GW - 28

MONITORING REPORTS

DATE:

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

April 11, 1995

Mr. Bill Olson
Geologist
Environmental Bureau
Oil Conservation Division
2040 S. Pacheco St.
Santa Fe, NM 87505-5472

RE: QUARTERLY REPORT GROUND WATER REMEDIATION, NAVAJO REFINING CO., EDDY COUNTY, NEW MEXICO

Dear Bill:

Enclosed are the results from the sampling on our monitor wells. Since we were behind on the schedule you suggested in your July 25, 1994 letter, we did the annual sampling this time. We have also included a map of the ground water potentiometric surface for this quarter as well as a map of the product thickness in the monitor wells.

As of this time, we have not started injecting into the ground or discharging this water to our farm. The water is still being put through the API oil/water separator and eventually ends up in the ponds. To date, we have recovered at least 124,139 gallons of product from the four wells on Bolton Road. We have had problems keeping water out of the product guages in these wells. When water gets in them, they freeze up and have to be replaced. Therefore, there has been some amount of product that has been recovered but not measured.

We have also pumped at least 13,280,000 gallons of water from the four wells on Bolton Road. This is broken down as follows: Bolton Road RW #1 - 1,345,000 Bolton Road RW #2 - 1,980,000 Bolton Road RW #3 - 4,090,000 and Bolton Road RW#4 - 5,865,000. We have also had problems with these guages. Because of the make-up of this water (pH, conductivity, organics, etc) these guages don't last a long time. The net result being, we have pumped more water than these guages show. We have ordered electric guages that are designed for this service to install on all the recovery wells both inside and outside the plant.

The recovery wells inside the plant (RW 7,8,9,and 10) do not have working guages on them. We are in the process of getting the new guages installed. Again, I was under the erroneous assumption that these were not due until we started injecting. Therefore we are just getting organized to fulfill all of your requests.

Due to my error as to when we were to start filing these reports, we don't have accurate numbers for the amount of fluid pumped during the last quarter. We will be sending quarterly fluid amounts in subsequent reports.

You will notice that several of the irrigation wells have hits of Carbon Disulfide. We have talked to our lab about this because we feel these are contaminants. Also, we show a hit of 34 ppb ethylbenzene in KWB-11A. This is an odd occurance since no other 624 compounds were noticed. We would expect to see other BTEX compounds. The lab is looking into this to see if there were other compounds that were missed or if this spike was wrongly interpreted as ethylbenzene. I have heard that on old spills you will sometimes see ethylbenzene and not benzene but this is a first for us. Finally, RA-314 was not sampled because it was not running on the day samples were collected. Usually if a well isn't running, I will find the farmer or tenant and get the well turned on long enough to collect samples. I couldn't find anyone that day, so we by-passed it until next month.

Thank you for your time in this matter. By the next quarterly report, we should be completely up to speed. If there are any questions, please call me at 505-748-3311.

Very truly yours,

NAVAJO REFINING COMPANY

Darrell Moore

Darrell Moore
Environmental Specialist

Enclosures

RA-2723

DATE SAMPLED		01/12/95	01/26/95	02/10/95	02/22/95	03/09/95							
COMPOUNDS DETECTED (ppb)	NO COMPOUNDS WERE DETECTED THIS QUARTER												

RA-4196

DATE SAMPLED		01/26/95	02/10/95	02/22/95	03/09/95								
COMPOUNDS DETECTED (ppb)													
	Carbon Disulfide				2								

RA-4798

DATE SAMPLED		01/26/95	02/10/95	02/22/95	03/09/95								
COMPOUNDS DETECTED (ppb)													
	m, p, & o xylene		3										
	Carbon Disulfide				6								

RA-313 ONLY DURING IRRIGATION SEASON

DATE SAMPLED		03/10/95											
COMPOUNDS DETECTED (ppb)	NO COMPOUNDS WERE DETECTED THIS QUARTER												

RA-314 ONLY DURING IRRIGATION SEASON

DATE SAMPLED		03/10/95											
COMPOUNDS DETECTED (ppb)	THIS WELL WAS NOT RUNNING THE DAY SAMPLES WERE CAUGHT												

RA-1331 ONLY DURING IRRIGATION SEASON

DATE SAMPLED		03/10/95											
COMPOUNDS DETECTED (ppb)													
	Carbon Disulfide	7											

RA-307 ONLY DURING IRRIGATION SEASON

DATE SAMPLED		03/09/95											
COMPOUNDS DETECTED (ppb)													
	Carbon Disulfide	3											
	Toluene	1											

RA-1227 ONLY DURING IRRIGATION SEASON

DATE SAMPLED	03/09/95											
COMPOUNDS DETECTED (ppb)	NO COMPOUNDS WERE DETECTED THIS QUARTER											

RA-3156 ONLY DURING IRRIGATION SEASON

DATE SAMPLED		03/09/95											
COMPOUNDS DETECTED (ppb)	NO COMPOUNDS WERE DETECTED THIS QUARTER												

RA-3353 ONLY DURING IRRIGATION SEASON

DATE SAMPLED		03/09/95											
COMPOUNDS DETECTED (ppb)	NO COMPOUNDS WERE DETECTED THIS QUARTER												

KWB-1A

Date Sampled		03/09/95											
	pH	7.1											
	Cond	5460											
	Temp (C)	21											
	Elev. Grdwtr (ft)	3338.19											
	Potassium (mg/l)	1.4											
	Magnesium (mg/l)	364											
	Calcium (mg/l)	395											
	Sodium (mg/l)	293											
	Chloride (mg/l)	333											
	Fluoride (mg/l)	1.2											
	Sulfate (mg/l)	2365											
	Alkalinity(HCO3) (mg/l as CaCO3	429											
	Alkalinity(CO3) (mg/l as CaCO3)	0											
	As (mg/l)	ND											
	Mo (mg/l)	ND											
	Cr (mg/l)	ND											
	Zn (mg/l)	ND											
	Cd (mg/l)	ND											
	Ni (mg/l)	ND											
	Be (mg/l)	ND											
M	Fe (mg/l)	0.03											
E	Co (mg/l)	ND											
T	Mn (mg/l)	0.2											
A	V (mg/l)	ND											
L	Cu (mg/l)	ND											
S	Al (mg/l)	0.14											
	B (mg/l)	0.69											
	Ba (mg/l)	ND											
	U (mg/l)	ND											
	Hg (mg/l)	ND											
	Se (mg/l)	ND											
	Ag (mg/l)	ND											
	Pb (mg/l)	ND											
624 Compounds (ppb)	Benzene	4409											
PAH'S (ppm)	Naphthalene	0.04											

KWB-1C

Date Sampled		03/10/95											
	pH	7.1											
	Cond	5280											
	Temp (C)	21											
	Elev. Grdwtr (ft)	3338.27											
	Potassium (mg/l)	4.1											
	Magnesium (mg/l)	213											
	Calcium (mg/l)	270											
	Sodium (mg/l)	191											
	Chloride (mg/l)	303											
	Fluoride (mg/l)	1.1											
	Sulfate (mg/l)	1817											
	Alkalinity(HCO3) (mg/l as CaCO3	484											
	Alkalinity(CO3) (mg/l as CaCO3)	0											
M E T A L S	As (mg/l)	ND											
	Mo (mg/l)	ND											
	Cr (mg/l)	ND											
	Zn (mg/l)	ND											
	Cd (mg/l)	ND											
	Ni (mg/l)	ND											
	Be (mg/l)	ND											
	Fe (mg/l)	1.4											
	Co (mg/l)	ND											
	Mn (mg/l)	0.1											
	V (mg/l)	ND											
	Cu (mg/l)	ND											
	Al (mg/l)	0.06											
	B (mg/l)	0.44											
	Ba (mg/l)	ND											
	U (mg/l)	ND											
	Hg (mg/l)	ND											
	Se (mg/l)	ND											
	Ag (mg/l)	ND											
	Pb (mg/l)	ND											
624 Compounds (ppb)	Benzene	3483											
PAH's (ppm)													

KWB-2A

Date Sampled		3/9-10/95											
	pH	7.1											
	Cond	3980											
	Temp (C)	21											
	Elev. Grdwtr (ft)	3336.31											
	Potassium (mg/l)	0.4											
	Magnesium (mg/l)	142											
	Calcium (mg/l)	242											
	Sodium (mg/l)	91.7											
	Chloride (mg/l)	157											
	Fluoride (mg/l)	1.1											
	Sulfate (mg/l)	1578											
	Alkalinity(HCO3) (mg/l as CaCO3	267											
	Alkalinity(CO3) (mg/l as CaCO3)	0											
METALS	As (mg/l)	ND											
	Mo (mg/l)	ND											
	Cr (mg/l)	ND											
	Zn (mg/l)	0.46											
	Cd (mg/l)	ND											
	Ni (mg/l)	ND											
	Be (mg/l)	ND											
	Fe (mg/l)	0.02											
	Co (mg/l)	ND											
	Mn (mg/l)	ND											
	V (mg/l)	ND											
	Cu (mg/l)	ND											
	Al (mg/l)	0.13											
	B (mg/l)	0.2											
	Ba (mg/l)	ND											
	U (mg/l)	ND											
	Hg (mg/l)	ND											
	Se (mg/l)	ND											
	Ag (mg/l)	ND											
	Pb (mg/l)	ND											
624 Compounds (ppb)													
PAH's (ppm)													

KWB-9

Date Sampled		03/09/95											
	pH	7.2											
	Cond	3240											
	Temp (C)	22											
	Elev. Grdwtr (ft)	3328.5											
	Potassium (mg/l)	1.9											
	Magnesium (mg/l)	199											
	Calcium (mg/l)	432											
	Sodium (mg/l)	145											
	Chloride (mg/l)	132											
	Fluoride (mg/l)	0.6											
	Sulfate (mg/l)	1696											
	Alkalinity(HCO3) (mg/l as CaCO3	463											
	Alkalinity(CO3) (mg/l as CaCO3)	0											
M E T A L S	As (mg/l)	ND											
	Mo (mg/l)	ND											
	Cr (mg/l)	ND											
	Zn (mg/l)	ND											
	Cd (mg/l)	ND											
	Ni (mg/l)	ND											
	Be (mg/l)	ND											
	Fe (mg/l)	0.8											
	Co (mg/l)	ND											
	Mn (mg/l)	ND											
	V (mg/l)	ND											
	Cu (mg/l)	ND											
	Al (mg/l)	1.1											
	B (mg/l)	0.5											
	Ba (mg/l)	ND											
	U (mg/l)	ND											
	Hg (mg/l)	ND											
	Se (mg/l)	0.001											
	Ag (mg/l)	ND											
	Pb (mg/l)	ND											
624 Compounds (ppb)	1,1 Dichloroethane	10											
	m & p Xylene	3											
PAH's (ppm)													

KWB-11A

Date Sampled		03/09/95											
	pH	7											
	Cond	3320											
	Temp (C)	22											
	Elev. Grdwtr (ft)	3329.13											
	Potassium (mg/l)	0.4											
	Magnesium (mg/l)	168											
	Calcium (mg/l)	303											
	Sodium (mg/l)	167											
	Chloride (mg/l)	431											
	Fluoride (mg/l)	1											
	Sulfate (mg/l)	1058											
	Alkalinity(HCO3) (mg/l as CaCO3	522											
	Alkalinity(CO3) (mg/l as CaCO3)	0											
M E T A L S	As (mg/l)	ND											
	Mo (mg/l)	ND											
	Cr (mg/l)	ND											
	Zn (mg/l)	ND											
	Cd (mg/l)	ND											
	Ni (mg/l)	ND											
	Be (mg/l)	ND											
	Fe (mg/l)	0.08											
	Co (mg/l)	ND											
	Mn (mg/l)	ND											
	V (mg/l)	ND											
	Cu (mg/l)	ND											
	Al (mg/l)	0.2											
	B (mg/l)	0.36											
	Ba (mg/l)	ND											
	U (mg/l)	ND											
	Hg (mg/l)	ND											
	Se (mg/l)	ND											
	Ag (mg/l)	ND											
	Pb (mg/l)	ND											
624 Compounds (ppb)													
	Ethylbenzene	34											
PAH's (ppm)													

KWB-12A

Date Sampled		03/09/95											
	pH	7.1											
	Cond	3800											
	Temp (C)	23											
	Elev. Grdwtr (ft)	3328.02											
	Potassium (mg/l)	2.5											
	Magnesium (mg/l)	197											
	Calcium (mg/l)	485											
	Sodium (mg/l)	224											
	Chloride (mg/l)	122											
	Fluoride (mg/l)	0.8											
	Sulfate (mg/l)	3046											
	Alkalinity(HCO3) (mg/l as CaCO3	343											
	Alkalinity(CO3) (mg/l as CaCO3)	0											
	As (mg/l)	ND											
	Mo (mg/l)	ND											
	Cr (mg/l)	ND											
	Zn (mg/l)	0.02											
	Cd (mg/l)	ND											
	Ni (mg/l)	ND											
	Be (mg/l)	ND											
M	Fe (mg/l)	1.41											
E	Co (mg/l)	ND											
T	Mn (mg/l)	0.4											
A	V (mg/l)	ND											
L	Cu (mg/l)	ND											
S	Al (mg/l)	2.91											
	B (mg/l)	0.25											
	Ba (mg/l)	ND											
	U (mg/l)	ND											
	Hg (mg/l)	ND											
	Se (mg/l)	0.001											
	Ag (mg/l)	ND											
	Pb (mg/l)	ND											
624 Compounds	Toluene	1											
	Ethylbenzene	2											
(ppb)	m & p Xylene	2											
PAH's (ppm)													

MW-18

Date Sampled		03/09/95											
	pH	7.2											
	Cond	2240											
	Temp (C)	23											
	Elev. Grdwtr (ft)	3349.3											
	Potassium (mg/l)	1.8											
	Magnesium (mg/l)	186											
	Calcium (mg/l)	302											
	Sodium (mg/l)	58.9											
	Chloride (mg/l)	225											
	Fluoride (mg/l)	1.2											
	Sulfate (mg/l)	1145											
	Alkalinity(HCO3) (mg/l as CaCO3	492											
	Alkalinity(CO3) (mg/l as CaCO3)	0											
M E T A L S	As (mg/l)	ND											
	Mo (mg/l)	ND											
	Cr (mg/l)	ND											
	Zn (mg/l)	0.02											
	Cd (mg/l)	ND											
	Ni (mg/l)	ND											
	Be (mg/l)	ND											
	Fe (mg/l)	0.2											
	Co (mg/l)	ND											
	Mn (mg/l)	ND											
	V (mg/l)	ND											
	Cu (mg/l)	ND											
	Al (mg/l)	0.36											
	B (mg/l)	0.63											
	Ba (mg/l)	ND											
	U (mg/l)	ND											
	Hg (mg/l)	ND											
	Se (mg/l)	0.001											
	Ag (mg/l)	ND											
	Pb (mg/l)	ND											
624 Compounds (ppb)													
PAH's (ppm)													

MW-28

Date Sampled		03/09/95											
	pH	7.3											
	Cond	3190											
	Temp (C)	20											
	Elev. Grdwtr (ft)	3339.32											
	Potassium (mg/l)	2.1											
	Magnesium (mg/l)	106											
	Calcium (mg/l)	84.7											
	Sodium (mg/l)	66.1											
	Chloride (mg/l)	259											
	Fluoride (mg/l)	1.5											
	Sulfate (mg/l)	448											
	Alkalinity(HCO3) (mg/l as CaCO3	1084											
	Alkalinity(CO3) (mg/l as CaCO3)	0											
M E T A L S	As (mg/l)	ND											
	Mo (mg/l)	ND											
	Cr (mg/l)	ND											
	Zn (mg/l)	0.04											
	Cd (mg/l)	0.01											
	Ni (mg/l)	ND											
	Be (mg/l)	ND											
	Fe (mg/l)	0.21											
	Co (mg/l)	ND											
	Mn (mg/l)	ND											
	V (mg/l)	ND											
	Cu (mg/l)	ND											
	Al (mg/l)	ND											
	B (mg/l)	0.73											
	Ba (mg/l)	ND											
	U (mg/l)	ND											
	Hg (mg/l)	ND											
	Se (mg/l)	ND											
	Ag (mg/l)	ND											
	Pb (mg/l)	0.062											
624 Compounds (ppb)													
	Benzene	983											
	Toluene	613											
	Ethylbenzene	1345											
	m & p Xylene	863											
	o- Xylene	110											
PAH's (ppm)													
	Naphthalene	0.076											

MW-29

Date Sampled		03/09/95											
	pH	7.1											
	Cond	3180											
	Temp (C)	21											
	Elev. Grdwtr (ft)	3350.68											
	Potassium (mg/l)	3.6											
	Magnesium (mg/l)	262											
	Calcium (mg/l)	405											
	Sodium (mg/l)	261											
	Chloride (mg/l)	362											
	Fluoride (mg/l)	2.6											
	Sulfate (mg/l)	1836											
	Alkalinity(HCO3) (mg/l as CaCO3)	695											
	Alkalinity(CO3) (mg/l as CaCO3)	0											
M E T A L S	As (mg/l)	ND											
	Mo (mg/l)	ND											
	Cr (mg/l)	ND											
	Zn (mg/l)	0.06											
	Cd (mg/l)	ND											
	Ni (mg/l)	ND											
	Be (mg/l)	ND											
	Fe (mg/l)	0.73											
	Co (mg/l)	ND											
	Mn (mg/l)	1.1											
	V (mg/l)	ND											
	Cu (mg/l)	ND											
	Al (mg/l)	0.14											
	B (mg/l)	0.73											
	Ba (mg/l)	ND											
	U (mg/l)	ND											
	Hg (mg/l)	ND											
	Se (mg/l)	ND											
	Ag (mg/l)	ND											
	Pb (mg/l)	ND											
624 Compounds (ppb)													
PAH's (ppm)													
	Naphthalene	0.103											
	Acenaphthene	0.005											
	Fluorene	0.023											
	Phenanthrene	0.003											
	Anthracene	0.037											
	Fluoranthene	0.002											
	Pyrene	0.008											

MW-45

Date Sampled		03/10/95											
	pH	7.3											
	Cond	3240											
	Temp (C)	22											
	Elev. Grdwtr (ft)	3348.44											
	Potassium (mg/l)	14.6											
	Magnesium (mg/l)	443											
	Calcium (mg/l)	612											
	Sodium (mg/l)	541											
	Chloride (mg/l)	1057											
	Fluoride (mg/l)	2.3											
	Sulfate (mg/l)	3197											
	Alkalinity(HCO3) (mg/l as CaCO3)	283											
	Alkalinity(CO3) (mg/l as CaCO3)	0											
M E T A L S	As (mg/l)	ND											
	Mo (mg/l)	ND											
	Cr (mg/l)	ND											
	Zn (mg/l)	0.02											
	Cd (mg/l)	ND											
	Ni (mg/l)	ND											
	Be (mg/l)	ND											
	Fe (mg/l)	2.56											
	Co (mg/l)	ND											
	Mn (mg/l)	0.4											
	V (mg/l)	ND											
	Cu (mg/l)	ND											
	Al (mg/l)	1.55											
	B (mg/l)	0.29											
	Ba (mg/l)	0.5											
	U (mg/l)	ND											
	Hg (mg/l)	ND											
	Se (mg/l)	ND											
	Ag (mg/l)	ND											
	Pb (mg/l)	0.005											
624 Compounds (ppb)													
PAH's (ppm)													

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 24, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/18/95
Sampling Date: 03/9-10/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: Navajo

EPA 624 Compounds (ppb)	T33153 RA-2723	Detection Limit
Dichlorodifluoromethane	ND	1
Chloromethane	ND	1
Vinyl chloride	ND	1
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	50
Chloroform	ND	1
1,1,1-Trichloroethane	ND	1
[illegible]	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 CO. **PAGE 2 of 2**
Project Location: Artesia, NM

EPA 624 Compounds (ppb)	T33153 RA-2723	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	107
Toluene-d8	100
4-Bromofluorobenzene	100

*ND = Not Detected
METHODS: EPA 624

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-24-95
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

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 16, 1995
Receiving Date: 01/13/95
Sample Type: Water
Project No: NA
Project Location: NA

Analysis Date: 01/13/95
Sampling Date: 01/12/95
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)
T30947	RA - 2723	<1	<1	<1	<1	<1	<1
QC	Quality Control	173	213	210	208	624	
Detection Limit		1	1	1	1	1	
% Precision		100	100	100	100	100	
% Extraction Accuracy		86	107	106	105	105	
% Instrument Accuracy		87	107	106	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

1-16-95
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

January 30, 1995
Receiving Date: 01/27/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 01/27/95
Sampling Date: 01/26/95
Sample Condition: Intact & Cool
Sample Received by: DA
Project Name: RA

TA#	Field Code	MTBE (ppb)	BENZENE (ppb)	TOLUENE (ppb)	ETHYL-BENZENE (ppb)	M,P,O XYLENE (ppb)	TOTAL BTEX (ppb)
T31527	RA - 2723	<1	<1	<1	<1	<1	<1
T31528	RA - 4196	<1	<1	<1	<1	<1	<1
T31529	RA - 4798	<1	<1	<1	<1	<1	<1
QC	Quality Control	195	211	206	205	610	
Detection Limit		1	1	1	1	1	
% Precision		93	98	98	98	98	
% Extraction Accuracy		96	108	106	106	106	
% Instrument Accuracy		98	106	104	103	102	

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

1-30-95
Date

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

ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: David Griffin
501 E. Main
Artesia, NM 88210

February 14, 1995
Receiving Date: 02/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 02/11/95
Sampling Date: 02/10/95
Sample Condition: Intact & Cool
Sample Received by: BL
Project Name: NA

TA#	Field Code	BENZENE (ppb)	TOLUENE (ppb)	ETHYL-BENZENE (ppb)	M,P,O XYLENE (ppb)	TOTAL BTEX (ppb)
T32135	RA - 2723	<1	<1	<1	<1	<1
T32136	RA - 4196	<1	<1	<1	<1	<1
T32137	RA - 4798	<1	<1	<1	3	3
QC	Quality Control	197	181	176	521	
Detection Limit		1	1	1	1	
% Precision		99	99	99	99	
% Extraction Accuracy		99	99	98	98	
% Instrument Accuracy		99	91	88	87	

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

2-14-95
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

February 27, 1995
Receiving Date: 02/23/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 02/26/95
Sampling Date: 02/22/95
Sample Condition: Intact & Cool
Sample Received by: DA
Project Name: NA

TA#	Field Code	MTBE (ppb)	BENZENE (ppb)	TOLUENE (ppb)	ETHYL-BENZENE (ppb)	M,P,O XYLENE (ppb)	TOTAL BTEX (ppb)
T32436	RA - 2723	<1	<1	<1	<1	<1	<1
T32437	RA - 4196	<1	<1	<1	<1	<1	<1
T32438	RA - 4798	<1	<1	<1	<1	<1	<1
T32439	RA - 5000	<1	<1	<1	<1	<1	<1
QC	Quality Control	197	202	197	195	611	
Detection Limit		1	1	1	1	1	
% Precision		102	100	100	100	100	
% Extraction Accuracy		106	101	99	99	103	
% Instrument Accuracy		99	101	99	98	102	

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

2-27-95
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

March 24, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/18/95
Sampling Date: 03/9-10/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: Navajo

EPA 624 Compounds (ppb)	T33154 RA-4196	Detection Limit
Dichlorodifluoromethane	ND	1
Chloromethane	ND	1
Vinyl chloride	ND	1
Bromomethane	ND	1
Chloroethane	ND	1
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
Iodomethane	ND	1
Carbon disulfide	2	1
Methylene chloride	ND	1
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

EPA 624 Compounds (ppb)	T33154 RA-4196	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	107
Toluene-d8	99
4-Bromofluorobenzene	99

***ND = Not Detected**
METHODS: EPA 624

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-24-95
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

March 24, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/18/95
Sampling Date: 03/9-10/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: Navajo

EPA 624 Compounds (ppb)	T33156 RA-4798	Detection Limit
Dichlorodifluoromethane	ND	1
Chloromethane	ND	1
Vinyl chloride	ND	1
Bromomethane	ND	1
Chloroethane	ND	1
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
Iodomethane	ND	1
Carbon disulfide	6	1
Methylene chloride	ND	1
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

EPA 624 Compounds (ppb)	T33156 RA-4798	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	107
Toluene-d8	99
4-Bromofluorobenzene	98

***ND = Not Detected**
METHODS: EPA 624

3-24-95

Director, Dr. Blair Leftwich — Date
Director, Dr. Bruce McDonell

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

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

March 24, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/18/95
Sampling Date: 03/9-10/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: Navajo

EPA 624 Compounds (ppb)	T33157 RA-1331	Detection Limit
Dichlorodifluoromethane	ND	1
Chloromethane	ND	1
Vinyl chloride	ND	1
Bromomethane	ND	1
Chloroethane	ND	1
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
Iodomethane	ND	1
Carbon disulfide	7	1
Methylene chloride	ND	1
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

EPA 624 Compounds (ppb)	T33157 RA-1331	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	107
Toluene-d8	99
4-Bromofluorobenzene	99

***ND = Not Detected**
METHODS: EPA 624

3-24-95

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

March 24, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/18/95
Sampling Date: 03/9-10/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: Navajo

EPA 624 Compounds (ppb)	T33155 RA-307	Detection Limit
Dichlorodifluoromethane	ND	1
Chloromethane	ND	1
Vinyl chloride	ND	1
Bromomethane	ND	1
Chloroethane	ND	1
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
Iodomethane	ND	1
Carbon disulfide	3	1
Methylene chloride	ND	1
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	1	1
1,1,2-Trichloroethane	ND	1
2-Hexanone	ND	50

EPA 624 Compounds (ppb)	T33155 RA-307	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	108
Toluene-d8	99
4-Bromofluorobenzene	100

***ND = Not Detected**
METHODS: EPA 624

3-24-95

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

March 24, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/18/95
Sampling Date: 03/9-10/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: Navajo

EPA 624 Compounds (ppb)	T33152 RA-313	Detection Limit
Dichlorodifluoromethane	ND	1
Chloromethane	ND	1
Vinyl chloride	ND	1
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	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

EPA 624 Compounds (ppb)	T33152 RA-313	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	105
Toluene-d8	99
4-Bromofluorobenzene	98

***ND = Not Detected**
METHODS: EPA 624

3-24-95

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

March 24, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/18/95
Sampling Date: 03/9-10/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: Navajo

EPA 624 Compounds (ppb)	T33159 RA-1227	Detection Limit
Dichlorodifluoromethane	ND	1
Chloromethane	ND	1
Vinyl chloride	ND	1
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	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

EPA 624 Compounds (ppb)	T33159 RA-1227	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	110
Toluene-d8	99
4-Bromofluorobenzene	99

***ND = Not Detected**
METHODS: EPA 624

3-24-95

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

March 24, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/18/95
Sampling Date: 03/9-10/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: Navajo

EPA 624 Compounds (ppb)	T33161 RA-3156	Detection Limit
Dichlorodifluoromethane	ND	1
Chloromethane	ND	1
Vinyl chloride	ND	1
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	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

EPA 624 Compounds (ppb)	T33161 RA-3156	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	109
Toluene-d8	99
4-Bromofluorobenzene	99

***ND = Not Detected**
METHODS: EPA 624

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

5-24-95
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

March 24, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/18/95
Sampling Date: 03/9-10/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: Navajo

EPA 624 Compounds (ppb)	T33165 RA-3353	Detection Limit
Dichlorodifluoromethane	ND	1
Chloromethane	ND	1
Vinyl chloride	ND	1
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	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

EPA 624 Compounds (ppb)	T33165 RA-3353	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	103
Toluene-d8	99
4-Bromofluorobenzene	99

***ND = Not Detected**
METHODS: EPA 624

3-24-95

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

March 23, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

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

Analysis Date: 03/21/95
Sampling Date: 03/10/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: NA

TA#	Field Code	POTASSIUM (mg/L)	MAGNESIUM (mg/L)	CALCIUM (mg/L)	SODIUM (mg/L)
T33167	KWB - 1A	1.4	364	395	293
QC	Quality Control	51.4	20.2	20.2	20.2
Detection Limit		0.1	0.1	0.05	0.1
% Precision		98	101	100	96
% Extraction Accuracy		114	99	100	95
% Instrument Accuracy		103	101	101	101

METHODS: EPA 200.7.
QC: Blank Spiked with 50.0 mg/L POTASSIUM; 20.0 mg/L MAGNESIUM, CALCIUM, SODIUM.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-23-95
Date

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

March 23, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/15/95
Sampling Date: 03/10/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: NA

TA#	FIELD CODE	CHLORIDE (mg/L)	FLUORIDE (mg/L)	SULFATE (mg/L)	ALKALINITY (mg/L as CaCo3) HCO3	CO3
T33167	KWB - 1A	333	1.2	2,365	429	0
QC	Quality Control	504	1.04	11	---	---
% Precision		99	109	101	98	98
% Extraction Accuracy		98	114	109	---	---
% Instrument Accuracy		101	102	102	---	---
DETECTION LIMIT		1	0.1	1	10	10

METHODS: EPA 375.4, 310.1, 340.2; 4500 Cl-B.
QC: Blank Spiked with 500 mg/L CHLORIDE; 1.0 mg/L FLUORIDE; 10.0 mg/L SULFATE.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-23-95
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 23, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/20/95
Sampling Date: 03/00/95
Sample Condition: Intact & Cool
Sample Received by: CC
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)	Be (mg/L)	Fe (mg/L)	Co (mg/L)	Mn (mg/L)	V (mg/L)
T33167	KWB - 1A	<0.1	<0.05	<0.01	<0.01	<0.01	<0.05	<0.01	0.03	<0.05	0.2	<0.05
QC	Quality Control	5.2	5.27	5.28	5.26	5.29	5.33	5.20	5.26	5.29	5.3	5.32
DETECTION LIMIT		0.1	0.05	0.01	0.01	0.01	0.05	0.01	0.01	0.05	0.1	0.05
% Precision		102	99	100	99	100	99	100	97	99	100	99
% Extraction Accuracy		105	98	96	100	94	100	100	97	94	100	100
% Instrument Accuracy		104	105	106	105	106	107	104	105	106	106	106

TA#	FIELD CODE	Cu (mg/L)	Al (mg/L)	B (mg/L)	Ba (mg/L)	U (mg/L)	Hg (mg/L)	Se (mg/L)	Ag (mg/L)	Pb (mg/L)
T33167	KWB - 1A	<0.05	0.14	0.69	<0.5	<0.5	<0.001	<0.001	<0.001	<0.001
QC	Quality Control	5.28	5.14	5.14	5.5	9.8	0.022	0.045	0.108	0.050
DETECTION LIMIT		0.05	0.05	0.05	0.5	0.5	0.001	0.001	0.001	0.001
% Precision		98	99	97	99	94	100	100	108	100
% Extraction Accuracy		96	101	105	95	76	100	92	108	88
% Instrument Accuracy		106	103	103	104	100	100	90	108	100

METHODS: EPA 200.7, 239.2, 270.2, 272.2.
QC: Blank Spiked with 0.050 mg/L Se, Pb; 0.100 mg/L Ag; 5.0 mg/L As, Mn, Cu; 5.00 mg/L Mo, Cr, Zn, Cd, Ni, Be, Fe, Co, V, Al, B; 200 mg/L Ba; 9.8 mg/L U; 0.022 mg/L Hg.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-23-95
DATE

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

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

March 24, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/18/95
Sampling Date: 03/9-10/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: Navajo

EPA 624 Compounds (ppb)	T33167 KWB-1A	Detection Limit
Dichlorodifluoromethane	ND	100
Chloromethane	ND	100
Vinyl chloride	ND	100
Bromomethane	ND	100
Chloroethane	ND	100
Trichlorofluoromethane	ND	100
1,1-Dichloroethene	ND	100
Iodomethane	ND	100
Carbon disulfide	ND	100
Methylene chloride	ND	100
trans-1,2-Dichloroethene	ND	100
1,1-Dichloroethane	ND	100
Vinyl acetate	ND	100
2-Butanone	ND	5,000
Chloroform	ND	100
1,1,1-Trichloroethane	ND	100
1,2-Dichloroethane	ND	100
Benzene	4,409	100
Carbon Tetrachloride	ND	100
1,2-Dichloropropane	ND	100
Trichloroethene	ND	100
Bromodichloromethane	ND	100
cis-1,3-Dichloropropene	ND	100
4-Methyl-2-pentanone	ND	5,000
trans-1,3-Dichloropropene	ND	100
Toluene	ND	100
1,1,2-Trichloroethane	ND	100
2-Hexanone	ND	5,000

NAVAJO REFINING CO.
Project Location: Artesia, NM

EPA 624 Compounds (ppb)	T33167 KWB-1A	Detection Limit
Dibromochloromethane	ND	100
Tetrachloroethene	ND	100
Chlorobenzene	ND	100
Ethylbenzene	ND	100
m & p-Xylene	ND	100
Bromoform	ND	100
Styrene	ND	100
o-Xylene	ND	100
1,1,2,2-Tetrachloroethane	ND	100
trans 1,4-Dichloro-2-butene	ND	500
cis 1,4-Dichloro-2-butene	ND	500
1,4-Dichlorobenzene	ND	200
1,3-Dichlorobenzene	ND	200
1,2-Dichlorobenzene	ND	200

SURROGATES	**% RECOVERY**
Dibromofluoromethane	104
Toluene-d8	100
4-Bromofluorobenzene	98

***ND = Not Detected**
METHODS: EPA 624

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-24-95
Date

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

March 24, 1995
Receiving Date: 03/11/95
Sample Type: Water
Sample Condition: I & C
Sample Received by: CC
Project No: NA
Project Name: Navajo
Project Location: Artesia, NM
Analysis Date: 03/20/95

PAH's T33167

EPA 625 (ppm)	DL	KWB-1A	QC	%P	%EA	%IA
Naphthalene	0.001	0.040	0.473			95
Acenaphthylene	0.001	ND	0.477			95
Acenaphthene	0.001	ND	0.486	101	90	97
Fluorene	0.001	ND	0.459			92
Phenanthrene	0.001	ND	0.464			93
Anthracene	0.001	ND	0.484			97
Fluoranthene	0.001	ND	0.478			96
Pyrene	0.001	ND	0.522	99	81	104
Benz[a]anthracene	0.001	ND	0.511			102
Chyrsene	0.001	ND	0.502			100
Benzo[b]fluoranthene	0.001	ND	0.483			97
Benzo[k]fluoranthene	0.001	ND	0.477			95
Benzo[a]pyrene	0.001	ND	0.526			105
Indeno[1,2,3-cd]pyrene	0.001	ND	0.433			87
Dibenz[a,h]anthracene	0.001	ND	0.484			96
Benzo[g,h,i]perylene	0.001	ND	0.481			96

*ND = Not Detected

	% RECOVERY
2-Fluorophenol SURR	57
Phenol-d6 SURR	47
Nitrobenzene-d5 SURR	83
2-Fluorobiphenyl SURR	97
2,4,6-Tribromophenol SURR	37
Terphenyl-d14 SURR	154

METHODS: EPA 625.

Director, Dr. Blair Leftwich

3-24-95
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

March 23, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

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

Analysis Date: 03/21/95
Sampling Date: 03/10/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: NA

TA#	Field Code	POTASSIUM (mg/L)	MAGNESIUM (mg/L)	CALCIUM (mg/L)	SODIUM (mg/L)
T33168	KWB - 1C	4.1	213	270	191
QC	Quality Control	51.4	20.2	20.2	20.2
Detection Limit		0.1	0.1	0.05	0.1
% Precision		98	101	100	96
% Extraction Accuracy		114	99	100	95
% Instrument Accuracy		103	101	101	101

METHODS: EPA 200.7.
QC: Blank Spiked with 50.0 mg/L POTASSIUM; 20.0 mg/L MAGNESIUM, CALCIUM, SODIUM.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-23-95
Date

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

March 23, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/15/95
Sampling Date: 03/10/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: NA

TA#	FIELD CODE	CHLORIDE (mg/L)	FLUORIDE (mg/L)	SULFATE (mg/L)	ALKALINITY (mg/L as CaCo3) HCO3	CO3
T33168	KWB - 1C	303	1.1	1,817	484	0
QC	Quality Control	504	1.04	11	---	---
% Precision		99	109	101	104	104
% Extraction Accuracy		98	114	109	---	---
% Instrument Accuracy		101	102	102	---	---
DETECTION LIMIT		1	0.1	1	10	10

METHODS: EPA 375.4, 310.1, 340.2; 4500 Cl-B.
QC: Blank Spiked with 500 mg/L CHLORIDE; 1.0 mg/L FLUORIDE; 10.0 mg/L SULFATE.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-23-95
Date

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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 23, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/20/95
Sampling Date: 03/00/95
Sample Condition: Intact & Cool
Sample Received by: CC
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)	Be (mg/L)	Fe (mg/L)	Co (mg/L)	Mn (mg/L)	V (mg/L)
T33168	KWB - 1C	<0.1	<0.05	<0.01	<0.01	<0.01	<0.05	<0.01	1.40	<0.05	0.1	<0.05
QC	Quality Control	5.2	5.27	5.28	5.26	5.29	5.33	5.20	5.26	5.29	5.3	5.32
DETECTION LIMIT		0.1	0.05	0.01	0.01	0.01	0.05	0.01	0.01	0.05	0.1	0.05
% Precision		102	99	100	99	100	99	100	97	99	100	99
% Extraction Accuracy		105	98	96	100	94	100	100	97	94	100	100
% Instrument Accuracy		104	105	106	105	106	107	104	105	106	106	106

TA#	FIELD CODE	Cu (mg/L)	Al (mg/L)	B (mg/L)	Ba (mg/L)	U (mg/L)	Hg (mg/L)	Se (mg/L)	Ag (mg/L)	Pb (mg/L)
T33168	KWB - 1C	<0.05	0.06	0.44	<0.5	<0.5	<0.001	<0.001	<0.001	<0.001
QC	Quality Control	5.28	5.14	5.14	5.5	9.8	0.022	0.045	0.108	0.050
DETECTION LIMIT		0.05	0.05	0.05	0.5	0.5	0.001	0.001	0.001	0.001
% Precision		98	99	97	99	94	100	100	108	100
% Extraction Accuracy		96	101	105	95	76	100	92	108	88
% Instrument Accuracy		106	103	103	104	100	100	90	108	100

METHODS: EPA 200.7, 239.2, 270.2, 272.2.
QC: Blank Spiked with 0.050 mg/L Se, Pb; 0.100 mg/L Ag; 5.0 mg/L As, Mn, Cu; 5.00 mg/L Mo, Cr, Zn, Cd, Ni, Be, Fe, Co, V, Al, B; 200 mg/L Ba; 9.8 mg/L U; 0.022 mg/L Hg.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-23-95
DATE

6701 Aberdeen Avenue
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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

March 24, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/18/95
Sampling Date: 03/9-10/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: Navajo

EPA 624 Compounds (ppb)	T33168 KWB-1C	Detection Limit
Dichlorodifluoromethane	ND	100
Chloromethane	ND	100
Vinyl chloride	ND	100
Bromomethane	ND	100
Chloroethane	ND	100
Trichlorofluoromethane	ND	100
1,1-Dichloroethene	ND	100
Iodomethane	ND	100
Carbon disulfide	ND	100
Methylene chloride	ND	100
trans-1,2-Dichloroethene	ND	100
1,1-Dichloroethane	ND	100
Vinyl acetate	ND	100
2-Butanone	ND	5,000
Chloroform	ND	100
1,1,1-Trichloroethane	ND	100
1,2-Dichloroethane	ND	100
Benzene	3,483	100
Carbon Tetrachloride	ND	100
1,2-Dichloropropane	ND	100
Trichloroethene	ND	100
Bromodichloromethane	ND	100
cis-1,3-Dichloropropene	ND	100
4-Methyl-2-pentanone	ND	5,000
trans-1,3-Dichloropropene	ND	100
Toluene	ND	100
1,1,2-Trichloroethane	ND	100
2-Hexanone	ND	5,000

EPA 624 Compounds (ppb)	T33168 KWB-1C	Detection Limit
Dibromochloromethane	ND	100
Tetrachloroethene	ND	100
Chlorobenzene	ND	100
Ethylbenzene	ND	100
m & p-Xylene	ND	100
Bromoform	ND	100
Styrene	ND	100
o-Xylene	ND	100
1,1,2,2-Tetrachloroethane	ND	100
trans 1,4-Dichloro-2-butene	ND	500
cis 1,4-Dichloro-2-butene	ND	500
1,4-Dichlorobenzene	ND	200
1,3-Dichlorobenzene	ND	200
1,2-Dichlorobenzene	ND	200

SURROGATES	**% RECOVERY**
Dibromofluoromethane	103
Toluene-d8	99
4-Bromofluorobenzene	98

***ND = Not Detected**
METHODS: EPA 624

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-24-95
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

March 24, 1995
Receiving Date: 03/11/95
Sample Type: Water
Sample Condition: I & C
Sample Received by: CC
Project No: NA
Project Name: Navajo
Project Location: Artesia, NM
Analysis Date: 03/20/95

PAH's T33168

EPA 625 (ppm)	DL	KWB-1C	QC	%P	%EA	%IA
Naphthalene	0.001	ND	0.473			95
Acenaphthylene	0.001	ND	0.477			95
Acenaphthene	0.001	ND	0.486	101	90	97
Fluorene	0.001	ND	0.459			92
Phenanthrene	0.001	ND	0.464			93
Anthracene	0.001	ND	0.484			97
Fluoranthene	0.001	ND	0.478			96
Pyrene	0.001	ND	0.522	99	81	104
Benz[a]anthracene	0.001	ND	0.511			102
Chyrsene	0.001	ND	0.502			100
Benzo[b]fluoranthene	0.001	ND	0.483			97
Benzo[k]fluoranthene	0.001	ND	0.477			95
Benzo[a]pyrene	0.001	ND	0.526			105
Indeno[1,2,3-cd]pyrene	0.001	ND	0.433			87
Dibenz[a,h]anthracene	0.001	ND	0.484			96
Benzo[g,h,i]perylene	0.001	ND	0.481			96

*ND = Not Detected

	% RECOVERY
2-Fluorophenol SURR	29
Phenol-d6 SURR	33
Nitrobenzene-d5 SURR	76
2-Fluorobiphenyl SURR	90
2,4,6-Tribromophenol SURR	21
Terphenyl-d14 SURR	148

METHODS: EPA 625.

Director, Dr. Blair Leftwich

3-24-95
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

March 23, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

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

Analysis Date: 03/21/95
Sampling Date: 03/09/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: NA

TA#	Field Code	POTASSIUM (mg/L)	MAGNESIUM (mg/L)	CALCIUM (mg/L)	SODIUM (mg/L)
T33166	KWB - 2A	0.4	142	242	91.7
QC	Quality Control	51.4	20.2	20.2	20.2
Detection Limit		0.1	0.1	0.05	0.1
% Precision		98	101	100	96
% Extraction Accuracy		114	99	100	95
% Instrument Accuracy		103	101	101	101

METHODS: EPA 200.7.
QC: Blank Spiked with 50.0 mg/L POTASSIUM; 20.0 mg/L MAGNESIUM, CALCIUM, SODIUM.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-23-95
Date

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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 23, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/15/95
Sampling Date: 03/09/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: NA

TA#	FIELD CODE	CHLORIDE (mg/L)	FLUORIDE (mg/L)	SULFATE (mg/L)	ALKALINITY (mg/L as CaCo3) HC03	C03
T33166	KWB - 2A	157	1.1	1,578	267	0
QC	Quality Control	504	1.04	11	---	---
% Precision		100	109	101	98	98
% Extraction Accuracy		99	114	109	---	---
% Instrument Accuracy		101	102	102	---	---
DETECTION LIMIT		1	0.1	1	10	10

METHODS: EPA 375.4, 310.1, 340.2; 4500 Cl-B.
QC: Blank Spiked with 500 mg/L CHLORIDE; 1.0 mg/L FLUORIDE; 10.0 mg/L SULFATE.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-23-95
Date

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

March 23, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/20/95
Sampling Date: 03/09/95
Sample Condition: Intact & Cool
Sample Received by: CC
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)	Be (mg/L)	Fe (mg/L)	Co (mg/L)	Mn (mg/L)	V (mg/L)
T33166	KWB - 2A	<0.1	<0.05	<0.01	0.46	<0.01	<0.05	<0.01	0.02	<0.05	<0.1	<0.05
QC	Quality Control	5.2	5.27	5.28	5.26	5.29	5.33	5.20	5.26	5.29	5.3	5.32
DETECTION LIMIT		0.1	0.05	0.01	0.01	0.01	0.05	0.01	0.01	0.05	0.1	0.05
% Precision		102	99	100	99	100	99	100	97	99	100	99
% Extraction Accuracy		105	98	96	100	94	100	100	97	94	100	100
% Instrument Accuracy		104	105	106	105	106	107	104	105	106	106	106

TA#	FIELD CODE	Cu (mg/L)	Al (mg/L)	B (mg/L)	Ba (mg/L)	U (mg/L)	Hg (mg/L)	Se (mg/L)	Ag (mg/L)	Pb (mg/L)
T33166	KWB - 2A	<0.05	0.13	0.20	<0.5	<0.5	<0.001	<0.001	<0.001	<0.001
QC	Quality Control	5.28	5.14	5.14	5.5	9.8	0.022	0.045	0.108	0.050
DETECTION LIMIT		0.05	0.05	0.05	0.5	0.5	0.001	0.001	0.001	0.001
% Precision		98	99	97	99	94	100	100	108	100
% Extraction Accuracy		96	101	105	95	76	100	92	108	88
% Instrument Accuracy		106	103	103	104	100	100	90	108	100

METHODS: EPA 200.7, 239.2, 270.2, 272.2.
QC: Blank Spiked with 0.050 mg/L Se, Pb; 0.100 mg/L Ag; 5.0 mg/L As, Mn, Cu; 5.00 mg/L Mo, Cr, Zn, Cd, Ni, Be, Fe, Co, V, Al, B; 200 mg/L Ba; 9.8 mg/L U; 0.022 mg/L Hg.

BB
Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-23-95
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 24, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/18/95
Sampling Date: 03/9-10/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: Navajo

EPA 624 Compounds (ppb)	T33166 KWB-2A	Detection Limit
Dichlorodifluoromethane	ND	1
Chloromethane	ND	1
Vinyl chloride	ND	1
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	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

EPA 624 Compounds (ppb)	T33166 KWB-2A	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	104
Toluene-d8	97
4-Bromofluorobenzene	99

***ND = Not Detected**
METHODS: EPA 624

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-24-95
Date

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

March 24, 1995
Receiving Date: 03/11/95
Sample Type: Water
Sample Condition: I & C
Sample Received by: CC
Project No: NA
Project Name: Navajo
Project Location: Artesia, NM
Analysis Date: 03/20/95

PAH's T33166

EPA 625 (ppm)	DL	KWB-2A	QC	%P	%EA	%IA
Naphthalene	0.001	ND	0.473			95
Acenaphthylene	0.001	ND	0.477			95
Acenaphthene	0.001	ND	0.486	101	90	97
Fluorene	0.001	ND	0.459			92
Phenanthrene	0.001	ND	0.464			93
Anthracene	0.001	ND	0.484			97
Fluoranthene	0.001	ND	0.478			96
Pyrene	0.001	ND	0.522	99	81	104
Benz[a]anthracene	0.001	ND	0.511			102
Chyrsene	0.001	ND	0.502			100
Benzo[b]fluoranthene	0.001	ND	0.483			97
Benzo[k]fluoranthene	0.001	ND	0.477			95
Benzo[a]pyrene	0.001	ND	0.526			105
Indeno[1,2,3-cd]pyrene	0.001	ND	0.433			87
Dibenz[a,h]anthracene	0.001	ND	0.484			96
Benzo[g,h,i]perylene	0.001	ND	0.481			96

*ND = Not Detected

	% RECOVERY
2-Fluorophenol SURR	72
Phenol-d6 SURR	63
Nitrobenzene-d5 SURR	82
2-Fluorobiphenyl SURR	97
2,4,6-Tribromophenol SURR	43
Terphenyl-d14 SURR	156

METHODS: EPA 625.

3-24-95

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

March 23, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

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

Analysis Date: 03/21/95
Sampling Date: 03/09/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: NA

TA#	Field Code	POTASSIUM (mg/L)	MAGNESIUM (mg/L)	CALCIUM (mg/L)	SODIUM (mg/L)
T33164	KWB - 3A	0.8	250	478	372
QC	Quality Control	51.4	20.2	20.2	20.2
Detection Limit		0.1	0.1	0.05	0.1
% Precision		98	101	100	96
% Extraction Accuracy		114	99	100	95
% Instrument Accuracy		103	101	101	101

METHODS: EPA 200.7.
QC: Blank Spiked with 50.0 mg/L POTASSIUM; 20.0 mg/L MAGNESIUM, CALCIUM, SODIUM.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-23-95
Date

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

March 23, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/15/95
Sampling Date: 03/09/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: NA

TA#	FIELD CODE	CHLORIDE (mg/L)	FLUORIDE (mg/L)	SULFATE (mg/L)	ALKALINITY (mg/L as CaCo3) HCO3	CO3
T33164	KWB - 3A	445	0.5	2,500	323	0
QC	Quality Control	504	1.1	11	---	---
% Precision		100	100	101	98	98
% Extraction Accuracy		99	109	109	---	---
% Instrument Accuracy		101	106	102	---	---
DETECTION LIMIT		1	0.1	1	10	10

METHODS: EPA 375.4, 310.1, 340.2; 4500 Cl-B.
QC: Blank Spiked with 500 mg/L CHLORIDE; 1.0 mg/L FLUORIDE; 10.0 mg/L SULFATE.

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Director, Dr. Bruce McDonell

3-23-95
Date

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

March 23, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/20/95
Sampling Date: 03/09/95
Sample Condition: Intact & Cool
Sample Received by: CC
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)	Be (mg/L)	Fe (mg/L)	Co (mg/L)	Mn (mg/L)	V (mg/L)
T33164	KWB - 3A	<0.1	<0.05	<0.01	0.01	<0.01	<0.05	<0.01	0.25	<0.05	<0.1	<0.05
QC	Quality Control	5.2	5.27	5.28	5.26	5.29	5.33	5.20	5.26	5.29	5.3	5.32
DETECTION LIMIT		0.1	0.05	0.01	0.01	0.01	0.05	0.01	0.01	0.05	0.1	0.05
% Precision		102	99	100	99	100	99	100	97	99	100	99
% Extraction Accuracy		105	98	96	100	94	100	100	97	94	100	100
% Instrument Accuracy		104	105	106	105	106	107	104	105	106	106	106

TA#	FIELD CODE	Cu (mg/L)	Al (mg/L)	B (mg/L)	Ba (mg/L)	U (mg/L)	Hg (mg/L)	Se (mg/L)	Ag (mg/L)	Pb (mg/L)
T33164	KWB - 3A	<0.05	0.50	0.24	<0.5	<0.5	<0.001	<0.001	<0.001	<0.001
QC	Quality Control	5.28	5.14	5.14	5.5	9.8	0.022	0.045	0.108	0.050
DETECTION LIMIT		0.05	0.05	0.05	0.5	0.5	0.001	0.001	0.001	0.001
% Precision		98	99	97	99	94	100	100	108	100
% Extraction Accuracy		96	101	105	95	76	100	92	108	88
% Instrument Accuracy		106	103	103	104	100	100	90	108	100

METHODS: EPA 200.7, 239.2, 270.2, 272.2.
QC: Blank Spiked with 0.050 mg/L Se, Pb; 0.100 mg/L Ag; 5.0 mg/L As, Mn, Cu; 5.00 mg/L Mo, Cr, Zn, Cd, Ni, Be, Fe, Co, V, Al, B; 200 mg/L Ba; 9.8 mg/L U; 0.022 mg/L Hg.

BS

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-23-95
DATE

6701 Aberdeen Avenue
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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

March 24, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/18/95
Sampling Date: 03/9-10/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: Navajo

EPA 624 Compounds (ppb)	T33164 KWB-3A	Detection Limit
Dichlorodifluoromethane	ND	1
Chloromethane	ND	1
Vinyl chloride	ND	1
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	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

EPA 624 Compounds (ppb)	T33164 KWB-3A	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	106
Toluene-d8	100
4-Bromofluorobenzene	99

***ND = Not Detected**
METHODS: EPA 624

3-24-95

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

March 24, 1995
Receiving Date: 03/11/95
Sample Type: Water
Sample Condition: I & C
Sample Received by: CC
Project No: NA
Project Name: Navajo
Project Location: Artesia, NM
Analysis Date: 03/20/95

PAH's T33164

EPA 625 (ppm)	DL	KWB-3A	QC	%P	%EA	%IA
Naphthalene	0.001	ND	0.473			95
Acenaphthylene	0.001	ND	0.477			95
Acenaphthene	0.001	ND	0.486	101	90	97
Fluorene	0.001	ND	0.459			92
Phenanthrene	0.001	ND	0.464			93
Anthracene	0.001	ND	0.484			97
Fluoranthene	0.001	ND	0.478			96
Pyrene	0.001	ND	0.522	99	81	104
Benz[a]anthracene	0.001	ND	0.511			102
Chyrsene	0.001	ND	0.502			100
Benzo[b]fluoranthene	0.001	ND	0.483			97
Benzo[k]fluoranthene	0.001	ND	0.477			95
Benzo[a]pyrene	0.001	ND	0.526			105
Indeno[1,2,3-cd]pyrene	0.001	ND	0.433			87
Dibenz[a,h]anthracene	0.001	ND	0.484			96
Benzo[g,h,i]perylene	0.001	ND	0.481			96

*ND = Not Detected

	% RECOVERY
2-Fluorophenol SURR	65
Phenol-d6 SURR	56
Nitrobenzene-d5 SURR	70
2-Fluorobiphenyl SURR	84
2,4,6-Tribromophenol SURR	32
Terphenyl-d14 SURR	129

METHODS: EPA 625.

3-24-95

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

March 23, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

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

Analysis Date: 03/21/95
Sampling Date: 03/09/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: NA

TA#	Field Code	POTASSIUM (mg/L)	MAGNESIUM (mg/L)	CALCIUM (mg/L)	SODIUM (mg/L)
T33162	KWB - 7	0.6	143	227	148
QC	Quality Control	52.1	20.3	20.4	20.0
Detection Limit		0.1	0.1	0.05	0.1
% Precision		96	95	88	94
% Extraction Accuracy		117	109	138	92
% Instrument Accuracy		102	102	100	99

METHODS: EPA 200.7.
QC: Blank Spiked with 50.0 mg/L POTASSIUM; 20.0 mg/L MAGNESIUM, CALCIUM, SODIUM.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-23-95
Date

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

March 23, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/15/95
Sampling Date: 03/09/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: NA

TA#	FIELD CODE	CHLORIDE (mg/L)	FLUORIDE (mg/L)	SULFATE (mg/L)	ALKALINITY (mg/L as CaCo3) HC03	C03
T33162	KWB - 7	396	1.3	952	666	0
QC	Quality Control	504	1.1	11	---	---
% Precision		100	100	101	98	98
% Extraction Accuracy		99	109	109	---	---
% Instrument Accuracy		101	106	102	---	---
DETECTION LIMIT		1	0.1	1	10	10

METHODS: EPA 375.4, 310.1, 340.2; 4500 Cl-B.
QC: Blank Spiked with 500 mg/L CHLORIDE; 1.0 mg/L FLUORIDE; 10.0 mg/L SULFATE.

