GW - 28

GENERAL CORRESPONDENCE

YEAR(S):

1984 - 1996

State of New Mexico
ENVIRONMENT DEPARTMENT
Hazardous & Radioactive Materials Bureau
2044 Galisteo
P.O. Box 26110
Santa Fe, New Mexico 87502
(505) 827-1557
Fax (505) 827-1544

GARY E. JOHNSON
GOVERNOR

MARK E. WEIDLER
SECRETARY

EDGAR T. THORNTON, III
DEPUTY SECRETARY

February 27, 1996

Roger Anderson, Chief
Environmental Bureau
Oil Conservation Division
2040 S. Pacheco St.
Santa Fe, New Mexico 87505

Dear Mr. Anderson:

The New Mexico Environment Department (NMED) encloses for your review and consideration an inspection report concerning and compliance order issued to Navajo Refining Company (Navajo). The issue that the Oil Conservation Division may wish to pay particular attention to is the regulatory status of four (4) 21,000-gallon tanks used to store listed hazardous waste sludges. Based upon information provided by Navajo subsequent to issuance of the compliance order, NMED has determined that the four referenced tanks are not subject to the New Mexico Hazardous Waste Management Regulations (20 NMAC 4.1). Specifically, these tanks appear to meet the regulatory exemption found at 20 NMAC 4.1.600, which adopts 40 CFR §265.1(c)(10), because Navajo began discharging refinery wastewater to the City of Artesia's wastewater treatment facility prior to putting the four tanks into service. The four tanks appear to be used in conjunction with Navajo's wastewater treatment system. However, NMED believes that these tanks may be subject to the Water Quality Control Commission Regulations.

Thank you for your attention to this matter. If you have any questions, please contact me at (505) 827-1558.

Sincerely,

Coby Muckelroy
RCRA Inspection/Enforcement Program Manager
Hazardous and Radioactive Materials Bureau

Enclosures

xc: Jim Seubert, RCRA Inspection Group Supervisor
Susan McMichael, Office of General Counsel

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CERTIFIED MAIL -- RETURN RECEIPT REQUESTED

January 18, 1996

Jack Reid, President
Navajo Refining Company
P.O. Box 159
Artesia, NM. 88211-0159

Dear Mr. Reid:

The Hazardous and Radioactive Materials Bureau of the New Mexico Environment Department (NMED) issues the enclosed Compliance Order to Navajo Refining Company (Navajo), pursuant to the New Mexico Hazardous Waste Act, NMSA 1978 §74-4-10 (Repl. Pamp. 1993). The Compliance Order states that Navajo has failed to comply with New Mexico Hazardous Waste Management Regulations (20 NMAC 4.1). The violations are specifically set out in this Compliance Order.

The Compliance Order sets forth a schedule of compliance required of Navajo. Navajo may be subject to additional civil penalties of up to $25,000 for each day of noncompliance with the Compliance Order, as set forth in §74-4-10.

Any inquiries concerning this Compliance Order should be directed to Mr. Coby Muckelroy, RCRA Inspection/Enforcement Program Manager, Hazardous and Radioactive Materials Bureau, New Mexico Environment Department, at (505) 827-1558.

Sincerely,

Ed Kelley
Director
Water and Waste Management Division

cc: Kathryn Griffith, U.S. EPA Region VI (6H-HS)
Benito Garcia, Bureau Chief, H&RMB
Coby Muckelroy, RCRA Program Manager, H&RMB
Susan McMichael, Office of General Counsel
Garrison McCaslin, NMED District IV Office

STATE OF NEW MEXICO
ENVIRONMENT DEPARTMENT

IN THE MATTER OF

COMPLIANCE ORDER
NMHWA 96-01

NAVAJO REFINING COMPANY
501 EAST MAIN STREET
ARTESIA, NEW MEXICO,

RESPONDENT.

ADMINISTRATIVE COMPLIANCE ORDER
AND CIVIL PENALTY

This Administrative Order (Order) is issued to Navajo Refining Company (Respondent) pursuant to the New Mexico Hazardous Waste Act (HWA), NMSA 1978 §74-4-10 (Repl. Pamp. 1993). The authority to issue this Order has been delegated by the Secretary of the New Mexico Environment Department (NMED) to the Director of the Water and Waste Management Division (Complainant).

FINDINGS

1. Complainant is the agency within the executive branch of the New Mexico state government charged with administration and enforcement of the HWA, NMSA 1978, Sections 74-4-1 through 74-4-14 et seq. (Repl. Pamp. 1993), and the New Mexico Hazardous Waste Management Regulations (20 NMAC 4.1).

2. Respondent is Navajo Refining Company (Navajo), a company registered to do business in New Mexico as a foreign corporation out of Delaware in which incorporation has been renewed under the laws of the state of New Mexico since March 1, 1993.

3. Respondent is located in Artesia, New Mexico, and is in the business of refining and marketing crude oil extracted in the State at a rate of approximately 60,000 barrels/day.

4. Respondent is a large facility consisting of several areas comprising the facility. These areas include administrative offices, a fire station, maintenance/warehouse area, blender area, asphalt rack area, south crude/TCC plant, propane loading rack area, loading rack area, scales area, pipeline division, north

5. Respondent notified the U.S. Environmental Protection Agency (EPA) of its hazardous waste generation in New Mexico in August of 1980.

6. On October 12, 1989, NMED issued a Letter of Violation (LOV) for failure to comply with hazardous waste management regulations to Navajo based upon results of an inspection conducted at Navajo's Artesia facility on September 28, 1989. The violations alleged in this LOV were: failure to sample groundwater at the North Colony Landfarm and the TEL Area on a quaterly basis, and failure to implement groundwater maintenance and monitoring requirements for the TEL Area.

7. On November 8, 1990, NMED issued a LOV for failure to comply with hazardous waste management regulations to Navajo based upon the results of an inspection conducted on October 17,1990. The violations alleged in this LOV were: failure to mark the words "Hazardous Waste" on a tank, failure to provide the required integrity assessment certification statement for the same tank, failure to provide this tank with a secondary containment system, and failure to document daily inspections of this tank system.

8. On November 19, 1991, NMED issued a LOV for failure to comply with hazardous waste management regulations to Navajo based upon the results of an inspection conducted on October 9-10, 1991. The violations alleged in this LOV were: failure to conduct adequate hazardous waste determination, failure to keep records of hazardous waste determinations, failure to complete weekly inspection logs for inspections performed at the North Colony Landfarm, failure to mark the accumulation start date on a container, failure to mark this same container with the words "Hazardous Waste", and finally, failure to provide its employees hazardous waste management training by a person adequately trained in hazardous waste management procedures.

9. On August 29 through 30, 1995, NMED employees Frank Sanchez and Michael Le Scouarnec conducted a compliance evaluation inspection (inspection) at Respondent's facility.

10. At the time of the inspection, four (4) 21,000 gallon tanks located in the K-waste processing area, which is classified as a ninety day accumulation area, were not labeled with the words "Hazardous Waste".

11. At the time of inspection, a written assessment reviewed and certified by an independent, qualified, registered professional engineer attesting to the structural integrity of the four tanks located in the K-waste processing area was unavailable.

12. At the time of inspection, the four tanks located at the K-waste processing area had not been installed with a sufficient secondary containment system capable of detecting and collecting releases and accumulated liquids prior to the tanks being put into service.

13. At the time of the inspection, two (2) - 55 gallon drums and one (1)- approximately 400-500 gallon metal bin (approximately 25% full) containing dry, K-listed hazardous waste located in the ninety day accumulation area were not closed.

14. At the time of inspection, the containers noted in ¶13 were not labeled with the words "Hazardous Waste".

15. At the time of inspection, the containers noted in ¶13 were not marked with accumulation start dates.

16. At the time of the inspection, the accumulation start date on one wrangler bag containing K-listed hazardous waste located in the ninety day accumulation area was not legible.

17. At the time of the inspection, copies of Land Disposal Restriction (LDR) notices were not attached to manifest numbers 00264717 and 00264718, dated 11/3/92.

CONCLUSIONS

18. Respondent is a "person" as defined at §74-4-3.K. of HWA, and §101 of the New Mexico Hazardous Waste Management Regulations (20 NMAC 4.1), effective September 23, 1994, which incorporates, with a few exceptions, federal regulation 40 CFR §260.10.

19. Respondent is a "generator" as defined at §74-4-4.3.F. of HWA, and 20 NMAC 4.1.101, which incorporates, with a few exceptions, federal regulation 40 CFR §260.10.

20. Respondent generates "hazardous waste" as defined §74-4-3-I. of HWA, and 20 NMAC 4.1.101, which incorporates, with a few exceptions, federal regulation 40 CFR §260.10.

21. Respondent stores hazardous waste in "containers" as defined at 20 NMAC 4.1.101, which incorporates, with a few exceptions, federal regulation 40 CFR §260.10.

22. Respondent stores hazardous waste in "tanks" as defined at 20 NMAC 4.1.101, which incorporates, with few exceptions, federal regulation 40 CFR §260.10.

23. 20 NMAC 4.1.301, which incorporates, with a few exceptions, federal regulation 40 CFR §262.10(a), makes the regulations in Part 262 (Standards Applicable to Generators of Hazardous Waste), applicable to Respondent, and Respondent has violated regulations in Part 262 as specified below. 20 NMAC 4.1.801, which incorporates, with a few exceptions, federal regulation 40 CFR §268.1(a), makes the regulations in Part 268 (Land Disposal Restrictions), applicable to Respondent, and Respondent has violated regulations in Part 268 as specified below.

24. Respondent failed to label or mark four (4) 21,000 gallon tanks located at the K-waste processing area with the words "Hazardous Waste". This is a violation of 20 NMAC 4.1.301, which incorporates federal regulation 40 CFR §262.34(a)(3).

25. Respondent failed to provide a written assessment reviewed and certified by an independent, qualified, registered professional engineer attesting to the structural integrity of four (4) - 21,000 gallon tanks located at the K-waste processing area. This is a violation of 20 NMAC 4.1.301, which incorporates federal regulation 40 CFR §262.34(a)(1)(ii), and which refers more specifically to 40 CFR §265.191(a) and §265.191(b).

26. Respondent failed to provide a secondary containment system for four (4) - 21,000 gallon tanks located at the K-waste processing area capable of detecting and collecting releases and accumulated liquids prior to the tanks being put into service. This is a violation of 20 NMAC 4.1.301, which incorporates federal regulation 40 CFR §262.34(a)(1)(ii), and which refers more specifically to 40 CFR §265.193(a)(1), and 40 CFR §265.193(b)(2).

27. Respondent failed to close two (2)- 55 gallon drums and one (1)- approximately 400-500 gallon metal bin (approximately 25% full) containing dry, K-listed hazardous waste and which are located in the ninety day accumulation area. This is a violation of 20 NMAC 4.1.301, which incorporates federal regulation 40 CFR §262.34(a)(1)(i), and which refers more specifically to 40 CFR §265.173(a).

28. Respondent failed to mark the containers noted in ¶27 with the words "Hazardous Waste". This is a violation of 20 NMAC 4.1.301, which incorporates federal regulation 40 CFR §262.34(a)(3).

29. Respondent failed to mark the containers noted in ¶27 with accumulation start dates. This is a violation of 20 NMAC 4.1.301, which incorporates federal regulation 40 CFR §262.34(a)(2).

30. Respondent failed to maintain a legible label showing the accumulation start date on one wrangler bag containing K-listed hazardous waste located in the ninety day accumulation area. This is a violation of 20 NMAC 4.1.301, which incorporates federal regulation 40 CFR §262.34(a)(2).

31. Respondent failed to retain copies of the LDR notices accompanying manifest numbers 00264717 and 00264718, dated 11/3/92. This is a violation of 20 NMAC 4.1.801, which incorporates federal regulation 40 CFR §268.7(a)(7).

SCHEDULE OF COMPLIANCE

34. Based on the foregoing Findings and Conclusions, Respondent is hereby ordered to comply with the following schedule of compliance:

- Within one (1) calendar day after receipt of this Order, label or mark the four tanks located in the K-waste processing and ninety day accumulation area with the words "Hazardous Waste".

- Within ninety (90) calendar days after receipt of this Order, install a secondary containment system for the four tanks located in the K-waste processing area which complies with all the requirements set forth in 40 CFR 265 Subpart J which are applicable to generators of hazardous waste who store hazardous waste in tanks.

- Within ninety (90) calendar days after receipt of this Order, assure that an assessment and certification of the structural integrity has been made by an independent, qualified, registered professional engineer.

- Within one (1) calendar day after receipt of this Order, close containers referred to in ¶28.

- Within one (1) calendar day after receipt of this Order, mark the words "Hazardous Waste" on the containers referred to in ¶29.

- Within one (1) calendar day after receipt of this Order, label or mark the accumulation start dates on containers referred to in ¶30.

- Within one (1) calendar day after receipt of this Order, ensure that the accumulation start date on the wrangler bag containing K-listed hazardous waste located in ninety day area is legible.

- Within thirty (30) working days, send copies of Land Disposal Restriction (LDR) notices for manifest numbers 00264717 and 00264718 to NMED.

If Respondent fails to timely comply with the Schedule of Compliance or if Respondent elects not to comply with the Schedule of Compliance and to challenge it as set forth below, the Secretary may assess additional civil penalties of not more than twenty-five thousand dollars ($25,000) for each day of continued noncompliance pursuant to §74-4-10.C. of HWA.

NOTICE OF OPPORTUNITY TO ANSWER AND REQUEST A HEARING

35. Respondent has a right to answer this Order and request a hearing pursuant to §74-4-10.H. of the HWA and 20 NMAC 1.5.200 of NMED's Adjudicatory Procedures. Respondent shall file a written Request for Hearing, Answer and a copy of the Order with the Hearing Clerk within thirty (30) calendar days after receipt of the Order. The Request for Hearing and Answer shall be signed under oath or affirmation that the information contained therein is to the best of the signer's knowledge believed to be true and correct. The answer shall clearly and directly admit or deny each factual allegation contained in the Order with regard to which Respondent has any knowledge. Where Respondent has no knowledge of a particular factual allegation and so states, the allegation may be denied on that basis. Any allegation, finding or conclusion not specifically denied shall be deemed admitted. The answer shall also state any affirmative defenses upon which Respondent intends to rely. A hearing upon the issues raised by the Order and answer shall be held upon the request of the Respondent. NMED's Adjudicatory Procedures shall govern all hearing and pre-hearing procedures. Respondent may contact the Hearing Clerk for a copy of these regulations.

The Hearing Clerk's address is:

Gloria Miller, Hearing Clerk
P.O. Box 26110
1190 St Francis Drive
Harold Runnels Building, N4084
Santa Fe, New Mexico, 87502
(505) 827-2842

FINALITY OF ORDER

36. This Order shall become final unless Respondent files a written Request for Hearing and Answer within thirty (30) calendar days of receipt of the Order. Failure by the Respondent to file an Answer constitutes an admission of all facts alleged in the Order and a waiver of Respondent's right to a hearing under §74-4-10 of the HWA. Unless Respondent requests a hearing, the penalty proposed in this Order shall become due and payable without further proceedings within sixty (60) days after receipt of this Order.

32. Paragraphs 24-26, and 28-30 entail violations which were cited as a result of the inspections referred to in ¶¶6, 7 and 8 and/or pose a substantial likelihood of exposure to hazardous waste. Therefore, Respondent is a high priority violator of 20 NMAC 4.1. Paragraphs 27 and 31 were not cited as a result of recent inspections and do not pose a substantial likelihood of exposure to hazardous waste.

CIVIL PENALTY

33. Section 74-4-10 of HWA authorizes the assessment of a civil penalty of up to ten thousand dollars ($10,000) per day for each violation of HWA or the regulations promulgated thereunder. Complainant hereby assesses a civil penalty of two hundred twenty six thousand eight hundred fifteen dollars ($226,815) against Respondent. The penalty is based on the seriousness of the violations and any good faith efforts on the part of Respondent to comply with the applicable requirements, and any economic benefit resulting from non-compliance accruing to Respondent, as well as such other matters as justice may require, and is calculated pursuant to the NMED's Civil Penalty Policy. The penalty for each violation is:

VIOLATION		AMOUNT
Paragraph 24	Failure to label tanks.	$47,320
Paragraph 25	Failure to provide certification on tanks.	$47,320
Paragraph 26	Failure to provide a secondary containment system for tanks.	$117,940
Paragraph 28	Failure to label or mark containers.	$6,435
Paragraph 29	Failure to mark accumulation start dates.	$6,435
Paragraph 30	Failure to maintain legible label showing accumulation start date.	$1,365

Payment shall be made to the State of New Mexico Hazardous Waste Emergency Fund by certified check, bank draft, or other guaranteed negotiable instrument, and mailed or hand-delivered to Linda Romero, Office of General Counsel, New Mexico Environment Department, P.O. Box 26110, Santa Fe, New Mexico 87502.

SETTLEMENT CONFERENCE

37. Whether or not Respondent files an Answer and Request for Hearing, Respondent may confer with Complainant concerning settlement. A request for a settlement conference does not extend the thirty (30) day period during which the Answer and Request for Hearing must be submitted. The settlement conference may be pursued as an alternative to, or simultaneously with, the hearing proceedings. Respondent may appear at the settlement conference by itself or be represented by counsel.

38. Any settlement reached by the parties shall be approved by a stipulated final Order of the Secretary of NMED pursuant to the conditions set forth in 20 NMAC 1.5.601. The issuance of such an Order shall serve to resolve all issues raised in the Order, shall be final and binding on all parties to the Order, and shall not be appealable.

39. To explore the possibility of settlement in this matter, contact Mr. Coby Muckelroy of the Environment Department, P.O. Box 26110, 2044 Galisteo, Santa Fe, NM 87501, telephone number (505)827-1558.

TERMINATION

40. Compliance with the requirements of this Order does not relieve Respondent of its obligation to comply with all other applicable laws and regulations. This Order shall terminate when Respondent certifies that all requirements of the Order have been completed, and NMED has approved such certification, or when the Secretary approves a settlement agreement.

MARK E. WEIDLER, SECRETARY

1/18/96
DATE

By: Ed Kelley
ED KELLEY, Director
Water and Waste Management Division

CERTIFICATE OF SERVICE

I hereby certify that the foregoing Administrative Compliance Order was mailed postage prepaid as follows on this 18th day of January, 1996 to the following:

Via Certified Mail, Return Receipt Requested:

Jack Reid
President
Navajo Refining Company
P.O. Box 159
Artesia, New Mexico 88211-0159

SUSAN MCMICHAEL

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

ATI I.D. 205778

May 22, 1992

New Mexico Environmental Division
P.O. Box 26110
Santa Fe, NM 87502

Project Name/Number: Nava Pond

Attention: Bruce Swanton

On 05/14/92, Analytical Technologies, Inc. received a request to analyze **aqueous** sample(s). The sample(s) were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

Method 8240 analyses were performed by ATI, San Diego.

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

Mary Tyer
Project Manager

Robert V. Woods
Laboratory Manager

RVW:ktd
Enclosure

Analytical Technologies, Inc.

CLIENT : NEW MEXICO ENVIRONMENT DEPARTMENT DATE RECEIVED : 05/14/92
PROJECT # : (NONE)
PROJECT NAME : NAVA POND REPORT DATE : 05/20/92
ATI I.D. : 205778

ATI #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	POND 1	AQUEOUS	05/12/92
02	POND 2	AQUEOUS	05/12/92
03	TRICKLE	AQUEOUS	05/12/92
04	TRIP BLANK	AQUEOUS	05/09/92

----- TOTALS -----

MATRIX	# SAMPLES
AQUEOUS	4

ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

Analytical Technologies, Inc.

GCMS - RESULTS

ATI I.D. : 20577801

TEST : VOLATILE ORGANICS (EPA 8240)

CLIENT	: NEW MEXICO ENVIRONMENT DEPARTMENT	DATE SAMPLED	: 05/12/92
PROJECT #	: (NONE)	DATE RECEIVED	: 05/14/92
PROJECT NAME	: NAVA POND	DATE EXTRACTED	: N/A
CLIENT I.D.	: POND 1	DATE ANALYZED	: 05/18/92
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	: 50

COMPOUNDS	RESULTS
CHLOROMETHANE	<500
BROMOMETHANE	<500
VINYL CHLORIDE	<50
CHLOROETHANE	<50
METHYLENE CHLORIDE	<250
ACETONE	700
CARBON DISULFIDE	<50
1,1-DICHLOROETHENE	<50
1,1-DICHLOROETHANE	<50
1,2-DICHLOROETHENE (TOTAL)	<50
CHLOROFORM	<50
1,2-DICHLOROETHANE	100
2-BUTANONE (MEK)	<1000
1,1,1-TRICHLOROETHANE	<50
CARBON TETRACHLORIDE	<50
VINYL ACETATE	<500
BROMODICHLOROMETHANE	<50
1,1,2,2-TETRACHLOROETHANE	<50
1,2-DICHLOROPROPANE	<50
TRANS-1,3-DICHLOROPROPENE	<50
TRICHLOROETHENE	<50
DIBROMOCHLOROMETHANE	<50
1,1,2-TRICHLOROETHANE	<50
BENZENE	3600
CIS-1,3-DICHLOROPROPENE	<50
2-CHLOROETHYLVINYLETHER	NA
BROMOFORM	<250
2-HEXANONE (MBK)	<500
4-METHYL-2-PENTANONE (MIBK)	<500
TETRACHLOROETHENE	<50
TOLUENE	3800
CHLOROBENZENE	<50
ETHYLBENZENE	700
STYRENE	<50
TOTAL XYLENES	1800

SURROGATE PERCENT RECOVERIES

1,2-DICHLOROETHANE-D4 (%)	87
BROMOFLUOROBENZENE (%)	98
TOLUENE-D8 (%)	112

Analytical Technologies, Inc.

ADDITIONAL COMPOUNDS (SEMI-QUANTITATED)

TEST : VOLATILE ORGANICS (EPA 8240)

ATI I.D. : 20577801

COMPOUNDS	RESULTS
DIMETHYL BUTANE ISOMER	500
METHYL NITRO PROPANE ISOMER	500
CYCLOHEXANE	750
ALIPHATIC HYDROCARBON C2	500
ETHYLMETHYLBENZENE	500

Analytical Technologies, Inc.

GCMS - RESULTS

ATI I.D. : 20577802

TEST : VOLATILE ORGANICS (EPA 8240)

CLIENT	: NEW MEXICO ENVIRONMENT DEPARTMENT	DATE SAMPLED	: 05/12/92
PROJECT #	: (NONE)	DATE RECEIVED	: 05/14/92
PROJECT NAME	: NAVA POND	DATE EXTRACTED	: N/A
CLIENT I.D.	: POND 2 D.PLICATE	DATE ANALYZED	: 05/18/92
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	: 50

COMPOUNDS	RESULTS
CHLOROMETHANE	<500
BROMOMETHANE	<500
VINYL CHLORIDE	<50
CHLOROETHANE	<50
METHYLENE CHLORIDE	<250
ACETONE	600
CARBON DISULFIDE	<50
1,1-DICHLOROETHENE	<50
1,1-DICHLOROETHANE	<50
1,2-DICHLOROETHENE (TOTAL)	<50
CHLOROFORM	<50
1,2-DICHLOROETHANE	100
2-BUTANONE (MEK)	<1000
1,1,1-TRICHLOROETHANE	<50
CARBON TETRACHLORIDE	<50
VINYL ACETATE	<500
BROMODICHLOROMETHANE	<50
1,1,2,2-TETRACHLOROETHANE	<50
1,2-DICHLOROPROPANE	<50
TRANS-1,3-DICHLOROPROPENE	<50
TRICHLOROETHENE	<50
DIBROMOCHLOROMETHANE	<50
1,1,2-TRICHLOROETHANE	<50
BENZENE	3900
CIS-1,3-DICHLOROPROPENE	<50
2-CHLOROETHYLVINYLETHER	NA
BROMOFORM	<250
2-HEXANONE (MBK)	<500
4-METHYL-2-PENTANONE (MIBK)	<500
TETRACHLOROETHENE	<50
TOLUENE	4200
CHLOROBENZENE	<50
ETHYLBENZENE	2800
STYRENE	<50
TOTAL XYLENES	2500

SURROGATE PERCENT RECOVERIES

1,2-DICHLOROETHANE-D4 (%)	85
BROMOFLUOROBENZENE (%)	104
TOLUENE-D8 (%)	112

Analytical Technologies, Inc.

