

2R - 26

**GENERAL  
CORRESPONDENCE**

**YEAR(S):**

1997



STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION  
2040 S. PACHECO  
SANTA FE, NEW MEXICO 87505  
(505) 827-7131

August 11, 1997

**CERTIFIED MAIL**  
**RETURN RECEIPT NO. P-410-431-205**

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

**RE: SPILL REMEDIATION  
NORTH 13TH STREET AND HWY 285  
ARTESIA, NEW MEXICO**

Dear Mr. Moore:

The New Mexico Oil Conservation Division (OCD) has reviewed Navajo Refining Company's June 19, 1997 "NORTH 13TH AND HWY 285 REMEDIATION, ARTESIA, NM". This document contains the results of Navajo's recent soil analyses for a spill of crude oil at North 13th Street and U.S. Highway 285 in Artesia, New Mexico. The document also asks whether additional remedial actions are required at the site.

A review of the above referenced document shows that petroleum contaminants are still present in the soil well above the OCD's recommended remediation levels. The OCD cannot issue final closure approval of the spill remedial actions until these cleanup levels have been achieved. In addition, a review of the past soil sampling at the site appears to show increasing concentrations of benzene, toluene, ethylbenzene and xylene in soil at the bottom of the boreholes over time. Due to the shallow ground water depth at the site, the OCD requires that Navajo submit a monitor well installation work plan to the OCD by September 12, 1997.

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

Sincerely,

A handwritten signature in black ink, appearing to read "Will Olson".

William C. Olson  
Hydrologist  
Environmental Bureau

xc: OCD Artesia District Office

TELEPHONE  
(505) 748-3311

EASYLINK  
62905278



## REFINING COMPANY

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

June 19, 1997

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

**RECEIVED**

**JUN 23 1997**

Environmental Bureau  
Oil Conservation Division

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

**RE: North 13th and HWY 285 Remediation, Artesia, NM**

Dear Mr. Olson,

Per our telephone conversation, Navajo hired Atkins Engineering to drill two borings immediately adjacent to the two wells that have the turbine ventilators. In a letter to you dated September 19, 1996, David Griffin outlined the installation and sampling of these turbine wells. He also included the analysis of those samples. The current borings mimic the two wells Mr. Griffin drilled and were sampled at the same intervals. David labeled his wells TW-1 and TW-2, whereas I labeled the recent borings B-1 and B-2. These borings were drilled within two feet of the turbines. I have enclosed that analysis for comparison with the samples from the turbine wells. In both borings, we were in saturated sediment when we stopped drilling. Both holes were backfilled with bentonite to surface.

After comparing the two sets of analysis, please let me know if OCD requires any further action on our part. The highway is expected to cover this area by August or early September. If you have any questions, please call me at 505-748-3311. Thank you for your time in this matter.

Sincerely,  
NAVAJO REFINING COMPANY

Darrell Moore  
Environmental Mgr. for Water and Waste

Encl.

# TRACE ANALYSIS, INC.

6701 Aberdeen Avenue

Lubbock, Texas 79424

806•794•1296

FAX 806•794•1298

## ANALYTICAL RESULTS FOR

Navajo Refining

Attention Darrell Moore

501 E. Main

Artesia

NM 88210

Lab Receiving # : 9705000480

Sampling Date: 5/28/97

Sample Condition: Intact and Cool

Sample Received By: JH

Date: Jun 03, 1997

Date Rec: 5/29/97

Project: 13th St & 285 Spill

Proj Name: 13th St & 285 Spill

Proj Loc: Artesia, NM

TA#	Field Code	MATRIX	TRPHC (mg/Kg)	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL- BENZENE (mg/Kg)	M, P, O XYLENE (mg/Kg)	TOTAL BTEX mg/Kg
T74483	B1-5	Soil	1,780	<0.100	23.5	3.63	53.3	80.4
T74484	B1-10	Soil	915	0.780	11.0	1.60	24.6	38.0
T74485	B1-15	Soil	2,310	2.36	25.4	3.09	47.7	78.6
T74486	B1-20	Soil	2,310	12.4	98.9	10.3	150	272
T74487	B1-25	Soil	25.0	0.210	2.51	0.548	9.03	12.3
T74488	B1-30	Soil	72.5	0.520	4.91	1.05	15.3	21.8
T74489	B1-35	Soil	712	1.66	8.02	1.33	19.9	30.9
T74490	B1-40	Soil	255	2.40	12.0	1.34	22.4	38.1
QC			103	0.095	0.095	0.095	0.258	
RPD			0	4	4	4	3	
% Extraction Accuracy			106	96	99	101	94	
% Instrument Accuracy			103	95	95	95	86	