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Director, Dr. Bruce McDonell

3-23-95
Date

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

March 23, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/20/95
Sampling Date: 03/09/95
Sample Condition: Intact & Cool
Sample Received by: CC
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)	Be (mg/L)	Fe (mg/L)	Co (mg/L)	Mn (mg/L)	V (mg/L)
T33162	KWB - 7	<0.1	<0.05	<0.01	<0.01	<0.01	<0.05	<0.01	0.11	<0.05	2.0	<0.05
QC	Quality Control	5.2	5.15	5.09	5.06	5.10	5.24	5.07	5.06	5.02	5.2	5.12
DETECTION LIMIT		0.1	0.05	0.01	0.01	0.01	0.05	0.01	0.01	0.05	0.1	0.05
% Precision		98	99	99	99	98	101	99	98	99	99	98
% Extraction Accuracy		110	103	101	105	101	110	106	102	96	96	106
% Instrument Accuracy		104	103	102	101	102	105	101	101	100	100	102

		Cu (mg/L)	Al (mg/L)	B (mg/L)	Ba (mg/L)	U (mg/L)	Hg (mg/L)	Se (mg/L)	Ag (mg/L)	Pb (mg/L)
T33162	KWB - 7	<0.05	0.49	0.32	<0.5	<0.5	<0.001	<0.001	<0.001	<0.001
QC	Quality Control	5.13	5.18	5.21	5.1	9.8	0.022	0.045	0.108	0.050
DETECTION LIMIT		0.05	0.05	0.05	0.5	0.5	0.001	0.001	0.001	0.001
% Precision		99	99	100	98	100	100	100	108	100
% Extraction Accuracy		102	114	118	100	71	95	92	108	88
% Instrument Accuracy		103	104	104	102	100	100	90	108	100

METHODS: EPA 200.7, 239.2, 270.2, 272.2.
QC: Blank Spiked with 0.050 mg/L Se, Pb; 0.100 mg/L Ag; 5.0 mg/L As, Mn, Cu; 5.00 mg/L Mo, Cr, Zn, Cd, Ni, Be, Fe, Co, V, Al, B; 200 mg/L Ba; 9.8 mg/L U; 0.022 mg/L Hg.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-23-95
DATE

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

March 24, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/18/95
Sampling Date: 03/9-10/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: Navajo

EPA 624 Compounds (ppb)	T33162 KWB-7	Detection Limit
Dichlorodifluoromethane	ND	1
Chloromethane	ND	1
Vinyl chloride	ND	1
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	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

EPA 624 Compounds (ppb)	T33162 KWB-7	Detection Limit
Dibromochloromethane	ND	1
Tetrachloroethene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	2	1
m & p-Xylene	1	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	109
Toluene-d8	98
4-Bromofluorobenzene	100

***ND = Not Detected**
METHODS: EPA 624

3-24-95

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

Date

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

March 24, 1995
Receiving Date: 03/11/95
Sample Type: Water
Sample Condition: I & C
Sample Received by: CC
Project No: NA
Project Name: Navajo
Project Location: Artesia, NM
Analysis Date: 03/20/95

PAH's T33162

EPA 625 (ppm)	DL	KWB-7	QC	%P	%EA	%IA
Naphthalene	0.001	ND	0.473			95
Acenaphthylene	0.001	ND	0.477			95
Acenaphthene	0.001	ND	0.486	101	90	97
Fluorene	0.001	ND	0.459			92
Phenanthrene	0.001	ND	0.464			93
Anthracene	0.001	ND	0.484			97
Fluoranthene	0.001	ND	0.478			96
Pyrene	0.001	ND	0.522	99	81	104
Benz[a]anthracene	0.001	ND	0.511			102
Chyrsene	0.001	ND	0.502			100
Benzo[b]fluoranthene	0.001	ND	0.483			97
Benzo[k]fluoranthene	0.001	ND	0.477			95
Benzo[a]pyrene	0.001	ND	0.526			105
Indeno[1,2,3-cd]pyrene	0.001	ND	0.433			87
Dibenz[a,h]anthracene	0.001	ND	0.484			96
Benzo[g,h,i]perylene	0.001	ND	0.481			96

*ND = Not Detected

	% RECOVERY
2-Fluorophenol SURR	73
Phenol-d6 SURR	48
Nitrobenzene-d5 SURR	71
2-Fluorobiphenyl SURR	92
2,4,6-Tribromophenol SURR	31
Terphenyl-d14 SURR	127

METHODS: EPA 625.

Director, Dr. Blair Leftwich

3-24-95
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

March 23, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

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

Analysis Date: 03/21/95
Sampling Date: 03/09/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: NA

TA#	Field Code	POTASSIUM (mg/L)	MAGNESIUM (mg/L)	CALCIUM (mg/L)	SODIUM (mg/L)
T33158	KWB - 9	1.9	199	432	145
QC	Quality Control	51.5	20.3	20.4	20.0
Detection Limit		0.1	0.1	0.05	0.1
% Precision		96	95	88	94
% Extraction Accuracy		117	109	138	92
% Instrument Accuracy		102	102	100	99

METHODS: EPA 200.7.
QC: Blank Spiked with 50.0 mg/L POTASSIUM; 20.0 mg/L MAGNESIUM, CALCIUM, SODIUM.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-23-95
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 23, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/15/95
Sampling Date: 03/09/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: NA

TA#	FIELD CODE	CHLORIDE (mg/L)	FLUORIDE (mg/L)	SULFATE (mg/L)	ALKALINITY (mg/L as CaCo3) HCO3	CO3
T33158	KWB - 9	132	0.6	1,696	463	0
QC	Quality Control	504	1.1	10.0	---	---
% Precision		100	100	98	98	98
% Extraction Accuracy		99	109	123	---	---
% Instrument Accuracy		101	106	98	---	---
DETECTION LIMIT		1	0.1	1	10	10

METHODS: EPA 375.4, 310.1, 340.2; 4500 Cl-B.
QC: Blank Spiked with 500 mg/L CHLORIDE; 1.0 mg/L FLUORIDE; 10.0 mg/L SULFATE.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-23-95
Date

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

ANALYTICAL RESULTS FOR
NAVAJO REFINING

March 23, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

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

Analysis Date: 03/20/95
Sampling Date: 03/09/95
Sample Condition: Intact & Cool
Sample Received by: CC
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)	Be (mg/L)	Fe (mg/L)	Co (mg/L)	Mn (mg/L)	V (mg/L)
T33158	KWB - 9	<0.1	<0.05	<0.01	<0.01	<0.01	<0.05	<0.01	0.80	<0.05	<0.1	<0.05
QC	Quality Control	5.2	5.15	5.09	5.06	5.10	5.24	5.07	5.06	5.02	5.2	5.12
DETECTION LIMIT		0.1	0.05	0.01	0.01	0.01	0.05	0.01	0.01	0.05	0.1	0.05
% Precision		98	99	99	99	98	101	99	98	99	99	98
% Extraction Accuracy		110	103	101	105	101	110	106	102	96	96	106
% Instrument Accuracy		104	103	102	101	102	105	101	101	100	100	102

		Cu (mg/L)	Al (mg/L)	B (mg/L)	Ba (mg/L)	U (mg/L)	Hg (mg/L)	Se (mg/L)	Ag (mg/L)	Pb (mg/L)
T33158	KWB - 9	<0.05	1.10	0.50	<0.5	<0.5	<0.001	0.001	<0.001	<0.001
QC	Quality Control	5.13	5.18	5.21	5.1	9.8	0.022	0.045	0.108	0.050
DETECTION LIMIT		0.05	0.05	0.05	0.5	0.5	0.001	0.001	0.001	0.001
% Precision		99	99	100	98	100	100	100	108	100
% Extraction Accuracy		102	114	118	100	71	95	92	108	88
% Instrument Accuracy		103	104	104	102	100	100	90	108	100

METHODS: EPA 200.7, 239.2, 270.2, 272.2.
QC: Blank Spiked with 0.050 mg/L Se, Pb; 0.100 mg/L Ag; 5.0 mg/L As, Mn, Cu; 5.00 mg/L Mo, Cr, Zn, Cd, Ni, Be, Fe, Co, V, Al, B; 200 mg/L Ba; 9.8 mg/L U; 0.022 mg/L Hg.

BL

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-23-95

DATE

6701 Aberdeen Avenue
Lubbock, Texas 79424
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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

March 24, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/18/95
Sampling Date: 03/9-10/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: Navajo

EPA 624 Compounds (ppb)	T33158 KWB-9	Detection Limit
Dichlorodifluoromethane	ND	1
Chloromethane	ND	1
Vinyl chloride	ND	1
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	10	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

EPA 624 Compounds (ppb)	T33158 KWB-9	Detection Limit
Dibromochloromethane	ND	1
Tetrachloroethene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
m & p-Xylene	3	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	108
Toluene-d8	99
4-Bromofluorobenzene	100

***ND = Not Detected**
METHODS: EPA 624

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-24-91
Date

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

March 24, 1995
Receiving Date: 03/11/95
Sample Type: Water
Sample Condition: I & C
Sample Received by: CC
Project No: NA
Project Name: Navajo
Project Location: Artesia, NM
Analysis Date: 03/20/95

PAH's T33158

EPA 625 (ppm)	DL	KWB-9	QC	%P	%EA	%IA
Naphthalene	0.001	ND	0.473			95
Acenaphthylene	0.001	ND	0.477			95
Acenaphthene	0.001	ND	0.486	101	90	97
Fluorene	0.001	ND	0.459			92
Phenanthrene	0.001	ND	0.464			93
Anthracene	0.001	ND	0.484			97
Fluoranthene	0.001	ND	0.478			96
Pyrene	0.001	ND	0.522	99	81	104
Benz[a]anthracene	0.001	ND	0.511			102
Chyrsene	0.001	ND	0.502			100
Benzo[b]fluoranthene	0.001	ND	0.483			97
Benzo[k]fluoranthene	0.001	ND	0.477			95
Benzo[a]pyrene	0.001	ND	0.526			105
Indeno[1,2,3-cd]pyrene	0.001	ND	0.433			87
Dibenz[a,h]anthracene	0.001	ND	0.484			96
Benzo[g,h,i]perylene	0.001	ND	0.481			96

*ND = Not Detected

	% RECOVERY
2-Fluorophenol SURR	65
Phenol-d6 SURR	57
Nitrobenzene-d5 SURR	72
2-Fluorobiphenyl SURR	97
2,4,6-Tribromophenol SURR	50
Terphenyl-d14 SURR	143

METHODS: EPA 625.

Director, Dr. Blair Leftwich

3-24-95
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

March 23, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

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

Analysis Date: 03/21/95
Sampling Date: 03/09/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: NA

TA#	Field Code	POTASSIUM (mg/L)	MAGNESIUM (mg/L)	CALCIUM (mg/L)	SODIUM (mg/L)
T33163	KWB - 11A	0.4	168	303	167
QC	Quality Control	51.4	20.2	20.2	20.2
Detection Limit		0.1	0.1	0.05	0.1
% Precision		98	101	100	96
% Extraction Accuracy		114	99	100	95
% Instrument Accuracy		103	101	101	101

METHODS: EPA 200.7.
QC: Blank Spiked with 50.0 mg/L POTASSIUM; 20.0 mg/L MAGNESIUM, CALCIUM, SODIUM.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-23-95
Date

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ANALYTICAL RESULTS FOR
NAVAJO REFINING

March 23, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

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

Analysis Date: 03/15/95
Sampling Date: 03/09/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: NA

TA#	FIELD CODE	CHLORIDE (mg/L)	FLUORIDE (mg/L)	SULFATE (mg/L)	ALKALINITY (mg/L as CaCo3) HC03	C03
T33163	KWB - 11A	431	1.0	1,058	522	0
QC	Quality Control	504	1.1	11	---	---
% Precision		100	100	101	98	98
% Extraction Accuracy		99	109	109	---	---
% Instrument Accuracy		101	106	102	---	---
DETECTION LIMIT		1	0.1	1	10	10

METHODS: EPA 375.4, 310.1, 340.2; 4500 Cl-B.
QC: Blank Spiked with 500 mg/L CHLORIDE; 1.0 mg/L FLUORIDE; 10.0 mg/L SULFATE.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-23-95
Date

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ANALYTICAL RESULTS FOR
NAVAJO REFINING

March 23, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

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

Analysis Date: 03/20/95
Sampling Date: 03/09/95
Sample Condition: Intact & Cool
Sample Received by: CC
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)	Be (mg/L)	Fe (mg/L)	Co (mg/L)	Mn (mg/L)	V (mg/L)
T33163	KWB - 11A	<0.1	<0.05	<0.01	<0.01	<0.01	<0.05	<0.01	0.08	<0.05	<0.1	<0.05
QC	Quality Control	5.2	5.27	5.28	5.26	5.29	5.33	5.20	5.26	5.29	5.3	5.32
DETECTION LIMIT		0.1	0.05	0.01	0.01	0.01	0.05	0.01	0.01	0.05	0.1	0.05
% Precision		102	99	100	99	100	99	100	97	99	100	99
% Extraction Accuracy		105	98	96	100	94	100	100	97	94	100	100
% Instrument Accuracy		104	105	106	105	106	107	104	105	106	106	106

		Cu (mg/L)	Al (mg/L)	B (mg/L)	Ba (mg/L)	U (mg/L)	Hg (mg/L)	Se (mg/L)	Ag (mg/L)	Pb (mg/L)
T33163	KWB - 11A	<0.05	0.20	0.36	<0.5	<0.5	<0.001	<0.001	<0.001	<0.001
QC	Quality Control	5.28	5.14	5.14	5.5	9.8	0.022	0.045	0.108	0.050
DETECTION LIMIT		0.05	0.05	0.05	0.5	0.5	0.001	0.001	0.001	0.001
% Precision		98	99	97	99	94	100	100	108	100
% Extraction Accuracy		96	101	105	95	76	100	92	108	88
% Instrument Accuracy		106	103	103	104	100	100	90	108	100

METHODS: EPA 200.7, 239.2, 270.2, 272.2.
QC: Blank Spiked with 0.050 mg/L Se, Pb; 0.100 mg/L Ag; 5.0 mg/L As, Mn, Cu; 5.00 mg/L Mo, Cr, Zn, Cd, Ni, Be, Fe, Co, V, Al, B; 200 mg/L Ba; 9.8 mg/L U; 0.022 mg/L Hg.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-23-95
DATE

6701 Aberdeen Avenue
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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

March 24, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/18/95
Sampling Date: 03/9-10/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: Navajo

EPA 624 Compounds (ppb)	T33163 KWB-11A	Detection Limit
Dichlorodifluoromethane	ND	1
Chloromethane	ND	1
Vinyl chloride	ND	1
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	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

EPA 624 Compounds (ppb)	T33163 KWB-11A	Detection Limit
Dibromochloromethane	ND	10
Tetrachloroethene	ND	10
Chlorobenzene	ND	10
Ethylbenzene	34	10
m & p-Xylene	ND	10
Bromoform	ND	10
Styrene	ND	10
o-Xylene	ND	10
1,1,2,2-Tetrachloroethane	ND	10
trans 1,4-Dichloro-2-butene	ND	50
cis 1,4-Dichloro-2-butene	ND	50
1,4-Dichlorobenzene	ND	20
1,3-Dichlorobenzene	ND	20
1,2-Dichlorobenzene	ND	20

SURROGATES	**% RECOVERY**
Dibromofluoromethane	109
Toluene-d8	99
4-Bromofluorobenzene	101

***ND = Not Detected**
METHODS: EPA 624

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-24-95
Date

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

March 24, 1995
Receiving Date: 03/11/95
Sample Type: Water
Sample Condition: I & C
Sample Received by: CC
Project No: NA
Project Name: Navajo
Project Location: Artesia, NM
Analysis Date: 03/20/95

PAH's T33163

EPA 625 (ppm)	DL	KWB-11A	QC	%P	%EA	%IA
Naphthalene	0.001	ND	0.473			95
Acenaphthylene	0.001	ND	0.477			95
Acenaphthene	0.001	ND	0.486	101	90	97
Fluorene	0.001	ND	0.459			92
Phenanthrene	0.001	ND	0.464			93
Anthracene	0.001	ND	0.484			97
Fluoranthene	0.001	ND	0.478			96
Pyrene	0.001	ND	0.522	99	81	104
Benz[a]anthracene	0.001	ND	0.511			102
Chyrsene	0.001	ND	0.502			100
Benzo[b]fluoranthene	0.001	ND	0.483			97
Benzo[k]fluoranthene	0.001	ND	0.477			95
Benzo[a]pyrene	0.001	ND	0.526			105
Indeno[1,2,3-cd]pyrene	0.001	ND	0.433			87
Dibenz[a,h]anthracene	0.001	ND	0.484			96
Benzo[g,h,i]perylene	0.001	ND	0.481			96

*ND = Not Detected

	% RECOVERY
2-Fluorophenol SURR	73
Phenol-d6 SURR	48
Nitrobenzene-d5 SURR	71
2-Fluorobiphenyl SURR	92
2,4,6-Tribromophenol SURR	31
Terphenyl-d14 SURR	127

METHODS: EPA 625.

Director, Dr. Blair Leftwich

3-24-95
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

March 23, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

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

Analysis Date: 03/21/95
Sampling Date: 03/09/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: NA

TA#	Field Code	POTASSIUM (mg/L)	MAGNESIUM (mg/L)	CALCIUM (mg/L)	SODIUM (mg/L)
T33160	KWB - 12A	2.5	197	485	224
QC	Quality Control	52.1	20.3	20.4	20.0
Detection Limit		0.1	0.1	0.05	0.1
% Precision		96	95	88	94
% Extraction Accuracy		117	109	138	92
% Instrument Accuracy		102	102	100	99

METHODS: EPA 200.7.
QC: Blank Spiked with 50.0 mg/L POTASSIUM; 20.0 mg/L MAGNESIUM, CALCIUM, SODIUM.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-23-95
Date

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

March 23, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/15/95
Sampling Date: 03/09/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: NA

TA#	FIELD CODE	CHLORIDE (mg/L)	FLUORIDE (mg/L)	SULFATE (mg/L)	ALKALINITY (mg/L as CaCo3) HCO3	CO3
T33160	KWB - 12A	122	0.8	3,046	343	0
QC	Quality Control	504	1.1	10.0	---	---
% Precision		100	100	98	98	98
% Extraction Accuracy		99	109	123	---	---
% Instrument Accuracy		101	106	98	---	---
DETECTION LIMIT		1	0.1	1	10	10

METHODS: EPA 375.4, 310.1, 340.2; 4500 Cl-B.
QC: Blank Spiked with 500 mg/L CHLORIDE; 1.0 mg/L FLUORIDE; 10.0 mg/L SULFATE.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-23-95
Date

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ANALYTICAL RESULTS FOR
NAVAJO REFINING

March 23, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

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

Analysis Date: 03/20/95
Sampling Date: 03/09/95
Sample Condition: Intact & Cool
Sample Received by: CC
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)	Be (mg/L)	Fe (mg/L)	Co (mg/L)	Mn (mg/L)	V (mg/L)
T33160	KWB - 12A	<0.1	<0.05	<0.01	0.02	<0.01	<0.05	<0.01	1.41	<0.05	0.4	<0.05
QC	Quality Control	5.2	5.15	5.09	5.06	5.10	5.24	5.07	5.06	5.02	5.2	5.12
DETECTION LIMIT		0.1	0.05	0.01	0.01	0.01	0.05	0.01	0.01	0.05	0.1	0.05
% Precision		98	99	99	99	98	101	99	98	99	99	98
% Extraction Accuracy		110	103	101	105	101	110	106	102	96	96	106
% Instrument Accuracy		104	103	102	101	102	105	101	101	100	100	102

		Cu (mg/L)	Al (mg/L)	B (mg/L)	Ba (mg/L)	U (mg/L)	Hg (mg/L)	Se (mg/L)	Ag (mg/L)	Pb (mg/L)
T33160	KWB - 12A	<0.05	2.91	0.25	<0.5	<0.5	<0.001	0.001	<0.001	<0.001
QC	Quality Control	5.13	5.18	5.21	5.1	9.8	0.022	0.045	0.108	0.050
DETECTION LIMIT		0.05	0.05	0.05	0.5	0.5	0.001	0.001	0.001	0.001
% Precision		99	99	100	98	100	100	100	108	100
% Extraction Accuracy		102	114	118	100	71	95	92	108	88
% Instrument Accuracy		103	104	104	102	100	100	90	108	100

METHODS: EPA 200.7, 239.2, 270.2, 272.2.
QC: Blank Spiked with 0.050 mg/L Se, Pb; 0.100 mg/L Ag; 5.0 mg/L As, Mn, Cu; 5.00 mg/L Mo, Cr, Zn, Cd, Ni, Be, Fe, Co, V, Al, B; 200 mg/L Ba; 9.8 mg/L U; 0.022 mg/L Hg.

BL

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-23-95

DATE

6701 Aberdeen Avenue
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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

March 24, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/18/95
Sampling Date: 03/9-10/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: Navajo

EPA 624 Compounds (ppb)	T33160 KWB-12A	Detection Limit
Dichlorodifluoromethane	ND	1
Chloromethane	ND	1
Vinyl chloride	ND	1
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	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	1	1
1,1,2-Trichloroethane	ND	1
2-Hexanone	ND	50

EPA 624 Compounds (ppb)	T33160 KWB-12A	Detection Limit
Dibromochloromethane	ND	1
Tetrachloroethene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	2	1
m & p-Xylene	2	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	109
Toluene-d8	99
4-Bromofluorobenzene	101

***ND = Not Detected**
METHODS: EPA 624

Director, Dr. Blair Leftwich
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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

March 24, 1995
Receiving Date: 03/11/95
Sample Type: Water
Sample Condition: I & C
Sample Received by: CC
Project No: NA
Project Name: Navajo
Project Location: Artesia, NM
Analysis Date: 03/20/95

PAH's T33160

EPA 625 (ppm)	DL	KWB-12A	QC	%P	%EA	%IA
Naphthalene	0.001	ND	0.473			95
Acenaphthylene	0.001	ND	0.477			95
Acenaphthene	0.001	ND	0.486	101	90	97
Fluorene	0.001	ND	0.459			92
Phenanthrene	0.001	ND	0.464			93
Anthracene	0.001	ND	0.484			97
Fluoranthene	0.001	ND	0.478			96
Pyrene	0.001	ND	0.522	99	81	104
Benz[a]anthracene	0.001	ND	0.511			102
Chyrsene	0.001	ND	0.502			100
Benzo[b]fluoranthene	0.001	ND	0.483			97
Benzo[k]fluoranthene	0.001	ND	0.477			95
Benzo[a]pyrene	0.001	ND	0.526			105
Indeno[1,2,3-cd]pyrene	0.001	ND	0.433			87
Dibenz[a,h]anthracene	0.001	ND	0.484			96
Benzo[g,h,i]perylene	0.001	ND	0.481			96

*ND = Not Detected

	% RECOVERY
2-Fluorophenol SURR	67
Phenol-d6 SURR	53
Nitrobenzene-d5 SURR	78
2-Fluorobiphenyl SURR	97
2,4,6-Tribromophenol SURR	46
Terphenyl-d14 SURR	117

METHODS: EPA 625.

Director, Dr. Blair Leftwich

3-24-95
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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

March 24, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/18/95
Sampling Date: 03/9-10/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: Navajo

EPA 624 Compounds (ppb)	T33153 RA-2723	Detection Limit
Dichlorodifluoromethane	ND	1
Chloromethane	ND	1
Vinyl chloride	ND	1
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	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

EPA 624 Compounds (ppb)	T33153 RA-2723	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	107
Toluene-d8	100
4-Bromofluorobenzene	100

***ND = Not Detected**
METHODS: EPA 624

3-24-95

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

Date

TRACE ANALYSIS, INC.
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ANALYTICAL RESULTS FOR
NAVAJO REFINING

March 23, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

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

Analysis Date: 03/21/95
Sampling Date: 03/09/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: NA

TA#	Field Code	POTASSIUM (mg/L)	MAGNESIUM (mg/L)	CALCIUM (mg/L)	SODIUM (mg/L)
T33149	MW - 18	1.8	186	302	58.9
QC	Quality Control	51.5	20.3	20.4	20.0
Detection Limit		0.1	0.1	0.05	0.1
% Precision		96	95	88	94
% Extraction Accuracy		117	109	138	92
% Instrument Accuracy		102	102	100	99

METHODS: EPA 200.7.
QC: Blank Spiked with 50.0 mg/L POTASSIUM; 20.0 mg/L MAGNESIUM, CALCIUM, SODIUM.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-23-95
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ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

March 23, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/15/95
Sampling Date: 03/09/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: NA

TA#	FIELD CODE	CHLORIDE (mg/L)	FLUORIDE (mg/L)	SULFATE (mg/L)	ALKALINITY (mg/L as CaCo3) HCO3	CO3
T33149	MW - 18	225	1.2	1,145	492	0
QC	Quality Control	504	1.1	10.0	---	---
% Precision		100	100	98		
% Extraction Accuracy		99	109	123	98	98
% Instrument Accuracy		101	106	98	---	---
DETECTION LIMIT		1	0.1	1	10	10

METHODS: EPA 375.4, 310.1, 340.2; 4500 Cl-B.
QC: Blank Spiked with 500 mg/L CHLORIDE; 1.0 mg/L FLUORIDE; 10.0 mg/L SULFATE.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-23-95
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ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

March 23, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/20/95
Sampling Date: 03/09/95
Sample Condition: Intact & Cool
Sample Received by: CC
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)	Be (mg/L)	Fe (mg/L)	Co (mg/L)	Mn (mg/L)	V (mg/L)
T33149	MW - 18	<0.1	<0.05	<0.01	0.02	<0.01	<0.05	<0.01	0.20	<0.05	<0.1	<0.05
QC	Quality Control	5.2	5.15	5.09	5.06	5.10	5.24	5.07	5.06	5.02	5.2	5.12
DETECTION LIMIT		0.1	0.05	0.01	0.01	0.01	0.05	0.01	0.01	0.05	0.1	0.05
% Precision		98	99	99	99	98	101	99	98	99	98	98
% Extraction Accuracy		110	103	101	105	101	110	106	102	96	106	106
% Instrument Accuracy		104	103	102	101	102	105	101	101	100	102	102

TA#	FIELD CODE	Cu (mg/L)	Al (mg/L)	B (mg/L)	Ba (mg/L)	U (mg/L)	Hg (mg/L)	Se (mg/L)	Ag (mg/L)	Pb (mg/L)
T33149	MW - 18	<0.05	0.36	0.63	<0.5	<0.5	<0.001	0.001	<0.001	<0.001
QC	Quality Control	5.13	5.18	5.21	5.1	9.8	0.022	0.045	0.108	0.050
DETECTION LIMIT		0.05	0.08	0.05	0.5	0.5	0.001	0.001	0.001	0.001
% Precision		99	99	100	98	100	100	100	108	100
% Extraction Accuracy		102	114	118	100	71	95	92	108	88
% Instrument Accuracy		103	104	104	102	100	100	90	108	100

METHODS: EPA 200.7, 239.2, 270.2, 272.2.
QC: Blank Spiked with 0.050 mg/L Se, Pb; 0.100 mg/L Ag; 5.0 mg/L As, Mn, Cu; 5.00 mg/L Mo, Cr, Zn, Cd, Ni, Be, Fe, Co, V, Al, B; 200 mg/L Ba; 9.8 mg/L U; 0.022 mg/L Hg.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-23-95
DATE

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

March 24, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/18/95
Sampling Date: 03/9-10/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: Navajo

EPA 624 Compounds (ppb)	T33149 MW - 18	Detection Limit
Dichlorodifluoromethane	ND	1
Chloromethane	ND	1
Vinyl chloride	ND	1
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	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

EPA 624 Compounds (ppb)	T33149 MW-18	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	103
Toluene-d8	98
4-Bromofluorobenzene	98

***ND = Not Detected**
METHODS: EPA 624

3-24-95

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

March 24, 1995
Receiving Date: 03/11/95
Sample Type: Water
Sample Condition: I & C
Sample Received by: CC
Project No: NA
Project Name: Navajo
Project Location: Artesia, NM
Analysis Date: 03/20/95

PAH's T33149

EPA 625 (ppm)	DL	MW-18	QC	%P	%EA	%IA
Naphthalene	0.001	ND	0.473			95
Acenaphthylene	0.001	ND	0.477			95
Acenaphthene	0.001	ND	0.486	101	90	97
Fluorene	0.001	ND	0.459			92
Phenanthrene	0.001	ND	0.464			93
Anthracene	0.001	ND	0.484			97
Fluoranthene	0.001	ND	0.478			96
Pyrene	0.001	ND	0.522	99	81	104
Benz[a]anthracene	0.001	ND	0.511			102
Chyrsene	0.001	ND	0.502			100
Benzo[b]fluoranthene	0.001	ND	0.483			97
Benzo[k]fluoranthene	0.001	ND	0.477			95
Benzo[a]pyrene	0.001	ND	0.526			105
Indeno[1,2,3-cd]pyrene	0.001	ND	0.433			87
Dibenz[a,h]anthracene	0.001	ND	0.484			96
Benzo[g,h,i]perylene	0.001	ND	0.481			96

*ND = Not Detected

	% RECOVERY
2-Fluorophenol SURR	56
Phenol-d6 SURR	42
Nitrobenzene-d5 SURR	65
2-Fluorobiphenyl SURR	88
2,4,6-Tribromophenol SURR	43
Terphenyl-d14 SURR	148

METHODS: EPA 625.

Director, Dr. Blair Leftwich

3-24-95
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TRACE ANALYSIS, INC.
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ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

March 23, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/20/95
Sampling Date: 03/09/95
Sample Condition: Intact & Cool
Sample Received by: CC
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)	Be (mg/L)	Fe (mg/L)	Co (mg/L)	Mn (mg/L)	V (mg/L)
T33151	MW - 28	<0.1	<0.05	<0.01	0.04	0.01	<0.05	<0.01	0.21	<0.05	<0.1	<0.05
QC	Quality Control	5.2	5.15	5.09	5.06	5.10	5.24	5.07	5.06	5.02	5.2	5.12
DETECTION LIMIT		0.1	0.05	0.01	0.01	0.01	0.05	0.01	0.01	0.05	0.1	0.05
% Precision		98	99	99	99	98	101	99	98	99	99	98
% Extraction Accuracy		110	103	101	105	101	110	106	102	96	96	106
% Instrument Accuracy		104	103	102	101	102	105	101	101	100	100	102

TA#	FIELD CODE	Cu (mg/L)	Al (mg/L)	B (mg/L)	Ba (mg/L)	U (mg/L)	Hg (mg/L)	Se (mg/L)	Ag (mg/L)	Pb (mg/L)
T33151	MW - 28	<0.05	<0.05	0.73	<0.5	<0.5	<0.001	<0.001	<0.001	0.062
QC	Quality Control	5.13	5.18	5.21	5.1	9.8	0.022	0.045	0.108	0.050
DETECTION LIMIT		0.05	0.05	0.05	0.5	0.5	0.001	0.001	0.001	0.001
% Precision		99	99	100	98	100	100	100	108	100
% Extraction Accuracy		102	114	118	100	71	95	92	108	88
% Instrument Accuracy		103	104	104	102	100	100	90	108	100

METHODS: EPA 200.7, 239.2, 270.2, 272.2.
QC: Blank Spiked with 0.050 mg/L Se, Pb; 0.100 mg/L Ag; 5.0 mg/L As, Mn, Cu; 5.00 mg/L Mo, Cr, Zn, Cd, Ni, Be, Fe, Co, V, Al, B; 200 mg/L Ba; 9.8 mg/L U; 0.022 mg/L Hg.

BS

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-23-95
DATE

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

March 24, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/18/95
Sampling Date: 03/9-10/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: Navajo

EPA 624 Compounds (ppb)	T33151 MW - 28	Detection Limit
Dichlorodifluoromethane	ND	50
Chloromethane	ND	50
Vinyl chloride	ND	50
Bromomethane	ND	50
Chloroethane	ND	50
Trichlorofluoromethane	ND	50
1,1-Dichloroethene	ND	50
Iodomethane	ND	50
Carbon disulfide	ND	50
Methylene chloride	ND	50
trans-1,2-Dichloroethene	ND	50
1,1-Dichloroethane	ND	50
Vinyl acetate	ND	50
2-Butanone	ND	2,500
Chloroform	ND	50
1,1,1-Trichloroethane	ND	50
1,2-Dichloroethane	ND	50
Benzene	983	50
Carbon Tetrachloride	ND	50
1,2-Dichloropropane	ND	50
Trichloroethene	ND	50
Bromodichloromethane	ND	50
cis-1,3-Dichloropropene	ND	50
4-Methyl-2-pentanone	ND	2,500
trans-1,3-Dichloropropene	ND	50
Toluene	613	50
1,1,2-Trichloroethane	ND	50
2-Hexanone	ND	2,500

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

March 24, 1995
Receiving Date: 03/11/95
Sample Type: Water
Sample Condition: I & C
Sample Received by: CC
Project No: NA
Project Name: Navajo
Project Location: Artesia, NM
Analysis Date: 03/20/95

PAH's T33151

EPA 625 (ppm)	DL	MW-28	QC	%P	%EA	%IA
Naphthalene	0.001	0.076	0.473			95
Acenaphthylene	0.001	ND	0.477			95
Acenaphthene	0.001	ND	0.486	101	90	97
Fluorene	0.001	ND	0.459			92
Phenanthrene	0.001	ND	0.464			93
Anthracene	0.001	ND	0.484			97
Fluoranthene	0.001	ND	0.478			96
Pyrene	0.001	ND	0.522	99	81	104
Benz[a]anthracene	0.001	ND	0.511			102
Chyrsene	0.001	ND	0.502			100
Benzo[b]fluoranthene	0.001	ND	0.483			97
Benzo[k]fluoranthene	0.001	ND	0.477			95
Benzo[a]pyrene	0.001	ND	0.526			105
Indeno[1,2,3-cd]pyrene	0.001	ND	0.433			87
Dibenz[a,h]anthracene	0.001	ND	0.484			96
Benzo[g,h,i]perylene	0.001	ND	0.481			96

*ND = Not Detected

	% RECOVERY
2-Fluorophenol SURR	53
Phenol-d6 SURR	51
Nitrobenzene-d5 SURR	86
2-Fluorobiphenyl SURR	86
2,4,6-Tribromophenol SURR	92
Terphenyl-d14 SURR	128

METHODS: EPA 625.

Director, Dr. Blair Leftwich

3-24-95
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

March 23, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

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

Analysis Date: 03/21/95
Sampling Date: 03/09/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: NA

TA#	Field Code	POTASSIUM (mg/L)	MAGNESIUM (mg/L)	CALCIUM (mg/L)	SODIUM (mg/L)
T33150	MW - 29	3.6	262	405	261
QC	Quality Control	51.0	20.4	20.0	19.8
Detection Limit		0.1	0.1	0.05	0.1
% Precision		96	95	88	94
% Extraction Accuracy		117	109	138	92
% Instrument Accuracy		102	102	100	99

METHODS: EPA 200.7.
QC: Blank Spiked with 50.0 mg/L POTASSIUM; 20.0 mg/L MAGNESIUM, CALCIUM, SODIUM.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-23-95
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 23, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/15/95
Sampling Date: 03/09/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: NA

TA#	FIELD CODE	CHLORIDE (mg/L)	FLUORIDE (mg/L)	SULFATE (mg/L)	ALKALINITY (mg/L as CaCo3) HCO3	CO3
T33150	MW - 29	362	2.6	1,836	695	0
QC	Quality Control	504	1.1	10.0	---	---
% Precision		100	100	98	98	98
% Extraction Accuracy		99	109	123	---	---
% Instrument Accuracy		101	106	98	---	---
DETECTION LIMIT		1	0.1	1	10	10

METHODS: EPA 375.4, 310.1, 340.2; 4500 Cl-B.
QC: Blank Spiked with 500 mg/L CHLORIDE; 1.0 mg/L FLUORIDE; 10.0 mg/L SULFATE.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-23-95
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 23, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/20/95
Sampling Date: 03/09/95
Sample Condition: Intact & Cool
Sample Received by: CC
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)	Be (mg/L)	Fe (mg/L)	Co (mg/L)	Mn (mg/L)	V (mg/L)
T33150	MW - 29	<0.1	<0.05	<0.01	0.06	<0.01	<0.05	<0.01	0.73	<0.05	1.1	<0.05
QC	Quality Control	5.2	5.15	5.09	5.06	5.10	5.24	5.07	5.06	5.02	5.2	5.12
DETECTION LIMIT		0.1	0.05	0.01	0.01	0.01	0.05	0.01	0.01	0.05	0.1	0.05
% Precision		98	99	99	99	98	101	99	98	99	98	98
% Extraction Accuracy		110	103	101	105	101	110	106	102	96	100	106
% Instrument Accuracy		104	103	102	101	102	105	101	101	100	104	102

TA#	FIELD CODE	Cu (mg/L)	Al (mg/L)	B (mg/L)	Ba (mg/L)	U (mg/L)	Hg (mg/L)	Se (mg/L)	Ag (mg/L)	Pb (mg/L)
T33150	MW - 29	<0.05	0.14	0.73	<0.5	<0.5	<0.001	<0.001	<0.001	<0.001
QC	Quality Control	5.13	5.18	5.21	5.1	9.8	0.022	0.045	0.108	0.050
DETECTION LIMIT		0.05	0.08	0.05	0.5	0.5	0.001	0.001	0.001	0.001
% Precision		99	99	100	98	100	100	100	108	100
% Extraction Accuracy		102	114	118	100	71	95	92	108	88
% Instrument Accuracy		103	104	104	102	100	100	90	108	100

METHODS: EPA 200.7, 239.2, 270.2, 272.2.
QC: Blank Spiked with 0.050 mg/L Se, Pb; 0.100 mg/L Ag; 5.0 mg/L As, Mn, Cu; 5.00 mg/L Mo, Cr, Zn, Cd, Ni, Be, Fe, Co, V, Al, B; 200 mg/L Ba; 9.8 mg/L U; 0.022 mg/L Hg.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-23-95
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 24, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/18/95
Sampling Date: 03/9-10/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: Navajo

EPA 624 Compounds (ppb)	T33150 MW - 29	Detection Limit
Dichlorodifluoromethane	ND	400
Chloromethane	ND	400
Vinyl chloride	ND	400
Bromomethane	ND	400
Chloroethane	ND	400
Trichlorofluoromethane	ND	400
1,1-Dichloroethene	ND	400
Iodomethane	ND	400
Carbon disulfide	ND	400
Methylene chloride	ND	400
trans-1,2-Dichloroethene	ND	400
1,1-Dichloroethane	ND	400
Vinyl acetate	ND	400
2-Butanone	ND	20,000
Chloroform	ND	400
1,1,1-Trichloroethane	ND	400
1,2-Dichloroethane	ND	400
Benzene	ND	400
Carbon Tetrachloride	ND	400
1,2-Dichloropropane	ND	400
Trichloroethene	ND	400
Bromodichloromethane	ND	400
cis-1,3-Dichloropropene	ND	400
4-Methyl-2-pentanone	ND	20,000
trans-1,3-Dichloropropene	ND	400
Toluene	ND	400
1,1,2-Trichloroethane	ND	400
2-Hexanone	ND	20,000

EPA 624 Compounds (ppb)	T33150 MW-29	Detection Limit
Dibromochloromethane	ND	400
Tetrachloroethene	ND	400
Chlorobenzene	ND	400
Ethylbenzene	ND	400
m & p-Xylene	ND	400
Bromoform	ND	400
Styrene	ND	400
o-Xylene	ND	400
1,1,2,2-Tetrachloroethane	ND	400
trans 1,4-Dichloro-2-butene	ND	2,000
cis 1,4-Dichloro-2-butene	ND	2,000
1,4-Dichlorobenzene	ND	800
1,3-Dichlorobenzene	ND	800
1,2-Dichlorobenzene	ND	800

SURROGATES	**% RECOVERY**
Dibromofluoromethane	105
Toluene-d8	99
4-Bromofluorobenzene	99

***ND = Not Detected**
METHODS: EPA 624

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-24-95
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 24, 1995
Receiving Date: 03/11/95
Sample Type: Water
Sample Condition: I & C
Sample Received by: CC
Project No: NA
Project Name: Navajo
Project Location: Artesia, NM
Analysis Date: 03/20/95

PAH's T33150

EPA 625 (ppm)	DL	MW-29	QC	%P	%EA	%IA
Naphthalene	0.001	0.103	0.473			95
Acenaphthylene	0.001	ND	0.477			95
Acenaphthene	0.001	0.005	0.486	101	90	97
Fluorene	0.001	0.023	0.459			92
Phenanthrene	0.001	0.003	0.464			93
Anthracene	0.001	0.037	0.484			97
Fluoranthene	0.001	0.002	0.478			96
Pyrene	0.001	0.008	0.522	99	81	104
Benz[a]anthracene	0.001	ND	0.511			102
Chyrsene	0.001	ND	0.502			100
Benzo[b]fluoranthene	0.001	ND	0.483			97
Benzo[k]fluoranthene	0.001	ND	0.477			95
Benzo[a]pyrene	0.001	ND	0.526			105
Indeno[1,2,3-cd]pyrene	0.001	ND	0.433			87
Dibenz[a,h]anthracene	0.001	ND	0.484			96
Benzo[g,h,i]perylene	0.001	ND	0.481			96

*ND = Not Detected

	% RECOVERY
2-Fluorophenol SURR	85
Phenol-d6 SURR	50
Nitrobenzene-d5 SURR	80
2-Fluorobiphenyl SURR	89
2,4,6-Tribromophenol SURR	61
Terphenyl-d14 SURR	128

METHODS: EPA 625.

Director, Dr. Blair Leftwich

3-24-95
DATE

Director, Dr. Bruce McDonell

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

ANALYTICAL RESULTS FOR
NAVAJO REFINING

March 23, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

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

Analysis Date: 03/21/95
Sampling Date: 03/10/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: NA

TA#	Field Code	POTASSIUM (mg/L)	MAGNESIUM (mg/L)	CALCIUM (mg/L)	SODIUM (mg/L)
T33169	MW - 45	14.6	443	612	541
QC	Quality Control	51.4	20.2	20.2	20.2
Detection Limit		0.1	0.1	0.05	0.1
% Precision		98	101	100	96
% Extraction Accuracy		114	99	100	95
% Instrument Accuracy		103	101	101	101

METHODS: EPA 200.7.
QC: Blank Spiked with 50.0 mg/L POTASSIUM; 20.0 mg/L MAGNESIUM, CALCIUM, SODIUM.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-23-95
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 23, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/15/95
Sampling Date: 03/10/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: NA

TA#	FIELD CODE	CHLORIDE (mg/L)	FLUORIDE (mg/L)	SULFATE (mg/L)	ALKALINITY (mg/L as CaCo3) HCO3	CO3
T33169	MW - 45	1,057	2.3	3,197	283	0
QC	Quality Control	504	1.04	11	---	---
% Precision		99	109	101	104	104
% Extraction Accuracy		98	114	109	---	---
% Instrument Accuracy		101	102	102	---	---
DETECTION LIMIT		1	0.1	1	10	10

METHODS: EPA 375.4, 310.1, 340.2; 4500 Cl-B.
QC: Blank Spiked with 500 mg/L CHLORIDE; 1.0 mg/L FLUORIDE; 10.0 mg/L SULFATE.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-23-95
Date

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

March 23, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/20/95
Sampling Date: 03/10/95
Sample Condition: Intact & Cool
Sample Received by: CC
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)	Be (mg/L)	Fe (mg/L)	Co (mg/L)	Mn (mg/L)	V (mg/L)
T33169	MW - 45	<0.1	<0.05	<0.01	0.02	<0.01	<0.05	<0.01	2.56	<0.05	0.4	<0.05
QC	Quality Control	5.2	5.27	5.28	5.26	5.29	5.33	5.20	5.26	5.29	5.3	5.32
DETECTION LIMIT		0.1	0.05	0.01	0.01	0.01	0.05	0.01	0.01	0.05	0.1	0.05
% Precision		102	99	100	99	100	99	100	97	99	100	99
% Extraction Accuracy		105	98	96	100	94	100	100	97	94	100	100
% Instrument Accuracy		104	105	106	105	106	107	104	105	106	106	106

		Cu (mg/L)	Al (mg/L)	B (mg/L)	Ba (mg/L)	U (mg/L)	Hg (mg/L)	Se (mg/L)	Ag (mg/L)	Pb (mg/L)
T33169	MW - 45	<0.05	1.55	0.29	0.5	<0.5	<0.001	<0.001	<0.001	0.005
QC	Quality Control	5.28	5.14	5.14	5.5	9.8	0.022	0.045	0.108	0.050
DETECTION LIMIT		0.05	0.05	0.05	0.5	0.5	0.001	0.001	0.001	0.001
% Precision		98	99	97	99	94	100	100	108	100
% Extraction Accuracy		96	101	105	95	76	100	92	108	88
% Instrument Accuracy		106	103	103	104	100	100	90	108	100

METHODS: EPA 200.7, 239.2, 270.2, 272.2.
QC: Blank Spiked with 0.050 mg/L Se, Pb; 0.100 mg/L Ag; 5.0 mg/L As, Mn, Cu; 5.00 mg/L Mo, Cr, Zn, Cd, Ni, Be, Fe, Co, V, Al, B; 200 mg/L Ba; 9.8 mg/L U; 0.022 mg/L Hg.

BB
Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-23-95
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 24, 1995
Receiving Date: 03/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 03/18/95
Sampling Date: 03/9-10/95
Sample Condition: Intact & Cool
Sample Received by: CC
Project Name: Navajo

EPA 624 Compounds (ppb)	T33169 MW-45	Detection Limit
Dichlorodifluoromethane	ND	2
Chloromethane	ND	2
Vinyl chloride	ND	2
Bromomethane	ND	2
Chloroethane	ND	2
Trichlorofluoromethane	ND	2
1,1-Dichloroethene	ND	2
Iodomethane	ND	2
Carbon disulfide	ND	2
Methylene chloride	ND	2
trans-1,2-Dichloroethene	ND	2
1,1-Dichloroethane	ND	2
Vinyl acetate	ND	2
2-Butanone	ND	100
Chloroform	ND	2
1,1,1-Trichloroethane	ND	2
1,2-Dichloroethane	ND	2
Benzene	ND	2
Carbon Tetrachloride	ND	2
1,2-Dichloropropane	ND	2
Trichloroethene	ND	2
Bromodichloromethane	ND	2
cis-1,3-Dichloropropene	ND	2
4-Methyl-2-pentanone	ND	100
trans-1,3-Dichloropropene	ND	2
Toluene	ND	2
1,1,2-Trichloroethane	ND	2
2-Hexanone	ND	100

EPA 624 Compounds (ppb)	T33169 MW-45	Detection Limit
Dibromochloromethane	ND	2
Tetrachloroethene	ND	2
Chlorobenzene	ND	2
Ethylbenzene	ND	2
m & p-Xylene	ND	2
Bromoform	ND	2
Styrene	ND	2
o-Xylene	ND	2
1,1,2,2-Tetrachloroethane	ND	2
trans 1,4-Dichloro-2-butene	ND	10
cis 1,4-Dichloro-2-butene	ND	10
1,4-Dichlorobenzene	ND	4
1,3-Dichlorobenzene	ND	4
1,2-Dichlorobenzene	ND	4

SURROGATES	**% RECOVERY**
Dibromofluoromethane	105
Toluene-d8	99
4-Bromofluorobenzene	99

***ND = Not Detected**
METHODS: EPA 624

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

3-24-95
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 24, 1995
Receiving Date: 03/11/95
Sample Type: Water
Sample Condition: I & C
Sample Received by: CC
Project No: NA
Project Name: Navajo
Project Location: Artesia, NM
Analysis Date: 03/20/95

PAH's T33169

EPA 625 (ppm)	DL	MW-45	QC	%P	%EA	%IA
Naphthalene	0.001	ND	0.473			95
Acenaphthylene	0.001	ND	0.477			95
Acenaphthene	0.001	ND	0.486	101	90	97
Fluorene	0.001	ND	0.459			92
Phenanthrene	0.001	ND	0.464			93
Anthracene	0.001	ND	0.484			97
Fluoranthene	0.001	ND	0.478			96
Pyrene	0.001	ND	0.522	99	81	104
Benz[a]anthracene	0.001	ND	0.511			102
Chyrsene	0.001	ND	0.502			100
Benzo[b]fluoranthene	0.001	ND	0.483			97
Benzo[k]fluoranthene	0.001	ND	0.477			95
Benzo[a]pyrene	0.001	ND	0.526			105
Indeno[1,2,3-cd]pyrene	0.001	ND	0.433			87
Dibenz[a,h]anthracene	0.001	ND	0.484			96
Benzo[g,h,i]perylene	0.001	ND	0.481			96

*ND = Not Detected

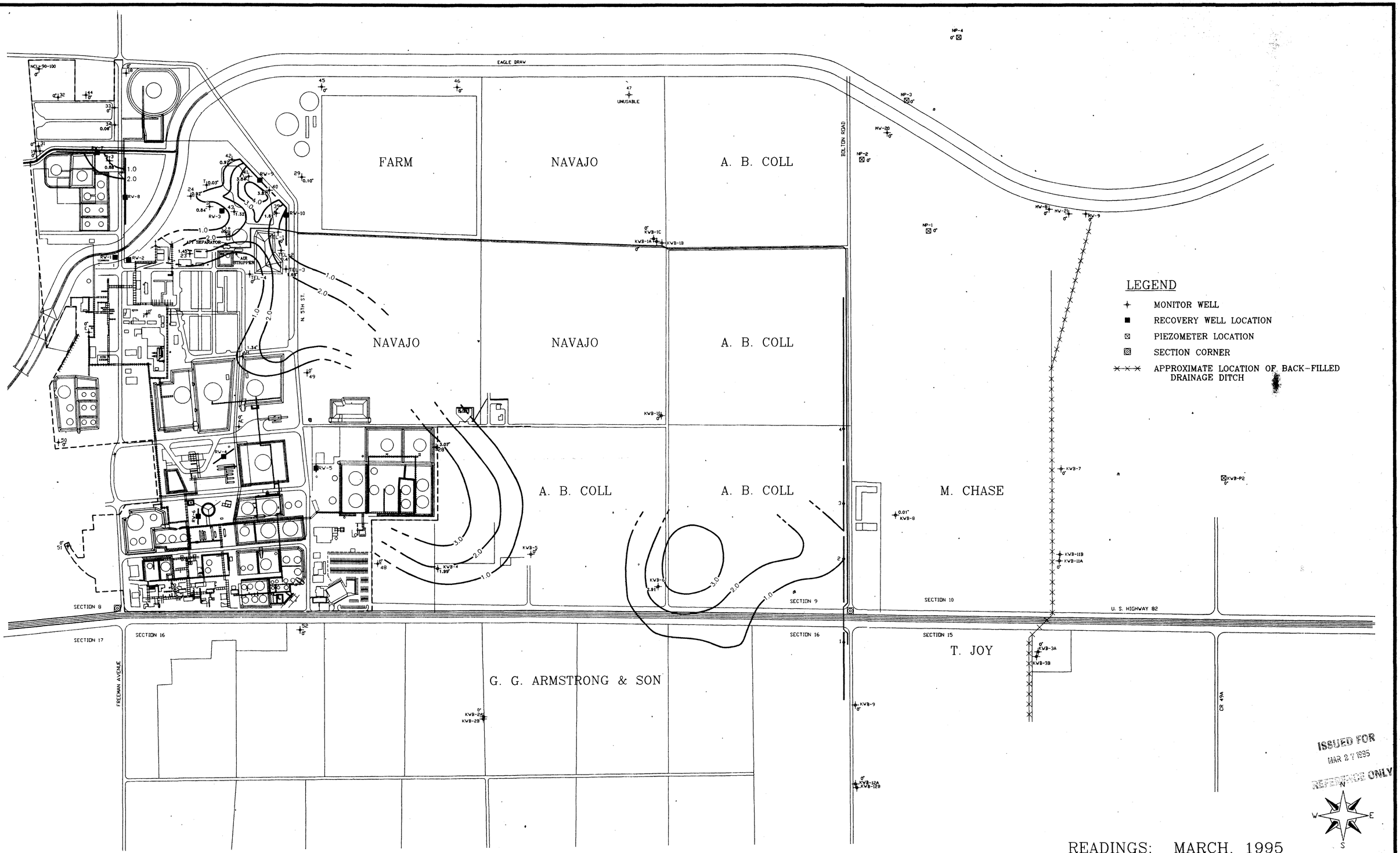
	% RECOVERY
2-Fluorophenol SURR	76
Phenol-d6 SURR	65
Nitrobenzene-d5 SURR	93
2-Fluorobiphenyl SURR	103
2,4,6-Tribromophenol SURR	59
Terphenyl-d14 SURR	152

METHODS: EPA 625.

3-24-95

Director, Dr. Blair Leftwich — DATE

Director, Dr. Bruce McDonell



READINGS: MARCH, 1995

NOTES

REFERENCE DRAWINGS

NO.	REVISIONS	BY	CHK.	DATE	APPR.	APPR.