ADDITIONAL COMPOUNDS (SEMI-QUANTITATED)

TEST : VOLATILE ORGANICS (EPA 8240)

ATI I.D. : 20577802

COMPOUNDS	RESULTS
CYCLOHEXANE	1000
HEPTANE	2000
METHYLCYCLOHEXANE	1000
ALIPHATIC HYDROCARBON C8	1000
ETHYLMETHYLBENZENE ISOMER	1000

Analytical Technologies, Inc.

GCMS - RESULTS

ATI I.D. : 20577803

TEST : VOLATILE ORGANICS (EPA 8240)

CLIENT	: NEW MEXICO ENVIRONMENT DEPARTMENT	DATE SAMPLED	: 05/12/92
PROJECT #	: (NONE)	DATE RECEIVED	: 05/14/92
PROJECT NAME	: NAVA POND	DATE EXTRACTED	: N/A
CLIENT I.D.	: TRICKLE	DATE ANALYZED	: 05/18/92
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	: 50

COMPOUNDS	RESULTS
CHLOROMETHANE	<500
BROMOMETHANE	<500
VINYL CHLORIDE	<50
CHLOROETHANE	<50
METHYLENE CHLORIDE	<250
ACETONE	750
CARBON DISULFIDE	100
1,1-DICHLOROETHENE	<50
1,1-DICHLOROETHANE	<50
1,2-DICHLOROETHENE (TOTAL)	<50
CHLOROFORM	<50
1,2-DICHLOROETHANE	100
2-BUTANONE (MEK)	<1000
1,1,1-TRICHLOROETHANE	<50
CARBON TETRACHLORIDE	<50
VINYL ACETATE	<500
BROMODICHLOROMETHANE	<50
1,1,2,2-TETRACHLOROETHANE	5000
1,2-DICHLOROPROPANE	<50
TRANS-1,3-DICHLOROPROPENE	<50
TRICHLOROETHENE	<50
DIBROMOCHLOROMETHANE	<50
1,1,2-TRICHLOROETHANE	<50
BENZENE	4600
CIS-1,3-DICHLOROPROPENE	<50
2-CHLOROETHYLVINYLETHER	NA
BROMOFORM	<250
2-HEXANONE (MBK)	<500
4-METHYL-2-PENTANONE (MIBK)	<500
TETRACHLOROETHENE	<50
TOLUENE	5100
CHLOROBENZENE	<50
ETHYLBENZENE	<50
STYRENE	50
TOTAL XYLENES	3800

SURROGATE PERCENT RECOVERIES

1,2-DICHLOROETHANE-D4 (%)	84
BROMOFLUOROBENZENE (%)	102
TOLUENE-D8 (%)	110

Analytical Technologies, Inc.

ADDITIONAL COMPOUNDS (SEMI-QUANTITATED)

TEST : VOLATILE ORGANICS (EPA 8240)

ATI I.D. : 20577803

COMPOUNDS	RESULTS
ALIPHATIC HYDROCARBON C6	1500
HEPTANE	1500
METHYLHEXANE ISOMER	750
ALIPHATIC HYDROCARBON C2	2000
ETHYLMETHYLBENZENE	750

Analytical Technologies, Inc.

GCMS - RESULTS

ATI I.D. : 20577804

TEST : VOLATILE ORGANICS (EPA 8240)

CLIENT	: NEW MEXICO ENVIRONMENT DEPARTMENT	DATE SAMPLED	: 05/09/92
PROJECT #	: (NONE)	DATE RECEIVED	: 05/14/92
PROJECT NAME	: NAVA POND	DATE EXTRACTED	: N/A
CLIENT I.D.	: TRIP BLANK	DATE ANALYZED	: 05/18/92
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
CHLOROMETHANE	<10
BROMOMETHANE	<10
VINYL CHLORIDE	<1
CHLOROETHANE	<1
METHYLENE CHLORIDE	<5
ACETONE	<20
CARBON DISULFIDE	<1
1,1-DICHLOROETHENE	<1
1,1-DICHLOROETHANE	<1
1,2-DICHLOROETHENE (TOTAL)	<1
CHLOROFORM	<1
1,2-DICHLOROETHANE	<1
2-BUTANONE (MEK)	<20
1,1,1-TRICHLOROETHANE	<1
CARBON TETRACHLORIDE	<1
VINYL ACETATE	<10
BROMODICHLOROMETHANE	<1
1,1,2,2-TETRACHLOROETHANE	<1
1,2-DICHLOROPROPANE	<1
TRANS-1,3-DICHLOROPROPENE	<1
TRICHLOROETHENE	<1
DIBROMOCHLOROMETHANE	<1
1,1,2-TRICHLOROETHANE	<1
BENZENE	<1
CIS-1,3-DICHLOROPROPENE	<1
2-CHLOROETHYLVINYLETHER	NA
BROMOFORM	<5
2-HEXANONE (MBK)	<10
4-METHYL-2-PENTANONE (MIBK)	<10
TETRACHLOROETHENE	<1
TOLUENE	<2
CHLOROBENZENE	<1
ETHYLBENZENE	<1
STYRENE	<1
TOTAL XYLENES	<1

SURROGATE PERCENT RECOVERIES

1,2-DICHLOROETHANE-D4 (%)	104
BROMOFLUOROBENZENE (%)	100
TOLUENE-D8 (%)	101

Analytical Technologies, Inc.

ADDITIONAL COMPOUNDS (SEMI-QUANTITATED)

TEST : VOLATILE ORGANICS (EPA 8240)

ATI I.D. : 20577804

COMPOUNDS	RESULTS
NONE DETECTED	NA

Analytical Technologies, Inc.

GCMS - RESULTS

REAGENT BLANK

TEST : VOLATILE ORGANICS (EPA 8240)

CLIENT	: NEW MEXICO ENVIRONMENT DEPARTMENT	ATI I.D.	: 205778
PROJECT #	: (NONE)	DATE EXTRACTED	: 05/18/92
PROJECT NAME	: NAVA POND	DATE ANALYZED	: 05/18/92
CLIENT I.D.	: REAGENT BLANK	UNITS	: UG/L
		DILUTION FACTOR	: N/A

COMPOUNDS	RESULTS
CHLOROMETHANE	<10
BROMOMETHANE	<10
VINYL CHLORIDE	<1
CHLOROETHANE	<1
METHYLENE CHLORIDE	<5
ACETONE	<20
CARBON DISULFIDE	<1
1,1-DICHLOROETHENE	<1
1,1-DICHLOROETHANE	<1
1,2-DICHLOROETHENE (TOTAL)	<1
CHLOROFORM	<1
1,2-DICHLOROETHANE	<1
2-BUTANONE (MEK)	<20
1,1,1-TRICHLOROETHANE	<1
CARBON TETRACHLORIDE	<1
VINYL ACETATE	<10
BROMODICHLOROMETHANE	<1
1,1,2,2-TETRACHLOROETHANE	<1
1,2-DICHLOROPROPANE	<1
TRANS-1,3-DICHLOROPROPENE	<1
TRICHLOROETHENE	<1
DIBROMOCHLOROMETHANE	<1
1,1,2-TRICHLOROETHANE	<1
BENZENE	<1
CIS-1,3-DICHLOROPROPENE	<1
2-CHLOROETHYLVINYLETHER	NA
BROMOFORM	<5
2-HEXANONE (MBK)	<10
4-METHYL-2-PENTANONE (MIBK)	<10
TETRACHLOROETHENE	<1
TOLUENE	<2
CHLOROBENZENE	<1
ETHYLBENZENE	<1
STYRENE	<1
TOTAL XYLENES	<1

SURROGATE PERCENT RECOVERIES

1,2-DICHLOROETHANE-D4 (%)	101
BROMOFLUOROBENZENE (%)	98
TOLUENE-D8 (%)	101

Analytical Technologies, Inc.

GCMS - RESULTS

REAGENT BLANK

ADDITIONAL COMPOUNDS (SEMI-QUANTITATED)

TEST : VOLATILE ORGANICS (EPA 8240)

CLIENT : NEW MEXICO ENVIRONMENT DEPARTMENT ATI I.D : 205778

COMPOUNDS	RESULTS
NONE DETECTED	NA

Analytical Technologies, Inc.

QUALITY CONTROL DATA

ATI I.D. : 205778

TEST : VOLATILE ORGANICS (EPA 8240)

CLIENT : NEW MEXICO ENVIRONMENT DEPARTMENT
PROJECT # : (NONE)
PROJECT NAME : NAVA POND
REF I.D. : 20599904

DATE ANALYZED : 05/13/92
SAMPLE MATRIX : AQUEOUS
UNITS : UG/L

COMPOUNDS	SAMPLE RESULT	CONC. SPIKED	SPIKED SAMPLE	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
1,1-DICHLOROETHENE	<50	2500	2500	100	2400	96	4
TRICHLOROETHENE	<50	2500	2400	96	2500	100	4
CHLOROBENZENE	<50	2500	2600	104	2600	104	0
TOLUENE	NA	NA	NA	NA	NA	NA	NA
BENZENE	<50	2500	2500	100	2600	104	4

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

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Spiked Sample Result} - \text{Duplicate Spike Sample Result})}{\text{Average of Spiked Sample}} \times 100$$

Analytical Technologies, Inc., Phoenix, Arizona

San Diego • Phoenix • Seattle • Pensacola • Ft. Collins • Portland

CHAIN OF CUSTODY

DATE: 5/12/92 PAGE 1 OF 1

ATI LAB I.D. 205778

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER: BRUCE SWANSON

COMPANY: NEW MEX ENVIRON. DEPT
ADDRESS: 525 CAMINO DE LOS MARQUEZ
SANTA FE, NM 87502-6110
PHONE: 505 827 4300
FAX:

BILL TO: HAZARDOUS & RADIOACTIVE
~~**COMPANY:**~~ MATERIALS BUREAU
ADDRESS:

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
POND 1	5/12/92	11:00	WTR	1
POND 2	5/12	11:00	"	2
TRICKLE	5/12	12:00	"	3
Trip Blank	5/9		"	4

ANALYSIS REQUEST

																							NUMBER OF CONTAINERS
Petroleum Hydrocarbons (418.1)	(MOD 8015) Gas/Diesel	Diesel/Gasoline/BTXE/MTBE (MOD 8015/8020)	BTXE/MTBE (8020)	Method 8240	Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	SDWA Volatiles (502.1/503.1). 502.2 Reg. & Unreg.		Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	Polynuclear Aromatics (610/8310)		SDWA Primary Standards - Arizona	SDWA Secondary Standards - Arizona	SDWA Primary Standards - Federal	SDWA Secondary Standards - Federal		The 13 Priority Pollutant Metals	RCRA Metals by Total Digestion	RCRA Metals by TCLP (1311)	
				1																			2
				1																			2
				1																			2
																							1

PROJECT INFORMATION

PROJ. NO.:	
PROJ. NAME: NAVAJO POND	
P.O. NO.:	
SHIPPED VIA:	

SAMPLE RECEIPT

NO. CONTAINERS	7
CUSTODY SEALS	(Y) N / NA
RECEIVED INTACT	Y
RECEIVED COLD	Y

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☒ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☐ 2 WEEK

Comments: Pea size bubbles in all VOAs!!
SW 846 Method 8240
PLEASE RUN ON 48 hr!

SAMPLED & RELINQUISHED BY: 1.
Signature: [signature] Time: 8:08
Printed Name: BRUCE SWANSON Date: 5/13/92
Company: NMED/HWB Phone: 505 827 4300

RELINQUISHED BY: 2.
Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 3.
Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: 1.
Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: 2.
Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY:(LAB) 3.
Signature: Tom Sachs Time: 10:01
Printed Name: Tom Sachs Date: 5/14/92
Analytical Technologies, Inc.

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

State of New Mexico
ENVIRONMENT DEPARTMENT
Harold Runnels Building
1190 St. Francis Drive, P.O. Box 26110
Santa Fe, New Mexico 87502
(505) 827-2850

BRUCE KING
GOVERNOR

JUDITH M. ESPINOSA
SECRETARY

RON CURRY
DEPUTY SECRETARY

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

March 10, 1992

Mr. Jack Reid, President
Navajo Refining Company
P.O. Drawer 159
Artesia, New Mexico 88210

RE: Response to Notice of Violation
NMD048918817

Dear Mr. Reid:

The New Mexico Environment Department (NMED) has received your response to the November 19 1991 Notice of Violation (NOV) letter.

After reviewing your response, NMED staff's assessment is that insufficient information was submitted within your response. Specifically, Navajo's response did not submit any analytical sample results on waste water effluent in response to violation number 1 cited in NMED's NOV letter of November 11, 1991. In order to satisfy the response to this violation, Navajo should provide NMED copies of analytical sample analyses of waste water effluent.

NMED staff's assessment of Navajo's response is that the remainder of the violations cited in NMED's NOV letter of November 11, 1991, have been addressed. However, if this remaining violation is not addressed through the NOV process, NMED will address the issue through normal NMED enforcement processes.

The NMED is still evaluating the regulatory status of the waste water treatment system and has not yet made a final determination and will notify Navajo as soon as a decision is made.

Should you need additional information or clarification on this letter or issues relevant to the November 11, 1991, NOV letter, please contact me, Mr. Coby Muckelroy or Mr. Edward Horst at 827-4300.

Sincerely,

Benito J. Garcia, Chief
Hazardous and Radioactive Materials Bureau

BJG:CGM:so

cc: Lynn Prince, U.S. EPA Region VI (6H-HS)
Garrison McCaslin, NMED District IV Office
Thomas Burt, NMED Carlsbad Field Office
Kathleen Sisneros, Director, W&WM Division
Roger Anderson, NM Oil Conservation Division

January 17, 1992

Navajo Refining Company
501 East Main Street
P.O. Drawer 159
Artesia, New Mexico 88210

Attn: Zeke Sherman

Dear Sir:

Attached are the analytical results for your sample identified as as B1217510, which was sampled on December 16, 1991.

We at Betz appreciate the opportunity to serve you with quality analytical testing. If you have any questions about the results, please do not hesitate to contact me.

Idelis Z. Williams
Project Manager
Betz Laboratories
(713) 367-6201
FAX (713) 367-3189

IZW:jlh
cc: K. Tooker

Sample Description: Outfall Box
Sample Date: 12/16/91

Laboratory ID: B1217510
Date Analyzed: 12/27/91

VOLATILE ORGANICS (TCLP 8240)

Compound	Uncorrected Value-ug/L*	Spike % Recovery	Corrected Value-ug/L
Benzene	1,000	78.0	1280
Methyl ethyl keytone	450J [500]	100.0	(B)
Carbon Tetrachloride	< 25	104.0	(B)
Chlorobenzene	< 25	113.0	(B)
Chloroform	< 25	104.0	(B)
1,2-Dichloroethane	< 25	110.0	(B)
1,1-Dichloroethene	< 25	102.0	(B)
Tetrachloroethylene	< 25	118.0	(B)
Trichloroethylene	< 25	120.0	(B)
Vinyl chloride	< 50 [50]	104.0	(B)

*Limit of Practical Quantitation is 25 ug/L, unless otherwise noted in brackets.

Surrogate Recovery:		Recovery Limits
1,2-Dichloroethane-d4	102 %	76-114 %
Toluene-d8	100 %	88-110 %
Bromofluorobenzene	104 %	86-115 %

(B) = no corrected value when recovery is between 80 and 120% this range is selected because it encompasses the precision range of most methods in SW-846

J = Result is less than quantitation limit but greater than zero.

Sample Description: Outfall Box
Sample Date: 12/16/91
Date Extracted:12/30/91

Laboratory ID: B1217510
Date Analyzed: 1/14/92

TCLP ACID EXTRACTABLE ORGANICS (EPA 8270)

Compound	Uncorrected Value-ug/L*	Spike % Recovery	Corrected Value-ug/L
o-Cresol	1,000	90.0	(B)
m,p-Cresol	1,770	83.0	(B)
Pentachlorophenol	< 200 [200]	120.0	(B)
2,4,5-Trichlorophenol	< 40	101.0	(B)
2,4,6-Trichlorophenol	< 40	68.0	< 59

*Limit of Practical Quantitation is 40 ug/L, unless otherwise noted.

Surrogate Recovery:		Limits:
2-Fluorophenol	- 60 %	10 - 94 %
Phenol-d5	- 45 %	25 - 121 %
2,4,6-Tribromophenol	-127 %	10 - 123 %

TCLP BASE/NEUTRAL EXTRACTABLE ORGANICS (EPA 8270)

Compound	Uncorrected Value-ug/L*	Spike % Recovery	Corrected Value-ug/L
1,4-Dichlorobenzene	< 40	55.0	< 72
2,4-Dinitrotoluene	< 30	80.0	(B)
Hexachlorobenzene	< 30	70.0	< 42
Hexachlorobutadiene	< 40	55.0	< 72
Hexachloroethane	< 40	55.0	< 72
Nitrobenzene	< 40	130.0	(A)
Pyridine	< 40	20.0	< 200

*Limit of Practical Quantitation is 40 ug/L, unless otherwise noted.

Surrogate Recovery:		Recovery Limits
Nitrobenzene-d5	64 %	35 - 114 %
2-Fluorobiphenyl	82 %	43 - 116 %
Terphenyl-d14	88 %	33 - 141 %

(A) = no corrected value when recovery is greater than 120%
(B) = no corrected value when recovery is between 80 and 120% this range is selected because it encompasses the precision range of most methods in SW-846

BETZ ANALYTICAL SERVICES

Chain of Custody

P.O. Box 4300 • 9669 Grogans Mill Road • The Woodlands, TX 77380 • 713-367-6201 • Fax 713-367-3189 Zip 88210 FAX (505) 748-3311 748-9047

Client Name/Address: Navajo Refining Company, PO Drawer 159, Artesia, NM

Send Report to: Zeke Sherman

P.O. Number: NA

Invoice to: E. Sherman

Samplers (Signature):

Project Number:

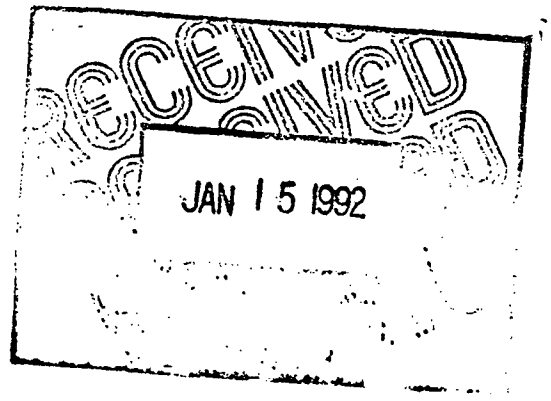
Sta	Date	Time	Comp.	Grab	Station Location	Number of Containers	TCLP (26 full)	Remarks
1	12/16/91	4:34		X	Outfall Box	2		Except for pesticides, herbicides

Relinquished by (Signature)	Date / Time	Received by (Signature)	Relinquished by (Signature)	Date / Time	Received by (Signature)
	12/16/91 1630				
Relinquished by (Signature)	Date / Time	Received by (Signature)	Relinquished by (Signature)	Date / Time	Received by (Signature)
Relinquished by (Signature)	Date / Time	Received for Laboratory by (Sig.)	Date / Time	Sample condition upon receipt:	
		M Lawlor	12/17 9:am	5°C	

Method of Shipment: FED-X

LAB 070 9100 (3 part)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TEXAS 75202-2733



January 10, 1992

Mr. Benito J. Garcia, Chief
Hazardous and Radioactive Waste Bureau
New Mexico Environment Department
525 Camino de los Marquez
Santa Fe, NM 87502

Dear Mr. Garcia:

This letter is in response to your May 13, 1991 letter regarding SWMU and product plume issues at Navajo Refining, in Artesia, New Mexico. In this letter, you indicated that some of the groundwater monitoring wells around the two RCRA units; the North Colony Landfarm (NCL) and the Tetra Ethyl Lead (TEL) facility, contained petroleum product. Furthermore, NMED was under the opinion that the conventionally unrecoverable portion of a product plume constituted a SWMU. In addition, you requested EPA's (Region 6) opinion on this subject.

EPA Region 6 considers the area receiving a routine and systematic release of a product as the actual SWMU. For example, if a product tank was leaking product from the bottom portion of the tank, then the area/soil directly underneath the tank would be considered the SWMU and the product plume in the groundwater would be the release from the SWMU. This approach would also apply to other units which store or hold/contain product material.

In addition, your letter proposed a cooperative corrective action program between EPA and NMED on remediation of Navajo's product plumes (using EPA's HSWA authority with NMED participation to remediate the plumes underneath the NCL and TEL units). EPA feels that since the NCL and TEL units had wastes with constituents similar/the same as those in the product plumes, NMED could require corrective action of those plumes under RCRA authority, since those units are likely contributing to the contamination. Furthermore, I would like to discuss potential regulatory options concerning Navajo with you and your staff(and OCD) on my visit to NMED on January 23, 1992.

If you have any further questions regarding the situation at Navajo, please contact Rich Mayer of my staff at (214) 655-6775.

Sincerely yours,

William K. Honker, P.E.
Chief
RCRA Permits Branch

cc: Roger Anderson, OCD

December 17, 1991

Mr. Bill Honker
U.S. EPA (6H-P)
1445 Ross Avenue Suite 1200
Dallas, Texas 75202-2733

RE: Navajo Refining Company North Colony Landfarm - NCL RCRA Plume and Tank Farm Product Plume

Dear Bill:

Since early last year we have been attempting to determine the jurisdictional relationship between the tank farm product plume and the North Colony Landfarm (NCL) plume. The RCRA Facility Investigation for the NCL was put on hold last year to await the resolution of this question. During your January visit I would like to meet with you and Roger Anderson of the New Mexico Oil Conservation Division (OCD), as well as several of my staff, in order to answer the following questions:

1. After product recovery (tankfarm plume), will the zone of residual contamination in the vadose and/or saturated zones be considered a SWMU?

2. Assume that this residual contaminant zone is not considered to be a SWMU. The tank farm plume appears to be eclipsing the NCL plume and also occupies that zone into which the NCL plume will ultimately move. Should an RFI be performed on the NCL plume in this case?

3. Assuming a complete RFI is not advisable, should HRMB proceed to require Navajo to characterize the subsurface at the site, including a determination of whether contamination of any deeper aquifer has occurred, regardless of whether or not HRMB requires rate and extent determinations to be made in the uppermost aquifer?

4. Regarding investigation/remediation, what are OCD's objectives for the tank farm plume and the most likely timeframes for their achievement?

If you have any questions regarding this matter, please contact me at (505) 827-4300.

