]	"	
[illegible]	"	[illegible]	"	
[illegible]	[illegible]	[illegible]	"	
[illegible]	[illegible]	[illegible]	"	
[illegible]	[illegible]	[illegible]	"	
[illegible]	[illegible]	[illegible]	"	
[illegible]	[illegible]			
[illegible]	[illegible]			

Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct/Inject	(M8015) Gas/Purge & Trap	Gasoline/BTEX & MTBE (M8015/8020)	BTXE/MTBE (8020)	BTEX & Chlorinated Aromatics (602/8020)	BTEX/MTBE/EDC & EDB (8020/8010/Short)	Chlorinated Hydrocarbons (601/8010)	504 EDB ☐ / DBCP ☐	Polynuclear Aromatics (610/8310)	Volatile Organics (624/8240) GC/MS	Volatile Organics (8260) GC/MS	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	General Chemistry: [illegible]	Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals: [illegible]	NUMBER OF CONTAINERS
															✓				✓	
		✓							✓											
															✓				✓	
		✓																		
									✓											
															✓					

PROJECT INFORMATION	
PROJ. NO.:	
PROJ. NAME:	
P.O. NO.:	
SHIPPED VIA:	

SAMPLE RECEIPT	
NO. CONTAINERS	
CUSTODY SEALS	Y / N / NA
RECEIVED INTACT	
BLUE ICE/ICE	

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

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

CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER

METHANOL PRESERVATION ☐

COMMENTS: FIXED FEE ☐

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.
Signature: [illegible] Time: [illegible]	Signature: Time:
Printed Name: [illegible] Date: [illegible]	Printed Name: Date:
Company: NMOCD	Company:
RECEIVED BY: 1.	**RECEIVED BY: (LAB) 2.**
Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:
Company:	American Enviromental Network (NM), Inc.

AnalyticalTechnologies - 2709 D Pan American Frwy NE, Albuquerque, NM 87107. (505) 344-3777

Client: OCD
Phone: 827-7153
Address: 2040 South Pacheco office # 408
Santa Fe, NM 87505
Attention: Chris Huestas

Date Needed: 2/25 Time: 12 am/pm
☐ Pick up by Client
☒ Deliver to client
Kit Prepared by: ☒ Andrew
☐ Other _____

SAMPLE KIT

	PARAMETER	HOLDING TIME	BOTTLE DESCRIPTION			
			WATER- PRESERVATIVE		SOIL- PRESERVATIVE	
VOLATILES	624 (8240)	14 DAYS	1 3X40ML VOA	(HCL)/$HgCl_2$	___ 1 X 4 oz Jar	4^{oc}
	601/602		___ 3X40ML VOA	HCL/$HgCl_2$	___ 1 X 4 oz Jar	4^{oc}
	8010/8020		___ 3X40ML VOA	HCL/$HgCl_2$	___ 1 X 4 oz Jar	4^{oc}
	_____		___ 3X40ML VOA	HCL/$HgCl_2$	___ 1 X 4 oz Jar	4^{oc}
	___ 504		___ 3X40ML VOA	HCL+NaS_2O_3	___ NA	NA
FUELS	8015 (TPH)	14 DAYS	___ 3X40ML VOA	HCL/$HgCl_2$	___	
	8015/8020	14 DAYS	___ 3X40ML VOA	HCL/$HgCl_2$	___ 1 X 4 oz Jar	4^{oc}
	418.1	28 DAYS	___ 2X500ML AMB.	H_2SO_4	___	
ORGANICS	625 (8270)		1		___	
	608 (8080) Item # 006		1		___	
	615 (8150)	7 DAYS	___ 2 X 1L	4^{oc}	___ 1 X 4 oz Jar	4^{oc}
	610(8310)		___ AMBER		___	
	_____	_____	___		___	
	TOC	28 DAYS	___ 1X250ML AMB.	H_2SO_4	___ 1 X 4 oz Jar	4^{oc}
	TOX	7 DAYS	___ 1X250ML AMB.	H_2SO_4	___	
METALS	Item # 024 3	6 MONTHS	1 1X1000ML PL.		___	
	Item # 021		___ 1X___ML PL.	HNO_3	___ 1 X 4 oz Jar	4^{oc}
	_____		___ 1X___ML PL.		___	
GEN. CHEM.	_____		___ 1X___ML PL.		___	
	_____	14 DAYS	___ 1X___ML PL.	4^{oc}	___ 1 X 4 oz Jar	4^{oc}
	_____		___ 1X___ML PL.		___	
			___		___	
			___		___	
			___		___	
			___		___	
			___		___	
	TRIP BLANK	14 DAYS	1 1X40ML VOA	(HCL)/$HgCl_2$	NA	NA
	AIR:_____	3 DAYS	___ 1 X 1L. TEDLAR AIR BAG VALVE: STAINLESS STEEL/POLYPROPYLENE			
METH.	METHANOL PRESERVED		___ 2 X 60ML Amber Preweight; 2 X 10ML Methanol Vials; 1 X 2oz jar (4oz jar for diesel)			

☒ COC
☒ BLUE ICE
☒ LABELS
☒ SEALS
☒ PENS/GLOVES

2 coolers

XANTESIA

NE POND	FINAL EFF.	RO	(RO)	COOLING TOWER	FINAL EFF.	ITEMS	
✓	✓				V+1	4	MH 610 (ITEM # 5) ✓
✓	✓				✓+1	4	604/602 (ITEM # 3) ✓
✓	✓	✓	✓	✓	V+1	6	METALS 6010 (ITEM # 24) ✓
✓	✓	✓	✓	✓	V+1	6	GEN. CHEM (ITEM # 25) ✓

CONVENTION

RO AT CONVENTION?

American Environmental Network - 2709 D Pan American Frwy NE, Albuquerque, NM 87107. (505) 344-3777

Client: OCD
Phone: _____
Address: 2040 S Pacheco
_____
_____
Attention: Mark Ashley

Date Needed: 7/26 Time: _____ am/pm
☐ Pick up by Client
☒ Deliver to client
Kit Prepared by: ☐ Andrew
☐ Other _____

SAMPLE KIT

	PARAMETER	HOLDING TIME	BOTTLE DESCRIPTION			
			WATER- PRESERVATIVE		SOIL- PRESERVATIVE	
VOLATILES	624 (8240)		___ 3X40ML VOA	$HCL/HgCl_2$	___ 1 X 4 oz Jar	4^{OC}
	601/602		4 3X40ML VOA	$HCL/HgCl_2$	___ 1 X 4 oz Jar	4^{OC}
	8010/8020	14 DAYS	___ 3X40ML VOA	$HCL/HgCl_2$	___ 1 X 4 oz Jar	4^{OC}
	_____		___ 3X40ML VOA	$HCL/HgCl_2$	___ 1 X 4 oz Jar	4^{OC}
	___ 504		___ 3X40ML VOA	$HCL+NaS_2O_3$	___ NA	NA
FUELS	8015 (TPH)	14 DAYS	___ 3X40ML VOA	$HCL/HgCl_2$	___	
	8015/8020	14 DAYS	___ 3X40ML VOA	$HCL/HgCl_2$	___ 1 X 4 oz Jar	4^{OC}
	418.1	28 DAYS	___ 2X500ML AMB.	H_2SO_4	___	
ORGANICS	625 (8270)		___		___	
	608 (8080)		___		___	
	615 (8150)	7 DAYS	2 X 1L	4^{OC}	___ 1 X 4 oz Jar	4^{OC}
	610(8310)		~~2~~ 2 AMBER		___	
	_____	_____	___		___	
	TOC	28 DAYS	___ 1X250ML AMB.	H_2SO_4	___ 1 X 4 oz Jar	4^{OC}
	TOX	7 DAYS	___ 1X250ML AMB.	H_2SO_4	___	
METALS	6010 metal		6 1X1000ML PL.		___	
	_____	6 MONTHS	___ 1X___ML PL.	HNO_3	___ 1 X 4 oz Jar	4^{OC}
	_____		___ 1X___ML PL.		___	
GEN. CHEM.	F Br Ca K	Item 25	6 1X1000ML PL.		___	
	Mg Na Alk	14 DAYS	___ 1X___ML PL.	4^{OC}	___ 1 X 4 oz Jar	4^{OC}
	Cl SO4 TDS		___ 1X___ML PL.		___	
	pH, Cond		___		___	
	.		___		___	
			___		___	
			___		___	
			___		___	
	TRIP BLANK	14 DAYS	1 1X40ML VOA	$HCL/HgCl_2$	NA	NA
	AIR: _____	3 DAYS	___ 1 X 1L. TEDLAR AIR BAG VALVE: STAINLESS STEEL/POLYPROPYLENE			
METH.	METHANOL PRESERVED		___ 2 X 60ML Amber Preweight; 2 X 10ML Methanol Vials; 1 X 2oz jar (4oz jar for diesel)			

☒ COC
☒ BLUE ICE
☒ LABELS
☒ SEALS
☒ PENS/GLOVES

_____
_____
_____
_____
_____

DISTRICT I
P.O.Box 1980, Hobbs, NM 88241-1980
DISTRICT II
P.O. Drawer DD, Artesia, NM 88211-0719
DISTRICT III
1000 Rio Brazos Rd, Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

SUBMIT 2 COPIES TO APPROPRIATE DISTRICT OFFICE IN ACCORDANCE WITH RULE 116 PRINTED ON BACK SIDE OF FORM

NOTIFICATION OF FIRE, BREAKS, SPILLS, LEAKS, AND BLOWOUTS

OPERATOR	NAVAJO REFINING COMPANY					ADDRESS	P.O. BOX 159, ARTESIA, NM (505) 748-3311 TELEPHONE #
REPORT OF	FIRE	BREAK	SPILL X	LEAK		BLOWOUT	OTHER*
TYPE OF FACILITY	DRLG WELL	PROD WELL	TANK BTRY	PIPE LINE	GASO PLNT	OIL RFY	OTHER* OIL TRANSPORT TRUCK

FACILITY NAME: NAVAJO TRUCKING DIVISION

LOCATION OF FACILITY Qtr/Qtr Sec. or Footage	SEC.	TWP.	RGE.	COUNTY

DISTANCE AND DIRECTION FROM NEAREST TOWN OR PROMINENT LANDMARK: INTERSECTION OF HW 285 AND NORTH 13th STREET, ARTESIA

DATE AND HOUR OF OCCURRENCE	9:00 AM MARCH 12, 1996			DATE AND HOUR OF DISCOVERY	
WAS IMMEDIATE NOTICE GIVEN?	YES X	NO	NOT REQUIRED	IF YES, TO WHOM	NMOCD ARTESIA OFFICE: NMOCD-SANTA FE
BY WHOM	DAVID G. GRIFFIN			DATE AND HOUR	10:00 AM MARCH 12, 1996
TYPE OF FLUID LOST	NATURAL GAS CONDENSATE 66° API			QUANTITY OF LOSS	160 Bbls
				VOLUME RECOVERED	70 Bbls
DID ANY FLUIDS REACH A WATERCOURSE?	YES	NO X	QUANTITY		

IF YES, DESCRIBE FULLY**

DESCRIBE CAUSE OF PROBLEM AND REMEDIAL ACTION TAKEN**

* SEE ATTACHED REPORT

DESCRIBE AREA AFFECTED AND CLEANUP ACTION TAKEN**

DESCRIPTION OF AREA	FARMING	GRAZING	URBAN	OTHER* HIGHWAY RIGHT OF WAY

SURFACE CONDITIONS	SANDY	SANDY LOAM	CLAY X	ROCKY	WET	DRY X	SNOW

DESCRIBE GENERAL CONDITIONS PREVAILING (TEMPERATURE, PRECIPITATION, ETC.)**
TEMPERATURES IN THE 60's. WIND FROM THE WEST GUSTING TO 40 MPH. BRIGHT , SUNNY AND DRY.

I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF

SIGNED David G. Griffin PRINTED NAME AND TITLE DAVID G. GRIFFIN MANAGER OF ENVIRONMENTAL AFFAIRS FOR WATER & WASTE DATE 3/14/96

*SPECIFY **ATTACH ADDITIONAL SHEETS IF NECESSARY

Incident Report: Crude Oil Transport Accident

One of Navajo's Crude Oil Transports was traveling North out of Artesia on HW 285. At the intersection of North 13th Street and HW 285, a car pulled out onto the highway in front of Navajo's truck. The truck driver took evasive action which resulted in the truck turning over in the bar ditch on the N.W. side of the intersection.

The truck had a load of Natural gas condensate (approximately 160 Bbls) which spilled out around the truck. The spill remained confined to the immediate vicinity as the truck was lying in the lowest spot of the bar ditch.

Navajo responded with another transport truck which was used to recover the remaining contents of the truck. In addition, Navajo provided a vacuum truck which picked up all the spilled oil, water and firefighting foam used at the site. Navajo recovered approximately 70 of the 160 Bbls on the truck. The remaining 90 Bbls soaked into the surrounding soil or rapidly evaporated.

Once the truck was safely removed, Navajo contracted a local dirt moving contractor (Sweatt Construction Co.) to scrape up as much contaminated soil as could be safely removed taking into consideration underground utilities in the area. The removed soil was spread out 6 inches thick in an adjacent area designated by the State Highway Department representative present. The extremely volatile nature of the spilled oil will result in it vaporizing out of the soil over the next few days with little if any residue remaining. Navajo will monitor the site until it is deemed acceptable by OCD.

Navajo suggests that OCD join Navajo during the week of March 25 to complete the investigation of the site. This will allow Navajo time to get clearance and location information on all buried lines in the area and to arrange for necessary excavation equipment.

TELEPHONE
(505) 748-3311

EASYLINK
62905278

NAVAJO REFINING COMPANY

501 EAST MAIN STREET ◦ P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159

FAX
(505) 746-6410 ACCTG
(505) 746-6155 EXEC
(505) 748-9077 ENGR
(505) 746-4438 P / L

January 24, 1996

Mr. Roger Anderson
Environmental Bureau
Oil Conservation Division
2040 S. Pacheco St.
Santa Fe, NM 87505-5472

CERTIFIED MAIL/RETURN RECEIPT
P 466 329 995

RECEIVED
JAN 29 1996
Environmental Bureau
Oil Conservation Division

Dear Roger,

Enclosed are the results of Navajo Refining Company's annual sampling of the effluent into our evaporation ponds. In Navajo's letter of December 21, 1991, (response to NOV NMD048918817), Navajo agreed to send a copy of these results to ED.

If you have any questions concerning these results, please call me at 505-748-3311. Thank you for your time in this matter.

Sincerely,
NAVAJO REFINING COMPANY

Darrell Moore

Darrell Moore
Sr.Environmental Specialist

encl.
cc: NM Environment Dept.

NATIONAL ENVIRONMENTAL TESTING, INC.

Dallas Division
1548 Valwood Parkway
Suite 118
Carrollton, TX 75006
Tel: (214) 406-8100
Fax: (214) 484-2969

ANALYTICAL AND QUALITY CONTROL REPORT

Darrell Moore
NAVAJO REFINING COMPANY
P.O. Box 159
Artesia, NM 88211-159 .

01/23/1996

NET Job Number: 96.00295

Enclosed is the Analytical and Quality Control report for the following samples submitted to the Dallas Division of NET, Inc. for analysis. Reproduction of this analytical report is permitted only in its entirety.

Sample Number	Sample Description	Date Taken	Date Received
290733	ANNUAL EFFLUENT TO PONDS	01/12/1996	01/13/1996

National Environmental Testing, Inc. certifies that the analytical results contained herein apply only to the specific samples analyzed.

Holding Times: All holding times were within method criteria.

Method Blanks: All method blanks were within quality control criteria.

Instrument calibration: All calibrations were within method quality control criteria.

Analysis Comments: No Unusual Comments

Lisa A. Sanders
Lisa A. Sanders
Project Coordinator

NET®

ANALYTICAL REPORT

Darrell Moore
NAVAJO REFINING COMPANY
P.O. Box 159
Artesia, NM 88211-159

01/23/1996
Job No.: 96.00295

Page: 2

Project Name: ARTESIA

Date Received: 01/13/1996

290733 ANNUAL EFFLUENT TO PONDS
Taken: 01/12/1996 13:30

Alkalinity, bicarb (CACO3)	<5.0		mg/L
Alkalinity, carbonate (CACO3)	<5.0		mg/L
Chloride	700		mg/L
Fluoride	56		mg/L
Sulfate	579		mg/L
Aluminum, Trace ICP	0.139		mg/L
Arsenic, Trace ICP	0.236		mg/L
Barium, Trace ICP	0.018		mg/L
Beryllium, Trace ICP	<0.001		mg/L
Boron, Trace ICP	0.199		mg/L
Cadmium, Trace ICP	<0.001		mg/L
Calcium, Trace ICP	50.4		mg/L
Chromium, Trace ICP	0.020		mg/L
Cobalt, Trace ICP	0.006		mg/L
Copper, Trace ICP	0.012		mg/L
Iron, Trace ICP	6.11		mg/L
Lead, Trace ICP	<0.005		mg/L
Magnesium, Trace ICP	40.2		mg/L
Manganese, Trace ICP	0.189		mg/L
Mercury, CVAA	<0.0002		mg/L
Molybdenum, Trace ICP	0.006		mg/L
Nickel, Trace ICP	0.015		mg/L
Potassium, Trace ICP	31.5		mg/L
Selenium, Trace ICP	0.083		mg/L
Silver, Trace ICP	<0.002		mg/L
Sodium, Trace ICP	547		mg/L
Vanadium, Trace ICP	<0.01		mg/L
Zinc, Trace ICP	0.126		mg/L
EPA-8020 AQ (PRESERVED)			
Benzene	73		ug/L
Ethylbenzene	15		ug/L
Toluene	48		ug/L
Xylenes, Total	60		ug/L
MTBE	<2		ug/L
SURR: a,a,a-TFT	80		% Rec
BASE/NEUTRALS - 8270 AQUEOUS			
Acenaphthene	<50	EDL	ug/L

EDL - Elevated Detection Limit due to matrix interference.

ANALYTICAL REPORT

Darrell Moore
NAVAJO REFINING COMPANY
P.O. Box 159
Artesia, NM 88211-159

01/23/1996
Job No.: 96.00295

Project Name: ARTESIA

Date Received: 01/13/1996

290733 ANNUAL EFFLUENT TO PONDS
Taken: 01/12/1996 13:30

Acenaphthylene	<50	EDL	ug/L
Anthracene	<50	EDL	ug/L
Benzo(a)anthracene	<50	EDL	ug/L
Benzo(b)fluoranthene	<50	EDL	ug/L
Benzo(k)fluoranthene	<50	EDL	ug/L
Benzo(g,h,i)perylene	<50	EDL	ug/L
Benzo(a)pyrene	<50	EDL	ug/L
Chrysene	<50	EDL	ug/L
Dibenzo(a,h)anthracene	<50	EDL	ug/L
Fluoranthene	<50	EDL	ug/L
Fluorene	<50	EDL	ug/L
Indeno(1,2,3-cd)pyrene	<50	EDL	ug/L
Naphthalene	58.9	EDL	ug/L
Phenanthrene	<50	EDL	ug/L
Pyrene	<50	EDL	ug/L
SURR: 2-Fluorobiphenyl	55		% Rec
SURR: Nitrobenzene-d5	56		% Rec
SURR: Terphenyl-d14	48		% Rec
Uranium, Total	<1.0		pCi/L

EDL - Elevated Detection Limit due to matrix interference.

NET®

QUALITY CONTROL REPORT
Continuing Calibration Verification
(CCV)

JOB NUMBER: 96.00295

PARAMETER	ANALYST	DATE ANALYZED	METHOD	CCV RESULT	CCV TRUE CONCENTRATION	% REC.	FLAG
Chloride	cbw	01/19/1996	SM-4500Cl	500	500	100	NA
Fluoride	cgl	01/18/1996	SM-4500F.	10.2	10.0	102	NA
Sulfate	grd	01/16/1996	E-375.4	9.4	10.0	94	NA
Aluminum, Trace ICP	cbw	01/16/1996	S-6010A	0.987	1.00	99	NA
Arsenic, Trace ICP	cbw	01/16/1996	S-6010A	1.00	1.00	100	NA
Barium, Trace ICP	cbw	01/16/1996	S-6010A	0.991	1.00	99	NA
Beryllium, Trace ICP	cbw	01/16/1996	S-6010A	0.992	1.00	99	NA
Boron, Trace ICP	cbw	01/16/1996	S-6010A	0.989	1.00	99	NA
Cadmium, Trace ICP	cbw	01/16/1996	S-6010A	0.986	1.00	99	NA
Calcium, Trace ICP	cbw	01/16/1996	S-6010A	10.8	11.0	98	NA
Chromium, Trace ICP	cbw	01/16/1996	S-6010A	0.991	1.00	99	NA
Cobalt, Trace ICP	cbw	01/16/1996	S-6010A	0.992	1.00	99	NA
Copper, Trace ICP	cbw	01/16/1996	S-6010A	0.991	1.00	99	NA
Iron, Trace ICP	cbw	01/16/1996	S-6010A	0.997	1.00	100	NA
Lead, Trace ICP	cbw	01/16/1996	S-6010A	0.990	1.00	99	NA
Magnesium, Trace ICP	cbw	01/16/1996	S-6010A	9.84	10.0	98	NA
Manganese, Trace ICP	cbw	01/16/1996	S-6010A	0.993	1.00	99	NA
Mercury, CVAA	cbw	01/17/1996	S-7470A	0.53	0.50	106	NA
Molybdenum, Trace ICP	cbw	01/16/1996	S-6010A	0.993	1.00	99	NA
Nickel, Trace ICP	cbw	01/16/1996	S-6010A	0.986	1.00	99	NA
Potassium, Trace ICP	cbw	01/16/1996	S-6010A	9.86	10.0	99	NA
Selenium, Trace ICP	cbw	01/16/1996	S-6010A	0.992	1.00	99	NA

Method References and Codes

The Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

E-100 through 493: "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, rev. 1983.

E-601 through 625: "Guidelines Establishing Test Procedures for the Analysis of Pollutants", U.S. EPA, 40CFR, Part 136, rev. 1990.

S-1000 through 9999: "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd Edition, 1986.

A: "Standard Methods for the Examination of Water and Wastewater", 15th Edition, APHA, 1985.

SM: "Standard Methods for the Examination of Water and Wastewater", 18th Edition, APHA, 1992.

D: ASTM Method

M: Method has been modified

*: Other Reference

QUALITY CONTROL REPORT
Continuing Calibration Verification (CCV)

JOB NUMBER: 96.00295

PARAMETER	ANALYST	DATE ANALYZED	METHOD	CCV RESULT	CCV TRUE CONCENTRATION	% REC.	FLAG
Silver, Trace ICP	cbw	01/16/1996	S-6010A	0.997	1.00	100	NA
Sodium, Trace ICP	cbw	01/16/1996	S-6010A	9.73	10.0	97	NA
Vanadium, Trace ICP	cbw	01/16/1996	S-6010A	0.994	1.00	99	NA
Zinc, Trace ICP	cbw	01/16/1996	S-6010A	0.985	1.00	99	NA
EPA-8020 AQ (PRESERVED)			S-8020M				
Benzene	tcc	01/18/1996	S-8020M	22	20	110	NA
Ethylbenzene	tcc	01/18/1996	S-8020M	23	20	115	NA
MTBE	tcc	01/18/1996	S-8020M	37	40	93	NA
Toluene	tcc	01/18/1996	S-8020M	22	20	110	NA
Xylenes, Total	tcc	01/18/1996	S-8020M	69	60	115	NA
EPA-8020 AQ (PRESERVED)			S-8020M				
Benzene	tcc	01/19/1996	S-8020M	25	20	125	NA
Ethylbenzene	tcc	01/19/1996	S-8020M	26	20	130	NA
MTBE	tcc	01/19/1996	S-8020M	39	40	98	NA
Toluene	tcc	01/19/1996	S-8020M	25	20	125	NA
Xylenes, Total	tcc	01/19/1996	S-8020M	79	60	132	NA
EPA-8020 AQ (PRESERVED)			S-8020M				
Benzene	rwh	01/19/1996	S-8020M	22	20	110	NA
Ethylbenzene	rwh	01/19/1996	S-8020M	23	20	115	NA
MTBE	rwh	01/19/1996	S-8020M	39	40	98	NA
Toluene	rwh	01/19/1996	S-8020M	22	20	110	NA
Xylenes, Total	rwh	01/19/1996	S-8020M	68	60	113	NA

Method References and Codes

The Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

E-100 through 493: "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, rev. 1983.