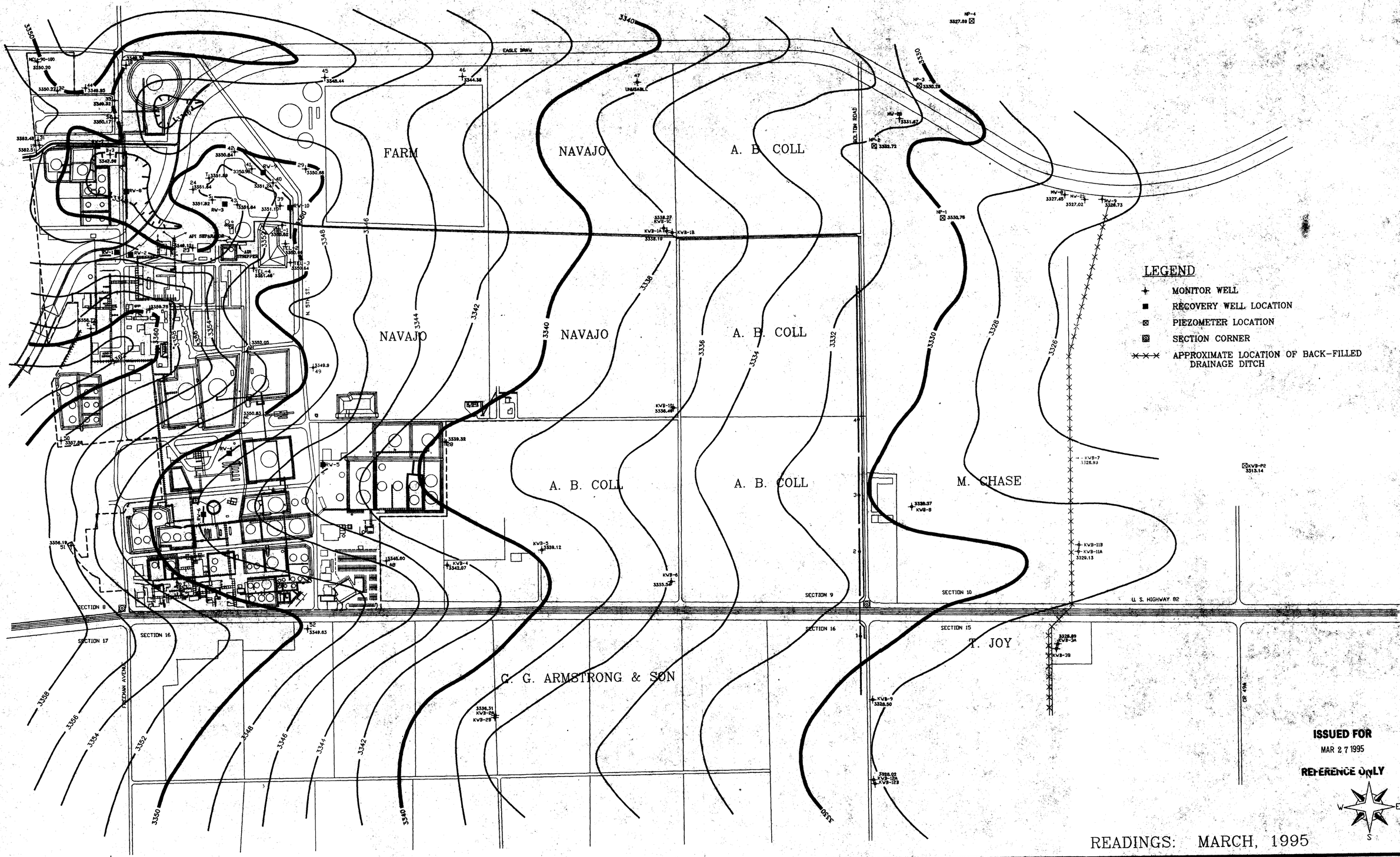
NO.	REVISIONS	BY	CHK.	DATE	APPR.	APPR.

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	1" = 300'	
DATE	APPR BY	DRAWING NUMBER	REV.
3-17-95	ILS	90-45-D	0



READINGS: MARCH, 1995

NOTES

REFERENCE DRAWINGS

NO.	REVISIONS	BY	CHK.	DATE	APPR.	APPR.

NO.	REVISIONS	BY	CHK.	DATE	APPR.	APPR.
0	ISSUED WITH MARCH, 1995 READINGS	PETE	DGM	3-27-95	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	
PETE	DGM	1" = 300'	
DATE	APP'D BY	DRAWING NUMBER	REV.
3-17-95	ILS	90-44-D	0

TELEPHONE
(505) 748-3311

EASYLINK
62905278

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

NAVAJO REFINING COMPANY

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

July 19, 1995

Mr Bill Olson
Hydrogeologist
Environmental Bureau
Oil Conservation Division
2040 S. Pacheco St.
Santa Fe, NM 87505-5472

RE:2nd QUARTER 1995 INVESTIGATIVE REPORT - GROUND WATER REMEDIATION, NAVAJO REFINING CO., EDDY COUNTY, NM

Dear Bill,

Enclosed, please find 1) Ground Water potentiometric map, 2) Product thickness map, and 3) analysis of the wells done this quarter. We continue to detect small amounts of MTBE in RA-1227. Also, KWB-7 which is in the middle of the Chase orchard had a small hit of MTBE on the quarterly sampling.

We continue to have problems getting accurate numbers on the amount of water produced from each recovery well. We have tried several different types of meters, but these products just won't last under this service. We are looking into using a timer to determine how long each pump runs, and then calculating what it would pump in that time. The amount of product pumped this quarter from each well is as follows:

RW-1	25070.9 GALLONS
RW-2	2142.84 GALLONS
RW-5	7055.41 GALLONS
RW-7	95.58 GALLONS
RW-8	2043.39 GALLONS
RW-9	2024.73 GALLONS
RW-10	15491.89 GALLONS
BOLTON RD-1	0.46 GALLONS
BOLTON RD-2	219.78 GALLONS
BOLTON RD-3	26934.20 GALLONS
BOLTON RD-4	4122.02 GALLONS

This comes to a total of 85,201.2 gallons pumped plant wide this quarter. These totals are from April 1, 1995 to June 30, 1995.

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

Regards,
NAVAJO REFINING CO.

Darrell Moore
Sr. Environmental Specialist
Encl.

KWB-1A

Date Sampled		03/09/95	06/28/95										
	pH	7.1											
	Cond	5460											
	Temp (C)	21											
	Elev. Grdwtr (ft)	3338.19											
	Potassium (mg/l)	1.4											
	Magnesium (mg/l)	364											
	Calcium (mg/l)	395											
	Sodium (mg/l)	293											
	Chloride (mg/l)	333											
	Fluoride (mg/l)	1.2											
	Sulfate (mg/l)	2365											
	Alkalinity(HCO3) (mg/l as CaCO3)	429											
	Alkalinity(CO3) (mg/l as CaCO3)	0											
METALS	As (mg/l)	ND											
	Mo (mg/l)	ND											
	Cr (mg/l)	ND											
	Zn (mg/l)	ND											
	Cd (mg/l)	ND											
	Ni (mg/l)	ND											
	Be (mg/l)	ND											
	Fe (mg/l)	0.03											
	Co (mg/l)	ND											
	Mn (mg/l)	0.2											
	V (mg/l)	ND											
	Cu (mg/l)	ND											
	Al (mg/l)	0.14											
	B (mg/l)	0.69											
	Ba (mg/l)	ND											
	U (mg/l)	ND											
	Hg (mg/l)	ND											
	Se (mg/l)	ND											
	Ag (mg/l)	ND											
	Pb (mg/l)	ND											
624 Compounds (ppb)													
	Benzene	4409	2144										
	MTBE		252										
PAH'S (ppm)													
	Naphthalene	0.04											

KWB-1C

Date Sampled		03/10/95	06/29/95										
	pH	7.1											
	Cond	5280											
	Temp (C)	21											
	Elev. Grdwtr (ft)	3338.27											
	Potassium (mg/l)	4.1											
	Magnesium (mg/l)	213											
	Calcium (mg/l)	270											
	Sodium (mg/l)	191											
	Chloride (mg/l)	303											
	Fluoride (mg/l)	1.1											
	Sulfate (mg/l)	1817											
	Alkalinity(HCO3) (mg/l as CaCO3)	484											
	Alkalinity(CO3) (mg/l as CaCO3)	0											
METALS	As (mg/l)	ND											
	Mo (mg/l)	ND											
	Cr (mg/l)	ND											
	Zn (mg/l)	ND											
	Cd (mg/l)	ND											
	Ni (mg/l)	ND											
	Be (mg/l)	ND											
	Fe (mg/l)	1.4											
	Co (mg/l)	ND											
	Mn (mg/l)	0.1											
	V (mg/l)	ND											
	Cu (mg/l)	ND											
	Al (mg/l)	0.06											
	B (mg/l)	0.44											
	Ba (mg/l)	ND											
	U (mg/l)	ND											
	Hg (mg/l)	ND											
	Se (mg/l)	ND											
	Ag (mg/l)	ND											
	Pb (mg/l)	ND											
624 Compounds (ppb)													
	Benzene	3483	1357										
	MTBE		220										
PAH's (ppm)													

KWB-2A

Date Sampled		3/9-10/95	06/28/95										
	pH	7.1											
	Cond	3980											
	Temp (C)	21											
	Elev. Grdwtr (ft)	3336.31											
	Potassium (mg/l)	0.4											
	Magnesium (mg/l)	142											
	Calcium (mg/l)	242											
	Sodium (mg/l)	91.7											
	Chloride (mg/l)	157											
	Fluoride (mg/l)	1.1											
	Sulfate (mg/l)	1578											
	Alkalinity(HCO3) (mg/l as CaCO3)	267											
	Alkalinity(CO3) (mg/l as CaCO3)	0											
METALS	As (mg/l)	ND	N										
	Mo (mg/l)	ND	D										
	Cr (mg/l)	ND											
	Zn (mg/l)	0.46	T										
	Cd (mg/l)	ND	H										
	Ni (mg/l)	ND	I										
	Be (mg/l)	ND	S										
	Fe (mg/l)	0.02											
	Co (mg/l)	ND	Q										
	Mn (mg/l)	ND	U										
	V (mg/l)	ND	A										
	Cu (mg/l)	ND	R										
	Al (mg/l)	0.13	T										
	B (mg/l)	0.2	E										
	Ba (mg/l)	ND	R										
	U (mg/l)	ND											
	Hg (mg/l)	ND											
	Se (mg/l)	ND											
	Ag (mg/l)	ND											
	Pb (mg/l)	ND											
624 Compounds (ppb)													
PAH's (ppm)													

KWB-3A

Date Sampled		03/09/95	06/28/95										
	pH	7.1											
	Cond	5650											
	Temp (C)	21											
	Elev. Grdwtr (ft)	3326.89											
	Potassium (mg/l)	0.8											
	Magnesium (mg/l)	250											
	Calcium (mg/l)	478											
	Sodium (mg/l)	372											
	Chloride (mg/l)	445											
	Fluoride (mg/l)	0.5											
	Sulfate (mg/l)	2500											
	Alkalinity(HCO3) (mg/l as CaCO3)	323											
	Alkalinity(CO3) (mg/l as CaCO3)	0	N										
	As (mg/l)	ND	D										
	Mo (mg/l)	ND											
	Cr (mg/l)	ND	T										
	Zn (mg/l)	0.01	H										
	Cd (mg/l)	ND	I										
	Ni (mg/l)	ND	S										
	Be (mg/l)	ND											
M	Fe (mg/l)	0.25	Q										
E	Co (mg/l)	ND	U										
T	Mn (mg/l)	ND	A										
A	V (mg/l)	ND	R										
L	Cu (mg/l)	ND	T										
S	Al (mg/l)	0.5	E										
	B (mg/l)	0.24	R										
	Ba (mg/l)	ND											
	U (mg/l)	ND											
	Hg (mg/l)	ND											
	Se (mg/l)	ND											
	Ag (mg/l)	ND											
	Pb (mg/l)	ND											
624 *Compounds* (ppb)													
PAH's (ppm)													

KWB-7

Date Sampled		03/09/95	06/28/95									
	pH	7.2										
	Cond	3200										
	Temp (C)	20										
	Elev. Grdwtr (ft)	3326.93										
	Potassium (mg/l)	0.6										
	Magnesium (mg/l)	143										
	Calcium (mg/l)	227										
	Sodium (mg/l)	148										
	Chloride (mg/l)	396										
	Fluoride (mg/l)	1.3										
	Sulfate (mg/l)	952										
	Alkalinity(HCO3) (mg/l as CaCO3)	666										
	Alkalinity(CO3) (mg/l as CaCO3)	0										
M E T A L S	As (mg/l)	ND										
	Mo (mg/l)	ND										
	Cr (mg/l)	ND										
	Zn (mg/l)	ND										
	Cd (mg/l)	ND										
	Ni (mg/l)	ND										
	Be (mg/l)	ND										
	Fe (mg/l)	0.11										
	Co (mg/l)	ND										
	Mn (mg/l)	2										
	V (mg/l)	ND										
	Cu (mg/l)	ND										
	Al (mg/l)	0.49										
	B (mg/l)	0.32										
	Ba (mg/l)	ND										
	U (mg/l)	ND										
	Hg (mg/l)	ND										
	Se (mg/l)	ND										
	Ag (mg/l)	ND										
	Pb (mg/l)	ND										
624 Compounds (ppb)												
	Ethylbenzene	2										
	m & p Xylene	1										
	MTBE		3									
PAH's (ppm)												

KWB-9

Date Sampled		03/09/95	06/28/95										
	pH	7.2											
	Cond	3240											
	Temp (C)	22											
	Elev. Grdwtr (ft)	3328.5											
	Potassium (mg/l)	1.9											
	Magnesium (mg/l)	199											
	Calcium (mg/l)	432											
	Sodium (mg/l)	145											
	Chloride (mg/l)	132											
	Fluoride (mg/l)	0.6											
	Sulfate (mg/l)	1696											
	Alkalinity(HCO3) (mg/l as CaCO3)	463											
	Alkalinity(CO3) (mg/l as CaCO3)	0											
	As (mg/l)	ND	N										
	Mo (mg/l)	ND	D										
	Cr (mg/l)	ND											
	Zn (mg/l)	ND	T										
	Cd (mg/l)	ND	H										
	Ni (mg/l)	ND	I										
	Be (mg/l)	ND	S										
M	Fe (mg/l)	0.8											
E	Co (mg/l)	ND	Q										
T	Mn (mg/l)	ND	U										
A	V (mg/l)	ND	A										
L	Cu (mg/l)	ND	R										
S	Al (mg/l)	1.1	T										
	B (mg/l)	0.5	E										
	Ba (mg/l)	ND	R										
	U (mg/l)	ND											
	Hg (mg/l)	ND											
	Se (mg/l)	0.001											
	Ag (mg/l)	ND											
	Pb (mg/l)	ND											
624 Compounds (ppb)	1,1 Dichloroethane	10											
	m & p Xylene	3											
PAH's (ppm)													

KWB-11A

Date Sampled		03/09/95	06/28/95										
	pH	7											
	Cond	3320											
	Temp (C)	22											
	Elev. Grdwtr (ft)	3329.13											
	Potassium (mg/l)	0.4											
	Magnesium (mg/l)	168											
	Calcium (mg/l)	303											
	Sodium (mg/l)	167											
	Chloride (mg/l)	431											
	Fluoride (mg/l)	1											
	Sulfate (mg/l)	1058											
	Alkalinity(HCO3) (mg/l as CaCO3)	522											
	Alkalinity(CO3) (mg/l as CaCO3)	0											
	As (mg/l)	ND	N										
	Mo (mg/l)	ND	D										
	Cr (mg/l)	ND											
	Zn (mg/l)	ND	T										
	Cd (mg/l)	ND	H										
	Ni (mg/l)	ND	I										
	Be (mg/l)	ND	S										
M	Fe (mg/l)	0.08											
E	Co (mg/l)	ND	Q										
T	Mn (mg/l)	ND	U										
A	V (mg/l)	ND	A										
L	Cu (mg/l)	ND	R										
S	Al (mg/l)	0.2	T										
	B (mg/l)	0.36	E										
	Ba (mg/l)	ND	R										
	U (mg/l)	ND											
	Hg (mg/l)	ND											
	Se (mg/l)	ND											
	Ag (mg/l)	ND											
	Pb (mg/l)	ND											
624 Compounds (ppb)	Ethylbenzene	34											
PAH's (ppm)													

KWB-12A

Date Sampled		03/09/95	06/28/95										
	pH	7.1											
	Cond	3800											
	Temp (C)	23											
	Elev. Grdwtr (ft)	3328.02											
	Potassium (mg/l)	2.5											
	Magnesium (mg/l)	197											
	Calcium (mg/l)	485											
	Sodium (mg/l)	224											
	Chloride (mg/l)	122											
	Fluoride (mg/l)	0.8											
	Sulfate (mg/l)	3046											
	Alkalinity(HCO3) (mg/l as CaCO3)	343											
	Alkalinity(CO3) (mg/l as CaCO3)	0											
M E T A L S	As (mg/l)	ND	**N**										
	Mo (mg/l)	ND	**D**										
	Cr (mg/l)	ND											
	Zn (mg/l)	0.02	**T**										
	Cd (mg/l)	ND	**H**										
	Ni (mg/l)	ND	**I**										
	Be (mg/l)	ND	**S**										
	Fe (mg/l)	1.41											
	Co (mg/l)	ND	**Q**										
	Mn (mg/l)	0.4	**U**										
	V (mg/l)	ND	**A**										
	Cu (mg/l)	ND	**R**										
	Al (mg/l)	2.91	**T**										
	B (mg/l)	0.25	**E**										
	Ba (mg/l)	ND	**R**										
	U (mg/l)	ND											
	Hg (mg/l)	ND											
	Se (mg/l)	0.001											
	Ag (mg/l)	ND											
	Pb (mg/l)	ND											
624 Compounds (ppb)													
	Toluene	1											
	Ethylbenzene	2											
	m & p Xylene	2											
PAH's (ppm)													

MW-18

Date Sampled		03/09/95	06/28/95										
	pH	7.2											
	Cond	2240											
	Temp (C)	23											
	Elev. Grdwtr (ft)	3349.3											
	Potassium (mg/l)	1.8											
	Magnesium (mg/l)	186											
	Calcium (mg/l)	302											
	Sodium (mg/l)	58.9											
	Chloride (mg/l)	225											
	Fluoride (mg/l)	1.2											
	Sulfate (mg/l)	1145											
	Alkalinity(HCO3) (mg/l as CaCO3)	492											
	Alkalinity(CO3) (mg/l as CaCO3)	0											
M E T A L S	As (mg/l)	ND	**N**										
	Mo (mg/l)	ND	**D**										
	Cr (mg/l)	ND											
	Zn (mg/l)	0.02	**T**										
	Cd (mg/l)	ND	**H**										
	Ni (mg/l)	ND	**I**										
	Be (mg/l)	ND	**S**										
	Fe (mg/l)	0.2											
	Co (mg/l)	ND	**Q**										
	Mn (mg/l)	ND	**U**										
	V (mg/l)	ND	**A**										
	Cu (mg/l)	ND	**R**										
	Al (mg/l)	0.36	**T**										
	B (mg/l)	0.63	**E**										
	Ba (mg/l)	ND	**R**										
	U (mg/l)	ND											
	Hg (mg/l)	ND											
	Se (mg/l)	0.001											
	Ag (mg/l)	ND											
	Pb (mg/l)	ND											
624 Compounds (ppb)													
PAH's (ppm)													

MW-28

Date Sampled		03/09/95	06/28/95										
	pH	7.3	N										
	Cond	3190	O										
	Temp (C)	20	T										
	Elev. Grdwtr (ft)	3339.32											
	Potassium (mg/l)	2.1	S										
	Magnesium (mg/l)	106	A										
	Calcium (mg/l)	84.7	M										
	Sodium (mg/l)	66.1	P										
	Chloride (mg/l)	259	L;										
	Fluoride (mg/l)	1.5	E										
	Sulfate (mg/l)	448	D										
	Alkalinity(HCO3) (mg/l as CaCO3)	1084											
	Alkalinity(CO3) (mg/l as CaCO3)	0											
	As (mg/l)	ND											
	Mo (mg/l)	ND											
	Cr (mg/l)	ND											
	Zn (mg/l)	0.04											
	Cd (mg/l)	0.01											
	Ni (mg/l)	ND											
	Be (mg/l)	ND											
M	Fe (mg/l)	0.21											
E	Co (mg/l)	ND											
T	Mn (mg/l)	ND											
A	V (mg/l)	ND											
L	Cu (mg/l)	ND											
S	Al (mg/l)	ND											
	B (mg/l)	0.73											
	Ba (mg/l)	ND											
	U (mg/l)	ND											
	Hg (mg/l)	ND											
	Se (mg/l)	ND											
	Ag (mg/l)	ND											
	Pb (mg/l)	0.062											
624 Compounds (ppb)	Benzene	983											
	Toluene	613											
	Ethylbenzene	1345											
	m & p Xylene	863											
	o- Xylene	110											
PAH's (ppm)	Naphthalene	0.076											

MW-29

Date Sampled		03/09/95	06/28/95										
	pH	7.1	N										
	Cond	3180	O										
	Temp (C)	21	T										
	Elev. Grdwtr (ft)	3350.68											
	Potassium (mg/l)	3.6	S										
	Magnesium (mg/l)	262	A										
	Calcium (mg/l)	405	M										
	Sodium (mg/l)	261	P										
	Chloride (mg/l)	362	L										
	Fluoride (mg/l)	2.6	E										
	Sulfate (mg/l)	1836	D										
	Alkalinity(HCO3) (mg/l as CaCO3)	695											
	Alkalinity(CO3) (mg/l as CaCO3)	0											
METALS	As (mg/l)	ND											
	Mo (mg/l)	ND											
	Cr (mg/l)	ND											
	Zn (mg/l)	0.06											
	Cd (mg/l)	ND											
	Ni (mg/l)	ND											
	Be (mg/l)	ND											
	Fe (mg/l)	0.73											
	Co (mg/l)	ND											
	Mn (mg/l)	1.1											
	V (mg/l)	ND											
	Cu (mg/l)	ND											
	Al (mg/l)	0.14											
	B (mg/l)	0.73											
	Ba (mg/l)	ND											
	U (mg/l)	ND											
	Hg (mg/l)	ND											
	Se (mg/l)	ND											
	Ag (mg/l)	ND											
	Pb (mg/l)	ND											
624 Compounds (ppb)													
PAH's (ppm)													
	Naphthalene	0.103											
	Acenaphthene	0.005											
	Fluorene	0.023											
	Phenanthrene	0.003											
	Anthracene	0.037											
	Fluoranthene	0.002											
	Pyrene	0.008											

MW-45

Date Sampled		03/10/95	06/28/95										
	pH	7.3											
	Cond	3240											
	Temp (C)	22											
	Elev. Grdwtr (ft)	3348.44											
	Potassium (mg/l)	14.6											
	Magnesium (mg/l)	443											
	Calcium (mg/l)	612											
	Sodium (mg/l)	541											
	Chloride (mg/l)	1057											
	Fluoride (mg/l)	2.3											
	Sulfate (mg/l)	3197											
	Alkalinity(HCO3) (mg/l as CaCO3)	283											
	Alkalinity(CO3) (mg/l as CaCO3)	0											
M E T A L S	As (mg/l)	ND											
	Mo (mg/l)	ND											
	Cr (mg/l)	ND											
	Zn (mg/l)	0.02											
	Cd (mg/l)	ND											
	Ni (mg/l)	ND											
	Be (mg/l)	ND											
	Fe (mg/l)	2.56											
	Co (mg/l)	ND											
	Mn (mg/l)	0.4											
	V (mg/l)	ND											
	Cu (mg/l)	ND											
	Al (mg/l)	1.55											
	B (mg/l)	0.29											
	Ba (mg/l)	0.5											
	U (mg/l)	ND											
	Hg (mg/l)	ND											
	Se (mg/l)	ND											
	Ag (mg/l)	ND											
	Pb (mg/l)	0.005											
624 Compounds (ppb)													
	Benzene		3										
PAH's (ppm)													

RA-2723

DATE SAMPLED	01/12/95	01/26/95	02/10/95	02/22/95	03/09/95	04/10/95	04/21/95	05/01/95	05/22/95	06/05/95	06/28/95
COMPOUNDS DETECTED (ppb)	NO COMPOUNDS WERE DETECTED THIS QUARTER					NO COMPOUNDS WERE DETECTED THIS QUARTER					

RA-4798

DATE SAMPLED		01/26/95	02/10/95	02/22/95	03/09/95	04/21/95	05/22/95	06/28/95
	m, p, & o xylene		3					
COMPOUNDS DETECTED (ppb)	Carbon Disulfide				6			
	1,2-Dichloroethane					3	3	

RA-313 ONLY DURING IRRIGATION SEASON

DATE SAMPLED		03/10/95	04/21/95	05/22/95	06/28/95
COMPOUNDS DETECTED (ppb)					

RA-314 ONLY DURING IRRIGATION SEASON

DATE SAMPLED		03/10/95	04/21/95	05/22/95	06/28/95
COMPOUNDS DETECTED (ppb)					
	THIS WELL WAS NOT RUNNING THE DAY SAMPLES WERE CAUGHT				

RA-1331 ONLY DURING IRRIGATION SEASON

DATE SAMPLED		03/10/95	04/21/95	05/22/95	06/28/95
COMPOUNDS DETECTED (ppb)					
	Carbon Disulfide	7			

07/19/9508:18 AM1OCDREM2.WK4

RA-307 ONLY DURING IRRIGATION SEASON

DATE SAMPLED		03/09/95	04/21/95	05/22/95	06/28/95
COMPOUNDS DETECTED (ppb)					
	Carbon Disulfide	3			
	Toluene	1			

RA-1227 ONLY DURING IRRIGATION SEASON

DATE SAMPLED		03/09/95	04/21/95	05/22/95	06/28/95
COMPOUNDS DETECTED (ppb)					
	MTBE			2	2

RA-3156 ONLY DURING IRRIGATION SEASON

DATE SAMPLED		03/09/95	06/28/95		
COMPOUNDS DETECTED (ppb)					

07/19/9508:23 AM1OCDREM2.WK4

RA-3353 ONLY DURING IRRIGATION SEASON

DATE SAMPLED		03/09/95	06/28/95				
COMPOUNDS DETECTED (ppb)							

07/19/9508:23 AM1OCDREM2.WK4

RA-4196

DATE SAMPLED		01/26/95	02/22/95	03/09/95	04/21/95	05/22/95	06/28/95	
COMPOUNDS DETECTED (ppb)								
	Carbon Disulfide			2				
	1,2-Dichloroethane					1		

07/19/9508:27 AM1OCDREM2.WK4

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 19, 1995
Receiving Date: 04/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 04/13/95
Sampling Date: 04/10/95
Sample Condition: Intact & Cool
Sample Received by: DA
Project Name: NA

EPA 624 Compounds (ppb)	T34661 RA-2723	Detection Limit
Chloromethane	ND	50
Vinyl chloride	ND	10
Bromomethane	ND	50
Chloroethane	ND	10
Trichlorofluoromethane	ND	10
1,1-Dichloroethene	ND	10
Methylene chloride	ND	50
trans-1,2-Dichloroethene	ND	10
1,1-Dichloroethane	ND	10
Chloroform	ND	10
1,1,1-Trichloroethane	ND	10
1,2-Dichloroethane	ND	10
Benzene	ND	10
Carbon Tetrachloride	ND	10
1,2-Dichloropropane	ND	10
Trichloroethene	ND	10
Bromodichloromethane	ND	10
cis-1,3-Dichloropropene	ND	10
trans-1,3-Dichloropropene	ND	10
Toluene	ND	10
1,1,2-Trichloroethane	ND	10

EPA 624 Compounds (ppb)	T34661 RA-2723	Detection Limit
Dibromochloromethane	ND	10
Tetrachloroethene	ND	10
Chlorobenzene	ND	10
Ethylbenzene	ND	10
Bromoform	ND	10
1,1,2,2-Tetrachloroethane	ND	10
1,4-Dichlorobenzene	ND	20
1,3-Dichlorobenzene	ND	20
1,2-Dichlorobenzene	ND	20

SURROGATES	**% RECOVERY**
Dibromofluoromethane	100
Toluene-d8	101
4-Bromofluorobenzene	95

***ND = Not Detected**

METHODS: EPA 624.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

4-19-95
Date

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

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

April 19, 1995
Receiving Date: 04/11/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 04/13/95
Sampling Date: 04/10/95
Sample Condition: Intact & Cool
Sample Received by: DA
Project Name: NA

TA#	FIELD CODE	MTBE (ppb)
T34661	RA-2723	ND
QC	Quality Control	226
Detection Limit		1
% Precision		118
% Extraction Accuracy		121
% Instrument Accuracy		113

ND = Not Detected

METHODS: EPA 602.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

4-19-95
DATE

6701 Aberdeen Avenue
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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

May 10, 1995
Receiving Date: 04/22/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 04/28/95
Sampling Date: 04/21/95
Sample Condition: Intact & Cool
Sample Received by: DH
Project Name: NA

EPA 624 Compounds (ppb)	T35094 RA - 313	Detection Limit
Chloromethane	ND	1
Vinyl chloride	ND	1
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
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
trans-1,3-Dichloropropene	ND	1
Toluene	ND	1
1,1,2-Trichloroethane	ND	1

EPA 624 Compounds (ppb)	T35094 RA - 313	Detection Limit
Dibromochloromethane	ND	1
Tetrachloroethene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
m,p-Xylene	ND	1
Bromoform	ND	1
o-Xylene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,4-Dichlorobenzene	ND	2
1,3-Dichlorobenzene	ND	2
1,2-Dichlorobenzene	ND	2
MTBE	ND	5

SURROGATES	**% RECOVERY**
Dibromofluoromethane	105
Toluene-d8	100
4-Bromofluorobenzene	99

***ND = Not Detected**

METHODS: EPA 624.

5-10-95

Director, Dr. Blair Leftwich — Date
Director, Dr. Bruce McDonell

6701 Aberdeen Avenue
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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

May 10, 1995
Receiving Date: 04/22/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 04/28/95
Sampling Date: 04/21/95
Sample Condition: Intact & Cool
Sample Received by: DH
Project Name: NA

EPA 624 Compounds (ppb)	T35095 RA - 2723	Detection Limit
Chloromethane	ND	1
Vinyl chloride	ND	1
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
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
trans-1,3-Dichloropropene	ND	1
Toluene	ND	1
1,1,2-Trichloroethane	ND	1

EPA 624 Compounds (ppb)	T35095 RA - 2723	Detection Limit
Dibromochloromethane	ND	1
Tetrachloroethene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
m,p-Xylene	ND	1
Bromoform	ND	1
o-Xylene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,4-Dichlorobenzene	ND	2
1,3-Dichlorobenzene	ND	2
1,2-Dichlorobenzene	ND	2
MTBE	ND	5

SURROGATES	**% RECOVERY**
Dibromofluoromethane	103
Toluene-d8	101
4-Bromofluorobenzene	98

***ND = Not Detected**

METHODS: EPA 624.

5-10-95

Director, Dr. Blair Leftwich — Date
Director, Dr. Bruce McDonell

6701 Aberdeen Avenue
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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

May 10, 1995
Receiving Date: 04/22/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 04/28/95
Sampling Date: 04/21/95
Sample Condition: Intact & Cool
Sample Received by: DH
Project Name: NA

EPA 624 Compounds (ppb)	T35096 RA - 4798	Detection Limit
Chloromethane	ND	1
Vinyl chloride	ND	1
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
Chloroform	ND	1
1,1,1-Trichloroethane	ND	1
1,2-Dichloroethane	3	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
trans-1,3-Dichloropropene	ND	1
Toluene	ND	1
1,1,2-Trichloroethane	ND	1

EPA 624 Compounds (ppb)	T35096 RA - 4798	Detection Limit
Dibromochloromethane	ND	1
Tetrachloroethene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
m,p-Xylene	ND	1
Bromoform	ND	1
o-Xylene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,4-Dichlorobenzene	ND	2
1,3-Dichlorobenzene	ND	2
1,2-Dichlorobenzene	ND	2
MTBE	ND	5

SURROGATES	**% RECOVERY**
Dibromofluoromethane	103
Toluene-d8	100
4-Bromofluorobenzene	98

***ND = Not Detected**

METHODS: EPA 624.

5-10-95

Director, Dr. Blair Leftwich — Date
Director, Dr. Bruce McDonell

6701 Aberdeen Avenue
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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

May 10, 1995
Receiving Date: 04/22/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 04/28/95
Sampling Date: 04/21/95
Sample Condition: Intact & Cool
Sample Received by: DH
Project Name: NA

EPA 624 Compounds (ppb)	T35097 RA - 4196	Detection Limit
Chloromethane	ND	1
Vinyl chloride	ND	1
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
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
trans-1,3-Dichloropropene	ND	1
Toluene	ND	1
1,1,2-Trichloroethane	ND	1

EPA 624 Compounds (ppb)	T35097 RA - 4196	Detection Limit
Dibromochloromethane	ND	1
Tetrachloroethene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
m,p-Xylene	ND	1
Bromoform	ND	1
o-Xylene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,4-Dichlorobenzene	ND	2
1,3-Dichlorobenzene	ND	2
1,2-Dichlorobenzene	ND	2
MTBE	ND	5

SURROGATES	**% RECOVERY**
Dibromofluoromethane	103
Toluene-d8	100
4-Bromofluorobenzene	99

***ND = Not Detected**

METHODS: EPA 624.

5-10-95

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

Date

6701 Aberdeen Avenue
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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

May 10, 1995
Receiving Date: 04/22/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 04/28/95
Sampling Date: 04/21/95
Sample Condition: Intact & Cool
Sample Received by: DH
Project Name: NA

EPA 624 Compounds (ppb)	T35098 RA - 307	Detection Limit
Chloromethane	ND	1
Vinyl chloride	ND	1
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
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
trans-1,3-Dichloropropene	ND	1
Toluene	ND	1
1,1,2-Trichloroethane	ND	1

EPA 624 Compounds (ppb)	T35098 RA - 307	Detection Limit
Dibromochloromethane	ND	1
Tetrachloroethene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
m,p-Xylene	ND	1
Bromoform	ND	1
o-Xylene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,4-Dichlorobenzene	ND	2
1,3-Dichlorobenzene	ND	2
1,2-Dichlorobenzene	ND	2
MTBE	ND	5

SURROGATES	**% RECOVERY**
Dibromofluoromethane	104
Toluene-d8	100
4-Bromofluorobenzene	97

***ND = Not Detected**

METHODS: EPA 624.

BS 5-10-95

Director, Dr. Blair Leftwich — Date
Director, Dr. Bruce McDonell

6701 Aberdeen Avenue
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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

May 10, 1995
Receiving Date: 04/22/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 04/28/95
Sampling Date: 04/21/95
Sample Condition: Intact & Cool
Sample Received by: DH
Project Name: NA

EPA 624 Compounds (ppb)	T35099 RA - 1331	Detection Limit
Chloromethane	ND	1
Vinyl chloride	ND	1
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
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
trans-1,3-Dichloropropene	ND	1
Toluene	ND	1
1,1,2-Trichloroethane	ND	1

EPA 624 Compounds (ppb)	T35099 RA - 1331	Detection Limit
Dibromochloromethane	ND	1
Tetrachloroethene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
m,p-Xylene	ND	1
Bromoform	ND	1
o-Xylene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,4-Dichlorobenzene	ND	2
1,3-Dichlorobenzene	ND	2
1,2-Dichlorobenzene	ND	2
MTBE	ND	5

SURROGATES	**% RECOVERY**
Dibromofluoromethane	104
Toluene-d8	99
4-Bromofluorobenzene	98

***ND = Not Detected**

METHODS: EPA 624.

5-10-95

Director, Dr. Blair Leftwich — Date
Director, Dr. Bruce McDonell

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

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

May 10, 1995
Receiving Date: 04/22/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 04/28/95
Sampling Date: 04/21/95
Sample Condition: Intact & Cool
Sample Received by: DH
Project Name: NA

EPA 624 Compounds (ppb)	T35100 RA - 1227	Detection Limit
Chloromethane	ND	1
Vinyl chloride	ND	1
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
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
trans-1,3-Dichloropropene	ND	1
Toluene	ND	1
1,1,2-Trichloroethane	ND	1

EPA 624 Compounds (ppb)	T35100 RA - 1227	Detection Limit
Dibromochloromethane	ND	1
Tetrachloroethene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
m,p-Xylene	ND	1
Bromoform	ND	1
o-Xylene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,4-Dichlorobenzene	ND	2
1,3-Dichlorobenzene	ND	2
1,2-Dichlorobenzene	ND	2
MTBE	ND	5

SURROGATES	**% RECOVERY**
Dibromofluoromethane	105
Toluene-d8	99
4-Bromofluorobenzene	98

***ND = Not Detected**

METHODS: EPA 624.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

5-10-95
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

May 10, 1995
Receiving Date: 05/02/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Analysis Date: 05/02/95
Sampling Date: 05/01/95
Sample Condition: Intact & Cool
Sample Received by: JT
Project Name: NA

EPA 624 Compounds (ppb)	T35482 RA - 2723	Detection Limit
Chloromethane	ND	5
Vinyl chloride	ND	1
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
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
trans-1,3-Dichloropropene	ND	1
Toluene	ND	1
1,1,2-Trichloroethane	ND	1

NAVAJO REFINING COMPANY
Project Location: Artesia, NM

EPA 624 Compounds (ppb)	T35482 RA - 2723	Detection Limit
Dibromochloromethane	ND	1
Tetrachloroethene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
m,p-Xylene	ND	1
Bromoform	ND	1
o-Xylene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,4-Dichlorobenzene	ND	2
1,3-Dichlorobenzene	ND	2
1,2-Dichlorobenzene	ND	2
MTBE	ND	1

SURROGATES	**% RECOVERY**
Dibromofluoromethane	102
Toluene-d8	99
4-Bromofluorobenzene	99

***ND = Not Detected**

METHODS: EPA 624.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

5-10-95
Date

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Lubbock, Texas 79424
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FAX 806•794•1298

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

May 31, 1995
Receiving Date: 05/23/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 05/24/95
Analysis Date: 05/24/95
Sampling Date: 05/22/95
Sample Condition: Intact & Cool
Sample Received by: JW
Project Name: NA

EPA 624 Compounds (ug/L)	T36391 RA - 313	Reporting Limit
Chloromethane	ND	1
Vinyl chloride	ND	1
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
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
trans-1,3-Dichloropropene	ND	1
Toluene	ND	1
1,1,2-Trichloroethane	ND	1

EPA 624 Compounds (ug/L)	T36391 RA - 313	Reporting Limit
Dibromochloromethane	ND	1
Tetrachloroethene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
m,p-Xylene	ND	1
Bromoform	ND	1
o-Xylene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,4-Dichlorobenzene	ND	2
1,3-Dichlorobenzene	ND	2
1,2-Dichlorobenzene	ND	2
MTBE	ND	1

SURROGATES	**% RECOVERY**
Dibromofluoromethane	94
Toluene-d8	96
4-Bromofluorobenzene	92

***ND = Not Detected**

METHODS: EPA 624.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

5-31-95
Date

6701 Aberdeen Avenue
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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

May 31, 1995
Receiving Date: 05/23/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 05/24/95
Analysis Date: 05/24/95
Sampling Date: 05/22/95
Sample Condition: Intact & Cool
Sample Received by: JW
Project Name: NA

EPA 624 Compounds (ug/L)	T36392 RA - 2723	Reporting Limit
Chloromethane	ND	1
Vinyl chloride	ND	1
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
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
trans-1,3-Dichloropropene	ND	1
Toluene	ND	1
1,1,2-Trichloroethane	ND	1

NAVAJO REFINING COMPANY
Project Location: Artesia, NM

EPA 624 Compounds (ug/L)	T36392 RA - 2723	Reporting Limit
Dibromochloromethane	ND	1
Tetrachloroethene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
m,p-Xylene	ND	1
Bromoform	ND	1
o-Xylene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,4-Dichlorobenzene	ND	2
1,3-Dichlorobenzene	ND	2
1,2-Dichlorobenzene	ND	2
MTBE	ND	1

SURROGATES	**% RECOVERY**
Dibromofluoromethane	96
Toluene-d8	96
4-Bromofluorobenzene	94

***ND = Not Detected**

METHODS: EPA 624.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

5-31-95
Date

6701 Aberdeen Avenue
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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

May 31, 1995
Receiving Date: 05/23/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 05/24/95
Analysis Date: 05/24/95
Sampling Date: 05/22/95
Sample Condition: Intact & Cool
Sample Received by: JW
Project Name: NA

EPA 624 Compounds (ug/L)	T36393 RA - 1331	Reporting Limit
Chloromethane	ND	1
Vinyl chloride	ND	1
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
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
trans-1,3-Dichloropropene	ND	1
Toluene	ND	1
1,1,2-Trichloroethane	ND	1

EPA 624 Compounds (ug/L)	T36393 RA - 1331	Reporting Limit
Dibromochloromethane	ND	1
Tetrachloroethene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
m,p-Xylene	ND	1
Bromoform	ND	1
o-Xylene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,4-Dichlorobenzene	ND	2
1,3-Dichlorobenzene	ND	2
1,2-Dichlorobenzene	ND	2
MTBE	ND	1

SURROGATES	**% RECOVERY**
Dibromofluoromethane	98
Toluene-d8	96
4-Bromofluorobenzene	94

***ND = Not Detected**

METHODS: EPA 624.

5-31-95

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

May 31, 1995
Receiving Date: 05/23/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 05/24/95
Analysis Date: 05/24/95
Sampling Date: 05/22/95
Sample Condition: Intact & Cool
Sample Received by: JW
Project Name: NA

EPA 624 Compounds (ug/L)	T36394 RA - 1227	Reporting Limit
Chloromethane	ND	1
Vinyl chloride	ND	1
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
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
trans-1,3-Dichloropropene	ND	1
Toluene	ND	1
1,1,2-Trichloroethane	ND	1

EPA 624 Compounds (ug/L)	T36394 RA - 1227	Reporting Limit
Dibromochloromethane	ND	1
Tetrachloroethene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
m,p-Xylene	ND	1
Bromoform	ND	1
o-Xylene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,4-Dichlorobenzene	ND	2
1,3-Dichlorobenzene	ND	2
1,2-Dichlorobenzene	ND	2
MTBE	2	1

SURROGATES	**% RECOVERY**
Dibromofluoromethane	98
Toluene-d8	96
4-Bromofluorobenzene	94

***ND = Not Detected**

METHODS: EPA 624.

5-31-95

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

May 31, 1995
Receiving Date: 05/23/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 05/24/95
Analysis Date: 05/24/95
Sampling Date: 05/22/95
Sample Condition: Intact & Cool
Sample Received by: JW
Project Name: NA

EPA 624 Compounds (ug/L)	T36395 RA - 307	Reporting Limit
Chloromethane	ND	1
Vinyl chloride	ND	1
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
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
trans-1,3-Dichloropropene	ND	1
Toluene	ND	1
1,1,2-Trichloroethane	ND	1

EPA 624 Compounds (ug/L)	T36395 RA - 307	Reporting Limit
Dibromochloromethane	ND	1
Tetrachloroethene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
m,p-Xylene	ND	1
Bromoform	ND	1
o-Xylene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,4-Dichlorobenzene	ND	2
1,3-Dichlorobenzene	ND	2
1,2-Dichlorobenzene	ND	2
MTBE	ND	1

SURROGATES	**% RECOVERY**
Dibromofluoromethane	96
Toluene-d8	96
4-Bromofluorobenzene	94

***ND = Not Detected**

METHODS: EPA 624.

5-31-95

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

May 31, 1995
Receiving Date: 05/23/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 05/24/95
Analysis Date: 05/24/95
Sampling Date: 05/22/95
Sample Condition: Intact & Cool
Sample Received by: JW
Project Name: NA

EPA 624 Compounds (ug/L)	T36396 RA - 4196	Reporting Limit
Chloromethane	ND	1
Vinyl chloride	ND	1
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
Chloroform	ND	1
1,1,1-Trichloroethane	ND	1
1,2-Dichloroethane	1	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
trans-1,3-Dichloropropene	ND	1
Toluene	ND	1
1,1,2-Trichloroethane	ND	1

EPA 624 Compounds (ug/L)	T36396 RA - 4196	Reporting Limit
Dibromochloromethane	ND	1
Tetrachloroethene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
m & p-Xylene	ND	1
Bromoform	ND	1
o-Xylene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,4-Dichlorobenzene	ND	2
1,3-Dichlorobenzene	ND	2
1,2-Dichlorobenzene	ND	2
MTBE	ND	1

TENTATIVELY IDENTIFIED COMPOUNDS & ESTIMATED CONCENTRATION (ug/L)

(1) Tetrahydrofuran	49

SURROGATES	**% RECOVERY**
Dibromofluoromethane	98
Toluene-d8	98
4-Bromofluorobenzene	96

***ND = Not Detected**

METHODS: EPA 624.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

5-31-95
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

May 31, 1995
Receiving Date: 05/23/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 05/24/95
Analysis Date: 05/24/95
Sampling Date: 05/22/95
Sample Condition: Intact & Cool
Sample Received by: JW
Project Name: NA

EPA 624 Compounds (ug/L)	T36397 RA - 4798	Reporting Limit
Chloromethane	ND	1
Vinyl chloride	ND	1
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
Chloroform	ND	1
1,1,1-Trichloroethane	ND	1
1,2-Dichloroethane	3	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
trans-1,3-Dichloropropene	ND	1
Toluene	ND	1
1,1,2-Trichloroethane	ND	1

EPA 624 Compounds (ug/L)	T36397 RA - 4798	Reporting Limit
Dibromochloromethane	ND	1
Tetrachloroethene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
m,p-Xylene	ND	1
Bromoform	ND	1
o-Xylene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,4-Dichlorobenzene	ND	2
1,3-Dichlorobenzene	ND	2
1,2-Dichlorobenzene	ND	2
MTBE	ND	1

SURROGATES	**% RECOVERY**
Dibromofluoromethane	97
Toluene-d8	96
4-Bromofluorobenzene	92

***ND = Not Detected**

METHODS: EPA 624.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

5-31-95
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

June 8, 1995
Receiving Date: 06/06/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 06/08/95
Analysis Date: 06/08/95
Sampling Date: 06/05/95
Sample Condition: Intact & Cool
Sample Received by: LW
Project Name: RO Reject Qtrly

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)
T36840	RA-2723	<1	<1	<1	<1	<1	<1
QC	Quality Control	54	48	48	48	146	
Reporting Limit		1	1	1	1	1	
RPD		26	28	26	26	26	
% Extraction Accuracy		80	84	80	80	80	
% Instrument Accuracy		108	96	96	96	97	

METHODS: EPA SW 846-8020, 5030.
BTEX SPIKE AND QC: 50 mg/L MTBE/BTEX.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

7-5-95
Date

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

ANALYTICAL RESULTS FOR

July 03, 1995
Receiving Date: 06/30/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

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

Prep Date: 06/30/95
Analysis Date: 06/30/95
Sampling Date: 06/28/95
Sample Condition: Intact & Cool
Sample Received by: LW
Project Name: RA

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)
T38159	RA-307	<1	<1	<1	<1	<1	<1
T38160	RA-1331	<1	<1	<1	<1	<1	<1
T38161	RA-4196	<1	<1	<1	<1	<1	<1
T38162	RA-4798	<1	<1	<1	<1	<1	<1
T38163	RA-1227	2	<1	<1	<1	<1	<1
T38164	RA-313	<1	<1	<1	<1	<1	<1
T38165	RA-2723	<1	<1	<1	<1	<1	<1
T38166	RA-3353	<1	<1	<1	<1	<1	<1
T38167	RA-3156	<1	<1	<1	<1	<1	<1
T38168	KWB-9	<1	<1	<1	<1	<1	<1
T38169	KWB-7	3	<1	<1	<1	<1	<1
T38170	KWB-3A	<1	<1	<1	<1	<1	<1
T38171	KWB-1A	252	2,144	<20	<20	<20	2,144
T38172	KWB-12A	<1	<1	<1	<1	<1	<1
T38173	KWB-11A	<1	<1	<1	<1	<1	<1
T38174	KWB-1C	220	1,357	<20	<20	<20	1,357
T38175	MW-18	<1	<1	<1	<1	<1	<1
T38176	MW-45	<2	3	<2	<2	<2	3
T38178	KWB-2A	<1	<1	<1	<1	<1	<1
QC	Quality Control	99	106	108	102	292	
Reporting Limit			1	1	1	1	
RPD		0	0	0	2	2	
% Extraction Accuracy		100	106	108	104	99	
% Instrument Accuracy		100	106	109	102	98	

METHODS: EPA SW 846-8020, 5030.
BTEX SPIKE AND QC: 100 ug/L BTEX.

BS

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

7-3-95

Date

181 AE

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
38158	RA-307	2	40ml	X							X			6/28/95	8:15	X							
38160	RA-1331	"	"	"							"			"	8:30	X							
38161	RA-4196	"	"	"							"			"	8:50	X							
38162	RA-4798	"	"	"							"			"	9:00	X							
38163	RA-1227	"	"	"							"			"	9:20	X							
38164	RA-313	"	"	"							"			"	9:40	X							
38165	RA-2723	"	"	"							"			"	10:00	X							
38166	RA-3353	"	"	"							"			"	10:10	X							
38167	RA-3156	"	"	"							"			"	10:20	X							
38168	KWB-9	"	"	"							"			"	11:20	X							
38169	KWD-7	"	"	"							"			"	13:45	X							

SPECIAL HANDLING: Turn around # of days; Fax ASAP; Report TWC direct; Hold

181AE
181AE

Relinquished by:	Date:	Times:	Received by:
Darrell Moore	6/29/95	16:30	
Relinquished by:	Date:	Times:	Received by:
Relinquished by:	Date: 6/30/95	Times: 10:20	Received by Laboratory:

REMARKS
Samples collected on 6/28/95
kept on ice.
CDY

181 AE.

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: **Phone #:** **FAX #:**

Company Name & Address: (Cont)

Project #: **Project Name :**

Project Location: **Sampler Signature:**

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	Turn around # of days	Fax ASAP	Report TWC direct	Hold
38170	KWB-3A	2	40ml	X							X			6/28/95	14:30	X											
38171	KWB-1A	"	"	"							"			" "	15:20	X											
38172	KWB-12A	"	"	"							"			6/29/95	8:00	X											
38173	KWB-11A	"	"	"							"			" "	10:15	X											
38174	KWB-1C	"	"	"							"			" "	11:00	X											
38175	MW-18	"	"	"							"			" "	13:00	X											
38176	MW-45	"	"	"							"			" "	13:30	X											
38177	Navajo Effluent	"		"						(1)	"			" "	16:00			See List (O&G, Ammonia, Chromium)									
38178	KWB-2A	"		"							"			6/29/95	16:00	X											

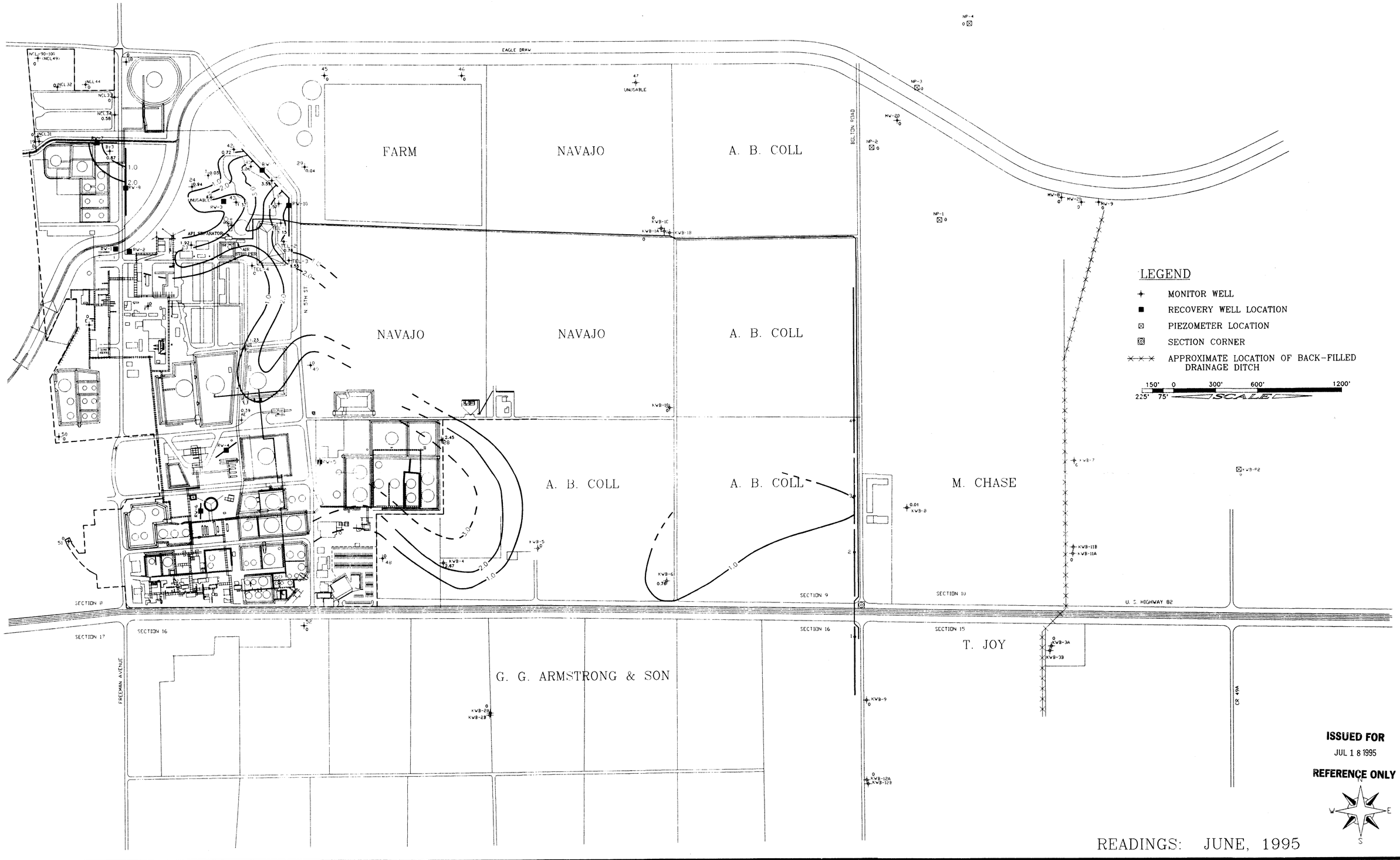
SPECIAL HANDLING

Relinquished by:	Date:	Times:	Received by:
Relinquished by:	Date:	Times:	Received by:
Relinquished by:	Date: 6/30/95	Times: 10:15	Received by Laboratory:

REMARKS

2nd Page

City of 2



READINGS: JUNE, 1995

NOTES

REFERENCE DRAWINGS

NO.	REVISIONS	BY	CHK.	DATE	APPR.	APPR.