Sincerely,

Edward Horst, RCRA Programs Manager
Hazardous and Radioactive Materials Bureau

cc: Benito J. Garcia, HRWB Chief
Susan Collins, Permit Group

State of New Mexico
ENVIRONMENT DEPARTMENT
Harold Runnels Bulding
1190 St. Francis Drive, P.O. Box 26110
Santa Fe, New Mexico 87502
(505) 827-2850

BRUCE KING
GOVERNOR

JUDITH M. ESPINOSA
SECRETARY

RON CURRY
DEPUTY SECRETARY

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

November 19, 1991

Mr. Jack Reid, President
Navajo Refining Company
P.O. Drawer 159
Artesia, New Mexico 88210

RE: Notice of Violation
NMD048918817

Dear Mr. Reid:

On October 9-10, 1991, the New Mexico Environment Department (NMED) conducted a hazardous waste inspection of your facility, Navajo Refining Company (Navajo). This letter is NMED's notice that, based on our review of the information obtained, NMED has determined that Navajo has violated the New Mexico Hazardous Waste Management Regulations (HWMR-6) and its permit. The purpose of this letter is to delineate the violations in writing and to require Navajo to comply with HWMR-6 and its permit.

The violations are:

1. Navajo has failed to conduct an adequate hazardous waste determination for the wastewater being discharged to the evaporation ponds (see FR Nov. 2, 1990, p. 46384). This is a violation of HWMR-6, Part III, 40 CFR §262.11. At a minimum, a sample should be collected at least annually, and analyzed for all toxicity characteristic constituents except pesticides.

2. Navajo has not kept records of hazardous waste determinations made concerning all solid wastes disposed of at the truck by-pass landfarm. This is a violation of HWMR-6, Pt. III, §262.40(c).

3. Inspection logs for inspections performed at the North Colony Landfarm are not completed weekly. This is a violation of Permit Attachment C. Inspections are required at the landfarm until closure is completed.

4. One container (Rollins bin #1039) was not marked with the beginning date of accumulation. This is a violation of HWMR-6, Pt. III, §262.34(a)(2).

5. The same container was not marked or labeled with the words "Hazardous Waste". This is a violation of HWMR-6, Pt. III, §262.34(a)(3).

6. Navajo has failed to provide its employees hazardous waste management training by a person adequately trained in hazardous waste management procedures. This is a violation of HWMR-6, Pt. VI, §265.16(a). The designated trainer has not received formal training such that he can be deemed qualified to be the official trainer for all facility employees needing such training.

In accordance with §74-4-10 NMSA 1978, you have thirty (30) calendar days from the receipt of this notice to correct the violations and provide documentation that the violations have been corrected. Within this thirty day period you may request a meeting to discuss the violations, the required corrective actions, and/or a settlement agreement. Such a meeting must be held within this thirty day period and will not suspend the thirty day deadline for compliance or settlement. Any settlement agreement made shall be signed by representatives of Navajo and NMED, and formalized by issuance of a Consent Order requiring compliance with the terms of the agreement.

If you fail to correct the violations cited in this Notice of Violation (NOV) within the specified time frame, you shall be subject to one or more of the following:

1. an order requiring compliance within a specified period, pursuant to §74-4-10 NMSA, 1978, and/or an order assessing civil penalties of up to $10,000 per violation for each day of noncompliance, pursuant to §§74-4-10 and 74-4-12 NMSA, 1978.

2. a civil action in district court for appropriate relief, including a temporary or permanent injunction, pursuant to §74-4-10 NMSA, 1978, and/or the assessment of civil penalties of up to $10,000 per violation for each day of noncompliance, pursuant to §§74-4-10 and 74-4-12 NMSA, 1978.

Regarding the regulatory status of the wastewater treatment system, NMED has concluded that the trickling filter and the active evaporation ponds are hazardous waste units subject to the tank and surface impoundment requirements, respectively. Since the evaporation ponds do not have interim status, they are subject to permitting requirements. The trickling filter is a new unit, and therefore subject to permitting requirements. NRC must, within the deadline established in this NOV, bring these units into compliance with 40 CFR Parts 264 and 270 requirements.

In addition to the violations mentioned above, an apparent violation of the land disposal restriction (LDR) regulations was noted concerning two LDR notices that did not have the applicable manifest document numbers written on them. The authorized State program does not include the LDR regulations which became effective November 8, 1986. Therefore, the U.S. Environmental Protection Agency implements and enforces the LDR regulations. This notice is a courtesy, and does not preclude any future formal or informal enforcement action which the EPA may determine to be appropriate regarding the above mentioned apparent LDR violation.

Also, two areas of concern were noted. First, at the TEL site, vehicles have driven over the cap to the extent that the vegetation cover has been damaged, although it was not determined if the integrity of the cap had been effectively undermined. Second, inspection logs are not being completed weekly for the TEL site. Although the unit has been closed, inspections should be performed weekly to ensure that the unit is not damaged and that the security and stability of the area is maintained.

Compliance with the requirements of this NOV does not relieve Navajo of its obligation to comply with HWMR-6 or its permit in other activities which it carries on, nor does it relieve Navajo of its obligation to comply with any other applicable laws and regulations.

If you have any questions regarding this notice, please contact Mr. Coby Muckelroy at (505)827-4300 or at our address. Please also address to Mr. Muckelroy's attention the information you provide in response to this letter.

Sincerely,

Benito J. Garcia, Chief
Hazardous and Radioactive Materials Bureau

BJG:CGM:cm

cc: Lynn Prince, U.S. EPA Region VI (6H-HS)
NMED District IV Office
NMED Carlsbad Field Office
Kathleen Sisneros, Director, W&WM Division
Roger Anderson, NM Oil Conservation Division

BRUCE KING
GOVERNOR

State of New Mexico
ENVIRONMENT DEPARTMENT
Harold Runnels Building
1190 St. Francis Drive, P.O. Box 26110
Santa Fe, New Mexico 87502
(505) 827-2850

JUDITH M. ESPINOSA
SECRETARY

RON CURRY
DEPUTY SECRETARY

NAVAJO REFINING COMPANY INSPECTION REPORT

Date of Report:	October 22, 1991
Date of Inspection:	October 9-10, 1991
Facility:	Navajo Refinery
EPA ID. Number:	NMD048918817
Location:	501 East Main, Artesia, NM
Facility Contact:	Zeke Sherman, Env. Compliance Engineer phone: (505)748-3311
Enforcement to:	Jack Reid, President
Notification Status:	Generator/TSD (Land Disposal) Facility
Type of Inspection:	Compliance Evaluation Inspection (CEI)
Participants:	Coby Muckelroy and Ernest Preciado,NMED Zeke Sherman and David Griffin, Navajo
Weather:	partly cloudy, 60's - 80's
Time In: Time Out:	2:55 p.m., 10/9/91 4:25 p.m., 10/10/91

INTRODUCTION

This inspection was conducted as a routine Compliance Evaluation Inspection (CEI), particularly to determine the regulatory status of the wastewater treatment tanks. CEI's are generally done annually at land disposal facilities. Navajo Refining Company (Navajo) has a permit to conduct hazardous waste management at one of its land treatment unit (North Colony Landfarm). However, because of contamination below the treatment zone, Navajo was ordered by NMED (then EID) to cease applying K-waste to the landfarm in September 1990. Nonetheless, the land disposal restriction hard hammer for refinery K-wastes would have necessitated a shutdown on November 8, 1990. The last CEI conducted at the facility was an EPA oversight/State lead inspection, which occurred on January 29-30, 1991.

HISTORY OF BUSINESS

The refinery, located in Artesia, NM, was built by MALCO in the early 1930's, and bought later by Continental Oil Co., which became CONOCO. In 1969 CONOCO sold the refinery to the Holly Corporation, the current parent company of Navajo Refining Company. The permitted and now out of service land treatment unit began operation in 1981, prior to which the TEL weathering area, a surface impoundment, was used for disposal of refinery K-wastes. The TEL area was formerly closed in April 1989, and is currently undergoing post-closure care.

HAZARDOUS WASTE MANAGEMENT AREAS AND WASTE STREAMS GENERATED

The main hazardous wastes generated at the facility are API separator sludge (K051) and dissolved air flotation (DAF) float (K048). Less frequently generated are slop oil emulsion solids (K049) and heat exchanger bundle cleaning sludge (K050). Leaded tank bottoms (K052) are infrequently generated. Naphtha degreasing solvent (D001) is generated in small quantities and is sent to the API separators. Ignitable spill contaminated materials and kerosene filter clay may also be generated, but none were reportedly generated since the last inspection.

Regarding the new F037 and F038 listings (effective May 2, 1991), Navajo is affected by these listings, and in fact has upgraded

its WWTP in response to the new F038 listing. Wastewater sumps are employed, and sludges generated at these sumps appear to meet the F037 listing. At the WWTP, sludges generated at the equalization, DAF, and flocculation tanks apparently meet the F038 listing. In April 1991 Navajo installed a trickling filter as the last treatment unit in its WWTP prior to discharging refinery wastewater to its evaporation ponds. Under the new ruling, any sludges generated from treatment units that follow aggressive biological (i.e. secondary) treatment are not included in the listings. Consequently, Navajo installed the trickling filter to avoid the sludges in downstream units, namely the evaporation ponds, from being considered F038 hazardous waste. However, the exemption from the listing does not negate the waste in the ponds from being hazardous waste if it exhibits a characteristic. Regarding the newly listed wastes, the State program has not yet been authorized by EPA to regulate them, nor has the State incorporated them into the Hazardous Waste Management Regulations.

Non-hazardous waste generated include crude oil tank bottoms and catalyst fine slurry (disposed at the truck by-pass landfarm), wastewater treatment plant effluent (sent to evaporation ponds; however, no analysis has been performed in over a year to prove that it does not exhibit a characteristic), lab chemicals (sent to API separators), asbestos (shipped to an offsite landfill), domestic sewage (sent to city sewer), and general trash (sent to city landfill). Regarding the truck by-pass landfarm, which receives crude oil tank bottoms and oily spilled material, facility personnel were asked, as with the effluent discharged to the evaporation ponds, if the wastes have been sampled and analyzed recently for TC constituents. Facility personnel responded that waste going to the truck by-pass landfarm has been determined to be non-hazardous by knowledge of process. However, no written record of such a determination was available. Nonetheless, the truck by-pass landfarm is covered under the facility's RCRA Facility Investigation (RFI), which was begun in the summer of 1990. The contact at EPA Region VI concerning the RFI is Rich Mayer. Concerning wastewater effluent discharged to the evaporation ponds, as stated above, a sample has not been analyzed in over a year.

As discussed above, the permitted land treatment unit is no longer used for disposal of K-wastes. Navajo, as expressed by facility personnel during the last CEI, hopes to operate under waste minimizing measures, such as onsite reprocessing and recycling, to the extent possible. But for the meantime, storage of K-wastes in containers with offsite shipment is the waste management procedure. Navajo has been using a filter press to reduce the volume of K-waste it must ship offsite. Navajo has

apparently been able to store under the ninety day accumulation limits since the last inspection, but it has been extremely difficult to do because of minimal off-site incinerator capacity. Navajo has apparently decided that its K-wastes cannot meet LDR treatment standards.

The closure plan for the land treatment unit was determined by NMED to be irrelevant due to new information concerning contamination from the unit. Therefore, Navajo will be required to submit a new plan. The decision between NMED and EPA concerning corrective action will affect the closure plan.

The refinery has three API separators, four slop oil tanks, and one wastewater treatment plant. The API separators discharge to an equalization basin, from which effluent flows to a flocculation tank, and then to a DAF tank. Two decanter tanks are used to decant water off of the DAF float. Wastewater is then piped to the newly installed trickling filter to provide biological, secondary treatment. The wastewater treatment plant effluent is then piped to offsite evaporation ponds located near the banks of the Pecos River a few miles away. These ponds are regulated under an Oil Conservation Division (OCD) discharge plan. No effluent is reportedly discharged from the ponds, which are regulated by OCD as non-hazardous units. As stated earlier, facility personnel allege that no characteristic waste is discharged to the ponds. A sample was last taken from the pond at the influent box (as opposed to the discharge point from the WWTP) and found to contain benzene at 0.29 mg/l using the TCLP method (0.50 is the regulatory level). However, benzene was the only new TC organic constituent that was analyzed.

Three heat exchanger bundle cleaning areas for cleaning bundles with either naphtha or a non-hazardous solvent exist at the refinery, although only one is currently in use. Each area consists of a concrete surface pad with a sump to collect cleaning sludge, which is then picked up as needed and taken to one of the ninety day accumulation areas for storage. In the past this waste was taken to the North Colony Landfarm.

RESULTS OF INSPECTION

The inspection consisted of an entrance conference, a tour of the facility, a review of records and required documentation, completion of checklists, and an exit conference. The following areas of the facility were observed: some of the process/refining units, the north and south plant API separators,

the wastewater treatment plant (which contains the third API separator), the heat exchanger bundle cleaning areas, the newly installed trickling filter (part of the WWTP but at a separate location from the rest of the WWTP), the evaporation ponds which receive WWTP effluent, the shutdown permitted land treatment unit (North Colony Landfarm), the truck by-pass landfarm, the TEL weathering area (which is closed and capped), and the two ninety day accumulation container storage areas.

Regarding the container storage areas, Navajo stores K-wastes and newly listed F037 waste and F038 waste (or will when it is generated) in metal bins provided by Rollins Environmental Services in two different locations. At one location, Navajo operates a portable, continuous belt sludge press to dewater sludges and floats, mostly API separator sludge. Cake from the press drops off into one of the bins until it is full. This sludge press has been in use since November 1990. Wastewater from this process is discharged to a sump which flows to the WWTP. At this same location, pressed sludges are stored in "frac tanks" and Rollins bins. The "frac tanks" seem to weakly meet the definition of a container in that they are portable, but would seemingly be very difficult to move when full. These vessels are temporarily used to store the waste until it can be processed at the sludge press. Some of the Rollins storage bins, which are themselves transported when full, have manufactured fitting tops. The other bins are closed prior to offsite transport by covering them with tightly fitted plastic tarps.

Regarding the regulatory status of the wastewater treatment system at Navajo, the Hazardous Waste Program, after considerable disussion and review of documentation, has reached a decision on how it wishes to regulate the system. The decision was based primarily on the interpretation of two issues addressed in the Federal Register (Nov. 17, 1981 and Nov. 2, 1990). The first issue concerns the regulatory status of the evaporation ponds; specifically, whether or not the ponds are exempt from Part 265 requirements as hazardous waste surface impoundments because they receive effluent from a wastewater treatment unit as defined in §260.10. The November 17, 1981 FR explains that by the phrase "wastewater subject to regulation under either §402 or §307(b) of the Clean Water Act" the EPA means to include all facilities which generate wastewater which is discharged into surface water or into a POTW sewer system; and, that the EPA also means to include those facilities (so called "zero dischargers") that have eliminated the discharge of wastewater as a result of, or by exceeding, NPDES or pretreatment program requirements. However, the FR also stated that the exemption does not apply to facilities which discharge into privately owned treatment works. Consequently, the Hazardous Waste Program believes that the

evaporation ponds are subject to Part 265 regulation because the wastewater from the facility is not subject to regulation under §402 or §307(b) of the Clean Water Act. If the argument was made that the evaporation ponds themselves were part of the wastewater treatment plant, then the ponds still would be subject to Part 265 regulation because they do not meet the definition of a tank, and therefore would not be excluded under §265.1(c)(10).

The second issue concerns the effluent generated from the filter press operation which is recycled back to the wastewater treatment system. The "derived from" rule states that any waste derived from the treatment, storage, or disposal of a listed hazardous waste is itself a hazardous waste. Therefore, the pressed water from the filter press operation can be considered a derived from waste because it is derived from listed K-wastes. The November 2, 1990 FR (p.46372) explains that water from dewatering of wastewater treatment sludges are often recycled to process operation or returned to the treatment system; and, that the EPA' position is that such a wastewater is not a "derived from" hazardous waste. Once the wastewater leaves the DAF unit, however, it is no longer recycled within the wastewater treatment plant, and is discharged to the trickling filter, which then discharges to the evaporation ponds. Since the wastewater is not recycled within the treatment system at this point, units downstream are receiving a hazardous waste and are therefore hazardous waste units. Consequently, the trickling filter and evaporation ponds are hazardous waste units.

Under each of the two separate issues discussed above, the evaporation ponds are considered to be hazardous waste units. However, the ponds have never been regulated as hazardous waste units in the past, nor are they in compliance with interim status requirements. Therefore, they are subject to permit requirements, as is the trickling filter.

The following violations were noted:

1. Navajo has failed to conduct an adequate hazardous waste determination for the wastewater being discharged to the evaporation ponds. This is a violation of HWMR-6, Part III, 40 CFR §262.11. A sample of the wastewater has not been analyzed in over a year, and a sample of all applicable toxicity characteristic constituents has never been performed.

2. Navajo has not kept records of hazardous waste determinations made concerning the solid wastes disposed of at the truck by-pass landfarm. This is a violation of HWMR-6, Pt. III, §262.40(c).

3. Inspection logs for inspections performed at the North Colony Landfarm are not completed weekly. This is a violation of Permit Attachment C. Inspections are required at the landfarm until closure is completed.

4. One container (Rollins bin #1039) was not marked with the beginning date of accumulation. This is a violation of HWMR-6, Pt. III, §262.34(a)(2). This violation was also noted during the last CEI.

5. The same container was not marked or labeled with the words "Hazardous Waste". This is a violation of HWMR-6, Pt. III, §262.34(a)(3). This violation was also noted during the last CEI.

6. Navajo has failed to provide its employees hazardous waste management training by a person adequately trained in hazardous waste management procedures. This is a violation of HWMR-6, Pt. VI, §265.16(a). The designated trainer has not received formal training such that he can be deemed qualified to be the official trainer for all facility employees needing such training.

In addition to the above violations, an apparent LDR violation was noted concerning the fact that two LDR notices did not have the applicable manifest document numbers written on them. Also, two areas of concern were noted. First, at the TEL site, vehicles have driven over the cap to the extent that the vegetation cover has been damaged, although it could not be determined if the integrity of the cap had been effectively undermined. Second, inspection logs are not being completed weekly for the TEL site. Although the unit has been closed, inspections should be performed weekly to ensure that the unit is not damaged and that the security and stability of the area is maintained.

RECOMMENDED ACTION

Navajo should be sent a Notice of Violation (NOV) letter informing it of the violations discovered and areas of concern noted during the inspection. A date of compliance required of Navajo will need to be included in the NOV. The apparent LDR violation will have to be referred to EPA for possible enforcement action, as the State program does not yet have EPA authorization for the LDR regulations. Regarding the trickling

filter and evaporation ponds, Navajo will need to be informed that these units are now considered to be hazardous waste management units, and that they must be brought into compliance within the deadline established in the NOV.

CM

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10/09/90

Environmental Bureau NM Oil D.
PO Box 2088
Santa Fe, NM 87504

Sample Identification: #9008011640 Navajo Refin
Collected By: Anderson/Olson
Date & Time Taken: 08/01/90 1640
Other:
Discharge pipe at outfall into evap Pond.

Lab Sample Number: 170087 Received: 08/03/90 Client: ENMI

PARAMETER	RESULTS	UNITS	TIME	DATE	METHOD	BY
Acrolein	<200	ug/l	1546	09/26/90		
Acrylonitrile	<200	ug/l	1546	09/26/90		
Benzene	1740	ug/l	1546	09/26/90		
[illegible]	[illegible]	ug/l	1544	09/26/90		
[illegible]	[illegible]	ug/l	[illegible]	[illegible]		
[illegible]	<10	ug/l	1546	09/26/90		
[illegible]		ug/l	1544	09/26/90		
[illegible]		ug/l	1546	09/26/90		
[illegible]vinyl ether	<10	ug/l	1546	09/26/90		
[illegible]	<10	ug/l	1546	09/26/90		
Chloromethane	<20	ug/l	1546	[illegible]		
Dibromochloromethane	<10	ug/l	1546	09/26/90		
Bromodichloromethane	<10	ug/l	1546	[illegible]		
1,1-Dichloroethane	<10	ug/l	1546	[illegible]		
1,2-Dichloroethene	<10	ug/l	1546	[illegible]		
1,1-Dichloroethene	<10	ug/l	1546	09/26/90		

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170087 Continued

PARAMETER	RESULTS	UNITS	TIME	DATE	METHOD	BY
trans-1,2-Dichloroethene	<10	ug/l	1544	09/26/90	EPA Method 8240	PM
1,2-Dichloropropane	<10	ug/l	1544	09/26/90	EPA Method 8240	PM
cis-1,3-Dichloropropene	<10	ug/l	1544	09/26/90	EPA Method 8240	PM
Ethyl benzene	194	ug/l	1544	09/26/90	EPA Method 8240	PM
Methylene Chloride	<10	ug/l	1544	09/26/90	EPA Method 8240	PM
1,1,2,2-Tetrachloroethane	<10	ug/l	1544	09/26/90	EPA Method 8240	PM
Tetrachloroethene	<10	ug/l	1544	09/26/90	EPA Method 8240	PM
Toluene	2232	ug/l	1544	09/26/90	EPA Method 8240	PM
1,1,1-Trichloroethane	<10	ug/l	1544	09/26/90	EPA Method 8240	PM
1,1,2-Trichloroethane	<10	ug/l	1544	09/26/90	EPA Method 8240	PM
Trichloroethene	<10	ug/l	1544	09/26/90	EPA Method 8240	PM
Vinyl Chloride	<20	ug/l	1544	09/26/90	EPA Method 8240	PM
trans-1,3-Dichloropropene	<10	ug/l	1544	09/26/90	EPA Method 8240	PM
Xylenes	850	ug/l	1544	09/26/90	EPA Method 8240	PM

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09/27/90

Environmental Bureau NM Oil D.
PO Box 2088
Santa Fe, NM 87504

Sample Identification: #9008011640 Navajo Refinery
Collected By: Anderson/Olson
Date & Time Taken: 08/01/90 1640
Other:
Discharge pipe at outfall into evap Pond.