Reporting Limit:

10

0.050

0.050

0.050

0.050

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)	SPIKE: (mg/Kg)
BTEX	EPA 5030	5/29/97	EPA 8020	5/29/97	AG	0.100 ea	5 ea
TRPHC	EPA 3550	5/29/97	EPA 418.1	5/30/97	MS	100	250

*BL*

Director, Dr. Blair Leftwich

*6-3-97*

Date



6701 Aberdeen Avenue

Lubbock, Texas 79424

806•794•1296

FAX 806•794•1298

ANALYTICAL RESULTS FOR

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

Lab Receiving # : 9705000480  
 Sampling Date: 5/28/97  
 Sample Condition: Intact and Cool  
 Sample Received By: JH

Date: Jun 03, 1997  
 Date Rec: 5/29/97  
 Project: 13th St & 285 Spill  
 Proj Name: 13th St & 285 Spill  
 Proj Loc: Artesia, NM

TA#	Field Code	MATRIX	TRPHC (mg/Kg)	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL- BENZENE (mg/Kg)	M, P, O XYLENE (mg/Kg)	TOTAL BTEX mg/Kg
T74491	B2-5	Soil	153	<0.500	43.0	3.70	56.3	103
T74492	B2-10	Soil	109	1.27	46.4	5.86	93.5	147
T74493	B2-15	Soil	507	<1.00	18.2	2.45	38.6	59.2
T74494	B2-20	Soil	487	0.640	18.0	2.27	34.9	55.8
T74495	B2-25	Soil	117	<1.00	3.64	0.860	14.3	18.8
T74496	B2-30	Soil	<10.0	<0.050	0.060	<0.050	0.115	0.175
T74497	B2-35	Soil	<10.0	0.097	0.097	<0.050	0.054	0.248
T74498	B2-40	Soil	<10.0	0.097	0.062	<0.050	<0.050	0.159
QC			103	0.095	0.095	0.095	0.258	
RPD			0	4	4	4	3	
% Extraction Accuracy			106	96	99	101	94	
% Instrument Accuracy			103	95	95	95	86	

Reporting Limit: 10 0.050 0.050 0.050 0.050

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)	SPIKE: (mg/Kg)
BTEX	EPA 5030	5/29/97	EPA 8020	5/29/97	AG	0.100 ea	5 ea
TRPHC	EPA 3550	5/29/97	EPA 418.1	5/30/97	MS	100	250

*BL*

*6-3-97*

Director, Dr. Blair Leftwich

Date



2R - 26

# REPORTS

DATE:

Oct 8 1997

TELEPHONE  
(505) 748-3311

EASYLINK  
62905278

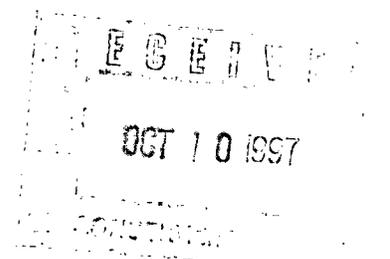


## REFINING COMPANY

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

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

October 8, 1997



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

**RE: SPILL REMEDIATION  
NORTH 13TH STREET AND HIGHWAY 285  
ARTESIA, NEW MEXICO**

Dear Mr. Olson:

On September 11, 1997, Navajo Refining Company had samples collected and analyses run on soil to further characterize the condensate spill at North 13th and Highway 285. Atkins Engineering drilled the borehole and provided the enclosed log. This report addresses the steps taken in order to obtain our results.

### 1. SOIL SAMPLES

Soil samples were collected from a borehole at five foot intervals. They were placed in clean, soil sample containers, iced down for overnight shipment, and sent to Trace Analysis of Lubbock, Texas. Trace then analyzed these samples for BTEX and TRPHC.