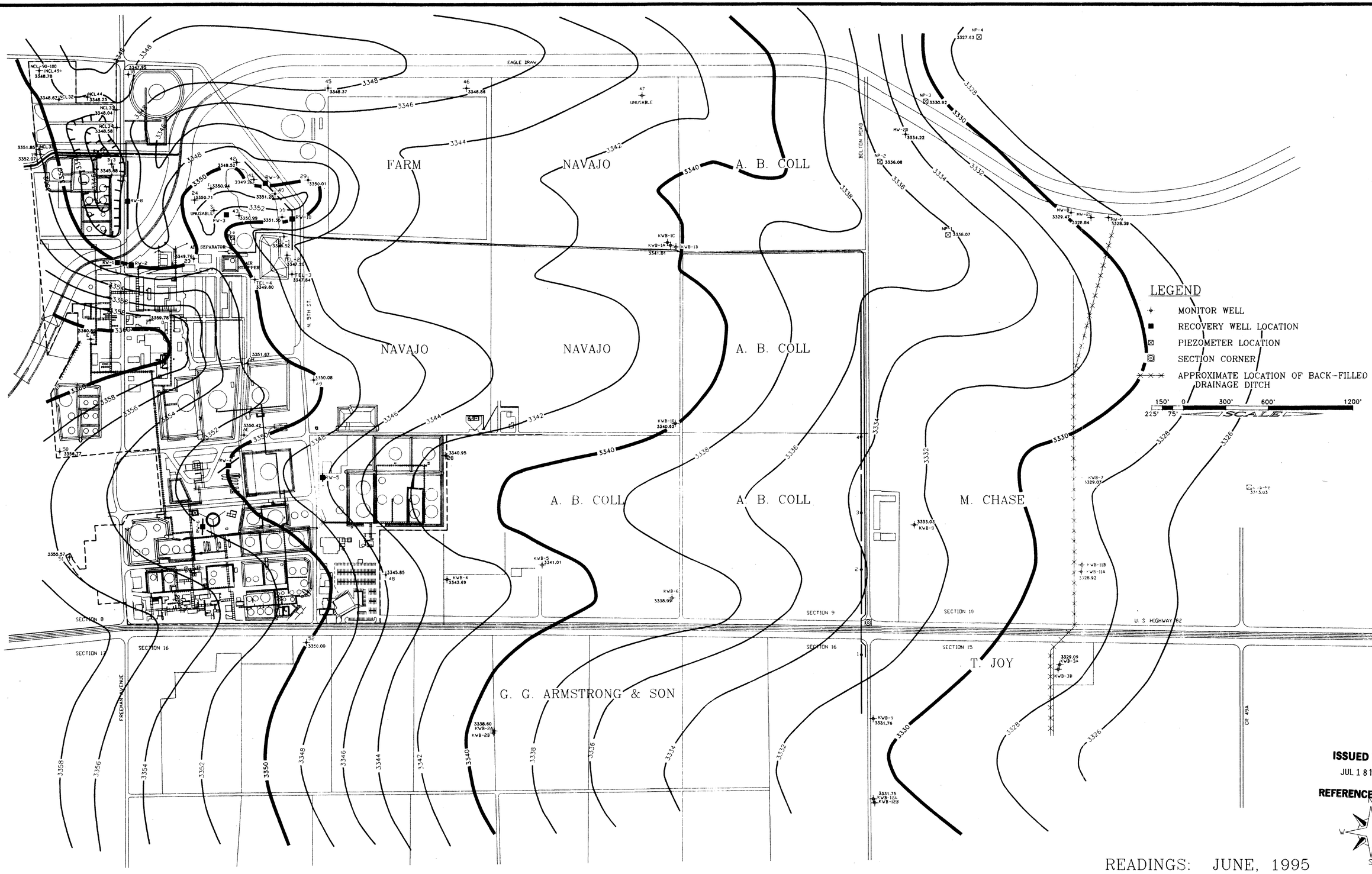
NO.	REVISIONS	BY	CHK.	DATE	APPR.	APPR.
0	ISSUED WITH MARCH, 1995 READINGS	PETE	DGJ	3-27-95	DGM	ILS
1	JUNE, 1995 READINGS	PETE	DGJ	7-18-95	DGM	ILS

DRAWING TITLE

PRODUCT THICKNESS MAP
NAVAJO REFINING

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

DRAWN BY	CHK'D BY	SCALE
PETE	DGM	AS SHOWN
DATE 7-11-95	APPD BY	DRAWING NUMBER 90-15-D



NOTES

REFERENCE DRAWINGS

NO.	REVISIONS	BY	CHK.	DATE	APPR.	APPR.
0	ISSUED WITH MARCH, 1995 READINGS	PETE	DGJ	3-27-95	DGM	ILS
1	JUNE, 1995 READINGS	PETE	DGJ	7-13-95	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	
PETE	DGM	AS SHOWN	
DATE	APPR BY	DRAWING NUMBER	REV.
3-17-95	ILS	90-44-D	1

TELEPHONE
(505) 748-3311

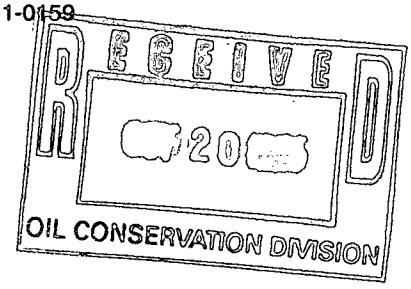
EASYLINK
62905278

NAVAJO 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

October 18, 1995



Mr Bill Olson
Hydrogeologist
Environmental Bureau
Oil Conservation Division
2040 S. Pacheco St.
Santa Fe, NM 87505-5472

RE: 3rd QUARTER 1995 INVESTIGATIVE REPORT - GROUND WATER REMEDIATION, NAVAJO REFINING CO., EDDY COUNTY, NM

Dear Bill,

Enclosed, please find 1) Ground Water potentiometric map, 2) Product thickness map, and 3) analysis of our sampling for this quarter. We continue to detect small amounts of MTBE in RA-1227 which is the irrigation well on the Joy farm. As you can see on the analysis, MW-45, KWB-1A, and KWB-1C all had varying amounts of MTBE.

We have set up the wells on timers to get an idea of how much water each one pumped. Although this is not entirely accurate, it is the best system we have been able to come up with. The amount of fluid pumped this quarter from each well is as follows:

	PRODUCT	WATER
RW-1	4065.68 GALLONS	24760 GALLONS
RW-2	28434.50 GALLONS	170600 GALLONS
RW-4	10096.86 GALLONS	600800 GALLONS
RW-5	5408.52 GALLONS	34500 GALLONS
RW-7	12381.90 GALLONS	75890 GALLONS
RW-8	1352.31 GALLONS	8200 GALLONS
RW-9	92.66 GALLONS	760500 GALLONS
RW-10	2190.96 GALLONS	460800 GALLONS
BOLTON RD-1	0.81 GALLONS	3050 GALLONS
BOLTON RD-2	0 GALLONS	20500 GALLONS
BOLTON RD-3	0 GALLONS	950000 GALLONS
BOLTON RD-4	0 GALLONS	1560700 GALLONS

This comes to a total of 64024.2 gallons of product pumped and 4670300 gallons of water pumped plant wide this quarter. These totals are from July 1,1995 to September 30, 1995. As you can see, RW-9 and the Bolton Road well's production dropped significantly. These wells are being drowned with water which rises to a level so that the oil is above the perforated interval. We have tried bigger pumps to get the cone of depression down, but we couldn't pump enough water to reach that point. We are looking into options to remedy this problem. Finally, the water totals are only approximations based on the time the pumps ran.

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

Regards,
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

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

September 26, 1995
Receiving Date: 09/23/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 09/25/95
Analysis Date: 09/25/95
Sampling Date: 09/20-21/95
Sample Condition: Intact & Cool
Sample Received by: MS
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)
T41692	RA-3156	<1	<1	<1	<1	<1	<1
T41693	RA-3353	<1	<1	<1	<1	<1	<1
T41698	RA-1227	<1	<1	<1	<1	<1	<1
T41700	RA-2723	<1	<1	<1	<1	<1	<1
T41701	RA-1331	<1	<1	<1	<1	<1	<1
T41702	RA-307	<1	<1	<1	<1	<1	<1
T41703	RA-4196	<1	<1	<1	<1	<1	<1
T41704	RA-4798	<1	<1	<1	<1	<1	<1
T41705	RA-314	<1	<1	<1	<1	<1	<1
T41706	RA-313	<1	<1	<1	<1	<1	<1
QC	Quality Control	99	94	108	105	310	
Reporting Limit		1	1	1	1	1	
RPD		1	1	1	1	2	
% Extraction Accuracy		87	83	99	101	300	
% Instrument Accuracy		99	94	108	105	310	

METHODS: EPA 602.
BTEX SPIKE AND QC: 100 ug/L BTEX.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

9-26-95
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

October 05, 1995
Receiving Date: 09/23/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 09/27/95
Analysis Date: 09/27/95
Sampling Date: 09/20/95
Sample Condition: Intact & Cool
Sample Received by: MS
Project Name: NA

EPA 624 Compounds (ug/L)	T41690 KWB-12A	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 COMPANY
Project Location: Artesia, NM

EPA 624 Compounds (ug/L)	T41690 KWB-12A	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
MTBE	ND	2

SURROGATES	**% RECOVERY**
Dibromofluoromethane	114
Toluene-d8	100
4-Bromofluorobenzene	91

***ND = Not Detected**

METHODS: EPA 624.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

10-5-95
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

October 05, 1995
Receiving Date: 09/23/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 09/27/95
Analysis Date: 09/27/95
Sampling Date: 09/20/95
Sample Condition: Intact & Cool
Sample Received by: MS
Project Name: NA

EPA 624 Compounds (ug/L)	T41691 MW-18	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 COMPANY
Project Location: Artesia, NM

EPA 624 Compounds (ug/L)	T41691 MW-18	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
MTBE	ND	2

SURROGATES	**% RECOVERY**
Dibromofluoromethane	108
Toluene-d8	102
4-Bromofluorobenzene	94

***ND = Not Detected**

METHODS: EPA 624.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

10-5-95
Date

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

October 05, 1995
Receiving Date: 09/23/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 09/27/95
Analysis Date: 09/27/95
Sampling Date: 09/21/95
Sample Condition: Intact & Cool
Sample Received by: MS
Project Name: NA

EPA 624 Compounds (ug/L)	T41694 KWB-7	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 COMPANY
Project Location: Artesia, NM

EPA 624 Compounds (ug/L)	T41694 KWB-7	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
MTBE	ND	2

SURROGATES	**% RECOVERY**
Dibromofluoromethane	110
Toluene-d8	99
4-Bromofluorobenzene	95

***ND = Not Detected**

METHODS: EPA 624.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

10-5-95
Date

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

October 05, 1995
Receiving Date: 09/23/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 09/27/95
Analysis Date: 09/27/95
Sampling Date: 09/21/95
Sample Condition: Intact & Cool
Sample Received by: MS
Project Name: NA

EPA 624 Compounds (ug/L)	T41695 KWB-1A	Reporting Limit
Dichlorodifluoromethane	ND	10
Chloromethane	ND	10
Vinyl chloride	ND	10
Bromomethane	ND	50
Chloroethane	ND	10
Trichlorofluoromethane	ND	10
1,1-Dichloroethene	ND	10
Todomethane	ND	50
Carbon disulfide	ND	10
Methylene chloride	ND	50
trans-1,2-Dichloroethene	ND	10
1,1-Dichloroethane	ND	10
Vinyl acetate	ND	10
2-Butanone	ND	500
Chloroform	ND	10
1,1,1-Trichloroethane	ND	10
1,2-Dichloroethane	ND	10
Benzene	105	10
Carbon Tetrachloride	ND	10
1,2-Dichloropropane	ND	10
Trichloroethene	ND	10
Bromodichloromethane	ND	10
cis-1,3-Dichloropropene	ND	10
4-Methyl-2-pentanone	ND	500
trans-1,3-Dichloropropene	ND	10
Toluene	ND	10
1,1,2-Trichloroethane	ND	10
2-Hexanone	ND	500

NAVAJO REFINING COMPANY **PAGE 2 of 2**
Project Location: Artesia, NM

EPA 624 Compounds (ug/L)	T41695 KWB-1A	Reporting Limit
Dibromochloromethane	ND	10
Tetrachloroethene	ND	10
Chlorobenzene	ND	10
Ethylbenzene	ND	10
m & p-Xylene	ND	10
Bromoform	ND	10
Styrene	ND	10
o-Xylene	ND	10
1,1,2,2-Tetrachloroethane	ND	10
trans 1,4-Dichloro-2-butene	ND	50
cis 1,4-Dichloro-2-butene	ND	50
1,4-Dichlorobenzene	ND	20
1,3-Dichlorobenzene	ND	20
1,2-Dichlorobenzene	ND	20
MTBE	147	20

SURROGATES	**% RECOVERY**
Dibromofluoromethane	109
Toluene-d8	99
4-Bromofluorobenzene	93

***ND = Not Detected**

METHODS: EPA 624.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

10-5-95
Date

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

October 05, 1995
Receiving Date: 09/23/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 09/29/95
Analysis Date: 09/29/95
Sampling Date: 09/21/95
Sample Condition: Intact & Cool
Sample Received by: MS
Project Name: NA

EPA 624 Compounds (ug/L)	T41696 KWR-1C	Reporting Limit
Dichlorodifluoromethane	ND	10
Chloromethane	ND	10
Vinyl chloride	ND	10
Bromomethane	ND	50
Chloroethane	ND	10
Trichlorofluoromethane	ND	10
1,1-Dichloroethene	ND	10
Iodomethane	ND	50
Carbon disulfide	ND	10
Methylene chloride	ND	50
trans-1,2-Dichloroethene	ND	10
1,1-Dichloroethane	ND	10
Vinyl acetate	ND	10
2-Butanone	ND	500
Chloroform	ND	10
1,1,1-Trichloroethane	ND	10
1,2-Dichloroethane	ND	10
Benzene	919	10
Carbon Tetrachloride	ND	10
1,2-Dichloropropane	ND	10
Trichloroethene	ND	10
Bromodichloromethane	ND	10
cis-1,3-Dichloropropene	ND	10
4-Methyl-2-pentanone	ND	500
trans-1,3-Dichloropropene	ND	10
Toluene	ND	10
1,1,2-Trichloroethane	ND	10
2-Hexanone	ND	500

NAVAJO REFINING COMPANY
Project Location: Artesia, NM

EPA 624 Compounds (ug/L)	T41696 KWB-1C	Reporting Limit
Dibromochloromethane	ND	10
Tetrachloroethene	ND	10
Chlorobenzene	ND	10
Ethylbenzene	ND	10
m & p-Xylene	ND	10
Bromoform	ND	10
Styrene	ND	10
o-Xylene	ND	10
1,1,2,2-Tetrachloroethane	ND	10
trans 1,4-Dichloro-2-butene	ND	50
cis 1,4-Dichloro-2-butene	ND	50
1,4-Dichlorobenzene	ND	20
1,3-Dichlorobenzene	ND	20
1,2-Dichlorobenzene	ND	20
MTBE	139	20

SURROGATES	**% RECOVERY**
Dibromofluoromethane	103
Toluene-d8	98
4-Bromofluorobenzene	85

***ND = Not Detected**

METHODS: EPA 624.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

10-5-95
Date

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

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

October 05, 1995
Receiving Date: 09/23/95
Sample Type: water
Project No: NA
Project Location: Artesia, NM

Prep Date: 09/28/95
Analysis Date: 09/28/95
Sampling Date: 09/21/95
Sample Condition: Intact & Cool
Sample Received by: MS
Project Name: NA

EPA 624 Compounds (ug/L)	T41697 MW-45	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 COMPANY **PAGE 2 of 2**
Project Location: Artesia, NM

EPA 624 Compounds (ug/L)	T41697 MW-45	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
MTBE	2	2

SURROGATES	**% RECOVERY**
Dibromofluoromethane	108
Toluene-d8	101
4-Bromofluorobenzene	98

***ND = Not Detected**

METHODS: EPA 624.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

10-5-95
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

October 05, 1995
Receiving Date: 09/23/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 09/28/95
Analysis Date: 09/28/95
Sampling Date: 09/20/95
Sample Condition: Intact & Cool
Sample Received by: MS
Project Name: NA

EPA 624 Compounds (ug/L)	T41707 KWB-2A	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 COMPANY **PAGE 2 of 2**
Project Location: Artesia, NM

EPA 624 Compounds (ug/L)	T41707 KWB-2A	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
MTBE	ND	2

SURROGATES	**% RECOVERY**
Dibromofluoromethane	114
Toluene-d8	102
4-Bromofluorobenzene	92

***ND = Not Detected**

METHODS: EPA 624.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

10-5-95
DATE

6701 Aberdeen Avenue
Lubbock, Texas 79424
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ANALYTICAL RESULTS FOR
NAVAJO REFINING COMPANY
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

October 05, 1995
Receiving Date: 09/23/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 09/28/95
Analysis Date: 09/28/95
Sampling Date: 09/20/95
Sample Condition: Intact & Cool
Sample Received by: MS
Project Name: NA

EPA 624 Compounds (ug/L)	T41708 KWB-3A	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 COMPANY
Project Location: Artesia, NM

EPA 624 Compounds (ug/L)	T41708 KWB-3A	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
MTBE	ND	2

SURROGATES	**% RECOVERY**
Dibromofluoromethane	113
Toluene-d8	103
4-Bromofluorobenzene	94

***ND = Not Detected**

METHODS: EPA 624.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

10-5-95
Date

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

October 05, 1995
Receiving Date: 09/23/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 09/28/95
Analysis Date: 09/28/95
Sampling Date: 09/20/95
Sample Condition: Intact & Cool
Sample Received by: MS
Project Name: NA

EPA 624 Compounds (ug/L)	T41709 KWB-9	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 COMPANY
Project Location: Artesia, NM

EPA 624 Compounds (ug/L)	T41709 KWB-9	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
MTBE	ND	2

SURROGATES	**% RECOVERY**
Dibromofluoromethane	113
Toluene-d8	103
4-Bromofluorobenzene	93

***ND = Not Detected**

METHODS: EPA 624.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

10-5-95
Date

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

October 05, 1995
Receiving Date: 09/23/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 09/28/95
Analysis Date: 09/28/95
Sampling Date: 09/20/95
Sample Condition: Intact & Cool
Sample Received by: MS
Project Name: NA

EPA 624 Compounds (ug/L)	T41710 KWB-11A	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 COMPANY **PAGE 2 of 2**
Project Location: Artesia, NM

EPA 624 Compounds (ug/L)	T41710 KWB-11A	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
MTBE	ND	2

SURROGATES	**% RECOVERY**
Dibromofluoromethane	115
Toluene-d8	102
4-Bromofluorobenzene	94

***ND = Not Detected**

METHODS: EPA 624.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

10-5-95
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 → Lovington
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	624
	RA-2723	2	40ml	X						X	X	9/20/95	8:00	X									
	RA-1331	"	"	"						"	"	" "	8:15	X									
	RA-307	"	"	"						"	"	" "	8:30	X									
	RA-4196	"	"	"						"	"	" "	8:45	X									
	RA-4798	"	"	"						"	"	" "	9:00	X									
	RA-314	"	"	"						"	"	" "	9:15	X									
	RA-313	"	"	"						"	"	" "	10:00	X									
	KWB-2A	"	"	"						"	"	" "	11:30										X
	KWB-3A	"	"	"						"	"	" "	13:00										X
	KWB-9	"	"	"						"	"	" "	13:50										X
	KWB-11A	"	"	"						"	"	" "	15:00										X

SPECIAL HANDLING

- Turn around # of days
- Fax ASAP
- Hold

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Darrell Moore	9/21/95	16:30			
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: | **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	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	624
	KWB-12A	2	40ml	X						X	X	9/20/95	16:00										X
	MW-18	"	"	"						"	"	"	17:00										X
	RA 3156	"	"	"						"	"	9/21/95	8:00	X									
	RA 3353	"	"	"						"	"	"	8:30	X									
	KWB-7	"	"	"						"	"	"	12:30										X
	KWB-1A	"	"	"						"	"	"	13:30										X
	KWB-1C	"	"	"						"	"	"	14:00										X
	MW-45	"	"	"						"	"	"	14:45										X
	RA 1227	"	"	"						"	"	"	15:00	X									
	Lea Refining Boring #3	"	"	"						"	"	9/19/95	11:00	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:	Date:	Time:

REMARKS

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

July 10, 1995
Receiving Date: 07/07/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 07/10/95
Analysis Date: 07/10/95
Sampling Date: 07/06/95
Sample Condition: Intact & Cool
Sample Received by: LW
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)
T38436	RA-2723	<1	<1	<1	<1	<1	<1
QC	Quality Control	105	109	110	103	298	
Reporting Limit		1	1	1	1	1	
RPD		8	0	0	0	0	
% Extraction Accuracy		102	104	106	100	97	
% Instrument Accuracy		105	109	110	103	99	

METHODS: EPA SW 846-8020, 5030.
MTBE/BTEX SPIKE AND QC: 100 ug/L BTEX.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

7-10-95
Date

188AS

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 #:
FAX #:
Company Name & Address: Navajo Refining Co.
Project #:
Project Name :
Project Location:
Sampler Signature:

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	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	SPECIAL HANDLING: Turn around # of days	Fax ASAP	Report TWC direct	Hold
38433	Alky Cooling Tow. Inlet	2	40ml	X							X	X		7/6/95	10:30			See	List								
38434	" " " Outlet	"	"	"							X	"		" "	10:35			"	"								
38435	RO Reject B. Wkly	2		X						X	X	X		" "	10:45			"	"								
38436	RA 2723	"	40ml	"							X	X		" "	11:00	X											

Relinquished by:	Date:	Times:	Received by:
Darrell Moore	7/6/95	16:30	
Relinquished by:	Date:	Times:	Received by:
Relinquished by:	Date: 7/7/95	Times: 1200	Received by Laboratory:

REMARKS

CI

PS

NAN602.XLS (265)

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

July 28, 1995
Receiving Date: 07/25/95
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: 07/25/95
Analysis Date: 07/26/95
Sampling Date: 07/24/95
Sample Condition: Intact & Cool
Sample Received by: MS
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)
T38983	RA-2723	<1	<1	<1	<1	<1	<1
T38984	RA-1227	1	<1	<1	<1	<1	<1
T38985	RA-1331	<1	<1	<1	<1	<1	<1
T38986	RA-307	<1	<1	<1	<1	<1	<1
T38987	RA-4196	<1	<1	<1	<1	<1	<1
T38988	RA-4798	<1	<1	<1	<1	<1	<1
T38989	RA-314	99	101	<1	<1	<1	<1
QC	Quality Control			99	<1	<1	<1
Reporting Limit		1	1	1	1	1	
RPD		12	10	14	14	14	
% Extraction Accuracy		106	104	101	106	110	
% Instrument Accuracy		99	101	99	104	108	

METHODS: EPA SW 846-5030, 8020.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

7-28-95
Date

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 #:

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	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
	H.O. EFFLUENT BI-WEEKLY	2		✓						X	X	X		6/9/95	10:30			8 RCL		LIST			
	TANK 417 SLUDGE	1			✓						X	X		6/9/95	14:20			X		X	X		X
	6-29-95 SPILL	1			✓						X	X		6/9/95	14:40			X		X	X		X
	R.A. 2723	2		✓							X	X		6/9/95	14:45	X							

SPECIAL HANDLING

- Turn around # of days
- Fax ASAP
- Report TWC direct
- Hold

Relinquished by:	Date:	Times:	Received by:
Jennifer Ferrino	8/9/95	16:30	
Relinquished by:	Date:	Times:	Received by:
Relinquished by:	Date:	Times:	Received by Laboratory:

REMARKS

NEED TCLP's ASAP.

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

August 15, 1995
Receiving Date: 08/10/95
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: 08/11/95
Analysis Date: 08/11/95
Sampling Date: 08/09/95
Sample Condition: Intact & Cool
Sample Received by: MS
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)
T39627	RA-2723	<1	<1	<1	<1	<1	<1
QC	Quality Control	86	98	115	106	325	
Reporting Limit		1	1	1	1	1	
RPD		14	12	12	12	14	
% Extraction Accuracy		88	100	119	109	111	
% Instrument Accuracy		86	98	115	106	108	

METHODS: EPA SW 846-5030, 8020.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

8-15-95
Date

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 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	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
38980	Alky Cooling Twr Inlet	2	40ml	X							X	X		7/24/95	1315			See List					
81	" " " Outlet	"	"	"							"	"		" "	1320			"			"		
82	RO Reject Bi Wkly	"		"						(1) X	(2) X	(3) X		" "	1330			"			"		
83	RA-2723	"	40ml	"							X	X		" "	1340			"			"		Method 602
84	RA-1227	"	"	"							"	"		" "	1350			"			"		"
85	RA-1331	"	"	"							"	"		" "	1400			"			"		"
86	RA-307	"	"	"							"	"		" "	1410			"			"		"
87	RA-4196	"	"	"							"	"		" "	1420			"			"		"
88	RA-4798	"	"	"							"	"		" "	1430			"			"		"
89	RA-314	"	"	"							"	"		" "	1440			"			"		"

SPECIAL HANDLING: Turn around # of days; Fax ASAP; Report TWC direct; Hold

Relinquished by:	Date:	Times:	Received by:
Darrell Moore	7/24/95	16:30	
Relinquished by:	Date:	Times:	Received by:
Relinquished by:	Date: 7-25-95	Times:	Received by Laboratory: MS CJ

REMARKS: 206AJ

206AJ

TRACEANALYSIS, 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

September 06, 1995
Receiving Date: 09/01/95
Sample Type: Water
Project No: NA
Project Location: Lovington & Artesia, NM

Prep Date: 09/05/95
Analysis Date: 09/05/95
Sampling Date: 08/31/95
Sample Condition: Intact & Cool
Sample Received by: MS
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)
T40637	RA-313	<1	<1	<1	<1	<1	<1
T40638	RA-314	<1	<1	<1	<1	<1	<1
T40643	RA-4196	<1	<1	<1	<1	<1	<1
T40644	RA-307	<1	<1	<1	<1	<1	<1
T40645	RA-1331	<1	<1	<1	<1	<1	<1
T40646	RA-1227	<1	<1	<1	<1	<1	<1
T40647	RA-2723	<1	<1	<1	<1	<1	<1
QC	Quality Control	99	105	103	99	296	
Reporting Limit		1	1	1	1	1	
RPD		5	3	2	2	3	
% Extraction Accuracy		123	110	101	99	93	
% Instrument Accuracy		99	105	103	99	99	

METHODS: EPA SW 846-5030, 8020.
BTEX SPIKE AND QC: 100 ug/L BTEX.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

9-6-95
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

September 12, 1995
Receiving Date: 09/09/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

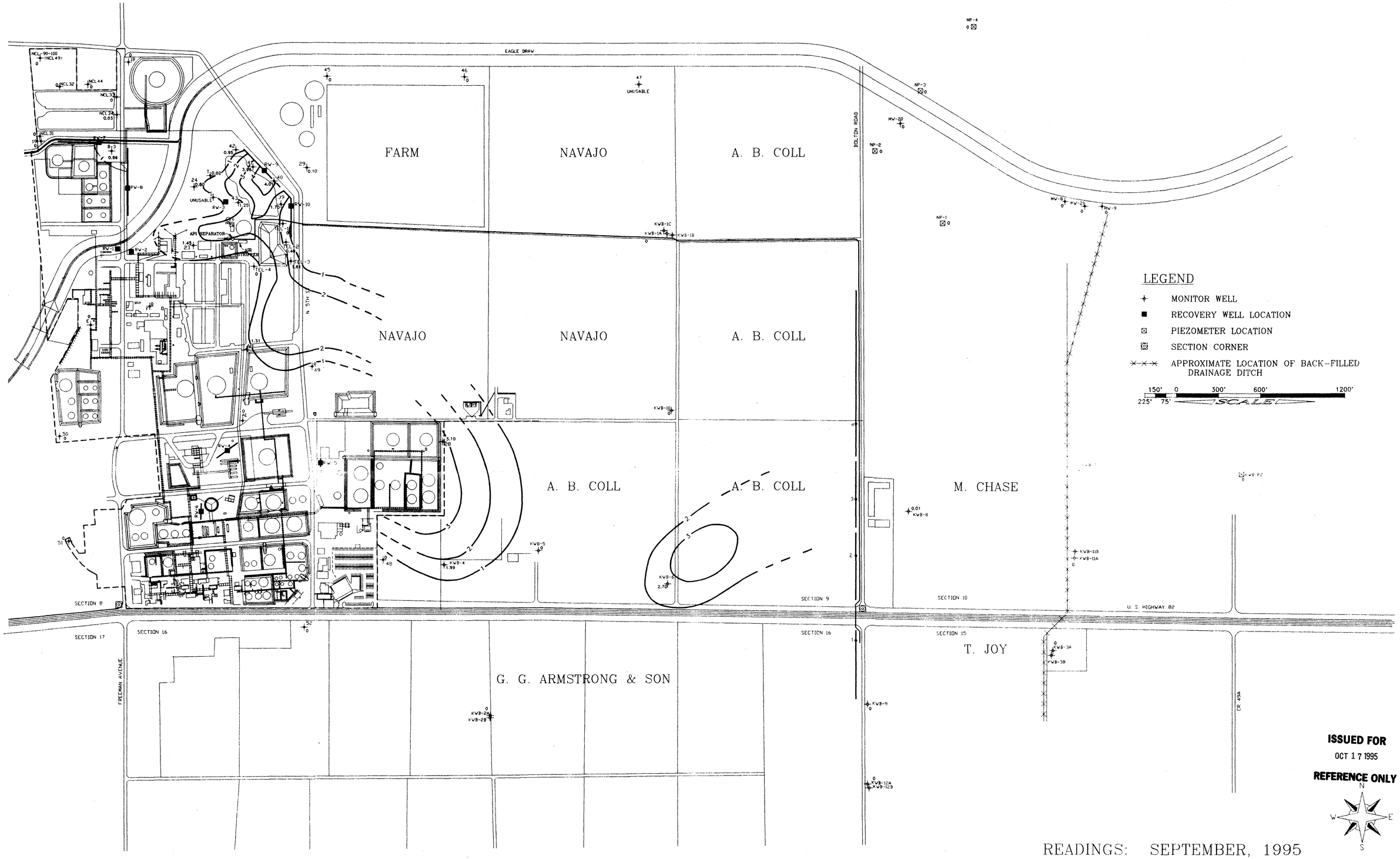
Prep Date: 09/09/95
Analysis Date: 09/10/95
Sampling Date: 09/08/95
Sample Condition: Intact & Cool
Sample Received by: McD
Project Name: NA

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)
T41053	RA-2723	<1	<1	<1	<1	<1	<1
QC	Quality Control	106	107	109	111	353	
Reporting Limit		1	1	1	1	1	
RPD		30	20	1	4	7	
% Extraction Accuracy		200	106	106	108	108	
% Instrument Accuracy		106	107	109	111	117	

METHODS: EPA SW 846-5030, 8020.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

9-12-95
Date



LEGEND

- MONITOR WELL
- RECOVERY WELL LOCATION
- PIEZOMETER LOCATION
- SECTION CORNER
- APPROXIMATE LOCATION OF BACK-FILLED DRAINAGE DITCH

150' 0 300' 600' 1200'
225' 75' SCALE

ISSUED FOR
OCT 1 7 1995
REFERENCE ONLY

N W E S

READINGS: SEPTEMBER, 1995

NOTES

REFERENCE DRAWINGS

NO.	REVISIONS	BY	CHK.	DATE	APPR.	APPR.

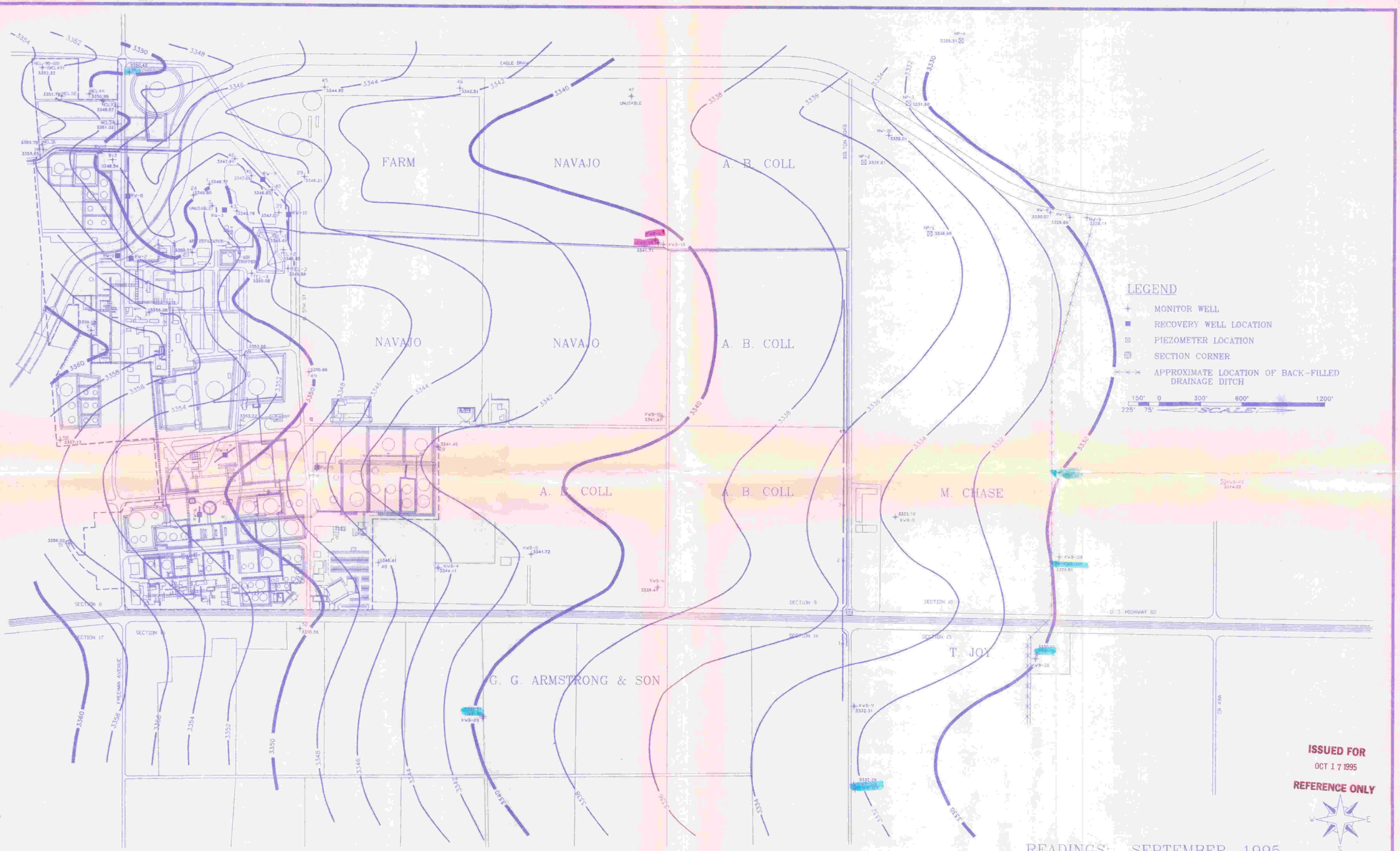
NO.	REVISIONS	BY	CHK.	DATE	APPR.	APPR.
0	ISSUED WITH MARCH, 1995 READINGS	PETE	DGJ	3-27-95	DGM	ILS
1	JUNE, 1995 READINGS	PETE	DGJ	7-18-95	DGM	ILS
2	SEPTEMBER, 1995 READINGS	PETE	DGJ	10-17-95	DGM	DGJ

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	APPR BY	DRAWING NUMBER	REV.
3-17-95	ILS	90-45-D	2



NOTES

REFERENCE DRAWINGS

NO.	REVISIONS	BY	CHK.	DATE	APPR	APPR

NO.	REVISIONS	BY	CHK.	DATE	APPR	APPR
0	ISSUED WITH MARCH, 1995 READINGS	PETE	DGJ	3-27-95	DGM	TLS
1	JUNE, 1995 READINGS	PETE	DGJ	7-13-95	DGM	TLS
2	SEPTEMBER, 1995 READINGS	PETE	DGJ	9-7-95	DGM	DGJ

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
PETE	DGM	AS SHOWN
DATE	APPR BY	DRAWING NUMBER / REV.
3-17-95	TLS	90-44-D / 2

Inter-Mountain
Laboratories, Inc.

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

July 31, 1995

State of New Mexico
Energy, Minerals, and Natural Resources Department
Oil Conservation Division

Case Narrative

On July 3, 1995, nineteen water samples were submitted for analysis to Inter-Mountain Laboratories - Farmington, New Mexico. The samples were received intact. The samples were analyzed for parameters requested on the accompanying Analysis Request forms.

Sample ID# KWB-1A froze in our refrigerator before analysis for major cations (calcium, magnesium, sodium and potassium) was performed. Judging from the electrical conductivity, the total dissolved solids, and the cation/anion balance, these values are likely too low. We have since corrected the temperature problem with our refrigerator. I apologize for any inconvenience this may cause you.

It is the policy of this laboratory to employ preparatory and analytical methods which have been approved by regulatory agencies. The methods used in the analyses of the samples reported herein are found in U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes," 1983.

If there any questions or comments regarding the analyses, please call me.

Sincerely,

Melissa Klute

Melissa Klute
Water Lab Supervisor
IML - Farmington

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Client:	**NM-OCD**		
Project:	Navajo Refinery		
Sample ID:	KWB-1C	Date Reported:	07/30/95
Laboratory ID:	W00988	Date Sampled:	06/29/95
Sample Matrix:	Water	Time Sampled:	1100
Condition:	Cool/Intact	Date Received:	07/03/95

Parameter	Analytical Result	Units		Units
Lab pH	6.6	s.u.		
Lab Conductivity @ 25° C	6,080	umhos/cm		
Total Dissolved Solids @ 180°C	4,280	mg/L		
Total Dissolved Solids (Calc)	4,040	mg/L		
Total Alkalinity as CaCO3	413	mg/L		
Total Hardness as CaCO3	2,870	mg/L		
Bicarbonate as HCO3	504	mg/L	8.26	meq/L
Carbonate as CO3	0	mg/L	0.00	meq/L
Hydroxide as OH	0	mg/L	0.00	meq/L
Chloride	325	mg/L	9.18	meq/L
Sulfate	2,240	mg/L	46.71	meq/L
Nitrate	3.87	mg/L	0.28	meq/L
Nitrite	<0.01	mg/L	<0.01	meq/L
Calcium	557	mg/L	27.80	meq/L
Magnesium	358	mg/L	29.50	meq/L
Potassium	1.6	mg/L	0.04	meq/L
Sodium	302	mg/L	13.12	meq/L
Cations			70.46	meq/L
Anions			64.42	meq/L
Cation/Anion Difference			4.48	%

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

Comments:

Reported by MKluite

Reviewed by

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Client:	**NM-OCD**		
Project:	Navajo Refinery	Date Reported:	07/30/95
Sample ID:	KWB-1C	Date Sampled:	06/29/95
Laboratory ID:	W00988	Time Sampled:	1100
Sample Matrix:	Water	Date Received:	07/03/95
Condition:	Cool/Intact		

Parameter	Total Analytical Result	Units
Trace Metals		
Aluminum	0.11	mg/L
Antimony	< 0.01	mg/L
Arsenic	< 0.005	mg/L
Barium	< 0.5	mg/L
Beryllium	< 0.002	mg/L
Boron	0.73	mg/L
Cadmium	< 0.002	mg/L
Chromium	< 0.02	mg/L
Cobalt	< 0.05	mg/L
Copper	< 0.01	mg/L
Iron	3.28	mg/L
Lead	< 0.005	mg/L
Manganese	0.29	mg/L
Mercury	< 0.001	mg/L
Molybdenum	< 0.01	mg/L
Nickel	< 0.01	mg/L
Selenium	< 0.005	mg/L
Silica	19.9	mg/L
Silver	< 0.01	mg/L
Thallium	< 0.01	mg/L
Vanadium	< 0.01	mg/L
Zinc	< 0.075	mg/L

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

Reported by _____ Reviewed by _____

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Client:	**NM-OCD**		
Project:	Navajo Refinery		
Sample ID:	MW-18	Date Reported:	07/30/95
Laboratory ID:	W00989	Date Sampled:	06/29/95
Sample Matrix:	Water	Time Sampled:	1145
Condition:	Cool/Intact	Date Received:	07/03/95

Parameter	Analytical Result	Units		Units
Lab pH	6.7	s.u.		
Lab Conductivity @ 25° C	3,800	umhos/cm		
Total Dissolved Solids @ 180°C	2,590	mg/L		
Total Dissolved Solids (Calc)	2,110	mg/L		
Total Alkalinity as CaCO3	454	mg/L		
Total Hardness as CaCO3	1,760	mg/L		
Bicarbonate as HCO3	554	mg/L	9.08	meq/L
Carbonate as CO3	0	mg/L	0.00	meq/L
Hydroxide as OH	0	mg/L	0.00	meq/L
Chloride	217	mg/L	6.13	meq/L
Sulfate	971	mg/L	20.22	meq/L
Nitrate	4.32	mg/L	0.31	meq/L
Nitrite	<0.01	mg/L	<0.01	meq/L
Calcium	359	mg/L	17.92	meq/L
Magnesium	211	mg/L	17.34	meq/L
Potassium	2.0	mg/L	0.05	meq/L
Sodium	72	mg/L	3.14	meq/L
Cations			38.45	meq/L
Anions			35.74	meq/L
Cation/Anion Difference			3.66	%

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

Comments:

Reported by MKluta

Reviewed by

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Client:	**NM-OCD**		
Project:	Navajo Refinery	Date Reported:	07/30/95
Sample ID:	MW-18	Date Sampled:	06/29/95
Laboratory ID:	W00989	Time Sampled:	1145
Sample Matrix:	Water	Date Received:	07/03/95
Condition:	Cool/Intact		

Parameter	Total Analytical Result	Units
Trace Metals		
Aluminum	1.13	mg/L
Antimony	< 0.01	mg/L
Arsenic	< 0.005	mg/L
Barium	< 0.5	mg/L
Beryllium	< 0.002	mg/L
Boron	0.63	mg/L
Cadmium	< 0.002	mg/L
Chromium	< 0.02	mg/L
Cobalt	< 0.05	mg/L
Copper	< 0.01	mg/L
Iron	0.80	mg/L
Lead	0.006	mg/L
Manganese	0.11	mg/L
Mercury	< 0.001	mg/L
Molybdenum	< 0.01	mg/L
Nickel	< 0.01	mg/L
Selenium	< 0.005	mg/L
Silica	21.9	mg/L
Silver	< 0.01	mg/L
Thallium	< 0.01	mg/L
Vanadium	0.02	mg/L
Zinc	< 0.075	mg/L

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

Reported by _____ Reviewed by _____

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Client:	**NM-OCD**		
Project:	Navajo Refinery		
Sample ID:	MW-45	Date Reported:	07/30/95
Laboratory ID:	W00990	Date Sampled:	06/29/95
Sample Matrix:	Water	Time Sampled:	1330
Condition:	Cool/Intact	Date Received:	07/03/95

Parameter	Analytical Result	Units		Units
Lab pH	6.9	s.u.		
Lab Conductivity @ 25° C	9,210	umhos/cm		
Total Dissolved Solids @ 180°C	6,650	mg/L		
Total Dissolved Solids (Calc)	5,800	mg/L		
Total Alkalinity as CaCO3	251	mg/L		
Total Hardness as CaCO3	3,300	mg/L		
Bicarbonate as HCO3	306	mg/L	5.02	meq/L
Carbonate as CO3	0	mg/L	0.00	meq/L
Hydroxide as OH	0	mg/L	0.00	meq/L
Chloride	972	mg/L	27.42	meq/L
Sulfate	3,040	mg/L	63.42	meq/L
Nitrate	6.58	mg/L	0.47	meq/L
Nitrite	<0.01	mg/L	<0.01	meq/L
Calcium	671	mg/L	33.50	meq/L
Magnesium	394	mg/L	32.40	meq/L
Potassium	13	mg/L	0.32	meq/L
Sodium	547	mg/L	23.80	meq/L
Cations			90.02	meq/L
Anions			96.33	meq/L
Cation/Anion Difference			3.39	%

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

Comments:

Reported by _____ Reviewed by _____

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Client:	**NM-OCD**		
Project:	Navajo Refinery	Date Reported:	07/30/95
Sample ID:	MW-45	Date Sampled:	06/29/95
Laboratory ID:	W00990	Time Sampled:	1330
Sample Matrix:	Water	Date Received:	07/03/95
Condition:	Cool/Intact		

Parameter	Total Analytical Result	Units
Trace Metals		
Aluminum	1.73	mg/L
Antimony	< 0.01	mg/L
Arsenic	< 0.005	mg/L
Barium	< 0.5	mg/L
Beryllium	< 0.002	mg/L
Boron	0.37	mg/L
Cadmium	< 0.002	mg/L
Chromium	< 0.02	mg/L
Cobalt	< 0.05	mg/L
Copper	< 0.01	mg/L
Iron	1.31	mg/L
Lead	0.010	mg/L
Manganese	0.44	mg/L
Mercury	< 0.001	mg/L
Molybdenum	< 0.01	mg/L
Nickel	0.03	mg/L
Selenium	< 0.005	mg/L
Silica	27.9	mg/L
Silver	< 0.01	mg/L
Thallium	< 0.01	mg/L
Vanadium	< 0.01	mg/L
Zinc	< 0.075	mg/L

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

Reported by M Kluta

Reviewed by

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Client:	**NM-OCD**		
Project:	Navajo Refinery		
Sample ID:	KWB-1A	Date Reported:	07/30/95
Laboratory ID:	W00991	Date Sampled:	06/28/95
Sample Matrix:	Water	Time Sampled:	1520
Condition:	Cool/Intact	Date Received:	07/03/95

Parameter	Analytical Result	Units		Units
Lab pH	6.7	s.u.		
Lab Conductivity @ 25° C	6,430	umhos/cm		
Total Dissolved Solids @ 180°C	4,720	mg/L		
Total Dissolved Solids (Calc)	4,150	mg/L		
Total Alkalinity as CaCO3	504	mg/L		
Total Hardness as CaCO3	2,310	mg/L		
Bicarbonate as HCO3	615	mg/L	10.08	meq/L
Carbonate as CO3	0	mg/L	0.00	meq/L
Hydroxide as OH	0	mg/L	0.00	meq/L
Chloride	328	mg/L	9.25	meq/L
Sulfate	2,540	mg/L	52.91	meq/L
Nitrate	3.96	mg/L	0.28	meq/L
Nitrite	<0.01	mg/L	<0.01	meq/L
*Calcium	433	mg/L	21.60	meq/L
*Magnesium	299	mg/L	24.60	meq/L
*Potassium	1.2	mg/L	0.03	meq/L
*Sodium	244	mg/L	10.60	meq/L
Cations			*56.83	meq/L
Anions			72.53	meq/L
Cation/Anion Difference			*12.1	%

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

Comments: *Sample froze before these parameters were analyzed, these values are likely low.

Reported by mkluta

Reviewed by

Inter·Mountain Laboratories, Inc.

1160 Research Drive
Bozeman, Montana 59715

EPA METHOD 8100
POLYNUCLEAR AROMATIC HYDROCARBONS

Client:	NEW MEXICO-OIL CONSERVATION DIVISION		
Sample ID:	KWB-1C	Date Reported:	08/14/95
Project ID:	Navajo Refinery	Date Sampled:	06/29/95
Laboratory ID:	B955131 W988	Date Received:	07/05/95
Sample Matrix:	Water	Date Extracted:	07/05/95
		Date Analyzed:	07/18/95

Parameter	Analytical Result	Detection Limit	Units
3-Methylcholanthrene	ND	2	ug/L
7H-Dibenzo(c,g)carbazole	ND	2	ug/L
Acenaphthene	2.3	2	ug/L
Acenaphthylene	ND	2	ug/L
Anthracene	ND	2	ug/L
Benzo(a)anthracene	ND	2	ug/L
Benzo(a)pyrene	ND	2	ug/L
Benzo(b)fluoranthene *	ND	2	ug/L
Benzo(g,h,i)perylene	10	2	ug/L
Benzo(j)fluoranthene *	ND	2	ug/L
Benzo(k)fluoranthene *	ND	2	ug/L
Chrysene	ND	2	ug/L
Dibenz(a,h)acridine	ND	2	ug/L
Dibenz(a,h)anthracene **	ND	2	ug/L
Dibenz(a,j)acridine	ND	2	ug/L
Dibenzo(a,e)pyrene	ND	2	ug/L
Dibenzo(a,h)pyrene	ND	2	ug/L
Dibenzo(a,i)pyrene	ND	2	ug/L
Fluoranthene	ND	2	ug/L
Fluorene	ND	2	ug/L
Indeno(1,2,3-c,d)pyrene **	ND	2	ug/L
Naphthalene	11	2	ug/L
Phenanthrene	ND	2	ug/L
Pyrene	ND	2	ug/L

* - Compounds Coelute
** - Compounds Coelute
ND - Compound not detected at stated Detection Limit.
B - Compound detected in Method Blank.

QUALITY CONTROL:

Surrogate Recoveries	%
2-Fluorobiphenyl	58
Terphenyl	55

Reference:

Method 8100, Polynuclear Aromatic Hydrocarbon (PAH). Determination of Organic Analytes by Gas Chromatographic Methods, Test Methods for Evaluating Solid Wastes, SW846, USEPA, Third Edition, November 1986.

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Bozeman, Montana 59715

EPA METHOD 8100
POLYNUCLEAR AROMATIC HYDROCARBONS

Client:	NEW MEXICO-OIL CONSERVATION DIVISION		
Sample ID:	MW-18	Date Reported:	08/14/95
Project ID:	Navajo Refinery	Date Sampled:	06/29/95
Laboratory ID:	B955132 W989	Date Received:	07/05/95
Sample Matrix:	Water	Date Extracted:	07/05/95
		Date Analyzed:	07/18/95

Parameter	Analytical Result	Detection Limit	Units
3-Methylcholanthrene	ND	2	ug/L
7H-Dibenzo(c,g)carbazole	ND	2	ug/L
Acenaphthene	ND	2	ug/L
Acenaphthylene	ND	2	ug/L
Anthracene	ND	2	ug/L
Benzo(a)anthracene	ND	2	ug/L
Benzo(a)pyrene	ND	2	ug/L
Benzo(b)fluoranthene *	ND	2	ug/L
Benzo(g,h,i)perylene	10	2	ug/L
Benzo(j)fluoranthene *	ND	2	ug/L
Benzo(k)fluoranthene *	ND	2	ug/L
Chrysene	ND	2	ug/L
Dibenz(a,h)acridine	ND	2	ug/L
Dibenz(a,h)anthracene **	ND	2	ug/L
Dibenz(a,j)acridine	ND	2	ug/L
Dibenzo(a,e)pyrene	ND	2	ug/L
Dibenzo(a,h)pyrene	ND	2	ug/L
Dibenzo(a,i)pyrene	ND	2	ug/L
Fluoranthene	ND	2	ug/L
Fluorene	ND	2	ug/L
Indeno(1,2,3-c,d)pyrene **	ND	2	ug/L
Naphthalene	ND	2	ug/L
Phenanthrene	ND	2	ug/L
Pyrene	ND	2	ug/L

* - Compounds Coelute
** - Compounds Coelute
ND - Compound not detected at stated Detection Limit.
B - Compound detected in Method Blank.

QUALITY CONTROL:

Surrogate Recoveries	%
2-Fluorobiphenyl	62
Terphenyl	57

Reference:

Method 8100, Polynuclear Aromatic Hydrocarbon (PAH). Determination of Organic Analytes by Gas Chromatographic Methods, Test Methods for Evaluating Solid Wastes, SW846, USEPA, *Third Edition*, November 1986.

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Bozeman, Montana 59715

EPA METHOD 8100
POLYNUCLEAR AROMATIC HYDROCARBONS

Client:	NEW MEXICO-OIL CONSERVATION DIVISION		
Sample ID:	NW-45	Date Reported:	08/14/95
Project ID:	Navajo Refinery	Date Sampled:	06/29/95
Laboratory ID:	B955133 W990	Date Received:	07/05/95
Sample Matrix:	Water	Date Extracted:	07/05/95
		Date Analyzed:	07/18/95

Parameter	Analytical Result	Detection Limit	Units
3-Methylcholanthrene	ND	2	ug/L
7H-Dibenzo(c,g)carbazole	ND	2	ug/L
Acenaphthene	ND	2	ug/L
Acenaphthylene	9.5	2	ug/L
Anthracene	ND	2	ug/L
Benzo(a)anthracene	ND	2	ug/L
Benzo(a)pyrene	ND	2	ug/L
Benzo(b)fluoranthene *	ND	2	ug/L
Benzo(g,h,i)perylene	7.8	2	ug/L
Benzo(j)fluoranthene *	ND	2	ug/L
Benzo(k)fluoranthene *	ND	2	ug/L
Chrysene	ND	2	ug/L
Dibenz(a,h)acridine	ND	2	ug/L
Dibenz(a,h)anthracene **	ND	2	ug/L
Dibenz(a,j)acridine	ND	2	ug/L
Dibenzo(a,e)pyrene	ND	2	ug/L
Dibenzo(a,h)pyrene	ND	2	ug/L
Dibenzo(a,i)pyrene	ND	2	ug/L
Fluoranthene	7.4	2	ug/L
Fluorene	ND	2	ug/L
Indeno(1,2,3-c,d)pyrene **	ND	2	ug/L
Naphthalene	ND	2	ug/L
Phenanthrene	ND	2	ug/L
Pyrene	3.0	2	ug/L

* - Compounds Coelute
** - Compounds Coelute
ND - Compound not detected at stated Detection Limit.
B - Compound detected in Method Blank.

QUALITY CONTROL:

Surrogate Recoveries	%
2-Fluorobiphenyl	64
Terphenyl	66

Reference:

Method 8100, Polynuclear Aromatic Hydrocarbon (PAH). Determination of Organic Analytes by Gas Chromatographic Methods, Test Methods for Evaluating Solid Wastes, SW846, USEPA, Third Edition, November 1986.

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Bozeman, Montana 59715

EPA METHOD 8100
POLYNUCLEAR AROMATIC HYDROCARBONS

Client:	NEW MEXICO-OIL CONSERVATION DIVISION		
Sample ID:	KWB-1A	Date Reported:	08/14/95
Project ID:	Navajo Refinery	Date Sampled:	06/28/95
Laboratory ID:	B955134 W991	Date Received:	07/05/95
Sample Matrix:	Water	Date Extracted:	07/05/95
		Date Analyzed:	07/18/95

Parameter	Analytical Result	Detection Limit	Units
3-Methylcholanthrene	ND	2	ug/L
7H-Dibenzo(c,g)carbazole	ND	2	ug/L
Acenaphthene	2.4	2	ug/L
Acenaphthylene	ND	2	ug/L
Anthracene	ND	2	ug/L
Benzo(a)anthracene	ND	2	ug/L
Benzo(a)pyrene	ND	2	ug/L
Benzo(b)fluoranthene *	ND	2	ug/L
Benzo(g,h,i)perylene	5.5	2	ug/L
Benzo(j)fluoranthene *	ND	2	ug/L
Benzo(k)fluoranthene *	ND	2	ug/L
Chrysene	ND	2	ug/L
Dibenz(a,h)acridine	ND	2	ug/L
Dibenz(a,h)anthracene **	ND	2	ug/L
Dibenz(a,j)acridine	ND	2	ug/L
Dibenzo(a,e)pyrene	ND	2	ug/L
Dibenzo(a,h)pyrene	ND	2	ug/L
Dibenzo(a,i)pyrene	ND	2	ug/L
Fluoranthene	ND	2	ug/L
Fluorene	5.2	2	ug/L
Indeno(1,2,3-c,d)pyrene **	ND	2	ug/L
Naphthalene	20	2	ug/L
Phenanthrene	ND	2	ug/L
Pyrene	ND	2	ug/L

* - Compounds Coelute
** - Compounds Coelute
ND - Compound not detected at stated Detection Limit.
B - Compound detected in Method Blank.