Lab Sample Number: 170087 **Received:** 08/03/90 Client: SNM1

PARAMETER	RESULTS	UNITS	TIME	DATE	METHOD	BY
Acrolein	<200	ug/l	1544	09/26/90	EPA Method 8240	PM
Acrylonitrile	<200	ug/l	1544	09/26/90	EPA Method 8240	PM
Benzene	1740	ug/l	1544	09/26/90	EPA Method 8240	PM
Bromoform	<10	ug/l	1544	09/26/90	EPA Method 8240	PM
Bromomethane	<20	ug/l	1544	09/26/90	EPA Method 8240	PM
Carbon Tetrachloride	<10	ug/l	1544	09/26/90	EPA Method 8240	PM
Chlorobenzene	<10	ug/l	1544	09/26/90	EPA Method 8240	PM
Chloroethane	<20	ug/l	1544	09/26/90	EPA Method 8240	PM
2-Chloroethylvinyl ether	<20	ug/l	1544	09/26/90	EPA Method 8240	PM
Chloroform	<10	ug/l	1544	09/26/90	EPA Method 8240	PM
Chloromethane	<20	ug/l	1544	09/26/90	EPA Method 8240	PM
Dibromochloromethane	<10	ug/l	1544	09/26/90	EPA Method 8240	PM
Bromodichloromethane	<10	ug/l	1544	09/26/90	EPA Method 8240	PM
1,1-Dichloroethane	<10	ug/l	1544	09/26/90	EPA Method 8240	PM
1,2-Dichloroethane	<10	ug/l	1544	09/26/90	EPA Method 8240	PM
1,1-Dichloroethene	<10	ug/l	1544	09/26/90	EPA Method 8240	PM

Continued

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PARAMETER	RESULTS	UNITS	TIME	DATE	METHOD	BY
trans-1,2-Dichloroethene	<10	ug/l	1544	09/26/90	EPA Method 8240	PM
1,2-Dichloropropane	<10	ug/l	1544	09/26/90	EPA Method 8240	PM
cis-1,3-Dichloropropene	<10	ug/l	1544	09/26/90	EPA Method 8240	PM
Ethyl benzene	194	ug/l	1544	09/26/90	EPA Method 8240	PM
Methylene Chloride	<10	ug/l	1544	09/26/90	EPA Method 8240	PM
1,1,2,2-Tetrachloroethane	<10	ug/l	1544	09/26/90	EPA Method 8240	PM
Tetrachloroethene	<10	ug/l	1544	09/26/90	EPA Method 8240	PM
Toluene	2232	ug/l	1544	09/26/90	EPA Method 8240	PM
1,1,1-Trichloroethane	<10	ug/l	1544	09/26/90	EPA Method 8240	PM
1,1,2-Trichloroethane	<10	ug/l	1544	09/26/90	EPA Method 8240	PM
Trichloroethene	<10	ug/l	1544	09/26/90	EPA Method 8240	PM
Vinyl Chloride	<20	ug/l	1544	09/26/90	EPA Method 8240	PM
trans-1,3-Dichloropropene	<10	ug/l	1544	09/26/90	EPA Method 8240	PM

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09/27/90

Environmental Bureau NM Oil D.
PO Box 2088
Santa Fe, NM 87504

Sample Identification: #9008011720 Navajo Refinery
Collected By: Anderson/Olson
Date & Time Taken: 08/01/90 1720
Other:

Windmill South of West end of evap. Pond. Clean stock water. Low detection limits.

Lab Sample Number: 170088 **Received:** 08/03/90 Client: SNM1

PARAMETER	RESULTS	UNITS	TIME	DATE	METHOD	BY
Alkalinity	170	mg/l	0930	08/14/90	EPA Method 310.1	DG
Cation-Anion Balance	78.74/ 77.96	meq/meq	1600	08/21/90		NT
Carbonate	1.4	mg/l	1200	08/20/90	APHA Method 263	DG
Chloride	900	mg/l	1030	08/14/90	EPA Method 325.3	SW
Specific Conductance	6,000	Micromhos	1600	08/07/90	EPA Method 120.1	GS
Bicarbonate	160	mg/l	1200	08/20/90	APHA Method 263	DG
Sulfate	2000	mg/l	1100	08/16/90	EPA Method 375.4	DG
Total Dissolved Solids	11000	mg/l	1820	08/17/90	EPA Method 160.1	GS
pH	7.8	SU	1407	08/10/90	EPA Method 150.1	LW
Dissolved Calcium	390	mg/l	1815	08/13/90	EPA Method 215.1	GK
Dissolved Iron	<.05	mg/l	2145	08/09/90	EPA Method 236.1	GK
Dissolved Potassium	6.2	mg/l	1500	08/13/90	EPA Method 258.1	CD
Dissolved Magnesium	190	mg/l	1700	08/13/90	EPA Method 242.1	GK
Dissolved Sodium	1000	mg/l	2245	08/09/90	EPA Method 273.1	GK
Acrolein	<100	ug/l	1434	09/25/90	EPA Method 8240	PM

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PARAMETER	RESULTS	UNITS	TIME	DATE	METHOD	BY
Acrylonitrile	<100	ug/l	1434	09/25/90	EPA Method 8240	PM
Benzene	<5	ug/l	1434	09/25/90	EPA Method 8240	PM
Bromoform	<5	ug/l	1434	09/25/90	EPA Method 8240	PM
Bromomethane	<10	ug/l	1434	09/25/90	EPA Method 8240	PM
Carbon Tetrachloride	<5	ug/l	1434	09/25/90	EPA Method 8240	PM
Chlorobenzene	<5	ug/l	1434	09/25/90	EPA Method 8240	PM
Chloroethane	<10	ug/l	1434	09/25/90	EPA Method 8240	PM
2-Chloroethylvinyl ether	<10	ug/l	1434	09/25/90	EPA Method 8240	PM
Chloroform	<5	ug/l	1434	09/25/90	EPA Method 8240	PM
Chloromethane	<10	ug/l	1434	09/25/90	EPA Method 8240	PM
Dibromochloromethane	<5	ug/l	1434	09/25/90	EPA Method 8240	PM
Bromodichloromethane	<5	ug/l	1434	09/25/90	EPA Method 8240	PM
1,1-Dichloroethane	<5	ug/l	1434	09/25/90	EPA Method 8240	PM
1,2-Dichloroethane	<5	ug/l	1434	09/25/90	EPA Method 8240	PM
1,1-Dichloroethene	<5	ug/l	1434	09/25/90	EPA Method 8240	PM
trans-1,2-Dichloroethene	<5	ug/l	1434	09/25/90	EPA Method 8240	PM
1,2-Dichloropropane	<5	ug/l	1434	09/25/90	EPA Method 8240	PM
cis-1,3-Dichloropropene	<5	ug/l	1434	09/25/90	EPA Method 8240	PM
Ethyl benzene	<5	ug/l	1434	09/25/90	EPA Method 8240	PM
Methylene Chloride	<5	ug/l	1434	09/25/90	EPA Method 8240	PM
1,1,2,2-Tetrachloroethane	<5	ug/l	1434	09/25/90	EPA Method 8240	PM

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PARAMETER	RESULTS	UNITS	TIME	DATE	METHOD	BY
Tetrachloroethene	<5	ug/l	1434	09/25/90	EPA Method 8240	PM
Toluene	<5	ug/l	1434	09/25/90	EPA Method 8240	PM
1,1,1-Trichloroethane	<5	ug/l	1434	09/25/90	EPA Method 8240	PM
1,1,2-Trichloroethane	<5	ug/l	1434	09/25/90	EPA Method 8240	PM
Trichloroethene	<5	ug/l	1434	09/25/90	EPA Method 8240	PM
Vinyl Chloride	<10	ug/l	1434	09/25/90	EPA Method 8240	PM
trans-1,3-Dichloropropene	<5	ug/l	1434	09/25/90	EPA Method 8240	PM

Quality Assurance for the SET with Sample 170088

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
				Alkalinity					
	Standard	110	mg/l	2358			0930	08/14/90	DG
				Chloride					
	Standard	72	mg/l	71		101	1030	08/14/90	SW
170373	Duplicate	27	mg/l	27		100	1030	08/14/90	SW
170373	Spike		mg/l		100	104	1030	08/14/90	SW
				Sulfate					
	Standard	95	mg/l	100		105	1100	08/16/90	DG
168771	Duplicate	240	mg/l	220		109	1100	08/16/90	DG
169932	Duplicate	12	mg/l	11		109	1100	08/16/90	DG
169932	Spike		mg/l		100	97	1100	08/16/90	DG
				Total Dissolved Solids					
	Standard	1120	mg/l	1000		111	1820	08/17/90	GS
169181	Duplicate	480	mg/l	490		102	1820	08/17/90	GS
				pH					
	Standard	Calibrate	SU	7.0			1407	08/10/90	LW
	Standard	Calibrate	SU	4.0			1407	08/10/90	LW
	Standard	6.0	SU	6.0		100	1407	08/10/90	LW
				Dissolved Calcium					
	Blank	.14	mg/l				1815	08/13/90	GK
	Blank	.12	mg/l				1815	08/13/90	GK
	Blank	.09	mg/l				1815	08/13/90	GK
	Standard	.48	mg/l	.50		104	1815	08/13/90	GK
169183	Duplicate	15	mg/l	15		100	1815	08/13/90	GK

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Quality Assurance for the SET with Sample 170088

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
170077	Duplicate	1.4	mg/l	1.5		107	1815	08/13/90	GK
170088	Duplicate	400	mg/l	380		105	1815	08/13/90	GK
170077	Spike		mg/l		.80	94	1815	08/13/90	GK
				Dissolved Iron					
	Standard	1.8	mg/l	1.7		106	2145	08/09/90	GK
170088	Duplicate	<.05	mg/l	<.05		100	2145	08/09/90	GK
170088	Spike		mg/l		.98	104	2145	08/09/90	GK
				Dissolved Potassium					
	Blank	.09	mg/l				1500	08/13/90	CD
	Blank	.10	mg/l				1500	08/13/90	CD
	Standard	.99	mg/l	1.00		101	1500	08/13/90	CD
170088	Duplicate	6.2	mg/l	6.1		102	1500	08/13/90	CD
				Dissolved Magnesium					
	Blank	.043	mg/l				1700	08/13/90	GK
	Blank	.034	mg/l				1700	08/13/90	GK
	Blank	.038	mg/l				1700	08/13/90	GK
	Standard	.194	mg/l	.200		103	1700	08/13/90	GK
169183	Duplicate	2.2	mg/l	2.3		104	1700	08/13/90	GK
170077	Duplicate	1.2	mg/l	1.2		100	1700	08/13/90	GK
170088	Duplicate	193	mg/l	188		103	1700	08/13/90	GK
170088	Spike		mg/l		.100	94	1700	08/13/90	GK
				Dissolved Sodium					
	Blank	<4	mg/l				2245	08/09/90	GK
	Standard	10	mg/l	10		100	2245	08/09/90	GK
170088	Duplicate	1000	mg/l	1000		100	2245	08/09/90	GK
170088	Spike		mg/l		10	100	2245	08/09/90	GK

C. H. Whiteside

C. H. Whiteside, Ph.D., President

ANA-LAB CORP.
THE COMPLETE SERVICE LAB

2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 214/984-0551

Analytical Chemistry • *Waste Treatment & Disposal* • *Equipment Sales*

10/09/90

Environmental Bureau NM Oil D.
PO Box 2088
Santa Fe, NM 87504

Sample Identification: #9008011720 Navajo Refinery
Collected By: Anderson/Olson
Date & Time Taken: 08/01/90 1720
Other:
Windmill South of West end of evap. Pond. Clean stock water. Low detection limits.

Lab Sample Number: 170088 **Received:** 08/03/90 **Client:** SNM1

PARAMETER	RESULTS	UNITS	TIME	DATE	METHOD	BY
Alkalinity	170	mg/l	0930	08/14/90	EPA Method 310.1	DG
Cation-Anion Balance	78.74/ 77.96	meq/meq	1600	08/21/90		NT
Carbonate	1.4	mg/l	1200	08/20/90	APHA Method 263	DG
Chloride	900	mg/l	1030	08/14/90	EPA Method 325.3	SW
Specific Conductance	6,000	Micromhos	1600	08/07/90	EPA Method 120.1	GS
Bicarbonate	160	mg/l	1200	08/20/90	APHA Method 263	DG
Sulfate	2000	mg/l	1100	08/16/90	EPA Method 375.4	DG
Total Dissolved Solids	4600 ***	mg/l	1100	10/09/90	EPA Method 160.1	BJP
pH	7.8	SU	1407	08/10/90	EPA Method 150.1	LB
Dissolved Calcium	390	mg/l	1815	08/13/90	EPA Method 215.1	
Dissolved Iron	<.05	mg/l	2145	08/09/90	EPA Method 236.1	
Dissolved Potassium	6.2	mg/l	1500	08/13/90	EPA Method 258.1	[illegible]
Dissolved Magnesium	190	mg/l	1700	08/13/90	EPA Method 242.1	GK
Dissolved Sodium	1000	mg/l	2245	08/09/90	EPA Method 273.1	GK
Acrolein	<100	ug/l	1434	09/25/90	EPA Method 8240	PH
Acrylonitrile	<100	ug/l	1434	09/25/90	EPA Method 8240	PH

Continued

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170088 Continued

PARAMETER	RESULTS	UNITS	TIME	DATE	METHOD	BY
Benzene	<5	ug/l	1434	09/25/90	EPA Method 8240	PM
Bromoform	<5	ug/l	1434	09/25/90	EPA Method 8240	PM
Bromomethane	<10	ug/l	1434	09/25/90	EPA Method 8240	PM
Carbon Tetrachloride	<5	ug/l	1434	09/25/90	EPA Method 8240	PM
Chlorobenzene	<5	ug/l	1434	09/25/90	EPA Method 8240	PM
Chloroethane	<10	ug/l	1434	09/25/90	EPA Method 8240	PM
2-Chloroethylvinyl ether	<10	ug/l	1434	09/25/90	EPA Method 8240	PM
Chloroform	<5	ug/l	1434	09/25/90	EPA Method 8240	PM
Chloromethane	<10	ug/l	1434	09/25/90	EPA Method 8240	PM
Dibromochloromethane	<5	ug/l	1434	09/25/90	EPA Method 8240	PM
Bromodichloromethane	<5	ug/l	1434	09/25/90	EPA Method 8240	PM
1,1-Dichloroethane	<5	ug/l	1434	09/25/90	EPA Method 8240	PM
1,2-Dichloroethane	<5	ug/l	1434	09/25/90	EPA Method 8240	PM
1,1-Dichloroethene	<5	ug/l	1434	09/25/90	EPA Method 8240	PM
trans-1,2-Dichloroethene	<5	ug/l	1434	09/25/90	EPA Method 8240	PM
1,2-Dichloropropane	<5	ug/l	1434	09/25/90	EPA Method 8240	PM
cis-1,3-Dichloropropene	<5	ug/l	1434	09/25/90	EPA Method 8240	PM
Ethyl benzene	<5	ug/l	1434	09/25/90	EPA Method 8240	PM
Methylene Chloride	<5	ug/l	1434	09/25/90	EPA Method 8240	
1,1,2,2-Tetrachloroethene	<5	ug/l	1434	09/25/90	EPA Method 8240	PM
Tetrachloroethene	<5	ug/l	1434	09/25/90	EPA Method 8240	PM

Continued

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170088 Continued

PARAMETER	RESULTS	UNITS	TIME	DATE	METHOD	BY
Toluene	<5	ug/l	1434	09/25/90	EPA Method 8240	PM
1,1,1-Trichloroethane	<5	ug/l	1434	09/25/90	EPA Method 8240	PM
1,1,2-Trichloroethane	<5	ug/l	1434	09/25/90	EPA Method 8240	PM
Trichloroethene	<5	ug/l	1434	09/25/90	EPA Method 8240	PM
Vinyl Chloride	<10	ug/l	1434	09/25/90	EPA Method 8240	PM
trans-1,3-Dichloropropene	<5	ug/l	1434	09/25/90	EPA Method 8240	PM
Xylenes	<5	ug/l	1434	09/25/90	EPA Method 8240	PM

*** Calculated Value

C. H. Whiteside, Ph.D., President

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2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 214/984-0551

Analytical Chemistry • Waste Treatment & Disposal • Equipment Sales

Ana-Lab Corporation Laboratory
Balance for Sample 170088 #9008011720 Navajo Refinery

Test	Name	Result (mg/l)	Cation (meq/l)	Anion (meq/l)
Cl-	Chloride	900		25.38100
HCO3	Bicarbonate	160		2.62300
SO4	Sulfate	2000		49.96300
*CaD	Dissolved Calcium	390	19.46100	
*FeD	Dissolved Iron	<.05	.00000	
*KD	Dissolved Potassium	6.2	.15900	
*MgD	Dissolved Magnesium	190	15.62500	
*NaD	Dissolved Sodium	1000	43.49700	
			78.742	77.966

Cation/Anion % Difference is 0.49
Calculated TDS is 4646.20
Analyzed TDS is 11000.00
% Difference is 40.61


TEL-8-90
TEL-10-90
TEL-11-90
TEL-12-90
TEL-14-90
TEL-15-90
TEL-16-90
TEL-43-90
TEL-2
TEL-3
TEL-4
RW-9
RW-10
RW-3
RW-8
RW-2
RW-1
RW-7
RW-5
RW-4
RW-6
90-18
90-19
90-21
90-22
90-35
GL-100-90
EXPLANATION
borehole
Monitor well
surface sample
constant-head permeability test
RECEIVED
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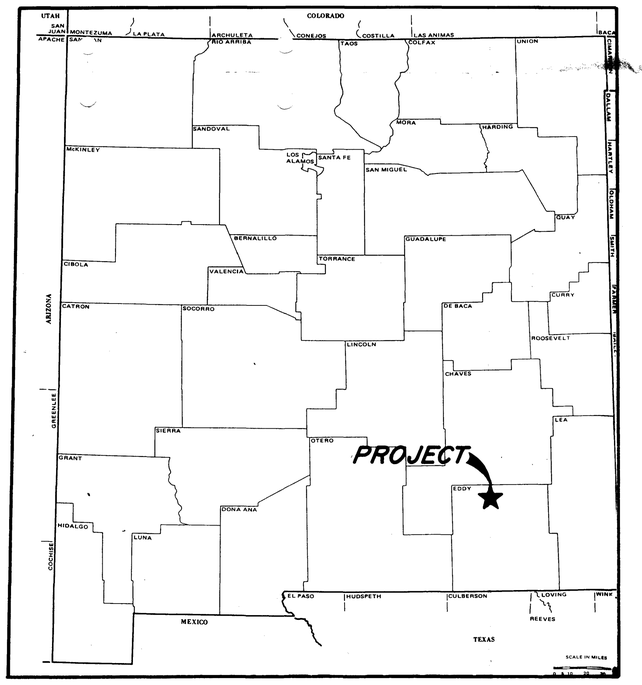
OIL CONSERVATION DIV.
SANTA FE
Feb., 1990
July 1990
1990
HYDROCARBON PLUME
INVESTIGATION
1"=150
90-35-D

RENOVATION OF

TRICKLING FILTER

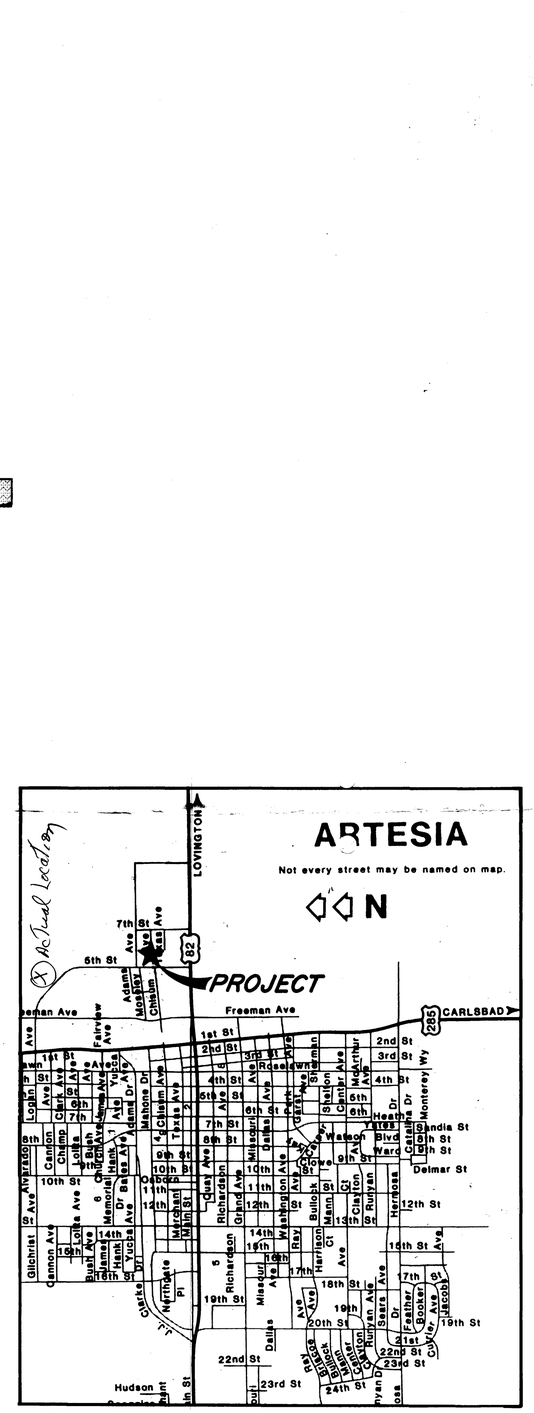
NAVAJO REFINERY

ARTESIA, NEW MEXICO



INDEX OF SHEETS

SHEET 1	TITLE SHEET
SHEET 2	SITE PLANS
SHEET 3	TRICKLING FILTER IMPROVEMENTS
SHEET 4	OUTLET BOX IMPROVEMENTS



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DATE: 03-16-91

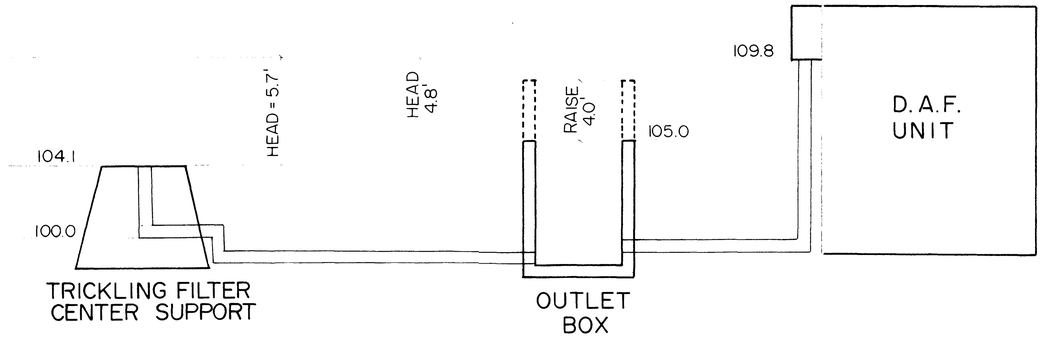
SHEET 1 OF 4

APPROVED:
D.W.B.

PROJECT TITLE:
TITLE SHEET

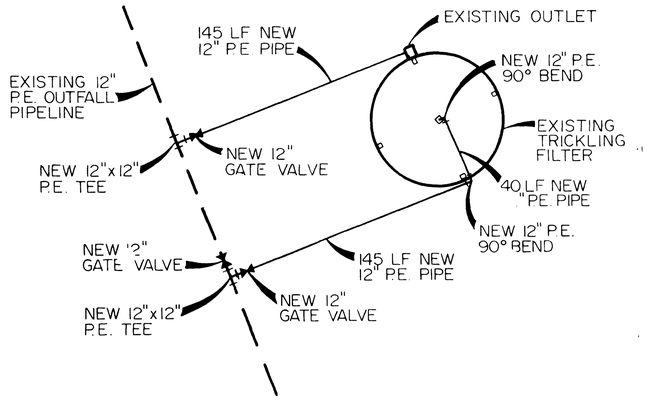
ADVANCED SCIENCES, INC.

80-21-D-1



HYDRAULIC PROFILE

NO SCALE



NEW INLET & OUTLET PIPING

SCALE 1" = 40'

GENERAL WORK DESCRIPTION:

BID ITEM 1. REPAIR CONCRETE WALL & FLOOR
- A. RE-CONSTRUCT CONCRETE WALL
- B. REPLACE CONCRETE IN FLOOR SLAB
- C. CLEAN CRACKS & SEAL WITH APPROPRIATE GROUT
- D. REMOVE OLD PIPE INLET & SEAL HOLE IN WALL

BID ITEM 2. CONSTRUCT NEW INLET & OUTLET PIPING
- A. INSTALL NEW TEES, VALVES, BENDS & PIPE AS REQUIRED
- B. PIPING & APPURTENANCES TO BE COMPATABLE WITH P.E.
- C. PIPING & APPURTENANCES TO MATCH EXISTING P.E. SPECS.
- D. ALL PIPING CONNECTIONS TO BE WATERTIGHT

BID ITEM 3. PLACE NEW STONE MEDIA
- A. ALL STONE TO BE MINIMUM 4" & MAXIMUM 8" DIAMETER
- B. ALL STONE TO BE CLEAN, SOUND, DURABLE, HARD & INERT
- C. ALL STONE TO BE PLACED GENTLY & NOT DROPPED.
- D. STONE TO BE PLACED LEVEL TO A DEPTH OF 5' AT WALL.