E-601 through 625: "Guidelines Establishing Test Procedures for the Analysis of Pollutants", U.S. EPA, 40CFR, Part 136, rev. 1990.

S-1000 through 9999: "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd Edition, 1986.

A: "Standard Methods for the Examination of Water and Wastewater", 16th Edition, APHA, 1985.

SM: "Standard Methods for the Examination of Water and Wastewater", 18th Edition, APHA, 1992.

D: ASTM Method

M: Method has been modified

*: Other Reference

QUALITY CONTROL REPORT
Continuing Calibration Verification (CCV)

JOB NUMBER: 96.00295

PARAMETER	ANALYST	DATE ANALYZED	METHOD	CCV RESULT	CCV TRUE CONCENTRATION	% REC.	FLAG
BASE/NEUTRALS - 8270 AQUEOUS			S-8270A				
Acenaphthene	slw	01/16/1996	S-8270A	56.6	50.0	113	NA
Acenaphthylene	slw	01/16/1996	S-8270A	56.1	50.0	112	NA
Anthracene	slw	01/16/1996	S-8270A	56.0	50.0	112	NA
Benzo(a)anthracene	slw	01/16/1996	S-8270A	52.6	50.0	105	NA
Benzo(a)pyrene	slw	01/16/1996	S-8270A	51.3	50.0	103	NA
Benzo(b)fluoranthene	slw	01/16/1996	S-8270A	46.4	50.0	93	NA
Benzo(k)fluoranthene	slw	01/16/1996	S-8270A	58.1	50.0	116	NA
Benzo(g,h,i)perylene	slw	01/16/1996	S-8270A	43.9	50.0	88	NA
Chrysene	slw	01/16/1996	S-8270A	53.7	50.0	107	NA
Dibenzo(a,h)anthracene	slw	01/16/1996	S-8270A	46.2	50.0	92	NA
Fluoranthene	slw	01/16/1996	S-8270A	49.5	50.0	99	NA
Fluorene	slw	01/16/1996	S-8270A	56.9	50.0	114	NA
Indeno(1,2,3-cd)pyrene	slw	01/16/1996	S-8270A	43.9	50.0	88	NA
Naphthalene	slw	01/16/1996	S-8270A	52.5	50.0	105	NA
Phenanthrene	slw	01/16/1996	S-8270A	50.4	50.0	101	NA
Pyrene	slw	01/16/1996	S-8270A	55.2	50.0	110	NA
BASE/NEUTRALS - 8270 AQUEOUS			S-8270A				
Acenaphthene	slw	01/18/1996	S-8270A	57.9	50.0	116	NA
Acenaphthylene	slw	01/18/1996	S-8270A	52.5	50.0	105	NA
Anthracene	slw	01/18/1996	S-8270A	55.3	50.0	111	NA
Benzo(a)anthracene	slw	01/18/1996	S-8270A	50.0	50.0	100	NA

Method References and Codes

The Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

E-100 through 493: "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, rev. 1983.

E-601 through 625: "Guidelines Establishing Test Procedures for the Analysis of Pollutants", U.S. EPA, 40CFR, Part 136, rev. 1990.

S-1000 through 9999: "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd Edition, 1986.

A: "Standard Methods for the Examination of Water and Wastewater", 16th Edition, APHA, 1985.

SM: "Standard Methods for the Examination of Water and Wastewater", 18th Edition, APHA, 1992.

D: ASTM Method

M: Method has been modified

*: Other Reference

QUALITY CONTROL REPORT
Continuing Calibration Verification (CCV)

JOB NUMBER: 96.00295

PARAMETER	ANALYST	DATE ANALYZED	METHOD	CCV RESULT	CCV TRUE CONCENTRATION	% REC.	FLAG
Benzo(a)pyrene	slw	01/18/1996	S-8270A	56.8	50.0	114	NA
Benzo(b)fluoranthene	slw	01/18/1996	S-8270A	47.1	50.0	94	NA
Benzo(k)fluoranthene	slw	01/18/1996	S-8270A	59.2	50.0	118	NA
Benzo(g,h,i)perylene	slw	01/18/1996	S-8270A	49.8	50.0	100	NA
Chrysene	slw	01/18/1996	S-8270A	52.9	50.0	106	NA
Dibenzo(a,h)anthracene	slw	01/18/1996	S-8270A	51.4	50.0	103	NA
Fluoranthene	slw	01/18/1996	S-8270A	57.8	50.0	116	NA
Fluorene	slw	01/18/1996	S-8270A	55.1	50.0	110	NA
Indeno(1,2,3-cd)pyrene	slw	01/18/1996	S-8270A	49.8	50.0	100	NA
Naphthalene	slw	01/18/1996	S-8270A	53.1	50.0	106	NA
Phenanthrene	slw	01/18/1996	S-8270A	54.0	50.0	108	NA
Pyrene	slw	01/18/1996	S-8270A	41.5	50.0	83	NA

Method References and Codes

The Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

E-100 through 493: "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, rev. 1983.

E-601 through 625: "Guidelines Establishing Test Procedures for the Analysis of Pollutants", U.S. EPA, 40CFR, Part 136, rev. 1990.

S-1000 through 9999: "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd Edition, 1986.

A: "Standard Methods for the Examination of Water and Wastewater", 16th Edition, APHA, 1985.

SM: "Standard Methods for the Examination of Water and Wastewater", 18th Edition, APHA, 1992.

D: ASTM Method

M: Method has been modified

*: Other Reference

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QUALITY CONTROL REPORT
BLANKS

JOB NUMBER: 96.00295

PARAMETER	DATE ANALYZED	BLANK	UNITS	REPORTING LIMIT	FLAG
Alkalinity, bicarb (CACO3)	01/16/1996	<5.0	mg/L	5.0	NA
Chloride	01/19/1996	<5.0	mg/L	5.0	NA
Fluoride	01/18/1996	<0.10	mg/L	0.10	NA
Sulfate	01/16/1996	<5.0	mg/L	5.0	NA
Aluminum, Trace ICP	01/16/1996	<0.05	mg/L	0.05	NA
Arsenic, Trace ICP	01/16/1996	<0.005	mg/L	0.005	NA
Barium, Trace ICP	01/16/1996	<0.001	mg/L	0.001	NA
Beryllium, Trace ICP	01/16/1996	<0.001	mg/L	0.001	NA
Boron, Trace ICP	01/16/1996	<0.01	mg/L	0.01	NA
Cadmium, Trace ICP	01/16/1996	<0.001	mg/L	0.001	NA
Calcium, Trace ICP	01/16/1996	<0.50	mg/L	0.50	NA
Chromium, Trace ICP	01/16/1996	<0.002	mg/L	0.002	NA
Cobalt, Trace ICP	01/16/1996	<0.005	mg/L	0.005	NA
Copper, Trace ICP	01/16/1996	<0.002	mg/L	0.002	NA
Iron, Trace ICP	01/16/1996	<0.005	mg/L	0.005	NA
Lead, Trace ICP	01/16/1996	<0.005	mg/L	0.005	NA
Magnesium, Trace ICP	01/16/1996	<0.05	mg/L	0.05	NA
Manganese, Trace ICP	01/16/1996	<0.005	mg/L	0.005	NA
Mercury, CVAA	01/17/1996	<0.0002	mg/L	0.0002	NA
Molybdenum, Trace ICP	01/16/1996	<0.005	mg/L	0.005	NA
Nickel, Trace ICP	01/16/1996	<0.002	mg/L	0.002	NA
Potassium, Trace ICP	01/16/1996	<0.50	mg/L	0.50	NA
Selenium, Trace ICP	01/16/1996	<0.005	mg/L	0.005	NA
Silver, Trace ICP	01/16/1996	<0.002	mg/L	0.002	NA
Sodium, Trace ICP	01/16/1996	<1.0	mg/L	1.0	NA
Vanadium, Trace ICP	01/16/1996	<0.01	mg/L	0.01	NA
Zinc, Trace ICP	01/16/1996	<0.01	mg/L	0.01	NA
EPA-8020 AQ (PRESERVED)					
Benzene	01/18/1996	<2	ug/L	2	NA
Ethylbenzene	01/18/1996	<2	ug/L	2	NA
MTBE	01/18/1996	<2	ug/L	2	NA
Toluene	01/18/1996	<2	ug/L	2	NA
Xylenes, Total	01/18/1996	<2	ug/L	2	NA
EPA-8020 AQ (PRESERVED)					
Benzene	01/19/1996	<2	ug/L	2	NA
Ethylbenzene	01/19/1996	<2	ug/L	2	NA
MTBE	01/19/1996	<2	ug/L	2	NA
Toluene	01/19/1996	<2	ug/L	2	NA

Advisory Control Limits for Blanks

Metals/Wet Chemistry/Conventionals/GC - All compounds should be less than the Reporting Limit.

GC/MS Semi-Volatiles - All compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the Reporting Limit.

GC/MS Volatiles - Toluene, Methylene chloride, Acetone and Chloroform should be less than 5 times the Reporting Limit. All other volatile compounds should be less than the Reporting Limit.

NET®

QUALITY CONTROL REPORT
BLANKS

JOB NUMBER: 96.00295

PARAMETER	DATE ANALYZED	BLANK	UNITS	REPORTING LIMIT	FLAG
Xylenes, Total	01/19/1996	<2	ug/L	2	NA
BASE/NEUTRALS - 8270 AQUEOUS					
Acenaphthene	01/16/1996	<5	ug/L	5	NA
Acenaphthylene	01/16/1996	<5	ug/L	5	NA
Anthracene	01/16/1996	<5	ug/L	5	NA
Benzo(a)anthracene	01/16/1996	<5	ug/L	5	NA
Benzo(a)pyrene	01/16/1996	<5	ug/L	5	NA
Benzo(b)fluoranthene	01/16/1996	<5	ug/L	5	NA
Benzo(k)fluoranthene	01/16/1996	<5	ug/L	5	NA
Benzo(g,h,i)perylene	01/16/1996	<5	ug/L	5	NA
Chrysene	01/16/1996	<5	ug/L	5	NA
Dibenzo(a,h)anthracene	01/16/1996	<5	ug/L	5	NA
Fluoranthene	01/16/1996	<5	ug/L	5	NA
Fluorene	01/16/1996	<5	ug/L	5	NA
Indeno(1,2,3-cd)pyrene	01/16/1996	<5	ug/L	5	NA
Naphthalene	01/16/1996	<5	ug/L	5	NA
Phenanthrene	01/16/1996	<5	ug/L	5	NA
Pyrene	01/16/1996	<5	ug/L	5	NA

Advisory Control Limits for Blanks

Metals/Wet Chemistry/Conventionals/GC - All compounds should be less than the Reporting Limit.

GC/MS Semi-Volatiles - All compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the Reporting Limit.

GC/MS Volatiles - Toluene, Methylene chloride, Acetone and Chloroform should be less than 5 times the Reporting Limit. All other volatile compounds should be less than the Reporting Limit.

NET®

QUALITY CONTROL REPORT
Laboratory Control Sample (LCS)

JOB NUMBER: 96.00295

PARAMETER	LCS RESULT	TRUE CONC.	LCS % REC.	FLAG
Alkalinity, bicarb (CACO3)	2500	2500	100	
Chloride	500	500	100	
Fluoride	9.90	10.0	99	
Sulfate	19.2	20.0	96	
Aluminum, Trace ICP	1.02	1.00	102	
Arsenic, Trace ICP	1.02	1.00	102	
Barium, Trace ICP	1.01	1.00	101	
Beryllium, Trace ICP	0.988	1.00	99	
Boron, Trace ICP	0.999	1.00	100	
Cadmium, Trace ICP	1.00	1.00	100	
Calcium, Trace ICP	11.1	10.0	111	
Chromium, Trace ICP	1.00	1.00	100	
Cobalt, Trace ICP	1.00	1.00	100	
Copper, Trace ICP	1.00	1.00	100	
Iron, Trace ICP	1.01	1.00	101	
Lead, Trace ICP	1.00	1.00	100	
Magnesium, Trace ICP	10.1	10.0	101	
Manganese, Trace ICP	1.01	1.00	101	
Mercury, CVAA	0.55	0.50	110	
Molybdenum, Trace ICP	1.02	1.00	102	
Nickel, Trace ICP	1.02	1.00	102	
Potassium, Trace ICP	10.3	10.0	103	
Selenium, Trace ICP	1.01	1.00	101	
Silver, Trace ICP	0.963	1.00	96	
Sodium, Trace ICP	10.2	10.0	102	
Vanadium, Trace ICP	1.02	1.00	102	
Zinc, Trace ICP	0.993	1.00	99	
EPA-8020 AQ (PRESERVED)				
Benzene	21	20	105	
Ethylbenzene	21	20	105	
MTBE	36	40	90	
Toluene	22	20	110	
Xylenes, Total	66	60	110	
BASE/NEUTRALS - 8270 AQUEOUS				
Acenaphthene	75.2	100	75	
Pyrene	75.6	100	76	

Advisory Control Limits for LCS

Inorganic Parameters - The LCS recovery should be 80-120%.

NET®

QUALITY CONTROL REPORT
Matrix Spike / Matrix Spike Duplicate
(MS / MSD)

JOB NUMBER: 96.00295

PARAMETER	SAMPLE RESULT	MS RESULT	MSD RESULT	SPIKE AMOUNT	MS % REC.	MSD % REC.	MS/MSD RPD	FLAG
Alkalinity, bicarb (CACO3)	490	1720	1750	1250	98	101	2.3	
Alkalinity, bicarb (CACO3)	268	1480	1500	1250	97	99	1.6	
Chloride	700	3300	3250	2500	104	102	1.9	
Fluoride	12.2	14.2	14.2	2.0	100	100	0	
Fluoride	8.7	9.8	9.8	1.0	110	110	0	
Fluoride	0.43	1.42	1.42	1.0	99	99	0	
Sulfate	586	1607	1672	1000	102	108	6.2	
Sulfate	35.1	141	131	100	106	96	9.8	
Aluminum, Trace ICP	0.814	1.59	1.70	1.00	78	89	13	
Arsenic, Trace ICP	<0.005	0.862	0.964	1.00	86	96	11	
Barium, Trace ICP	0.661	1.49	1.64	1.00	83	98	17	
Beryllium, Trace ICP	<0.001	0.830	0.930	1.00	83	94	11	
Boron, Trace ICP	0.040	0.884	0.992	1.00	84	95	12	
Cadmium, Trace ICP	<0.001	0.831	0.931	1.00	83	93	11	
Cadmium, Trace ICP	<0.001	0.949	0.898	1.00	95	90	5.5	
Calcium, Trace ICP	56.1	58.5	67.0	10.0	24	109	120	SSR
Chromium, Trace ICP	<0.002	0.844	0.945	1.00	84	95	11	
Chromium, Trace ICP	<0.002	0.958	0.910	1.00	96	91	5.7	
Cobalt, Trace ICP	0.086	0.922	1.04	1.00	83	95	13	
Copper, Trace ICP	0.181	1.02	1.14	1.00	84	96	13	
Copper, Trace ICP	0.015	1.00	0.955	1.00	99	94	4.9	
Iron, Trace ICP	0.282	1.08	1.20	1.00	80	92	14	
Lead, Trace ICP	0.024	0.970	0.910	1.00	95	89	5.7	
Lead, Trace ICP	<0.005	0.833	0.935	1.00	83	94	12	
Magnesium, Trace ICP	7.38	15.9	16.8	10.0	85	94	10	
Manganese, Trace ICP	0.055	0.899	1.01	1.00	84	96	12	
Mercury, CVAA	<0.0002	0.0098	0.0097	0.0100	98	97	1	
Mercury, CVAA	<0.0002	0.0109	0.0107	0.0100	109	107	1.9	
Mercury, CVAA	<0.0002	0.0095	0.0098	0.0100	95	98	3.1	
Mercury, CVAA	<0.0002	0.0080	0.0072	0.0100	80	72	11	
Molybdenum, Trace ICP	0.286	1.10	1.24	1.00	81	95	16	
Nickel, Trace ICP	0.092	0.931	1.04	1.00	84	95	12	
Nickel, Trace ICP	0.004	0.966	0.914	1.00	96	91	5.6	
Potassium, Trace ICP	3.60	10.9	12.3	10.0	93	107	14	
Selenium, Trace ICP	<0.005	0.851	0.954	1.00	85	95	11	
Silver, Trace ICP	<0.002	0.823	0.934	1.00	82	92	12	
Silver, Trace ICP	<0.002	0.928	0.876	1.00	93	88	5.8	
Sodium, Trace ICP	18.9	28.1	29.2	10.0	92	103	11	
Vanadium, Trace ICP	0.169	1.01	1.13	1.00	84	96	13	
Zinc, Trace ICP	0.104	0.950	1.07	1.00	85	97	13	
Zinc, Trace ICP	0.010	0.952	0.908	1.00	94	90	4.8	

SSR - The sample was >4x level of spike, skewed recoveries exist.

Advisory Control Limits for MS/MSDs

Inorganic Parameters - The spike recovery should be 75-125% if the spike amount value is greater than or equal to one fourth of the sample result value. The RPD for the MS/MSD should be less than 20.

NOTE: Matrix Spike Samples may not be samples from this job.

QUALITY CONTROL REPORT
Matrix Spike / Matrix Spike Duplicate
(MS / MSD)

JOB NUMBER: 96.00295

PARAMETER	SAMPLE RESULT	MS RESULT	MSD RESULT	SPIKE AMOUNT	MS % REC.	MSD % REC.	MS/MSD RPD	FLAG
EPA-8020 AQ (PRESERVED)								
Benzene	<2	19	20	20	95	100	5	
Ethylbenzene	<2	18	20	20	90	100	10	
MTBE	<4	43	39	40	108	98	9.7	
Toluene	<2	20	21	20	100	105	4.5	
Xylenes, Total	<2	57	62	60	95	103	8.3	
BASE/NEUTRALS - 8270 AQUEOUS								
Acenaphthene	<8.	66.1	71.4	100	66	71	7.7	
Pyrene	<8.	42.9	54.5	100	43	55	24	

Advisory Control Limits for MS/MSDs

Inorganic Parameters - The spike recovery should be 75-125% if the spike amount value is greater than or equal to one fourth of the sample result value. The RPD for the MS/MSD should be less than 30.

NOTE: Matrix Spike Samples may not be samples from this job.

NET NATIONAL ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY RECORD

COMPANY Navajo Refining Co.
ADDRESS P.O. Drawer 159 Artesia NM 88211
PHONE 505-748-3311 FAX 505-748-9077
PROJECT NAME/LOCATION Artesia
PROJECT NUMBER
PROJECT MANAGER Darrell Moore

REPORT TO: Darrell Moore
INVOICE TO:
P.O. NO.
NET QUOTE NO.

SAMPLED BY
Darrell Moore (PRINT NAME) SIGNATURE
Darrell Moore (PRINT NAME) SIGNATURE

DATE	TIME	SAMPLE ID/DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers: HCl	NaOH	HNO_3	H_2SO_4	OTHER	ANALYSES: PAH's	Metals*	BTEX+MTBE	Cations/Anions	O+ Fluoride
1/12/96	13:30	Annual Effluent to Ponds				2 Vials				1 L	X	X	X	X	O

To assist us in selecting the proper method
Is this work being conducted for regulatory compliance monitoring? Yes X No
Is this work being conducted for regulatory enforcement action? Yes No X
Which regulations apply: RCRA ___ NPDES Wastewater ___ UST ___ Drinking Water ___ Other X None ___

COMMENTS

1 VOA vial & 1 Amber glass 1 L Broken in transit BD

CONDITION OF SAMPLE: BOTTLES INTACT? YES / NO
FIELD FILTERED? ~~YES~~ / ~~NO~~ NA
COC SEALS PRESENT AND INTACT? YES / NO
VOLATILES FREE OF HEADSPACE? YES / NO
TEMPERATURE UPON RECEIPT: 4°C
Bottles supplied by NET? YES / NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA ___
I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS ___ DATE ___

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR NET BY:
Darrell Moore	1/12/96	16:30			1/13/96	10:00 AM	RBDavid

METHOD OF SHIPMENT: Fed-X

REMARKS: *Metals are Al, As, Be, Ba, B, Ca, Cr, Co, Cu, Fe, Mn, Pb, Hg, Ni, Se, Ag, V, Zn, U, Mo. Al, Pb, Se, Ag are to be run by AA or comparable method for lower D.L.

PT 1 - ORIGINAL - WHITE PT 2 - NET PROJECT MANAGER - YELLOW PT 3 - CUSTOMER COPY

01/24/96 13:45 2144068100 NET-DALLAS 014/014

TELEPHONE
(505) 748-3311

EASYLINK
62905278

NAVAJO REFINING COMPANY

501 EAST MAIN STREET ◦ P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159

FAX
(505) 746-6410 ACCTG
(505) 746-6155 EXEC
(505) 748-9077 ENGR
(505) 746-4438 P / L

December 18, 1995

RECEIVED
DEC 22 1995
Environmental Bureau
Oil Conservation Division

Mr. Roger Anderson
NM Oil Conservation Division
Environmental Bureau
Oil Conservation Division
2040 S. Pacheco St.
Santa Fe, NM 87501

RE: FALL 1995 REPORT GROUND WATER SAMPLING AROUND EVAPORATION PONDS

REVISED WITH MW-5A

Dear Roger:

Enclosed are results from our Fall 1995 sampling of the monitor wells around the evaporation ponds. This is on a staggered schedule per your letter of October 21, 1991. Monitor wells MW-4 and MW-5 were not sampled because Navajo has been denied access by the property owner.

Several of these wells have been paired with deep wells. Therefore, you will notice that OCD-2 has become OCD-2A and MW-2 has become MW-2A and so on as needed. The deep wells are labeled as OCD-2B and so on. The following is a summary of field data:

Well #	Ground water ft amsl	pH	EC umhos	Deg. C	Description
MW-1	3300.42	8.1	11,000	19	no odor
MW-2A	3299.06	7.9	3120	20	Mod. Odor,
MW-3	3299.10	7.6	6600	20	Mod. Odor,
OCD-2A	3298.99	7.5	12500	20	Odor,Murky
OCD-4	3297.94	7.7	14000	21	Murky, odor
OCD-6	3297.42	7.6	10740	20	Brown, Mild odor
OCD-8A	3297.35	7.5	9800	21	Brown, Odor

If you have any questions, please contact me at 748-3311, extension 281.