QUALITY CONTROL:

Surrogate Recoveries	%
2-Fluorobiphenyl	68
Terphenyl	67

Reference:

Method 8100, Polynuclear Aromatic Hydrocarbon (PAH). Determination of Organic Analytes by Gas Chromatographic Methods, Test Methods for Evaluating Solid Wastes, SW846, USEPA, *Third Edition*, November 1986.

Analyst

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QUALITY ASSURANCE / QUALITY CONTROL

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Bozeman, Montana 59715

LAB QA/QC
POLYNUCLEAR AROMATIC HYDROCARBONS - 8100
METHOD BLANK

Date Analyzed: **07/18/95**
Laboratory ID: MB95-186
Sample Matrix: Water
Date Extracted: 07/05/95

Parameter	Analytical Result	Detection Limit	Units
3-Methylcholanthrene	ND	2	ug/L
7H-Dibenzo(c,g)carbazole	ND	2	ug/L
Acenaphthene	ND	2	ug/L
Acenaphthylene	ND	2	ug/L
Anthracene	ND	2	ug/L
Benzo(a)anthracene	ND	2	ug/L
Benzo(a)pyrene	ND	2	ug/L
Benzo(b)fluoranthene *	ND	2	ug/L
Benzo(g,h,i)perylene	ND	2	ug/L
Benzo(j)fluoranthene *	ND	2	ug/L
Benzo(k)fluoranthene *	ND	2	ug/L
Chrysene	ND	2	ug/L
Dibenz(a,h)acridine	ND	2	ug/L
Dibenz(a,h)anthracene **	ND	2	ug/L
Dibenz(a,j)acridine	ND	2	ug/L
Dibenzo(a,e)pyrene	ND	2	ug/L
Dibenzo(a,h)pyrene	ND	2	ug/L
Dibenzo(a,i)pyrene	ND	2	ug/L
Fluoranthene	ND	2	ug/L
Fluorene	ND	2	ug/L
Indeno(1,2,3-c,d)pyrene **	ND	2	ug/L
Naphthalene	ND	2	ug/L
Phenanthrene	ND	2	ug/L
Pyrene	ND	2	ug/L

* - Compounds Coelute
** - Compounds Coelute
ND - Compound not detected at stated Detection Limit.
B - Compound detected in Method Blank.

QUALITY CONTROL:

Surrogate Recoveries	%
2-Fluorobiphenyl	82
Terphenyl	44

Reference:

Method 8100, Polynuclear Aromatic Hydrocarbon (PAH). Determination of Organic Analytes by Gas Chromatographic Methods, Test Methods for Evaluating Solid Wastes, SW846, USEPA, Third Edition, November 1986.

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Bozeman, Montana 59715

LAB QA/QC
POLYNUCLEAR AROMATIC HYDROCARBONS - 8100
BLANK SPIKE

Date Analyzed: **07/18/95**
Laboratory ID: BSD95-186
Sample Matrix: Water
Date Extracted: 07/05/95

ORIGINAL SAMPLE PARAMETERS

Parameter	Spike Added (ug)	Sample Conc. (ug)	MS Conc. (ug)	MS Recovery (%)
Acenaphthene	100	0	67	67
Acenaphthylene	100	0	65	65
Anthracene	100	0	87	87
Benzo(a)anthracene	10	0	7.4	74
Benzo(b)fluoranthene *				
Benzo(k)fluoranthene *	15	0	11	73
Chrysene	10	0	7.6	76
Dibenzo(a,h)anthracene **				
Indeno(1,2,3-c,d)pyrene **	20	0	15	75
Fluorene	100	0	71	71
Naphthalene	100	0	64	64
Phenanthrene	100	0	76	76

DUPLICATE SAMPLE PARAMETERS

Parameter	Spike Added (ug)	MSD Conc. (ug)	MSD Recovery (%)	RPD (%)
Acenaphthene	100	73	73	9
Acenaphthylene	100	70	70	7
Anthracene	100	92	92	6
Benzo(a)anthracene	10	7.8	78	5
Benzo(b)fluoranthene *				
Benzo(k)fluoranthene *	15	12	80	9
Chrysene	10	7.9	79	4
Dibenzo(a,h)anthracene **				
Indeno(1,2,3-c,d)pyrene **	20	15	75	0
Fluorene	100	75	75	5
Naphthalene	100	70	70	9
Phenanthrene	100	80	80	5

* - Compounds Coelute
** - Compounds Coelute

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Inter·Mountain Laboratories, Inc.

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Bozeman, Montana 59715

LAB QA/QC
POLYNUCLEAR AROMATIC HYDROCARBONS - 8100
MATRIX SPIKE

Date Analyzed: **07/18/95**
Laboratory ID: B955132
Sample Matrix: Water
Date Extracted: 07/05/95

Parameter	Expected Conc. (ug/L)	Found Conc. (ug/L)	Recovery (%)
Acenaphthene	100	54	54
Acenaphthylene	100	51	51
Anthracene	100	65	65
Benzo(a)anthracene	10	5.5	55
Benzo(b)fluoranthene *			
Benzo(k)fluoranthene *	15	8.4	56
Chrysene	10	5.5	55
Dibenzo(a,h)anthracene **			
Indeno(1,2,3-c,d)pyrene **	20	12	60
Fluorene	100	55	55
Naphthalene	100	46	46
Phenanthrene	100	57	57

* - Compounds Coelute
** - Compounds Coelute

QUALITY CONTROL:

Surrogate Recoveries	%
2-Fluorobiphenyl	68
Terphenyl-d14	56

Reference:

Method 8100, Polynuclear Aromatic Hydrocarbon (PAH). Determination of Organic Analytes by Gas Chromatographic Methods, Test Methods for Evaluating Solid Wastes, SW846, USEPA, Third Edition, November 1986.

Analyst

Reviewed

Inter·Mountain Laboratories, Inc.

1160 Research Drive
Bozeman, Montana 59715

EPA METHOD 624
HSL VOLATILE COMPOUNDS

Client: NEW MEXICO-OIL CONSERVATION DIVISION
Sample ID: RA-307
Project ID: Navajo Refinery
Lab ID: B955139
Matrix: Water

Date Reported: 07/18/95
Date Sampled: 06/28/95
Date Received: 07/06/95
Date Extracted: NA
Date Analyzed: 07/10/95

Parameter	Result	PQL	Units
1,1,1-Trichloroethane	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,2-Dichlorobenzene	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
1,3-Dichlorobenzene	ND	5.0	ug/L
1,4-Dichlorobenzene	ND	5.0	ug/L
2-Chloroethylvinyl ether	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
Bromomethane	ND	5.0	ug/L
Carbon Tetrachloride	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Chloroethane	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
Chloromethane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Methylene chloride	ND	5.0	ug/L
Tetrachloroethene (PCE)	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
trans-1,2-Dichloroethene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene (TCE)	ND	5.0	ug/L
Trichlorofluoromethane	ND	5.0	ug/L

Continued

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EPA METHOD 624
HSL VOLATILE COMPOUNDS

Client: **NEW MEXICO-OIL CONSERVATION DIVISION**
Sample ID: RA-307
Project ID: Navajo Refinery
Lab ID: B955139
Matrix: Water

Date Reported: 07/18/95
Date Sampled: 06/28/95
Date Received: 07/06/95
Date Extracted: NA
Date Analyzed: 07/10/95

Parameter	Result	PQL	Units
Continued			
Vinyl Chloride	ND	5.0	ug/L

QUALITY CONTROL - Surrogate Recovery	%	QC Limits
1,2-Dichloroethane-d4	96	76 - 114
Bromofluorobenzene	110	86 - 115
Toluene-d8	100	88 - 110

ND - Not Detected at Practical Quantitation Level (PQL).

Reference: Method 624 - Purgeables, Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, Appendix A, Federal Register 40 CFR 136, Environmental Protection Agency, October 26, 1984.

Analyst _____ Reviewed _____

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EPA METHOD 624
HSL VOLATILE COMPOUNDS

Client: NEW MEXICO-OIL CONSERVATION DIVISION
Sample ID: RA-1331
Project ID: Navajo Refinery
Lab ID: B955140
Matrix: Water

Date Reported: 07/18/95
Date Sampled: 06/28/95
Date Received: 07/06/95
Date Extracted: NA
Date Analyzed: 07/10/95

Parameter	Result	PQL	Units
1,1,1-Trichloroethane	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,2-Dichlorobenzene	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
1,3-Dichlorobenzene	ND	5.0	ug/L
1,4-Dichlorobenzene	ND	5.0	ug/L
2-Chloroethylvinyl ether	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
Bromomethane	ND	5.0	ug/L
Carbon Tetrachloride	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Chloroethane	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
Chloromethane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Methylene chloride	ND	5.0	ug/L
Tetrachloroethene (PCE)	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
trans-1,2-Dichloroethene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene (TCE)	ND	5.0	ug/L
Trichlorofluoromethane	ND	5.0	ug/L

Continued

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EPA METHOD 624
HSL VOLATILE COMPOUNDS

Client: **NEW MEXICO-OIL CONSERVATION DIVISION**
Sample ID: RA-1331
Project ID: Navajo Refinery
Lab ID: B955140
Matrix: Water

Date Reported: 07/18/95
Date Sampled: 06/28/95
Date Received: 07/06/95
Date Extracted: NA
Date Analyzed: 07/10/95

Parameter	Result	PQL	Units
Continued			
Vinyl Chloride	ND	5.0	ug/L

QUALITY CONTROL - Surrogate Recovery	%	QC Limits
1,2-Dichloroethane-d4	99	76 - 114
Bromofluorobenzene	101	86 - 115
Toluene-d8	97	88 - 110

ND - Not Detected at Practical Quantitation Level (PQL).

Reference: Method 624 - Purgeables, Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, Appendix A, Federal Register 40 CFR 136, Environmental Protection Agency, October 26, 1984.

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EPA METHOD 624
HSL VOLATILE COMPOUNDS

Client: NEW MEXICO-OIL CONSERVATION DIVISION
Sample ID: RA-4196
Project ID: Navajo Refinery
Lab ID: B955141
Matrix: Water

Date Reported: 07/18/95
Date Sampled: 06/28/95
Date Received: 07/06/95
Date Extracted: NA
Date Analyzed: 07/10/95

Parameter	Result	PQL	Units
1,1,1-Trichloroethane	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,2-Dichlorobenzene	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
1,3-Dichlorobenzene	ND	5.0	ug/L
1,4-Dichlorobenzene	ND	5.0	ug/L
2-Chloroethylvinyl ether	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
Bromomethane	ND	5.0	ug/L
Carbon Tetrachloride	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Chloroethane	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
Chloromethane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Methylene chloride	ND	5.0	ug/L
Tetrachloroethene (PCE)	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
trans-1,2-Dichloroethene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene (TCE)	ND	5.0	ug/L
Trichlorofluoromethane	ND	5.0	ug/L

Continued

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EPA METHOD 624
HSL VOLATILE COMPOUNDS

Client: **NEW MEXICO-OIL CONSERVATION DIVISION**
Sample ID: RA-4196
Project ID: Navajo Refinery
Lab ID: B955141
Matrix: Water

Date Reported: 07/18/95
Date Sampled: 06/28/95
Date Received: 07/06/95
Date Extracted: NA
Date Analyzed: 07/10/95

Parameter	Result	PQL	Units
Continued			
Vinyl Chloride	ND	5.0	ug/L

QUALITY CONTROL - Surrogate Recovery	%	QC Limits
1,2-Dichloroethane-d4	97	76 - 114
Bromofluorobenzene	108	86 - 115
Toluene-d8	100	88 - 110

ND - Not Detected at Practical Quantitation Level (PQL).

Reference: Method 624 - Purgeables, Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, Appendix A, Federal Register 40 CFR 136, Environmental Protection Agency, October 26, 1984.

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EPA METHOD 624
HSL VOLATILE COMPOUNDS

Client: **NEW MEXICO-OIL CONSERVATION DIVISION**
Sample ID: RA-4798
Project ID: Navajo Refinery
Lab ID: B955142
Matrix: Water

Date Reported: 07/18/95
Date Sampled: 06/28/95
Date Received: 07/06/95
Date Extracted: NA
Date Analyzed: 07/10/95

Parameter	Result	PQL	Units
1,1,1-Trichloroethane	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,2-Dichlorobenzene	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
1,3-Dichlorobenzene	ND	5.0	ug/L
1,4-Dichlorobenzene	ND	5.0	ug/L
2-Chloroethylvinyl ether	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
Bromomethane	ND	5.0	ug/L
Carbon Tetrachloride	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Chloroethane	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
Chloromethane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Methylene chloride	ND	5.0	ug/L
Tetrachloroethene (PCE)	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
trans-1,2-Dichloroethene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene (TCE)	ND	5.0	ug/L
Trichlorofluoromethane	ND	5.0	ug/L

Continued

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EPA METHOD 624
HSL VOLATILE COMPOUNDS

Client: **NEW MEXICO-OIL CONSERVATION DIVISION**
Sample ID: RA-4798
Project ID: Navajo Refinery
Lab ID: B955142
Matrix: Water

Date Reported: 07/18/95
Date Sampled: 06/28/95
Date Received: 07/06/95
Date Extracted: NA
Date Analyzed: 07/10/95

Parameter	Result	PQL	Units
Continued			
Vinyl Chloride	ND	5.0	ug/L

QUALITY CONTROL - Surrogate Recovery	%	QC Limits
1,2-Dichloroethane-d4	99	76 - 114
Bromofluorobenzene	106	86 - 115
Toluene-d8	99	88 - 110

ND - Not Detected at Practical Quantitation Level (PQL).

Reference: Method 624 - Purgeables, Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, Appendix A, Federal Register 40 CFR 136, Environmental Protection Agency, October 26, 1984.

Analyst _____ Reviewed _____

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EPA METHOD 624
HSL VOLATILE COMPOUNDS

Client: NEW MEXICO-OIL CONSERVATION DIVISION
Sample ID: RA-1227
Project ID: Navajo Refinery
Lab ID: B955143
Matrix: Water

Date Reported: 07/18/95
Date Sampled: 06/28/95
Date Received: 07/06/95
Date Extracted: NA
Date Analyzed: 07/10/95

Parameter	Result	PQL	Units
1,1,1-Trichloroethane	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,2-Dichlorobenzene	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
1,3-Dichlorobenzene	ND	5.0	ug/L
1,4-Dichlorobenzene	ND	5.0	ug/L
2-Chloroethylvinyl ether	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
Bromomethane	ND	5.0	ug/L
Carbon Tetrachloride	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Chloroethane	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
Chloromethane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Methylene chloride	ND	5.0	ug/L
Tetrachloroethene (PCE)	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
trans-1,2-Dichloroethene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene (TCE)	ND	5.0	ug/L
Trichlorofluoromethane	ND	5.0	ug/L

Continued

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EPA METHOD 624
HSL VOLATILE COMPOUNDS

Client: **NEW MEXICO-OIL CONSERVATION DIVISION**
Sample ID: RA-1227
Project ID: Navajo Refinery
Lab ID: B955143
Matrix: Water

Date Reported: 07/18/95
Date Sampled: 06/28/95
Date Received: 07/06/95
Date Extracted: NA
Date Analyzed: 07/10/95

Parameter	Result	PQL	Units
Continued			
Vinyl Chloride	ND	5.0	ug/L

QUALITY CONTROL - Surrogate Recovery	%	QC Limits
1,2-Dichloroethane-d4	100	76 - 114
Bromofluorobenzene	104	86 - 115
Toluene-d8	101	88 - 110

ND - Not Detected at Practical Quantitation Level (PQL).

Reference: Method 624 - Purgeables, Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, Appendix A, Federal Register 40 CFR 136, Environmental Protection Agency, October 26, 1984.

Analyst _____ Reviewed _____

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EPA METHOD 624
HSL VOLATILE COMPOUNDS

Client: **NEW MEXICO-OIL CONSERVATION DIVISION**
Sample ID: RA-313
Project ID: Navajo Refinery
Lab ID: B955144
Matrix: Water

Date Reported: 07/18/95
Date Sampled: 06/28/95
Date Received: 07/06/95
Date Extracted: NA
Date Analyzed: 07/10/95

Parameter	Result	PQL	Units
1,1,1-Trichloroethane	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,2-Dichlorobenzene	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
1,3-Dichlorobenzene	ND	5.0	ug/L
1,4-Dichlorobenzene	ND	5.0	ug/L
2-Chloroethylvinyl ether	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
Bromomethane	ND	5.0	ug/L
Carbon Tetrachloride	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Chloroethane	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
Chloromethane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Methylene chloride	ND	5.0	ug/L
Tetrachloroethene (PCE)	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
trans-1,2-Dichloroethene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene (TCE)	ND	5.0	ug/L
Trichlorofluoromethane	ND	5.0	ug/L

Continued

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EPA METHOD 624
HSL VOLATILE COMPOUNDS

Client: **NEW MEXICO-OIL CONSERVATION DIVISION**
Sample ID: RA-313
Project ID: Navajo Refinery
Lab ID: B955144
Matrix: Water

Date Reported: 07/18/95
Date Sampled: 06/28/95
Date Received: 07/06/95
Date Extracted: NA
Date Analyzed: 07/10/95

Parameter	Result	PQL	Units
Continued			
Vinyl Chloride	ND	5.0	ug/L

QUALITY CONTROL - Surrogate Recovery	%	QC Limits
1,2-Dichloroethane-d4	99	76 - 114
Bromofluorobenzene	104	86 - 115
Toluene-d8	99	88 - 110

ND - Not Detected at Practical Quantitation Level (PQL).

Reference: Method 624 - Purgeables, Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, Appendix A, Federal Register 40 CFR 136, Environmental Protection Agency, October 26, 1984.

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EPA METHOD 624
HSL VOLATILE COMPOUNDS

Client: **NEW MEXICO-OIL CONSERVATION DIVISION**
Sample ID: RA-2723
Project ID: Navajo Refinery
Lab ID: B955145
Matrix: Water

Date Reported: 07/18/95
Date Sampled: 06/28/95
Date Received: 07/06/95
Date Extracted: NA
Date Analyzed: 07/10/95

Parameter	Result	PQL	Units
1,1,1-Trichloroethane	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,2-Dichlorobenzene	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
1,3-Dichlorobenzene	ND	5.0	ug/L
1,4-Dichlorobenzene	ND	5.0	ug/L
2-Chloroethylvinyl ether	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
Bromomethane	ND	5.0	ug/L
Carbon Tetrachloride	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Chloroethane	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
Chloromethane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Methylene chloride	ND	5.0	ug/L
Tetrachloroethene (PCE)	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
trans-1,2-Dichloroethene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene (TCE)	ND	5.0	ug/L
Trichlorofluoromethane	ND	5.0	ug/L

Continued

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EPA METHOD 624
HSL VOLATILE COMPOUNDS

Client: **NEW MEXICO-OIL CONSERVATION DIVISION**
Sample ID: RA-2723
Project ID: Navajo Refinery
Lab ID: B955145
Matrix: Water

Date Reported: 07/18/95
Date Sampled: 06/28/95
Date Received: 07/06/95
Date Extracted: NA
Date Analyzed: 07/10/95

Parameter	Result	PQL	Units
Continued			
Vinyl Chloride	ND	5.0	ug/L

QUALITY CONTROL - Surrogate Recovery	%	QC Limits
1,2-Dichloroethane-d4	100	76 - 114
Bromofluorobenzene	101	86 - 115
Toluene-d8	100	88 - 110

ND - Not Detected at Practical Quantitation Level (PQL).

Reference: Method 624 - Purgeables, Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, Appendix A, Federal Register 40 CFR 136, Environmental Protection Agency, October 26, 1984.

Analyst _____ **Reviewed** _____

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EPA METHOD 624
HSL VOLATILE COMPOUNDS

Client: NEW MEXICO-OIL CONSERVATION DIVISION
Sample ID: RA-3353
Project ID: Navajo Refinery
Lab ID: B955146
Matrix: Water

Date Reported: 07/18/95
Date Sampled: 06/28/95
Date Received: 07/06/95
Date Extracted: NA
Date Analyzed: 07/10/95

Parameter	Result	PQL	Units
1,1,1-Trichloroethane	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,2-Dichlorobenzene	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
1,3-Dichlorobenzene	ND	5.0	ug/L
1,4-Dichlorobenzene	ND	5.0	ug/L
2-Chloroethylvinyl ether	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
Bromomethane	ND	5.0	ug/L
Carbon Tetrachloride	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Chloroethane	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
Chloromethane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Methylene chloride	ND	5.0	ug/L
Tetrachloroethene (PCE)	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
trans-1,2-Dichloroethene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene (TCE)	ND	5.0	ug/L
Trichlorofluoromethane	ND	5.0	ug/L

Continued

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EPA METHOD 624
HSL VOLATILE COMPOUNDS

Client: **NEW MEXICO-OIL CONSERVATION DIVISION**
Sample ID: RA-3353
Project ID: Navajo Refinery
Lab ID: B955146
Matrix: Water

Date Reported: 07/18/95
Date Sampled: 06/28/95
Date Received: 07/06/95
Date Extracted: NA
Date Analyzed: 07/10/95

Parameter	Result	PQL	Units
Continued			
Vinyl Chloride	ND	5.0	ug/L

QUALITY CONTROL - Surrogate Recovery	%	QC Limits
1,2-Dichloroethane-d4	103	76 - 114
Bromofluorobenzene	100	86 - 115
Toluene-d8	95	88 - 110

ND - Not Detected at Practical Quantitation Level (PQL).

Reference: Method 624 - Purgeables, Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, Appendix A, Federal Register 40 CFR 136, Environmental Protection Agency, October 26, 1984.

Analyst _____ Reviewed _____

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1160 Research Drive
Bozeman, Montana 59715

EPA METHOD 624
HSL VOLATILE COMPOUNDS

Client: NEW MEXICO-OIL CONSERVATION DIVISION
Sample ID: RA-3156
Project ID: Navajo Refinery
Lab ID: B955147
Matrix: Water

Date Reported: 07/18/95
Date Sampled: 06/28/95
Date Received: 07/06/95
Date Extracted: NA
Date Analyzed: 07/10/95

Parameter	Result	PQL	Units
1,1,1-Trichloroethane	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,2-Dichlorobenzene	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
1,3-Dichlorobenzene	ND	5.0	ug/L
1,4-Dichlorobenzene	ND	5.0	ug/L
2-Chloroethylvinyl ether	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
Bromomethane	ND	5.0	ug/L
Carbon Tetrachloride	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Chloroethane	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
Chloromethane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Methylene chloride	ND	5.0	ug/L
Tetrachloroethene (PCE)	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
trans-1,2-Dichloroethene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene (TCE)	ND	5.0	ug/L
Trichlorofluoromethane	ND	5.0	ug/L

Continued

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EPA METHOD 624
HSL VOLATILE COMPOUNDS

Client: **NEW MEXICO-OIL CONSERVATION DIVISION**
Sample ID: RA-3156
Project ID: Navajo Refinery
Lab ID: B955147
Matrix: Water

Date Reported: 07/18/95
Date Sampled: 06/28/95
Date Received: 07/06/95
Date Extracted: NA
Date Analyzed: 07/10/95

Parameter	Result	PQL	Units
Continued			
Vinyl Chloride	ND	5.0	ug/L

QUALITY CONTROL - Surrogate Recovery	%	QC Limits
1,2-Dichloroethane-d4	106	76 - 114
Bromofluorobenzene	103	86 - 115
Toluene-d8	100	88 - 110

ND - Not Detected at Practical Quantitation Level (PQL).

Reference: Method 624 - Purgeables, Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, Appendix A, Federal Register 40 CFR 136, Environmental Protection Agency, October 26, 1984.

Analyst _____ Reviewed _____

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EPA METHOD 624
HSL VOLATILE COMPOUNDS

Client: **NEW MEXICO-OIL CONSERVATION DIVISION**
Sample ID: KWB-9
Project ID: Navajo Refinery
Lab ID: B955148
Matrix: Water

Date Reported: 07/18/95
Date Sampled: 06/28/95
Date Received: 07/06/95
Date Extracted: NA
Date Analyzed: 07/10/95

Parameter	Result	PQL	Units
Chloromethane	ND	5.0	ug/L
Bromomethane	ND	5.0	ug/L
Vinyl Chloride	ND	5.0	ug/L
Chloroethane	ND	5.0	ug/L
Methylene chloride	ND	5.0	ug/L
Trichlorofluoromethane	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
trans-1,2-Dichloroethene	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	7.2	5.0	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon Tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene (TCE)	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
2-Chloroethylvinyl ether	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Tetrachloroethene (PCE)	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
1,3-Dichlorobenzene	ND	5.0	ug/L
1,2-Dichlorobenzene	ND	5.0	ug/L

Continued

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EPA METHOD 624
HSL VOLATILE COMPOUNDS

Client: **NEW MEXICO-OIL CONSERVATION DIVISION**
Sample ID: KWB-9
Project ID: Navajo Refinery
Lab ID: B955148
Matrix: Water

Date Reported: 07/18/95
Date Sampled: 06/28/95
Date Received: 07/06/95
Date Extracted: NA
Date Analyzed: 07/10/95

Parameter	Result	PQL	Units
Continued			
1,4-Dichlorobenzene	ND	5.0	ug/L

QUALITY CONTROL - Surrogate Recovery	%	QC Limits
1,2-Dichloroethane-d4	100	76 - 114
Toluene-d8	99	88 - 110
Bromofluorobenzene	100	86 - 115

ND - Not Detected at Practical Quantitation Level (PQL).

Reference: Method 624 - Purgeables, Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, Appendix A, Federal Register 40 CFR 136, Environmental Protection Agency, October 26, 1984.

Analyst _____ Reviewed _____

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EPA METHOD 624
HSL VOLATILE COMPOUNDS

Client: NEW MEXICO-OIL CONSERVATION DIVISION
Sample ID: KWB-7
Project ID: Navajo Refinery
Lab ID: B955149
Matrix: Water

Date Reported: 07/18/95
Date Sampled: 06/28/95
Date Received: 07/06/95
Date Extracted: NA
Date Analyzed: 07/11/95

Parameter	Result	PQL	Units
1,1,1-Trichloroethane	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,2-Dichlorobenzene	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
1,3-Dichlorobenzene	ND	5.0	ug/L
1,4-Dichlorobenzene	ND	5.0	ug/L
2-Chloroethylvinyl ether	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
Bromomethane	ND	5.0	ug/L
Carbon Tetrachloride	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Chloroethane	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
Chloromethane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Methylene chloride	ND	5.0	ug/L
Tetrachloroethene (PCE)	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
trans-1,2-Dichloroethene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene (TCE)	ND	5.0	ug/L
Trichlorofluoromethane	ND	5.0	ug/L

Continued

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EPA METHOD 624
HSL VOLATILE COMPOUNDS

Client: **NEW MEXICO-OIL CONSERVATION DIVISION**
Sample ID: KWB-7
Project ID: Navajo Refinery
Lab ID: B955149
Matrix: Water

Date Reported: 07/18/95
Date Sampled: 06/28/95
Date Received: 07/06/95
Date Extracted: NA
Date Analyzed: 07/11/95

Parameter	Result	PQL	Units
Continued			
Vinyl Chloride	ND	5.0	ug/L

QUALITY CONTROL - Surrogate Recovery	%	QC Limits
1,2-Dichloroethane-d4	94	76 - 114
Bromofluorobenzene	114	86 - 115
Toluene-d8	101	88 - 110

ND - Not Detected at Practical Quantitation Level (PQL).

Reference: Method 624 - Purgeables, Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, Appendix A, Federal Register 40 CFR 136, Environmental Protection Agency, October 26, 1984.

Analyst _____ **Reviewed** _____

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EPA METHOD 624
HSL VOLATILE COMPOUNDS

Client: **NEW MEXICO-OIL CONSERVATION DIVISION**
Sample ID: KWB-3A
Project ID: Navajo Refinery
Lab ID: B955150
Matrix: Water

Date Reported: 07/18/95
Date Sampled: 06/28/95
Date Received: 07/06/95
Date Extracted: NA
Date Analyzed: 07/11/95

Parameter	Result	PQL	Units
1,1,1-Trichloroethane	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,2-Dichlorobenzene	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
1,3-Dichlorobenzene	ND	5.0	ug/L
1,4-Dichlorobenzene	ND	5.0	ug/L
2-Chloroethylvinyl ether	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
Bromomethane	ND	5.0	ug/L
Carbon Tetrachloride	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Chloroethane	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
Chloromethane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Methylene chloride	ND	5.0	ug/L
Tetrachloroethene (PCE)	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
trans-1,2-Dichloroethene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene (TCE)	ND	5.0	ug/L
Trichlorofluoromethane	ND	5.0	ug/L

Continued

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EPA METHOD 624
HSL VOLATILE COMPOUNDS

Client: **NEW MEXICO-OIL CONSERVATION DIVISION**
Sample ID: KWB-3A
Project ID: Navajo Refinery
Lab ID: B955150
Matrix: Water

Date Reported: 07/18/95
Date Sampled: 06/28/95
Date Received: 07/06/95
Date Extracted: NA
Date Analyzed: 07/11/95

Parameter	Result	PQL	Units
Continued			
Vinyl Chloride	ND	5.0	ug/L

QUALITY CONTROL - Surrogate Recovery	%	QC Limits
1,2-Dichloroethane-d4	100	76 - 114
Bromofluorobenzene	109	86 - 115
Toluene-d8	99	88 - 110

ND - Not Detected at Practical Quantitation Level (PQL).

Reference: Method 624 - Purgeables, Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, Appendix A, Federal Register 40 CFR 136, Environmental Protection Agency, October 26, 1984.

Analyst _____ **Reviewed** _____

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EPA METHOD 624
HSL VOLATILE COMPOUNDS

Client: **NEW MEXICO-OIL CONSERVATION DIVISION**
Sample ID: KWB-2A
Project ID: Navajo Refinery
Lab ID: B955151
Matrix: Water

Date Reported: 07/18/95
Date Sampled: 06/28/95
Date Received: 07/06/95
Date Extracted: NA
Date Analyzed: 07/11/95

Parameter	Result	PQL	Units
1,1,1-Trichloroethane	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,2-Dichlorobenzene	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
1,3-Dichlorobenzene	ND	5.0	ug/L
1,4-Dichlorobenzene	ND	5.0	ug/L
2-Chloroethylvinyl ether	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
Bromomethane	ND	5.0	ug/L
Carbon Tetrachloride	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Chloroethane	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
Chloromethane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Methylene chloride	ND	5.0	ug/L
Tetrachloroethene (PCE)	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
trans-1,2-Dichloroethene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene (TCE)	ND	5.0	ug/L
Trichlorofluoromethane	ND	5.0	ug/L

Continued

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EPA METHOD 624
HSL VOLATILE COMPOUNDS

Client: **NEW MEXICO-OIL CONSERVATION DIVISION**
Sample ID: KWB-2A
Project ID: Navajo Refinery
Lab ID: B955151
Matrix: Water

Date Reported: 07/18/95
Date Sampled: 06/28/95
Date Received: 07/06/95
Date Extracted: NA
Date Analyzed: 07/11/95

Parameter	Result	PQL	Units
Continued			
Vinyl Chloride	ND	5.0	ug/L

QUALITY CONTROL - Surrogate Recovery	%	QC Limits
1,2-Dichloroethane-d4	96	76 - 114
Bromofluorobenzene	109	86 - 115
Toluene-d8	100	88 - 110

ND - Not Detected at Practical Quantitation Level (PQL).

Reference: Method 624 - Purgeables, Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, Appendix A, Federal Register 40 CFR 136, Environmental Protection Agency, October 26, 1984.

Analyst _____ **Reviewed** _____

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EPA METHOD 624
HSL VOLATILE COMPOUNDS

Client: **NEW MEXICO-OIL CONSERVATION DIVISION**
Sample ID: KWB-12A
Project ID: Navajo Refinery
Lab ID: B955152
Matrix: Water

Date Reported: 07/18/95
Date Sampled: 06/29/95
Date Received: 07/06/95
Date Extracted: NA
Date Analyzed: 07/11/95

Parameter	Result	PQL	Units
1,1,1-Trichloroethane	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,2-Dichlorobenzene	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
1,3-Dichlorobenzene	ND	5.0	ug/L
1,4-Dichlorobenzene	ND	5.0	ug/L
2-Chloroethylvinyl ether	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
Bromomethane	ND	5.0	ug/L
Carbon Tetrachloride	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Chloroethane	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
Chloromethane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Methylene chloride	ND	5.0	ug/L
Tetrachloroethene (PCE)	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
trans-1,2-Dichloroethene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene (TCE)	ND	5.0	ug/L
Trichlorofluoromethane	ND	5.0	ug/L

Continued

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EPA METHOD 624
HSL VOLATILE COMPOUNDS

Client: **NEW MEXICO-OIL CONSERVATION DIVISION**
Sample ID: KWB-12A
Project ID: Navajo Refinery
Lab ID: B955152
Matrix: Water

Date Reported: 07/18/95
Date Sampled: 06/29/95
Date Received: 07/06/95
Date Extracted: NA
Date Analyzed: 07/11/95

Parameter	Result	PQL	Units
Continued			
Vinyl Chloride	ND	5.0	ug/L

QUALITY CONTROL - Surrogate Recovery	%	QC Limits
1,2-Dichloroethane-d4	95	76 - 114
Bromofluorobenzene	109	86 - 115
Toluene-d8	100	88 - 110

ND - Not Detected at Practical Quantitation Level (PQL).

Reference: Method 624 - Purgeables, Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, Appendix A, Federal Register 40 CFR 136, Environmental Protection Agency, October 26, 1984.

Analyst _____ **Reviewed** _____

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EPA METHOD 624
HSL VOLATILE COMPOUNDS

Client: **NEW MEXICO-OIL CONSERVATION DIVISION**
Sample ID: KWB-11A
Project ID: Navajo Refinery
Lab ID: B955153
Matrix: Water

Date Reported: 07/18/95
Date Sampled: 06/29/95
Date Received: 07/06/95
Date Extracted: NA
Date Analyzed: 07/11/95

Parameter	Result	PQL	Units
1,1,1-Trichloroethane	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,2-Dichlorobenzene	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
1,3-Dichlorobenzene	ND	5.0	ug/L
1,4-Dichlorobenzene	ND	5.0	ug/L
2-Chloroethylvinyl ether	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
Bromomethane	ND	5.0	ug/L
Carbon Tetrachloride	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Chloroethane	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
Chloromethane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Methylene chloride	ND	5.0	ug/L
Tetrachloroethene (PCE)	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
trans-1,2-Dichloroethene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene (TCE)	ND	5.0	ug/L
Trichlorofluoromethane	ND	5.0	ug/L

Continued

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EPA METHOD 624
HSL VOLATILE COMPOUNDS

Client: **NEW MEXICO-OIL CONSERVATION DIVISION**
Sample ID: KWB-11A
Project ID: Navajo Refinery
Lab ID: B955153
Matrix: Water

Date Reported: 07/18/95
Date Sampled: 06/29/95
Date Received: 07/06/95
Date Extracted: NA
Date Analyzed: 07/11/95

Parameter	Result	PQL	Units
Continued			
Vinyl Chloride	ND	5.0	ug/L

QUALITY CONTROL - Surrogate Recovery	%	QC Limits
1,2-Dichloroethane-d4	98	76 - 114
Bromofluorobenzene	110	86 - 115
Toluene-d8	100	88 - 110

ND - Not Detected at Practical Quantitation Level (PQL).

Reference: Method 624 - Purgeables, Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, Appendix A, Federal Register 40 CFR 136, Environmental Protection Agency, October 26, 1984.

Analyst _____ Reviewed _____

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EPA METHOD 624
HSL VOLATILE COMPOUNDS

Client: NEW MEXICO-OIL CONSERVATION DIVISION
Sample ID: KWB-1C
Project ID: Navajo Refinery
Lab ID: B955154
Matrix: Water

Date Reported: 07/18/95
Date Sampled: 06/29/95
Date Received: 07/06/95
Date Extracted: NA
Date Analyzed: 07/11/95

Parameter	Result	PQL	Units
1,1,1-Trichloroethane	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,2-Dichlorobenzene	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
1,3-Dichlorobenzene	ND	5.0	ug/L
1,4-Dichlorobenzene	ND	5.0	ug/L
2-Chloroethylvinyl ether	ND	5.0	ug/L
Benzene	1900	250	ug/L
Bromodichloromethane	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
Bromomethane	ND	5.0	ug/L
Carbon Tetrachloride	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Chloroethane	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
Chloromethane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Methylene chloride	ND	5.0	ug/L
Tetrachloroethene (PCE)	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
trans-1,2-Dichloroethene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene (TCE)	ND	5.0	ug/L
Trichlorofluoromethane	ND	5.0	ug/L

Continued

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EPA METHOD 624
HSL VOLATILE COMPOUNDS

Client: **NEW MEXICO-OIL CONSERVATION DIVISION**
Sample ID: KWB-1C
Project ID: Navajo Refinery
Lab ID: B955154
Matrix: Water

Date Reported: 07/18/95
Date Sampled: 06/29/95
Date Received: 07/06/95
Date Extracted: NA
Date Analyzed: 07/11/95

Parameter	Result	PQL	Units
Continued			
Vinyl Chloride	ND	5.0	ug/L

QUALITY CONTROL - Surrogate Recovery	%	QC Limits
1,2-Dichloroethane-d4	103	76 - 114
Bromofluorobenzene	108	86 - 115
Toluene-d8	98	88 - 110

ND - Not Detected at Practical Quantitation Level (PQL).

Reference: Method 624 - Purgeables, Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, Appendix A, Federal Register 40 CFR 136, Environmental Protection Agency, October 26, 1984.

Analyst _____ **Reviewed** _____

Inter·Mountain Laboratories, Inc.

1160 Research Drive
Bozeman, Montana 59715

EPA METHOD 624
HSL VOLATILE COMPOUNDS

Client: **NEW MEXICO-OIL CONSERVATION DIVISION**
Sample ID: MW-18
Project ID: Navajo Refinery
Lab ID: B955155
Matrix: Water

Date Reported: 07/18/95
Date Sampled: 06/29/95
Date Received: 07/06/95
Date Extracted: NA
Date Analyzed: 07/11/95

Parameter	Result	PQL	Units
1,1,1-Trichloroethane	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,2-Dichlorobenzene	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
1,3-Dichlorobenzene	ND	5.0	ug/L
1,4-Dichlorobenzene	ND	5.0	ug/L
2-Chloroethylvinyl ether	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
Bromomethane	ND	5.0	ug/L
Carbon Tetrachloride	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Chloroethane	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
Chloromethane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Methylene chloride	ND	5.0	ug/L
Tetrachloroethene (PCE)	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
trans-1,2-Dichloroethene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene (TCE)	ND	5.0	ug/L
Trichlorofluoromethane	ND	5.0	ug/L

Continued

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EPA METHOD 624
HSL VOLATILE COMPOUNDS

Client: **NEW MEXICO-OIL CONSERVATION DIVISION**
Sample ID: MW-18
Project ID: Navajo Refinery
Lab ID: B955155
Matrix: Water

Date Reported: 07/18/95
Date Sampled: 06/29/95
Date Received: 07/06/95
Date Extracted: NA
Date Analyzed: 07/11/95

Parameter	Result	PQL	Units
Continued			
Vinyl Chloride	ND	5.0	ug/L

QUALITY CONTROL - Surrogate Recovery	%	QC Limits
1,2-Dichloroethane-d4	99	76 - 114
Bromofluorobenzene	109	86 - 115
Toluene-d8	99	88 - 110

ND - Not Detected at Practical Quantitation Level (PQL).

Reference: Method 624 - Purgeables, Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, Appendix A, Federal Register 40 CFR 136, Environmental Protection Agency, October 26, 1984.

Analyst _____ **Reviewed** _____

Inter·Mountain Laboratories, Inc.

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EPA METHOD 624
HSL VOLATILE COMPOUNDS

Client: NEW MEXICO-OIL CONSERVATION DIVISION
Sample ID: MW-45
Project ID: Navajo Refinery
Lab ID: B955156
Matrix: Water

Date Reported: 07/18/95
Date Sampled: 06/29/95
Date Received: 07/06/95
Date Extracted: NA
Date Analyzed: 07/11/95

Parameter	Result	PQL	Units
1,1,1-Trichloroethane	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,2-Dichlorobenzene	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
1,3-Dichlorobenzene	ND	5.0	ug/L
1,4-Dichlorobenzene	ND	5.0	ug/L
2-Chloroethylvinyl ether	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
Bromomethane	ND	5.0	ug/L
Carbon Tetrachloride	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Chloroethane	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
Chloromethane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Methylene chloride	ND	5.0	ug/L
Tetrachloroethene (PCE)	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
trans-1,2-Dichloroethene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene (TCE)	ND	5.0	ug/L
Trichlorofluoromethane	ND	5.0	ug/L

Continued

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EPA METHOD 624
HSL VOLATILE COMPOUNDS

Client: **NEW MEXICO-OIL CONSERVATION DIVISION**
Sample ID: MW-45
Project ID: Navajo Refinery
Lab ID: B955156
Matrix: Water

Date Reported: 07/18/95
Date Sampled: 06/29/95
Date Received: 07/06/95
Date Extracted: NA
Date Analyzed: 07/11/95

Parameter	Result	PQL	Units
Continued			
Vinyl Chloride	ND	5.0	ug/L

QUALITY CONTROL - Surrogate Recovery	%		QC Limits
1,2-Dichloroethane-d4	102		76 - 114
Bromofluorobenzene	167	#	86 - 115
Toluene-d8	100		88 - 110

ND - Not Detected at Practical Quantitation Level (PQL).
- Surrogate Recovery not within control limits.

Reference: Method 624 - Purgeables, Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, Appendix A, Federal Register 40 CFR 136, Environmental Protection Agency, October 26, 1984.

Analyst _____ **Reviewed** _____

Inter-Mountain Laboratories, Inc.

1160 Research Drive
Bozeman, Montana 59715

EPA METHOD 624
HSL VOLATILE COMPOUNDS

Client: NEW MEXICO-OIL CONSERVATION DIVISION
Sample ID: KWB-1A
Project ID: Navajo Refinery
Lab ID: B955157
Matrix: Water

Date Reported: 07/18/95
Date Sampled: 06/29/95
Date Received: 07/06/95
Date Extracted: NA
Date Analyzed: 07/11/95

Parameter	Result	PQL	Units
Chloromethane	ND	5.0	ug/L
Bromomethane	ND	5.0	ug/L
Vinyl Chloride	ND	5.0	ug/L
Chloroethane	ND	5.0	ug/L
Methylene chloride	ND	5.0	ug/L
Trichlorofluoromethane	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
trans-1,2-Dichloroethene	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon Tetrachloride	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene (TCE)	ND	5.0	ug/L
Benzene	2500	250	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
2-Chloroethylvinyl ether	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Tetrachloroethene (PCE)	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
1,3-Dichlorobenzene	ND	5.0	ug/L
1,2-Dichlorobenzene	ND	5.0	ug/L

Continued

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EPA METHOD 624
HSL VOLATILE COMPOUNDS

Client: **NEW MEXICO-OIL CONSERVATION DIVISION**
Sample ID: KWB-1A
Project ID: Navajo Refinery
Lab ID: B955157
Matrix: Water

Date Reported: 07/18/95
Date Sampled: 06/29/95
Date Received: 07/06/95
Date Extracted: NA
Date Analyzed: 07/11/95

Parameter	Result	PQL	Units
Continued			
1,4-Dichlorobenzene	ND	5.0	ug/L

QUALITY CONTROL - Surrogate Recovery	%	QC Limits
1,2-Dichloroethane-d4	100	76 - 114
Toluene-d8	100	88 - 110
Bromofluorobenzene	108	86 - 115

ND - Not Detected at Practical Quantitation Level (PQL).

Reference: Method 624 - Purgeables, Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, Appendix A, Federal Register 40 CFR 136, Environmental Protection Agency, October 26, 1984.

Analyst _____ **Reviewed** _____

Inter·Mountain Laboratories, Inc.

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Bozeman, Montana 59715

QUALITY ASSURANCE / QUALITY CONTROL

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Quality Control / Quality Assurance

Trace Metals / Known Analysis
TOTAL METALS

Client: **NM-OCD**
Project: Navajo Refinery
Laboratory ID: W00988-W00990
Sample Matrix: Water
Condition: Cool / Intact

Date Reported: 07/30/95
Date Sampled: 06/29/95
Date Received: 07/03/95

Parameter	Found Result (mg/L)	Known Result (mg/L)	Percent Recovery	Date Analyzed
Aluminum	1.03	1.00	**103%**	07/13/95
Antimony	0.020	0.020	**100%**	07/12/95
Arsenic	0.009	0.010	**90%**	07/12/95
Barium	0.98	1.00	**98%**	07/13/95
Beryllium	1.07	1.00	**107%**	07/13/95
Boron	1.02	1.00	**102%**	07/13/95
Cadmium	0.004	0.004	**100%**	07/06/95
Chromium	1.06	1.00	**106%**	07/13/95
Cobalt	1.03	1.00	**103%**	07/13/95
Copper	0.005	0.005	**100%**	07/11/95
Iron	1.06	1.00	**106%**	07/13/95
Lead	0.041	0.040	**103%**	07/07/95
Manganese	1.04	1.00	**104%**	07/13/95
Mercury	0.004	0.004	**100%**	07/17/95
Molybdenum	1.05	1.00	**105%**	07/13/95
Nickel	1.08	1.00	**108%**	07/13/95
Selenium	0.010	0.010	**100%**	07/06/95
Silica	1.10	1.00	**110%**	07/13/95
Silver	0.51	0.50	**102%**	07/13/95
Thallium	0.010	0.010	**100%**	07/12/95
Vanadium	1.03	1.00	**103%**	07/13/95
Zinc	1.04	1.00	**104%**	07/13/95

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

Comments: Quality control run concurrently with the above sample lab numbers.

Reported By: MKluta

Reviewed By: dt

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Quality Control / Quality Assurance

Trace Metals / Spike Analysis
TOTAL METALS

Client: **NM-OCD**
Project: Navajo Refinery
Laboratory ID: W00988-W00990
Sample Matrix: Water
Condition: Cool / Intact

Date Reported: 07/30/95
Date Sampled: 06/29/95
Date Received: 07/03/95

Parameter	Spiked Sample Result (mg/L)	Sample Result (mg/L)	Spike Added (mg/L)	Percent Recovery
Aluminum	1.50	1.13	0.50	**97%**
Antimony	0.025	0.001	0.025	**100%**
Arsenic	0.050	0.000	0.100	**100%**
Barium	0.54	0.10	0.50	**91%**
Beryllium	0.46	0.00	0.50	**93%**
Boron	1.09	0.63	0.50	**103%**
Cadmium	0.007	0.00	0.008	**93%**
Chromium	0.46	0.00	0.50	**92%**
Cobalt	0.44	0.00	0.50	**88%**
Copper	0.011	0.004	0.010	**91%**
Iron	1.18	0.80	0.50	**91%**
Lead	0.021	0.002	0.020	**98%**
Manganese	0.55	0.11	0.50	**90%**
Mercury	0.005	0.000	0.005	**93%**
Molybdenum	0.48	0.01	0.50	**94%**
Nickel	0.46	0.00	0.50	**92%**
Selenium	0.046	0.001	0.100	**91%**
Silica	24.89	21.89	5.00	**104%**
Silver	0.38	0.00	0.50	**76%**
Thallium	0.009	0.00	0.020	**91%**
Vanadium	0.48	0.02	0.50	**92%**
Zinc	0.50	0.07	0.50	**88%**

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

Reported By: MKluta

Reviewed By: dh

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Quality Control / Quality Assurance

Trace Metals / Blank Analysis
TOTAL METALS

Client: **NM-OCD**
Project: Navajo Refinery
Laboratory ID: W00988-W00990
Sample Matrix: Water
Condition: Cool / Intact

Date Reported: 07/30/95
Date Sampled: 06/29/95
Date Received: 07/03/95

Parameter	Result	Detection (mg/L)
Aluminum	ND	**0.10**
Antimony	ND	**0.01**
Arsenic	ND	**0.005**
Barium	ND	**0.50**
Beryllium	ND	**0.002**
Boron	ND	**0.01**
Cadmium	ND	**0.002**
Chromium	ND	**0.02**
Cobalt	ND	**0.05**
Copper	ND	**0.01**
Iron	ND	**0.05**
Lead	ND	**0.005**
Manganese	ND	**0.02**
Mercury	ND	**0.001**
Molybdenum	ND	**0.01**
Nickel	ND	**0.01**
Selenium	ND	**0.005**
Silica	ND	**1.00**
Silver	ND	**0.01**
Thallium	ND	**0.01**
Vanadium	ND	**0.01**
Zinc	ND	**0.075**

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

Reported By: _____ Reviewed By: _____

Inter·Mountain Laboratories, Inc.

1160 Research Drive
Bozeman, Montana 59715

LAB QA/QC
EPA METHOD 624
METHOD BLANK

Date Analyzed: **07/10/95**
Lab ID: MBW00191
Matrix: Water

Parameter	Result	PQL	Units
Dichlorodifluoromethane	ND	5.0	ug/L
Chloromethane	ND	5.0	ug/L
Bromomethane	ND	5.0	ug/L
Vinyl Chloride	ND	5.0	ug/L
Chloroethane	ND	5.0	ug/L
Trichlorofluoromethane	ND	5.0	ug/L
Methylene chloride	ND	5.0	ug/L
trans-1,2-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
2,2-Dichloropropane	ND	5.0	ug/L
cis-1,2-Dichloroethene	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
Bromochloromethane	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon Tetrachloride	ND	5.0	ug/L
1,1-Dichloropropene	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
Trichloroethene (TCE)	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
Dibromomethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Tetrachloroethene (PCE)	ND	5.0	ug/L
1,3-Dichloropropane	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,2-Dibromoethane (EDB)	ND	5.0	ug/L

Continued

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1160 Research Drive
Bozeman, Montana 59715

LAB QA/QC
EPA METHOD 624
METHOD BLANK

Date Analyzed: **07/10/95**
Lab ID: MBW00191
Matrix: Water

Parameter	Result	PQL	Units
Continued			
Chlorobenzene	ND	5.0	ug/L
1,1,1,2-Tetrachloroethane	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
m,p-Xylene	ND	5.0	ug/L
o-Xylene	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
Isopropylbenzene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Bromobenzene	ND	5.0	ug/L
1,2,3-Trichloropropane	ND	5.0	ug/L
n-Propylbenzene	ND	5.0	ug/L
2-Chlorotoluene	ND	5.0	ug/L
1,3,5-Trimethylbenzene	ND	5.0	ug/L
4-Chlorotoluene	ND	5.0	ug/L
tert-Butylbenzene	ND	5.0	ug/L
1,2,4-Trimethylbenzene	ND	5.0	ug/L
sec-Butylbenzene	ND	5.0	ug/L
4-Isopropyltoluene	ND	5.0	ug/L
1,3-Dichlorobenzene	ND	5.0	ug/L
1,4-Dichlorobenzene	ND	5.0	ug/L
n-Butylbenzene	ND	5.0	ug/L
1,2-Dichlorobenzene	ND	5.0	ug/L
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	ug/L
1,2,4-Trichlorobenzene	ND	5.0	ug/L
Hexachlorobutadiene	ND	5.0	ug/L
Naphthalene	ND	5.0	ug/L

Continued

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LAB QA/QC
EPA METHOD 624
METHOD BLANK

Date Analyzed: **07/10/95**
Lab ID: MBW00191
Matrix: Water

Parameter	Result	PQL	Units
Continued			
1,2,3-Trichlorobenzene	ND	5.0	ug/L

QUALITY CONTROL - Surrogate Recovery	%	QC Limits
1,2-Dichloroethane-d4	96	80 - 120
Toluene-d8	99	88 - 110
Bromofluorobenzene	106	86 - 115

ND - Not Detected at Practical Quantitation Level (PQL).

Reference: Method 624 - Purgeables, Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, Appendix A, Federal Register 40 CFR 136, Environmental Protection Agency, October 26, 1984.

Analyst _____ Reviewed _____

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Bozeman, Montana 59715

LAB QA/QC
EPA METHOD 624
MATRIX SPIKE / MATRIX SPIKE DUPLICATE SUMMARY

Date Analyzed: **07/10/95**
Lab ID: 0595H05148
Matrix: Water

Original Sample Parameters

Parameter	Spike Added (mg/L)	Sample Result (mg/L)	Spike Result (mg/L)	MS Recovery %	QC Limits Rec.
1,1-Dichloroethene	0.02	0	0.019	95	75 - 145
Benzene	0.02	0	0.021	105	71 - 120
Chlorobenzene	0.02	0	0.021	105	76 - 127
Toluene	0.02	0	0.02	100	71 - 127
Trichloroethene (TCE)	0.02	0	0.019	95	75 - 130

Duplicate Sample Parameters

Parameter	Spike Added (mg/L)	MSD Result (mg/L)	MSD Recovery %	RPD %	QC Limits RPD	QC Limits Rec.
1,1-Dichloroethene	0.02	0.02	100	5	14	75 - 145
Benzene	0.02	0.022	110	5	14	71 - 120
Chlorobenzene	0.02	0.022	110	5	11	76 - 127
Toluene	0.02	0.022	110	10	13	71 - 127
Trichloroethene (TCE)	0.02	0.021	105	10	13	75 - 130

Note: Spike Recoveries are calculated using zero for Sample result if Sample result was less than PQL (Practical Quantitation Level).

Spike Recovery: 0 out of 10 outside QC limits.
RPD: 0 out of 5 outside QC limits.

Analyst _____ Reviewed _____

Inter·Mountain Laboratories, Inc.