BID ITEM 4. RAISE OUTLET BOX
- A. OUTLET BOX AT TREATMENT PLANT TO BE RAISED 4' 0"
- B. INSTALL DOWELS INTO EXISTING CONCRETE & GROUT
- C. INSTALL WATERSTOP IN SAWCUT IN EXISTING WALL & GROUT
- D. CONCRETE TO BE 3000 PSI & RE-BARS TO BE GRADE 40

BID ITEM 5. INSTALL NEW DISTRIBUTOR ASSEMBLY
- A. DISTRIBUTOR MANUFACTURED & DELIVERED BY ENVIRO-QUIP
- B. CONTRACTOR TO OFF-LOAD, ASSEMBLE & INSTALL DISTRIBUTOR
- C. DISTRIBUTOR INCLUDES ROTARY ARMS, BRIDGE, LADDER & MOTOR
- D. CONTRACTOR TO INSTALL & CONNECT ELECTRICAL SYSTEM

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DATE: 03-16-91

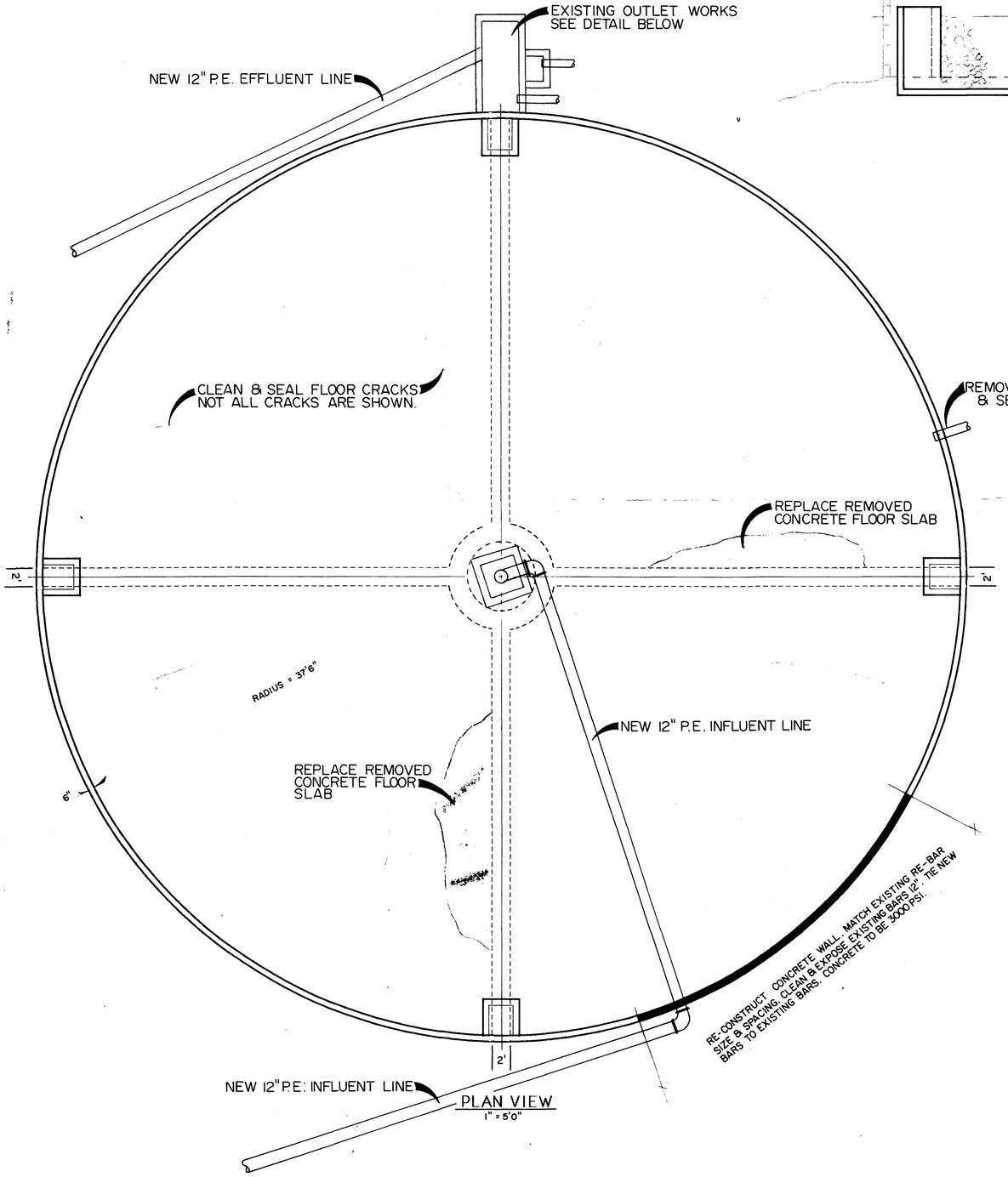
SHEET 2 OF 4

APPROVED: D.W.B.

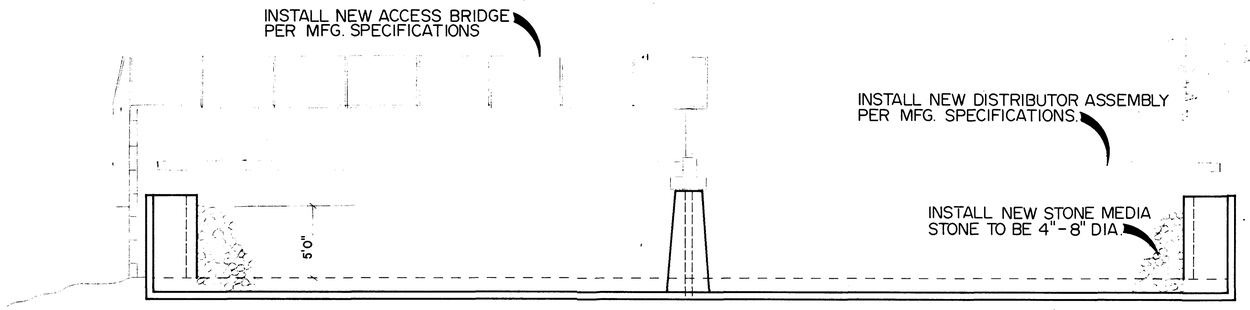
PROJECT TITLE:

SITE PLANS

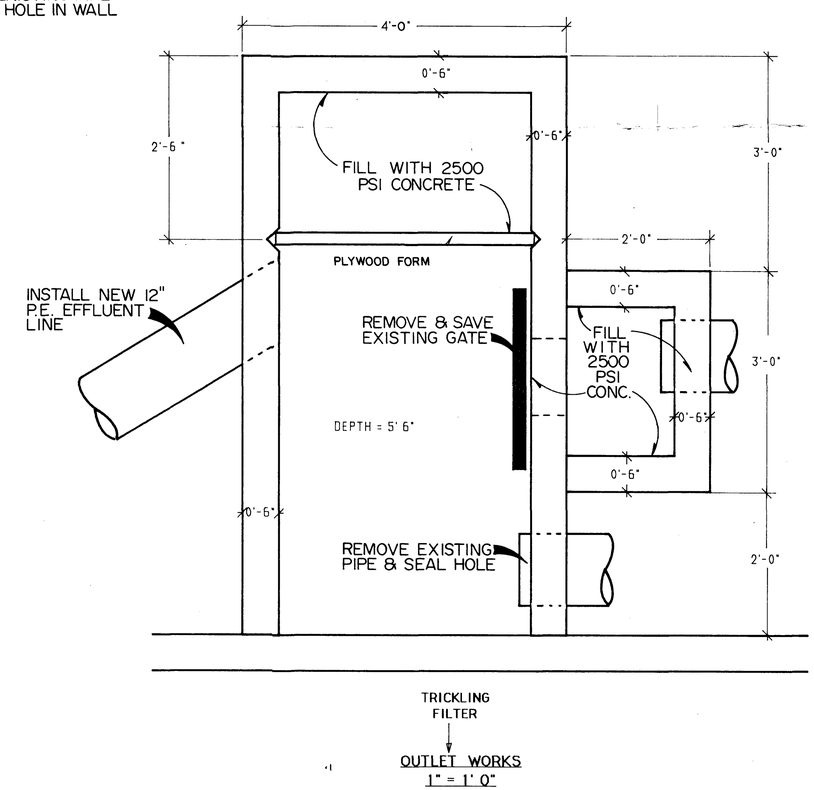
ADVANCED SCIENCES, INC.



PLAN VIEW
1" = 5'0"



SECTION
1" = 5'0"



TRICKLING
FILTER
↓
OUTLET WORKS
1" = 1' 0"

DATE: 03-16-91

SHEET 3 OF 4

APPROVED:
D.W.B.

PROJECT TITLE:
TRICKLING
FILTER

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SCIENCES, INC.

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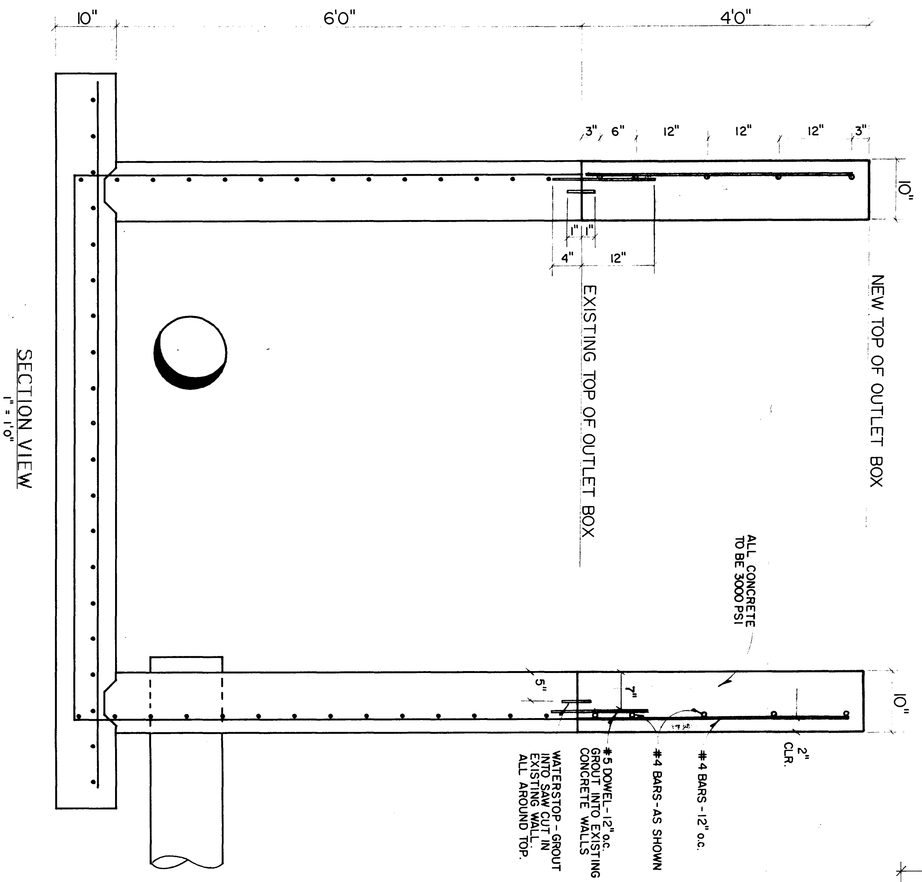
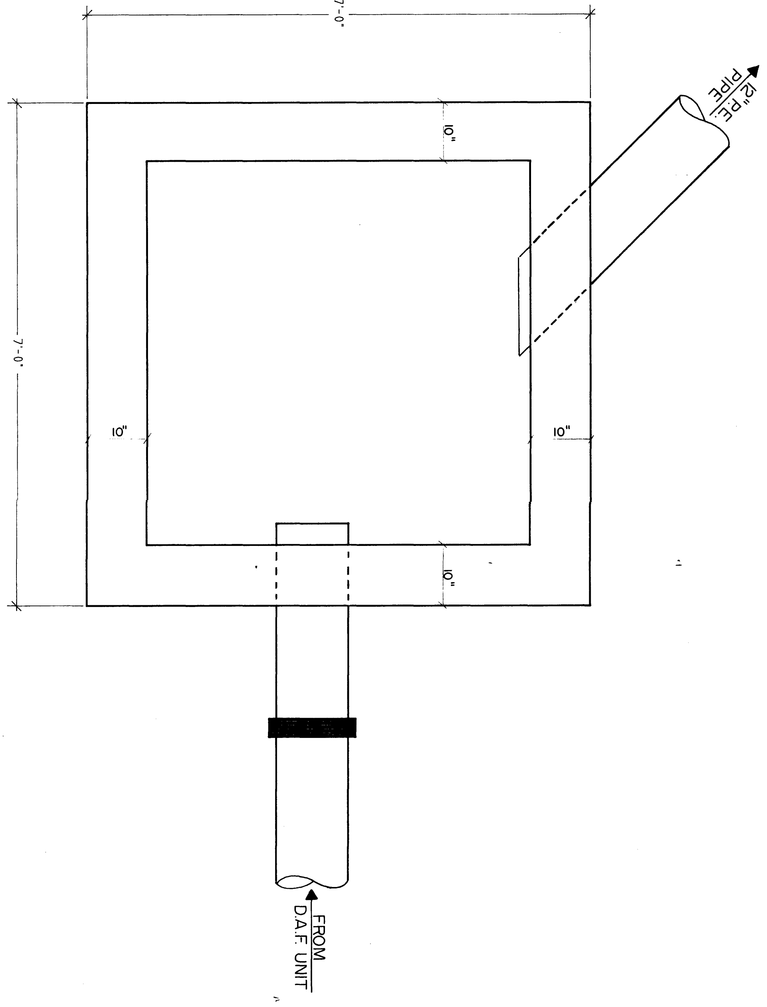
80-21-D-3



SECTION VIEW
1" = 1'-0"



PLAN VIEW
1" = 1'-0"

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80-21-D-4

ADVANCED SCIENCES, INC.

PROJECT TITLE :
OUTLET BOX IMPROVEMENTS

APPROVED :
D.W.B.

DATE : 03-16-91

SHEET 4 OF 4

TELEPHONE
(505) 748-3311

Navajo REFINING COMPANY

501 EAST MAIN STREET • P. O. DRAWER 159

ARTESIA, NEW MEXICO 88210

EASYLINK
62905278

FAX
(505) 746-6410

April 23, 1990

Copy
(Original in
Correspondence
File
DWS)

Mr. David Boyer
Hydrogeologist
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

Re: North Colony Landfarm - Alternate Source Demonstration

Dear Mr. Boyer:

Enclosed is a copy of the Alternative Source Demonstration Navajo submitted to the EID concerning the NCL. It contains the most recent information on the hydrocarbon plume discovered in the area of the landfarm. I will update you as activities concerning further plume characterization and recovery efforts progress.

Should you have any questions, please contact me at (505) 748-3311.

Very truly yours,

Zeke Sherman
Environmental Engineer

ZRS:tjc
Encls.

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APR 25 1990
OIL CONSERVATION DIV.
SANTA FE

April 9, 1990

NAVAJO REFINING COMPANY
North Colony Landfarm--Alternative Source Demonstration

Introduction

A non-aqueous phase liquid (NAPL) was found floating on the water in monitor well 34; monitor well 34 is a down-gradient compliance monitoring well at the North Colony Landfarm (NCL), a permitted hazardous waste facility at Navajo Refining Company's (NRC) facility in Artesia (Drawing #55-Z-1-D, attached). This discovery prompted NRC to conduct an investigation to determine the approximate extent and possible source of this NAPL.

In an effort to define the nature and extent of the NAPL, 35 boreholes were drilled in and around the NCL. Core samples were collected and logged. Samples of these cores were also screened with an organic-vapor analyzer (OVA; with a photoionization detector). Details of observations made while drilling, lithologies encountered and results of the organic-vapor analyses were documented (see attached logs). Presence of NAPL was noted during drilling and core/auger extraction from the borehole. NAPL was not always visible on cuttings but could be seen on the auger flight and/or core barrel, as it was withdrawn from the hole. This information was used to define the approximate extent of migration of the NAPL at the site (Drawing #55-Z-1-D).

Navajo Refining Company (NRC) has previously submitted a comprehensive summary of facility background information in the form of a Part B Permit Application (NMDO48918817), dated August 15, 1983 and a Corrective Action Plan (NMDO48918817-1) as required by the Environmental Improvement Division Director dated December 21, 1989.

Methods of Analysis

Drilling was conducted between January 10 and February 10, 1990 using a CME-type auger rig, mounted on a six-wheel drive, jeep truck. An eight-inch diameter, hollow-stem auger was used. A four-inch diameter, stainless steel, continuous-core sampler was advanced, inside the auger, with the bit. The core sampler was five feet in length. Holes were advanced from the surface to depths between 14 and 29 feet (see attached borehole logs). The majority of the holes were advanced to a point beneath the water table.

Selected portions of core samples were collected and sealed with aluminum foil in glass jars. Headspace in individual jars were screened with an organic-vapor analyzer (photoionization detector with a 10.0 eV lamp). This data was included in the attached borehole logs.

Cross sections A-A' and B-B' were constructed across the NCL and area of floating NAPL using lithologic data (see attached Figures 1 and 2; section locations are shown on Drawing #55-Z-1-D). Surface elevations of the boreholes were measured relative to local control. These elevations were used in construction of cross sections. Contours of organic-vapor concentrations were included in the cross sections.

Interpretations

Floating NAPL, as defined by field work in January and February, extended under the southeast corner of the landfarm (drawing #55-Z-1-D). Thickness of the floating NAPL was not defined. NAPL was characterized by NRC as a diesel-like product.

Relationship between the floating NAPL and concentrations of organic vapors in subsurface soils were illustrated in cross sections A-A' and B-B'(Figures 1 and 2, attached). Organic-vapor concentrations in core samples in the range of 300 to 500 ppm correlated closely with the presence of NAPL. Organic-vapor concentrations were generally higher in soil samples from above the water table and decreased in soil samples from below. Organic-vapor concentrations in samples from the vadose zone, immediately beneath the landfarm, were generally lower than for samples at comparable depths in holes which NAPL was detected.

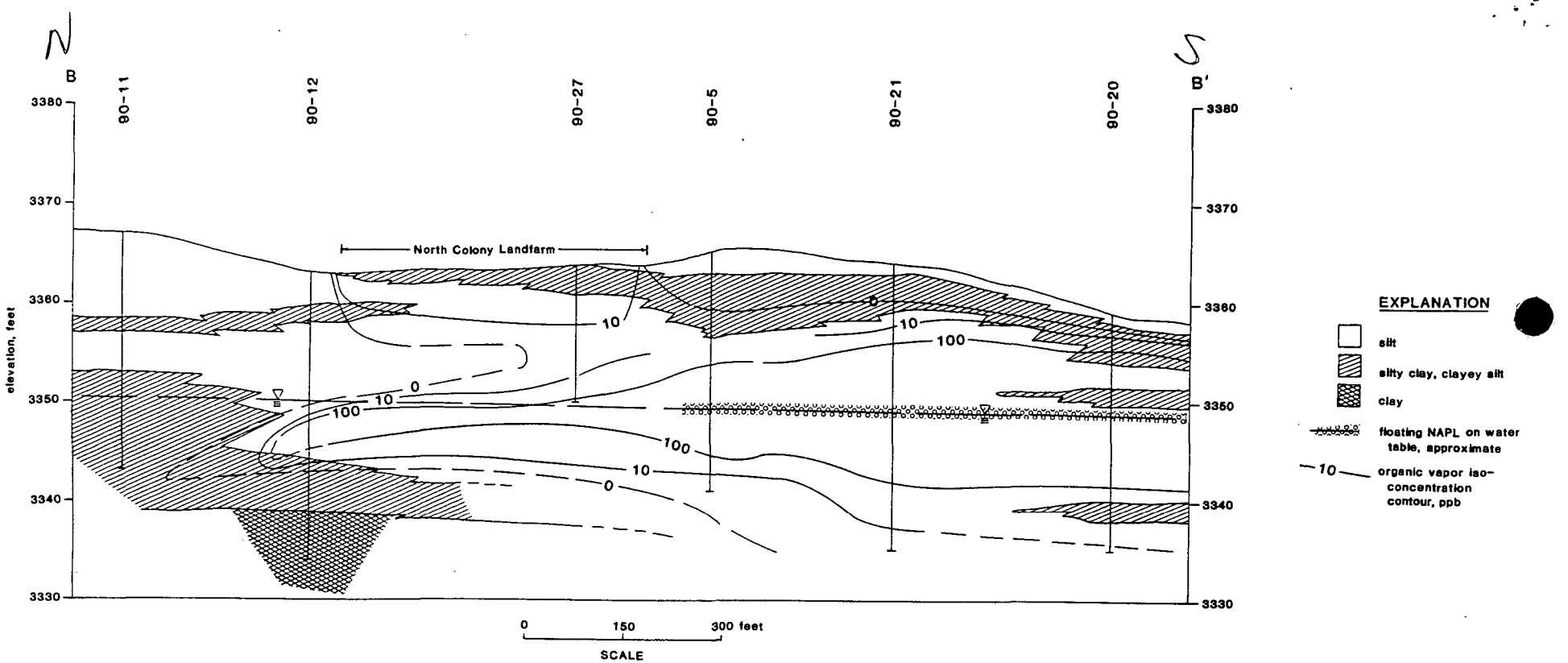
N
B
B'
S
90-11
90-12
90-27
90-5
90-21
90-20
3380
3370
3360
3350
3340
3330
elevation, feet
North Colony Landfarm
0
10
100
0
150
300 feet
SCALE
EXPLANATION
silt
silty clay, clayey silt
clay
floating NAPL on water table, approximate
10
organic vapor iso-concentration contour, ppb

Figure 2.