Regards,
NAVAJO REFINING COMPANY

Darrell Moore

Darrell Moore
Sr. Environmental Specialist

Encl.

cc: USEPA

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

December 5, 1995
Receiving Date: 11/21/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 11/21/95
Analysis Date: 11/21/95
Sampling Date: 11/17, 20/95
Sample Condition: Intact & Cool
Sample Received by: ML
Project Name: NA

TA#	FIELD CODE	CHLORIDE (mg/L)	FLUORIDE (mg/L)	SULFATE (mg/L)	ALKALINITY (mg/L as CaCo3) HCO3	CO3
T44567	MW - 1	3,788	1.1	2,561	415	0
T44568	MW - 2	2,331	11.7	2,169	600	0
T44569	OCD - 2	3,254	1.2	3,866	605	0
T44570	OCD - 4	4,905	0.92	2,039	215	0
T44571	OCD - 6	2,234	3.4	2,822	641	0
T44572	OCD - 8	2,185	2.7	2,561	559	0
T44573	MW - 3	1,020	2.6	2,430	369	0
QC	Quality Control	505	0.98	8.7	---	---
RPD		0	2	12	0	0
% Extraction Accuracy		100	84	94	---	---
% Instrument Accuracy		101	99	89	---	---
REPORTING LIMIT		1	0.1	1	10	10

METHODS: EPA 375.4, 310.1, 340.2; 4500 Cl-B.
SPIKE: 500 mg/L CHLORIDE; 1.0 mg/L FLUORIDE; 10.0 mg/L SULFATE.
QC: 500 mg/L CHLORIDE; 1.0 mg/L FLUORIDE; 10.0 mg/L SULFATE.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

12-5-95
Date

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

December 5, 1995
Receiving Date: 11/21/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 11/21/95
Analysis Date: 11/28/95
Sampling Date: 11/17, 20/95
Sample Condition: Intact & Cool
Sample Received by: ML
Project Name: NA

TA#	Field Code	POTASSIUM (mg/L)	MAGNESIUM (mg/L)	CALCIUM (mg/L)	SODIUM (mg/L)
T44567	MW - 1	11.8	755	830	2,445
T44568	MW - 2	5.4	142	376	345
T44569	OCD - 2	16.8	387	715	2,842
T44570	OCD - 4	85.9	325	912	2,830
T44571	OCD - 6	21.0	226	637	2,640
T44572	OCD - 8	22.7	406	792	2,040
T44573	MW - 3	8.0	223	604	1,190
QC	Quality Control	4.17	3.85	19.69	24.02
Reporting Limit		0.3	0.01	0.01	0.4
RPD		6	18	18	10
% Extraction Accuracy		118	92	102	115
% Instrument Accuracy		104	96	98	120

METHODS: EPA 200.7.
QC: 4.0 mg/L POTASSIUM, MAGNESIUM; 20.0 mg/L CALCIUM, SODIUM.
SPIKE: 100.0 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

12-5-95
Date

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

December 04, 1995
Receiving Date: 11/21/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 11/22/95
Analysis Date: 11/22/95
Sampling Date: 11/17, 20/95
Sample Condition: Intact & Cool
Sample Received by: ML
Project Name: NA

TA#	Field Code	MTBE (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYL-BENZENE (ug/L)	M,P,O XYLENE (ug/L)	TOTAL BTEX (ug/L)
T44567	MW - 1	<1	<1	<1	<1	<1	<1
T44568	MW - 2	<1	<1	<1	<1	<1	<1
T44569	OCD - 2	4	<1	<1	<1	<1	<1
T44570	OCD - 4	<1	<1	<1	<1	<1	<1
T44571	OCD - 6	<1	<1	<1	<1	<1	<1
T44572	OCD - 8	21	<2	<2	<2	2	2
T44573	MW - 3	330	<2	15	7	26	48
QC	Quality Control	86	104	116	104	297	
Reporting Limit		1	1	1	1	1	
RPD		1	0	2	1	0	
% Extraction Accuracy		94	110	111	111	105	
% Instrument Accuracy		86	104	116	104	100	

METHODS: EPA SW 846-8020, 5030.
MTBE/BTEX SPIKE AND QC: 100 ug/L MTBE/BTEX.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

12-4-95
Date

Farrah BTEX 12-4 Rest 12-6

TraceAnalysis, Inc.

6701 Aberdeen Avenue Lubbock, Texas 79424
Tel (806) 794 1296 Fax (806) 794 1298
1 (800) 378 1296

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Darrell Moore
Phone #: 505-748-3311
FAX #: 505-748-9077

Company Name & Address: Navajo Refining Co.

Project #:
Project Name :

Project Location: Artesia NM
Sampler Signature: Darrell Moore

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME	BTEX, MTBE	TPH	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	8240 / 8260	8270	Cations/Anions + Fluoride
44567	MW-1	4		X					(3) X	(4) X	(3) X	11/17/95	10:18	X									X
68	MW-2	"		"					"	"	"	"	10:43	"									"
69	OCD-2	"		"					"	"	"	11/20/95	8:45	"									"
70	OCD-4	"		"					"	"	"	"	10:00	"									"
71	OCD-6	"		"					"	"	"	"	10:30	"									"
72	OCD-8	"		"					"	"	"	"	11:00	"									"
73	MW-3	"		"					"	"	"	"	11:30	"									"

SPECIAL HANDLING: Turn around # of days; Fax ASAP; Hold

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Darrell Moore	11/20/95	16:30			
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received at Laboratory by: ML CI	Date: 11-21-95	Time:

REMARKS
Samples caught 11/17/95 were kept on ice.

325AH

325AH

BTEX Rest

TELEPHONE
(505) 748-3311

Navajo REFINING COMPANY

501 EAST MAIN STREET • P. O. DRAWER 159

ARTESIA, NEW MEXICO 88210

FAX
62905278

FAX
(505) 746-6410

FAX NUMBERS:

ACCOUNTING OFFICES:	505/746-6410	MARKETING OFFICES:	505/746-6155
REFINING/ENGINEERING:	505/748-9077	PIPELINE DIVISION:	505/746-4438

PLEASE DELIVER 6 PAGES, INCLUDING THIS COVER SHEET

TO: Mark Ashley PHONE: 827-8177

COMPANY/DEPARTMENT: OCD

MESSAGE: Mark, here is the analysis of the hydrotest water from Tk 417. This tank was in gasoline service and the floor was replaced. In addition, the inside of the tank was sand blasted and inspected. The tank has about 30,000 bbls. of ground water in it that we would like to put to our farm. We would appreciate a verbal and we will send you hard copies ASAP. Thanks

FROM: Darrell Moore DATE: 12/5/95

If you do not receive all pages, please call _____ at 505/748-3311, ext. _____.

NOTE: Unless otherwise indicated or obvious from the nature of the transmittal, the information contained in this facsimile message is privileged and confidential information intended for the use of the individual or entity named above. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error or are not sure whether it is privileged, please immediately notify us by telephone, and return the original message to us at the above address via the U. S. Postal Service. Thank you.

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

December 01, 1995
Receiving Date: 11/14/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 11/15/95
Analysis Date: 11/15/95
Sampling Date: 11/13/95
Sample Condition: Intact & Cool
Sample Received by: ML
Project Name: NA

LAB #	FIELD CODE	pH (s.u.)	TOTAL BTEX (mg/L)	PHENOL (mg/L)	NO3-NO2 (mg/L)	FLUORIDE (mg/L)	TDS (mg/L)
T14148	TK 417 Hydrotest	7.1	<0.0301	0.33	<0.01	2.71	983
QC	Quality Control	7.0	0.956	0.734	1.02	0.99	---
RPD		0	4	6	6	8	0
% Extraction Accuracy		---	96	103	97	102	---
% Instrument Accuracy		100	1,133	103	108	105	---
REPORTING LIMIT		---	0.0011	0.002	0.01	0.1	1

LAB #	FIELD CODE	CHLORIDE (mg/L)	SULFATE (mg/L)	CYANIDE (mg/L)
T14148	TK 417 Hydrotest	<10	1,857	<0.01
QC	Quality Control	496	5.5	0.04
RPD		4	2	40
% Extraction Accuracy		98	90	80
% Instrument Accuracy		99	94	100
REPORTING LIMIT		10	1	0.01

METHODS: EPA SW 846-3510, 8020 EPA 150.1, 420.1, 353.3 340.2, 160.1, SM 4500 Cl-B, 335.2, 375.4.
PCB SPIKE AND QC: 0.5 mg/L PCB.
PHENOLS SPIKE AND QC: 0.8 mg/L PHENOLS.
NO3-NO2 SPIKE: 1.33 mg/L NO3-NO2. NO3-NO2 QC: 1.0 mg/L NO3-NO2.
FLUORIDE SPIKE AND QC: 1.0 mg/L FLUORIDE.
CHLORIDE SPIKE AND QC: 500 mg/L CHLORIDE.
SULFATE SPIKE AND QC: 10.0 mg/L SULFATE.
CYANIDE SPIKE AND QC: 0.04 mg/L CYANIDE.

Director, Dr. Blaine Leftwich
Director, Dr. Bruce McDonell

12-1-95
Date

P.002/006
DEC-05-1995 10:15

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

December 01, 1995
Receiving Date: 11/14/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Print Date: 11/15/95
Analysis Date: 11/15/95
Sampling Date: 11/13/95
Sample Condition: Intact & Cool
Sample Received by: ML
Project Name: NA

TA#	FIELD CODE	pH (s.u.)	TOTAL BTEX (mg/L)	PHENOL (mg/L)	NO3-NO2 (mg/L)	FLUORIDE (mg/L)	TDS (mg/L)
T14148	TK 417 Hydrotest	7.1	<0.0001	0.13	<0.01	2.71	983
QC	Quality Control	7.0	0.56	0.784	1.02	0.99	---
RPD		0	4	6	6	8	0
% Extraction Accuracy		---	96	103	97	102	---
% Instrument Accuracy		100	1,120	103	108	105	---
REPORTING LIMIT		---	0.0001	0.002	0.01	0.1	1

TA#	FIELD CODE	CHLORIDE (mg/L)	SULFATE (mg/L)	CYANIDE (mg/L)
T14148	TK 417 Hydrotest	<10	1,870	<0.01
QC	Quality Control	486	5.0	0.04
RPD		4	20	40
% Extraction Accuracy		98	90	83
% Instrument Accuracy		99	96	100
REPORTING LIMIT		10	1	0.01

METHODS: EPA SW 846-3510, 8080; EPA 150.1, 420.4, 353.3, 310.2, 160.1, SM 4500 Cl-B, 335.2, 375.4
PCB SPIKE AND QC: 0.5 mg/L PCB.
PHENOLS SPIKE AND QC: 0.8 mg/L PHENOLS.
NO3-NO2 SPIKE: 1.33 mg/L NO3-NO2. NO3-NO2 QC: 1.0 mg/L NO3-NO2.
FLUORIDE SPIKE AND QC: 1.0 mg/L FLUORIDE.
CHLORIDE SPIKE AND QC: 500 mg/L CHLORIDE.
SULFATE SPIKE AND QC: 10.0 mg/L SULFATE.
CYANIDE SPIKE AND QC: 0.04 mg/L CYANIDE.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

12-1-95
Date

TRACEANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR

December 01, 1995
Receiving Date: 11/14/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

Prep Date: 11/15/95
Analysis Date: 11/16/95
Sampling Date: 11/13/95
Sample Condition: Intact & Cool
Sample Received by: ML
Project Name: NA

TOTAL METALS

TA#	FIELD CODE	As (mg/L)	Mo (mg/L)	Cr (mg/L)	Zn (mg/L)	Cd (mg/L)	Ni (mg/L)	Fe (mg/L)	Co (mg/L)	Mn (mg/L)
T44148	TK 417 Hydrotest	<0.1	<0.1	<0.05	<0.02	<0.02	0.7	1.96	<0.03	0.12
QC	Quality Control	4.7	4.9	4.8	5.2	4.6	5.4	5.3	5.0	4.8
REPORTING LIMIT		0.1	0.1	0.05	0.02	0.02	0.2	0.03	0.03	0.01
RPD		4	0	0	2	14	2	12	0	0
% Extraction Accuracy		90	89	75	100	75	98	93	75	81
% Instrument Accuracy		95	98	96	105	92	108	125	100	96

TA#	FIELD CODE	Cu (mg/L)	Al (mg/L)	B (mg/L)	Ba (mg/L)	U (mg/L)	Hg (mg/L)	Se (mg/L)	Pb (mg/L)	Ag (mg/L)
T44148	TK 417 Hydrotest	<0.02	<0.2	<0.03	<0.2	<0.5	<0.001	<0.001	<0.001	<0.0001
QC	Quality Control	5.1	4.9	4.9	4.8	4.9	0.0051	0.050	0.027	0.023
REPORTING LIMIT		0.02	0.2	0.03	0.2	0.5	0.001	0.001	0.001	0.0001
RPD		4	0	2	2	4	0	14	8	0
% Extraction Accuracy		98	102	97	80	85	100	90	104	84
% Instrument Accuracy		101	99	97	96	99	102	120	108	92

METHODS: EPA 200.7, 239.2, 270.2, 272.2, 245.1.
TOTAL METALS SPIKE: 2.0 mg/L U, Zn, Ni, B, Mo, Co, Mn; 8.0 mg/L As, Ba, Al; 0.8 mg/L Cr; 4.0 mg/L Fe; 1.0 mg/L Cu; 0.2 mg/L Cd; 0.0025 mg/L Ag; 0.025 mg/L Pb; 0.050 mg/L Se; 0.0050 mg/L Hg.
TOTAL METALS QC: 5.0 mg/L U, As, Cr, Ba, Zn, Ni, Fe, Cu, B, Al, Cd, Mo, Co, Mn; 0.025 mg/L Ag; 0.025 mg/L Pb; 0.050 mg/L Se; 0.0050 mg/L Hg.

BF

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

12-1-95
DATE

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

December 01, 1995
Receiving Date: 11/14/95
Sample Type: Water
Project Location: Artesia, NM
Sampling Date: 11/13/95
Sample Condition: I & C
Sample Received by: ML
Extraction Date: 11/15/95
Analysis Date: 11/16/95

PAH

T44148

8270 Compounds (mg/L)	Reporting Limit	EK 417 Hydrotest	QC	RPD	%EA	%IA
Naphthalene	0.001	0.004	104			104
Acenaphthylene	0.001	ND	104			104
Acenaphthene	0.001	ND	87	5	65	98
Fluorene	0.001	ND	103			103
Phenanthrene	0.001	ND	101			101
Anthracene	0.001	ND	96			96
Fluoranthene	0.001	ND	104			104
Pyrene	0.001	ND	96	1	79	96
Benzo[a]anthracene	0.001	ND	96			96
Chrysene	0.001	ND	96			96
Benzo[b]fluoranthene	0.001	ND	107			107
Benzo[k]fluoranthene	0.001	ND	95			95
Benzo[a]pyrene	0.001	ND	100			100
Indeno[1,2,3-cd]pyrene	0.001	ND	86			86
Dibenz[a,h]anthracene	0.001	ND	87			87
Benzo[g,h,i]perylene	0.001	ND	83			83

*ND = Not Detected

	% RECOVERY
Nitrobenzene-d5 SURR	83
2-Fluorobiphenyl SURR	71
Terphenyl-d14 SURR	87

METHODS: EPA SW 846-8270, 3510.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

12-1-95
DATE

TRACE ANALYSIS, INC.
A Laboratory for Advanced Environmental Research and Analysis

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

December 01, 1995
Receiving Date: 11/14/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 11/22/95
Analysis Date: 11/22/95
Sampling Date: 11/13/95
Sample Condition: Intact & Cool
Sample Received by: ML
Project Name: NA

EPA 8240 Compounds (ug/L)	T44148 TK 417 Hydrotest	Reporting Limit
Dichlorodifluoromethane	ND	1
Chloromethane	ND	1
Vinyl chloride	ND	1
Bromomethane	ND	5
Chloroethane	ND	1
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
Iodomethane	ND	5
Carbon disulfide	ND	1
Methylene chloride	ND	5
trans-1,2-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
Vinyl acetate	ND	1
2 Butanone	ND	50
Chloroform	ND	1
1,1,1-Trichloroethane	ND	1
1,2-Dichloroethane	ND	1
Benzene	ND	1
Carbon Tetrachloride	ND	1
1,2-Dichloropropane	ND	1
Trichloroethene	ND	1
Bromodichloromethane	ND	1
cis-1,3-Dichloropropene	ND	1
4-Methyl-2-pentanone	ND	50
trans-1,3-Dichloropropene	ND	1
Toluene	ND	1
1,1,2-Trichloroethane	ND	1
2-Hexanone	ND	50

NAVAJO REFINING **PAGE 2 of 2**
Project Location: Artesia, NM

EPA 8240 Compounds (ug/L)	T44148 TK 417 Hydrotest	Reporting Limit
Dibromochloromethane	ND	1
Tetrachloroethene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
✓ m & p-Xylene	2	1
Bromoform	ND	1
Styrene	ND	1
✓ o-Xylene	1	1
1,1,2,2-Tetrachloroethane	ND	1
trans 1,4-Dichloro-2-butene	ND	5
cis 1,4-Dichloro-2-butene	ND	5
1,4-Dichlorobenzene	ND	2
1,3-Dichlorobenzene	ND	2
1,2-Dichlorobenzene	ND	2

SURROGATES	% RECOVERY
Dibromofluoromethane	111
Toluene-d8	110
4-Bromofluorobenzene	94

*ND - Not Detected

METHODS: EPA SW 846-5030, 8260.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

12-1-95
Date

State of New Mexico
ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT
Santa Fe, New Mexico 87505

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☒ Telephone ☐ Personal	Time 1550	Date 11/30/95

Originating Party	Other Parties
Dave Griffen - Navajo Refining	Bill Olson - Envir. Bureau

Subject

Spill Report

Discussion

Testing underground lines
Suction line from tank 112 to loading rack discovered to have pinhole leak
Operating pressure at line @ approx 5 psi
No estimate of volume lost

Also reported to Ray Smith - OCD Artesia

Conclusions or Agreements

Navajo will send subsequent report to Santa Fe and Artesia Office

Distribution
F/e

Signed Bill Olson

DISTRICT I
P.O.Box 1980, Hobbs, NM 88241-1980

DISTRICT II
~~P.O. Drawer DD~~, Artesia, NM 88211-0719

DISTRICT III
1000 Rio Brazos Rd, Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

DEC 2 | 1995

SUBMIT 2 COPIES TO APPROPRIATE DISTRICT OFFICE IN ACCORDANCE WITH RULE 116 PRINTED ON BACK SIDE OF FORM

NOTIFICATION OF FIRE, BREAKS, SPILLS, LEAKS, AND BLOWOUTS

OPERATOR: NAVAJO REFINING CO.						ADDRESS: 501 E. MAIN, ARTESIA NM	TELEPHONE #: 505-748-3311
REPORT OF	FIRE	BREAK	SPILL	LEAK: X		BLOWOUT	OTHER*
TYPE OF FACILITY	DRLG WELL	PROD WELL	TANK BTRY	PIPE LINE	GASO PLNT	OIL RFY: X	OTHER*

FACILITY NAME: NAVAJO - ARTESIA REFINERY

LOCATION OF FACILITY Qtr/Qtr Sec. or Footage	SEC.	TWP.	RGE.	COUNTY
	9	17S	26E	EDDY

DISTANCE AND DIRECTION FROM NEAREST TOWN OR PROMINENT LANDMARK

DATE AND HOUR OF OCCURRENCE				DATE AND HOUR OF DISCOVERY: 11/30/95 - 2PM	
WAS IMMEDIATE NOTICE GIVEN?	YES: X	NO	NOT REQUIRED	IF YES, TO WHOM: RAY SMITH	
BY WHOM: DAVID G. GRIFFIN				DATE AND HOUR: 11/30/95 - 3:30PM	
TYPE OF FLUID LOST: PREMIUM NO LEAD GASOLINE				QUANTITY OF LOSS: UNKNOWN -	VOLUME RECOVERED: NONE AT THIS TIME
DID ANY FLUIDS REACH A WATERCOURSE?	YES	NO: X	QUANTITY: BUT BELIEVED TO BE VERY LITTLE DUE TO THE SMALL SIZE OF THE HOLE AND THE LOW PRESSURE ON THE LINE.		

IF YES, DESCRIBE FULLY**

DESCRIBE CAUSE OF PROBLEM AND REMEDIAL ACTION TAKEN**

NAVAJO WAS PERFORMING REQUIRED ANNUAL TESTING OF UNDERGROUND LINES WHEN IT WAS DISCOVERED THE PREMIUM NOLEAD LINE TO THE LOADING RACK WOULD NOT HOLD PRESSURE. EXCAVATION REVEALED A PINHOLE IN THE LINE. THE PINHOLE HAS BEEN CLAMPED OFF AND THE LINE RETESTED SATISFACTORILY.

DESCRIBE AREA AFFECTED AND CLEANUP ACTION TAKEN**

EXCAVATION REVEALED NO FREE LIQUIDS FROM THE LEAK IN THE SOIL, BUT THERE WAS STRONG HYDROCARBON ODOR. EXTENSIVE EXCAVATION IS NOT POSSIBLE DUE TO REFINING EQUIPMENT IN THE AREA, HOWEVER THERE ARE 3 HYDROCARBON RECOVERY WELLS AT VARIOUS DISTANCES DOWNGRADIENT FROM THE LEAK.

DESCRIPTION OF AREA	FARMING	GRAZING	URBAN	OTHER*: HEAVY INDUSTRY			
SURFACE CONDITIONS	SANDY	SANDY LOAM	CLAY: X	ROCKY	WET	DRY: X	SNOW

DESCRIBE GENERAL CONDITIONS PREVAILING (TEMPERATURE, PRECIPITATION, ETC.)**

UNDERGROUND LINE RUNNING BETWEEN THE PREMIUM NO LEAD STORAGE TANK AND THE CHARGE PUMP TO THE LOADING RACK. SINCE THE LEAK OCCURRED ON THE SUCTION SIDE OF THE PUMP THERE WAS NEVER MUCH PRESSURE ON THIS LINE - APPROXIMATELY 5 PSIG.

I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF

SIGNED: David G. Griffin — PRINTED NAME AND TITLE: DAVID G. GRIFFIN, MANAGER OF WATER & WASTE — DATE: 11/30/95

*SPECIFY

**ATTACH ADDITIONAL SHEETS IF NECESSARY

A. The Division shall be notified of any fire, break, leak, spill, or blowout occurring at any injection or disposal facility or at any oil or gas drilling, producing, transporting, or processing facility in the State of New Mexico by the person operating or controlling such facility.

B. "Facility," for the purpose of this rule, shall include any oil or gas well, any injection or disposal well, and any drilling or workover well; any pipe line through which crude oil, condensate, casinghead or natural gas, or injection or disposal fluid (gaseous or liquid) is gathered, piped, or transported (including field flow-lines and lead-lines but not including natural gas distribution systems); any receiving tank, holding tank, or storage tank, or receiving and storing receptacle into which crude oil, condensate, injection or disposal fluid, or casinghead or natural gas is produced, received, or stored; any injection or disposal pumping or compression station including related equipment; any processing or refining plant in which crude oil, condensate, or casinghead or natural gas is processed or refined; and any tank or drilling pit or slush pit associated with oil or gas well or injection or disposal well drilling operations or any tank, storage pit, or pond associated with oil or gas production or processing operations or with injection or disposal operations and containing hydrocarbons or hydrocarbon waste or residue, salt water, strong caustics or strong acids, or other deleterious chemicals or harmful contaminants.

C. Notification of such fire, break, leak, spill, or blowout shall be in accordance with the provisions set forth below:

(1) Well Blowouts. Notification of well blowouts and/or fires shall be "immediate notification" described below. ("Well blowout" is defined as being loss of control over and subsequent eruption of any drilling or workover well, or the rupture of the casing, casinghead, or wellhead or any oil or gas well or injection or disposal well, whether active or inactive, accompanied by the sudden emission of fluids, gaseous or liquid, from the well.)

(2) "Major" Breaks, Spills, or Leaks. Notification of breaks, spills, or leaks of 25 or more barrels of crude oil or condensate, or 100 barrels or more of salt water, none of which reaches a watercourse or enters a stream or lake; breaks, spills, or leaks in which one or more barrels of crude oil or condensate or 25 barrels or more of salt water does reach a watercourse or enters a stream or lake; and breaks, spills, or leaks of hydrocarbons or hydrocarbon waste or residue, salt water, strong caustics or strong acids, gases, or other deleterious chemicals or harmful contaminants of any magnitude which may with reasonable probability endanger human health or result in substantial damage to property, shall be "immediate notification" described below.