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Bozeman, Montana 59715

LAB QA/QC
EPA METHOD 624
LAB CONTROL SAMPLE

Date Analyzed: **07/10/95**
Lab ID: LCW95191
Matrix: Water

Parameter	Spike Added (mg/L)	Sample Result (mg/L)	LCS Result (mg/L)	LCS Recovery %	QC Limits Rec.
Vinyl Chloride	0.02	0	0.018	90	80 -120
Carbon Tetrachloride	0.02	0	0.019	95	80 -120
Benzene	0.02	0	0.019	95	80 -120
1,2-Dichloroethane	0.02	0	0.018	90	80 -120
Trichloroethene (TCE)	0.02	0	0.019	95	80 -120
1,2-Dichloropropane	0.02	0	0.018	90	80 -120
cis-1,3-Dichloropropene	0.02	0	0.019	95	80 -120
1,1,2-Trichloroethane	0.02	0	0.019	95	80 -120
Tetrachloroethene (PCE)	0.02	0	0.02	100	80 -120
1,2-Dibromoethane (EDB)	0.02	0	0.019	95	80 -120
Bromoform	0.02	0	0.019	95	80 -120
1,4-Dichlorobenzene	0.02	0	0.018	90	80 -120

QUALITY CONTROL - Surrogate Recovery	%	QC Limits
1,2-Dichloroethane-d4	97	80 -120
Toluene-d8	100	88 -110
Bromofluorobenzene	101	86 -115

Spike Recovery: 0 out of 12 outside QC limits.
Surrogates: Surrogate Recoveries within QC Limits.

Analyst _____ Reviewed _____

Inter·Mountain Laboratories, Inc.

1160 Research Drive
Bozeman, Montana 59715

LAB QA/QC
EPA METHOD 624
METHOD BLANK

Date Analyzed: **07/11/95**
Lab ID: MBW95192
Matrix: Water

Parameter	Result	PQL	Units
Dichlorodifluoromethane	ND	5.0	ug/L
Chloromethane	ND	5.0	ug/L
Bromomethane	ND	5.0	ug/L
Vinyl Chloride	ND	5.0	ug/L
Chloroethane	ND	5.0	ug/L
Trichlorofluoromethane	ND	5.0	ug/L
Methylene chloride	ND	5.0	ug/L
trans-1,2-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
2,2-Dichloropropane	ND	5.0	ug/L
cis-1,2-Dichloroethene	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
Bromochloromethane	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
Carbon Tetrachloride	ND	5.0	ug/L
1,1-Dichloropropene	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
Trichloroethene (TCE)	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
Dibromomethane	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
Tetrachloroethene (PCE)	ND	5.0	ug/L
1,3-Dichloropropane	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
1,2-Dibromoethane (EDB)	ND	5.0	ug/L

Continued

Inter·Mountain Laboratories, Inc.

1160 Research Drive
Bozeman, Montana 59715

LAB QA/QC
EPA METHOD 624
METHOD BLANK

Date Analyzed: **07/11/95**
Lab ID: MBW95192
Matrix: Water

Parameter	Result	PQL	Units
Continued			
Chlorobenzene	ND	5.0	ug/L
1,1,1,2-Tetrachloroethane	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
m,p-Xylene	ND	5.0	ug/L
o-Xylene	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
Isopropylbenzene	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
Bromobenzene	ND	5.0	ug/L
1,2,3-Trichloropropane	ND	5.0	ug/L
n-Propylbenzene	ND	5.0	ug/L
2-Chlorotoluene	ND	5.0	ug/L
1,3,5-Trimethylbenzene	ND	5.0	ug/L
4-Chlorotoluene	ND	5.0	ug/L
tert-Butylbenzene	ND	5.0	ug/L
1,2,4-Trimethylbenzene	ND	5.0	ug/L
sec-Butylbenzene	ND	5.0	ug/L
4-Isopropyltoluene	ND	5.0	ug/L
1,3-Dichlorobenzene	ND	5.0	ug/L
1,4-Dichlorobenzene	ND	5.0	ug/L
n-Butylbenzene	ND	5.0	ug/L
1,2-Dichlorobenzene	ND	5.0	ug/L
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	ug/L
1,2,4-Trichlorobenzene	ND	5.0	ug/L
Hexachlorobutadiene	ND	5.0	ug/L
Naphthalene	ND	5.0	ug/L

Continued

Inter·Mountain Laboratories, Inc.

1160 Research Drive
Bozeman, Montana 59715

LAB QA/QC
EPA METHOD 624
METHOD BLANK

Date Analyzed: **07/11/95**
Lab ID: MBW95192
Matrix: Water

Parameter	Result	PQL	Units
Continued			
1,2,3-Trichlorobenzene	ND	5.0	ug/L

QUALITY CONTROL - Surrogate Recovery	%	QC Limits
1,2-Dichloroethane-d4	93	80 - 120
Toluene-d8	102	88 - 110
Bromofluorobenzene	110	86 - 115

ND - Not Detected at Practical Quantitation Level (PQL).

Reference: Method 624 - Purgeables, Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, Appendix A, Federal Register 40 CFR 136, Environmental Protection Agency, October 26, 1984.

Analyst _____ **Reviewed** _____

Inter·Mountain Laboratories, Inc.

1160 Research Drive
Bozeman, Montana 59715

LAB QA/QC
EPA METHOD 624
LAB CONTROL SAMPLE

Date Analyzed: **07/11/95**
Lab ID: LCW95192
Matrix: Water

Parameter	Spike Added (mg/L)	Sample Result (mg/L)	LCS Result (mg/L)	LCS Recovery %	QC Limits Rec.
Vinyl Chloride	0.02	0	0.02	100	80 -120
Carbon Tetrachloride	0.02	0	0.022	110	80 -120
Benzene	0.02	0	0.021	105	80 -120
1,2-Dichloroethane	0.02	0	0.019	95	80 -120
Trichloroethene (TCE)	0.02	0	0.022	110	80 -120
1,2-Dichloropropane	0.02	0	0.021	105	80 -120
cis-1,3-Dichloropropene	0.02	0	0.021	105	80 -120
1,1,2-Trichloroethane	0.02	0	0.021	105	80 -120
Tetrachloroethene (PCE)	0.02	0	0.025	125 *	80 -120
1,2-Dibromoethane (EDB)	0.02	0	0.022	110	80 -120
Bromoform	0.02	0	0.021	105	80 -120
1,4-Dichlorobenzene	0.02	0	0.025	125 *	80 -120

QUALITY CONTROL - Surrogate Recovery	%	QC Limits
1,2-Dichloroethane-d4	94	80 -120
Toluene-d8	99	88 -110
Bromofluorobenzene	103	86 -115

Spike Recovery: 2 out of 12 outside QC limits.
Surrogates: Surrogate Recoveries within QC Limits.

Analyst _____ Reviewed _____

Inter-Mountain Laboratories, Inc.

1160 Research Drive
Bozeman, Montana 59715

LAB QA/QC
EPA METHOD 624
MATRIX SPIKE / MATRIX SPIKE DUPLICATE SUMMARY

Date Analyzed: **07/11/95**
Lab ID: 0595H05157
Matrix: Water

Original Sample Parameters

Parameter	Spike Added (ug/L)	Sample Result (ug/L)	Spike Result (ug/L)	MS Recovery %	QC Limits Rec.
1,1-Dichloroethene	20	0	21	105	75 - 145
Chlorobenzene	20	0	22	110	76 - 127
Toluene	20	0	22	110	71 - 127
Trichloroethene (TCE)	20	0	21	105	75 - 130

Duplicate Sample Parameters

Parameter	Spike Added (ug/L)	MSD Result (ug/L)	MSD Recovery %	RPD %	QC Limits RPD	QC Limits Rec.
1,1-Dichloroethene	20	21	105	0	14	75 - 145
Chlorobenzene	20	23	115	4	11	76 - 127
Toluene	20	22	110	0	13	71 - 127
Trichloroethene (TCE)	20	21	105	0	13	75 - 130

Note: Spike Recoveries are calculated using zero for Sample result if Sample result was less than PQL (Practical Quantitation Level).

Spike Recovery: 0 out of 8 outside QC limits.
RPD: 0 out of 4 outside QC limits.

Analyst _____ Reviewed _____

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

LABORATORY SAMPLE RECORD

PROJ. NO.	PROJECT NAME: Navajo Refinery										
	SAMPLERS: (Signature) O/Son										
DATE	TIME	STATION LOCATION	NO. OF CONTAINERS	601/602	PAH's	Cations/Anions	Heavy Metals				REMARKS
950628	0815	RA-307	2	2							
950628	0830	RA-1331	2	2							
950628	0850	RA-4196	2	2							
950628	0900	RA-4798	2	2							
950628	0920	RA-1227	2	2							
950628	0940	RA-313	2	2							
950628	1000	RA-2723	2	2							
950628	1010	RA-3353	2	2							
950628	1020	RA-3156	2	2							
950628	1120	ICWB-9	2	2							
950628	1345	ICWB-7	2	2							
950628	1430	ICWB-3A	2	2							
950628	1600	ICWB-2A	2	2							

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	
[signature]	6/30/95 1400		SEALS INTACT ☐ YES ☐ NO
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time / Remarks

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

LABORATORY SAMPLE RECORD

PROJ. NO.

PROJECT NAME: Navajo Refinery

SAMPLERS: (Signature) Olson

DATE TIME	STATION LOCATION	NO. OF CONTAINERS	601/602	PAHs	Cations/Anions	Metals			REMARKS
950629 0800	KWB-12A	2	2						
950629 1015	KWB-11A	2	2						
950629 1100	KWB-1C	6	2	2	1	1			
950629 1145	MW-18	6	2	2	1	1			
950629 1330	MW-45	6	2	2	1	1			
950628 1520	KWB-1A	5	2	2	1				

Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Will Olson	6/30/95 1400	
Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)

SEALS INTACT ☐ YES ☐ NO

: (Signature)

: (Signature)

Date / Time

Remarks

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

ANALYSIS REQUEST FORM

Contract Lab Intermountain Labs Contract No. 95-521.07-039

OCD Sample No. 950628 0815

Collection Date	Collection Time	Collected by —Person/Agency
6/28/95	0815	O/Jon /OCD

SITE INFORMATION Navajo Refinery RA-307

Sample location

Collection Site Description

Township, Range, Section, Tract: | | + | | + | + | |

SEND FINAL REPORT TO
ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

SAMPLING CONDITIONS

- ☒ Bailed ☐ Pump ☐ Dipped ☐ Tap
- Water level
- Discharge
- Sample type
- pH(00400)
- Conductivity (Uncorrected) μmho
- Water Temp. (00010)
- Conductivity at 25° C μmho

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 2

- ☒ **NF:** Whole sample (Non-filtered)
- ☐ **F:** Filtered in field with 0.45 μ membrane filter
- ☐ **PF:** Pre-filtered w/45 μ membrane filter

- ☐ **NA:** No acid added
- ☒ **A:** HCL
- ☐ **A:** 2ml H_2SO_4/L added
- ☐ **A:** 5ml conc. HNO_3 added
- ☐ **A:** 4ml fuming HNO_3 added

FIELD COMMENTS:

LAB ANALYSIS REQUESTED:

ITEM	DESC	METHOD	ITEM	DESC	METHOD	ITEM	DESC	METHOD
☐ 001	VOA	8020	☐ 013	PHENOL	604	☐ 026	Cd	7130
☐ 002	VOA	602	☐ 014	VOC	8240	☐ 027	Pb	7421
☐ 003	VOH	8010	☐ 015	VOC	624	☐ 028	Hg(L)	7470
☐ 004	VOH	601	☐ 016	SVOC	8250	☐ 031	Se	7740
☐ 005	SUITE	8010-8020	☐ 017	SVOC	625	☐ 032	ICAP	6010
☒ 006	SUITE	601-602	☐ 018	VOC	8260	☐ 033	CATIONS/ANIONS	
☐ 007	HEADSPACE		☐ 019	SVOC	8270	☐ 034	N SUITE	
☐ 008	PAH	8100	☐ 020	O&G	9070	☐ 035	NITRATE	
☐ 009	PAH	610	☐ 022	AS	7060	☐ 036	NITRITE	
☐ 010	PCB	8080	☐ 023	Ba	7080	☐ 037	AMMONIA	
☐ 011	PCB	608	☐ 024	Cr	7190	☐ 038	TKN	
☐ 012	PHENOL	8040	☐ 025	Cr6	7198	☐	OTHER	

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

ANALYSIS REQUEST FORM

Contract Lab Intermountain Labs Contract No. 95-521.07-039

OCD Sample No. 950628 0830

Collection Date	Collection Time	Collected by—Person/Agency
6/28/95	0830	Olson /OCD

SITE INFORMATION Navajo Refinery RA-1331

Sample location

Collection Site Description

Township, Range, Section, Tract:

SEND FINAL REPORT TO ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

SAMPLING CONDITIONS

- [x] Bailed [ ] Pump
- [ ] Dipped [ ] Tap

Water level

Discharge

Sample type

pH(00400)

Conductivity (Uncorrected) μmho

Water Temp. (00010)

Conductivity at 25° C μmho

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 2

- [x] NF: Whole sample (Non-filtered)
- [ ] F: Filtered in field with 0.45 μ membrane filter
- [ ] PF: Pre-filtered w/45 μ membrane filter

- [ ] NA: No acid added
- [x] A: HCL
- [ ] A: 2ml H_2SO_4/L added
- [ ] A: 5ml conc. HNO_3 added
- [ ] A: 4ml fuming HNO_3 added

FIELD COMMENTS:

LAB ANALYSIS REQUESTED:

ITEM	DESC	METHOD	ITEM	DESC	METHOD	ITEM	DESC	METHOD
[ ] 001	VOA	8020	[ ] 013	PHENOL	604	[ ] 026	Cd	7130
[ ] 002	VOA	602	[ ] 014	VOC	8240	[ ] 027	Pb	7421
[ ] 003	VOH	8010	[ ] 015	VOC	624	[ ] 028	Hg(L)	7470
[ ] 004	VOH	601	[ ] 016	SVOC	8250	[ ] 031	Se	7740
[ ] 005	SUITE	8010-8020	[ ] 017	SVOC	625	[ ] 032	ICAP	6010
[x] 006	SUITE	601-602	[ ] 018	VOC	8260	[ ] 033	CATIONS/ANIONS	
[ ] 007	HEADSPACE		[ ] 019	SVOC	8270	[ ] 034	N SUITE	
[ ] 008	PAH	8100	[ ] 020	O&G	9070	[ ] 035	NITRATE	
[ ] 009	PAH	610	[ ] 022	AS	7060	[ ] 036	NITRITE	
[ ] 010	PCB	8080	[ ] 023	Ba	7080	[ ] 037	AMMONIA	
[ ] 011	PCB	608	[ ] 024	Cr	7190	[ ] 038	TKN	
[ ] 012	PHENOL	8040	[ ] 025	Cr6	7198	[ ]	OTHER	

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

ANALYSIS REQUEST FORM

Contract Lab Intermountain Labs Contract No. 95-521.07-039

OCD Sample No. 9506280850

Collection Date	Collection Time	Collected by—Person/Agency
6/28/95	0850	Olson /OCD

SITE INFORMATION Navajo Refinery RA-4196

Sample location

Collection Site Description

Township, Range, Section, Tract: | | | + | | + | + | | |

SEND FINAL REPORT TO
ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

SAMPLING CONDITIONS

- ☒ Bailed ☐ Pump ☐ Dipped ☐ Tap
- pH(00400)
- Water Temp. (00010)
- Water level
- Discharge
- Sample type
- Conductivity (Uncorrected) μmho
- Conductivity at 25° C μmho

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 2

- ☒ NF: Whole sample (Non-filtered)
- ☐ F: Filtered in field with 0.45 μ membrane filter
- ☐ PF: Pre-filtered w/45 μ membrane filter

- ☐ NA: No acid added
- ☒ A: HCL
- ☐ A: 2ml H_2SO_4/L added
- ☐ A: 5ml conc. HNO_3 added
- ☐ A: 4ml fuming HNO_3 added

FIELD COMMENTS:

LAB ANALYSIS REQUESTED:

ITEM	DESC	METHOD	ITEM	DESC	METHOD	ITEM	DESC	METHOD
☐ 001	VOA	8020	☐ 013	PHENOL	604	☐ 026	Cd	7130
☐ 002	VOA	602	☐ 014	VOC	8240	☐ 027	Pb	7421
☐ 003	VOH	8010	☐ 015	VOC	624	☐ 028	Hg(L)	7470
☐ 004	VOH	601	☐ 016	SVOC	8250	☐ 031	Se	7740
☐ 005	SUITE	8010-8020	☐ 017	SVOC	625	☐ 032	ICAP	6010
☒ 006	SUITE	601-602	☐ 018	VOC	8260	☐ 033	CATIONS/ANIONS	
☐ 007	HEADSPACE		☐ 019	SVOC	8270	☐ 034	N SUITE	
☐ 008	PAH	8100	☐ 020	O&G	9070	☐ 035	NITRATE	
☐ 009	PAH	610	☐ 022	AS	7060	☐ 036	NITRITE	
☐ 010	PCB	8080	☐ 023	Ba	7080	☐ 037	AMMONIA	
☐ 011	PCB	608	☐ 024	Cr	7190	☐ 038	TKN	
☐ 012	PHENOL	8040	☐ 025	Cr6	7196	☐	OTHER	

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

ANALYSIS REQUEST FORM

Contract Lab Intermountain Labs Contract No. 95-521.07-039

OCD Sample No. 9506280900

Collection Date	Collection Time	Collected by—Person/Agency
6/28/95	0900	Olson /OCD

SITE INFORMATION Navajo Refinery RA-4798

Sample location

Collection Site Description

Township, Range, Section, Tract: | | | + | | + | + | | |

SEND FINAL REPORT TO ▶ ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

SAMPLING CONDITIONS

☒ Bailed ☐ Pump
☐ Dipped ☐ Tap

Water level

Discharge

Sample type

pH(00400)

Conductivity (Uncorrected) μmho

Water Temp. (00010)

Conductivity at 25° C μmho

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 2

☒ **NF:** Whole sample (Non-filtered)
☐ **F:** Filtered in field with 0.45 μ membrane filter
☐ **PF:** Pre-filtered w/45 μ membrane filter

☐ **NA:** No acid added
☒ **A:** HCL
☐ **A:** 2ml H_2SO_4/L added
☐ **A:** 5ml conc. HNO_3 added
☐ **A:** 4ml fuming HNO_3 added

FIELD COMMENTS:

LAB ANALYSIS REQUESTED:

ITEM	DESC	METHOD	ITEM	DESC	METHOD	ITEM	DESC	METHOD
☐ 001	VOA	8020	☐ 013	PHENOL	604	☐ 026	Cd	7130
☐ 002	VOA	602	☐ 014	VOC	8240	☐ 027	Pb	7421
☐ 003	VOH	8010	☐ 015	VOC	624	☐ 028	Hg(L)	7470
☐ 004	VOH	601	☐ 016	SVOC	8250	☐ 031	Se	7740
☐ 005	SUITE	8010-8020	☐ 017	SVOC	625	☐ 032	ICAP	6010
☒ 006	SUITE	601-602	☐ 018	VOC	8260	☐ 033	CATIONS/ANIONS	
☐ 007	HEADSPACE		☐ 019	SVOC	8270	☐ 034	N SUITE	
☐ 008	PAH	8100	☐ 020	O&G	9070	☐ 035	NITRATE	
☐ 009	PAH	610	☐ 022	AS	7060	☐ 036	NITRITE	
☐ 010	PCB	8080	☐ 023	Ba	7080	☐ 037	AMMONIA	
☐ 011	PCB	608	☐ 024	Cr	7190	☐ 038	TKN	
☐ 012	PHENOL	8040	☐ 025	Cr6	7198	☐	OTHER_____	

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

ANALYSIS REQUEST FORM

Contract Lab Intermountain Labs Contract No. 95-521.07-039

OCD Sample No. 950628 0920

Collection Date	Collection Time	Collected by—Person/Agency
6/28/95	0920	Olson /OCD

SITE INFORMATION Navajo Refinery RA-1227

Sample location

Collection Site Description

Township, Range, Section, Tract:

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NM OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 2

- [X] NF: Whole sample (Non-filtered)
- [ ] F: Filtered in field with 0.45 μ membrane filter
- [ ] PF: Pre-filtered w/45 μ membrane filter

- [ ] NA: No acid added
- [X] A: HCL
- [ ] A: 2ml H_2SO_4/L added
- [ ] A: 5ml conc. HNO_3 added
- [ ] A: 4ml fuming HNO_3 added

FIELD COMMENTS:

SAMPLING CONDITIONS

- [X] Bailed [ ] Pump
- [ ] Dipped [ ] Tap

Water level

Discharge

Sample type

pH(00400)

Conductivity (Uncorrected) μmho

Water Temp. (00010)

Conductivity at 25° C μmho

LAB ANALYSIS REQUESTED:

ITEM	DESC	METHOD	ITEM	DESC	METHOD	ITEM	DESC	METHOD
[ ] 001	VOA	8020	[ ] 013	PHENOL	604	[ ] 026	Cd	7130
[ ] 002	VOA	602	[ ] 014	VOC	8240	[ ] 027	Pb	7421
[ ] 003	VOH	8010	[ ] 015	VOC	624	[ ] 028	Hg(L)	7470
[ ] 004	VOH	601	[ ] 016	SVOC	8250	[ ] 031	Se	7740
[ ] 005	SUITE	8010-8020	[ ] 017	SVOC	625	[ ] 032	ICAP	6010
[X] 006	SUITE	601-602	[ ] 018	VOC	8260	[ ] 033	CATIONS/ANIONS	
[ ] 007	HEADSPACE		[ ] 019	SVOC	8270	[ ] 034	N SUITE	
[ ] 008	PAH	8100	[ ] 020	O&G	9070	[ ] 035	NITRATE	
[ ] 009	PAH	610	[ ] 022	AS	7060	[ ] 036	NITRITE	
[ ] 010	PCB	8080	[ ] 023	Ba	7080	[ ] 037	AMMONIA	
[ ] 011	PCB	608	[ ] 024	Cr	7190	[ ] 038	TKN	
[ ] 012	PHENOL	8040	[ ] 025	Cr6	7198	[ ]	OTHER	

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

ANALYSIS REQUEST FORM

Contract Lab Intermountain Labs Contract No. 95-521.07-039

OCD Sample No. 9506280940

Collection Date	Collection Time	Collected by—Person/Agency
6/28/95	0940	Olson /OCD

SITE INFORMATION Navajo Refinery RA-313

Sample location

Collection Site Description

Township, Range, Section, Tract:

SEND FINAL REPORT TO ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

SAMPLING CONDITIONS

- Water level
- Discharge
- Sample type
- pH(00400)
- Conductivity (Uncorrected) μmho
- Water Temp. (00010)
- Conductivity at 25° C μmho

☒ Bailed ☐ Pump ☐ Dipped ☐ Tap

SAMPLE FIELD TREATMENT— *Check proper boxes*

No. of samples submitted: 2

☒ **NF:** Whole sample (Non-filtered)
☐ **F:** Filtered in field with 0.45 μ membrane filter
☐ **PF:** Pre-filtered w/45 μ membrane filter

☐ **NA:** No acid added
☒ **A:** HCL
☐ **A:** 2ml H_2SO_4/L added
☐ **A:** 5ml conc. HNO_3 added
☐ **A:** 4ml fuming HNO_3 added

FIELD COMMENTS:

LAB ANALYSIS REQUESTED:

ITEM	DESC	METHOD	ITEM	DESC	METHOD	ITEM	DESC	METHOD
☐ 001	VOA	8020	☐ 013	PHENOL	604	☐ 026	Cd	7130
☐ 002	VOA	602	☐ 014	VOC	8240	☐ 027	Pb	7421
☐ 003	VOH	8010	☐ 015	VOC	624	☐ 028	Hg(L)	7470
☐ 004	VOH	601	☐ 016	SVOC	8250	☐ 031	Se	7740
☐ 005	SUITE	8010-8020	☐ 017	SVOC	625	☐ 032	ICAP	6010
☒ 006	SUITE	601-602	☐ 018	VOC	8260	☐ 033	CATIONS/ANIONS	
☐ 007	HEADSPACE		☐ 019	SVOC	8270	☐ 034	N SUITE	
☐ 008	PAH	8100	☐ 020	O&G	9070	☐ 035	NITRATE	
☐ 009	PAH	610	☐ 022	AS	7060	☐ 036	NITRITE	
☐ 010	PCB	8080	☐ 023	Ba	7080	☐ 037	AMMONIA	
☐ 011	PCB	608	☐ 024	Cr	7190	☐ 038	TKN	
☐ 012	PHENOL	8040	☐ 025	Cr6	7198	☐	OTHER	

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

ANALYSIS REQUEST FORM

Contract Lab Intermountain Labs Contract No. 95-521.07-039

OCD Sample No. 950628/1000

Collection Date	Collection Time	Collected by—Person/Agency
6/28/95	1000	Olson /OCD

SITE INFORMATION Navajo Refinery RA-2723

Sample location

Collection Site Description

Township, Range, Section, Tract:

SEND FINAL REPORT TO ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

SAMPLING CONDITIONS

- ☒ Bailed ☐ Pump
- ☐ Dipped ☐ Tap

Water level

Discharge

Sample type

pH(00400)

Conductivity (Uncorrected) μmho

Water Temp. (00010)

Conductivity at 25° C μmho

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 2

- ☒ NF: Whole sample (Non-filtered)
- ☐ F: Filtered in field with 0.45 μ membrane filter
- ☐ PF: Pre-filtered w/45 μ membrane filter

- ☐ NA: No acid added
- ☒ A: HCL
- ☐ A: 2ml H_2SO_4/L added
- ☐ A: 5ml conc. HNO_3 added
- ☐ A: 4ml fuming HNO_3 added

FIELD COMMENTS:

LAB ANALYSIS REQUESTED:

ITEM	DESC	METHOD	ITEM	DESC	METHOD	ITEM	DESC	METHOD
☐ 001	VOA	8020	☐ 013	PHENOL	604	☐ 026	Cd	7130
☐ 002	VOA	602	☐ 014	VOC	8240	☐ 027	Pb	7421
☐ 003	VOH	8010	☐ 015	VOC	624	☐ 028	Hg(L)	7470
☐ 004	VOH	601	☐ 016	SVOC	8250	☐ 031	Se	7740
☐ 005	SUITE	8010-8020	☐ 017	SVOC	625	☐ 032	ICAP	6010
☒ 006	SUITE	601-602	☐ 018	VOC	8260	☐ 033	CATIONS/ANIONS	
☐ 007	HEADSPACE		☐ 019	SVOC	8270	☐ 034	N SUITE	
☐ 008	PAH	8100	☐ 020	O&G	9070	☐ 035	NITRATE	
☐ 009	PAH	610	☐ 022	AS	7060	☐ 036	NITRITE	
☐ 010	PCB	8080	☐ 023	Ba	7080	☐ 037	AMMONIA	
☐ 011	PCB	608	☐ 024	Cr	7190	☐ 038	TKN	
☐ 012	PHENOL	8040	☐ 025	Cr6	7196	☐	OTHER	

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

ANALYSIS REQUEST FORM

Contract Lab Intermountain Labs Contract No. 95-521.07-039

OCD Sample No. 9506281010

Collection Date	Collection Time	Collected by—Person/Agency
6/28/95	1010	Olson /OCD

SITE INFORMATION Navajo Refinery RA-3353

Sample location

Collection Site Description

Township, Range, Section, Tract: | | + | | + | + | |

SEND FINAL REPORT TO
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NM OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

SAMPLING CONDITIONS

- ☒ Bailed ☐ Pump
- ☐ Dipped ☐ Tap

Water level

Discharge

Sample type

pH(00400)

Conductivity (Uncorrected) μmho

Water Temp. (00010)

Conductivity at 25° C μmho

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 2

- ☒ **NF:** Whole sample (Non-filtered)
- ☐ **F:** Filtered in field with 0.45 μ membrane filter
- ☐ **PF:** Pre-filtered w/45 μ membrane filter

- ☐ **NA:** No acid added
- ☒ **A:** HCL
- ☐ **A:** 2ml H_2SO_4/L added
- ☐ **A:** 5ml conc. HNO_3 added
- ☐ **A:** 4ml fuming HNO_3 added

FIELD COMMENTS:

LAB ANALYSIS REQUESTED:

ITEM	DESC	METHOD	ITEM	DESC	METHOD	ITEM	DESC	METHOD
☐ 001	VOA	8020	☐ 013	PHENOL	604	☐ 026	Cd	7130
☐ 002	VOA	602	☐ 014	VOC	8240	☐ 027	Pb	7421
☐ 003	VOH	8010	☐ 015	VOC	624	☐ 028	Hg(L)	7470
☐ 004	VOH	601	☐ 016	SVOC	8250	☐ 031	Se	7740
☐ 005	SUITE	8010-8020	☐ 017	SVOC	625	☐ 032	ICAP	6010
☒ 006	SUITE	601-602	☐ 018	VOC	8260	☐ 033	CATIONS/ANIONS	
☐ 007	HEADSPACE		☐ 019	SVOC	8270	☐ 034	N SUITE	
☐ 008	PAH	8100	☐ 020	O&G	9070	☐ 035	NITRATE	
☐ 009	PAH	610	☐ 022	AS	7060	☐ 036	NITRITE	
☐ 010	PCB	8080	☐ 023	Ba	7080	☐ 037	AMMONIA	
☐ 011	PCB	608	☐ 024	Cr	7190	☐ 038	TKN	
☐ 012	PHENOL	8040	☐ 025	Cr6	7198	☐	OTHER	

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

ANALYSIS REQUEST FORM

Contract Lab Intermountain Labs Contract No. 95-521.07-039

OCD Sample No. 9506281020

Collection Date	Collection Time	Collected by—Person/Agency
6/28/95	1020	Olson /OCD

SITE INFORMATION Navajo Refinery RA-3156

Sample location

Collection Site Description

Township, Range, Section, Tract: | | | + | | + | + | |

SEND FINAL REPORT TO
ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

SAMPLING CONDITIONS

- [x] Bailed [ ] Pump
- [ ] Dipped [ ] Tap

Water level

Discharge

Sample type

pH(00400)

Conductivity (Uncorrected) μmho

Water Temp. (00010)

Conductivity at 25° C μmho

SAMPLE FIELD TREATMENT— *Check proper boxes*

No. of samples submitted: 2

- [x] **NF:** Whole sample (Non-filtered)
- [ ] **F:** Filtered in field with 0.45 μ membrane filter
- [ ] **PF:** Pre-filtered w/45 μ membrane filter

- [ ] **NA:** No acid added
- [x] **A:** HCL
- [ ] **A:** 2ml H_2SO_4/L added
- [ ] **A:** 5ml conc. HNO_3 added
- [ ] **A:** 4ml fuming HNO_3 added

FIELD COMMENTS:

LAB ANALYSIS REQUESTED:

ITEM	DESC	METHOD	ITEM	DESC	METHOD	ITEM	DESC	METHOD
[ ] 001	VOA	8020	[ ] 013	PHENOL	604	[ ] 026	Cd	7130
[ ] 002	VOA	602	[ ] 014	VOC	8240	[ ] 027	Pb	7421
[ ] 003	VOH	8010	[ ] 015	VOC	624	[ ] 028	Hg(L)	7470
[ ] 004	VOH	601	[ ] 016	SVOC	8250	[ ] 031	Se	7740
[ ] 005	SUITE	8010-8020	[ ] 017	SVOC	625	[ ] 032	ICAP	6010
[x] 006	SUITE	601-602	[ ] 018	VOC	8260	[ ] 033	CATIONS/ANIONS	
[ ] 007	HEADSPACE		[ ] 019	SVOC	8270	[ ] 034	N SUITE	
[ ] 008	PAH	8100	[ ] 020	O&G	9070	[ ] 035	NITRATE	
[ ] 009	PAH	610	[ ] 022	AS	7060	[ ] 036	NITRITE	
[ ] 010	PCB	8080	[ ] 023	Ba	7080	[ ] 037	AMMONIA	
[ ] 011	PCB	608	[ ] 024	Cr	7190	[ ] 038	TKN	
[ ] 012	PHENOL	8040	[ ] 025	Cr6	7196	[ ]	OTHER_____	

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

ANALYSIS REQUEST FORM

Contract Lab Intermountain Labs Contract No. 95-521.07-039

OCD Sample No. 9506281120

Collection Date	Collection Time	Collected by—Person/Agency
6/28/95	1120	Olson /OCD

SITE INFORMATION Navajo Refining KWB-9

Sample location

Collection Site Description

Township, Range, Section, Tract: | | | + | | + | + | |

SEND FINAL REPORT TO
ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

SAMPLING CONDITIONS

- ☒ Bailed ☐ Pump
- ☐ Dipped ☐ Tap

Water level

Discharge

Sample type

pH(00400)

Conductivity (Uncorrected) μmho

Water Temp. (00010)

Conductivity at 25° C μmho

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 2

- ☒ NF: Whole sample (Non-filtered)
- ☐ F: Filtered in field with 0.45 μ membrane filter
- ☐ PF: Pre-filtered w/45 μ membrane filter

- ☐ NA: No acid added
- ☒ A: HCL
- ☐ A: 2ml H_2SO_4/L added
- ☐ A: 5ml conc. HNO_3 added
- ☐ A: 4ml fuming HNO_3 added

FIELD COMMENTS:

LAB ANALYSIS REQUESTED:

ITEM	DESC	METHOD	ITEM	DESC	METHOD	ITEM	DESC	METHOD
☐ 001	VOA	8020	☐ 013	PHENOL	604	☐ 026	Cd	7130
☐ 002	VOA	602	☐ 014	VOC	8240	☐ 027	Pb	7421
☐ 003	VOH	8010	☐ 015	VOC	624	☐ 028	Hg(L)	7470
☐ 004	VOH	601	☐ 016	SVOC	8250	☐ 031	Se	7740
☐ 005	SUITE	8010-8020	☐ 017	SVOC	625	☐ 032	ICAP	6010
☒ 006	SUITE	601-602	☐ 018	VOC	8260	☐ 033	CATIONS/ANIONS	
☐ 007	HEADSPACE		☐ 019	SVOC	8270	☐ 034	N SUITE	
☐ 008	PAH	8100	☐ 020	O&G	9070	☐ 035	NITRATE	
☐ 009	PAH	610	☐ 022	AS	7060	☐ 036	NITRITE	
☐ 010	PCB	8080	☐ 023	Ba	7080	☐ 037	AMMONIA	
☐ 011	PCB	608	☐ 024	Cr	7190	☐ 038	TKN	
☐ 012	PHENOL	8040	☐ 025	Cr6	7198	☐	OTHER	

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

ANALYSIS REQUEST FORM

Contract Lab Intermountain Labs Contract No. 95-521.07-039

OCD Sample No. 950628/1345

Collection Date	Collection Time	Collected by—Person/Agency
6/28/95	1345	Olson /OCD

SITE INFORMATION Navajo Refinery KWB-7

Sample location

Collection Site Description

Township, Range, Section, Tract:

SEND FINAL REPORT TO ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

SAMPLING CONDITIONS

- ☒ Bailed ☐ Pump
- ☐ Dipped ☐ Tap

Water level

Discharge

Sample type

pH(00400)

Conductivity (Uncorrected) μmho

Water Temp. (00010)

Conductivity at 25° C μmho

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 2

- ☒ NF: Whole sample (Non-filtered)
- ☐ F: Filtered in field with 0.45 μ membrane filter
- ☐ PF: Pre-filtered w/45 μ membrane filter

- ☐ NA: No acid added
- ☒ A: HCL
- ☐ A: 2ml H_2SO_4/L added
- ☐ A: 5ml conc. HNO_3 added
- ☐ A: 4ml fuming HNO_3 added

FIELD COMMENTS:

LAB ANALYSIS REQUESTED:

ITEM	DESC	METHOD	ITEM	DESC	METHOD	ITEM	DESC	METHOD
☐ 001	VOA	8020	☐ 013	PHENOL	604	☐ 026	Cd	7130
☐ 002	VOA	602	☐ 014	VOC	8240	☐ 027	Pb	7421
☐ 003	VOH	8010	☐ 015	VOC	624	☐ 028	Hg(L)	7470
☐ 004	VOH	601	☐ 016	SVOC	8250	☐ 031	Se	7740
☐ 005	SUITE	8010-8020	☐ 017	SVOC	625	☐ 032	ICAP	6010
☒ 006	SUITE	601-602	☐ 018	VOC	8260	☐ 033	CATIONS/ANIONS	
☐ 007	HEADSPACE		☐ 019	SVOC	8270	☐ 034	N SUITE	
☐ 008	PAH	8100	☐ 020	O&G	9070	☐ 035	NITRATE	
☐ 009	PAH	610	☐ 022	AS	7060	☐ 036	NITRITE	
☐ 010	PCB	8080	☐ 023	Ba	7080	☐ 037	AMMONIA	
☐ 011	PCB	608	☐ 024	Cr	7190	☐ 038	TKN	
☐ 012	PHENOL	8040	☐ 025	Cr6	7198	☐	OTHER	

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

ANALYSIS REQUEST FORM

Contract Lab Intermountain Labs Contract No. 95-521.07-039

OCD Sample No. 950628 1430

Collection Date	Collection Time	Collected by—Person/Agency
6/28/95	1430	Olson /OCD

SITE INFORMATION Navajo Refinery KWB-3A

Sample location

Collection Site Description

Township, Range, Section, Tract:

SEND FINAL REPORT TO ▸ ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

SAMPLING CONDITIONS

- ☒ Bailed ☐ Pump ☐ Dipped ☐ Tap
- Water level
- Discharge
- Sample type
- pH(00400)
- Conductivity (Uncorrected) μmho
- Water Temp. (00010)
- Conductivity at 25° C μmho

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 2

- ☒ **NF:** Whole sample (Non-filtered)
- ☐ **F:** Filtered in field with 0.45 μ membrane filter
- ☐ **PF:** Pre-filtered w/45 μ membrane filter

- ☐ **NA:** No acid added
- ☒ **A:** HCL
- ☐ **A:** 2ml H_2SO_4/L added
- ☐ **A:** 5ml conc. HNO_3 added
- ☐ **A:** 4ml fuming HNO_3 added

FIELD COMMENTS:

LAB ANALYSIS REQUESTED:

ITEM	DESC	METHOD	ITEM	DESC	METHOD	ITEM	DESC	METHOD
☐ 001	VOA	8020	☐ 013	PHENOL	604	☐ 026	Cd	7130
☐ 002	VOA	602	☐ 014	VOC	8240	☐ 027	Pb	7421
☐ 003	VOH	8010	☐ 015	VOC	624	☐ 028	Hg(L)	7470
☐ 004	VOH	601	☐ 016	SVOC	8250	☐ 031	Se	7740
☐ 005	SUITE	8010-8020	☐ 017	SVOC	625	☐ 032	ICAP	6010
☒ 006	SUITE	601-602	☐ 018	VOC	8260	☐ 033	CATIONS/ANIONS	
☐ 007	HEADSPACE		☐ 019	SVOC	8270	☐ 034	N SUITE	
☐ 008	PAH	8100	☐ 020	O&G	9070	☐ 035	NITRATE	
☐ 009	PAH	610	☐ 022	AS	7060	☐ 036	NITRITE	
☐ 010	PCB	8080	☐ 023	Ba	7080	☐ 037	AMMONIA	
☐ 011	PCB	608	☐ 024	Cr	7190	☐ 038	TKN	
☐ 012	PHENOL	8040	☐ 025	Cr6	7198	☐	OTHER_____	

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

ANALYSIS REQUEST FORM

Contract Lab Intermountain Labs Contract No. 95-521.07-039

OCD Sample No. 950628/1600

Collection Date	Collection Time	Collected by—Person/Agency
6/28/95	1600	Olson /OCD

SITE INFORMATION Navajo Refinery KWB-2A

Sample location

Collection Site Description

Township, Range, Section, Tract: | | | + | | + | + | | |

SEND FINAL REPORT TO: ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

SAMPLING CONDITIONS

- ☒ Bailed ☐ Pump ☐ Dipped ☐ Tap
- Water level
- Discharge
- Sample type
- pH(00400)
- Conductivity (Uncorrected) μmho
- Water Temp. (00010)
- Conductivity at 25° C μmho

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 2

- ☒ NF: Whole sample (Non-filtered)
- ☐ F: Filtered in field with 0.45 μ membrane filter
- ☐ PF: Pre-filtered w/45 μ membrane filter

- ☐ NA: No acid added
- ☒ A: HCL
- ☐ A: 2ml H_2SO_4/L added
- ☐ A: 5ml conc. HNO_3 added
- ☐ A: 4ml fuming HNO_3 added

FIELD COMMENTS:

LAB ANALYSIS REQUESTED:

ITEM	DESC	METHOD	ITEM	DESC	METHOD	ITEM	DESC	METHOD
☐ 001	VOA	8020	☐ 013	PHENOL	604	☐ 026	Cd	7130
☐ 002	VOA	602	☐ 014	VOC	8240	☐ 027	Pb	7421
☐ 003	VOH	8010	☐ 015	VOC	624	☐ 028	Hg(L)	7470
☐ 004	VOH	601	☐ 016	SVOC	8250	☐ 031	Se	7740
☐ 005	SUITE	8010-8020	☐ 017	SVOC	625	☐ 032	ICAP	6010
☒ 006	SUITE	601-602	☐ 018	VOC	8260	☐ 033	CATIONS/ANIONS	
☐ 007	HEADSPACE		☐ 019	SVOC	8270	☐ 034	N SUITE	
☐ 008	PAH	8100	☐ 020	O&G	9070	☐ 035	NITRATE	
☐ 009	PAH	610	☐ 022	AS	7060	☐ 036	NITRITE	
☐ 010	PCB	8080	☐ 023	Ba	7080	☐ 037	AMMONIA	
☐ 011	PCB	608	☐ 024	Cr	7190	☐ 038	TKN	
☐ 012	PHENOL	8040	☐ 025	Cr6	7198	☐	OTHER	

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

ANALYSIS REQUEST FORM

Contract Lab Intermountain Labs Contract No. 95-521.07-039

OCD Sample No. 9506290800

Collection Date	Collection Time	Collected by—Person/Agency
6/28/95	0800	Olson /OCD

SITE INFORMATION Navajo Refinery KLVB-12A

Sample location

Collection Site Description

Township, Range, Section, Tract: | | | + | | + | + | |

SEND FINAL REPORT TO ▸ ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 2

- ☒ NF: Whole sample (Non-filtered)
- ☐ F: Filtered in field with 0.45 μ membrane filter
- ☐ PF: Pre-filtered w/45 μ membrane filter

- ☐ NA: No acid added
- ☒ A: HCL
- ☐ A: 2ml H_2SO_4/L added
- ☐ A: 5ml conc. HNO_3 added
- ☐ A: 4ml fuming HNO_3 added

FIELD COMMENTS:

SAMPLING CONDITIONS

- ☒ Bailed ☐ Pump
- ☐ Dipped ☐ Tap

Water level

Discharge

Sample type

pH(00400)

Conductivity (Uncorrected) μmho

Water Temp. (00010)

Conductivity at 25° C μmho

LAB ANALYSIS REQUESTED:

ITEM	DESC	METHOD	ITEM	DESC	METHOD	ITEM	DESC	METHOD
☐ 001	VOA	8020	☐ 013	PHENOL	604	☐ 026	Cd	7130
☐ 002	VOA	602	☐ 014	VOC	8240	☐ 027	Pb	7421
☐ 003	VOH	8010	☐ 015	VOC	624	☐ 028	Hg(L)	7470
☐ 004	VOH	601	☐ 016	SVOC	8250	☐ 031	Se	7740
☐ 005	SUITE	8010-8020	☐ 017	SVOC	625	☐ 032	ICAP	6010
☒ 006	SUITE	601-602	☐ 018	VOC	8260	☐ 033	CATIONS/ANIONS	
☐ 007	HEADSPACE		☐ 019	SVOC	8270	☐ 034	N SUITE	
☐ 008	PAH	8100	☐ 020	O&G	9070	☐ 035	NITRATE	
☐ 009	PAH	610	☐ 022	AS	7060	☐ 036	NITRITE	
☐ 010	PCB	8080	☐ 023	Ba	7080	☐ 037	AMMONIA	
☐ 011	PCB	608	☐ 024	Cr	7190	☐ 038	TKN	
☐ 012	PHENOL	8040	☐ 025	Cr6	7198	☐	OTHER	

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

ANALYSIS REQUEST FORM

Contract Lab Intermountain Labs Contract No. 95-521.07-039

OCD Sample No. 950629/1015

Collection Date	Collection Time	Collected by —Person/Agency
6/29/95	1015	Olson /OCD

SITE INFORMATION Navajo Refinery KWB-11A

Sample location

Collection Site Description

Township, Range, Section, Tract: | | | + | | + | + | | |

SEND FINAL REPORT TO ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 2

- ☒ **NF:** Whole sample (Non-filtered)
- ☐ **F:** Filtered in field with 0.45 μ membrane filter
- ☐ **PF:** Pre-filtered w/45 μ membrane filter

- ☐ **NA:** No acid added
- ☒ **A:** HCL
- ☐ **A:** 2ml H_2SO_4/L added
- ☐ **A:** 5ml conc. HNO_3 added
- ☐ **A:** 4ml fuming HNO_3 added

FIELD COMMENTS:

SAMPLING CONDITIONS

- ☒ Bailed ☐ Pump
- ☐ Dipped ☐ Tap

Water level

Discharge

Sample type

pH(00400)

Conductivity (Uncorrected) μmho

Water Temp. (00010)

Conductivity at 25° C μmho

LAB ANALYSIS REQUESTED:

ITEM	DESC	METHOD	ITEM	DESC	METHOD	ITEM	DESC	METHOD
☐ 001	VOA	8020	☐ 013	PHENOL	604	☐ 026	Cd	7130
☐ 002	VOA	602	☐ 014	VOC	8240	☐ 027	Pb	7421
☐ 003	VOH	8010	☐ 015	VOC	624	☐ 028	Hg(L)	7470
☐ 004	VOH	601	☐ 016	SVOC	8250	☐ 031	Se	7740
☐ 005	SUITE	8010-8020	☐ 017	SVOC	625	☐ 032	ICAP	6010
☒ 006	SUITE	601-602	☐ 018	VOC	8260	☐ 033	CATIONS/ANIONS	
☐ 007	HEADSPACE		☐ 019	SVOC	8270	☐ 034	N SUITE	
☐ 008	PAH	8100	☐ 020	O&G	9070	☐ 035	NITRATE	
☐ 009	PAH	610	☐ 022	AS	7060	☐ 036	NITRITE	
☐ 010	PCB	8080	☐ 023	Ba	7080	☐ 037	AMMONIA	
☐ 011	PCB	608	☐ 024	Cr	7190	☐ 038	TKN	
☐ 012	PHENOL	8040	☐ 025	Cr6	7198	☐	OTHER_____	

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

ANALYSIS REQUEST FORM

Contract Lab Intermountain Labs Contract No. 95-521.07-039

OCD Sample No. 950629 1100

Collection Date	Collection Time	Collected by—Person/Agency
6/29/95	1100	Olson /OCD

SITE INFORMATION Navajo Refinery KWB-1C

Sample location

Collection Site Description

Township, Range, Section, Tract: | | | + | | + | + | |

SEND FINAL REPORT TO

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 2

- ☒ **NF:** Whole sample (Non-filtered)
- ☐ **F:** Filtered in field with 0.45 μ membrane filter
- ☐ **PF:** Pre-filtered w/45 μ membrane filter

- ☐ **NA:** No acid added
- ☒ **A:** HCL
- ☐ **A:** 2ml H_2SO_4/L added
- ☐ **A:** 5ml conc. HNO_3 added
- ☐ **A:** 4ml fuming HNO_3 added

FIELD COMMENTS:

SAMPLING CONDITIONS

- ☒ Bailed ☐ Pump
- ☐ Dipped ☐ Tap

Water level

Discharge

Sample type

pH(00400)

Conductivity (Uncorrected) μmho

Water Temp. (00010)

Conductivity at 25° C μmho

LAB ANALYSIS REQUESTED:

ITEM	DESC	METHOD	ITEM	DESC	METHOD	ITEM	DESC	METHOD
☐ 001	VOA	8020	☐ 013	PHENOL	604	☐ 026	Cd	7130
☐ 002	VOA	602	☐ 014	VOC	8240	☐ 027	Pb	7421
☐ 003	VOH	8010	☐ 015	VOC	624	☐ 028	Hg(L)	7470
☐ 004	VOH	601	☐ 016	SVOC	8250	☐ 031	Se	7740
☐ 005	SUITE	8010-8020	☐ 017	SVOC	625	☐ 032	ICAP	6010
☒ 006	SUITE	601-602	☐ 018	VOC	8260	☐ 033	CATIONS/ANIONS	
☐ 007	HEADSPACE		☐ 019	SVOC	8270	☐ 034	N SUITE	
☐ 008	PAH	8100	☐ 020	O&G	9070	☐ 035	NITRATE	
☐ 009	PAH	610	☐ 022	AS	7060	☐ 036	NITRITE	
☐ 010	PCB	8080	☐ 023	Ba	7080	☐ 037	AMMONIA	
☐ 011	PCB	608	☐ 024	Cr	7190	☐ 038	TKN	
☐ 012	PHENOL	8040	☐ 025	Cr6	7198	☐	OTHER_____	

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

ANALYSIS REQUEST FORM

Contract Lab Intermountain Labs Contract No. 95-521.07-039

OCD Sample No. 9506291100

Collection Date	Collection Time	Collected by—Person/Agency
6/25/95	1100	M. Olson /OCD

SITE INFORMATION

Sample location: Navajo Refinery - KWB - IC

Collection Site Description:

Township, Range, Section, Tract: | | | + | | + | + | |

SEND FINAL REPORT TO ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 1

- [x] **NF:** Whole sample (Non-filtered)
- [ ] **F:** Filtered in field with 0.45 μ membrane filter
- [ ] **PF:** Pre-filtered w/45 μ membrane filter

- [ ] **NA:** No acid added
- [ ] **A:** HCL
- [ ] **A:** 2ml H_2SO_4/L added
- [x] **A:** 5ml conc. HNO_3 added
- [ ] **A:** 4ml fuming HNO_3 added

FIELD COMMENTS:

SAMPLING CONDITIONS

- [x] Bailed [ ] Pump
- [ ] Dipped [ ] Tap

Water level:

Discharge:

Sample type:

pH(00400):

Conductivity (Uncorrected) μmho:

Water Temp. (00010):

Conductivity at 25° C μmho:

LAB ANALYSIS REQUESTED:

ITEM	DESC	METHOD	ITEM	DESC	METHOD	ITEM	DESC	METHOD
[ ] 001	VOA	8020	[ ] 013	PHENOL	604	[ ] 026	Cd	7130
[ ] 002	VOA	602	[ ] 014	VOC	8240	[ ] 027	Pb	7421
[ ] 003	VOH	8010	[ ] 015	VOC	624	[x] 028	Hg(L)	7470
[ ] 004	VOH	601	[ ] 016	SVOC	8250	[x] 031	Se	7740
[ ] 005	SUITE	8010-8020	[ ] 017	SVOC	625	[x] 032	ICAP	6010
[ ] 006	SUITE	601-602	[ ] 018	VOC	8260	[ ] 033	CATIONS/ANIONS	
[ ] 007	HEADSPACE		[ ] 019	SVOC	8270	[ ] 034	N SUITE	
[ ] 008	PAH	8100	[ ] 020	O&G	9070	[ ] 035	NITRATE	
[ ] 009	PAH	610	[ ] 022	AS	7060	[ ] 036	NITRITE	
[ ] 010	PCB	8080	[ ] 023	Ba	7080	[ ] 037	AMMONIA	
[ ] 011	PCB	608	[ ] 024	Cr	7190	[ ] 038	TKN	
[ ] 012	PHENOL	8040	[ ] 025	Cr6	7198	[ ]	OTHER	

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

ANALYSIS REQUEST FORM

Contract Lab Intermountain Labs Contract No. 95-521.07-039

OCD Sample No. 9506291100

Collection Date	Collection Time	Collected by —Person/Agency
6 29 95	1100	Olson /OCD

SITE INFORMATION Navajo Refinery KWB-1c

Sample location

Collection Site Description

Township, Range, Section, Tract: | | | + | | + | + | | |

SEND FINAL REPORT TO ▸ ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 1

- ☒ **NF:** Whole sample (Non-filtered)
- ☐ **F:** Filtered in field with 0.45 μ membrane filter
- ☐ **PF:** Pre-filtered w/45 μ membrane filter

- ☒ **NA:** No acid added
- ☐ **A:** HCL
- ☐ **A:** 2ml H_2SO_4/L added
- ☐ **A:** 5ml conc. HNO_3 added
- ☐ **A:** 4ml fuming HNO_3 added

FIELD COMMENTS:

SAMPLING CONDITIONS

- ☒ Bailed ☐ Pump
- ☐ Dipped ☐ Tap

Water level

Discharge

Sample type

pH(00400)

Conductivity (Uncorrected) μmho

Water Temp. (00010)

Conductivity at 25° C μmho

LAB ANALYSIS REQUESTED:

ITEM	DESC	METHOD	ITEM	DESC	METHOD	ITEM	DESC	METHOD
☐ 001	VOA	8020	☐ 013	PHENOL	604	☐ 026	Cd	7130
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☐ 003	VOH	8010	☐ 015	VOC	624	☐ 028	Hg(L)	7470
☐ 004	VOH	601	☐ 016	SVOC	8250	☐ 031	Se	7740
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☐ 008	PAH	8100	☐ 020	O&G	9070	☐ 035	NITRATE	
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☐ 010	PCB	8080	☐ 023	Ba	7080	☐ 037	AMMONIA	
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☐ 012	PHENOL	8040	☐ 025	Cr6	7198	☐	OTHER_____	

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

ANALYSIS REQUEST FORM

Contract Lab Intermountain Labs Contract No. 95-521.07-039

OCD Sample No. 9506291100

Collection Date	Collection Time	Collected by —Person/Agency
6/29/95	1100	Olson /OCD

SITE INFORMATION Navajo Refinery KWB-1C

Sample location

Collection Site Description

Township, Range, Section, Tract: | | | + | | + | + | |

SEND FINAL REPORT TO ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 2

- [X] **NF:** Whole sample (Non-filtered)
- [ ] **F:** Filtered in field with 0.45 μ membrane filter
- [ ] **PF:** Pre-filtered w/45 μ membrane filter

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- [ ] **A:** 4ml fuming HNO_3 added

FIELD COMMENTS:

SAMPLING CONDITIONS

- [X] Bailed [ ] Pump
- [ ] Dipped [ ] Tap

Water level

Discharge

Sample type

pH(00400)

Conductivity (Uncorrected) μmho

Water Temp. (00010)

Conductivity at 25° C μmho

LAB ANALYSIS REQUESTED:

ITEM	DESC	METHOD	ITEM	DESC	METHOD	ITEM	DESC	METHOD
[ ] 001	VOA	8020	[ ] 013	PHENOL	604	[ ] 026	Cd	7130
[ ] 002	VOA	602	[ ] 014	VOC	8240	[ ] 027	Pb	7421
[ ] 003	VOH	8010	[ ] 015	VOC	624	[ ] 028	Hg(L)	7470
[ ] 004	VOH	601	[ ] 016	SVOC	8250	[ ] 031	Se	7740
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[ ] 006	SUITE	601-602	[ ] 018	VOC	8260	[ ] 033	CATIONS/ANIONS	
[ ] 007	HEADSPACE		[ ] 019	SVOC	8270	[ ] 034	N SUITE	
[ ] 008	PAH	8100	[ ] 020	O&G	9070	[ ] 035	NITRATE	
[X] 009	PAH	610	[ ] 022	AS	7060	[ ] 036	NITRITE	
[ ] 010	PCB	8080	[ ] 023	Ba	7080	[ ] 037	AMMONIA	
[ ] 011	PCB	608	[ ] 024	Cr	7190	[ ] 038	TKN	
[ ] 012	PHENOL	8040	[ ] 025	Cr6	7198	[ ]	OTHER	

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

ANALYSIS REQUEST FORM

Contract Lab Intermountain Labs Contract No. 95-521.07-039

OCD Sample No. 950629 1145

Collection Date	Collection Time	Collected by—Person/Agency
6/29/95	1145	Olson /OCD

SITE INFORMATION Navajo Refinery MW-18

Sample location

Collection Site Description

Township, Range, Section, Tract:

SEND FINAL REPORT TO ▶ ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

SAMPLING CONDITIONS

☒ Bailed ☐ Pump
☐ Dipped ☐ Tap

pH(00400)

Water Temp. (00010)

Water level

Discharge

Sample type

Conductivity (Uncorrected) μmho

Conductivity at 25° C μmho

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 1

☒ **NF:** Whole sample (Non-filtered)
☐ **F:** Filtered in field with 0.45 μ membrane filter
☐ **PF:** Pre-filtered w/45 μ membrane filter

☐ **NA:** No acid added
☐ **A:** HCL
☐ **A:** 2ml H_2SO_4/L added
☒ **A:** 5ml conc. HNO_3 added
☐ **A:** 4ml fuming HNO_3 added

FIELD COMMENTS:

AB ANALYSIS REQUESTED:

ITEM	DESC	METHOD	ITEM	DESC	METHOD	ITEM	DESC	METHOD
☐ 001	VOA	8020	☐ 013	PHENOL	604	☐ 026	Cd	7130
☐ 002	VOA	602	☐ 014	VOC	8240	☐ 027	Pb	7421
☐ 003	VOH	8010	☐ 015	VOC	624	☒ 028	Hg(L)	7470
☐ 004	VOH	601	☐ 016	SVOC	8250	☒ 031	Se	7740
☐ 005	SUITE	8010-8020	☐ 017	SVOC	625	☒ 032	ICAP	6010
☐ 006	SUITE	601-602	☐ 018	VOC	8260	☐ 033	CATIONS/ANIONS	
☐ 007	HEADSPACE		☐ 019	SVOC	8270	☐ 034	N SUITE	
☐ 008	PAH	8100	☐ 020	O&G	9070	☐ 035	NITRATE	
☐ 009	PAH	610	☐ 022	AS	7060	☐ 036	NITRITE	
☐ 010	PCB	8080	☐ 023	Ba	7080	☐ 037	AMMONIA	
☐ 011	PCB	608	☐ 024	Cr	7190	☐ 038	TKN	
☐ 012	PHENOL	8040	☐ 025	Cr6	7196	☐	OTHER	

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

ANALYSIS REQUEST FORM

Contract Lab Intermountain Labs Contract No. 95-521.07-039

OCD Sample No. 950629 1145

Collection Date	Collection Time	Collected by—Person/Agency
6/29/95	1145	Olson /OCD

SITE INFORMATION Navajo Refinery MW-18

Sample location

Collection Site Description

Township, Range, Section, Tract: | | | + | | + | + | | |

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ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 1

- ☒ **NF:** Whole sample (Non-filtered)
- ☐ **F:** Filtered in field with 0.45 μ membrane filter
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- ☒ **NA:** No acid added
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- ☐ **A:** 2ml H_2SO_4/L added
- ☐ **A:** 5ml conc. HNO_3 added
- ☐ **A:** 4ml fuming HNO_3 added

FIELD COMMENTS:

SAMPLING CONDITIONS

- ☒ Bailed ☐ Pump
- ☐ Dipped ☐ Tap

Water level

Discharge

Sample type

pH(00400)

Conductivity (Uncorrected) μmho

Water Temp. (00010)

Conductivity at 25° C μmho

AB ANALYSIS REQUESTED:

ITEM	DESC	METHOD	ITEM	DESC	METHOD	ITEM	DESC	METHOD
☐ 001	VOA	8020	☐ 013	PHENOL	604	☐ 026	Cd	7130
☐ 002	VOA	602	☐ 014	VOC	8240	☐ 027	Pb	7421
☐ 003	VOH	8010	☐ 015	VOC	624	☐ 028	Hg(L)	7470
☐ 004	VOH	601	☐ 016	SVOC	8250	☐ 031	Se	7740
☐ 005	SUITE	8010-8020	☐ 017	SVOC	625	☐ 032	ICAP	6010
☐ 006	SUITE	601-602	☐ 018	VOC	8260	☒ 033	CATIONS/ANIONS	
☐ 007	HEADSPACE		☐ 019	SVOC	8270	☐ 034	N SUITE	
☐ 008	PAH	8100	☐ 020	O&G	9070	☐ 035	NITRATE	
☐ 009	PAH	610	☐ 022	AS	7060	☐ 036	NITRITE	
☐ 010	PCB	8080	☐ 023	Ba	7080	☐ 037	AMMONIA	
☐ 011	PCB	608	☐ 024	Cr	7190	☐ 038	TKN	
☐ 012	PHENOL	8040	☐ 025	Cr6	7198	☐	OTHER	

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

ANALYSIS REQUEST FORM

ıtract Lab Intermountain Labs Contract No. 95-521.07-039

CD Sample No. 950629 1145

llection Date	Collection Time	Collected by—Person/Agency
129 95	1145	Olson /OCD

ITE INFORMATION Navajo Refinery MW-18

ample location

ollection Site Description

Township, Range, Section, Tract: | | | + | | + | + | | |

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Santa Fe, NM 87504-2088

AMPLING CONDITIONS

- ☒ Bailed ☐ Pump
- ☐ Dipped ☐ Tap

(00400)

Water Temp. (00010)

Water level

Discharge

Sample type

Conductivity (Uncorrected) μmho

Conductivity at 25° C μmho

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 2

- ☒ NF: Whole sample (Non-filtered)
- ☐ F: Filtered in field with 0.45 μ membrane filter
- ☐ PF: Pre-filtered w/45 μ membrane filter

- ☒ NA: No acid added
- ☐ A: HCL
- ☐ A: 2ml H_2SO_4/L added
- ☐ A: 5ml conc. HNO_3 added
- ☐ A: 4ml fuming HNO_3 added

FIELD COMMENTS:

AB ANALYSIS REQUESTED:

ITEM	DESC	METHOD	ITEM	DESC	METHOD	ITEM	DESC	METHOD
☐ 001	VOA	8020	☐ 013	PHENOL	604	☐ 026	Cd	7130
☐ 002	VOA	602	☐ 014	VOC	8240	☐ 027	Pb	7421
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☐ 004	VOH	601	☐ 016	SVOC	8250	☐ 031	Se	7740
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☐ 006	SUITE	601-602	☐ 018	VOC	8260	☐ 033	CATIONS/ANIONS	
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☐ 008	PAH	8100	☐ 020	O&G	9070	☐ 035	NITRATE	
☒ 009	PAH	610	☐ 022	AS	7060	☐ 036	NITRITE	
☐ 010	PCB	8080	☐ 023	Ba	7080	☐ 037	AMMONIA	
☐ 011	PCB	608	☐ 024	Cr	7190	☐ 038	TKN	
☐ 012	PHENOL	8040	☐ 025	Cr6	7198	☐	OTHER	

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

ANALYSIS REQUEST FORM

Contract Lab Intermountain Labs Contract No. 95-521.07-039

OCD Sample No. 950629 1145

Collection Date	Collection Time	Collected by—Person/Agency
6/29/95	1145	Olson /OCD

SITE INFORMATION Navajo Refinery MW-18

Sample location

Collection Site Description

Township, Range, Section, Tract: | | | + | | + | + | | |

SEND FINAL REPORT TO ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 2

- ☒ **NF:** Whole sample (Non-filtered)
- ☐ **F:** Filtered in field with 0.45 μ membrane filter
- ☐ **PF:** Pre-filtered w/45 μ membrane filter

- ☐ **NA:** No acid added
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- ☐ **A:** 2ml H_2SO_4/L added
- ☐ **A:** 5ml conc. HNO_3 added
- ☐ **A:** 4ml fuming HNO_3 added

FIELD COMMENTS:

SAMPLING CONDITIONS

- ☒ Bailed ☐ Pump
- ☐ Dipped ☐ Tap

Water level

Discharge

Sample type

pH(00400)

Conductivity (Uncorrected) μmho

Water Temp. (00010)

Conductivity at 25° C μmho

LAB ANALYSIS REQUESTED:

ITEM	DESC	METHOD	ITEM	DESC	METHOD	ITEM	DESC	METHOD
☐ 001	VOA	8020	☐ 013	PHENOL	604	☐ 026	Cd	7130
☐ 002	VOA	602	☐ 014	VOC	8240	☐ 027	Pb	7421
☐ 003	VOH	8010	☐ 015	VOC	624	☐ 028	Hg(L)	7470
☐ 004	VOH	601	☐ 016	SVOC	8250	☐ 031	Se	7740
☐ 005	SUITE	8010-8020	☐ 017	SVOC	625	☐ 032	ICAP	6010
☒ 006	SUITE	601-602	☐ 018	VOC	8260	☐ 033	CATIONS/ANIONS	
☐ 007	HEADSPACE		☐ 019	SVOC	8270	☐ 034	N SUITE	
☐ 008	PAH	8100	☐ 020	O&G	9070	☐ 035	NITRATE	
☐ 009	PAH	610	☐ 022	AS	7060	☐ 036	NITRITE	
☐ 010	PCB	8080	☐ 023	Ba	7080	☐ 037	AMMONIA	
☐ 011	PCB	608	☐ 024	Cr	7190	☐ 038	TKN	
☐ 012	PHENOL	8040	☐ 025	Cr6	7198	☐	OTHER_____	

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

ANALYSIS REQUEST FORM

Contract Lab Intermountain Labs Contract No. 95-521.07-039

OCD Sample No. 950629/1330

Collection Date	Collection Time	Collected by—Person/Agency
6/29/95	1330	Olson /OCD

SITE INFORMATION Navajo Refinery MW-45

Sample location

Collection Site Description

Township, Range, Section, Tract:

SEND FINAL REPORT TO ▸ ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

SAMPLING CONDITIONS

☒ Bailed ☐ Pump ☐ Dipped ☐ Tap

Water level

Discharge

Sample type

pH(00400)

Conductivity (Uncorrected) μmho

Water Temp. (00010)

Conductivity at 25° C μmho

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 2

☒ NF: Whole sample (Non-filtered)
☐ F: Filtered in field with 0.45 μ membrane filter
☐ PF: Pre-filtered w/45 μ membrane filter

☒ NA: No acid added
☒ A: HCL
☐ A: 2ml H_2SO_4/L added
☐ A: 5ml conc. HNO_3 added
☐ A: 4ml fuming HNO_3 added

FIELD COMMENTS:

LAB ANALYSIS REQUESTED:

ITEM	DESC	METHOD	ITEM	DESC	METHOD	ITEM	DESC	METHOD
☐ 001	VOA	8020	☐ 013	PHENOL	604	☐ 026	Cd	7130
☐ 002	VOA	602	☐ 014	VOC	8240	☐ 027	Pb	7421
☐ 003	VOH	8010	☐ 015	VOC	624	☐ 028	Hg(L)	7470
☐ 004	VOH	601	☐ 016	SVOC	8250	☐ 031	Se	7740
☐ 005	SUITE	8010-8020	☐ 017	SVOC	625	☐ 032	ICAP	6010
☒ 006	SUITE	601-602	☐ 018	VOC	8260	☐ 033	CATIONS/ANIONS	
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☐ 009	PAH	610	☐ 022	AS	7060	☐ 036	NITRITE	
☐ 010	PCB	8080	☐ 023	Ba	7080	☐ 037	AMMONIA	
☐ 011	PCB	608	☐ 024	Cr	7190	☐ 038	TKN	
☐ 012	PHENOL	8040	☐ 025	Cr6	7198	☐	OTHER_____	

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

ANALYSIS REQUEST FORM

Contract Lab Intermountain Labs Contract No. 95-521.07-039

OCD Sample No. 950629/1330

Collection Date	Collection Time	Collected by—Person/Agency
6/29/95	1330	Olson /OCD

SITE INFORMATION Navajo Refinery MW-45

Sample location

Collection Site Description

Township, Range, Section, Tract: | | | + | | + | + | | |

SEND FINAL REPORT TO ▶ ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

SAMPLING CONDITIONS

☒ Bailed ☐ Pump
☐ Dipped ☐ Tap

pH(00400)

Water Temp. (00010)

Water level

Discharge

Sample type

Conductivity (Uncorrected) μmho

Conductivity at 25° C μmho

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 2

☒ **NF:** Whole sample (Non-filtered)
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FIELD COMMENTS:

LAB ANALYSIS REQUESTED:

ITEM	DESC	METHOD	ITEM	DESC	METHOD	ITEM	DESC	METHOD
☐ 001	VOA	8020	☐ 013	PHENOL	604	☐ 026	Cd	7130
☐ 002	VOA	602	☐ 014	VOC	8240	☐ 027	Pb	7421
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☐ 004	VOH	601	☐ 016	SVOC	8250	☐ 031	Se	7740
☐ 005	SUITE	8010-8020	☐ 017	SVOC	625	☐ 032	ICAP	6010
☐ 006	SUITE	601-602	☐ 018	VOC	8260	☐ 033	CATIONS/ANIONS	
☐ 007	HEADSPACE		☐ 019	SVOC	8270	☐ 034	N SUITE	
☐ 008	PAH	8100	☐ 020	O&G	9070	☐ 035	NITRATE	
☒ 009	PAH	610	☐ 022	AS	7060	☐ 036	NITRITE	
☐ 010	PCB	8080	☐ 023	Ba	7080	☐ 037	AMMONIA	
☐ 011	PCB	608	☐ 024	Cr	7190	☐ 038	TKN	
☐ 012	PHENOL	8040	☐ 025	Cr6	7198	☐	OTHER	

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

ANALYSIS REQUEST FORM

ntract Lab Intermountain Labs Contract No. 95-521.07-039

CD Sample No. 950629 1330

ollection Date	Collection Time	Collected by—Person/Agency
6 29 95	1330	Olson /OCD

ITE INFORMATION Navajo Refinery MW-45

Sample location

ollection Site Description

Township, Range, Section, Tract: | | | + | | + | + | | |

ND ENVIRONMENTAL BUREAU
AL NM OIL CONSERVATION DIVISION
PORT PO Box 2088
Santa Fe, NM 87504-2088

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 1

- ☒ NF: Whole sample (Non-filtered)
- ☐ F: Filtered in field with 0.45 μ membrane filter
- ☐ PF: Pre-filtered w/45 μ membrane filter

- ☒ NA: No acid added
- ☐ A: HCL
- ☐ A: 2ml H_2SO_4/L added
- ☐ A: 5ml conc. HNO_3 added
- ☐ A: 4ml fuming HNO_3 added

SAMPLING CONDITIONS

- ☒ Bailed ☐ Pump
- ☐ Dipped ☐ Tap

Water level

Discharge

Sample type

Conductivity (Uncorrected) μmho

Conductivity at 25° C μmho

H(00400)

Water Temp. (00010)

FIELD COMMENTS:

B ANALYSIS REQUESTED:

ITEM	DESC	METHOD	ITEM	DESC	METHOD	ITEM	DESC	METHOD
☐ 001	VOA	8020	☐ 013	PHENOL	604	☐ 026	Cd	7130
☐ 002	VOA	602	☐ 014	VOC	8240	☐ 027	Pb	7421
☐ 003	VOH	8010	☐ 015	VOC	624	☐ 028	Hg(L)	7470
☐ 004	VOH	601	☐ 016	SVOC	8250	☐ 031	Se	7740
☐ 005	SUITE	8010-8020	☐ 017	SVOC	625	☐ 032	ICAP	6010
☐ 006	SUITE	601-602	☐ 018	VOC	8260	☒ 033	CATIONS/ANIONS	
☐ 007	HEADSPACE		☐ 019	SVOC	8270	☐ 034	N SUITE	
☐ 008	PAH	8100	☐ 020	O&G	9070	☐ 035	NITRATE	
☐ 009	PAH	610	☐ 022	AS	7060	☐ 036	NITRITE	
☐ 010	PCB	8080	☐ 023	Ba	7080	☐ 037	AMMONIA	
☐ 011	PCB	608	☐ 024	Cr	7190	☐ 038	TKN	
☐ 012	PHENOL	8040	☐ 025	Cr6	7198	☐	OTHER	

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

ANALYSIS REQUEST FORM

ntract Lab Intermountain Labs Contract No. 95-521.07-039

OCD Sample No. 950629/1330

Collection Date	Collection Time	Collected by—Person/Agency
6/29/95	1330	Olson /OCD

SITE INFORMATION Navajo Refinery MW-45

Sample location

Collection Site Description

Township, Range, Section, Tract: | | | + | | + | + | | |

ND ENVIRONMENTAL BUREAU
AL NM OIL CONSERVATION DIVISION
PORT PO Box 2088
Santa Fe, NM 87504-2088

SAMPLING CONDITIONS

- [x] Bailed [ ] Pump
- [ ] Dipped [ ] Tap

pH(00400)

Water Temp. (00010)

Water level

Discharge

Sample type

Conductivity (Uncorrected) μmho

Conductivity at 25° C μmho

SAMPLE FIELD TREATMENT— *Check proper boxes*

No. of samples submitted: 1

- [x] NF: Whole sample (Non-filtered)
- [ ] F: Filtered in field with 0.45 μ membrane filter
- [ ] PF: Pre-filtered w/45 μ membrane filter

- [ ] NA: No acid added
- [ ] A: HCL
- [ ] A: 2ml H_2SO_4/L added
- [x] A: 5ml conc. HNO_3 added
- [ ] A: 4ml fuming HNO_3 added

FIELD COMMENTS:

B ANALYSIS REQUESTED:

ITEM	DESC	METHOD	ITEM	DESC	METHOD	ITEM	DESC	METHOD
[ ] 001	VOA	8020	[ ] 013	PHENOL	604	[ ] 026	Cd	7130
[ ] 002	VOA	602	[ ] 014	VOC	8240	[ ] 027	Pb	7421
[ ] 003	VOH	8010	[ ] 015	VOC	624	[x] 028	Hg(L)	7470
[ ] 004	VOH	601	[ ] 016	SVOC	8250	[x] 031	Se	7740
[ ] 005	SUITE	8010-8020	[ ] 017	SVOC	625	[x] 032	ICAP	6010
[ ] 006	SUITE	601-602	[ ] 018	VOC	8260	[ ] 033	CATIONS/ANIONS	
[ ] 007	HEADSPACE		[ ] 019	SVOC	8270	[ ] 034	N SUITE	
[ ] 008	PAH	8100	[ ] 020	O&G	9070	[ ] 035	NITRATE	
[ ] 009	PAH	610	[ ] 022	AS	7060	[ ] 036	NITRITE	
[ ] 010	PCB	8080	[ ] 023	Ba	7080	[ ] 037	AMMONIA	
[ ] 011	PCB	608	[ ] 024	Cr	7190	[ ] 038	TKN	
[ ] 012	PHENOL	8040	[ ] 025	Cr6	7196	[ ]	OTHER	

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

ANALYSIS REQUEST FORM

Contract Lab Intermountain Labs Contract No. 95-521.07-039

OCD Sample No. 9506281520

Collection Date	Collection Time	Collected by—Person/Agency
6/29/95	1520	Olson OCD

SITE INFORMATION Navajo Refinery KWB-1A

Sample location

Collection Site Description

Township, Range, Section, Tract: | | | + | | + | + | |

END FINAL REPORT TO ▶ ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

SAMPLING CONDITIONS

☒ Bailed ☐ Pump
☐ Dipped ☐ Tap

pH(00400)

Water Temp. (00010)

Water level

Discharge

Sample type

Conductivity (Uncorrected) μmho

Conductivity at 25° C μmho

SAMPLE FIELD TREATMENT— *Check proper boxes*

No. of samples submitted: 2

☒ **NF:** Whole sample (Non-filtered)
☐ **F:** Filtered in field with 0.45 μ membrane filter
☐ **PF:** Pre-filtered w/45 μ membrane filter

☒ **NA:** No acid added
☐ **A:** HCL
☐ **A:** 2ml H_2SO_4/L added
☐ **A:** 5ml conc. HNO_3 added
☐ **A:** 4ml fuming HNO_3 added

FIELD COMMENTS:

AB ANALYSIS REQUESTED:

ITEM	DESC	METHOD	ITEM	DESC	METHOD	ITEM	DESC	METHOD
☐ 001	VOA	8020	☐ 013	PHENOL	604	☐ 026	Cd	7130
☐ 002	VOA	602	☐ 014	VOC	8240	☐ 027	Pb	7421
☐ 003	VOH	8010	☐ 015	VOC	624	☐ 028	Hg(L)	7470
☐ 004	VOH	601	☐ 016	SVOC	8250	☐ 031	Se	7740
☐ 005	SUITE	8010-8020	☐ 017	SVOC	625	☐ 032	ICAP	6010
☐ 006	SUITE	601-602	☐ 018	VOC	8260	☐ 033	CATIONS/ANIONS	
☐ 007	HEADSPACE		☐ 019	SVOC	8270	☐ 034	N SUITE	
☐ 008	PAH	8100	☐ 020	O&G	9070	☐ 035	NITRATE	
☒ 009	PAH	610	☐ 022*	AS	7060	☐ 036	NITRITE	
☐ 010	PCB	8080	☐ 023	Ba	7080	☐ 037	AMMONIA	
☐ 011	PCB	608	☐ 024	Cr	7190	☐ 038	TKN	
☐ 012	PHENOL	8040	☐ 025	Cr6	7198	☐	OTHER	

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

ANALYSIS REQUEST FORM

Contract Lab Intermountain Labs Contract No. 95-521.07-039

OCD Sample No. 9506281520

Collection Date	Collection Time	Collected by—Person/Agency
6/29/95	1520	Olson /OCD

SITE INFORMATION Navajo Refinery KWB-1A

Sample location

Collection Site Description

Township, Range, Section, Tract: | | | + | | + | + | | |

SEND FINAL REPORT TO ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 2

- ☒ NF: Whole sample (Non-filtered)
- ☐ F: Filtered in field with 0.45 μ membrane filter
- ☐ PF: Pre-filtered w/45 μ membrane filter

- ☐ NA: No acid added
- ☒ A: HCL
- ☐ A: 2ml H_2SO_4/L added
- ☐ A: 5ml conc. HNO_3 added
- ☐ A: 4ml fuming HNO_3 added

FIELD COMMENTS:

SAMPLING CONDITIONS

- ☒ Bailed ☐ Pump
- ☐ Dipped ☐ Tap

Water level

Discharge

Sample type

pH(00400)

Conductivity (Uncorrected) μmho

Water Temp. (00010)

Conductivity at 25° C μmho

LAB ANALYSIS REQUESTED:

ITEM	DESC	METHOD	ITEM	DESC	METHOD	ITEM	DESC	METHOD
☐ 001	VOA	8020	☐ 013	PHENOL	604	☐ 026	Cd	7130
☐ 002	VOA	602	☐ 014	VOC	8240	☐ 027	Pb	7421
☐ 003	VOH	8010	☐ 015	VOC	624	☐ 028	Hg(L)	7470
☐ 004	VOH	601	☐ 016	SVOC	8250	☐ 031	Se	7740
☐ 005	SUITE	8010-8020	☐ 017	SVOC	625	☐ 032	ICAP	6010
☒ 006	SUITE	601-602	☐ 018	VOC	8260	☐ 033	CATIONS/ANIONS	
☐ 007	HEADSPACE		☐ 019	SVOC	8270	☐ 034	N SUITE	
☐ 008	PAH	8100	☐ 020	O&G	9070	☐ 035	NITRATE	
☐ 009	PAH	610	☐ 022	AS	7060	☐ 036	NITRITE	
☐ 010	PCB	8080	☐ 023	Ba	7080	☐ 037	AMMONIA	
☐ 011	PCB	608	☐ 024	Cr	7190	☐ 038	TKN	
☐ 012	PHENOL	8040	☐ 025	Cr6	7198	☐	OTHER	

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

ANALYSIS REQUEST FORM

ontract Lab Intermountain Labs Contract No. 95-521.07-039

OCD Sample No. 9506281520

Collection Date	Collection Time	Collected by—Person/Agency
6/29/95	1520	Olson /OCD

SITE INFORMATION Navajo Refinery KWB-1A

Sample location

Collection Site Description

Township, Range, Section, Tract: | | + | | + | + | |

END ENVIRONMENTAL BUREAU
TAL NM OIL CONSERVATION DIVISION
PORT PO Box 2088
Santa Fe, NM 87504-2088

SAMPLING CONDITIONS

☒ Bailed ☐ Pump
☐ Dipped ☐ Tap

pH(00400)

Water Temp. (00010)

Water level

Discharge

Sample type

Conductivity (Uncorrected) μmho

Conductivity at 25° C μmho

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 1

☒ NF: Whole sample (Non-filtered)
☐ F: Filtered in field with 0.45 μ membrane filter
☐ PF: Pre-filtered w/45 μ membrane filter

☒ NA: No acid added
☐ A: HCL
☐ A: 2ml H_2SO_4/L added
☐ A: 5ml conc. HNO_3 added
☐ A: 4ml fuming HNO_3 added

FIELD COMMENTS:

NB ANALYSIS REQUESTED:

ITEM	DESC	METHOD	ITEM	DESC	METHOD	ITEM	DESC	METHOD
☐ 001	VOA	8020	☐ 013	PHENOL	604	☐ 026	Cd	7130
☐ 002	VOA	602	☐ 014	VOC	8240	☐ 027	Pb	7421
☐ 003	VOH	8010	☐ 015	VOC	624	☐ 028	Hg(L)	7470
☐ 004	VOH	601	☐ 016	SVOC	8250	☐ 031	Se	7740
☐ 005	SUITE	8010-8020	☐ 017	SVOC	625	☐ 032	ICAP	6010
☐ 006	SUITE	601-602	☐ 018	VOC	8260	☒ 033	CATIONS/ANIONS	
☐ 007	HEADSPACE		☐ 019	SVOC	8270	☐ 034	N SUITE	
☐ 008	PAH	8100	☐ 020	O&G	9070	☐ 035	NITRATE	
☐ 009	PAH	610	☐ 022*	AS	7060	☐ 036	NITRITE	
☐ 010	PCB	8080	☐ 023	Ba	7080	☐ 037	AMMONIA	
☐ 011	PCB	608	☐ 024	Cr	7190	☐ 038	TKN	
☐ 012	PHENOL	8040	☐ 025	Cr6	7198	☐	OTHER	

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 25, 1996

CERTIFIED MAIL/RETURN RECEIPT
P 466 329 999

Mr Bill Olson
Hydrogeologist
Environmental Bureau
Oil Conservation Division
2040 S. Pacheco St.
Santa Fe, NM 87505-5472

RE: 4th QUARTER 1995 INVESTIGATIVE REPORT - GROUND WATER REMEDIATION, NAVAJO REFINING CO., EDDY COUNTY, NM

Dear Bill,

Enclosed, please find 1) Ground Water potentiometric map, 2) Product thickness map, and 3) analysis of our sampling for this quarter. Of course, the sampling for this quarter does not include any irrigation wells per your letter of October 8, 1992. The analysis does include the annual sampling as stated in your letter and schedule of July 25, 1994. Also, KWB-12A, which is the monitor well across the road and south of Bolton Road-1, could not be sampled. It had no water in it.

We have set up the recovery wells on timers to get an idea of how much water each one pumped. Although this is not entirely accurate, it is the best system we have been able to come up with. The fluid that comes out of these wells just desroys any guages we have been able to find. The amount of fluid pumped this quarter from each well is as follows:

	PRODUCT	WATER
RW-1	4815 GALLONS	19008 GALLONS
RW-2	28343 GALLONS	1172232 GALLONS
RW-4	8049 GALLONS	0 GALLONS
RW-5	105616 GALLONS	19368 GALLONS
RW-7	10719 GALLONS	1256544 GALLONS
RW-8	11360 GALLONS	939096 GALLONS
RW-9	0 GALLONS	921960 GALLONS
RW-10	7508 GALLONS	1452816 GALLONS
BOLTON RD-1	0 GALLONS	875088 GALLONS
BOLTON RD-2	0 GALLONS	1014192 GALLONS
BOLTON RD-3	825 GALLONS	647568 GALLONS
BOLTON RD-4	441 GALLONS	892980 GALLONS

This comes to a total of 177,678 gallons of product pumped and 9,210,240 gallons of water pumped plant wide this quarter. These totals are from October 1,1995 to December 31, 1995. As you can see, the Bolton Road well's production of product is low. In our last quarterly report, we told you that these wells may have been drowning in water therby restricting the product flow to the wet well. We felt that might be the reason these wells were not making any product. After measuring all the monitor wells and piezometers in

the area and adjusting the level of the pumps in the wells, we have determined that there is just not a whole lot of product in that area. Finally, the water totals are only approximations based on the time the pumps ran.

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

Regards,
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

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

October 25, 1995
Receiving Date: 10/13/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 10/13/95
Analysis Date: 10/13/95
Sampling Date: 10/12/95
Sample Condition: Intact & Cool
Sample Received by: McD
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)
T42703	RA-2723	<1	<1	<1	<1	<1	<1
QC	Quality Control	96	100	100	96	96	
Reporting Limit		1	1	1	1	1	
RPD		13	8	8	8	8	
% Extraction Accuracy		114	98	100	97	99	
% Instrument Accuracy		96	100	100	96	96	

METHODS: EPA SW 846-5030, 8020.
MTBE/BTEX SPIKE AND QC: 100 ug/L MTBE/BTEX.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

10-25-95
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: [illegible]

Phone #: [illegible]

FAX #: [illegible]

Company Name & Address: [illegible]

Project #:

Project Name :

Project Location: [illegible]

Sampler Signature: [illegible]

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		
	[illegible]	2		X					[illegible]	X	X	X		[illegible]	[illegible]						see list												
	[illegible]	2		[illegible]							X			[illegible]	[illegible]	X					[illegible]			[illegible]									

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
[illegible]	[illegible]	[illegible]			

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

October 30, 1995
Receiving Date: 10/27/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 10/27/95
Analysis Date: 10/27/95
Sampling Date: 10/26/95
Sample Condition: Intact & Cool
Sample Received by: McD
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)
T43368	RA-2723	<1	<1	<1	<1	<1	<1
T43369	RA-4196	<1	<1	<1	<1	<1	<1
T43370	RA-4798	<1	<1	<1	<1	<1	<1
QC	Quality Control	101	105	101	104	315	
Reporting Limit		1	1	1	1	1	
RPD		2	3	1	0	1	
% Extraction Accuracy		102	110	106	108	109	
% Instrument Accuracy		102	105	102	104	105	

METHODS: EPA SW 846-5030, 8020.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

10-30-95
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: [illegible] **Phone #:** [illegible]
FAX #: [illegible]

Company Name & Address: [illegible]

Project #: **Project Name :**

Project Location: [illegible] **Sampler Signature:** [illegible]

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
	[illegible]	[illegible]	[illegible]	X						X	X	[illegible]	[illegible]			[illegible]									
	[illegible]	[illegible]	[illegible]	[illegible]						[illegible]	[illegible]	[illegible]	[illegible]			[illegible]			[illegible]						
	[illegible]	[illegible]	[illegible]	X					X	X	X	[illegible]	[illegible]			[illegible]			X						
	[illegible]	[illegible]	[illegible]	[illegible]						X	X	[illegible]	[illegible]			[illegible]			[illegible]						
	[illegible]	[illegible]	[illegible]	[illegible]						[illegible]		[illegible]	[illegible]			[illegible]			[illegible]						
	[illegible]	[illegible]	[illegible]	[illegible]							[illegible]	[illegible]	[illegible]			[illegible]			[illegible]						

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
[illegible]	[illegible]	[illegible]			

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

November 14, 1995
Receiving Date: 11/10/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM 88211

Prep Date: 11/10/95
Analysis Date: 11/10/95
Sampling Date: 11/09/95
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)
T43997	RA-2723	<1	<1	<1	<1	<1	<1
QC	Quality Control	100	111	90	90	268	
Reporting Limit		1	1	1	1	1	
RPD		29	32	6	4	3	
% Extraction Accuracy		118	120	100	102	101	
% Instrument Accuracy		100	112	90	90	90	

METHODS: EPA SW 846-5030, 8020.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

11-14-95
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: [illegible]
Phone #: [illegible]
FAX #: [illegible]

Company Name & Address: NAVAJO [illegible]

Project #:
Project Name :

Project Location: [illegible]
Sampler Signature: [illegible]

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
	[illegible]	[illegible]	[illegible]	X						X	X	[illegible]	[illegible]							[illegible]		[illegible]			
	[illegible]	[illegible]	[illegible]	X					X	X	X	[illegible]	[illegible]							[illegible]		[illegible]			

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
[illegible]	[illegible]	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

November 30, 1995
Receiving Date: 11/24/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM 88211

Prep Date: 11/24/95
Analysis Date: 11/24/95
Sampling Date: 11/22/95
Sample Condition: Intact & Cool
Sample Received by: McD
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)
T44688	RW - 2723 Bi-wkly	<1	<1	<1	<1	<1	<1
QC	Quality Control	95	102	99	104	319	
Reporting Limit		1	1	1	1	1	
RPD		5	7	7	6	3	
% Extraction Accuracy		104	107	102	105	105	
% Instrument Accuracy		95	102	99	104	106	

METHODS: EPA SW 846-5030, 8020.
MTBE/BTEX SPIKE AND QC: 100 ug/L MTBE/BTEX.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

11-30-95
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: [illegible]

Phone #: [illegible]
FAX #: [illegible]

Company Name & Address: [illegible]

Project #:

Project Name :

Project Location: [illegible]

Sampler Signature: [illegible]

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	[illegible]	Turn around # of days	Fax ASAP	Hold
	R-O Reject Brackish	[illegible]	[illegible]	X					X	X	X	[illegible]	[illegible]			See List										
	R-O Reject [illegible]	[illegible]	[illegible]	X						X	X	"	"													
	[illegible]	2	[illegible]	X						X	X	[illegible]	7:45	X												
	[illegible] - 801 Tank	2	"	X						X	X	"	9:30	X									X			
	[illegible] - 801 Tank	2	"	X						X	X	"	9:20	X									X			
[illegible]	[illegible]	2	"	X						X	X	"	7:35	X									X			

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
[illegible]	[illegible]	[illegible]			

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

November 27, 1995
Receiving Date: 11/24/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 11/24/95
Analysis Date: 11/24/95
Sampling Date: 11/22/95
Sample Condition: Intact & Cool
Sample Received by: McD
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)
T44685	RA - 4196	<1	<1	<1	<1	<1	<1
T44686	RA - 4798	<1	<1	1	<1	<1	1
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 846-5030, 8020.
MTBE/BTEX SPIKE AND QC: 100 ug/L MTBE/BTEX.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

11-27-95
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 15, 1995
Receiving Date: 12/06/95
Sample Type: Water
Project No: NA
Project Location: Artesia, NM

Prep Date: 12/07/95
Analysis Date: 12/08/95
Sampling Date: 12/05/95
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)
T45223	RA-2723	<1	<1	<1	<1	<1	<1
QC	Quality Control	104	104	106	103	308	
Reporting Limit		1	1	1	1	1	
RPD		4	1	4	0	0	
% Extraction Accuracy		99	102	101	100	100	
% Instrument Accuracy		104	104	106	103	103	

METHODS: EPA SW 846-5030, 8020.
MTBE/BTEX SPIKE AND QC: 100 ug/L MTBE/BTEX.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

12-15-95
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: [illegible]

Phone #: [illegible]

FAX #: [illegible]

Company Name & Address: [illegible]

Project #:

Project Name :

Project Location: [illegible]

Sampler Signature: [illegible]

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	[illegible]	Turn around # of days	Fax ASAP	Hold
	[illegible]	2	[illegible]	X						X	X	[illegible]	[illegible]	X									X			
	[illegible]	"	"	"						"	"	"	[illegible]	X									X			
	[illegible]	"	"	"						"	"	"	[illegible]	X									X			
	[illegible]	[illegible]		X					X	X	X	"	[illegible]	[illegible]												
	[illegible]	2	[illegible]	X						X	X	"	[illegible]	X [illegible]												

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
[illegible]	[illegible]	[illegible]			

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

Relinquished by:	Date:	Time:	Received at Laboratory by:	Date:	Time:

REMARKS

NATIONAL ENVIRONMENTAL TESTING, INC.

Dallas Division
1548 Valwood Parkway
Suite 118
Carrollton, TX 75006
Tel. (214) 406-0100
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: 96.00129

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
290103	MW-18	01/04/1996	01/09/1996
290104	KWB-9	01/04/1996	01/09/1996
290105	KWB-2A	01/04/1996	01/09/1996
290106	KWB-11A	01/04/1996	01/09/1996
290107	KWB-7	01/04/1996	01/09/1996
290108	KWB-3A	01/05/1996	01/09/1996
290109	KWB-1C	01/05/1996	01/09/1996
290110	KWB-1A	01/05/1996	01/09/1996
290111	MW 45	01/05/1996	01/09/1996
290112	RA-2723	01/08/1996	01/09/1996
290113	RA-4196	01/08/1996	01/09/1996
290114	RA-4798	01/08/1996	01/09/1996
290115	RA-3156	01/08/1996	01/09/1996
290116	RA-3353	01/08/1996	01/09/1996
290117	TRIP BLANK		01/09/1996

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.: 96.00129

Page: 2

Project Name: QTRLY REMEDIATION-NAVAJO

290103 MW-18 Taken: 01/04/1996 10:00

Alkalinity, bicarb (CACO3)	420		mg/L
Alkalinity, carbonate (CACO3)	<5.0		mg/L
Chloride	206		mg/L
Fluoride	1.0		mg/L
Sulfate	819		mg/L
Aluminum, Trace ICP	0.039		mg/L
Arsenic, Trace ICP	<0.005		mg/L
Barium, Trace ICP	0.016		mg/L
Beryllium, Trace ICP	<0.001		mg/L
Boron, Trace ICP	0.552		mg/L
Cadmium, Trace ICP	<0.001		mg/L
Calcium, Trace ICP	288		mg/L
Chromium, Trace ICP	0.006		mg/L
Cobalt, Trace ICP	<0.005		mg/L
Copper, Trace ICP	<0.002		mg/L
Iron, Trace ICP	0.038		mg/L
Lead, Trace ICP	<0.005		mg/L
Magnesium, Trace ICP	188		mg/L
Manganese, Trace ICP	0.080		mg/L
Mercury, CVAA	<0.0002		mg/L
Molybdenum, Trace ICP	0.014		mg/L
Nickel, Trace ICP	0.006		mg/L
Potassium, Trace ICP	1.14		mg/L
Selenium, Trace ICP	<0.005		mg/L
Silver, Trace ICP	<0.002		mg/L
Sodium, Trace ICP	64.0		mg/L
Vanadium, Trace ICP	0.016		mg/L
Zinc, Trace ICP	<0.01		mg/L
EPA-8020 AQ (PRESERVED)			
Benzene	<2		ug/L
Ethylbenzene	<2		ug/L
Toluene	<2		ug/L
Xylenes, Total	<2		ug/L
MTBE	<2		ug/L
SURR: a,a,a-TFT	120		% Rec
BASE/NEUTRALS - 8270 AQUEOUS			
Acenaphthene	<6.	RLI	ug/L
Acenaphthylene	<6.	RLI	ug/L
Anthracene	<6.	RLI	ug/L
Benzo(a)anthracene	<6.	RLI	ug/L
Benzo(b)fluoranthene	<6.	RLI	ug/L

RLI - Reporting Limit Increased, sample volume < method specification

ANALYTICAL REPORT

Darrell Moore
NAVAJO REFINING COMPANY
P.O. Box 159
Artesia, NM 88211-159

01/23/1996
Job No.: 96.00129

Project Name: QTRLY REMEDIATION-NAVAJO

290103 MW-18

Benzo(k)fluoranthene	<6.	RLI	ug/L
Benzo(g,h,i)perylene	<6.	RLI	ug/L
Benzo(a)pyrene	<6.	RLI	ug/L
Chrysene	<6.	RLI	ug/L
Dibenzo(a,h)anthracene	<6.	RLI	ug/L
Fluoranthene	<6.	RLI	ug/L
Fluorene	<6.	RLI	ug/L
Indeno(1,2,3-cd)pyrene	<6.	RLI	ug/L
Naphthalene	<6.	RLI	ug/L
Phenanthrene	<6.	RLI	ug/L
Pyrene	<6.	RLI	ug/L
SURR: 2-Fluorobiphenyl	49		% Rec
SURR: Nitrobenzene-d5	38		% Rec
SURR: Terphenyl-d14	81		% Rec
Uranium, Total	1.8 +/- 0		pCi/L

RLI - Reporting Limit Increased, sample volume < method specification

ANALYTICAL REPORT

Darrell Moore
NAVAJO REFINING COMPANY
P.O. Box 159
Artesia, NM 88211-159

01/23/1996
Job No.: 96.00129

Page: 4

Project Name: QTRLY REMEDIATION-NAVAJO

290104 KWB-9 Taken: 01/04/96 11:00

Alkalinity, bicarb (CACO3)	464		mg/L
Alkalinity, carbonate (CACO3)	<5.0		mg/L
Chloride	136		mg/L
Fluoride	0.50		mg/L
Sulfate	1410		mg/L
Aluminum, Trace ICP	<0.05		mg/L
Arsenic, Trace ICP	<0.005		mg/L
Barium, Trace ICP	0.011		mg/L
Beryllium, Trace ICP	<0.001		mg/L
Boron, Trace ICP	0.405		mg/L
Cadmium, Trace ICP	<0.001		mg/L
Calcium, Trace ICP	356	SSR	mg/L
Chromium, Trace ICP	0.004		mg/L
Cobalt, Trace ICP	<0.005		mg/L
Copper, Trace ICP	0.005		mg/L
Iron, Trace ICP	0.017		mg/L
Lead, Trace ICP	<0.005		mg/L
Magnesium, Trace ICP	164		mg/L
Manganese, Trace ICP	0.013		mg/L
Mercury, CVAA	<0.0002		mg/L
Molybdenum, Trace ICP	<0.005		mg/L
Nickel, Trace ICP	<0.002		mg/L
Potassium, Trace ICP	0.763		mg/L
Selenium, Trace ICP	0.007		mg/L
Silver, Trace ICP	<0.002		mg/L
Sodium, Trace ICP	136		mg/L
Vanadium, Trace ICP	<0.01		mg/L
Zinc, Trace ICP	<0.01		mg/L
EPA-8020 AQ (PRESERVED)			
Benzene	<2		ug/L
Ethylbenzene	<2		ug/L
Toluene	<2		ug/L
Xylenes, Total	<2		ug/L
MTBE	<2		ug/L
SURR: a,a,a-TFT	89		% Rec
BASE/NEUTRALS - 8270 AQUEOUS			
Acenaphthene	<6.	RLI	ug/L
Acenaphthylene	<6.	RLI	ug/L
Anthracene	<6.	RLI	ug/L
Benzo(a)anthracene	<6.	RLI	ug/L
Benzo(b)fluoranthene	<6.	RLI	ug/L

RLI - Reporting Limit Increased, sample volume < method specification
SSR - The sample was >4x level of spike, skewed recoveries exist.

ANALYTICAL REPORT

Darrell Moore
NAVAJO REFININC COMPANY
P.O. Box 159
Artesia, NM 88211-159

01/23/1996
Job No.: 96.00129

Project Name: QTRLY REMEDIATION-NAVAJO

290104 KWB-9

Benzo(k)fluoranthene	<6.	RLI	ug/L
Benzo(g,h,i)perylene	<6.	RLI	ug/L
Benzo(a)pyrene	<6.	RLI	ug/L
Chrysene	<6.	RLI	ug/L
Dibenzo(a,h)anthracene	<6.	RLI	ug/L
Fluoranthene	<6.	RLI	ug/L
Fluorene	<6.	RLI	ug/L
Indeno(1,2,3-cd)pyrene	<6.	RLI	ug/L
Naphthalene	<6.	RLI	ug/L
Phenanthrene	<6.	RLI	ug/L
Pyrene	<6.	RLI	ug/L
SURR: 2-Fluorobiphenyl	54		% Rec
SURR: Nitrobenzene-d5	44		% Rec
SURR: Terphenyl-d14	37		% Rec
Uranium, Total	<1.0		pCi/L

RLI - Reporting Limit Increased, sample volume < method specification

ANALYTICAL REPORT

Darrell Moore
NAVAJO REFINING COMPANY
P.O. Box 159
Artesia, NM 88211-159

01/23/1996
Job No.: 96.00129

Project Name: QTRLY REMEDIATION-NAVAJO

290105 KWB-2A Taken: 01/04/96 13:00

Alkalinity, bicarb (CACO3)	280		mg/L
Alkalinity, carbonate (CACO3)	<5.0		mg/L
Chloride	134		mg/L
Fluoride	0.96		mg/L
Sulfate	1730		mg/L
Aluminum, Trace ICP	2.19		mg/L
Arsenic, Trace ICP	<0.005		mg/L
Barium, Trace ICP	0.036		mg/L
Beryllium, Trace ICP	<0.001		mg/L
Boron, Trace ICP	0.325		mg/L
Cadmium, Trace ICP	<0.001		mg/L
Calcium, Trace ICP	392		mg/L
Chromium, Trace ICP	0.003		mg/L
Cobalt, Trace ICP	<0.005		mg/L
Copper, Trace ICP	0.016		mg/L
Iron, Trace ICP	0.918		mg/L
Lead, Trace ICP	<0.005		mg/L
Magnesium, Trace ICP	207		mg/L
Manganese, Trace ICP	0.028		mg/L
Mercury, CVAA	<0.0002		mg/L
Molybdenum, Trace ICP	<0.005		mg/L
Nickel, Trace ICP	<0.002		mg/L
Potassium, Trace ICP	0.774		mg/L
Selenium, Trace ICP	0.011		mg/L
Silver, Trace ICP	<0.002		mg/L
Sodium, Trace ICP	134		mg/L
Vanadium, Trace ICP	0.022		mg/L
Zinc, Trace ICP	0.018		mg/L
EPA-8020 AQ (PRESERVED)			
Benzene	<2		ug/L
Ethylbenzene	<2		ug/L
Toluene	<2		ug/L
Xylenes, Total	<2		ug/L
MTBE	<2		ug/L
SURR: a,a,a-TFT	94		% Rec
BASE/NEUTRALS - 8270 AQUEOUS			
Acenaphthene	<6.	RLI	ug/L
Acenaphthylene	<6.	RLI	ug/L
Anthracene	<6.	RLI	ug/L
Benzo(a)anthracene	<6.	RLI	ug/L
Benzo(b)fluoranthene	<6.	RLI	ug/L

RLI - Reporting Limit Increased, sample volume < method specification

ANALYTICAL REPORT

Darrell Moore
NAVAJO REFINING COMPANY
P.O. Box 159
Artesia, NM 88211-159

01/23/1996
Job No.: 96.00129

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Project Name: QTRLY REMEDIATION-NAVAJO

290105 KWB-2A

Benzo(k)fluoranthene	<6.	RLI	ug/L
Benzo(g,h,i)perylene	<6.	RLI	ug/L
Benzo(a)pyrene	<6.	RLI	ug/L
Chrysene	<6.	RLI	ug/L
Dibenzo(a,h)anthracene	<6.	RLI	ug/L
Fluoranthene	<6.	RLI	ug/L
Fluorene	<6.	RLI	ug/L
Indeno(1,2,3-cd)pyrene	<6.	RLI	ug/L
Naphthalene	<6.	RLI	ug/L
Phenanthrene	<6.	RLI	ug/L
Pyrene	<6.	RLI	ug/L
SURR: 2-Fluorobiphenyl	50		% Rec
SURR: Nitrobenzene-d5	41		% Rec
SURR: Terphenyl-d14	37		% Rec
Uranium, Total	<1.0		pCi/L

RLI - Reporting Limit Increased, sample volume < method specification

ANALYTICAL REPORT

Darrell Moore
NAVAJO REFINING COMPANY
P.O. Box 159
Artesia, NM 88211-159

01/23/1996
Job No.: 96.00129

Project Name: QTRLY REMEDIATION-NAVAJO

290106 KWB-11A Taken: 01/04/96 16:00

Alkalinity, bicarb (CACO3)	490		mg/L
Alkalinity, carbonate (CACO3)	<5.0		mg/L
Chloride	610		mg/L
Fluoride	0.90		mg/L
Sulfate	1280		mg/L
Aluminum, Trace ICP	0.071		mg/L
Arsenic, Trace ICP	<0.005		mg/L
Barium, Trace ICP	0.019		mg/L
Beryllium, Trace ICP	<0.001		mg/L
Boron, Trace ICP	0.448		mg/L
Cadmium, Trace ICP	<0.001		mg/L
Calcium, Trace ICP	340		mg/L
Chromium, Trace ICP	<0.002		mg/L
Cobalt, Trace ICP	<0.005		mg/L
Copper, Trace ICP	0.016		mg/L
Iron, Trace ICP	0.024		mg/L
Lead, Trace ICP	<0.005		mg/L
Magnesium, Trace ICP	213		mg/L
Manganese, Trace ICP	0.049		mg/L
Mercury, CVAA	<0.0002		mg/L
Molybdenum, Trace ICP	<0.005		mg/L
Nickel, Trace ICP	<0.002		mg/L
Potassium, Trace ICP	0.683		mg/L
Selenium, Trace ICP	0.006		mg/L
Silver, Trace ICP	<0.002		mg/L
Sodium, Trace ICP	260		mg/L
Vanadium, Trace ICP	<0.01		mg/L
Zinc, Trace ICP	0.022		mg/L
EPA-8020 AQ (PRESERVED)			
Benzene	<2		ug/L
Ethylbenzene	<2		ug/L
Toluene	<2		ug/L
Xylenes, Total	<2		ug/L
MTBE	<2		ug/L
SURR: a,a,a-TFT	86		% Rec
BASE/NEUTRALS - 8270 AQUEOUS			
Acenaphthene	<6.	RLI	ug/L
Acenaphthylene	<6.	RLI	ug/L
Anthracene	<6.	RLI	ug/L
Benzo(a)anthracene	<6.	RLI	ug/L
Benzo(b)fluoranthene	<6.	RLI	ug/L

RLI - Reporting Limit Increased, sample volume < method specification

ANALYTICAL REPORT

Darrell Moore
NAVAJO REFINING COMPANY
P.O. Box 159
Artesia, NM 88211-159

01/23/1996
Job No.: 96.00129

Project Name: QTRLY REMEDIATION-NAVAJO

290106 KWB-11A

Benzo(k)fluoranthene	<6.	RLI	ug/L
Benzo(g,h,i)perylene	<6.	RLI	ug/L
Benzo(a)pyrene	<6.	RLI	ug/L
Chrysene	<6.	RLI	ug/L
Dibenzo(a,h)anthracene	<6.	RLI	ug/L
Fluoranthene	<6.	RLI	ug/L
Fluorene	<6.	RLI	ug/L
Indeno(1,2,3-cd)pyrene	<6.	RLI	ug/L
Naphthalene	<6.	RLI	ug/L
Phenanthrene	<6.	RLI	ug/L
Pyrene	<6.	RLI	ug/L
SURR: 2-Fluorobiphenyl	47		% Rec
SURR: Nitrobenzene-d5	42		% Rec
SURR: Terphenyl-d14	35		% Rec
Uranium, Total	<1.0		pCi/L

RLI - Reporting Limit Increased, sample volume < method specification

ANALYTICAL REPORT

Darrell Moore
NAVAJO REFINING COMPANY
P.O. Box 159
Artesia, NM 88211-159

01/23/1996
Job No.: 96.00129

Page: 10

Project Name: QTRLY REMEDIATION-NAVAJO

290107 KWB-7 Taken: 01/04/96 16:45

Alkalinity, bicarb (CACO3)	750		mg/L
Alkalinity, carbonate (CACO3)	<5.0		mg/L
Chloride	340		mg/L
Fluoride	1.1		mg/L
Sulfate	588		mg/L
Aluminum, Trace ICP	0.210		mg/L
Arsenic, Trace ICP	<0.005		mg/L
Barium, Trace ICP	0.017		mg/L
Beryllium, Trace ICP	<0.001		mg/L
Boron, Trace ICP	0.493		mg/L
Cadmium, Trace ICP	<0.001		mg/L
Calcium, Trace ICP	247		mg/L
Chromium, Trace ICP	<0.002		mg/L
Cobalt, Trace ICP	<0.005		mg/L
Copper, Trace ICP	0.007		mg/L
Iron, Trace ICP	0.118		mg/L
Lead, Trace ICP	<0.005		mg/L
Magnesium, Trace ICP	176		mg/L
Manganese, Trace ICP	2.38		mg/L
Mercury, CVAA	<0.0002		mg/L
Molybdenum, Trace ICP	0.021		mg/L
Nickel, Trace ICP	0.044		mg/L
Potassium, Trace ICP	0.755		mg/L
Selenium, Trace ICP	<0.005		mg/L
Silver, Trace ICP	<0.002		mg/L
Sodium, Trace ICP	219		mg/L
Vanadium, Trace ICP	0.021		mg/L
Zinc, Trace ICP	<0.01		mg/L
EPA-8020 AQ (PRESERVED)			
Benzene	<2		ug/L
Ethylbenzene	<2		ug/L
Toluene	<2		ug/L
Xylenes, Total	<2		ug/L
MTBE	<2		ug/L
SURR: a,a,a-TFT	95		% Rec
BASE/NEUTRALS - 8270 AQUEOUS			
Acenaphthene	<6.	RLI	ug/L
Acenaphthylene	<6.	RLI	ug/L
Anthracene	<6.	RLI	ug/L
Benzo(a)anthracene	<6.	RLI	ug/L
Benzo(b)fluoranthene	<6.	RLI	ug/L