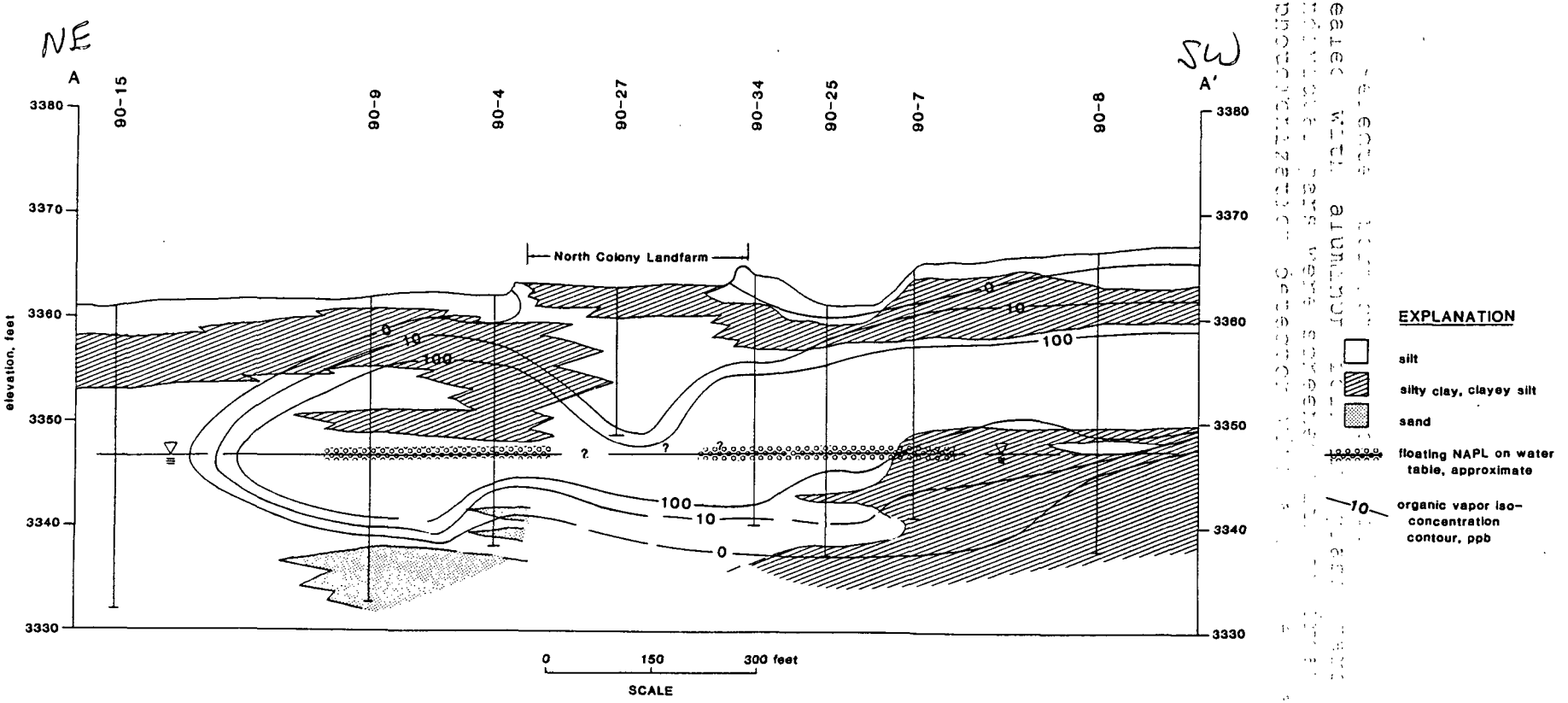
NE
A
SW
A'
90-15
90-9
90-4
90-27
90-34
90-25
90-7
90-8
3380
3370
3360
3350
3340
3330
elevation, feet
North Colony Landfarm
0
10
100
?
0
150
300 feet
SCALE
EXPLANATION
silt
silty clay, clayey silt
sand
floating NAPL on water table, approximate
10
organic vapor iso-concentration contour, ppb

Figure 1.

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GEOLOGY-HYDROGEOLOGY
[illegible]

PAGE 1 OF ___

Bore-
WELL NO. NCL-90-1
___ SEC. ___ TWP. ___ RGE. ___
ELEV.(GL) ___ (KB) ___

DATE 1-10-90

Navajo Refining/North Colony Landfarm Area

Core No	Sample	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY	REMARKS
		0	3	3	silt, dk brn; slt. mstr.	
1		3	7		clay, silty, dk brn; slt. to mod. mstr., mnr lt tn with sulfate crystals?/ carb. x-tls?; cemented w/ carbonate	3-1/4.0 75% recovery
2		7	9		silt, clayey, lt. brn to blue gry. dmn-ward, carbonate-bearing, slt. to moderate mstr; gyp. bearing?	4.5/5.0 90% recovery
3		9	14		As above w/ fractures, fractes Filled with lt. org-brn carb x-tls; strong Hydr Carb odor, diesel?	3/4 75% recovery
		15	16	1	silt, gry brn, carbonate cement, locally saturated with water, strong Hydr Carb odor 50-300 ppm (measured above core not hd-spc.)	9/5 100% recovery

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GEOLOGY-HYDROGEOLOGY
[illegible]

PAGE 1 OF ___

WELL NO. NCL-90-2
___ SEC. ___ TWP. ___ RGE. ___
ELEV.(GL) ___ (KB) ___

DATE 1-10-90

North Colony Landfarm Area

Core No	Sample	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY	REMARKS
1		0	4		silt, dk brn, dry to slt. mstr., blk organic-rich zone, 1-2" thick at top of interval; carb. cmnt., carb. x-tls as small clods/caliche?; more clay bearing 2.5-4 ft.	2.7/4.0 recovery
2		4	7.5		As above, gry-blk discoloration at ± 7 ft, mst.	4.5/5.0 90% recovery
		7.5	9		silt, silty clay, gry to gry brn, carbonate-bearing, mst., may be gyp-bearing, clots w/ carb x-tls	
3		9	12.5		As above, more silty	
		12.5	14		As above, more blue-gry color, strong hydr. carb. odor, begins at ± 14 ft, slt incr. in mstr, minor dk gry discoloration, 30-150 ppm OVA	90% recovery
4		14	18.5		As above, strong Hydr Carb odor, sharp change to below; 100 ppm OVA	3.5/5.0 recovery
		18.5	19		silt, silty clayey, dk brn; 0 ppm OVA, slt. to mod. mstr.	
5		19	23		Sandy silt, lt. brn to tan, saturated, some fn sand	4.8/5 recovery
		23	24		sand, V. fn gr., lt gry, strng to mod. strong, carb cement, Hyd. Carb odor, particularly in sand-bearing intervals; 1-9 ppm OVA (not headspace)	
6		24	29		As above w/ some thin calcareous intervals, carb. cmnt, saturated, 0-25 ppm OVA (not Headspace)	90% recovery

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GEOLOGY-HYDROGEOLOGY
[redacted]

PAGE 1 OF

[redacted] NO. NCL-90-3
Borehole
SEC. ___ TWP. ___ RGE. ___
ELEV.(GL) ___ (KB) ___

DATE 1-10-90

North Colony Landfarm Area

Core No.	Sample #	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY	REMARKS
		0	2.5	2.5	Silt, silty cly, dk brn to dk gry-brn, slt. to mod. mstr, calcareous w/ wht. clots	Auger only
		2.5	8.5	6	As above; dk brn, more mstr.	
		8.5	9	0.5	Silt, silty cly, lt. gry to tan-gry, mst.	
1		9	14		As above; strong hydr. carb. odor, 25-200 ppm OVA from 9-14 ft, increases downward	5/5 100% recovery
2		14	19		As above, 100-200 ppm OVA; higher readings in silties mstr., lower in clayey soil	100% recovery.
					Upon extraction of auger string - Free product noted on end of auger flight near b.t; same odor as cuttings, dk brn color measured depth of hole at 16 ft. w/ some fill, approx. 2 ft of water.	

JOHN W. STOMAKER, INC.
GEOLOGY-HYDROGEOLOGY
[redacted]

PAGE 1 OF

Borehole
[redacted] NO. NCL-90-4
SEC. ___ TWP. ___ RGE. ___
ELEV.(GL) ___ (KB) ___

DATE 1-10-90

North Colony Landfarm Area

Core No.	Sample #	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY	REMARKS
		0	2.5	2.5	Silt, dk brn, moist	Auger only
		2.5	5	2.5	silty clay, dk brn w/ calcareous nodules and clots, mst.	
		5	6	1	As above, dk gry-brn to blk., hydr. carb. odor, mod.-strong	
		6	8	2	As above, stronger hydr. carb. odor, mst.	
		8	9	1	Silty clay, clayey silt, lt gry, V. strong hydr. carb odor, mst. increasing slightly	
1		9	14		clayey silt, 200-450 ppm on OVA (wet headspace) hydrocarbon stains on carbonate Xtls in fractures, V. strong hydrocarb. odor	85-90% recovery
2		14	19		As above with lenses of sand, V. fn. gr., carbonate cement, strong hydrocarb. odor; possible org-brn hydrocarb. staining	85% recovery
3		19	24		As above, more silty, some thin 1-2" silt, pebbles, well rounded at 24"; carbonate cement, saturated; 40-0 ppm from ± 19 ft downward decreasing, ± 16 ft to water through auger flight	50% recovery

JOHN W. SHOMAKER, INC.
GEOLOGY-HYDROGEOLOGY
2703 BRUNINGHOT PARKWAY NW, SUITE D
ALBUQUERQUE, NM 87104 (505) 345-1407

PAGE 1 OF ___

Borehole NO. NCL-90-5

___ SEC. ___ TWP. ___ RGE. ___

ELEV.(GL) ___ (KB) ___

DATE 1-10-90

North Colony Landfarm Area

Core No.	Sample	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY	REMARKS
		0	2	2	silt, dk brn, dry	Auger Only
		2	7.5	5.5	As above with silty clay, dry to silty moist, mstr. incr. slightly at 3.5', carbonate cement, some carbonate clots/nodules, drier at 6 Ft, increased mstr. at 7Ft, more clay, dk brn to dk grey-brn	
		7.5	8.5	1	silt, silty clay?, lt. grey, calcareous dry	
		8.5	9	0.5	silt, lt. grey to tan, dry, carbonate cement	
1		9	14		As above, mstr. increasing, org-brn stain in rugs of carbonate xtls, 30 ppm OVA (10-11 Ft) to 350 ppm OVA at 12.5 Ft, 150-200; 12.5-14 Ft (net head-space readings)	run continuous sampler 90%+ recovery
2		14	14.5	0.5	As Above	90% recovery
		14.5	16.5	2	silt, lt grey-brn, carbonate-rich, moist	
		16.5	19	3.5	silt, red-brn, carbonate-rich, V. mst. near saturation, some sand, Fn gr., 250-400 ppm OVA (net headspace), product noted on core barrel during retrieval	
3		19	24		silt, lt. grey brn-buff, carbonate cement, saturated with considerable sand, V. Fn gr., strong hydrocarb. odor; OVA meter battery too low for readings, free product w/ water on auger flights as flights are retrieved, org-brn color, V. strong odor	90% recovery

JOHN W. SHOMAKER, INC.
GEOLOGY-HYDROGEOLOGY
2703 BRUNINGHOT PARKWAY NW, SUITE D
ALBUQUERQUE, NM 87104 (505) 345-1407

PAGE 1 OF ___

Borehole NO. NCL-90-6

___ SEC. ___ TWP. ___ RGE. ___

ELEV.(GL) ___ (KB) ___

DATE 1-11-90

North Colony Landfarm Area

Core No.	Sample	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY	REMARKS
		0	1	1	silt, dk brn, surface stained with hydrocarbons, mst., carbonate cement	Auger only
		1	3	2	Silty clay, lt. gry brn, moderate moisture	
		3	5	2	silty clay, med. gry, moist, slight hydrocarb. odor, carbonate cement	3-7 ppm OVA, no head-space
		5	7	2	silt, dk gry to blue gry, strong hydrocarb. odor, moist, carbonate cement	26 ppm OVA, 6 Ft; 134 ppm OVA, 7 Ft
		7	9		As above, lt. blue gry, strong hydrocarb. odor, mst. silt, carb. cement	357 ppm OVA, 8 Ft; 104 ppm OVA, 8.5; 347 ppm OVA head space analysis
1		9	13.5		As above	Continuous core sampler 3.7/50 recovery
		13.5	14		silt, carbonate rich, lt. grn-gry-brn, moist, hydrocarb odor	320-470 ppm OVA 5 cm ± 9-14; 481 ppm OVA head space at 12 Ft
2		14	19		As above with sand, V. Fn. gr., V. wet, strong hydrocarb. odor, blue-gry clots?	OVA head space at 15 Ft, 422 ppm; 350-400 ppm OVA Net headspace
					water/product level 17-4.5 = 12.5 Ft. below surface, considerable, but not measured, product in hole	

JOHN W. STROMAKER, INC.
GEOLOGY-HYDROGEOLOGY
[redacted]

PAGE 1 OF ___

Borehole [redacted] NO. NCL-90-7

___ SEC. ___ TWP. ___ RGE. ___

DATE 1-11-90 ELEV.(GL) ___ (KB) ___

North Colony Landfarm Area

Core No.	Sample	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY	REMARKS
		0	1	1	Silt, lt. brn to dk brn, moist	Auger only
		1	6	5	clay, dk brn, moist	
		6	7	1	clay, dk blue-gry, mst., hydrocarb. odor	70-80 ppm OVA
		7	9		Silt, lt. blue-gry to lt. gry, strong hydrocarb. odor, mst., carbonate cement, minor clay	163 ppm OVA head space at 9 Ft
1		9	14.5	5.5	As above, slt. to mod. moisture, calcareous, some V. Fn. gr. Sand, nodles of carbonate	150-350 ppm OVA
2		14.5	16	1.5	silt with some clay, caliche zones, lt. gry-brn	75% recovery
		16	19	3	clay, minor silt, dk reddish brn to gry brn, with thin caliche, mst., water in hole at 19 Ft	0 ppm OVA
3		19	24	5	As above, more water, some product 19-21 Ft. 21-24 Ft 10-15 ppm OVA, perm. appears to be in caliche zones	90% recovery

JOHN W. STROMAKER, INC.
GEOLOGY-HYDROGEOLOGY
[redacted]

PAGE 1 OF ___

Borehole [redacted] NO. NCL-90-8

___ SEC. ___ TWP. ___ RGE. ___

DATE 1-11-90 ELEV.(GL) ___ (KB) ___

North Colony Landfarm Area

Core No.	Sample	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY	REMARKS
		0	3.5	3.5	silt, rock, (fill), dry	Auger only
		3.5	4.5	1	silty clay, dk brn, moist, calcareous	
		4.5	6	1.5	silt, minor clay, dk brn, moist; increased clay at 5.5 Ft	
		6	6.5	0.5	Clay, dk gry-brn, moist	
		6.5	9	2.5	Silt, lt. gry-brn to V. lt gry brn, minor clay, calcareous	
1		9	14	5	silt, lt. blue gry-gry, caliche, strong hydrocarb odor, dk grey mottling, carbonate cement, different hydrocarb. odor than other holes, more gasoline-like; carbonate xtls with gry areas, some xtls org-yel brn, moist	continuous Core sampler 90% recovery 250-350 ppm OVA
2		14	17	3	As above	60% recovery
		17	18	1	clay, red-brn, with caliche development, moist	100-200 ppm OVA
		18	19	1	silt, lt gry, with caliche, mst. to wet, hydrocarb. odor, some clay	13 ppm OVA 19-20 Ft
3		19	24	5	clay, red-brn, with minor caliche, silties at 22-24 Ft. with nodles of carbonate	0 ppm OVA 20.5-24 Ft 100% recovery
4		24	29		As above with silt at 27' and 28', 6-8" thick, minor caliche development, wet, strong hydrocarb. odor - from water in hole?, core appears uncontaminated - difficult to get accurate OVA measurement.	

JOHN W. STEINAKER, INC.
GEOLOGY-HYDROGEOLOGY

PAGE 1 OF ___

Borehole NO. NCL-90-9

___ SEC. ___ TWP. ___ RGE. ___

ELEV.(GL) ___ (KB) ___

DATE 1-11-90

North Colony Landfarm

Core No	Sample	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY	REMARKS
		0	1	1	Silt, lt. brn, dry	Augers only
		1	6.5	5.5	Silty clay, dk brn, moist, calcareous	
		6.5	9	2.5	Silt, lt. gry-blue to lt. gry, moist, hydrocarb. odor calcareous, stronger odor at 9 ft	119 ppm OVA, 8 Ft 230 ppm OVA, 9 ft
1		9	11	2	As above with carbonate Xtls, org-brn, calcareous	2/5 recovery 350-400 ppm OVA, not head-space, 11-13 Ft
		11	13	2	clayey silt, lt. gry to blue gry, moist, calcareous	
		13	14	1	Silt, lt. gry, calcareous, strong hydrocarb. odor, dk gry areas, organic? - rich/hydrocarb. contamination	
2		14	15	1	gyp-bearing?, silt, V. lt. gry-white	
		15	16.5	1.5	Silt, lt. gry, moist, with some V. Fn gr. Sand	
		16.5	17.5	1	Silt, minor clay, lt. to med. gry, moist, caliche	400-550 ppm OVA
		17.5	19	1.5	As above, lt. to med. gry, gry brn; product, caliche, calcareous, some V. Fine gr. sand	V. Strong Hcarb odor
		19	24		Silt, with Fine gr. sand, lt. gry to lt. gry-brn, saturated with water	100 ppm OVA, 20' 0 ppm OVA, 21-24'
		24	29		sand, V. fn - fn. gr., minor silt, lt. gry-brn, saturated	

JOHN W. STEINAKER, INC.
GEOLOGY-HYDROGEOLOGY

PAGE 1 OF 1

WELL NO. NCL-90-10

___ SEC. ___ TWP. ___ RGE. ___

ELEV.(GL) ___ (KB) ___

DATE 2-5-90

Navajo Refining Co.

Core No	Sample	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY	REMARKS
		0	2	2	Silt, lt. brn	Auger Rig
		2	9	7	clayey silt, lt. brn to tan, moist, calcareous	
1		9	10	1	As above with caliche nodules, gyp Xtls, nodules 1-2" dia.	90% recovery
		10	14	4	Silt, minor clay?, brn, caliche nodules, gyp Xtls 2-3 mm, silty moist	0 ppm OVA 100% recovery
2		14	15	1	As above	
		15	16	1	As above, more clay?, gry, with caliche, moist	
		16	19	3	Silt, brn, with caliche, moist	
3		19	24	5	As above, becoming clay-rich, 24± ft, water, 0 ppm in head-space w/ OVA	75% recovery
4		24	29	5	Silt, lt. brn to gry brn, caliche, minor silty clay, wet	

JOHN W. STROMAKER, INC.
GEOLOGY-HYDROGEOLOGY

PAGE 1 OF 1

WELL NO. NCL-90-11

SEC. ____ TWP. ____ RGE. ____

DATE 2-5-90 ELEV.(GL) ____ (KB) ____

Navajo Refining Co

Core No.	Sample	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY	REMARKS
		0	8.5	8.5	silt, lt. brn to tan, dry, minor caliche / V. small nodules, incr. moisture at 7Ft	Auger rig
		8.5	9	0.5	clayey silt, lt. brn, moist	
1		9	10	1	As Above	90% recovery
		10	14	4	silt, brn, moist, caliche nodules, gyp?, Xtls?	
2		14	19	5	clayey silt, brn to red-brn, caliche nodules, gry, moist, 0 ppm OVA	100% recovery
3		19	24	5	As above, wet	75% recovery

JOHN W. STROMAKER, INC.
GEOLOGY-HYDROGEOLOGY

PAGE 1 OF 1

WELL NO. NCL-90-12

SEC. ____ TWP. ____ RGE. ____

DATE 2-6-90 ELEV.(GL) ____ (KB) ____

Navajo Refining Co.

Core No.	Sample	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY	REMARKS
		0	1	1	silt, brn, loamy, moist	8" dia auger
		1	3.5	2.5	silt, lt. brn, dry to slight moisture, small caliche nodules, increase in clay content 3' ft.	5" dia. core barrel
		3.5	4	0.5	clayey silt, brn, minor caliche nodules, moist	
		4	5	1	As above, lt. brn to tan	
		5	9	4	silt, lt. brn to tan, V. slight mstr., minor caliche, increased moisture at 7 Ft	0 ppm OVA bdspc.
1		9	14	5	As above calcareous, gyp or carb. Xtls, caliche nodules up to 2-3" dia.	80% recovery 0 ppm OVA bdspc at 13'
2		14	16	2	silt, brn, gry streaks, caliche, moist, [redacted] Hcarb odour?	100% recovery
		16	19	3	silt, minor clay, dk brn - red brn, caliche, moist, Fe-Mn /ox w/caliche	129 ppm OVA, bdspc 15' 13 ppm OVA, bdspc 18'
3		19	20.5	1.5	clayey silt, lt. brn, moist, caliche nodules	100% recovery 0 ppm OVA bdspc. 20
		20.5	23	2.5	Silty clay, brn to red brn, moist w/ caliche	0 ppm OVA bdspc. 24
		23	24	1	clayey silt, brn, w/ caliche, wet	
4		24	29	5	clay, brn to red-brn, caliche nodules up to 3-5" dia., water in caliche zones, clay is V. moist; thin silty clay - clayey silt stringers, red brn	

JOHN W. SHOMAKER, INC.
GEOLOGY-HYDROGEOLOGY

PAGE 1 OF 1

WELL NO. NCL-90-13

SEC. ____ TWP. ____ RGE. ____

DATE 2-6-90

ELEV.(GL) ____ (KB) ____

Navajo Refining Co.

Core No.	Sample	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY	REMARKS
		0	6	6	silt, brn, caliche nodules, dry, loam	
		6	8.5	2.5	silt, lt. brn to tan, V. small caliche nodules, dry	
		8.5	9	0.5	clayey silt, lt. brn, slight moisture, caliche nodules	
1		9	14	5	Silt, lt. brn, with thick caliche, white, carb. / gyp? X+ls	90% recovery 0-ppm OVA hdspc 10' 0-" " " 13'
2		14	16	2	silt, brn, as above, moist	75% recovery
		16	18	2	clayey silt, brn, caliche nodules, moist.	0-ppm OVA hdspc 15'
		18	19	1	clay / silty, brn, caliche	0-ppm OVA hdspc 18'
3		19	20	1	As above	
		20	21.5	1.5	clayey silt, silty clay, lt. brn to red brn, caliche intervals 3-6", wet in caliche	0-ppm OVA hdspc 20' 0-" " " " 23'
		21.5	24	2.5	silty clay, brn to lt. brn, with caliche, silt stringers	100% recovery
4		24	26	2	Silt, w/ fine gr. sand, ± gravel? up to ½" dia, wet, brn, wet zone in gravels (caliche?)	25' OVA hdspc 0ppm 28' " " 0 ppm
		26	29	3	silty clay, brn to red brn, w/ caliche, silt stringers, wet, water in caliche zones	

JOHN W. SHOMAKER, INC.
GEOLOGY-HYDROGEOLOGY

PAGE 1 OF 1

WELL NO. NCL-90-14

SEC. ____ TWP. ____ RGE. ____

DATE 2-6-90

ELEV.(GL) ____ (KB) ____

Navajo Refining Co.

Core No.	Sample	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY	REMARKS
		0	9	9	silt, lt. brn, dry, minor caliche nodules, small ¼-½" dia. incr. moisture at 8 ft.	
1		9	11.5	2.5	As above	80% recovery
		11.5	13	1.5	Silt brn, w/ caliche nodules, carb. / gyp? X+ls	11.5' OVA hdspc [redacted] ppm 13' " " 0 ppm
		13	14	1	clayey silt, lt. brn, w/ caliche	
2		14	18.5	4.5	Silt, lt. brn-tan, minor caliche, moist to wet	90% recovery 15' OVA hdspc 0 ppm
		18.5	19		clayey silt, lt. brn-brn, caliche, wet	18' " " 0 ppm
3		19	19.5	0.5	As above	100% recovery
		19.5	24	4.5	Silt, lt. brn to tan, interbedded V. fine gr. sand (22.5-24 ft); V. minor caliche	20' OVA hdspc 0 ppm 23' " " 0 ppm 27' " " 0 ppm
4		24	29	5	As above w/ sand; incs. in caliche, nodules to 3" dia, 27.5-29 ft, brn to lt. brn, caliche zones are tan, wet, wetter around caliche	

JOHN W. STOMAKER, INC.
GEOLOGY-HYDROLOGY

PAGE 1 OF 1

WELL NO. NCL-90-15

_____ SEC. ____ TWP. ____ RGE. ____

DATE 2-6-90

ELEV.(GL) _____ (KB) _____

Navajo Refining Co.