(3) "Minor" Breaks, Spills, or Leaks. Notification of breaks, spills, or leaks of 5 barrels or more but less than 25 barrels of crude oil or condensate, or 25 barrels or more but less than 100 barrels of salt water, none of which reaches a watercourse or enters a stream or lake, shall be "subsequent notification" described below.

(4) "Gas Leaks and Gas Line Breaks. Notification of gas leaks from any source or of gas pipe line breaks in which natural or casinghead gas of any quantity has escaped or is escaping which may with reasonable probability endanger human health or result in substantial damage to property shall be "immediate notification" described below. Notification of gas pipe line breaks or leaks in which the loss is estimated to be 1000 or more MCF of natural or casinghead gas but in which there is no danger to human health nor of substantial damage to property shall be "subsequent notification" described below.

(5) Tank Fires. Notification of fires in tanks or other receptacles caused by lightning or any other cause, if the loss is, or it appears that the loss will be, 25 or more barrels of crude oil or condensate, or fires which may with reasonable probability endanger human health or result in substantial damage to property, shall be "immediate notification" as described below. If the loss is, or it appears that the loss will be at least 5 barrels but less than 25 barrels, notification shall be "subsequent notification" described below.

(6) Drilling Pits, Slush Pits, and Storage Pits and Ponds. Notification of breaks and spills from any drilling pit, slush pit, or storage pit or pond in which any hydrocarbon or hydrocarbon waste or residue, strong caustic or strong acid, or other deleterious chemical or harmful contaminant endangers human health or does substantial surface damage, or reaches a watercourse or enters a stream or lake in such quantity as may with reasonable probability endanger human health or result in substantial damage to such watercourse, stream, or lake, or the contents thereof, shall be "immediate notification" as described below. Notification of breaks or spills of such magnitude as to not endanger human health, cause substantial surface damage, or result in substantial damage to any watercourse, stream, or lake, or the contents thereof, shall be "subsequent notification" described below, provided however, no notification shall be required where there is no threat of any damage resulting from the break or spill.

(7) IMMEDIATE NOTIFICATION. "Immediate Notification" shall be as soon as possible after discovery and shall be either in person or by telephone to the district office of the Division district in which the incident occurs, or if the incident occurs after normal business hours, to the District Supervisor, the Oil and Gas Inspector, or the Deputy Oil and Gas Inspector. A complete written report ("Subsequent Notification") of the incident shall also be submitted in DUPLICATE to the appropriate district office of the Division within ten days after discovery of the incident.

(8) SUBSEQUENT NOTIFICATION. "Subsequent Notification" shall be a complete written report of the incident and shall be submitted in duplicate to the district office of the Division district in which the incident occurred within ten days after discovery of the incident.

(9) CONTENT OF NOTIFICATION. All reports of fires, breaks, leaks, spills, or blowouts, whether verbal or written, shall identify the location of the incident by quarter-quarter, section, township, and range, and by distance and direction from the nearest town or prominent landmark so that the exact site of the incident can be readily located on the ground. The report shall specify the nature and quantity of the loss and also the general conditions prevailing in the area, including precipitation, temperature, and soil conditions. The report shall also detail the measures that have been taken and are being taken to remedy the situation reported.

(10) WATERCOURSE, for the purpose of this rule, is defined as any lake-bed or gully, draw, stream bed, wash, arroyo, or natural or man-made channel through which water flows or has flowed.

NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 S. Pacheco
Santa Fe, New Mexico 87505

August 31, 1995

Mr. Darrell Moore
Environmental Specialist
Navajo Refining Company
P.O. Box 159
Artesia, New Mexico 88211-0159

RE: SAMPLE ANALYSES
NAVAJO REFINERY
EDDY COUNTY, NEW MEXICO

Dear Mr. Moore:

Enclosed you will find the laboratory analytical results of the New Mexico Oil Conservation Division's (OCD) June 28-29, 1995 monitor well sampling at the Navajo Refinery.

If you have any questions, please call me at (505) 827-7154.

Sincerely,

William C. Olson
Hydrogeologist
Environmental Bureau

Enclosure

xc: OCD Artesia District Office

TELEPHONE
(505) 748-3311

EASYLINK
62905278

OIL CONSERVATION DIVISION
RECEIVED
'95 JUL 11 AM 8 52

Navajo REFINING COMPANY

501 EAST MAIN STREET ◦ P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159

FAX
(505) 746-6410 ACCTG
(505) 746-6155 EXEC
(505) 748-9077 ENGR
(505) 746-4438 P / L

July 7, 1995

Mr. Mark Ashley
Geologist
Oil Conservation Division
Environmental Bureau
2040 S. Pacheco St
Santa Fe, NM

RE: Spill Notification Report, Navajo Refining Co., Eddy County, NM

Dear Mark,

Enclosed, please find a spill notification report regarding the June 29, 1995 incident where hydrocarbons from Navajo Refining Co. made their way into Eagle Draw and eventually to the Pecos River. Since this spill happened after normal business hours, "Immediate Notification" was made to Chris Eustace on June 30, 1995. Also, the National Response Center was notified immediately along with the State Police and the LEPC. Friday morning, Don Smith, who is the On Scene Coordinator for EPA Region 6, was called. He was not in and a message was left on his voice mail.

On June 29, 1995 between 10:15 PM and 10:45 PM, the refinery received 2.5 inches of rain from a thunderstorm that moved through the area. This storm also carried extensive lightning. At 10:40 PM the plant lost power which, in addition to shutting down the units, also shut down the pumps in the waste water separator. The cumulative effect of the heavy rains and the pumps being down caused the waste water system to back up and eventually overflow. Although all three of our separators ran over, only the north plant separator spilled into Eagle Draw. Based on the knowledge of the capacity of the oil section of the separator and the amount of oil that we were able to stop, 5 barrels of product was reported to have been spilled into the draw. This is just an educated guess since the actual amount would be very hard to tie down due to the amount of rainwater that was falling and other factors. The total amount of oil spilled from all three separators probably approached 50 barrels.

Once we realized that hydrocarbons were in Eagle Draw, the appropriate notifications were made and Navajo's Spill Response Team was mobilized. Three attempts were made to boom the river ahead of the sheen at U.S. 82 and were unsuccessful due to the increased flow of the river. At that time, it was decided to move our efforts to Brantley Lake. This would give us an area where the river widens out and the flow volumes decrease. At 11:00 AM on June 30, 1995 we were able to deploy our booms and were able to stop any hydrocarbons from entering the lake.

Throughout Friday, flyovers in a company plane were made to determine the extent of the plume and to monitor the success of our containment efforts. We had shut off the flow of oil to Eagle Draw almost immediately and there was no visible sheen in the draw by late Friday morning. However, there was an area where Eagle Draw dumps into the Pecos that was still emitting a sheen.

At the plant, the worst spill areas were around the Tetra-Ethyl Lead (TEL) Impoundment and in the vicinity of the separators. Vacuum trucks were used to suck up as much oil as possible and all areas were also covered with absorbent. The areas with the heaviest contamination were then picked up and put in roll off bins.

The booming efforts at Brantley had been positive, therefore, the efforts in that area were mostly maintaining the booms and minor mop ups. In the Eagle Draw area, a crew of 30 men worked from Friday morning at 7:00 AM until Saturday at 8:00 PM, spreading peat moss along the entire draw from the plant to the Pecos River. In the area where the draw and the Pecos meet, we found a quantity of oil trapped in the weeds and salt cedars. This is where the sheen that I mentioned earlier was originating. We covered this area with peat moss to absorb this oil and then backtracked along the draw to get any areas we might have missed on the first pass.

Throughout this whole process there were several agencies involved including the State Police, Game and Fish, OCD, NMED, and EPA. Monty Leishman, with Game and Fish, made an extensive investigation of the lake and river and found no distressed fish or wildlife. His report is going to characterize this spill as a non-event. Rich Mayer, with EPA characterized it as " not a real big spill and the amount of rain would dilute the oil". Ray Smith and Brian Arrant with your District Office in Artesia inspected the area on July 5, 1995. We made several stops along the draw and paid special attention to the area where the draw meets the river. We then inspected the spill sites inside the refinery. Pending your approval, Ray Smith felt the option of leaving the peat moss in place to biodegrade was acceptable.

Our plans are to take a composite sample of the material in the roll-off bins and have a TCLP done on it. Since the bins contain the most contaminated soil, this material will be the most likely to fail the TCLP. If that should come back hazardous, we will do further testing of the material on the ground. If that should come back hazardous, we will collect and dispose of it accordingly. If this test comes back non-hazardous, we would like to leave the rest of the absorbent in place and let it biodegrade. Because of the strong tendency for oil to remain absorbed in the peat moss rather than to be re-entrained in water, we see no likelihood that any future rain event will cause oil to form a sheen on water in Eagle Draw or the Pecos River.

Finally, although this was an extremely rare event for this area, we are considering alternative options to try to insure that this doesn't happen again. We are in the process of building a retention basin to hold the run-off from a storm event. This basin would not have held a storm of the magnitude that hit June 29, but it would have lessened it's consequences. One of the problems with this event was that the pumps at the waste water separator lost power when the electricity failed. We are looking into the possibility of upgrading our backup diesel system so that it would kick in automatically if the electricity goes down. We are also evaluating whether a larger system is needed.

I hope this answers any questions you might have concerning this event. However, if I've missed something, please call me at 505-748-3311. Thank you for your cooperation in this matter.

Sincerely,

NAVAJO REFINING CO.

Darrell Moore

Darrell Moore
Sr. Env. Spec.

cc: Don Smith, EPA Region 6
U.S. Environmental Protection Agency
1445 Ross Ave., Suite 1200
Dallas, TX 75202-2733

DISTRICT I
P.O.Box 1980, Hobbs, NM 88241-1980

DISTRICT II
P.O. Drawer DD, Artesia, NM 88211-0719

DISTRICT III
1000 Rio Brazos Rd, Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

SUBMIT 2 COPIES TO APPROPRIATE DISTRICT OFFICE IN ACCORDANCE WITH RULE 116 PRINTED ON BACK SIDE OF FORM

NOTIFICATION OF FIRE, BREAKS, SPILLS, LEAKS, AND BLOWOUTS

OPERATOR: Navajo Refining Company						ADDRESS: 501 E. Main, Artesia, NM	TELEPHONE #: (505) 748-3311
REPORT OF	FIRE	BREAK	SPILL: X	LEAK		BLOWOUT	OTHER*
TYPE OF FACILITY	DRLG WELL	PROD WELL	TANK BTRY	PIPE LINE	GASO PLNT	OIL RFY: X	OTHER*

FACILITY NAME: Navajo Refining Company

LOCATION OF FACILITY Qtr/Qtr Sec. or Footage	SEC.	TWP.	RGE.	COUNTY
501 E. Main, Artesia, NM	9	175	26E	Eddy

DISTANCE AND DIRECTION FROM NEAREST TOWN OR PROMINENT LANDMARK: North Plant API Separator

DATE AND HOUR OF OCCURRENCE: 6/29/95 10:45pm				DATE AND HOUR OF DISCOVERY: 6/29/95 10:45pm	
WAS IMMEDIATE NOTICE GIVEN?	YES: X	NO	NOT REQUIRED	IF YES, TO WHOM: Chris Eustace	
BY WHOM: Darrell Moore				DATE AND HOUR: 6/30/95 9:30am	
TYPE OF FLUID LOST: Slop Oil				QUANTITY OF LOSS: 50 Bbl.	VOLUME RECOVERED
DID ANY FLUIDS REACH A WATERCOURSE?	YES: X	NO	QUANTITY: 5 Bbls.		

IF YES, DESCRIBE FULLY**

See Report (Attached)

DESCRIBE CAUSE OF PROBLEM AND REMEDIAL ACTION TAKEN**

See Report (Attached)

DESCRIBE AREA AFFECTED AND CLEANUP ACTION TAKEN**

See Report (Attached)

DESCRIPTION OF AREA	FARMING	GRAZING	URBAN	OTHER*
				Heavy Industrial

SURFACE CONDITIONS	SANDY	SANDY LOAM	CLAY	ROCKY	WET	DRY	SNOW
			X		X		

DESCRIBE GENERAL CONDITIONS PREVAILING (TEMPERATURE, PRECIPITATION, ETC.)**

Heavy Rain and Lightning. Temp. 80 F

I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF

SIGNED Darrell Moore PRINTED NAME AND TITLE Darrell Moore Sr. Env. Spec. DATE 7/7/95

*SPECIFY **ATTACH ADDITIONAL SHEETS IF NECESSARY

A. The Division shall be notified of any fire, break, leak, spill, or blowout occurring at any injection or disposal facility or at any oil or gas drilling, producing, transporting, or processing facility in the State of New Mexico by the person operating or controlling such facility.

B. "Facility," for the purpose of this rule, shall include any oil or gas well, any injection or disposal well, and any drilling or workover well; any pipe line through which crude oil, condensate, casinghead or natural gas, or injection or disposal fluid (gaseous or liquid) is gathered, piped, or transported (including field flow-lines and lead-lines but not including natural gas distribution systems); any receiving tank, holding tank, or storage tank, or receiving and storing receptacle into which crude oil, condensate, injection or disposal fluid, or casinghead or natural gas is produced, received, or stored; any injection or disposal pumping or compression station including related equipment; any processing or refining plant in which crude oil, condensate, or casinghead or natural gas is processed or refined; and any tank or drilling pit or slush pit associated with oil or gas well or injection or disposal well drilling operations or any tank, storage pit, or pond associated with oil or gas production or processing operations or with injection or disposal operations and containing hydrocarbons or hydrocarbon waste or residue, salt water, strong caustics or strong acids, or other deleterious chemicals or harmful contaminants.

C. Notification of such fire, break, leak, spill, or blowout shall be in accordance with the provisions set forth below:

(1) Well Blowouts. Notification of well blowouts and/or fires shall be "immediate notification" described below. ("Well blowout" is defined as being loss of control over and subsequent eruption of any drilling or workover well, or the rupture of the casing, casinghead, or wellhead or any oil or gas well or injection or disposal well, whether active or inactive, accompanied by the sudden emission of fluids, gaseous or liquid, from the well.)

(2) "Major" Breaks, Spills, or Leaks. Notification of breaks, spills, or leaks of 25 or more barrels of crude oil or condensate, or 100 barrels or more of salt water, none of which reaches a watercourse or enters a stream or lake; breaks, spills, or leaks in which one or more barrels of crude oil or condensate or 25 barrels or more of salt water does reach a watercourse or enters a stream or lake; and breaks, spills, or leaks of hydrocarbons or hydrocarbon waste or residue, salt water, strong caustics or strong acids, gases, or other deleterious chemicals or harmful contaminants of any magnitude which may with reasonable probability endanger human health or result in substantial damage to property, shall be "immediate notification" described below.

(3) "Minor" Breaks, Spills, or Leaks. Notification of breaks, spills, or leaks of 5 barrels or more but less than 25 barrels of crude oil or condensate, or 25 barrels or more but less than 100 barrels of salt water, none of which reaches a watercourse or enters a stream or lake, shall be "subsequent notification" described below.

(4) "Gas Leaks and Gas Line Breaks. Notification of gas leaks from any source or of gas pipe line breaks in which natural or casinghead gas of any quantity has escaped or is escaping which may with reasonable probability endanger human health or result in substantial damage to property shall be "immediate notification" described below. Notification of gas pipe line breaks or leaks in which the loss is estimated to be 1000 or more MCF of natural or casinghead gas but in which there is no danger to human health nor of substantial damage to property shall be "subsequent notification" described below.

(5) Tank Fires. Notification of fires in tanks or other receptacles caused by lightning or any other cause, if the loss is, or it appears that the loss will be, 25 or more barrels of crude oil or condensate, or fires which may with reasonable probability endanger human health or result in substantial damage to property, shall be "immediate notification" as described below. If the loss is, or it appears that the loss will be at least 5 barrels but less than 25 barrels, notification shall be "subsequent notification" described below.

(6) Drilling Pits, Slush Pits, and Storage Pits and Ponds. Notification of breaks and spills from any drilling pit, slush pit, or storage pit or pond in which any hydrocarbon or hydrocarbon waste or residue, strong caustic or strong acid, or other deleterious chemical or harmful contaminant endangers human health or does substantial surface damage, or reaches a watercourse or enters a stream or lake in such quantity as may with reasonable probability endanger human health or result in substantial damage to such watercourse, stream, or lake, or the contents thereof, shall be "immediate notification" as described below. Notification of breaks or spills of such magnitude as to not endanger human health, cause substantial surface damage, or result in substantial damage to any watercourse, stream, or lake, or the contents thereof, shall be "subsequent notification" described below, provided however, no notification shall be required where there is no threat of any damage resulting from the break or spill.

(7) IMMEDIATE NOTIFICATION. "Immediate Notification" shall be as soon as possible after discovery and shall be either in person or by telephone to the district office of the Division district in which the incident occurs, or if the incident occurs after normal business hours, to the District Supervisor, the Oil and Gas Inspector, or the Deputy Oil and Gas Inspector. A complete written report ("Subsequent Notification") of the incident shall also be submitted in DUPLICATE to the appropriate district office of the Division within ten days after discovery of the incident.

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(9) CONTENT OF NOTIFICATION. All reports of fires, breaks, leaks, spills, or blowouts, whether verbal or written, shall identify the location of the incident by quarter-quarter, section, township, and range, and by distance and direction from the nearest town or prominent landmark so that the exact site of the incident can be readily located on the ground. The report shall specify the nature and quantity of the loss and also the general conditions prevailing in the area, including precipitation, temperature, and soil conditions. The report shall also detail the measures that have been taken and are being taken to remedy the situation reported.

(10) WATERCOURSE, for the purpose of this rule, is defined as any lake-bed or gully, draw, stream bed, wash, arroyo, or natural or man-made channel through which water flows or has flowed.

STATE OF NEW MEXICO

OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☐ Telephone ☒ Personal | Time 7-6-95 | Date 3:00 PM

Originating Party	Other Parties
MARK ASHLEY	ROGER ANDERSON

Subject: NAVAJO - RELEASE TO PECOS RIVER + EAGLE DRAW

Discussion: ROGER TALKED TO DAVE GRIFFEN (NAVAJO) AND AGREED TO LET NAVAJO TILL EAGLE DRAW AREAS THAT WERE AFFECTED AND LEAVE IN PLACE.

Conclusions or Agreements

Distribution

Signed Mark Ashley

STATE OF NEW MEXICO

OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☒ Telephone ☐ Personal	Time	Date
	9:40 AM	7-6-95

Originating Party	Other Parties
MARK ASHLEY	RICH POWELL

Subject: NAVAJO - EAGLE CREEK/PECOS RIVER SPILL

Discussion: RICH DOES NOT WANT CONTAMINATION IT TO STAY IN EAGLE CREEK.

Conclusions or Agreements: HE WANTS IT CLEANED UP

Distribution:

Signed: Mark Ashley

STATE OF NEW MEXICO

OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☒ Telephone ☐ Personal	Time 3:35PM	Date 7-5-95

Originating Party	Other Parties
ROY SMITH	MARK ASHLEY

Subject

Discussion

ROY WALKED EAGLE DRAW TO INSPECT CONTAMINATION. HE THINKS THEY HAVE DONE ENOUGH FOR CLEANUP IN THE DRAW. THEY WILL SAMPLE FOR HAZARDOUS WASTES. ROY SAID THEY MIGHT BREAK UP SOIL SOME.

Conclusions or Agreements

Distribution

Signed Mark Ashley

STATE OF NEW MEXICO

OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☒ Telephone ☐ Personal	Time	Date
	9:30AM	7-5-95

Originating Party	Other Parties
PAT YELLOWBLOOD, DAVE GRIFFIN, DARRELL MOORE	MARK ASHLEY

Subject

Discussion

ABSORBENTS ON OIL SPILLS. CAN THEY LEAVE ABSORBENTS IN PLACE. 100 YR. STORM EVENT 4" IN ONE HOUR. THEY RECEIVED 2½" IN 30 MINS. THEY WANTED SOMEONE FROM OCD TO COME LOOK.

Conclusions or Agreements

OCD AGREED TO LEAVE ABSORBENT IN DRAW AFTER HAZARDOUS WASTE CHARACTERIZATION, AND ASSURANCE THAT IT WOULD NOT REACH THE PECOS

Distribution

Signed

STATE OF NEW MEXICO

OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☒ Telephone ☐ Personal | Time 9:00 AM | Date 7-5-95

Originating Party	Other Parties
RAY SMITH	MARK ASHLEY

Subject: NAVAJO - PECOS RIVER SPILL

Discussion: RAY TALKED TO PHIL YOUNGBLOOD (WITH NAVAJO), AND PHIL TOLD RAY THAT THE BOOMS ON THE PECOS HAD CONTAINED ALL THE SPILL ON THE RIVER.

Conclusions or Agreements: RAY WANTS TO KNOW IF WE NEED TO SAMPLE ANY IN EAGLE DRAW.

Distribution

Signed Mark Ashley

STATE OF NEW MEXICO

OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☒ Telephone ☐ Personal | Time 2:45PM | Date 6-30-95

Originating Party	Other Parties
MARK ASHLEY	RICHARD POWELL

Subject: WIPP TO REF. – DISCHARGE TO PECOS RIVER.

Discussion: THEY ARE INTERESTED IN SITUATION. REVIEW WITH RICH & GLENN. OCD WILL TAKE LEAD. (FAX) RJ-0160. RICH SAID IT SHOULD NOT HAVE HAPPENED UNDER NPDES PERM. IT SHOULD BE FAIL SAFE.

Conclusions or Agreements

Distribution

Signed Mark Ashley

STATE OF NEW MEXICO

OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☒ Telephone ☐ Personal	Time 1:55 PM	Date 6-30-95

Originating Party	Other Parties
MARK ASHLEY	ROY SMITH

Subject NAVAJO RIVER – DISCHARGE TO PECOS RIVER

Discussion OIL FILM ON RIVER. DARRELL MOORE SAID HE SAW IT FROM AIR. FILM x 4 MILES NORTH OF OLD LAKE MCMILLAN BED.

Conclusions or Agreements

NAVAJO IS ATTEMPTING TO CLEAN IT UP. BOOMS WILL BE PLACED AT OLD MCMILLAN LAKE BED.

Distribution

Signed Mark Ashley

Rich Powell 2798 Surf Water

MARK,

I've called ED - Haz Waste (Jim Siebert) and Glenn Saums at Surface Water.

GLENN ~~Jim~~ agreed OCD had jurisdiction over the corrective action. He reccomends several more booms be placed from the refinery.

GLENN ALSO ~~ASKED~~ IF WE'D GIVE HIM OR RICH POWELL (2798) A CALL THIS ~~AFTERNOON~~ TO UPDUTE THEM

RAY SMITH CALLED & SAID HE WENT TO LOOK AT THE RIVER

DISTRICT I
P.O.Box 1980, Hobbs, NM 88241-1980

DISTRICT II
P.O. Drawer DD, Artesia, NM 88211-0719

DISTRICT III
1000 Rio Brazos Rd, Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

SUBMIT 2 COPIES TO APPROPRIATE DISTRICT OFFICE IN ACCORDANCE WITH RULE 116 PRINTED ON BACK SIDE OF FORM

NOTIFICATION OF FIRE, BREAKS, SPILLS, LEAKS, AND BLOWOUTS

OPERATOR: Navajo Refining Co. T&S Dept.						ADDRESS: 501 E. Main	TELEPHONE #: (505) 748-3311
REPORT OF	FIRE ✓	BREAK ✓	SPILL	LEAK ✓		BLOWOUT	OTHER*
TYPE OF FACILITY	DRLG WELL	PROD WELL	TANK BTRY	PIPE LINE ✓	GASO PLNT	OIL RFY	OTHER*

FACILITY NAME: WAGU Gathering Line

LOCATION OF FACILITY Qtr/Qtr Sec. or Footage	SEC.	TWP.	RGE.	COUNTY

DISTANCE AND DIRECTION FROM NEAREST TOWN OR PROMINENT LANDMARK: 1/4 mile E. of Phillips Gas plant on 12 mile rd.