The results of these sample analyses are attached. The samples were identified by the borehole they came from (TW5) and by the depth from which they were collected (5, 10, 15 ft., etc.). TW5 was drilled 3 feet north of what Navajo calls B2. You will notice a detection of TRPHC at a depth of 108 feet, but at this level, the auger used to drill these holes broke and a final sample was taken from the soil riding up the edges of the auger. We feel this detection was the result of this soil mixing with other soil at a shallower depth.

As you can see from the results, Navajo drilled through the bottom of the contamination thus determining the vertical extent of the spilled material. Also, no ground water was detected at total depth. A plug was placed at the surface until Atkins Engineering could get back to fish their augers out of the hole. When they returned, on September 15, the hole was still dry.

### 2. CONCLUSION AND RECOMMENDATION

Navajo believes that no significant environmental risk would result from taking no remediation steps beyond what has already been done. Except for the single incident, no contamination was detected from 70 feet to 108 feet. Ground water was never reached, therefore, contamination is at a minimum 38 feet above water. From information Navajo has gathered, usable ground water is at least 200 feet deep. Once the highway is layed down, hydraulic head on the condensate that is left will virtually disappear. Further, the closest surface water is in the Pecos River five miles away.

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

Sincerely,

NAVAJO REFINING COMPANY

*Bryan Madrid*

Bryan Madrid  
Environmental Specialist

Encl.

Atkins Engineering Associates, Inc.  
P.O. Box 3156  
Roswell, New Mexico 88202

# LOG OF BORING TH-1

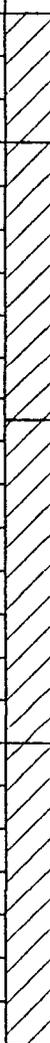
(Page 1 of 4)

NAVAJO REFINING CO.  
13TH & 285  
ARTESIA, NEW MEXICO

Date: : September 11, 1997      Site Location: : Artesia, NM  
Drill Start: : 7:10 a.m.      Auger Type: : Hollow Stem  
Drill End: : 3:00 p.m.      Logged by: : Mort Bates  
Boring Location: : 10 ft. N of Hwy 285, 10 ft. W. of 13th Street

Contact: Darrell Moore

JOB #97274

Depth in	GRAPHIC	USCS	DESCRIPTION	Samples
0		CL	Silty Clay w/small gravel, brown, stiff, moist	
5		CL	Silty clay, brown	1
10		CL	Silty Clay w/trace of gypsum, tan, stiff, damp	2
15		CL		3
20		CL	Silty Clay w/gravel, tan, stiff, damp	4
25		GC	Gravel w/Clay, tan, stiff, damp Collected Sample @ land surface	5
	GP	Cemented Gravel, tan, hard, damp		
30	SC	Silty Clay & Sand w/gravel, tan, stiff, damp	6	

Atkins Engineering Associates, Inc.  
P.O. Box 3156  
Roswell, New Mexico 88202

# LOG OF BORING TH-1

(Page 2 of 4)

NAVAJO REFINING CO.  
13TH & 285  
ARTESIA, NEW MEXICO

Date: : September 11, 1997      Site Location: : Artesia, NM  
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Drill End: : 3:00 p.m.      Logged by: : Mort Bates  
Boring Location: : 10 ft. N of Hwy 285, 10 ft. W. of 13th Street

Contact: Darrell Moore

JOB #97274

Depth In	GRAPHIC	USCS	DESCRIPTION	Samples
30		SC	Silty Clayey Sand, tan, stiff, moist	7
35		SC		
40		CL	Clay w/gravel, tan, hard, moist	8
45		CL	Caliche Clay, tan, stiff, moist	9
50		GP	Gravel w/sandy clay, tan, hard, damp	10
55		GP	Collected Sample @ land surface	11
60			Collected Sample @ land surface	12

Atkins Engineering Associates, Inc.  
P.O. Box 3156  
Roswell, New Mexico 88202

# LOG OF BORING TH-1

(Page 3 of 4)