Core No.	Sample	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY	REMARKS
		0	1	1	Silt, clay, dk brn to brn, dry	
		1	3	2	silt, gry brn, dry	
		3	7	4	clay, dk brn, moist, silty	
		7	8	1	clay, gry to gry brn, moist	
		8	9	1	silt, tan, moist	
1		9	14	5	silt, tan to lt. gry brn, caliche, carb/gyp? xtls., moist	90% recovery 10' OVA hdspc 0 ppm 13' " " 0 ppm
2		14	16	2	silt, w/ V. Fine gr. sand, brn, moist, caliche nodules	75% recovery 16' OVA hdspc 0 ppm
		16	17	1	silt, tan, moist, caliche nodules	18' OVA hdspc 0 ppm
		17	19	2	silt, lt. brn, clayey at 18.5, caliche	
3		19	19.5	0.5	As above, wet	90% recovery
		19.5	20.5	1	silt, dk brn, wet	20' OVA hdspc 0 ppm
		20.5	24	3.5	same as above, 90% + caliche, gry-brn to tan	24' " " 0 ppm
4		24	26	2	As above	100% recovery
		26	26.5	0.5	silty clay, brn, wet	26' OVA hdspc 0 ppm
		26.5	28	1.5	silt, lt. gry-brn to tan, caliche, wet	28' " " 0 ppm
		28	29		silt, brn, wet, caliche, thin intervals of v. fn-gr. sand	

JOHN W. STOMAKER, INC.
GEOLOGY-HYDROLOGY

PAGE 1 OF 1

WELL NO. NCL-90-16

_____ SEC. ____ TWP. ____ RGE. ____

DATE 2-6-90

ELEV.(GL) _____ (KB) _____

Navajo Refining Co.

Core No.	Sample	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY	REMARKS
		0	2.5	2.5	clay, brn to gry brn, moist	
		2.5	4	1.5	As above, blue gry, w/ strong hydrocarb. odor, moist	OVA hdspc 336 ppm
1		4	9	5	Silt, blue-gry, moist, strong hydrocarb. odor	80% recovery 6' OVA hdspc [illegible] ppm 8' " " [illegible] ppm
2		9	14	5	As above with fine-gr. sand 13-14 ft, caliche nodules to 3" dia.	75% recovery 11' OVA hdspc 405 ppm 14' " " 138 ppm
3		14	17.5	3.5	sand & gravel, blue-gry, wet, interbedded silt, gry	65% recovery 16' OVA hdspc 107 ppm
		17.5	19	1.5	Silt, lt gry-brn, wet, w/ fine gr. sand, hard	19' OVA hdspc 6 ppm
4		19	23	4	As above with increasing sand, fine gr., Fe-ox stain 21-21.5 feet, wet, minor caliche	100% recovery
		23	24	1	sand, fine gr., minor silt, lt. gry-brn to gry brn, wet, minor caliche	21' OVA hdspc 21 ppm 23.5 " " 14 ppm

JOHN W. SHOMAKER, INC.
GEOLOGY-HYDROGEOLOGY

PAGE 1 OF 1

WELL NO. NCL-90-17

SEC. ____ TWP. ____ RGE. ____

DATE 2-7-90 ELEV.(GL) ____ (KB) ____

Navajo Refining Co.

Core No.	Sample	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY	REMARKS
		0	3	3	silt, brn; minor fine sand	Auger rig; 8" dia bit
		3	6	3	clayey silt, brn; moderate moisture	
		6	8	2	clayey silt, brn, incr. clay, plasticity incr.; moderate moisture	8' OVA hdspc 209 ppm Hydrocarb. odor
		8	8.5	0.5	clayey silt, lt grey - grey	
		8.5	9	0.5	as above, grey - dk grey	Hydrocarb. odor
		9	9.5	0.5	silt, grey - dk grey; minor clay, minor brn clayey silt at 9.5	
1		9	10	1	silt, grey - dk grey; carbonate	run continuous sampler 50% recovery
		10	14	4	silt, lt grey - dk grey; carbonate	10' OVA hdspc 392 ppm 14' " " 642 ppm
2		14	18.75	4.75	silt, grey, carbonate	30% recovery
		18.75	19	0.25	sand, gry, minor brn; carbonate, small med gr. carb nodles saturated at 18'	15' OVA hdspc 457 ppm 18.9' " " 494 ppm
3		19	19.5	0.5	sand & gravel; gravel to 1/2" d.a	100% recovery
		19.5	21	1.5	silt, gry; carbonate nodles	
		21	22	1	silt, gry w/ blk mottled areas, caliche nodles	21' OVA hdspc 202 ppm 23' " " 283 ppm
		22	23.5	1.5	silt, gry, brn; carbonate nodles	
		23.5	24	0.5	silt, brn	
4		24	28	4	silt, brn; carbonate nodles & thin stringers; minor fine sand	100% recovery 25' OVA hdspc 142 ppm
		28	29	1	clayey silt, reddish brn; carbonate nodles & stringers	28' " " 35 ppm
						product noted on auger slightly as tripping out

JOHN W. SHOMAKER, INC.
GEOLOGY-HYDROGEOLOGY

PAGE 1 OF 1

WELL NO. NCL-90-18

SEC. ____ TWP. ____ RGE. ____

DATE 2-7-90 ELEV.(GL) ____ (KB) ____

Navajo Refining Co.

Core No.	Sample	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY	REMARKS
		0	1	1	Fill, sand, concrete	Auger rig, 8" dia bit
		1	2	1	silt, brn; minor fine sand	
		2	3	1	clayey silt, grey brn; moderate moisture	
		3	4	1	silt, gry; minor clay	4' OVA hdspc 247 ppm
1		4	9	5	silt, gry; carbonate	60% recovery 8' OVA hdspc 413 ppm (in water)
2		9	14	5	silt, gry w/ dk gry - blk lenses; carbonate; clayey silt, grey caliche plug in bottom of core barrel	30% recovery OVA hdspc 386 ppm
3		14	16	2	silt, grey - dk grey, brn interbedded; carbonate nodles	100% recovery
		16	17	1	silt, grey, brn; carbonate nodles	16' OVA hdspc 24 ppm
		17	18	1	silt, buff, minor gry; carbonate nodles	18' " " 8 ppm
		18	19	1	silt, reddish brn; minor V. fine sand; carbonate nodles	
4		19	21	1	silt, white, lt grey; carbonate nodles	100% recovery
		21	22	1	silt, buff; carbonate nodles & stringers	
		22	24	2	silt, buff - tan, whitish lt grey lenses; caliche nodles; minor clay	21' OVA hdspc 18 ppm

JOHN W. SHOMAKER, INC.
GEOLOGY-HYDROGEOLOGY

PAGE 1 OF 1

WELL NO. UCL-90-19

SEC. ____ TWP. ____ RGE. ____

DATE 2-7-90 ELEV.(GL) ____ (KB) ____

Navajo

Core No.	Sample	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY	REMARKS
		0	1	1	backfill; silt, brn, concrete fragments	Auger rig; 8" dia bit
		1	2	1	silt, dk brn, minor clay; moderate moisture	
		2	3	1	clayey silt, gry brn; moderate moisture	
		3	5	2	silty clay, grey - dk grey; V. moist	hydrocarb odor
		5	7	2	clayey silt, grey	4' OVA hdspc 91 ppm
		7	9	2	silt, minor clay, gry	8' " " 132 ppm
1		9	11.5	2.5	silt, grey; gravel to 3" dia	60% recovery
		11.5	13	1.5	silt, grey - dk grey; blk mottling	13' OVA hdspc 338 ppm
		13	14	1	silt, grey	
2		14	16	2	silt, grey; sand, grey; carbonate nodules	80% recovery
		16	18	2	clayey silt, grey - dk grey	17' OVA hdspc 149 ppm
		18	19	1	clayey silt, reddish brn, minor grey mottling; carbonate nodules	
3		19	23	4	silt, reddish brn w/ red brn stringers; carbonate; minor clayey silt lenses at 22'	40% recovery
		23	24	1	silt, gradational greyish tan to whitish grey at 24 Ft; carbonate nodules	

JOHN W. SHOMAKER, INC.
GEOLOGY-HYDROGEOLOGY

PAGE 1 OF 1

WELL NO. UCL-90-20

SEC. ____ TWP. ____ RGE. ____

DATE 2-7-90 ELEV.(GL) ____ (KB) ____

Navajo

Core No.	Sample	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY	REMARKS
		0	1	1	silt, brn, V. fine sand, brn	Auger rig; 8" dia. bit
		1	2	1	clayey silt, brn - dk brn	
		2	5	3	clayey silt, grey - dk grey	
		5	7	2	silt, minor clay, lt grey	6' OVA hdspc 277 ppm
		7	9	2	clayey silt, grey - dk grey	
1		9	12	3	silt, grey; carbonate nodules	80% recovery
		12	13	1	silt, grey - dk grey; blk mottling; carbonate nodules	12' OVA hdspc 440 ppm
		13	14	1	silt, grey; carbonate nodules	14' " " 458 ppm
2		14	17	3	silt, grey - dk grey; carbonate nodules	in water
						80% recovery
		17	18	1	silt, grey, brn, minor blk mottling; carbonate nodules	16' OVA hdspc 265 ppm
						18.5 " " 66 ppm
		18	18.5	0.5	silt, grey, fine sand, & gravel to 1" dia; carbonate nodules	
		18.5	19	0.5	clayey silt, brn, reddish brn; minor dk grey mottling; carbonate nodules	
3		19	20	1	clayey silt, brn; carbonate nodules	80% recovery
		20	21	1	clayey silt, brn, grey, carbonate nodules	22' OVA hdspc 16 ppm
		21	24	3	silt, grey - lt. grey; carbonate nodules	Free product noted on flight as tripping out

JOHN W. STOMAKER, INC.
GEOLOGY-HYDROLOGY

PAGE 1 OF 1

WELL NO. NCL-90-21

SEC. TWP. RGE.

ELEV.(GL) (KB)

DATE 2-7-90

Navajo

Core No	Sample	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY	REMARKS
		0	1	1	silt, brn; minor clayey silt	Auger rig; 8" dia. bit
		1	3	2	clayey silt, brn	
		3	5	2	as above, tan-brn	
		5	7	2	silt, buff-tan; carbonate nodules	
		7	8	1	clayey silt, grey	hydrocarb. odor
		8	9	1	silt, lt. grey	
1		9	12	3	silt, lt. grey; carbonate nodules	70% recovery
		12	12.5	0.5	clayey silt, grey; carbonate nodules	12' OVA hdspc 461ppm
		12.5	13	0.5	silt, grey; carbonate nodules	13 " " 473ppm
		13	14	1	silt, dk grey; grey lenses; carbonate nodules	
2		14	16	2	silt, dk grey; carbonate nodules	90% recovery
		16	18	2	clayey silt, grey, brn; carbonate nodules	16' OVA hdspc 380ppm
		18	19	1	silt, grey-dk grey, minor brn; carbonate nodules	18' OVA hdspc 274ppm water on sampler at 18'
3		19	23	4	clayey silt, brn; carbonate nodules	80% recovery
		23	24	1	silt, grey; fine sand, gravel to 1½" dia, carbonate nodules; color gradational from grey at 23' to greyish brn at 24'	Free product on sampler at 22' and on entire length of sample 21' OVA hdspc 124ppm 22' " " 70ppm
4		24	26	2	silt, grey, brn; fine sand, carbonate nodules	100% recovery Free product in/on cuttings at surface
		26	27	1	gravel to 3" dia, fine sand, silt, greyish brn	25' OVA hdspc 15ppm
		27	29	2	silt, grey, minor brn stringers; carbonate nodules	28' " " 7ppm Free product on sampler & sample

JOHN W. STOMAKER, INC.
GEOLOGY-HYDROLOGY

PAGE 1 OF 1

WELL NO. NCL-90-22

SEC. TWP. RGE.

ELEV.(GL) (KB)

DATE 2-7-90

Navajo

Core No	Sample	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY	REMARKS
		0	1	1	clayey silt, brn-dk brn, gravel back silt	Auger rig; 8" dia. bit
		1	2	1	clayey silt, dk brn	
		2	3	1	silt, brn-dk brn	
		3	4	1	clayey silt, dk grey	hydrocarb odor
		4	7	3	silt, grey-ish white; carbonate nodules, moisture incr.	4' OVA hdspc 53ppm
		7	9	2	as above, grey	5' OVA hdspc 105ppm
1		9	13	4	silt, grey; carbonate nodules	80% recovery
		13	14	1	clayey silt; calcite and minor carbonate nodules	11' OVA hdspc 243ppm 13' " " 249ppm
2		14	17.5	3.5	silt, grey; carbonate nodules	90% recovery
		17.5	19	1.5	clayey silt, grey, brn; minor carbonate nodules, fine sand, brn at 19'	Free product on sampler at 18' 15' OVA hdspc 251ppm 18' " " 147ppm
3		19	21.5	2.5	silt, brn; minor carbonate nodules	95% recovery
		21.5	22.5	1	silt, grey, brn; carbonate nodules	
		22.5	23.5	1	silt, lt. grey-ish white, minor buff; carbonate nodules	21' OVA hdspc 40ppm 23' " " 22ppm
		23.5	24	0.5	silt, brn, carbonate	
4		24	24.5	0.5	silt, brn; carbonate nodules	100% recovery
		24.5	25	0.5	silt, tan, buff; carbonate nodules	
		25	26	1	silt, brn, buff; carbonate nodules; green discoloration at 25'	25' OVA hdspc 24ppm 28' OVA hdspc 2ppm
		26	29	3	silt, brn, buff, fewer carbonate nodules than above	

JOHN W. STOMAKER, INC.
GEOLOGY-HYDROGEOLOGY

PAGE 1 OF 1

WELL NO. NCL-90-23

SEC. ____ TWP. ____ RGE. ____

ELEV.(GL) ____ (KB) ____

DATE 2-8-90

Navajo

Core No.	Sample	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY	REMARKS
		0	1	1	sand, fine, brn; gravel to 1½" d.a.	Auger rig; 8" dia bit
		1	3	2	clayey silt, brn, moist	
		3	3.5	0.5	silt, brn; moderate moisture	
		3.5	7	3.5	silt, dk grey; moist	hydrocarb odor
		7	9	2	silt, grey - dk grey	4' OVA hdspc 40 ppm
						8' " " 408 ppm
1		9	11	2	silt, greyish green, pale yellow stringers; carbonate nodules	80% recovery
		11	13	2	silt, lt grey, greyish white, pale yellow, carbonate nodules	11' OVA hdspc 403ppm
						13' " " 364ppm
		13	14	1	as above decr. nodules	
2		14	16	2	caliche; silt, lt grey - dk grey	70% recovery
		16	18	2	silt, grey, [redacted], pale yellow, greenish grey; carbonate nodules	16' OVA hdspc 222ppm
		18	19	1	silt, grey, white, pale yellow, blk mottling; carbonate nodules	18' OVA hdspc 183 ppm
						water on sampler at 18'±
3		19	20.5	1.5	clayey silt, greyish white, greyish green; carbonate nodules	80% recovery
						21' OVA hdspc 13 ppm
		20.5	22	1.5	silt, greyish white, green, minor yellow, carbonate nodules; minor V. fine sand	24' " " 0.0 ppm
		22	23	1	silt, buff, brn; green & yellow stringers; carbonate	
		23	24	1	clayey silt, brn, buff; carbonate nodules	Free Product on sampler at 24'
4		24	26	2	clayey silt, reddish brn, buff mottling; carbonate nodules	100% recovery
						25' OVA hdspc 19ppm
		26	27	1	silt, reddish brn; carbonate nodules	27' " " 30ppm
		27	29	2	clayey silt, reddish brn; carbonate nodules	Free product on Auger Flights noted at tripping out

JOHN W. STOMAKER, INC.
GEOLOGY-HYDROGEOLOGY

PAGE 1 OF 1

WELL NO. NCL-90-24

SEC. ____ TWP. ____ RGE. ____

ELEV.(GL) ____ (KB) ____

DATE 2-8-90

Navajo

Core No.	Sample	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY	REMARKS
		0	1	1	silt, brn, V. fine sand	Auger rig; 8" dia bit
		1	3	2	silty clay, brn - dk brn	
		3	6	3	clayey silt, brn	hydrocarb. odor
		6	8	2	silt, lt. grey	
		8	9	1	silt, grey	8' OVA hdspc [redacted] ppm
1		9	13	4	silt, grey, sl. white, minor grey; carbonate nodules	50% recovery
						Free Product on sampler at 13'
		13	14	1	silt, grey - dk grey, minor greyish green mottling; carbonate nodules	13' hdspc OVA 273 ppm
2		14	18	4	silt, lt grey - dk grey; carbonate nodules	60% recovery
						Carbonate plug in bottom
		18	19	1	clayey silt, lt. grey - dk grey, brn; carbonate nodules	17' OVA hdspc 139ppm
						18' " " 116 ppm
						water at 19'±
3		19	22	3	silt, reddish brn, grey; minor carbonate nodules	100% recovery
						20' OVA hdspc 135ppm
		22	24	2	clayey silt, reddish brn	23' " " 48 ppm
4		24	29	5	silt, reddish brn, carbonate nodules; V. minor grey silt stringers	100% recovery
						25' OVA hdspc 0 ppm
						28' " " 0 ppm

JOHN W. STOMAKER, INC.
GEOLOGY-HYDROGEOLOGY

PAGE 1 OF 1

WELL NO. NCL-90-25

SEC. ____ TWP. ____ RGE. ____

ELEV.(GL) ____ (KB) ____

DATE 2-8-90

Navajo

Core No.	Sample	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY	REMARKS
		0	2	2	silt, brn; fine sand, brn; gravel	Auger rig, 8" dia bit
		2	3	1	clayey silt, brn - dk brn	
		3	3.5	0.5	clayey silt, grey - dk grey	hydrocarbon odor
		3.5	4	0.5	silt, grey	4' OVA hdspc 53 ppm
1		4	7	3	silt, grey; carbonate nodules	60% recovery
		7	9	2	silt, grey - dk grey, more consolidated than above; carbonate nodules	7' OVA hdspc 53 ppm 9' " " 248 ppm
2		9	12	3	silt, grey, greyish green, [redacted], carbonate nodules	60% recovery 12' OVA hdspc, 415 ppm
		12	14	2	silt, grey, greyish green, greyish white, carbonate nodules	14' " " 256 ppm
3		14	18	4	silt, lt grey - grey; carbonate nodules	70% recovery
		18	19	1	clayey silt, lt grey - dk grey, minor reddish brn carbonate nodules	17' OVA hdspc 71 ppm 19' " " 35 ppm
4		19	20	1	silt, grey; carbonate nodules	95% recovery
		20	23	2	silt, reddish brn, minor buff, carbonate nodules; grey discoloration around majority of nodules	21' OVA hdspc 40 ppm 21' " " 1 ppm
		23	24	1	clayey silt, reddish brn; carbonate nodules	Free product on auger flights as Tripping out ~19 ft - TD

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GEOLOGY-HYDROGEOLOGY

PAGE 1 OF 1

WELL NO. NCL-90-26

SEC. ____ TWP. ____ RGE. ____

ELEV.(GL) ____ (KB) ____

DATE 2-8-90

Navajo

Core No.	Sample	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY	REMARKS
1		0	2	2	silt, brn; minor fill gravel	Auger rig 8" dia bit
		2	4	2	clayey silt, dk brn - brn; minor roots	3' OVA hdspc 0 ppm
2		4	6	2	silt, reddish brn, reddish buff, carbonate, carbonate nodules	100% recovery
		6	8	2	silt, greyish buff, carbonate, carbonate nodules; minor orange mottling	7' OVA hdspc 0 ppm
		8	9	1	silt, greyish white, whitish grey carbonate, org-yel mottling	
3		9	13	4	silt, whitish lt grey; carbonate nodules, minor org-yel mottling	50% recovery 13' OVA hdspc
		13	14	1	silt, lt grey, greyish white, carbonate nodules, minor org-yel mottling	

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PAGE 1 OF 1

WELL NO. NCL-90-37

SEC. ____ TWP. ____ RGE. ____

DATE 2-9-90

ELEV.(GL) ____ (KB) ____

Navajo

Core No	Sample	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY	REMARKS
1		0	2	2	clayey silt, dk brn, blk, oily	Auger rig 8" dia bit
		2	3	1	clayey silt, dk brn - brn, blk mottling, oily	100% recovery
						4' OVA hdspc 77 ppm
		3	4	1	silt, brn - dk brn, blk mottling, minor coats	
2		4	4.5	0.5	silt, brn - reddish brn; minor carbonate; minor blk mottling	100% recovery
		4.5	5	0.5	silt, reddish brn - brn; minor carbonate	8' OVA hdspc 1 ppm
		5	7	2	silt, greyish brn - brn grey; blk mottling; minor carbonate	
		7	9	2	silt, white grey, org-yel mottling; carbonate, carbonate nodules	
3		9	13	4	silt, white grey - grey white; minor org-yel mottling; green stringers mottling; carbonate	60% recovery
						13' OVA hdspc 10 ppm
		13	14	1	silt, grey white - white grey org-yel mottling; incr carbonate	

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PAGE 1 OF ____

WELL NO. NCL-90-38

SEC. ____ TWP. ____ RGE. ____

DATE 2-9-90

ELEV.(GL) ____ (KB) ____

Navajo

Core No	Sample	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY	REMARKS
1		0	3.5	3.5	silt, brn - dk brn; minor carbonate nodules	Auger rig 8" dia bit
						40% recovery
		3.5	4	0.5	clayey silt, brn - dk brn; minor carbonate nodules	4' OVA hdspc 0.6 ppm
2		4	5	1	clayey silt, brn, orange brn mottling throughout	100% recov
		5	8	3	silt, grey; minor brn; blk mottling; minor carbonate	
		8	9	1	silt, white grey, yellow grey mottling; carbonate	
3		9	13	4	silt, white grey, orange yellow mottling; carbonate, carbonate nodules	60% recovery
						14' OVA hdspc 47 ppm
		13	14	1	clayey silt, lt grey - grey; orange - yellow mottling; carbonate and carbonate nodules	

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GEOLOGY-HYDROGEOLOGY

PAGE 1 OF 1

Borehole
WELL NO. NCL-90-29

SEC. ____ TWP. ____ RGE. ____

DATE 2-9-90

ELEV.(GL) ____ (KB) ____

Navajo

Core No.	Sample	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY	REMARKS
		0	14		Total borehole cored. Samples collected in acrylic liners, not logged	Auger rig; cored 90% recovery

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GEOLOGY-HYDROGEOLOGY

PAGE 1 OF 1

WELL NO. NCL-90-30

SEC. ____ TWP. ____ RGE. ____

DATE 2-9-9

ELEV.(GL) ____ (KB) ____

Navajo

Core No.	Sample	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY	REMARKS
		0	14		Total bore hole cored Samples collected in acrylic liners; not logged	Auger Rig, cored 45% recovery

JOHN W. SHOMAKER, INC.
GEOLOGY-HYDROGEOLOGY

PAGE 1 OF 1

WELL NO. NCL-90-31
SEC. TWP. RGE.
ELEV.(GL) (KB)