RLI - Reporting Limit Increased, sample volume < method specification

ANALYTICAL REPORT

Darrell Moore
NAVAJO REFINING COMPANY
P.O. Box 159
Artesia, NM 88211 159

01/23/1996
Job No.: 96.00129

Project Name: QTRLY REMEDIATION-NAVAJO

290107 KWB-7

Benzo(k)fluoranthene	<6.	RLI	ug/L
Benzo(g,h,i)perylene	<6.	RLI	ug/L
Benzo(a)pyrene	<6.	RLI	ug/L
Chrysene	<6.	RLI	ug/L
Dibenzo(a,h)anthracene	<6.	RLI	ug/L
Fluoranthene	<6.	RLI	ug/L
Fluorene	<6.	RLI	ug/L
Indeno(1,2,3-cd)pyrene	<6.	RLI	ug/L
Naphthalene	<6.	RLI	ug/L
Phenanthrene	<6.	RLI	ug/L
Pyrene	<6.	RLI	ug/L
SURR: 2-Fluorobiphenyl	68		% Rec
SURR: Nitrobenzene-d5	46		% Rec
SURR: Terphenyl-d14	51		% Rec
Uranium, Total	<1.0		pCi/L

RLI - Reporting Limit Increased, sample volume < method specification

ANALYTICAL REPORT

Darrell Moore
NAVAJO REFINING COMPANY
P.O. Box 159
Artesia, NM 88211-159

01/23/1996
Job No.: 96.00129

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Project Name: QTRLY REMEDIATION-NAVAJO

290108 KWB-3A Taken: 01/05/96 09:00

Alkalinity, bicarb (CACO3)	330		mg/L
Alkalinity, carbonate (CACO3)	<5.0		mg/L
Chloride	365		mg/L
Fluoride	0.4		mg/L
Sulfate	2420		mg/L
Aluminum, Trace ICP	0.098		mg/L
Arsenic, Trace ICP	<0.005		mg/L
Barium, Trace ICP	0.014		mg/L
Beryllium, Trace ICP	<0.001		mg/L
Boron, Trace ICP	0.234		mg/L
Cadmium, Trace ICP	<0.001		mg/L
Calcium, Trace ICP	514		mg/L
Chromium, Trace ICP	<0.002		mg/L
Cobalt, Trace ICP	<0.005		mg/L
Copper, Trace ICP	0.003		mg/L
Iron, Trace ICP	0.042		mg/L
Lead, Trace ICP	<0.005		mg/L
Magnesium, Trace ICP	223		mg/L
Manganese, Trace ICP	0.007		mg/L
Mercury, CVAA	<0.0002		mg/L
Molybdenum, Trace ICP	<0.005		mg/L
Nickel, Trace ICP	<0.002		mg/L
Potassium, Trace ICP	0.796		mg/L
Selenium, Trace ICP	0.025		mg/L
Silver, Trace ICP	<0.002		mg/L
Sodium, Trace ICP	387		mg/L
Vanadium, Trace ICP	0.012		mg/L
Zinc, Trace ICP	<0.01		mg/L
EPA-8020 AQ (PRESERVED)			
Benzene	<2		ug/L
Ethylbenzene	<2		ug/L
Toluene	<2		ug/L
Xylenes, Total	<2		ug/L
MTBE	<2		ug/L
SURR: a,a,a-TFT	96		% Rec
BASE/NEUTRALS - 8270 AQUEOUS			
Acenaphthene	<7.	RLI	ug/L
Acenaphthylene	<7.	RLI	ug/L
Anthracene	<7.	RLI	ug/L
Benzo(a)anthracene	<7.	RLI	ug/L
Benzo(b)fluoranthene	<7.	RLI	ug/L

RLI - Reporting Limit Increased, sample volume < method specification

ANALYTICAL REPORT

Darrell Moore
NAVAJO REFINING COMPANY
P.O. Box 159
Artesia, NM 88211-159

01/23/1996
Job No.: 96.00129

Project Name: QTRLY REMEDIATION-NAVAJO

290108 KWB-3A

Benzo(k)fluoranthene	<7.	RLI	ug/L
Benzo(g,h,i)perylene	<7.	RLI	ug/L
Benzo(a)pyrene	<7.	RLI	ug/L
Chrysene	<7.	RLI	ug/L
Dibenzo(a,h)anthracene	<7.	RLI	ug/L
Fluoranthene	<7.	RLI	ug/L
Fluorene	<7.	RLI	ug/L
Indeno(1,2,3-cd)pyrene	<7.	RLI	ug/L
Naphthalene	<7.	RLI	ug/L
Phenanthrene	<7.	RLI	ug/L
Pyrene	<7.	RLI	ug/L
SURR: 2-Fluorobiphenyl	50		% Rec
SURR: Nitrobenzene-d5	40		% Rec
SURR: Terphenyl d14	36		% Rec
Uranium, Total	<1.0		pCi/L

RLI - Reporting Limit Increased, sample volume < method specification

ANALYTICAL REPORT

Darrell Moore
NAVAJO REFINING COMPANY
P.O. Box 159
Artesia, NM 88211-159

01/23/1996
Job No.: 96.00129

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Project Name: QTRLY REMEDIATION-NAVAJO

290109 KWB-1C Taken: 01/05/96 11:15

Alkalinity, bicarb (CACO3)	420		mg/L
Alkalinity, carbonate (CACO3)	<5.0		mg/L
Chloride	355		mg/L
Fluoride	1.0		mg/L
Sulfate	2630		mg/L
Aluminum, Trace ICP	<0.05		mg/L
Arsenic, Trace ICP	<0.005		mg/L
Barium, Trace ICP	0.012		mg/L
Beryllium, Trace ICP	<0.001		mg/L
Boron, Trace ICP	0.617		mg/L
Cadmium, Trace ICP	<0.001		mg/L
Calcium, Trace ICP	427		mg/L
Chromium, Trace ICP	0.006		mg/L
Cobalt, Trace ICP	<0.005		mg/L
Copper, Trace ICP	0.011		mg/L
Iron, Trace ICP	2.50		mg/L
Lead, Trace ICP	<0.005		mg/L
Magnesium, Trace ICP	318		mg/L
Manganese, Trace ICP	0.176		mg/L
Mercury, CVAA	<0.0002		mg/L
Molybdenum, Trace ICP	<0.005		mg/L
Nickel, Trace ICP	0.005		mg/L
Potassium, Trace ICP	2.50		mg/L
Selenium, Trace ICP	<0.005		mg/L
Silver, Trace ICP	<0.002		mg/L
Sodium, Trace ICP	289		mg/L
Vanadium, Trace ICP	<0.01		mg/L
Zinc, Trace ICP	0.020		mg/L
EPA-8020 AQ (PRESERVED)			
Benzene	20		ug/L
Ethylbenzene	<2		ug/L
Toluene	<2		ug/L
Xylenes, Total	<2		ug/L
MTBE	<2		ug/L
SURR: a,a,a-TFT	92		% Rec
BASE/NEUTRALS - 8270 AQUEOUS			
Acenaphthene	<7.	RLI	ug/L
Acenaphthylene	<7.	RLI	ug/L
Anthracene	<7.	RLI	ug/L
Benzo(a)anthracene	<7.	RLI	ug/L
Benzo(b)fluoranthene	<7.	RLI	ug/L

RLI - Reporting Limit Increased, sample volume < method specification

ANALYTICAL REPORT

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NAVAJO REFININC COMPANY
P.O. Box 159
Artesia, NM 88211-159

01/23/1996
Job No.: 96.00129

Project Name: QTRLY REMEDIATION-NAVAJO

290109 KWB-1C Taken: 01/05/96 11:15

Benzo(k)fluoranthene	<7.	RLI	ug/L
Benzo(g,h,i)perylene	<7.	RLI	ug/L
Benzo(a)pyrene	<7.	RLI	ug/L
Chrysene	<7.	RLI	ug/L
Dibenzo(a,h)anthracene	<7.	RLI	ug/L
Fluoranthene	<7.	RLI	ug/L
Fluorene	<7.	RLI	ug/L
Indeno(1,2,3-cd)pyrene	<7.	RLI	ug/L
Naphthalene	<7.	RLI	ug/L
Phenanthrene	<7.	RLI	ug/L
Pyrene	<7.	RLI	ug/L
SURR: 2-Fluorobiphenyl	64		% Rec
SURR: Nitrobenzene-d5	63		% Rec
SURR: Terphenyl-d14	73		% Rec
Uranium, Total	<1.0		pCi/L

RLI - Reporting Limit Increased, sample volume < method specification

ANALYTICAL REPORT

Darrell Moore
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P.O. Box 159
Artesia, NM 88211-159

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Job No.: 96.00129

Project Name: QTRLY REMEDIATION-NAVAJO

290110 KWB-1A Taken: 01/05/96 13:30

Alkalinity, bicarb (CACO3)	430		mg/L
Alkalinity, carbonate (CACO3)	<5.0		mg/L
Chloride	390		mg/L
Fluoride	1.1		mg/L
Sulfate	2750		mg/L
Aluminum, Trace ICP	<0.05		mg/L
Arsenic, Trace ICP	<0.005		mg/L
Barium, Trace ICP	0.008		mg/L
Beryllium, Trace ICP	<0.001		mg/L
Boron, Trace ICP	0.826		mg/L
Cadmium, Trace ICP	<0.001		mg/L
Calcium, Trace ICP	479		mg/L
Chromium, Trace ICP	<0.002		mg/L
Cobalt, Trace ICP	<0.005		mg/L
Copper, Trace ICP	0.011		mg/L
Iron, Trace ICP	0.011		mg/L
Lead, Trace ICP	<0.005		mg/L
Magnesium, Trace ICP	405		mg/L
Manganese, Trace ICP	0.212		mg/L
Mercury, CVAA	<0.0002		mg/L
Molybdenum, Trace ICP	0.007		mg/L
Nickel, Trace ICP	0.006		mg/L
Potassium, Trace ICP	1.56		mg/L
Selenium, Trace ICP	0.007		mg/L
Silver, Trace ICP	<0.002		mg/L
Sodium, Trace ICP	339		mg/L
Vanadium, Trace ICP	0.017		mg/L
Zinc, Trace ICP	<0.01		mg/L
EPA 8020 AQ (PRESERVED)			
Benzene	<2		ug/L
Ethylbenzene	<2		ug/L
Toluene	<2		ug/L
Xylenes, Total	<2		ug/L
MTBE	<2		ug/L
SURR: a,a,a-TFT	89		% Rec
BASE/NEUTRALS - 8270 AQUEOUS			
Acenaphthene	<7.	RLI	ug/L
Acenaphthylene	<7.	RLI	ug/L
Anthracene	<7.	RLI	ug/L
Benzo(a)anthracene	<7.	RLI	ug/L
Benzo(b)fluoranthene	<7.	RLI	ug/L

RLI - Reporting Limit Increased, sample volume < method specification

ANALYTICAL REPORT

Darrell Moore
NAVAJO REFINING COMPANY
P.O. Box 159
Artesia, NM 88211-159

01/23/1996
Job No.: 96.00129

Project Name: QTRLY REMEDIATION-NAVAJO

290110 KWB-1A

Benzo(k)fluoranthene	<7.	RLI	ug/L
Benzo(g,h,i)perylene	<7.	RLI	ug/L
Benzo(a)pyrene	<7.	RLI	ug/L
Chrysene	<7.	RLI	ug/L
Dibenzo(a,h)anthracene	<7.	RLI	ug/L
Fluoranthene	<7.	RLI	ug/L
Fluorene	<7.	RLI	ug/L
Indeno(1,2,3-cd)pyrene	<7.	RLI	ug/L
Naphthalene	<7.	RLI	ug/L
Phenanthrene	<7.	RLI	ug/L
Pyrene	<7.	RLI	ug/L
SURR: 2-Fluorobiphenyl	62		% Rec
SURR: Nitrobenzene-d5	53		% Rec
SURR: Terphenyl-d14	42		% Rec
Uranium, Total	<1.0		pCi/L

RLI - Reporting Limit Increased, sample volume < method specification

ANALYTICAL REPORT

Darrell Moore
NAVAJO REFINING COMPANY
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Project Name: QTRLY REMEDIATION-NAVAJO

290111 MW-45 Taken: 01/05/96 14:10

Alkalinity, bicarb (CACO3)	240		mg/L
Alkalinity, carbonate (CACO3)	<5.0		mg/L
Chloride	775		mg/L
Fluoride	2.1		mg/L
Sulfate	3140		mg/L
Aluminum, Trace ICP	8.62		mg/L
Arsenic, Trace ICP	0.017		mg/L
Barium, Trace ICP	0.194		mg/L
Beryllium, Trace ICP	0.001		mg/L
Boron, Trace ICP	0.309		mg/L
Cadmium, Trace ICP	<0.001		mg/L
Calcium, Trace ICP	731		mg/L
Chromium, Trace ICP	0.026		mg/L
Cobalt, Trace ICP	<0.005		mg/L
Copper, Trace ICP	0.045		mg/L
Iron, Trace ICP	7.46		mg/L
Lead, Trace ICP	0.189		mg/L
Magnesium, Trace ICP	393		mg/L
Manganese, Trace ICP	0.581		mg/L
Mercury, CVAA	<0.0002		mg/L
Molybdenum, Trace ICP	<0.005		mg/L
Nickel, Trace ICP	0.022		mg/L
Potassium, Trace ICP	12.3		mg/L
Selenium, Trace ICP	<0.005		mg/L
Silver, Trace ICP	<0.002		mg/L
Sodium, Trace ICP	514		mg/L
Vanadium, Trace ICP	0.015		mg/L
Zinc, Trace ICP	0.046		mg/L
EPA-8020 AQ (PRESERVED)			
Benzene	<20	EDL	ug/L
Ethylbenzene	<20	EDL	ug/L
Toluene	<20	EDL	ug/L
Xylenes, Total	<20	EDL	ug/L
MTBE	<20	EDL	ug/L
SURR: a,a,a-TFT	111		% Rec
BASE/NEUTRALS - 8270 AQUEOUS			
Acenaphthene	<6.	RLI	ug/L
Acenaphthylene	<6.	RLI	ug/L
Anthracene	<6.	RLI	ug/L
Benzo(a)anthracene	<6.	RLI	ug/L
Benzo(b)fluoranthene	<6.	RLI	ug/L

EDL - Elevated Detection Limit due to matrix interference.
RLI - Reporting Limit Increased, sample volume < method specification

ANALYTICAL REPORT

Darrell Moore
NAVAJO REFINING COMPANY
P.O. Box 159
Artesia, NM 88211-159

01/23/1996
Job No.: 96.00129

Project Name: QTRLY REMEDIATION-NAVAJO

290111 MW-45

Benzo(k)fluoranthene	<6.	RLI	ug/L
Benzo(g,h,i)perylene	<6.	RLI	ug/L
Benzo(a)pyrene	<6.	RLI	ug/L
Chrysene	<6.	RLI	ug/L
Dibenzo(a,h)anthracene	<6.	RLI	ug/L
Fluoranthene	<6.	RLI	ug/L
Fluorene	<6.	RLI	ug/L
Indeno(1,2,3-cd)pyrene	<6.	RLI	ug/L
Naphthalene	<6.	RLI	ug/L
Phenanthrene	<6.	RLI	ug/L
Pyrene	<6.	RLI	ug/L
SURR: 2-Fluorobiphenyl	47		% Rec
SURR: Nitrobenzene-d5	35		% Rec
SURR: Terphenyl-d14	34		% Rec
Uranium, Total	<1.0		pCi/L

RLI - Reporting Limit Increased, sample volume < method specification

ANALYTICAL REPORT

Darrell Moore
NAVAJO REFINING COMPANY
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Project Name: QTRLY REMEDIATION-NAVAJO

290112 RA-2723 Taken: 01/08/96 10:30

EPA-8020 AQ (PRESERVED)		
Benzene	<2	ug/L
Ethylbenzene	<2	ug/L
Toluene	<2	ug/L
Xylenes, Total	<2	ug/L
MTBE	<2	ug/L
SURR: a,a,a-TFT	99	% Rec

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ANALYTICAL REPORT

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Artesia, NM 88211-159

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Project Name: QTRLY REMEDIATION-NAVAJO

290113 RA-4196 Taken: 01/08/96 10:45

EPA-8020 AQ (PRESERVED)		
Benzene	<2	ug/L
Ethylbenzene	<2	ug/L
Toluene	<2	ug/L
Xylenes, Total	<2	ug/L
MTBE	<2	ug/L
SURR: a,a,a-TFT	88	% Rec

ANALYTICAL REPORT

Darrell Moore
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P.O. Box 159
Artesia, NM 88211-159

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Project Name: QTRLY REMEDIATION-NAVAJO

290114 RA-4798 Taken: 01/08/96 11:00

EPA-8020 AQ (PRESERVED)		
Benzene	<2	ug/L
Ethylbenzene	<2	ug/L
Toluene	<2	ug/L
Xylenes, Total	<2	ug/L
MTBE	<2	ug/L
SURR: a,a,a-TFT	117	% Rec

ANALYTICAL REPORT

Darrell Moore
NAVAJO REFINING COMPANY
P.O. Box 159
Artesia, NM 88211-159

01/23/1996
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Project Name: QTRLY REMEDIATION-NAVAJO

290115 RA-3156 Taken: 01/08/96 11:15

EPA-8020 AQ (PRESERVED)		
Benzene	<2	ug/L
Ethylbenzene	<2	ug/L
Toluene	<2	ug/L
Xylenes, Total	<2	ug/L
MTBE	<2	ug/L
SURR: a,a,a-TFT	87	% Rec

ANALYTICAL REPORT

Darrell Moore
NAVAJO REFINING COMPANY
P.O. Box 159
Artesia, NM 88211-159

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Project Name: QTRLY REMEDIATION-NAVAJO

290116 RA-3353 Taken: 01/08/96 11:30

EPA-8020 AQ (PRESERVED)		
Benzene	<2	ug/L
Ethylbenzene	<2	ug/L
Toluene	<2	ug/L
Xylenes, Total	<2	ug/L
MTBE	<2	ug/L
SURR: a,a,a-TFT	98	% Rec

ANALYTICAL REPORT

Darrell Moore
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P.O. Box 159
Artesia, NM 88211-159

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Project Name: QTRLY REMEDIATION-NAVAJO

290117 TRIP BLANK

EPA-8020 AQ (PRESERVED)		
Benzene	<2	ug/L
Ethylbenzene	<2	ug/L
Toluene	<2	ug/L
Xylenes, Total	<2	ug/L
MTBE	<2	ug/L
SURR: a,a,a-TFT	94	% Rec

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QUALITY CONTROL REPORT
Continuing Calibration Verification
(CCV)

JOB NUMBER: 96.00129

PARAMETER	ANALYST	DATE ANALYZED	METHOD	CCV RESULT	CCV TRUE CONCENTRATION	% REC.	FLAG
Fluoride	kwo	01/10/1996	SM-4500F.	10.3	10.0	103	NA
Sulfate	gxd	01/16/1996	E-375.4	9.4	10.0	94	NA
Aluminum, Trace ICP	jmd	01/11/1996	S-6010A	1.02	1.00	102	NA
Arsenic, Trace ICP	jmd	01/11/1996	S-6010A	1.01	1.00	101	NA
Barium, Trace ICP	jmd	01/11/1996	S-6010A	0.993	1.00	99	NA
Beryllium, Trace ICP	jmd	01/11/1996	S-6010A	0.999	1.00	100	NA
Boron, Trace ICP	jmd	01/11/1996	S-6010A	1.00	1.00	100	NA
Cadmium, Trace ICP	jmd	01/11/1996	S-6010A	1.00	1.00	100	NA
Calcium, Trace ICP	jmd	01/11/1996	S-6010A	11.4	11.0	104	NA
Chromium, Trace ICP	jmd	01/11/1996	S-6010A	1.00	1.00	100	NA
Cobalt, Trace ICP	jmd	01/11/1996	S-6010A	1.01	1.00	101	NA
Copper, Trace ICP	jmd	01/11/1996	S-6010A	0.995	1.00	100	NA
Iron, Trace ICP	jmd	01/11/1996	S-6010A	1.00	1.00	100	NA
Lead, Trace ICP	jmd	01/11/1996	S-6010A	1.01	1.00	101	NA
Magnesium, Trace ICP	jmd	01/11/1996	S-6010A	10.3	10.0	103	NA
Manganese, Trace ICP	jmd	01/11/1996	S-6010A	1.00	1.00	100	NA
Mercury, CVAA	cbw	01/15/1996	S-7470A	0.47	0.50	94	NA
Molybdenum, Trace ICP	jmd	01/11/1996	S-6010A	1.00	1.00	100	NA
Nickel, Trace ICP	jmd	01/11/1996	S-6010A	1.00	1.00	100	NA
Potassium, Trace ICP	jmd	01/11/1996	S-6010A	10.1	10.0	101	NA
Selenium, Trace ICP	jmd	01/11/1996	S-6010A	1.00	1.00	100	NA
Silver, Trace ICP	jmd	01/11/1996	S-6010A	1.00	1.00	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: 96.00129

PARAMETER	ANALYST	DATE ANALYZED	METHOD	CCV RESULT	CCV TRUE CONCENTRATION	% REC.	FLAG
Sodium, Trace ICP	jmd	01/11/1996	S-6010A	10.1	10.0	101	NA
Vanadium, Trace ICP	jmd	01/11/1996	S-6010A	1.00	1.00	100	NA
Zinc, Trace ICP	jmd	01/11/1996	S-6010A	0.994	1.00	99	NA
EPA-8020 AQ (PRESERVED)			S-8020M				
Benzene	bgm	01/13/1996	S-8020M	21	20	105	NA
Ethylbenzene	bgm	01/13/1996	S-8020M	21	20	105	NA
MTBE	bgm	01/13/1996	S-8020M	39	40	98	NA
Toluene	bgm	01/13/1996	S-8020M	20	20	100	NA
Xylenes, Total	bgm	01/13/1996	S-8020M	63	60	105	NA
EPA-8020 AQ (PRESERVED)			S-8020M				
Benzene	tcc	01/14/1996	S-8020M	20	20	100	NA
Ethylbenzene	tcc	01/14/1996	S-8020M	19	20	95	NA
MTBE	tcc	01/14/1996	S-8020M	36	40	90	NA
Toluene	tcc	01/14/1996	S-8020M	18	20	90	NA
Xylenes, Total	tcc	01/14/1996	S-8020M	62	60	103	NA
EPA-8020 AQ (PRESERVED)			S-8020M				
Benzene	tcc	01/15/1996	S-8020M	22	20	110	NA
Ethylbenzene	tcc	01/15/1996	S-8020M	22	20	110	NA
MTBE	tcc	01/15/1996	S-8020M	37	40	93	NA
Toluene	tcc	01/15/1996	S-8020M	18	20	90	NA
Xylenes, Total	tcc	01/15/1996	S-8020M	67	60	112	NA
BASE/NEUTRALS - 8270 AQUEOUS			S-8270A				

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.

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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: 96.00129

PARAMETER	ANALYST	DATE ANALYZED	METHOD	CCV RESULT	CCV TRUE CONCENTRATION	% REC.	FLAG
Acenaphthene	slw	01/03/1996	S-8270A	47.2	50.0	94	NA
Acenaphthylene	slw	01/03/1996	S-8270A	51.0	50.0	102	NA
Anthracene	slw	01/03/1996	S-8270A	49.4	50.0	99	NA
Benzo(a)anthracene	slw	01/03/1996	S-8270A	47.7	50.0	95	NA
Benzo(a)pyrene	slw	01/03/1996	S-8270A	43.5	50.0	87	NA
Benzo(b)fluoranthene	slw	01/03/1996	S-8270A	41.3	50.0	83	NA
Benzo(k)fluoranthene	slw	01/03/1996	S-8270A	47.1	50.0	94	NA
Benzo(g,h,i)perylene	slw	01/03/1996	S-8270A	55.4	50.0	111	NA
Chrysene	slw	01/03/1996	S-8270A	43.6	50.0	87	NA
Dibenzo(a,h)anthracene	slw	01/03/1996	S-8270A	59.0	50.0	118	NA
Fluoranthene	slw	01/03/1996	S-8270A	54.9	50.0	110	NA
Fluorene	slw	01/03/1996	S-8270A	50.8	50.0	102	NA
Indeno(1,2,3-cd)pyrene	slw	01/03/1996	S-8270A	50.6	50.0	101	NA
Naphthalene	slw	01/03/1996	S-8270A	48.8	50.0	98	NA
Phenanthrene	slw	01/03/1996	S-8270A	49.0	50.0	98	NA
Pyrene	slw	01/03/1996	S-8270A	54.9	50.0	110	NA
BASE/NEUTRALS - 8270 AQUEOUS			S-8270A				
Acenaphthene	slw	01/09/1996	S-8270A	53.8	50.0	108	NA
Acenaphthylene	slw	01/09/1996	S-8270A	51.7	50.0	103	NA
Anthracene	slw	01/09/1996	S-8270A	52.6	50.0	105	NA
Benzo(a)anthracene	slw	01/09/1996	S-8270A	48.4	50.0	97	NA
Benzo(a)pyrene	slw	01/09/1996	S-8270A	50.3	50.0	101	NA

Method References and Codes

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M: Method has been modified

*: Other Reference

QUALITY CONTROL REPORT
Continuing Calibration Verification (CCV)

JOB NUMBER: 96.00129

PARAMETER	ANALYST	DATE ANALYZED	METHOD	CCV RESULT	CCV TRUE CONCENTRATION	% REC.	FLAG
Benzo(b)fluoranthene	slw	01/09/1996	S-8270A	51.8	50.0	104	NA
Benzo(k)fluoranthene	slw	01/09/1996	S-8270A	46.9	50.0	94	NA
Benzo(g,h,i)perylene	slw	01/09/1996	S-8270A	51.3	50.0	103	NA
Chrysene	slw	01/09/1996	S-8270A	51.5	50.0	103	NA
Dibenzo(a,h)anthracene	slw	01/09/1996	S-8270A	48.8	50.0	98	NA
Fluoranthene	slw	01/09/1996	S-8270A	51.0	50.0	102	NA
Fluorene	slw	01/09/1996	S-8270A	56.1	50.0	112	NA
Indeno(1,2,3-cd)pyrene	slw	01/09/1996	S-8270A	51.3	50.0	103	NA
Naphthalene	slw	01/09/1996	S-8270A	52.7	50.0	105	NA
Phenanthrene	slw	01/09/1996	S-8270A	50.6	50.0	101	NA
Pyrene	slw	01/09/1996	S-8270A	44.9	50.0	90	NA
BASE/NEUTRALS - 8270 AQUEOUS			S-8270A				
Acenaphthene	slw	01/15/1996	S-8270A	55.3	50.0	111	NA
Acenaphthylene	slw	01/15/1996	S-8270A	54.2	50.0	108	NA
Anthracene	slw	01/15/1996	S-8270A	56.2	50.0	112	NA
Benzo(a)anthracene	slw	01/15/1996	S-8270A	51.6	50.0	103	NA
Benzo(a)pyrene	slw	01/15/1996	S-8270A	52.9	50.0	106	NA
Benzo(b)fluoranthene	slw	01/15/1996	S-8270A	42.5	50.0	85	NA
Benzo(k)fluoranthene	slw	01/15/1996	S-8270A	57.8	50.0	116	NA
Benzo(g,h,i)perylene	slw	01/15/1996	S-8270A	52.4	50.0	105	NA
Chrysene	slw	01/15/1996	S-8270A	51.3	50.0	103	NA
Dibenzo(a,h)anthracene	slw	01/15/1996	S-8270A	55.1	50.0	110	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.

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QUALITY CONTROL REPORT
Continuing Calibration Verification (CCV)

JOB NUMBER: 96.00129

PARAMETER	ANALYST	DATE ANALYZED	METHOD	CCV RESULT	CCV TRUE CONCENTRATION	% REC.	FLAG
Fluoranthene	slw	01/15/1996	S-8270A	53.9	50.0	108	NA
Fluorene	slw	01/15/1996	S-8270A	53.5	50.0	107	NA
Indeno(1,2,3-cd)pyrene	slw	01/15/1996	S-8270A	55.1	50.0	110	NA
Naphthalene	slw	01/15/1996	S-8270A	55.1	50.0	110	NA
Phenanthrene	slw	01/15/1996	S-8270A	50.4	50.0	101	NA
Pyrene	slw	01/15/1996	S-8270A	55.4	50.0	111	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.

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D: ASTM Method

M: Method has been modified

*: Other Reference

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QUALITY CONTROL REPORT
BLANKS

JOB NUMBER: 96.00129

PARAMETER	DATE ANALYZED	BLANK	UNITS	REPORTING LIMIT	FLAG
Alkalinity, bicarb (CACO3)	01/16/1996	<5.0	mg/L	5.0	NA
Chloride	01/16/1996	<5.0	mg/L	5.0	NA
Fluoride	01/10/1996	<0.1	mg/L	0.10	NA
Sulfate	01/16/1996	<5.0	mg/L	5.0	NA
Aluminum, Trace ICP	01/11/1996	<0.05	mg/L	0.05	NA
Arsenic, Trace ICP	01/11/1996	<0.005	mg/L	0.005	NA
Barium, Trace ICP	01/11/1996	<0.001	mg/L	0.001	NA
Beryllium, Trace ICP	01/11/1996	<0.001	mg/L	0.001	NA
Boron, Trace ICP	01/11/1996	<0.01	mg/L	0.01	NA
Cadmium, Trace ICP	01/11/1996	<0.001	mg/L	0.001	NA
Calcium, Trace ICP	01/11/1996	<0.50	mg/L	0.50	NA
Chromium, Trace ICP	01/11/1996	<0.002	mg/L	0.002	NA
Cobalt, Trace ICP	01/11/1996	<0.005	mg/L	0.005	NA
Copper, Trace ICP	01/11/1996	<0.002	mg/L	0.002	NA
Iron, Trace ICP	01/11/1996	<0.005	mg/L	0.005	NA
Lead, Trace ICP	01/11/1996	<0.005	mg/L	0.005	NA
Magnesium, Trace ICP	01/11/1996	<0.05	mg/L	0.05	NA
Manganese, Trace ICP	01/11/1996	<0.005	mg/L	0.005	NA
Mercury, CVAA	01/15/1996	<0.0002	mg/L	0.0002	NA
Molybdenum, Trace ICP	01/11/1996	<0.005	mg/L	0.005	NA
Nickel, Trace ICP	01/11/1996	<0.002	mg/L	0.002	NA
Potassium, Trace ICP	01/11/1996	<0.50	mg/L	0.50	NA
Selenium, Trace ICP	01/11/1996	<0.005	mg/L	0.005	NA
Silver, Trace ICP	01/11/1996	<0.002	mg/L	0.002	NA
Sodium, Trace ICP	01/11/1996	<1.0	mg/L	1.0	NA
Vanadium, Trace ICP	01/11/1996	<0.01	mg/L	0.01	NA
Zinc, Trace ICP	01/11/1996	<0.01	mg/L	0.01	NA
EPA-8020 AQ (PRESERVED)					
Benzene	01/13/1996	<2	ug/L	2	NA
Ethylbenzene	01/13/1996	<2	ug/L	2	NA
MTBE	01/13/1996	<2	ug/L	2	NA
Toluene	01/13/1996	<2	ug/L	2	NA
Xylenes, Total	01/13/1996	<2	ug/L	2	NA
EPA-8020 AQ (PRESERVED)					
Benzene	01/14/1996	<2	ug/L	2	NA
Ethylbenzene	01/14/1996	<2	ug/L	2	NA
MTBE	01/14/1996	<2	ug/L	2	NA
Toluene	01/14/1996	<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.

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QUALITY CONTROL REPORT
BLANKS

JOB NUMBER: 96.00129

PARAMETER	DATE ANALYZED	BLANK	UNITS	REPORTING LIMIT	FLAG
Xylenes, Total	01/14/1996	<2	ug/L	2	NA
EPA-8020 AQ (PRESERVED)					
Benzene	01/15/1996	<2	ug/L	2	NA
Ethylbenzene	01/15/1996	<2	ug/L	2	NA
MTBE	01/15/1996	<2	ug/L	2	NA
Toluene	01/15/1996	<2	ug/L	2	NA
Xylenes, Total	01/15/1996	<2	ug/L	2	NA
BASE/NEUTRALS - 8270 AQUEOUS					
Acenaphthene	01/05/1996	<5	ug/L	5	NA
Acenaphthylene	01/05/1996	<5	ug/L	5	NA
Anthracene	01/05/1996	<5	ug/L	5	NA
Benzo(a)anthracene	01/05/1996	<5	ug/L	5	NA
Benzo(b)fluoranthene	01/05/1996	<5	ug/L	5	NA
Benzo(k)fluoranthene	01/05/1996	<5	ug/L	5	NA
Benzo(g,h,i)perylene	01/05/1996	<5	ug/L	5	NA
Benzo(a)pyrene	01/05/1996	<5	ug/L	5	NA
Chrysene	01/05/1996	<5	ug/L	5	NA
Dibenzo(a,h)anthracene	01/05/1996	<5	ug/L	5	NA
Fluoranthene	01/05/1996	<5	ug/L	5	NA
Fluorene	01/05/1996	<5	ug/L	5	NA
Indeno(1,2,3-cd)pyrene	01/05/1996	<5	ug/L	5	NA
Naphthalene	01/05/1996	<5	ug/L	5	NA
Phenanthrene	01/05/1996	<5	ug/L	5	NA
Pyrene	01/05/1996	<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.

QUALITY CONTROL REPORT
Laboratory Control Sample
(LCS)

JOB NUMBER: 96.00129

PARAMETER	LCS RESULT	TRUE CONC.	LCS % REC.	FLAG
Alkalinity, bicarb (CACO3)	2500	2500	100	
Chloride	510	500	102	
Fluoride	1.04	1.0	104	
Sulfate	19.2	20.0	96	
Aluminum, Trace ICP	0.996	1.00	100	
Arsenic, Trace ICP	0.989	1.00	99	
Barium, Trace ICP	0.963	1.00	96	
Beryllium, Trace ICP	0.962	1.00	96	
Boron, Trace ICP	0.955	1.00	96	
Cadmium, Trace ICP	0.961	1.00	96	
Calcium, Trace ICP	11.0	10.0	110	
Chromium, Trace ICP	0.963	1.00	96	
Cobalt, Trace ICP	0.972	1.00	97	
Copper, Trace ICP	0.950	1.00	95	
Iron, Trace ICP	0.949	1.00	95	
Lead, Trace ICP	0.968	1.00	97	
Magnesium, Trace ICP	10.0	10.0	100	
Manganese, Trace ICP	0.978	1.00	98	
Mercury, CVAA	0.43	0.50	86	
Molybdenum, Trace ICP	0.976	1.00	98	
Nickel, Trace ICP	0.969	1.00	97	
Potassium, Trace ICP	9.76	10.0	98	
Selenium, Trace ICP	0.960	1.00	96	
Silver, Trace ICP	0.950	1.00	95	
Sodium, Trace ICP	9.69	10.0	97	
Vanadium, Trace ICP	0.977	1.00	98	
Zinc, Trace ICP	0.957	1.00	96	
EPA-8020 AQ (PRESERVED)				
Benzene	24	20	120	
Ethylbenzene	26	20	130	
MTBE	36	40	90	
Toluene	24	20	120	
Xylenes, Total	79	60	132	
BASE/NEUTRALS - 8270 AQUEOUS				
Acenaphthene	79.4	100	79	
Pyrene	106	100	106	

Advisory Control Limits for LCS

Inorganic Parameters - The LCS recovery should be 80-120%.

QUALITY CONTROL REPORT
Matrix Spike / Matrix Spike Duplicate
(MS / MSD)

JOB NUMBER: 96.00129

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	134	242	240	100	108	106	1.9	
Chloride	340	860	860	500	104	104	0	
Fluoride	66.7	80.0	79.8	15.0	89	87	1.6	
Fluoride	0.4	1.27	1.29	1.0	87	89	2.3	
Sulfate	566	1607	1672	1000	102	106	8.2	
Sulfate	35.1	141	131	100	106	96	9.8	
Aluminum, Trace ICP	2.98	11.6	11.5	10.0	86	85	1.2	
Aluminum, Trace ICP	0.039	1.02	1.02	1.00	98	98	0	
Aluminum, Trace ICP	<0.05	0.976	0.991	1.00	98	99	1.5	
Arsenic, Trace ICP	<0.005	0.942	0.912	1.00	94	91	3.2	
Arsenic, Trace ICP	<0.005	0.920	0.938	1.00	92	94	1.9	
Barium, Trace ICP	0.016	0.926	0.895	1.00	91	88	3.5	
Barium, Trace ICP	0.011	0.890	0.911	1.00	88	90	2.4	
Beryllium, Trace ICP	<0.01	10.0	10.0	10.0	100	100	0	EDL
Beryllium, Trace ICP	<0.001	0.881	0.856	1.00	88	86	2.9	
Beryllium, Trace ICP	<0.001	0.858	0.873	1.00	86	87	1.7	
Boron, Trace ICP	0.558	1.48	1.44	1.00	93	89	4.4	
Boron, Trace ICP	0.405	1.30	1.33	1.00	90	93	3.3	
Cadmium, Trace ICP	0.096	9.92	9.81	10.0	98	98	0.1	
Cadmium, Trace ICP	<0.001	0.854	0.831	1.00	85	83	2.7	
Cadmium, Trace ICP	<0.001	0.834	0.845	1.00	83	85	1.3	
Calcium, Trace ICP	7.47	119	118	100	112	111	0.9	
Calcium, Trace ICP	298	296	296	10.0	80	80	0	
Calcium, Trace ICP	356	360	360	10.0	40	40	0	SSR
Chromium, Trace ICP	0.545	10.3	10.3	10.0	98	98	0	
Chromium, Trace ICP	0.006	0.882	0.858	1.00	88	85	2.8	
Chromium, Trace ICP	0.004	0.860	0.875	1.00	86	87	1.7	
Cobalt, Trace ICP	<0.005	0.868	0.844	1.00	87	84	2.8	
Cobalt, Trace ICP	<0.005	0.850	0.864	1.00	85	86	1.6	
Copper, Trace ICP	0.164	10.0	10.0	10.0	98	98	0	
Copper, Trace ICP	<0.002	0.915	0.888	1.00	92	89	3	
Copper, Trace ICP	0.005	0.889	0.909	1.00	88	90	2.2	
Iron, Trace ICP	4.45	13.8	13.8	10.0	94	94	0	
Iron, Trace ICP	0.038	0.905	0.880	1.00	87	84	2.9	
Iron, Trace ICP	0.017	0.892	0.895	1.00	88	88	0.3	
Lead, Trace ICP	1.89	11.4	11.4	10.0	95	95	0	
Lead, Trace ICP	<0.005	0.868	0.846	1.00	87	85	2.6	
Lead, Trace ICP	<0.005	0.848	0.859	1.00	85	86	1.3	
Magnesium, Trace ICP	1.39	98.8	98.4	100	97	97	0.4	

EDL - Elevated Detection Limit due to matrix interference.

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.

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QUALITY CONTROL REPORT
Matrix Spike / Matrix Spike Duplicate (MS / MSD)

JOB NUMBER: 96.00129

PARAMETER	SAMPLE RESULT	MS RESULT	MSD RESULT	SPIKE AMOUNT	MS % REC.	MSD % REC.	MS/MSD RPD	FLAG
Magnesium, Trace ICP	188	196	196	10.0	80	80	0	
Magnesium, Trace ICP	164	172	171	10.0	80	70	13	
Manganese, Trace ICP	0.080	0.966	0.955	1.00	91	88	3.5	
Manganese, Trace ICP	0.013	0.890	0.916	1.00	88	90	2.9	
Mercury, CVAA	<0.0002	0.43	0.41	0.50	86	82	4.8	
Mercury, CVAA	0.0002	0.0073	0.0072	0.0050	142	140	1.4	MI
Mercury, CVAA	<0.0002	0.65	0.65	0.50	130	130	0	MI
Mercury, CVAA	<0.0002	0.42	0.46	0.50	84	92	9.1	
Molybdenum, Trace ICP	0.014	0.915	0.884	1.00	90	87	3.6	
Molybdenum, Trace ICP	<0.005	0.884	0.901	1.00	88	90	1.9	
Nickel, Trace ICP	0.006	0.853	0.827	1.00	85	82	3.1	
Nickel, Trace ICP	<0.002	0.833	0.846	1.00	83	85	1.5	
Potassium, Trace ICP	1.39	99.3	98.3	100	98	97	1	
Potassium, Trace ICP	1.14	11.6	11.2	10.0	105	101	3.9	
Potassium, Trace ICP	0.763	11.1	11.3	10.0	103	105	1.9	
Selenium, Trace ICP	<0.005	0.910	0.883	1.00	91	88	3	
Selenium, Trace ICP	0.007	0.892	0.908	1.00	89	90	1.8	
Silver, Trace ICP	0.235	9.77	9.85	10.0	95	96	0.9	
Silver, Trace ICP	<0.002	0.926	0.908	1.00	93	91	2	
Silver, Trace ICP	<0.002	0.905	0.938	1.00	91	94	3.6	
Sodium, Trace ICP	125	216	214	100	91	89	2.2	
Sodium, Trace ICP	64.0	74.4	74.1	10.0	104	101	2.9	
Sodium, Trace ICP	136	145	145	10.0	90	90	0	
Vanadium, Trace ICP	0.016	0.929	0.890	1.00	91	87	4.4	
Vanadium, Trace ICP	<0.01	0.890	0.918	1.00	89	92	3.1	
Zinc, Trace ICP	0.206	10.0	10.0	10.0	98	98	0	
Zinc, Trace ICP	<0.01	0.897	0.870	1.00	90	87	3.1	
Zinc, Trace ICP	<0.01	0.884	0.894	1.00	88	89	1.1	
EPA-8020 AQ (PRESERVED)								
Benzene	<2	19	19	20	95	95	0	
Ethylbenzene	<2	23	21	20	115	105	9.1	
Toluene	<2	20	20	20	100	100	0	
Xylenes, Total	<2	77	71	60	128	118	8.1	
MTBE	<2	38	36	40	95	90	5.4	

MI - MS/MSD outside limits - matrix interference suspected

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
DUPLICATES

JOB NUMBER: 96.00129

PARAMETER	SAMPLE RESULT	DUPLICATE RESULT	RPD	SPIKE SAMPLE RESULT	SPIKE RESULT	SPIKE AMOUNT	% REC.	FLAG
Fluoride	2.49	2.50	0.4	NA	NA	NA	NA	
Fluoride	3.45	3.48	0.9	NA	NA	NA	NA	

Advisory Control Limits for Spikes

The spike recovery should be 75-125% if the spike amount is greater than or equal to one fourth of the sample result value.

NOTE: Spike Samples may not be samples from this job.

Advisory Control Limits for Duplicates

The RPD for the sample and duplicate should be less than 20.

NET NATIONAL ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY RECORD

COMPANY Navajo Refining Co.
ADDRESS 501 E. Main
PHONE 505-748-3311 FAX 505-748-9077
PROJECT NAME/LOCATION Qtrly Remediation - Navajo
PROJECT NUMBER
PROJECT MANAGER Darrell Moore

REPORT TO: D. Moore
INVOICE TO: D. Moore
P.O. NO.
NET QUOTE NO.

D

SAMPLED BY
Darrell Moore (PRINT NAME) Darrell Moore (SIGNATURE)
(PRINT NAME) (SIGNATURE)

DATE	TIME	SAMPLE ID/DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers: HCl	NaOH	HNO_3	H_2SO_4	OTHER	ANALYSES: BTEX+MTBE	PAH's	Cations/Anions	Metals*
1/4/96	1000	MW-18 ✓				2				5	X	X	X	X
" "	1100	KWB-9 ✓				"				"	"	"	"	"
" "	1300	KWB-2A ✓				"				"	"	"	"	"
" "	1600	KWB-11A ✓				"				"	"	"	"	"
" "	1645	KWB-7 ✓				"				"	"	"	"	"
1/5/96	900	KWB-3A ✓				"				"	"	"	"	"
" "	1115	KWB-1C ✓				"				"	"	"	"	"
" "	1330	KWB-1A ✓				"				"	"	"	"	"
" "	1410	MW-45 ✓				"				"	"	"	"	"
~~1/5/96~~	~~945~~	~~Navajo Effluent to Ponds (Annual)~~												
" "	1030	RA-2723 ✓				"					"			
" "	1045	RA-4196 ✓				"					"			
" "	1100	RA-4798 ✓				"					"			
" "	1115	RA-3156 ✓				"					"			
" "	1130	RA-3353 ✓				"					"			

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
Which regulations apply: RCRA UST Other NPDES Wastewater Drinking Water X None

COMMENTS

+ Trip Blank - 1 vial

Per Greg - per client, - throw sample away! - do not analyze.

CONDITION OF SAMPLE: BOTTLES INTACT? YES / NO
FIELD FILTERED? YES / NO
COC SEALS PRESENT AND INTACT? YES / NO
VOLATILES FREE OF HEADSPACE? YES / NO
TEMPERATURE UPON RECEIPT: 4°C
Bottles supplied by NET? YES / NO wet ice

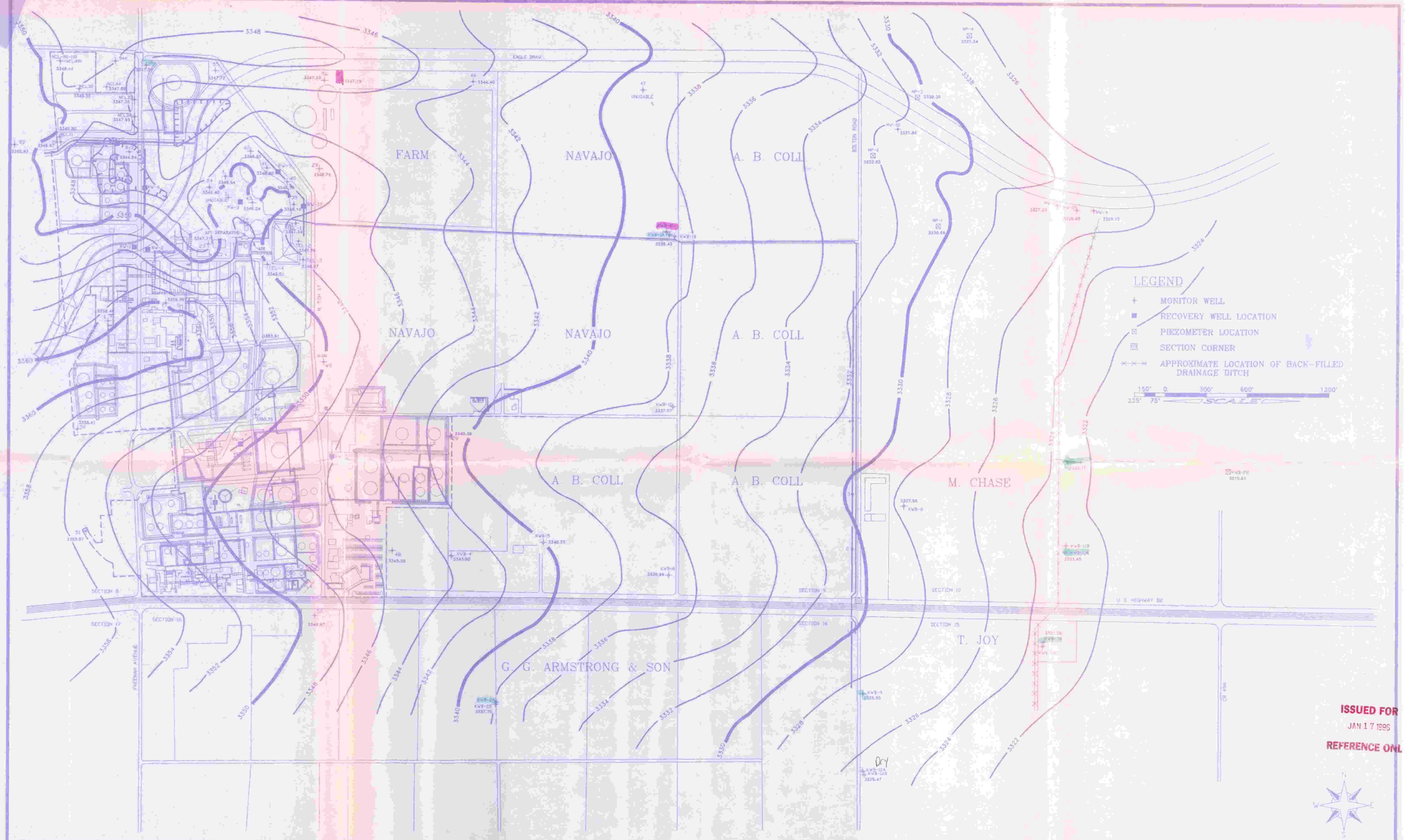
SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA
I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS DATE

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR NET BY:
D. Moore	1/8/96	16:30			1-9-96	11:45a	

METHOD OF SHIPMENT: Fed-X

REMARKS: * Metals are Al, As, Be, Ba, B, Cd, Cr, Co, Cu, Fe, Mn, Pb, Hg, Ni, Se, Ag, V, Zn, U, Mo. Al, Pb, Se, Ag are to be run by AA. Samples collected on 1/4 and 1/5 were kept on ice.

01/24/96 14:11 2144068100 NET-DALLAS 038/038



NOTES

REFERENCE DRAWINGS

NO.	REVISIONS	BY	CHK.	DATE	APPR.	APPR.

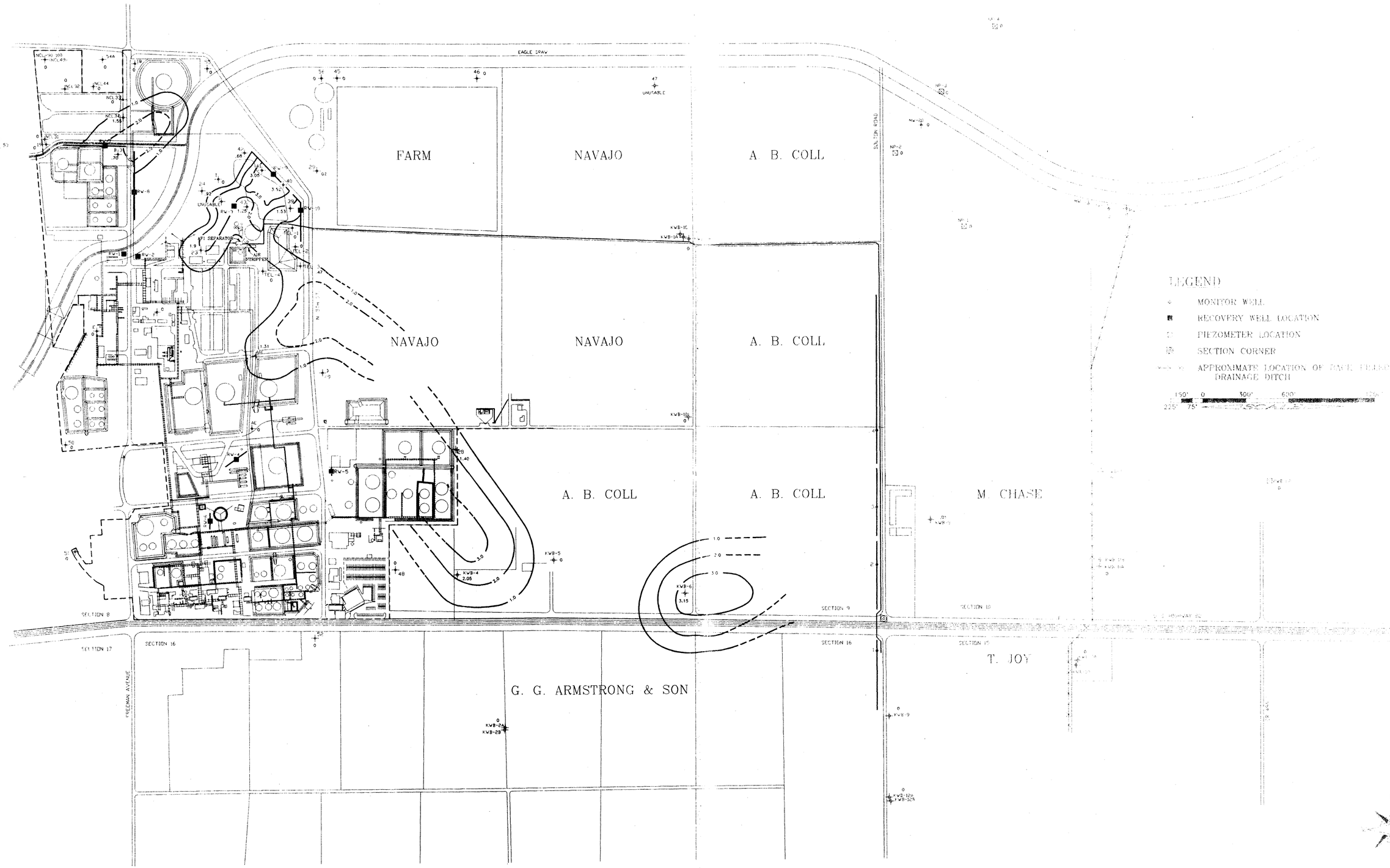
NO.	REVISIONS	BY	CHK.	DATE	APPR.	APPR.
3	JANUARY, 1996 READINGS	DLW	DGJ	1-8-96	DGM	DGJ
2	SEPTEMBER, 1995 READINGS	PETE	DGJ	9-7-95	DGM	DGJ
1	JUNE, 1995 READINGS	PETE	DGJ	7-13-95	DGM	DGJ
0	ISSUED WITH MARCH, 1995 READINGS	PETE	DGJ	3-27-95	DGM	DGJ

DRAWING TITLE

GROUNDWATER POTENTIOMETRIC MAP NAVAJO REFINING

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

DRAWN BY	CHKD BY	SCALE
PETE	DGM	AS SHOWN
DATE	APPR BY	DRAWING NUMBER / REV.
3-17-95	DLS	90-44-D / 3



ISSUED FO

JAN 17 1996

REFERENCE DI

NOTES

REFERENCE DRAWINGS

NO.	REVISIONS	BY	CHK.	DATE	APPR.	APPR.

NO	REVISIONS	BY	CHK.	DATE	APPR.	APPR.
3	JANUARY, 1996 READINGS	DEW	DCL	1-4-96	TOM	
2	SEPTEMBER, 1995 READINGS	PETE	DCL	9-8-95	TOM	
1	JUNE, 1995 READINGS	PETE	DCL	7-6-95	TOM	
0	ISSUED WITH MARCH, 1995 READINGS	PETE	DCL	3-27-95	TOM	

DRAWING TITLE

PRODUCT THICKNESS MAP
NAVAJO REFINING

NAVAJO REFINING CO.
ARTESIA, NEW MEXICO

DRAWN	DES. BY	PROJ. MGR.
PETE	TOM	A. CHASE
DATE	APP'D	APP'D
1-17-96		