NAVAJO REFINING CO.  
13TH & 285  
ARTESIA, NEW MEXICO

Date: : September 11, 1997      Site Location: : Artesia, NM  
Drill Start: : 7:10 a.m.      Auger Type: : Hollow Stem  
Drill End: : 3:00 p.m.      Logged by: : Mort Bates  
Boring Location: : 10 ft. N of Hwy 285, 10 ft. W. of 13th Street

Contact: Darrell Moore

JOB #97274

Depth in	GRAPHIC	USCS	DESCRIPTION	Samples
60		GP	Collected Sample @ land surface	13
65			Collected Sample @ land surface	14
70		CL	Silty Sandy Clay, tan, stiff, moist	15
75			Clayey Sand, tan, stiff, moist	16
80		CL	Clay, tan, stiff, damp	17
85				18
90				

Atkins Engineering Associates, Inc.  
 P.O. Box 3156  
 Roswell, New Mexico 88202

LOG OF BORING TH-1

(Page 4 of 4)

NAVAJO REFINING CO.  
 13TH & 285  
 ARTESIA, NEW MEXICO

Date: : September 11, 1997      Site Location: : Artesia, NM  
 Drill Start: : 7:10 a.m.      Auger Type: : Hollow Stem  
 Drill End: : 3:00 p.m.      Logged by: : Mort Bates  
 Boring Location: : 10 ft. N of Hwy 285, 10 ft. W. of 13th Street

Contact: Darrell Moore

JOB #97274

Depth in	GRAPHIC	USCS	DESCRIPTION	Samples
90		CL		
95				19
100				20
105			TD = 107 ft.	21
110			90' of HS Augers hung in hole. Will return w/retriever tool.  9-15-97 Returned to site at 12:30 p.m. Retrieved all Augers, plugged hole with cuttings, backfill to 35' BLS, Bentonite 30-35 ft. interval, backfill 3-30 ft. interval, and cement grout 0-3 ft. interval.	
115			NOTE: Dry hole to 107 ft. below land surface (No ground water encountered).	
120				

# TRACE ANALYSIS, INC.

6701 Aberdeen Avenue

Lubbock, Texas 79424

806•794•1296

FAX 806•794•1298

## ANALYTICAL RESULTS FOR

Navajo Refining

Attention Bryan Madrid

501 E. Main

Artesia NM 88210

Date: Sep 23, 1997  
 Date Rec: 9/13/97  
 Project: Artesia  
 Proj Name: N/A  
 Proj Loc: Artesia, NM

Lab Receiving # : 9709000231  
 Sampling Date: 9/11/97  
 Sample Condition: Intact and Cool  
 Sample Received By: JH

TA#	Field Code	MATRIX	TRPHC (mg/Kg)	MTBE (mg/Kg)	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL- BENZENE (mg/Kg)	M, P, O XYLENE (mg/Kg)	TOTAL BTEX (mg/Kg)
T81551	TW5-5	Soil	6,850	<0.500	1.89	53.3	21.1	220	296
T81552	TW5-10	Soil	2,210	<0.500	2.34	20.6	5.2	57.5	85.6
T81553	TW5-15	Soil	4,200	0.713	2.55	44.4	11.4	107	165
T81554	TW5-20	Soil	435	<0.050	0.146	0.557	0.782	5.15	6.64
T81555	TW5-25	Soil	161	<0.050	<0.050	<0.050	0.135	0.277	0.412
T81556	TW5-30	Soil	<10.0	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
T81557	TW5-35	Soil	<10.0	<0.050	<0.050	0.072	<0.050	<0.050	0.072
T81558	TW5-40	Soil	<10.0	<0.050	0.102	0.172	<0.050	0.066	0.340
T81559	TW5-45	Soil	<10.0	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
T81560	TW5-50	Soil	<10.0	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
T81561	TW5-55	Soil	459	<0.050	0.202	0.758	0.752	6.84	8.55
T81562	TW5-60	Soil	685	<0.050	0.204	0.921	1.20	10.1	12.4
T81563	TW5-65	Soil	154	<0.050	<0.050	<0.050	0.085	0.122	0.207
Method Blank			<10.0	<0.050	<0.050	<0.050	<0.050	<0.050	
Reporting Limit			10	0.05	0.05	0.05	0.05	0.05	
QC			102	0.100	0.099	0.098	0.095	0.294	
RPD			2	1	3	2	3	2	
% Extraction Accuracy			100	101	101	102	100	105	
% Instrument Accuracy			102	100	99	98	95	98	