DATE AND HOUR OF OCCURRENCE	WAS IMMEDIATE NOTICE GIVEN? YES	NO	NOT REQUIRED	DATE AND HOUR OF DISCOVERY	VOLUME RECOVERED
1900 on 6-30-95		X		1900 on 6-30-95	3 bbls.

BY WHOM	IF YES, TO WHOM	DATE AND HOUR

TYPE OF FLUID LOST	QUANTITY OF LOSS
Crude oil (N.M. Sour)	1 - 5 bbl.

DID ANY FLUIDS REACH A WATERCOURSE?	YES	NO	QUANTITY
	X		2 bbls.

IF YES, DESCRIBE FULLY**: Small pinhole leak on pipeline resulted in leak of not more than 5 bbls of crude oil of which possibly as much as but not more than 2 bbls reached a normally dry lake bed which at the time was holding rain water.

DESCRIBE CAUSE OF PROBLEM AND REMEDIAL ACTION TAKEN**: Small corrosion leak on pipeline. Water had receded to point that oil skim was no longer on water. Too muddy to do dirt work but made sure there was no oil standing.

DESCRIBE AREA AFFECTED AND CLEANUP ACTION TAKEN**: described above

DESCRIPTION OF AREA	FARMING	GRAZING	URBAN	OTHER*

SURFACE CONDITIONS	SANDY	SANDY LOAM	CLAY	ROCKY	WET ✓	DRY	SNOW

DESCRIBE GENERAL CONDITIONS PREVAILING (TEMPERATURE, PRECIPITATION, ETC.)**: Hot, Humid, Calm, Sunny

I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF

SIGNED: Albert Reyes

PRINTED NAME AND TITLE: Albert Reyes Crude Systems Supvr.

DATE: 7-3-95

*SPECIFY

**ATTACH ADDITIONAL SHEETS IF NECESSARY

STATE OF NEW MEXICO

OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☑ Telephone ☐ Personal | Time 1015 AM | Date 6-30-95

Originating Party	Other Parties
DARRELL MOORE - NAVAJO REF	CHRIS EUSTICE
748-3311	

Subject: DISCHARGE TO PECOS RIVER

Discussion: DARRELL REPORTED:

Artesia got 2½" of rain the night of 6-29 causing the refinery to become inundated w/storm water. Three API seperators overflowed and one overflowing API seperator overflowed into Eagle Draw and on to the Pecos River ~~NAJO~~ NAVAJO reports 5 bbls of oil got out.

Conclusions or Agreements

A boom was set up at the Northern end of lake McMillan

Distribution: MARK ASHLEY

Signed

Submit to Appropriate
District Office in Triplicate

DISTRICT I
PO Box 1980
Hobbs, NM 88241-1980

DISTRICT II
PO Drawer DD
Artesia, NM 88211-0719

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

DISTRICT III
1000 Rio Brazos Rd.
Aztec, NM 87410

DISTRICT IV
PO Box 2088
Santa Fe, NM 87504-2088

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE	XXXXXXXXXXXXXXXXXXXXXXXX
1. RCRA Exempt: ☐ Non-Exempt: ☒ Verbal Approval Received: Yes ☐ No ☐	4. Generator Navajo Refining Company
2. Destination Controlled Recovery, Inc.	5. Name of Originating Site Navajo Artesia facility
3. Address of Facility Operator P.O. Box 369, Hobbs, nm 88241	6. Name of Transporter Undecided
7. Location of Material (Street Address or ULSTR) 501 E. Main St. , Artesia	8. State New Mexico

9. Circle One

A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job.
B. All requests for approval to accept non-oilfield exempt wastes will be accompanied by a certification of waste status from the Generator; one certificate per job. New Mexico Environment Department or other appropriate government agency; two certificates per job.
C. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analyses to prove the material is non-hazardous and the Generator's certification of origin. No waste classified as hazardous by listing or testing will be approved.

All transporters must certify the wastes delivered are only those consigned for transport.

RECEIVED
JUN 09 1995
Environmental Bureau
Oil Conservation Division

BRIEF DESCRIPTION OF THE MATERIAL:

The following analysis is for waste material from the clean-up of chloride guard at Navajo Refining Company's Artesia plant. This material is a filter media used to remove chloride from catalyst in the CCR unit. It is made up of zinc oxide. The generator has completed a certificate of Waste Status for non-exempt waste material. CRI requests approval to dispose of this material at our facility.

RECEIVED
MAY 25 1995
OIL CON. DIV.
DIST. 2

RECEIVED
OCD HOBBS
OFFICE

WILL NEED TO SIGN & ADDRESS #7

Estimated Volume 20 yds. CY Known Volume (to be entered by the operator at the end of the haul): _____ CY

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE J. Amy Sumrall TITLE Office Manager DATE 5-22-95

TYPE OR PRINT NAME J. Amy Sumrall TELEPHONE NO. (505) 393-1079

(This space for State Use)

APPROVED BY _____ TITLE _____ DATE 5/30/95

APPROVED BY _____ TITLE GEOLOGIST DATE 6-9-95

TELEPHONE
(505) 748-3311

EASYLINK
62905278

NAVAJO REFINING COMPANY

501 EAST MAIN STREET • P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159

FAX
(505) 746-6410 ACCTG
(505) 746-6155 EXEC
(505) 748-9077 ENGR
(505) 746-4438 P / L

May 16, 1995

Amy Sumrall
CRI
P.O. Box 369
Hobbs, NM 88241

Dear Amy,

Enclosed are the results from a cleanup of chloride guard at our Artesia plant. This material is a filter media used to remove chloride from catalyst in the CCR unit. It is made up of zinc oxide. This is a stream that will be generated about twice a year and will be about 20 yards per event.

If there are any questions, please call me at 505-748-3311. Thank you for your time.

Very Truly Yours,

NAVAJO REFINING COMPANY

Darrell Moore

Darrell Moore
Environmental Specialist

Enclosures

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MAY 25 1995
OIL CON. DIV.
DIST. 2

CERTIFICATE OF WASTE STATUS

NON-EXEMPT WASTE MATERIAL

Originating Location: Navajo Refining

Sources: Petroleum Refining - Chloride Guard

Disposal Location: CRI

"As a condition of acceptance for disposal, I hereby certify that this waste is a non-exempt waste as defined by the Environmental Protection Agency's (EPA) July 1988 Regulatory Determination. To my knowledge, this waste will be analyzed pursuant to the provisions of 40 CFR Part 261 to verify the nature as non-hazardous. I further certify that to my knowledge no "hazardous or listed waste" pursuant to the provisions of 40 CFR Part 261, Subparts C and D, has been added or mixed with the waste so as to make the resultant mixture a "hazardous waste" pursuant to the provisions of 40 CFR, section 261.3(b)."

I, the undersigned, as the agent for Navajo Refining concur with the status of the waste from the subject site.

Name Darrell Moore

Title/Agency Env. Spec.

Address Navajo Refining
501 E Main Artesia NM

Signature Darrell Moore

Date 5/19/95

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OIL CON. DIV.
DIST. 2

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OFFICE

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E.Main
Artesia, NM 88210

August 23, 1994
Receiving Date: 08/08/94
Sample Type: Sclid
Project No: NA
Project Location: Artesia, NM

Extraction Date: 08/08/94
Analysis Date: 08/11/94
Sampling Date: 08/05/94
Sample Condition: Intact & Cool
Sample Received by: MS
Project Name: NA

TCLP METALS

TA#	Field Code	As (ppm)	Se (ppm)	Cr (ppm)	Cd (ppm)	Pb (ppm)	Ag (ppm)	Ba (ppm)	Hg (ppm)
	EPA LIMIT =	5.0	1.0	5.0	1.0	5.0	5.0	100.0	0.20
T24352	Chloride Guard	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<1.0	<0.001
QC	Quality Control	10.4	2.2	10.2	2.2	10.4	11.1	191.2	0.022
Detection Limit		0.1	0.2	0.1	0.1	0.1	0.1	1.0	0.001
% Precision		102	100	103	100	102	104	100	100
% Extraction Accuracy		123	150	105	117	106	100	104	110
% Instrument Accuracy		104	110	102	110	104	111	96	110

METHODS: EPA SW 846-1311, 6010, 7471.
TCLP METALS QC: Blank Spiked with 10.0 ppm As, Cr, Pb, Ag; 2.0 ppm Se, Cd; 200.0 ppm Ba; 0.020 ppm Hg.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

8/23/94
Date

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MAY 25 1995
OIL CON. DIV.
DIST. 2

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

August 23, 1994
Receiving Date: 08/08/94
Sample Type: Solid
Project No: NA
Project Location: Artesia, NM

Analysis Date: 08/08/94
Sampling Date: 08/05/94
Sample Condition: Intact & Cool
Sample Received by: NS
Project Name: NA

TA#	Field Code	REACTIVITY	SULFIDES (ppm)	CYANIDES (ppm)	CORROSIVITY	pH (s.u.)	IGNITABILITY
T24352	Chloride Guard	Non-reactive	60	60	Noncorrosive	11.62	Nonignitable
QC	Quality Control	---	---	---	---	10.00	---
% Precision		100	100	---	100	100	100
% Extraction Accuracy		---	---	---	---	---	---
% Instrument Accuracy		---	---	---	---	100	---

METHODS: EPA SW 846-2.1.3, 2.1.2, 2.1.1.

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MAY 25 1995
OIL CON. DIV.
DIST. 2

RECEIVED
AUG 23 1994
OIL CONS. DIV.
OFFICE

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

8/23/94
DATE

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

August 23, 1994
Receiving Date: 08/08/94
Sample Type: Solid
Project No: NA
Project Location: Artesia, NM

Extraction Date: 08/12/94
Analysis Date: 08/17/94
Sampling Date: 08/05/94
Sample Condition: Intact & Cool
Sample Received by: MS
Project Name: NA

TCLP VOLATILES (ppm)	EPA LIMIT	T24352 Chloride Guard	Detection Limit	QC	%P	%EA	%IA
Vinyl chloride	0.20	ND	0.02	0.057	105	166	114
1,1-Dichloroethene	0.70	ND	0.02	0.053	118	166	106
Methyl Ethyl Ketone	200.0	ND	0.2	0.055	110	174	110
Chloroform	6.00	ND	0.2	0.055	102	170	110
1,2-Dichloroethane	0.50	ND	0.02	0.047	102	128	94
Benzene	0.50	0.03	0.02	0.064	129	142	128
Carbon Tetrachloride	0.50	ND	0.2	0.039	102	84	78
Trichloroethene	0.50	ND	0.02	0.040	99	88	80
Tetrachloroethene	0.70	ND	0.02	0.048	98	102	96
Chlorobenzene	100.00	ND	0.02	0.041	99	84	82
1,4-Dichlorobenzene	7.50	0.03	0.02	0.042	95	82	84

	% Recovery
1,2-Dichloroethane	81
Toluene-d8	121
4-Bromofluorobenzene	99

ND = Not Detected

METHODS: EPA SW 846-1311, 8240.

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DIST. 2
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OFFICE

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

8/23/94
DATE

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

August 23, 1994

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

Receiving Date: 08/08/94
Sample Type: Solid
Project No: NA
Project Location: Artesia, NM

Extraction Date: 08/08/94
Analysis Date: 08/15/94
Sampling Date: 08/05/94
Sample Condition: I & C
Sample Received by: MS
Project Name: NA

TCLP Semi-Volatiles (mg/L)	EPA Limit	Detection Limit	T24352 Chloride Guard	%P	%EA	QC	%IA
Pyridine	5.0	0.001	ND	94	90	0.500	100
1,4-Dichlorobenzene	7.5	0.001	ND	97	99	0.484	97
o-Cresol	200.0	0.001	0.083	97	108	0.467	93
m,p-Cresol	200.0	0.001	0.098	104	97	0.921	92
Total Cresol	200.0	0.001	0.181	96	101	1.388	93
Hexachloroethane	3.0	0.001	ND	96	100	0.481	96
Nitrobenzene	2.0	0.001	ND	97	102	0.467	93
Hexachlorobutadiene	0.5	0.001	ND	100	101	0.487	97
2,4,6-Trichlorophenol	2.0	0.001	ND	99	72	0.364	73
2,4,5-Trichlorophenol	400.0	0.001	ND	98	91	0.471	94
2,4-Dinitrotoluene	0.13	0.001	ND	98	92	0.421	84
2,4-D	10.0	0.01	ND	99	106	0.474	95
Hexachlorobenzene	0.13	0.001	ND	99	121	0.506	101
2,4,5-TP	1.0	0.01	ND	98	132	0.491	98
Pentachlorophenol	100.0	0.001	ND	98	105	0.421	84
Lindane	0.4	0.001	ND	99	117	0.537	107
Total Heptachlor	0.008	0.001	ND	98	114	0.986	99
Endrin	0.02	0.001	ND	96	62	0.556	111
Methoxychlor	10.0	0.001	ND	97	65	0.474	95
Chlordane	0.03	0.0002	ND	95	100	0.002	100
Toxaphene	0.5	0.005	ND	87	93	0.010	100

	% RECOVERY
2-Fluorophenol SURR	109
Phenol-d5 SURR	100
Nitrobenzene-d5 SURR	102
2-Fluorobiphenyl SURR	100
2,4,6-Tribromophenol SURR	109
Terphenyl-d14 SURR	91

Methods: EPA SW 846-1311, 8270, 8080.
ND - Not Detected

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MAY 25 1995
OIL CON. DIV.
DIST. 2

8-23-94

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

DATE

RECEIVED
AUG 29 1995
OCD HOBBS OFFICE

TraceAnalysis, Inc.

6701 Aberdeen Avenue Lubbock, Texas 79424
Tel (806) 794 1296 Fax (806) 794 1298

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Darrell Moore

Phone #: 505 748 3311

FAX #: 505 748 9077

Company Name & Address: Navajo Refining

Project #:

Project Name :

Project Location: Artesia NM

Sampler Signature: Darrell Moore

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX					PRESERVATIVE METHOD					SAMPLING	
				WATER	SOIL	AIR	SLUDGE	OTHER	HCL	HNO3	ICE	NONE	OTHER	DATE	TIME
	Chloride Guard	1	1L					X				X		8/5/94	11:00
	UOP R-34 Spent Catalyst	1	1L					X				X		8/5/94	8:15

ANALYSIS REQUEST

BTEX, MTBE	TPH	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	TDS	RCI
		X		X	X		X
		X		X	X		

SPECIAL HANDLING

Turn around # of days	Fax ASAP	Report TWC direct	Hold

Relinquished by:	Date:	Times:	Received by:
Darrell Moore	8/5/94	16:30	
Relinquished by:	Date:	Times:	Received by:
Relinquished by:	Date:	Times:	Received by Laboratory:

REMARKS

RECEIVED
MAY 25 1995
OIL CON. DIV.
DIST. 2

Submit to Appropriate
District Office in Triplicate

DISTRICT I
PO Box 1980
Hobbs, NM 88241-1980

DISTRICT II
PO Drawer DD
Artesia, NM 88211-0719

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

DISTRICT III
1000 Rio Brazos Rd.
Aztec, NM 87410

DISTRICT IV
PO Box 2088
Santa Fe, NM 87504-2088

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE	XXXXXXXXXXXXXXXXXXXXXXXXX
1. RCRA Exempt: ☐ Non-Exempt: ☒ Verbal Approval Received: Yes ☐ No ☐	4. Generator Navajo Refining Company
2. Destination Controlled Recovery, Inc.	5. Name of Originating Site Navajo Artesia facility
3. Address of Facility Operator P.O. Box 369, Hobbs, nm 88241	6. Name of Transporter Undecided
7. Location of Material (Street Address or ULSTR) 501 E. Main St. , Artesia	8. State New Mexico

9. Circle One

A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job.

B. All requests for approval to accept non-oilfield exempt wastes will be accompanied by a certification of waste status from the [illegible] New Mexico Environment Department or other appropriate government agency; two certificates per job.

C. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analyses to prove the material is non-hazardous and the Generator's certification of origin. No waste classified as hazardous by listing or testing will be approved.

All transporters must certify the wastes delivered are only those consigned for transport.

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JUN 09 1995
Environmental Bureau
Oil Conservation Division

BRIEF DESCRIPTION OF THE MATERIAL:

The following analysis is for waste material from the clean-up of chloride guard at Navajo Refining Company's Artesia plant. This material is a filter media used to remove chloride from catalyst in the CCR unit. It is made up of zinc oxide. The generator has completed a certificate of Waste Status for non-exempt waste material. CRI requests approval to dispose of this material at our facility.

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MAY 25 1995
OIL CON. DIV.
DIST. 2

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[illegible] 1995
[illegible] HOBBS
OFFICE

WILL NEED TO SIGN & ADDRESS # 7

Estimated Volume 20 yds. cy Known Volume (to be entered by the operator at the end of the haul): _____ cy

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE J. Amy Sumrall TITLE Office Manager DATE 5-22-95

TYPE OR PRINT NAME J. Amy Sumrall TELEPHONE NO. (505) 393-1079

(This space for State Use)

APPROVED BY [signature] TITLE FIELD REP. DIST I DATE 5/24/95

APPROVED BY [signature] TITLE GEOLOGIST DATE 6-9-95

DISTRICT I
P.O.Box 1980, Hobbs, NM 88241-1980

DISTRICT II
P.O. Drawer DD, Artesia, NM 88211-0719

DISTRICT III
1000 Rio Brazos Rd, Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

SUBMIT 2 COPIES TO APPROPRIATE DISTRICT OFFICE IN ACCORDANCE WITH RULE 116 PRINTED ON BACK SIDE OF FORM

NOTIFICATION OF FIRE, BREAKS, SPILLS, LEAKS, AND BLOWOUTS

OPERATOR: Navajo Refining Co TES Dept.						ADDRESS: 501 E Main	TELEPHONE:
REPORT OF	FIRE	BREAK ✓	SPILL	LEAK		BLOWOUT	OTHER*
TYPE OF FACILITY	DRLG WELL	PROD WELL	TANK BTRY	PIPE LINE	GASO PLNT	OIL RFY	OTHER* ✓ pump un. +

FACILITY NAME: OXY USA S-4 pipeline pump unit

LOCATION OF FACILITY Qtr/Qtr Sec. or Footage	SEC.	TWP.	RGE.	COUNTY
1980 FSL / 2310 FEL	3	20S	28E	Eddy

DISTANCE AND DIRECTION FROM NEAREST TOWN OR PROMINENT LANDMARK: 2½ miles North of Amoco Burton Flats Gas Plant

DATE AND HOUR OF OCCURRENCE: Early morning hours of 6-8-95				DATE AND HOUR OF DISCOVERY: 0900 6-8-95	
WAS IMMEDIATE NOTICE GIVEN?	YES ✓	NO	NOT REQUIRED	IF YES, TO WHOM: N.M. OCD (Betty)	
BY WHOM: Dick Harper (Oxy USA) pumper				DATE AND HOUR: 1100 Am 6-8-95	
TYPE OF FLUID LOST: N.M. Sour Crude				QUANTITY OF LOSS: 50-75 bbls	VOLUME RECOVERED: 25 bbls
DID ANY FLUIDS REACH A WATERCOURSE?	YES	NO ✓		QUANTITY: N/A	

IF YES, DESCRIBE FULLY**: N/A

DESCRIBE CAUSE OF PROBLEM AND REMEDIAL ACTION TAKEN**: pipeline air eliminator broke off due to vibration @ pump. Upon discovery crews immediately spread heavy plastic out and began excavating soil and spreading on plastic to avoid further migration of oil.

DESCRIBE AREA AFFECTED AND CLEANUP ACTION TAKEN**: area affected was sandy top soil to 1½' deep and then hard caliche. Clean up actions are described above.

DESCRIPTION OF AREA	FARMING	GRAZING	URBAN	OTHER* unpopulated desert area

SURFACE CONDITIONS	SANDY	SANDY LOAM	CLAY	ROCKY	WET	DRY ✓	SNOW

DESCRIBE GENERAL CONDITIONS PREVAILING (TEMPERATURE, PRECIPITATION, ETC.)**: S.E. winds @ Approx 25 m.p.H. – Clear, Hot, Sunny approx 95°

I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF

SIGNED: Albert Reyes
PRINTED NAME AND TITLE: Albert Reyes Crude Systems Supv.
DATE: 06-08-95

*SPECIFY

**ATTACH ADDITIONAL SHEETS IF NECESSARY

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
2040 S. PACHECO
SANTA FE, NEW MEXICO 87505
(505) 827-7131

May 31, 1995

CERTIFIED MAIL
RETURN RECEIPT NO. Z-765-962-727

Mr. David G. Griffin
Navajo Refining Company
P.O. Box 159
Artesia, New Mexico 88211-0159

RE: Discharge of Hydotest Water From TK 106

Dear Mr. Griffin:

The Oil Conservation Division (OCD) has completed a review of your letter dated May 23, 1995 requesting the authorization to discharge of the hydrotest water from TK 106 to your farm. Based upon the information provided in your request, the hydrotest water discharge is hereby approved.

Please be advised that OCD approval does not relieve Navajo Refining Company of liability should it later be found that contamination exists which could pose a threat to surface water, ground water, human health or the environment. In addition, OCD approval does not relieve Navajo Refining Company of responsibility for compliance with any other federal, state or local laws and/or regulations.

If you have any questions regarding this matter please feel free to contact Mark Ashley at (505) 827-7155.

Sincerely,

Roger C. Anderson
Environmental Bureau Chief

RCA/mwa

xc: OCD Artesia Office



NAVAJO REFINING COMPANY
P.O. DRAWER 159
501 EAST MAIN STREET
ARTESIA, NEW MEXICO 88210
PHONE: (505) 748-3311

ENGINEERING DEPARTMENT
FAX: (505) 748-9077

SENDING TO: NAME Mr. Roger C. Anderson

ORGANIZATION/FIRM N.M.O.C.D.

TELECOPY # 505-827-8177

SENDING FROM: NAME David Griffin

DATE 2-21-95 NUMBER OF PAGES, INCLUDING THIS COVER PAGE 6

IF YOU DO NOT RECEIVE ALL PAGES, PLEASE CALL TRISH AT EXT. 270, OR PATTI AT EXT. 202

MESSAGE:

NOTE: Unless otherwise indicated or obvious from the nature of the transmittal, the information contained in this facsimile message is privileged and confidential information intended for the use of the individual or entity named above. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error or are not sure whether it is privileged, please immediately notify us by telephone and return the original message to us at the above address via the U.S. Postal Service.

Thank you!

TELEPHONE
(505) 748-3311

EASYLINK
62905278

REFINING COMPANY

501 EAST MAIN STREET • P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159

FAX
(505) 746-6410 ACCTG
(505) 746-6155 EXEC
(505) 748-9077 ENGR
(505) 746-4438 P / L

February 21, 1995

Mr. Roger C. Anderson
Environmental Bureau Chief
N.M. Oil Conservation Division
2040 S. Pacheco
Santa Fe, NM 87505

Re: Discharge of Hydrotest Water from Asphalt Tank 431

Dear Mr. Anderson: Roger

Navajo is just finishing up the hydrotest on Tank 431 and will be ready today to begin discharging the fresh water used to fill the tank for the hydrotest. As you are aware from our discussion about this matter, this tank has been in asphalt storage service. Inspection of the tank determined the need to replace the floor. Once the internals were removed, a pad of sand approximately 3-4 inches thick was spread over the old floor and then a new steel floor was welded into place resting on the pad. The internal heating coils were then reinstalled and manways and nozzles were modified as needed to accommodate the new floor. A repair of this nature generally requires a hydrotest to determine the integrity of the tank prior to returning to hot asphalt service.

Timing is critical on this tank as we are within seven days of completely filling our available storage for asphalt. Once the hydrotest water is removed from the tank, the tank must be opened up and mopped dry so that no water remains when the hot asphalt is turned into the tank. Fortunately, the hydrotest has not indicated the need to do any follow up repairs.

Navajo has determined, as required in 40 CFR 262.11 and corresponding 20 NMAC 4.1 Section 262.11, that the hydrotest water is not a hazardous waste. Navajo makes this determination based of TCLP testing of asphalt per 262.11.A.C.1. (see attached analysis). No asphalt samples Navajo has submitted for testing have tested TCLP hazardous, reactive, corrosive or ignitable. Navajo therefore makes the determination that fresh drinking water, supplied by the City of Artesia, when placed in a tank formerly in asphalt service and only in contact with the steel of the tank along with any remaining asphalt will not be a hazardous waste per section 262.11.A.C.2.

NON-HAZARDOUS

In addition to determining the water is not hazardous, Navajo is confident the water will also comply with applicable New Mexico Groundwater Standards (WQCC Reg. 3-103) as they apply to discharging this water onto adjacent farmland owned by Navajo.

Based on your approval, Navajo will begin discharging the water out of Tank 431 onto the farmland immediately east of the refinery. This will be the same farm area you have previously approved to receive the R.O. reject discharge.

WATER TESTS ✓

Navajo has submitted samples of the hydrotest water to Trace Analysis, Inc. laboratory in Lubbock, Texas to confirm compliance with the WQCC standards. Unfortunately, Navajo does not have the luxury of sufficient time to wait for the analyses and then submit them for your approval prior to discharge. The laboratory's most expedited analyses are not guaranteed prior to Monday, February 27. Having to wait until this date would not allow us sufficient time to drain, dry and flange up the tank by Wednesday, March 1, which is the date we will fill our currently available storage.

Navajo respectfully requests your help by authorizing the discharge of this hydrotest water today or as soon as possible. Navajo understands that we will be assuming liability for any impacts to the environment that might be caused by this discharge.

If you have any questions please call me at 505-748-3311.

Sincerely,

David G. Griffin
Mgr. of Environmental
Affairs for Water & Waste

DGG/te

encl.

2-21-95
APPROVED W/ CONTINGENCY OF REMOVAL IF WATER IS ABOVE STANDARDS.

BETZ Analytical Services

Sample Description: Asphalt
Sample Date: 1/28/93

Laboratory ID: D0129510

TCLP EXTRACT (SW846/1311)

TEST	Value	Units	Spike % Recovery	Detection Limits	EPA Method
Arsenic	< 0.20	mg/L	97.0	0.20	6010
Barium	0.68	mg/L	112	0.50	6010
Cadmium	< 0.05	mg/L	100	0.05	6010
Chromium	< 0.20	mg/L	100	0.20	6010
Lead	< 20	mg/L	103	0.20	6010
Mercury	< .0002	mg/L	106	0.0002	7470
Selenium	< 0.20	mg/L	113	0.05	6010
Silver	< 0.05	mg/L	110	0.05	6010

BETZ Analytical Services

Sample Description: Asphalt
Sample Date: 1/28/93
Analyst: RW

Laboratory ID: D0129510
Date Analyzed: 2/15/93 22:32
Dilution: 1:5

VOLATILE ORGANICS (TCLP 8240)

Compound	Value-ug/L*	Spike % Recovery
Benzene	< 25	91.0
Methyl ethyl keytone	< 500 [500]	80.0
Carbon Tetrachloride	< 25	101
Chlorobenzene	< 25	93.0
Chloroform	< 25	100
1,2-Dichloroethane	< 25	105
1,1-Dichloroethene	< 25	107
Tetrachloroethylene	< 25	105
Trichloroethylene	< 25	99.0
Vinyl chloride	< 50 [50]	102

*Limit of Practical Quantitation is 25 ug/L, unless otherwise noted in brackets.

Surrogate Recovery:		Recovery Limits
1,2-Dichloroethane-d4	103 %	76-114 %
Toluene-d8	101 %	88-110 %
Bromofluorobenzene	99 %	86-115 %

BETZ Analytical Services

Sample Description: Asphalt
Date Sampled: 1/28/93
Date Analyzed: 3/2/93 00:59
Dilution: 1:4

Laboratory ID: D0129510
Date Extracted: 2/16/93
Analyst: MA

TCLP ACID EXTRACTABLE ORGANICS (EPA 8270)

Compound	Value-ug/L*	Spike % Recovery
o-Cresol	< 40	83.0
m,p-Cresol	< 40	83.0
Pentachlorophenol	< 200 [200]	100
2,4,5-Trichlorophenol	< 40	104
2,4,6-Trichlorophenol	< 40	100

*Limit of Practical Quantitation is 40 ug/L, unless otherwise noted.

Surrogate Recovery:		Limits:
2-Fluorophenol	75 %	10 - 94 %
Phenol-d5	70 %	25 - 121 %
2,4,6-Tribromophenol	84 %	10 - 123 %

TCLP BASE/NEUTRAL EXTRACTABLE ORGANICS (EPA 8270)

Compound	Value-ug/L*	Spike % Recovery
1,4-Dichlorobenzene	< 40	81.0
2,4-Dinitrotoluene	< 40	93.0
Hexachlorobenzene	< 40	146
Hexachlorobutadiene	< 40	83.0
Hexachloroethane	< 40	79.0
Nitrobenzene	< 40	81.0
Pyridine	< 40	52.0

*Limit of Practical Quantitation is 40 ug/L, unless otherwise noted.

Surrogate Recovery:		Recovery Limits
Nitrobenzene-d5	78 %	35 - 114 %
2-Fluorobiphenyl	86 %	43 - 116 %
Terphenyl-d14	92 %	33 - 141 %

State of New Mexico
ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT
Santa Fe, New Mexico 87505

New Mexico DRUG FREE It's a State of Mind!

February 21, 1995

CERTIFIED MAIL
RETURN RECEIPT NO. Z-765-962-822

Mr. David G. Griffin
Navajo Refining Company
P.O. Box 159
Artesia, New Mexico 88211-0159

RE: Discharge of Hydotest Water From Asphalt Tank 431

Dear Mr. Griffin:

The Oil Conservation Division (OCD) has completed a review of your letter dated February 21, 1995 requesting the authorization to discharge of the hydrotest water from asphalt tank 431. The aforementioned discharge is hereby approved under the following conditions.

1. Due to the lack of time required for sample analysis, discharge may commence onto the farmland before test results are completed and submitted to the OCD Santa Fe Office for approval.

2. In the event that the hydrotest water exceeds WQCC standards, Navajo will assume full responsibility for all remediation required to correct any impacts to the environment as a result of the discharge.

Please be advised that OCD approval does not relieve Navajo Refining Company of liability should it later be found that contamination exists which could pose a threat to surface water, ground water, human health or the environment. In addition, OCD approval does not relieve Navajo Refining Company of responsibility for compliance with any other federal, state or local laws and/or regulations.

VILLAGRA BUILDING - 408 Galisteo
Forestry and Resources Conservation Division
P.O. Box 1948 87504-1948
827-5830
Park and Recreation Division
P.O. Box 1147 87504-1147
827-7465

2040 South Pacheco
Office of the Secretary
827-5950
Administrative Services
827-5925
Energy Conservation & Management
827-5900
Mining and Minerals
827-5970
Oil Conservation
827-7131

If you have any questions regarding this matter please feel free to contact me at (505) 827-7152.

Sincerely,

Roger C. Anderson
Environmental Bureau Chief

RCA/mwa

xc: OCD Artesia Office

State of New Mexico
ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT
Santa Fe, New Mexico 87505

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☑ Telephone ☐ Personal	Time 0940	Date 4/12/95

Originating Party	Other Parties
Dave Griffen - Navajo Refining	Bill Olson - Envir. Bureau

Subject

Navajo Refinery Spill

Discussion

9:15 pm last night had spill of 500 bbls Naptha from tank 57.
Tank was overtopped
350 bbls recovered
Spill covered approx. 4000 sq. ft. inside of tank berm

I requested plan for determining extent of contamination and written notification on 1-203

Conclusions or Agreements

Navajo will submit written notification & plan for extent of contamination

Distribution

file
Roger Anderson

Signed Bill Olson

TELEPHONE
(505) 748-3311

EASYLINK
62905278

NAVAJO REFINING COMPANY

501 EAST MAIN STREET ° P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159

FAX
(505) 746-6410 ACCTG
(505) 746-6155 EXEC
(505) 748-9077 ENGR
(505) 746-4438 P / L

March 24, 1995

Mark Ashley
Geologist
Environmental Bureau
Oil Conservation Division
2040 S. Pacheco St.
Santa Fe, NM 87505-5472

RE: HYDROTEST WATER FROM TK 431, NAVAJO REFINING CO., ARTESIA, NM

Dear Mark,

Enclosed is the analysis from the hydrotest water of our Tk 431. If you'll remember, we made the decision to proceed with discharging the water to our farm before test results were available. We were on a short time table and felt there was no risk from this water. A total of 48,800 barrels of water were discharged to our farm.

As you can see, we had minor amounts of zinc, barium, and manganese and a not too surprising amount of iron considering the material the tank is made of. Other parameters were well below WQCC limits.

If there are any questions, please call me at 505-748-3311. Thank you for your time and attention to this matter. We truly appreciate it.

Sincerely,

NAVAJO REFINING CO.

Darrell Moore

Darrell Moore
Environmental Specialist

Encl.

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

March 02, 1995
Receiving Date: 02/21/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 02/22/95
Sampling Date: 02/20/95
Sample Condition: Intact & Cool
Sample Received by: JW
Project Name: NA

TA#	FIELD CODE	TOTAL CN- (mg/L)
T32383	TK 431	<0.01
QC	Quality Control	0.04
% Precision		100
% Extraction Accuracy		95
% Instrument Accuracy		99
Detection Limit		0.01

METHODS: EPA 335.2.
TOTAL CN- SPIKE AND QC: Sample and Blank spiked with 0.04 mg/L TOTAL CN-.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-2-95
DATE

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

March 02, 1995
Receiving Date: 02/21/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 02/21/95
Sampling Date: 02/20/95
Sample Condition: Intact & Cool
Sample Received by: JW
Project Name: NA

TA#	FIELD CODE	NITRATE-N (mg/L)	pH (s.u.)	CHLORIDE (mg/L)	FLUORIDE (mg/L)	SULFATE (mg/L)	PHENOLS (mg/L)	TDS (mg/L)
T32383	TK 431	0.55	7.4	17	1.2	573	<0.002	846
QC	Quality Control	1.00	7.0	504	1.0	10	0.801	---
% Precision		97	100	100	100	103	104	99
% Extraction Accuracy		101	---	103	102	86	98	---
% Instrument Accuracy		100	100	101	103	98	101	---
DETECTION LIMIT		0.01	---	1	0.1	1	0.002	---

METHODS: EPA 375.4, 353.3, 340.2; 4500 Cl-B, 160.1, 150.1, 420.1.
QC: Blank Spiked with 500 mg/L CHLORIDE; 1.0 mg/L FLUORIDE; 10 mg/L SULFATE; 1.00 mg/L NITRATE; 0.8 mg/L PHENOLS.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-2-95
Date

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

March 02, 1995
Receiving Date: 02/21/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210.

Analysis Date: 02/28/95
Sampling Date: 02/20/95
Sample Condition: Intact & Cool
Sample Received by: JW
Project Name: NA

TOTAL METALS

TA#	FIELD CODE	As (mg/L)	Mo (mg/L)	Cr (mg/L)	Zn (mg/L)	Cd (mg/L)	Ni (mg/L)	Fe (mg/L)	Co (mg/L)	Mn (mg/L)	Cu (mg/L)	Pb (mg/L)
T32383	TK 431	<0.1	<0.05	<0.01	0.02	<0.01	<0.05	12.7	<0.05	0.6	<0.05	<0.05
QC	Quality Control	5.05	5.06	5.08	4.96	5.06	5.05	5.02	4.95	5.0	5.00	5.0
DETECTION LIMIT		0.1	0.05	0.01	0.01	0.01	0.05	0.01	0.05	0.1	0.05	0.05
% Precision		105	107	105	104	106	105	102	99	104	102	107
% Extraction Accuracy		110	111	107	105	108	100	115	96	105	106	110
% Instrument Accuracy		101	101	102	99	101	101	100	99	100	100	100

TA#	FIELD CODE	Ag (mg/L)	Al (mg/L)	B (mg/L)	Ba (mg/L)	U (mg/L)	Hg (mg/L)	Se (mg/L)
T32383	TK 431	<0.01	<0.08	<0.05	0.06	<0.5	<0.001	0.002
QC	Quality Control	9.73	5.16	5.18	5.07	10.4	0.022	0.050
DETECTION LIMIT		0.01	0.08	0.05	0.5	0.5	0.001	0.001
% Precision		107	102	99	106	95	100	100
% Extraction Accuracy		117	100	94	99	95	100	76
% Instrument Accuracy		97	103	104	101	106	100	100

METHODS: EPA 200.7.
TOTAL METALS QC: Blank spiked with 5.00 mg/L As, Mo, Cr, Zn, Cd, Ni, Fe, Co, Cu, Al, B, Ba; 5.0 mg/L Mn, Pb; 10.0 mg/L Ag; 9.8 mg/L U; 0.022 mg/L Hg; 0.050 mg/L Se.

BS
Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-2-95
DATE

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

March 02, 1995
Receiving Date: 02/21/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 02/26/95
Sampling Date: 02/20/95
Sample Condition: Intact & Cool
Sample Received by: JW
Project Name: NA

EPA 8240 Compounds (ppb)	T32383 TK 431	Detection Limit
Dichlorodifluoromethane	ND	1
Chloromethane	ND	1
Vinyl chloride	ND	2
Bromomethane	ND	1
Chloroethane	ND	1
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
Iodomethane	ND	1
Carbon disulfide	ND	1
Methylene chloride	ND	1
trans-1,2-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
Vinyl acetate	ND	1
2-Butanone	ND	100
Chloroform	ND	1
1,1,1-Trichloroethane	ND	1
1,2-Dichloroethane	ND	1
Benzene	ND	1
Carbon Tetrachloride	ND	1
1,2-Dichloropropane	ND	1
Trichloroethene	ND	1
Bromodichloromethane	ND	1
cis-1,3-Dichloropropene	ND	1
4-Methyl-2-pentanone	ND	100
trans-1,3-Dichloropropene	ND	1
Toluene	ND	1
1,1,2-Trichloroethane	ND	1
2-Hexanone	ND	100

EPA 8240 Compounds (mg/m3)	T32383 TK 431	Detection Limit
Dibromochloromethane	ND	1
Tetrachloroethene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
m & p-Xylene	ND	1
Bromoform	ND	1
Styrene	ND	1
o-Xylene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
trans 1,4-Dichloro-2-butene	ND	5
cis 1,4-Dichloro-2-butene	ND	5
1,4-Dichlorobenzene	ND	2
1,3-Dichlorobenzene	ND	2
1,2-Dichlorobenzene	ND	2

SURROGATES	% RECOVERY
Dibromofluoromethane	88
Toluene-d8	95
4-Bromofluorobenzene	101

*ND = Not Detected

METHODS: EPA 8240.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-2-95
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

March 02, 1995
Receiving Date: 02/21/95
Sample Type: Water
Sample Condition: I & C
Sample Received by: JW
Project Location: Artesia, NM
Analysis Date: 02/26/95

PAH's T32383

EPA 8270 (ppm)	DL	TK 431	QC	%P	%EA	%IA
Naphthalene	0.001	ND	0.523			105
Acenaphthylene	0.001	ND	0.526			105
Acenaphthene	0.001	ND	0.508	99	81	102
Fluorene	0.001	ND	0.508			102
Phenanthrene	0.001	ND	0.481			96
Anthracene	0.001	ND	0.500			100
Fluoranthene	0.001	ND	0.508			102
Pyrene	0.001	ND	0.500	99	89	100
Benz[a]anthracene	0.001	ND	0.498			100
Chyrsene	0.001	ND	0.491			98
Benzo[b]fluoranthene	0.001	ND	0.473			95
Benzo[k]fluoranthene	0.001	ND	0.420			84
Benzo[a]pyrene	0.001	ND	0.491			98
Indeno[1,2,3-cd]pyrene	0.001	ND	0.442			88
Dibenz[a,h]anthracene	0.001	ND	0.494			99
Benzo[g,h,i]perylene	0.001	ND	0.501			100

*ND = Not Detected

	% RECOVERY
2-Fluorophenol SURR	44
Phenol-d6 SURR	26
Nitrobenzene-d5 SURR	66
2-Fluorobiphenyl SURR	77
2,4,6-Tribromophenol SURR	72
Terphenyl-d14 SURR	94

METHODS: EPA 8270.

Director, Dr. Blair Leftwich

3-2-95
DATE

Director, Dr. Bruce McDonell

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

March 02, 1995
Receiving Date: 02/21/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/01/95
Sampling Date: 02/20/95
Sample Condition: Intact & Cool
Sample Received by: JW
Project Name: NA

TA#	FIELD CODE	PCB's (ppm)
T32383	TK 431	<0.0001
QC	Quality Control	0.0051
DETECTION LIMIT		0.0001
% Precision		106
% Extraction Accuracy		91
% Instrument Accuracy		103

METHODS: EPA SW 846-3510, 8080.
PCB SPIKE AND QC: Sample Spiked with 0.005 ppm PCB and Blank spiked with 0.005 ppm PCB.

3-2-95

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

DATE

052 AH

TraceAnalysis, Inc.

6701 Aberdeen Avenue Lubbock, Texas 79424
Tel (806) 794 1296 Fax (806) 794 1298

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Darrell Moore
Phone #: 505-748-3311
FAX #: 505-748-9077

Company Name & Address: Navajo Refining

Project #:
Project Name :

Project Location: Artesia NM
Sampler Signature: Darrell Moore

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	OTHER	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	OTHER	SAMPLING: DATE	TIME	BTEX, MTBE	TPH	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	TDS	RCI
32383	TK 431	8		X							X	X		2/20/95	16:00			X			X		X

ANALYSIS REQUEST

SPECIAL HANDLING: Turn around # of days; Fax ASAP; Report TWC direct; Hold

Relinquished by:	Date:	Times:	Received by:
Darrell Moore	2/20/95	16:00	
Relinquished by:	Date:	Times:	Received by:
Relinquished by:	Date:	Times:	Received by Laboratory:
			JW 2-21-95 0[illegible]

REMARKS: Need results faxed ASAP

TELEPHONE
(505) 748-3311

EASYLINK
62905278

Navajo REFINING COMPANY

501 EAST MAIN STREET ° P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159

FAX
(505) 746-6410 ACCTG
(505) 746-6155 EXEC
(505) 748-9077 ENGR
(505) 746-4438 P / L

OIL CONSERVATION DIVISION
RECEIVED
95 MAR 7 AM 8 52

March 2, 1995

Mr. William Olson, Hydrogeologist
Environmental Bureau
Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87504

RE: Quarterly Ground Water Sampling and Reporting
Navajo Refinery, Artesia NM
Eddy County

Dear Bill:

I am in receipt of your letter of February 24, 1995 and must plead guilty to the charges. We were operating under the assumption that since the modification request that brought about these increased sampling requirements had not been kicked off yet, we were not under any obligation to sample and report on those additional wells. I'm sorry for the misunderstanding.

Our next Offsite Quarterly Report is due April 1, 1995. That report will include all wells referenced by your July 25, 1994 letter in addition to the water table elevation map, product thickness map, and other information requested. Again, I am sorry for the mix-up

Sincerely,

Darrell Moore

Darrell Moore
Environmental Specialist.

State of New Mexico
ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT
Santa Fe, New Mexico 87505

OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, New Mexico 87505

New Mexico DRUG FREE It's a State of Mind!

February 24, 1995

CERTIFIED MAIL
RETURN RECEIPT NO. P-667-242-286

Mr. Darrell Moore
Environmental Specialist
Navajo Refining Company
P.O. Box 159
Artesia, New Mexico 88211-0159

RE: QUARTERLY GROUND WATER SAMPLING AND REPORTING
NAVAJO ARTESIA REFINERY
EDDY COUNTY, NEW MEXICO

Dear Mr. Moore:

The New Mexico Oil Conservation Division (OCD) has reviewed Navajo Refining Company's:

- January 10, 1995 "FOURTH QUARTER 1994 SAMPLING RESULTS, OFFSITE PLUME, NAVAJO REFINING, EDDY COUNTY, NM".
- January 9, 1995 "SAMPLING SCHEDULE - OFFSITE PLUME 1ST QUARTER 1995, NAVAJO REFINING".
- October 12, 1994 "THIRD QUARTER SAMPLING RESULTS, OFFSITE PLUME, NAVAJO REFINING, EDDY COUNTY, NM".

The OCD's review of these documents shows that Navajo is not performing all of the water quality sampling or providing all of the information required under the OCD's July 25, 1994 discharge plan modification approval (Attached). The failure to provide this information places Navajo in violation of their approved discharge plan.

The OCD requires that Navajo submit to the OCD by March 17, 1995:

1. An explanation for not performing all of the required water quality sampling and for not providing the OCD all of information required in the quarterly reports.

2. All of the required water quality sampling and quarterly report data which was omitted from the quarterly reports.

If you have any questions please, contact me at (505) 827-7154.

Sincerely,

William C. Olson
Hydrogeologist
Environmental Bureau

xc: OCD Artesia District Office
Richard D. Mayer, EPA Region VI

TELEPHONE
(505) 748-3311

EASYLINK
62905278

NAVAJO REFINING COMPANY

501 EAST MAIN STREET ◦ P. O. BOX 159
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(505) 746-6410 ACCTG
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(505) 748-9077 ENGR
(505) 746-4438 P / L

OIL CON DIVISION
JAN 8 52

January 10, 1995

Mr. Bill Olson, Hydrogeologist
Oil Conservation Division
Environmental Bureau
Land Office Bldg.
P.O. Box 2088
Santa Fe, NM 87501

RE: Fourth Quarter 1994 Sampling Results, Offsite Plume, Navajo Refining, Eddy County, NM

Dear Bill:

Enclosed are the results from our quarterly sampling of the offsite plume along with the other bi-weekly samples that you have not received. As you can see, KWB-7 has 8 ppb MTBE and 2 ppb benzene. KWB-9 shows to have 3 ppb benzene.

As per your letter of October 8, 1992, we also checked the product thickness in monitor wells KWB-5 and KWB-8. Again, KWB-5 had no product that could be measured with our instrument. It is accurate down to 1/8 inch. KWB-8 had a product thickness of 1'.

RA-1227 continues to show minor amounts of MTBE. To refresh your memory, RA-1227 is the irrigation well just southeast of KWB-9. As I said earlier, KWB-9 shows a small amount of benzene.

If you have any questions, call me at 748-3311. Thank you for your time in this matter.

Regards,

Darrell Moore

Darrell Moore
Environmental Specialist

encl.