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)	SPIKE: (mg/Kg)
BTEX	EPA 5030	9/18/97	EPA 8020	9/20/97	AG	0.100 ea	5 ea
TRPHC	EPA 3550	9/18/97	EPA 418.1	9/19/97	MS	100	250



Director, Dr. Blair Leitwisch

9-23-97

Date



# TRACE ANALYSIS, INC.

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

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

Date: Sep 23, 1997  
 Date Rec: 9/13/97  
 Project: Artesia  
 Proj Name: N/A  
 Proj Loc: Artesia, NM

Lab Receiving # : 9709000231  
 Sampling Date: 9/11/97  
 Sample Condition: Intact and Cool  
 Sample Received By: JH

TA#	Field Code	MATRIX	TRPHC (mg/Kg)	MTBE (mg/Kg)	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL- BENZENE (mg/Kg)	M, P, O XYLENE (mg/Kg)	TOTAL BTEX (mg/Kg)
T81564	TW5-70	Soil	<10.0	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
T81565	TW5-75	Soil	<10.0	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
T81566	TW5-80	Soil	<10.0	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
T81567	TW5-85	Soil	<10.0	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
T81568	TW5-90	Soil	<10.0	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
T81569	TW5-95	Soil	<10.0	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
T81570	TW5-100	Soil	<10.0	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
T81571	TW5-105	Soil	<10.0	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
T81572	TW5-108	Soil	305	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Method Blank			<10.0	<0.050	<0.050	<0.050	<0.050	<0.050	
Reporting Limit			10	0.05	0.05	0.05	0.05	0.05	
QC			102	0.100	0.099	0.098	0.095	0.294	

RPD	2	1	3	2	3	2
% Extraction Accuracy	100	101	101	102	100	105
% Instrument Accuracy	102	100	99	98	95	98

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)	SPIKE: (mg/Kg)
BTEX	EPA 5030	9/18/97	EPA 8020	9/20/97	AG	0.100 ea	5 ea
TRPHC	EPA 3550	9/18/97	EPA 418.1	9/19/97	MS	100	250

*[Handwritten Signature]*

9-23-97

Director, Dr. Blair Lertwich

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: **BRYAN MADRID** Phone #: \_\_\_\_\_  
 FAX #: \_\_\_\_\_

Company Name & Address: **NAVAJ**

Project #: \_\_\_\_\_ Project Name: \_\_\_\_\_

Project Location: **ARTESIA NM** Sampler Signature: *Bryan Madrid*

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX				PRESERVATIVE METHOD				SAMPLING		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	TRPHC	Turn around # of days	Fax ASAP	Hold							
				WATER	SOIL	AIR	SLUDGE	HCL	HNO3	ICE	NONE	DATE	TIME																				
81551	TW5-5	1			X						X		9/11/97	7:30	X									X									
81552	TW5-10	1			X						X		9/11/97	7:45	X									X									
81553	TW5-15	1			X						X		9/11/97	8:00	X									X									
81554	TW5-20	1			X						X		9/11/97	8:15	X									X									
81555	TW5-25	1			X						X		9/11/97	8:30	X									X									
81556	TW5-30	1			X						X		9/11/97	8:45	X									X									
81557	TW5-35	1			X						X		9/11/97	9:05	X									X									
81558	TW5-40	1			X						X		9/11/97	9:30	X									X									
81559	TW5-45	1			X						X		9/11/97	9:50	X									X									
81560	TW5-50	1			X						X		9/11/97	10:30	X									X									
81561	TW5-55	1			X						X		9/11/97	11:00	X									X									

Relinquished by: *Bryan Madrid* Date: *9/12/97* Time: *16:15*  
 Received by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Received by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Received at Laboratory by: *W. Marshall* Date: *9/13/97* Time: *10:55A* *CLF*

REMARKS: *10*  
*W Marshall*  
 256 AD

810 94 302 4172 103 1302 9169 972