TRACE ANALYSIS, INC.
3701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

January 09, 1995
Receiving Date: 12/30/94
Sample Type: Water
Project No: Offsite Qtrly.
Project Location: Artesia, NM

Analysis Date: 01/03/95
Sampling Date: 12/30/94
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: NA

TA#	Field Code	MTBE (ppb)	BENZENE (ppb)	TOLUENE (ppb)	ETHYL-BENZENE (ppb)	M,P,O XYLENE (ppb)	TOTAL BTEX (ppb)
T30443	KWB - 9	<1	3	<1	<1	<1	3
T30444	RA - 3156	<1	<1	<1	<1	<1	<1
T30445	KWB - 3A	<1	<1	<1	<1	<1	<1
T30446	RA - 3353	<1	<1	<1	<1	<1	<1
T30447	RA - 4196	<1	<1	<1	<1	<1	<1
T30448	KWB - 7	8	2	<1	<1	<1	2
T30449	KWB - 2A	<1	<1	<1	<1	<1	<1
T30450	RA - 2723	<1	<1	<1	<1	<1	<1
T30451	RA - 4798	<1	<1	<1	<1	<1	<1
QC	Quality Control	209	212	210	208	621	
Detection Limit		1	1	1	1	1	
% Precision		100	102	102	102	102	
% Extraction Accuracy		102	106	105	105	105	
% Instrument Accuracy		104	106	105	104	104	

METHODS: EPA SW 846-8020.
BTEX SPIKE AND QC: Sample and Blank Spiked with 200 ppb EACH VOLATILE ORGANICS.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

1-9-95
Date

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

December 13, 1994
Receiving Date: 12/10/94
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 12/12/94
Sampling Date: 12/09/94
Sample Condition: Intact & Cool
Sample Received by: BL
Project Name: NA

TA#	Field Code	MTBE (ppb)	BENZENE (ppb)	TOLUENE (ppb)	ETHYL-BENZENE (ppb)	M,P,O XYLENE (ppb)	TOTAL BTEX (ppb)
T29581	RA - 2723	<1	<1	<1	<1	<1	<1
QC	Quality Control	186	185	183	183	550	
Detection Limit		1	1	1	1	1	
% Precision		92	99	99	98	98	
% Extraction Accuracy		102	102	101	102	102	
% Instrument Accuracy		93	93	92	92	92	

METHODS: EPA SW 846-8020.
BTEX SPIKE AND QC: Sample and Blank Spiked with 200 ppb EACH VOLATILE ORGANICS.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

12-13-94
Date

TEL:806-794-1296 Jan 10 95 14:57 NO.314 P.01
TRACEANALYSIS

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

December 02, 1994
Receiving Date: 12/01/94
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 12/02/94
Sampling Date: 11/30/94
Sample Condition: Intact & Cool
Sample Received by: SC
Project Name: NA

TA#	Field Code	MTBE (ppb)	BENZENE (ppb)	TOLUENE (ppb)	ETHYL-BENZENE (ppb)	M,P,O XYLENE (ppb)	TOTAL BTEX (ppb)
T29032	RA-2723	<1	<1	<1	<1	<1	<1
T29033	RA-4196	<1	<1	<1	<1	<1	<1
T29034	RA-4798	<1	<1	<1	<1	<1	<1
QC	Quality Control	214	207	206	203	606	
Detection Limit		1	1	1	1	1	
% Precision		101	101	101	101	101	
% Extraction Accuracy		93	99	101	105	106	
% Instrument Accuracy		107	104	103	102	103	

METHODS: EPA SW 846-8020.
BTEX SPIKE AND QC: Sample and Blank Spiked with 200 ppb EACH VOLATILE ORGANICS.

BB

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

12-12-94

Date

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

November 14, 1994
Receiving Date: 11/12/94
Sample Type: Water
Project No: NA
Project Location: NA

Analysis Date: 11/14/94
Sampling Date: 11/11/94
Sample Condition: Intact & Cool
Sample Received by: McD
Project Name: NA

TA#	Field Code	MTBE (ppb)	BENZENE (ppb)	TOLUENE (ppb)	ETHYL-BENZENE (ppb)	M,P,O XYLENE (ppb)	TOTAL BTEX (ppb)
T28365	RA-2723	<1	<1	<1	<1	<1	<1
QC	Quality Control	219	182	192	201	612	
Detection Limit		1	1	1	1	1	
% Precision		99	98	98	98	98	
% Extraction Accuracy		109	91	97	102	103	
% Instrument Accuracy		110	91	96	101	102	

METHODS: EPA SW 846-8020.
BTEX SPIKE AND QC: Sample and Blank Spiked with 200 ppb EACH VOLATILE ORGANICS.

BS 11-14-94

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

Date

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue · Lubbock, Texas 79424 · 806•794•1296 · FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

October 24, 1994
Receiving Date: 10/21/94
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 10/22/94
Sampling Date: 10/20/94
Sample Condition: Intact & Cool
Sample Received by: YL
Project Name: NA

TA#	Field Code	MTBE (ppb)	BENZENE (ppb)	TOLUENE (ppb)	ETHYL-BENZENE (ppb)	M,P,O XYLENE (ppb)	TOTAL BTEX (ppb)
T27452	RA - 2723	<1	<1	<1	<1	<1	<1
T27453	RA - 1227	2	<1	<1	<1	<1	<1
T27455	RA - 313	<1	<1	<1	<1	<1	<1
T27456	RA - 314	<1	<1	<1	<1	<1	<1
T27457	RA - 4196	<1	<1	<1	<1	<1	<1
T27458	RA - 307	<1	<1	<1	<1	<1	<1
T27459	RA - 4798	<1	<1	<1	<1	<1	<1
T27460	RA - 1331	<1	<1	<1	<1	<1	<1
QC	Quality Control	204	216	215	210	634	
Detection Limit		1	1	1	1	1	
% Precision		100	100	100	100	100	
% Extraction Accuracy		99	107	107	104	104	
% Instrument Accuracy		102	108	108	105	105	

METHODS: EPA SW 846-8020.
BTEX SPIKE AND QC: Sample and Blank Spiked with 200 ppb EACH VOLATILE ORGANICS.

BS

10-24-94

Director, Dr. Blair Leftwich — Date
Director, Dr. Bruce McDonell

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

October 17, 1994
Receiving Date: 10/12/94
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 10/15/94
Sampling Date: 10/11/94
Sample Condition: Intact & Cool
Sample Received by: SC
Project Name: NA

TA#	Field Code	MTBE (ppb)	BENZENE (ppb)	TOLUENE (ppb)	ETHYL-BENZENE (ppb)	M,P,O XYLENE (ppb)	TOTAL BTEX (ppb)
T27050	RA-2723	<1	<1	<1	<1	<1	<1
QC	Quality Control	199	206	208	205	619	
Detection Limit		1	1	1	1	1	
% Precision		100	100	100	100	100	
% Extraction Accuracy		104	107	108	105	105	
% Instrument Accuracy		100	103	104	103	103	

METHODS: EPA SW 846-8020.
BTEX SPIKE AND QC: Sample and Blank Spiked with 200 ppb EACH VOLATILE ORGANICS.

BS
Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

10-17-94
Date

TELEPHONE
(505) 748-3311

EASYLINK
62905278

NAVAJO REFINING COMPANY

501 EAST MAIN STREET ◦ P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159

FAX
(505) 746-6410 ACCTG
(505) 746-6155 EXEC
(505) 748-9077 ENGR
(505) 746-4438 P / L

'95 JAN 13 AM 8 52

January 9, 1995

Mr. William Olson, Hydrogeologist
Environmental Bureau
Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87504

RE: SAMPLING SCHEDULE - OFFSITE PLUME 1st QUARTER 1995, NAVAJO REFINING

Dear Bill:

Below is the sampling schedule for the offsite plume for the 1st quarter of 1995:

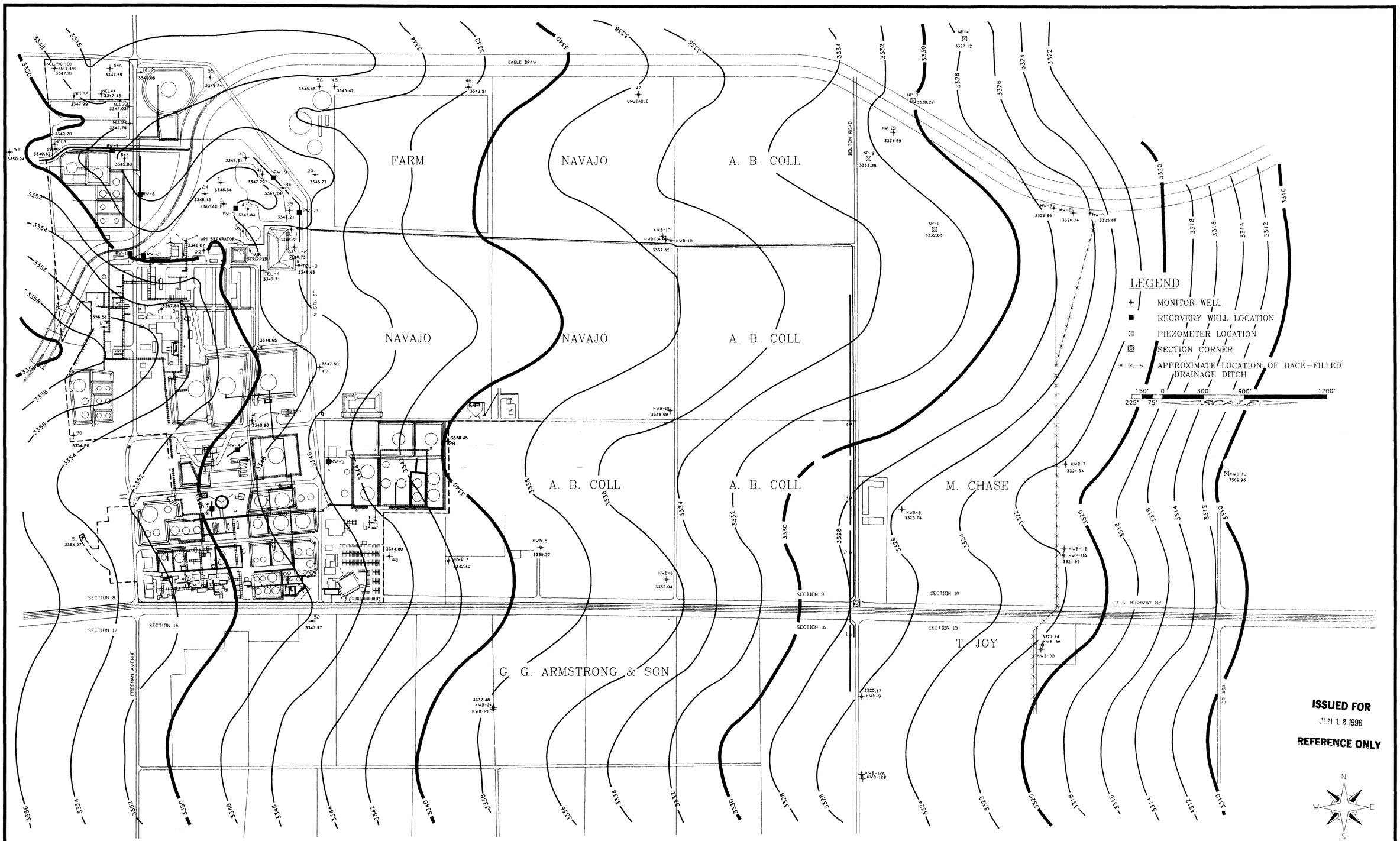
	RA 2723	RA 4196	RA 4798	RA 313	RA 314	RA 1331	RA 307	RA 1227	QRTLY
January 10, 1995	X								
January 26, 1995	X	X	X						
February 9, 1995	X								
February 23, 1995	X	X	X						
March 9, 1995	X								
March 23, 1995	X	X	X	X	X	X	X	X	X

This letter will satisfy our requirement to provide 2 weeks notice to OCD, in case you would like to split samples with us. If you have any questions please call me at 748-3311.

Regards,

Darrell Moore

Darrell Moore
Environmental Specialist



NOTES

REFERENCE DRAWINGS

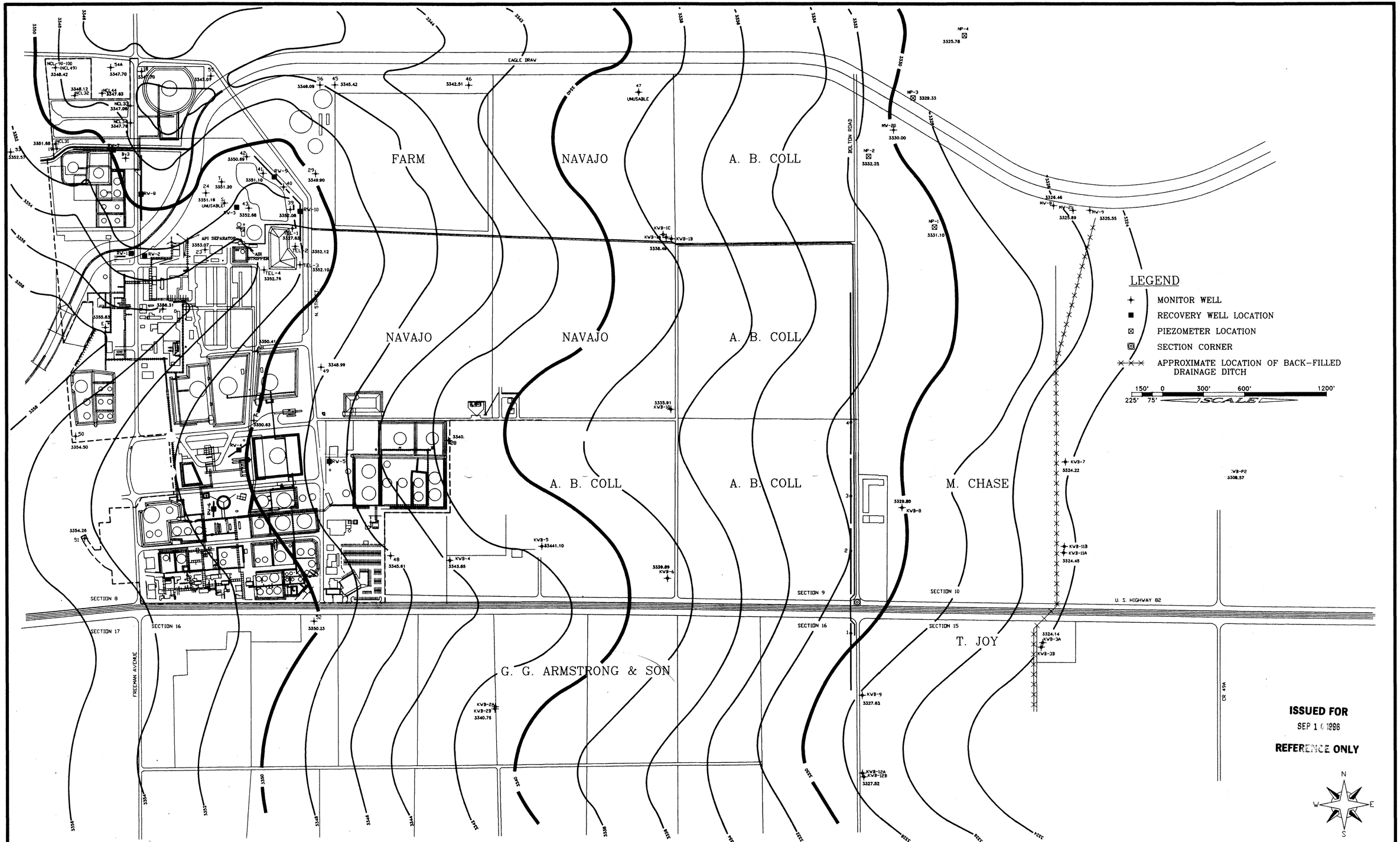
NO.	REVISIONS	BY	CHK.	DATE	APPR.	APPR.
4	MAY, 1996 READINGS	DLW	DGJ	6/14/96	DGM	DGJ
3	JANUARY, 1996 READINGS	DLW	DGJ	1-11-96	DGM	DGJ
2	SEPTEMBER, 1995 READINGS	PETE	DGJ	10-7-95	DGM	DGJ
1	JUNE, 1995 READINGS	PETE	DGJ	7-13-95	DGM	ILS
0	ISSUED WITH MARCH, 1995 READINGS	PETE	DGJ	3-27-95	DGM	ILS

DRAWING TITLE

GROUNDWATER POTENTIOMETRIC MAP NAVAJO REFINING

NAVAJO REFINING CO.
ENGINEERING DEPARTMENT
P.O. DRAWER 159
ARTESIA, NEW MEXICO

DRAWN BY	CHK'D BY	SCALE	
DLW	DGM	AS SHOWN	
DATE	APPR BY	DRAWING NUMBER	REV.
3-17-95	ILS	90-44-D	4



NOTES

REFERENCE DRAWINGS

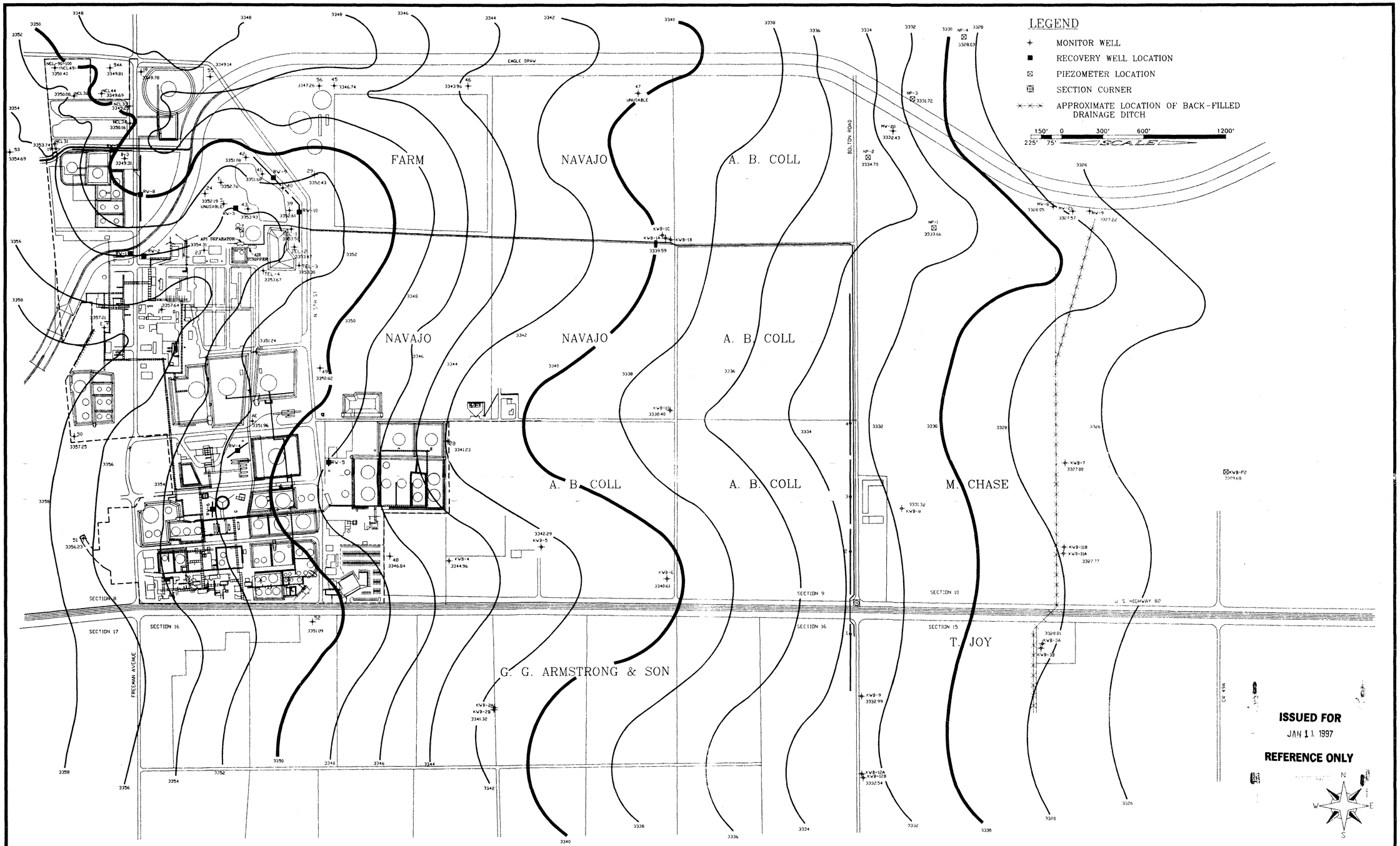
NO.	REVISIONS	BY	CHK.	DATE	APPR.	APPR.
5	AUGUST, 1996 READINGS	DLW	DGJ	9/11/96	DGM	DGJ
4	MAY, 1996 READINGS	DLW	DGJ	5/14/96	DGM	DGJ
3	JANUARY, 1996 READINGS	DLW	DGJ	11-11-96	DGM	DGJ
2	SEPTEMBER, 1995 READINGS	PETE	DGJ	10-7-95	DGM	DGJ
1	JUNE, 1995 READINGS	PETE	DGJ	7-13-95	DGM	ILS
0	ISSUED WITH MARCH, 1995 READINGS	PETE	DGJ	3-27-95	DGM	ILS

DRAWING TITLE

GROUNDWATER POTENTIOMETRIC MAP NAVAJO REFINING

NAVAJO REFINING CO.
ENGINEERING DEPARTMENT
P.O. DRAWER 159
ARTESIA, NEW MEXICO

DRAWN BY	CHK'D BY	SCALE	
DLW	DGM	AS SHOWN	
DATE	APPR BY	DRAWING NUMBER	REV.
3-17-95	ILS	90-44-D	5



NOTES

REFERENCE DRAWINGS

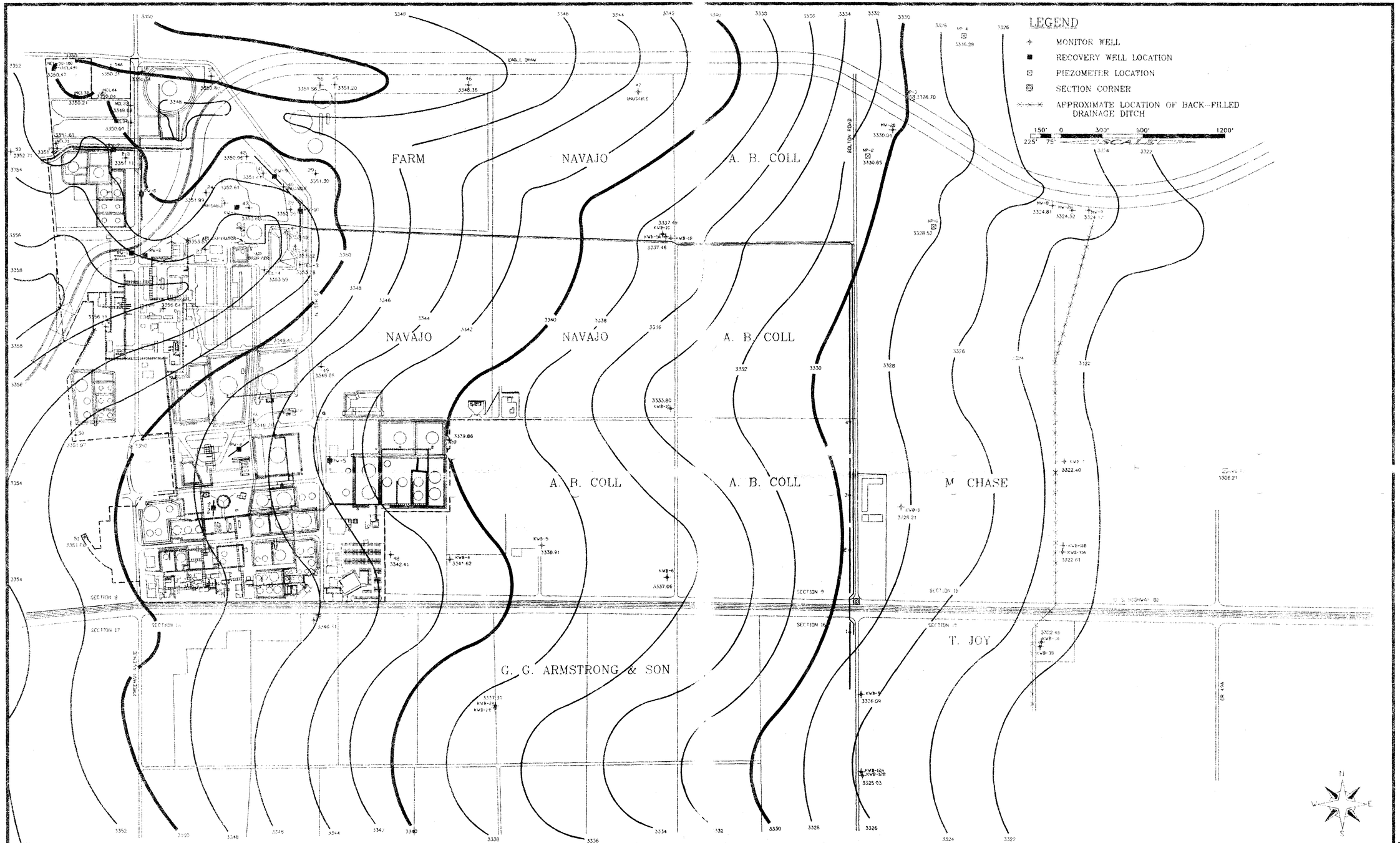
NO	REVISIONS	BY	CHK.	DATE	APPR	APPR.
6	OCT., 1996 READINGS	LGR	DGJ	1/11/97	DGM	DGJ
5	AUGUST, 1996 READINGS	DLW	DGJ	9/17/96	DGM	DGJ
4	MAY, 1996 READINGS	DLW	DGJ	6/14/96	DGM	DGJ
3	JANUARY, 1996 READINGS	DLW	DGJ	1-31-96	DGM	DGJ
2	SEPTEMBER, 1995 READINGS	PETE	DGJ	10-7-95	DGM	DGJ
1	JUNE, 1995 READINGS	PETE	DGJ	7-13-95	DGM	ILS
0	ISSUED WITH MARCH, 1995 READINGS	PETE	DGJ	3-27-95	DGM	ILS

DRAWING TITLE

GROUNDWATER POTENTIOMETRIC MAP NAVAJO REFINING

NAVAJO REFINING CO.
ENGINEERING DEPARTMENT
P.O. DRAWER 159
ARTESIA, NEW MEXICO

DRAWN BY	CHK'D BY	SCALE
DLW	DGM	AS SHOWN
DATE	APPR BY	DRAWING NUMBER / REV
3-17-95	ILS	90-44-D / 6



NOTES

REFERENCE DRAWINGS

NO.	REVISIONS

NO.	REVISIONS	BY	CHK.	DATE	APPR.	APPR.
7	JAN. 1997 READINGS	LGR	DLW	2/24/97	DGM	DGJ
6	OCT., 1996 READINGS	LGR	DLW	11/14/96	DGM	DGJ
5	AUGUST, 1996 READINGS	DLW	DGJ	9/19/96	DGM	DGJ
4	MAY, 1996 READINGS	DLW	DGJ	6/14/96	DGM	DGJ
3	JANUARY, 1996 READINGS	DLW	DGJ	2-1-96	DGM	DGJ
2	SEPTEMBER, 1995 READINGS	PETE	DGJ	10-1-95	DGM	DGJ
1	JUNE, 1995 READINGS	PETE	DGJ	7-1-95	DGM	ILS
0	ISSUED WITH MARCH, 1995 READINGS	PETE	DGJ	3-21-95	DGM	ILS

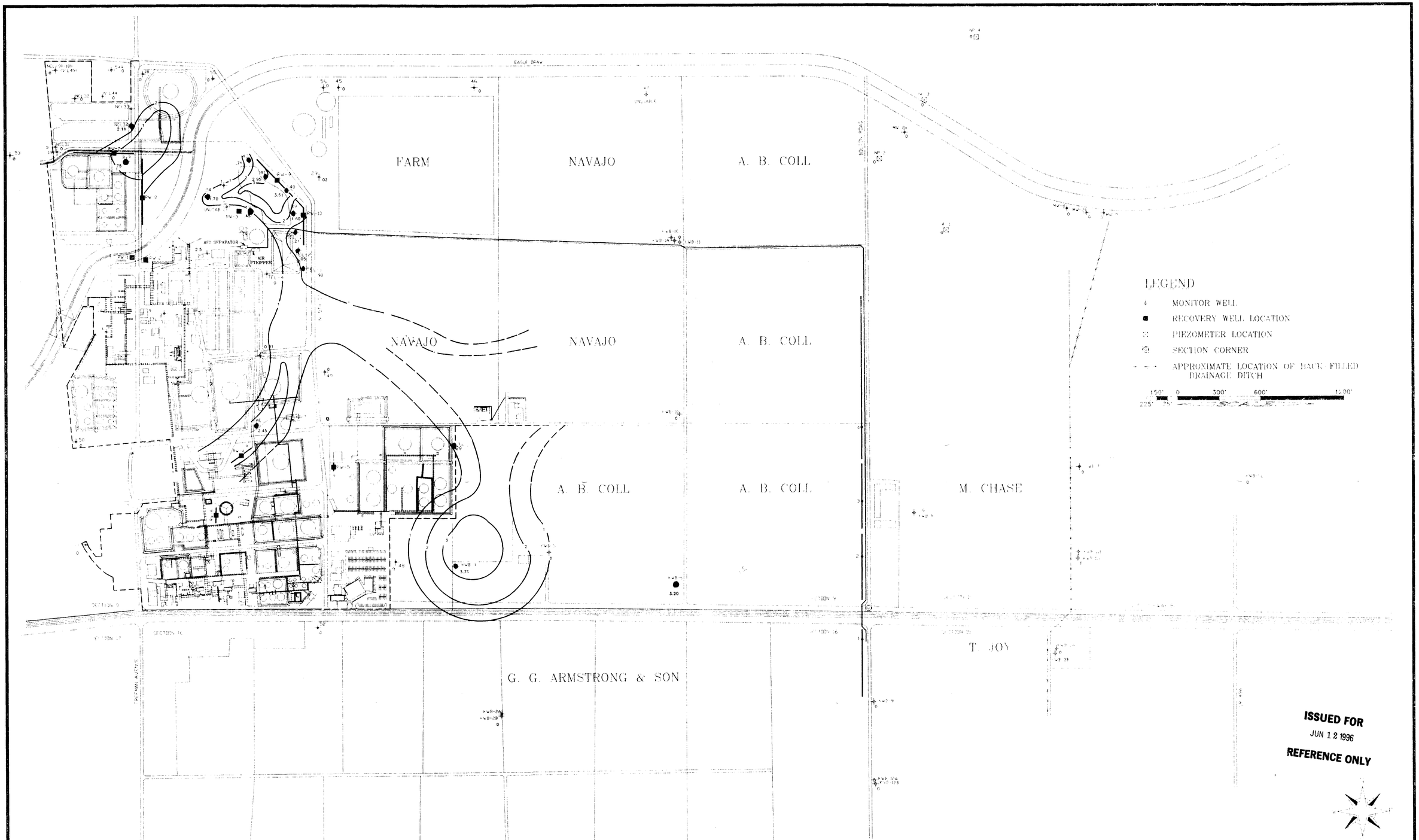
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GROUNDWATER POTENTIOMETRIC MAP NAVAJO REFINING

NAVAJO REFINING CO.
ENGINEERING DEPARTMENT
P.O. DRAWER 159
ARTESIA, NEW MEXICO

DRAWN BY	CHK'D BY	SCALE
DLW	DGM	AS SHOWN
DATE	APPD BY	DRAWING NUMBER / REV.
3-17-95	ILS	90-44-D / 7

ISSUED FOR
FEB 28 1997
REFERENCE ONLY



ISSUED FOR
JUN 12 1996
REFERENCE ONLY

NOTES

REFERENCE DRAWINGS

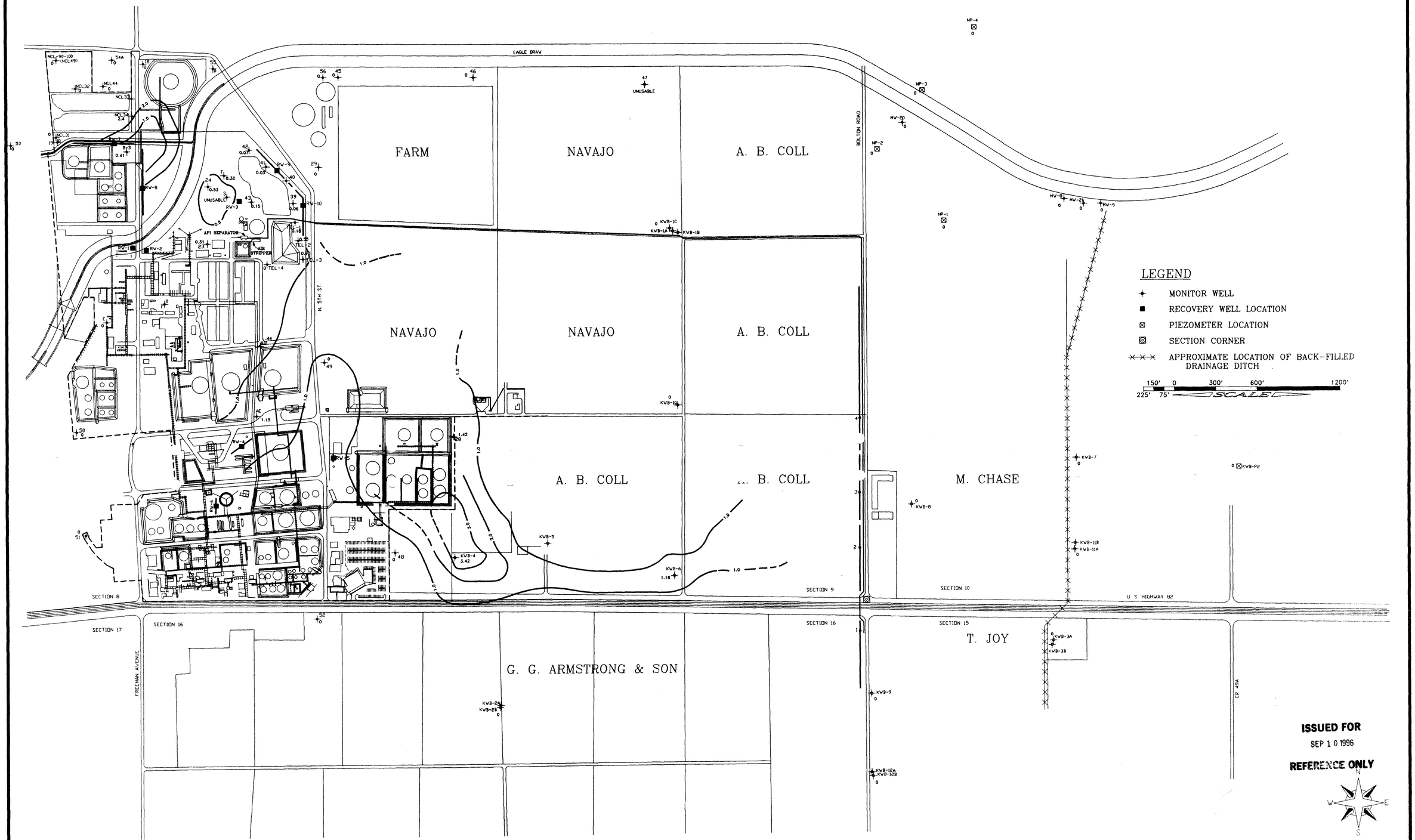
NO	REVISIONS	BY	CHK	DATE	APP	APPR

NO	REVISIONS	BY	CHK	DATE	APP	APPR
4	MAY, 1996 READINGS	DLW	DGC	6-14-96	DGM	DGC
3	JANUARY, 1996 READINGS	DLW	DGC	6-14-96	DGM	DGC
2	SEPTEMBER, 1995 READINGS	PETE	DGC	10-18-95	DGM	DGC
1	JUNE, 1995 READINGS	PETE	DGC	7-18-95	DGM	TLS
0	ISSUED WITH MARCH, 1995 READINGS	PETE	DGC	3-27-95	DGM	TLS

DRAWING TITLE
PRODUCT THICKNESS MAP
NAVAJO REFINING

NAVAJO REFINING CO.
ENGINEERING DEPARTMENT
P.O. DRAWER 159
ARTESIA, NEW MEXICO

DRAWN BY	CHK'D BY	SCALE
PETE	DGM	AS SHOWN
DATE	APP'D BY	DRAWING NUMBER	REV
5-17-95	TLS	30-45-E	4



NOTES

REFERENCE DRAWINGS

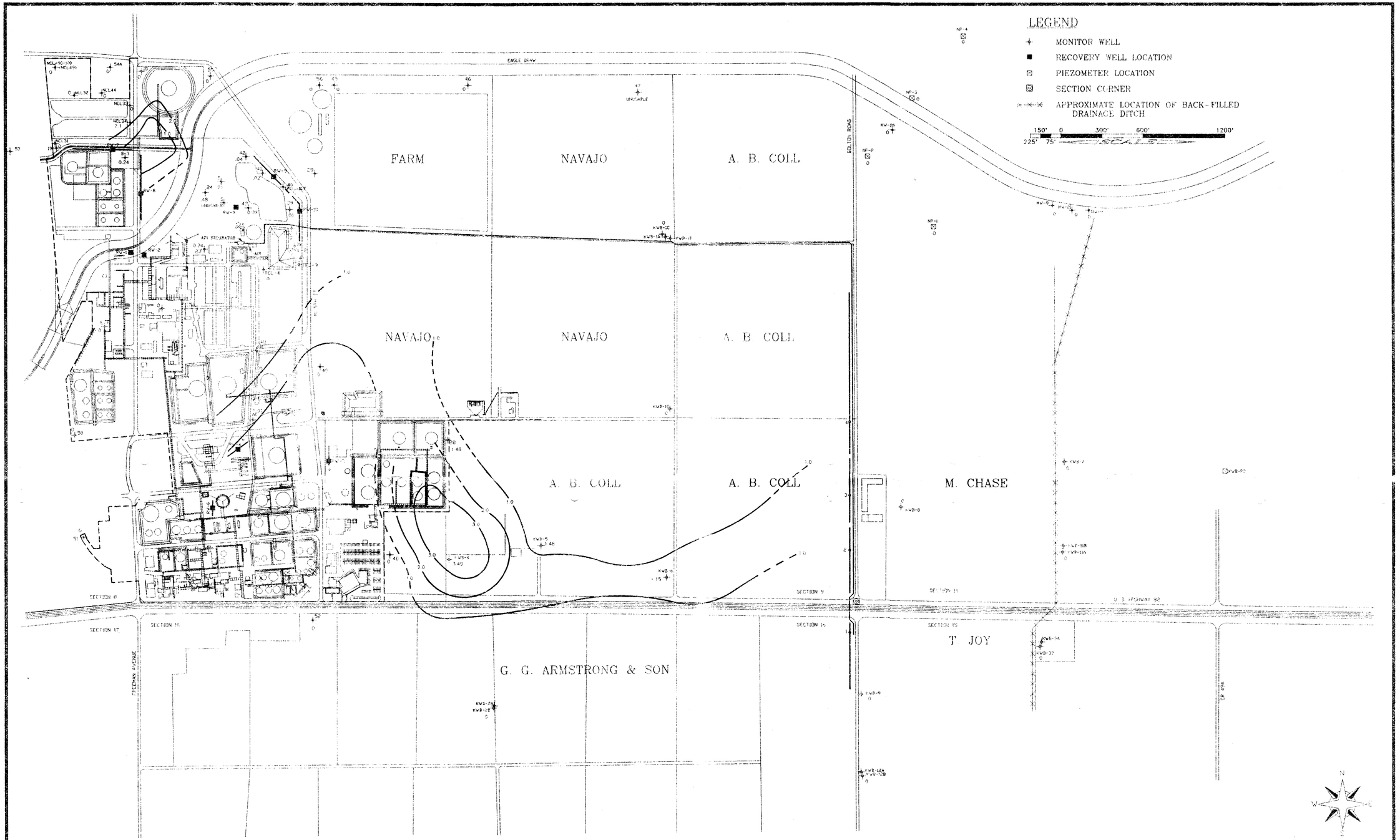
NO.	REVISIONS	BY	CHK.	DATE	APPR.	APPR.
5	AUGUST, 1996 READINGS	DLW	DGJ	9/11/96	DGM	DGJ
4	MAY, 1996 READINGS	DLW	DGJ	6/14/96	DGM	DGJ
3	JANUARY, 1996 READINGS	DLW	DGJ	11-11-95	DGM	DGJ
2	SEPTEMBER, 1995 READINGS	PETE	DGJ	9-11-95	DGM	DGJ
1	JUNE, 1995 READINGS	PETE	DGJ	7-18-95	DGM	ILS
0	ISSUED WITH MARCH, 1995 READINGS	PETE	DGJ	3-27-95	DGM	ILS

DRAWING TITLE

PRODUCT THICKNESS MAP
NAVAJO REFINING

NAVAJO REFINING CO.
ENGINEERING DEPARTMENT
P.O. DRAWER 159
ARTESIA, NEW MEXICO

DRAWN BY	CHK'D BY	SCALE	
pm	DGM	AS SHOWN	
DATE	APPR BY	DRAWING NUMBER	REV
3-17-95	ILS	90-45-D	5



NOTES

REFERENCE DRAWINGS

NO.	REVISIONS	BY	CHK	DATE	APPR	APPR

NO.	REVISIONS	BY	CHK	DATE	APPR	APPR
7	JAN. 1997 READINGS	LGR	BHR	2/25/97	DGM	DGJ
6	OCT. 1996 READINGS	LGR	DLW	11/15/97	DGM	DGJ
5	AUGUST, 1996 READINGS	DLW	DGJ	8/21/96	DGM	DGJ
4	MAY, 1996 READINGS	DLW	DGJ	5/21/96	DGM	DGJ
3	JANUARY, 1996 READINGS	DLW	DGJ	1-18-96	DGM	DGJ
2	SEPTEMBER, 1995 READINGS	PETE	DGJ	9-11-95	DGM	DGJ
1	JUNE, 1995 READINGS	PETE	DGJ	7-18-95	DGM	ILS
0	ISSUED WITH MARCH, 1995 READINGS	PETE	DGJ	3-17-95	DGM	ILS

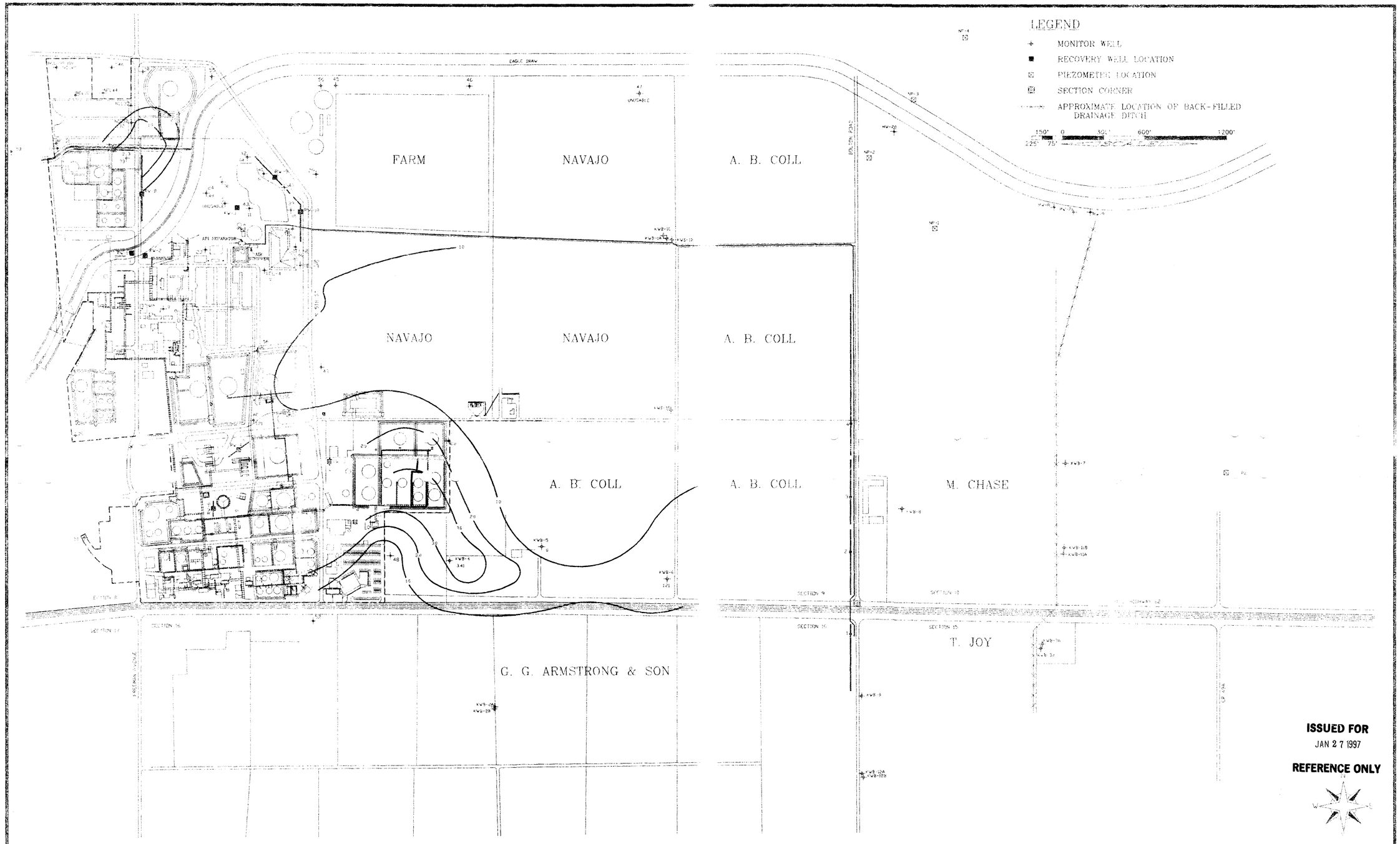
DRAWING TITLE

PRODUCT THICKNESS MAP
NAVAJO REFINING

NAVAJO REFINING CO.
ENGINEERING DEPARTMENT
P.O. DRAWER 159
ARTESIA, NEW MEXICO

DRAWN BY	CHK'D BY	SCALE
DLW	DGM	AS SHOWN
DATE	APP'D BY	DRAWING NUMBER / REV.
3-17-95	ILS	90-45-D / 7

ISSUED FOR
FEB 25 1997
REFERENCE ONLY



ISSUED FOR
JAN 2 7 1997
REFERENCE ONLY

NOTES:

REFERENCE DRAWINGS:

NO	REVISIONS	BY	CHK	DATE	APPR	APPR
7	OCT., 1996 READINGS (PROD. CONT. & THICK.)	DGM	DGJ	12/20/96	DGM	DGJ
6	OCT., 1996 READINGS (WATER CONT. & LEVEL)	DGM	DGJ	11/01/96	DGM	DGJ
5	AUGUST, 1996 READINGS	DLW	DGJ	09/06/96	DGM	DGJ
4	MAY, 1996 READINGS	DLW	DGJ	06/06/96	DGM	DGJ
3	JANUARY, 1996 READINGS	DLW	DGJ	03/19/96	DGM	DGJ
2	SEPTEMBER, 1995 READINGS	PETE	DGJ	09-7-95	DGM	DGJ
1	JUNE, 1995 READINGS	PETE	DGJ	7-17-95	DGM	ALS
0	ISSUED WITH MARCH, 1995 READINGS	PETE	DGJ	3-17-95	DGM	ALS

DRAWING TITLE:

GROUNDWATER POTENTIOMETRIC MAP NAVAJO REFINING

NAVAJO REFINING CO.
ENGINEERING DEPARTMENT
P.O. DRAWER 159
ARTESIA, NEW MEXICO

DRAWN BY	INPUT BY	SCALE
DLW	DGM	AS SHOWN
DATE	APPR BY	DRAWING NUMBER	SH
3-17-95	ALS	92-44-D	7