DATE 2-10-90

Navajo

Core No.	Sample	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY	REMARKS
		0	1	1	Backfill, fine sand, gravel	Auger rig, 8" dia bit
		1	2	1	Silt, brn	
		2	5	3	clayey silt, brn	
		5	9	4	silt, white grey; carb. & carbonate nodules	8' OVA bkgrd 0 ppm
1		9	14	5	silt, white - whitish grey; carb. & carb. nodules, fairly well consolidated	60% recovery 13' OVA bkgrd 0 ppm
2		14	17	3	silt, whitish grey; carb.; orange-yel. mottling	100% recovery 15' OVA bkgrd 0 ppm
		17	18	1	silt, reddish brn	19' " " 0 ppm
		18	19	1	clayey silt, reddish brn; minor lt. grey stringers	
3		19	20	1	clayey silt, buff, carb. nodules	in water
		20	22.5	2.5	silt, reddish brn	100% recovery
		22.5	23	0.5	sandy silt, reddish brn; carbonate nodules	20' OVA bkgrd 0 ppm 23' " " 0 ppm
		23	24	1	Silt, reddish brn; minor carb.	
4		24	25	1	Sandy silt, reddish brn - reddish buff, carb. nodules	100% recovery
		25	28	3	silt reddish brn; carb stringers	25' OVA bkgrd 0 ppm
		28	29	1	As above w/ incr. carbonate	28' " " 0 ppm

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GEOLOGY-HYDROGEOLOGY

PAGE 1 OF 1

WELL NO. NCL-90-32
SEC. TWP. RGE.
ELEV.(GL) (KB)

DATE 2-10-90

Navajo

Core No.	Sample	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY	REMARKS
		0	1	1	Backfill, fine sand, tan, gravel	Auger rig, 8" dia bit
		1	3	2	silt, brn - dk brn	
		3	3.5	0.5	silt, dk brn; clayey silt, dk brn	
		3.5	6	2.5	clayey silt, dk brn	
		6	8	2	silt, whitish grey; carb.; fairly well consolidated	
		8	9	1	silt, dk grey; carb.; fairly well consolidated	hydrocarb. odor 8" OVA bkgrd 136 ppm
1		9	14	5	caliche, grey; minor silt	Hard drilling 50% recovery 13' OVA bkgrd, 487 ppm
2		14	18	4	carbonate, silt, grey; minor org. mottling	70% recovery 17' OVA bkgrd 367 ppm
		18	19	1	clayey silt, brn, carb.	19' " " 244 ppm
3		19	20	1	clayey silt, brn; minor carb. stringers	in water
		20	22	2	silt, brn, minor fine sand	100% recovery
		22	24	2	silt, reddish brn; minor carb. stringers & nodules	20' OVA bkgrd 0 ppm 24' " " 2 ppm
4		24	27.5	3.5	silt, reddish brn; carb. nodules	100% recovery
		27.5	29	1.5	silt, buff - reddish brn; carb. & carb. nodules	

JOHN W. SHOMAKER, INC.
GEOLOGY-HYDROGEOLOGY

PAGE 1 OF 1

WELL NO. NCL-90-33

SEC. ____ TWP. ____ RGE. ____

ELEV.(GL) ____ (KB) ____

DATE 2-10-9

Navajo

Core No.	Sample	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY	REMARKS
		0	1	1	Backfill, silt, V. fine sand, brn, gravel	Auger e.g. 8" dia bit
		1	2	1	silt, dk brn	
		2	5	3	clayey silt, dk brn	
		5	7	2	silt, dk brn; minor clayey silt, dk brn	
		7	8	1	silt, brn-buff, carbonate	8' OVA bdspc 0 ppm
		8	9	1	silt, buff, carbonate	
1		9	13	4	silt, buff, carbonate, carb. nodules	40% recovery
		13	14	1	silt, greyish white - dk grey; carb. & carb. nodules	14' OVA bdspc 186ppm
2		14	18	4	silt, lt. brn, lt. grey; carb nodules	100% recovery
		18	19	1	silt, dk grey, brn, buff; carb nodules	18' OVA bdspc 191 ppm
						19' " " 199 ppm
3		19	22	3	clayey silt, brn; carb & carb nodules, stringers; minor grey mottling at 19.5 ft	100% recovery in wales
						18 OVA bdspc, 14ppm
		22	24	2	silt, reddish brn; carb. nodules & stringers	23' " " 12 ppm
4		24	26	2	silt, reddish brn, carb. nodules	100% recovery
		26	29	3	clayey silt, reddish brn; carb. nodules	25' OVA bdspc 0 ppm
						27' " " 0 ppm

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GEOLOGY-HYDROGEOLOGY

PAGE 1 OF 1

WELL NO. NCL-90-34

SEC. ____ TWP. ____ RGE. ____

ELEV.(GL) ____ (KB) ____

DATE 2-10-90

Navajo

Core No.	Sample	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY	REMARKS
		0	1	1	Backfill, fine sand, silt, greyish brn; gravel	Auger e.g. 8" dia bit
		1	3	2	sand, fine, greyish brn; silt, greyish brn	
		3	7	4	clayey silt, brn - dk brn	
		7	8	1	silt, brn - dk brn; minor clayey silt, dk brn	
		8	9	1	silt, buff; carb. nodules	
1		9	14	5	silt, lt grey - grey; carb. & carb. nodules, fairly well consolidated	50% recovery
						13' OVA bdspc 348ppm
2		14	17	3	silt, grey; carb & carb nodules	70% recovery
		17	19	2	As above w/ incr. carbonate	Free product at 18'
						17' OVA bdspc 190ppm
						19' " " 179 ppm
3		19	21	2	silt, brn, carb. nodules	100% recovery
		21	24	3	silt, lt grey - dk grey; carb & carb nodules	Free product coming up borehole as the 19-24 section was being drilled

JOHN W. STOMAKER, INC.
GEOLOGY-HYDROGEOLOGY

PAGE 1 OF 1

WELL NO. NCL-90-35

SEC. ____ TWP. ____ RGE. ____

DATE 2-10-90

ELEV.(GL) ____ (KB) ____

Navajo

Core No.	Sample	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY	REMARKS
		0	1	1	Backfill, sand & gravel	Auger rig; 8" dia bit
		1	2.5	1.5	clayey silt, dk brn	
		2.5	3.5	1	clayey silt, dk grey	hydrocarb. odor
		3.5	5	1.5	silt, lt. grey - grey	4' OVA hdspc. 68ppm
		5	7	2	silt, dk grey / blk	
		7	8	1	silt, grey - dk grey	
		8	9	1	silt, grey - dk grey, carbonate	8' OVA hdspc 285 ppm
1		9	14	5	silt, grey; carb., minor carb. nodules	50% recovery
						13' OVA hdspc 327ppm
2		14	18	4	silt, grey; carb. & Carb. nodules	60% recovery
		18	19	1	clayey silt, grey; Carb.	18' OVA hdspc 377ppm
						19' " " 147ppm
						Water at 16' ±
3		19	21	2	Sand and gravel to 1" dia, grey	100% recovery
		21	24	3	silt, buff - brn; carbonate	Free product on sampling barrel 19'-24'
						20' OVA hdspc 151ppm
						23' " " 131ppm
4		24	26	2	Fine sand and silt, brn - reddish brn, minor Carb.	100% recovery
						25' OVA hdspc 21ppm
		26	29	3	silt, buff - brn; carb. & carb. nodules	28' " " 40ppm

HEALTH ENVIRONMENT department

STATE OF NEW MEXICO

ENVIRONMENTAL IMPROVEMENT DIVISION
P.O. Box 968, Santa Fe, New Mexico 87504-0968
(505) 984-0020

TONEY ANAYA
GOVERNOR

DENISE D. FORT
DIRECTOR

March 26, 1986

Mr. Allyn Davis
Division Director
Hazardous Waste Management Division
U. S. Environmental Protection Agency
1201 Elm Street
Dallas, Texas 75270

Dear Mr. Davis:

It has come to EID's attention that clarification of Navajo Refining Company, Inc.'s status, with regard to the LOIS requirements, may be necessary to aid EPA in its enforcement efforts. Although there are many complexities surrounding the areas in question, i.e. the API Separator effluent ditch and Evaporation Pond #1, two issues have surfaced as being particularly salient: the date which Navajo notified EID of their intent to close these units and the effect of placing non-hazardous waste in them after the November 8, 1985 deadline. A discussion of these issues follows.

On June 27,1985, Navajo notified EID's Hazardous Waste Section of its intent to close and to cease any activities subject to a permit at their API Separator effluent ditch and Evaporation Pond #1. The ditch and pond have, to the best of EID's knowledge, received only non-hazardous waste after November 8, 1985.

Pursuant to the memo of December 20,1985 concerning the continued addition of non-hazardous waste to a unit which has lost interim status, two provisions must be met. The first of these requires that the placement of this waste must not delay or interfere with the closure process. Navajo has been evaluating alternatives for the re-direction of several hundred thousand gallons of API Separator effluent per day. This has required coordination between New Mexico's Oil Conservation Division (OCD), EID's Surface Water Section, and EID's Hazardous Waste Section. Delay of the actual closure activities has been necessary to ensure compliance with all applicable State requirements. The second provision requires that the placement of non-hazardous waste in LOIS units must not cause the furtherance of environmental damage. Navajo currently has ground-water monitoring wells throughout the ditch and pond area which may be capable of providing some ground-water quality data. In addition to re-sampling these wells, a consent agreement between EID's Hazardous Waste Section and Navajo is currently being negotiated for additional ground-water assessment in these areas. If significant ground-water contamination is detected, EID's Hazardous Waste Section will require the submittal of a post-closure permit application and pursue any corrective action necessary through that process. A compliance schedule has already been agreed upon with the facility to re-direct the API Separator effluent and to close the ditch and pond pursuant to New Mexico 's HWMR-2 and HSWA requirements.

EID believes Navajo is addressing both environmental and regulatory issues concerning these areas in a cooperative and timely manner. Issuance of an EPA enforcement action pursuant to LOIS would seem unnecessary and possibly jeopardize the State's enforcement strategy. Should these arrangements not meet your approval, please let me know.

If you have any questions concerning these matters, please feel free to call me at (505) 827-2850 or Peter H. Pache of my staff at (505) 827-2924.

Sincerely,

Denise Fort
Director

cc: Richard Holland, Deputy Director
Ernest Rebuck, Chief, Ground Water/ Hazardous Waste Bureau

TONEY ANAYA
GOVERNOR

DENISE D. FORT
DIRECTOR

HEALTH ENVIRONMENT department

STATE OF NEW MEXICO

ENVIRONMENTAL IMPROVEMENT DIVISION
P.O. Box 968, Santa Fe, New Mexico 87504-0968
(505) 984-0020

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

August 15, 1985

Jack Reid, President
Navajo Refining Company
P. O. Drawer 159
Artesia, NM 88210

RE: Notice of Violation
EPA ID No. NMD048918817

Dear Mr. Reid:

On June 25, 26, and 27, 1985 the New Mexico Environmental Improvement Division (EID) conducted a comprehensive ground water monitoring evaluation at Navajo Refining Company. This letter is EID's notice that, based on our recently completed review of the information obtained during that evaluation, EID has determined that Navajo Refining Company has violated the provisions of the New Mexico Hazardous Waste Management Regulations (HWMR-2). The purpose of this letter is to delineate in writing the violations and to require Navajo Refining Company to comply with the New Mexico Hazardous Waste Act and HWMR-2.

The inspection indicated that the Navajo Refining Company is in violation of HWMR-2 as follows:

(1) 206.C.1.a. -- requires that a ground water monitoring program capable of determining the facility's impact on the quality of ground water in the uppermost aquifer underlying the facility be implemented.

It is not known whether such a program has been implemented. The wells appear to have been screened at depths too deep to promptly detect statistically significant increases of contaminants less dense than water. Additionally, gravel has been used rather than sand as a filter pack around the screens. This method is apparently insufficient to provide a turbid-free sample and, therefore, does not accurately represent the actual concentrations of contaminants (i.e. metals) present or absent in the ground water. Statistical analyses performed for an assessment phase determination were based on only two sets of samples for which background levels were not established. This would drastically reduce the sensitivity of the t-test and

make it difficult to detect a problem. These factors, combined with poor sampling procedures, indicate that this monitoring system is not fully capable of the detection required.

(Analytical results from samples taken June 25, 26, and 27, 1985 may reflect the adequacy of the ground water monitoring system. With respect to the highly turbid ground water present in many of the wells, we recommend that Navajo "blow-out" the wells to remove as much silt as possible and resample for total metals.)

(2) 206.C.1.b.(1)(a) -- requires that ground water samples from the uppermost aquifer represent background ground water quality and are not affected by the facility.

Upgradient well #35 (TEL Weathering Area) is located downgradient of other refinery activities and has been found to contain organic constituents. The presence of these compounds could indicate that the well is being affected by the facility.

A sample taken from upgradient well #31 (North Colony Landfarm) indicates low levels of organic constituents in the ground water. The same constituents were found in downgradient well #34. Only one of the four compounds detected was higher in the downgradient well, suggesting that either past management activities, off-site contribution, and/or mounding effects could be responsible for the contaminants.

(3) 206.C.1.c.(1) -- requires that a facility develop a ground-water sampling and analysis plan which includes techniques for analytical procedures.

Sampling parameters are listed, but analytical procedures to be used were not found.

(4) 206.C.1.c.(6) -- requires that ground-water surface elevations be determined at each monitoring well each time a sample is taken.

Second quarter measurements were not found in the file.

(5) 206.C.1.d.(2) -- requires the owner/operator to compare the indicator parameters for downgradient wells to determine any significant increase (or pH decrease) over initial background.

Navajo has submitted the statistical results of this comparison using sample results from 2/5/85 (3/6/85). Although the t* value was greater than the tc value for specific conductance in well #37 (indicating an increase), Navajo reported that no increase was observed. This well and parameter have previously triggered the TEL Weathering Area into an assessment phase.

Clarification and/or confirmation of these reported results is required under 206.C.1.d.(4).

(6) 206.C.1.e.(1)(b)(ii) -- requires that annual reports identify any significant difference from initial background values in the upgradient wells.

This information did not appear to be separately identified.

Several problems were noted regarding Navajo sampling procedures and are described below:

- The bailer used to collect samples was dirty and constructed of PVC pipe with a cork on the bottom. PVC is an inappropriate material to sample for volatiles due to its' adsorptive and desorptive properties. Cork will easily retain water and could cross-contaminate samples. A Teflon or stainless steel bailer is considered acceptable sampling equipment by EID.

- Navajo's procedure of introducing several gallons of ground water into a large container, transporting and filtering prior to containerizing tends to aerate the samples. This procedure was corrected during the June 25, 26, 27, 1985 sampling event.

- The sampling and analysis plan states that field parameters will be collected and stainless steel bailers used, neither of which has been done. If Navajo intends to change their sampling procedures, their sampling and analysis plan should reflect such adjustments.

- The facility representative sounded the depths of all nine wells. Six of these wells appeared deeper than the installation logs described them. Clarification of the actual depths of the wells is necessary.

An additional issue has come to EID's attention concerning Navajo's monitoring status. In accordance with Section 206.C.1.d.(9) an owner/operator is required to reinstate the original indicator evaluation program required by 206.C.1.c. and 206.C.1.d.(2) upon determination that no hazardous waste or hazardous waste constituents from the facility have entered the ground water.

Navajo was triggered into an assessment phase of ground water monitoring as a result of a statistically significant increase in specific conductance in well #37.

Navajo then returned to a detection phase following a limited assessment program. Statistical analysis using the Student's t-test was performed on two sets of samples collected from existing RCRA wells. Upon concluding that there had been no statistically significant increase in hazardous waste constituents, Navajo returned to detection monitoring. As discussed before, statistical analysis using only two data sets is not acceptable.

Additionally, the silt present in the wells may have interfered with the metals' analysis. Navajo had been filtering their metal samples to remove the silt. EPA recommended procedure for analysis of metals requires the reporting of total metals as a combination of metal concentration in the filtered residue and in the filtered liquid. Navajo did not combine these concentrations. Also, Navajo's aeration of the sample (introduction into a large container, transporting and filtering) would tend to "pull" metals out of solution as hydroxides. EPA samples from the June 1984 split sampling event were not filtered, were acidified at the well head and subsequently detected levels exceeding Primary Drinking Water Standards in downgradient wells. Considering that an increase in specific conductance could be reflective of an increase in metals, and that the waste disposed at the TEL Weathering Area would be expected to contain high levels of metals, accurately quantifying metal concentrations is a salient issue.

The opportunity to demonstrate a "false positive" statistical result is acceptable only if the monitoring system is fully capable of detection. As previously mentioned, the screen depth, filter pack, sampling and statistical procedures indicate that this monitoring system is not fully capable of the detection required and, therefore, would not verify a "false positive". It follows that Navajo's return to a detection phase may not have been appropriate.

In accordance with Section 74-4-10 NMSA 1978, you have thirty (30) calendar days from receipt of this notice to provide documentation that the aforementioned violations have been addressed and/or request a hearing to negotiate a compliance schedule. This documentation should show that the following has been accomplished for items 1 through 8:

(1) Transmit analytical results to EID for review. Any further actions to be required in response to this matter will be contingent upon results of sampling during this evaluation. Navajo should be aware that the installation and sampling of additional ground water monitoring wells may be necessary.

(2) Determine the source of the organic constituents found in upgradient wells #31 and #35 and downgradient well #34. Further action by EID is pending the receipt of this determination.

(3) Submit analytical procedures to be included in the ground-water sampling and analysis plan.

(4) Submit 2nd quarter measurements of ground-water surface elevations.

(5) Submit clarification and/or confirmation of statistical results reported on 3/6/85.

(6) Identify any significant difference from initial background values in the upgradient wells.

(7) In addition to the issues discussed above, the following problems need to be addressed:

- A Teflon or stainless steel bailer must be substituted for the previously used PVC and appropriate decontamination procedures must be performed between the sampling of each well.

- Continue the sampling procedures performed during the June 25, 26, and 27, 1985 inspection (i.e. pouring samples in containers at well head, no filtering).

- Submit a sampling and analysis plan that reflects the actual procedures performed or follow the sampling and analysis plan in existence.

- Submit clarification of the installed and actual depths of the RCRA wells.

(8) Submit analytical results from sampling during this evaluation. Navajo agreed to analyze samples for parameters proposed in their assessment plan instead of for TOC.

If you fail to submit the documentation requested herein within the specified time frame or do not arrange for a legally binding compliance schedule within the required time frame, you shall be subject to one or more of the following:

(1) An order requiring compliance within a specified period, pursuant to Section 74-4-10 NMSA 1978;

(2) A civil action in district court for appropriate relief, including a temporary or permanent injunction, pursuant to 74-4-10 NMSA 1978; or

(3) The assessment of civil penalties up to $10,000 per violation for each day of continued non-compliance, pursuant to 74-4-10 NMSA 1978.

Compliance with the requirements of this notice does not relieve Navajo Refining Company of its obligation to comply with HWMR-2 in other activities which it carries on nor does it relieve Navajo Refining Company of its obligation to comply with any other applicable laws and regulations.

If you have any questions regarding this notice, please contact Alice Barr, Hazardous Waste Section, New Mexico Environmental Improvement Division, P.O. Box 968, Santa Fe, New Mexico 87504-0968, or call (505) 984-0020, ext. 340. Please also address to Alice Barr's attention any information you provide in response to this letter.

Sincerely,

Denise Fort

Denise Fort
Director

DF/AB/mt

cc: Pat Hull, EPA Region VI
Duff Westbrook, EID Legal
John E. Guinn, EID District IV

TONEY ANAYA
GOVERNOR

DENISE D. FORT
DIRECTOR

HEALTH ENVIRONMENT department

STATE OF NEW MEXICO

ENVIRONMENTAL IMPROVEMENT DIVISION
P.O. Box 968, Santa Fe, New Mexico 87504-0968
(505) 984-0020

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

August 2, 1985

Jack Reid, President
Navajo Refining Company
P. O. Drawer 159
Artesia, NM 88210

RE: Notice of Violation
EPA ID No. NMD048918817

Dear Mr. Reid:

On June 27, 1985 the New Mexico Environmental Improvement Division (EID) conducted a hazardous waste compliance inspection of Navajo Refining Company. This letter is EID's notice that, based on our recently completed review of the information obtained during the inspection, EID has determined that Navajo Refining Company has violated the provisions of the New Mexico Hazardous Waste Management Regulations (HWMR-2). The purpose of this letter is to delineate in writing the violations and to require Navajo Refining Company to comply with the New Mexico Hazardous Waste Act and HWMR-2.

The inspection indicated that the Navajo Refining Company is in violation of HWMR-2 as follows:

(1) 206.B.10.f. -- the contingency plan must include arrangements agreed to with local hospitals;
(2) 206.C.3.h.(1)(c) -- the post-closure plan must include the address of the post-closure facility contact;
(3) 206.C.3.e.(2) -- the closure cost estimate must be updated on an annual basis; and,
(4) 206.C.6.e.(1)(a) -- the freeboard level at the TEL surface impoundment must be checked daily.

In addition to the above-mentioned violations, analytical results of samples taken in January, 1985, indicate the presence of hazardous waste in the API separator effluent ditch and evaporation pond #1. These areas have, therefore, become subject to the regulatory requirements of HWMR-2.

It is EID's understanding that Navajo Refining Company has begun exploring alternative methods for the treatment of their API separator effluent in lieu of including the ponds and ditch in their Part B application. An appropriate compliance schedule shall be established incorporating realistic time constraints for these research needs.

In accordance with Section 74-4-10 NMSA 1978, you have thirty (30) calendar days from receipt of this notice to provide documentation that the aforementioned violations have been addressed and/or request a hearing to negotiate a compliance schedule. This documentation should show that the following has been accomplished for items 1 through 4:

(1) An agreement has been entered into with the local hospital;

(2) A copy of the updated section of the post-closure plan which includes the address of the post-closure plant contact;

(3) A copy of the updated closure cost estimate; and

(4) Certification, signed by the authorized facility representative, that the freeboard level at the TEL surface impoundment is being checked daily.

If you fail to submit the documentation requested herein within the specified time frame or do not arrange for a legally binding compliance schedule within the required time frame, you shall be subject to one or more of the following:

(1) An order requiring compliance within a specified period, pursuant to Section 74-4-10 NMSA 1978;

(2) A civil action in district court for appropriate relief, including a temporary or permanent injunction, pursuant to 74-4-10 NMSA 1978; or

(3) The assessment of civil penalties up to $10,000 per violation for each day of continued non-compliance, pursuant to 74-4-10 NMSA 1978.

Compliance with the requirements of this notice does not relieve Navajo Refining Company of its obligation to comply with HWMR-2 in other activities which it carries on nor does it relieve Navajo Refining Company of its obligation to comply with any other applicable laws and regulations.

An evaluation of the ground-water monitoring program will follow separately.

If you have any questions regarding this notice, please contact James Henderson, Hazardous Waste Section, New Mexico Environmental Improvement Division, P.O. Box 968, Santa Fe, New Mexico 87504-0968 , or call (505) 984-0020, ext. 340. Please also address to James Henderson's attention the information you provide in response to this letter.

Sincerely,

Richard Perkins
Acting Bureau Chief
Groundwater / Hazardous Waste Bureau

RP/JH/jh

cc: Pat Hull, EPA Region VI
Duff Westbrook, EID Legal
John E. Guinn, EID District IV

Devon

Mr. Anthony Argyropoulos 3-6-84

Dear Mr. Dry polchar

This letter will request permission for Navajo Refining Company to inspect the Environmental Engineering Division's file relating to Navajo Refining Company. The Company specifically wants to review the data relating to Navajo contained in the report of Petroleum Product Contamination [illegible]

Jud Carson

We looked at as much of the material as time would permit. We did not see the photos taken by Oscar Simpson. David or I will call Mr Jercinovic to determine how he verified the information contained in the Kranjcevich interview. Tom was not a company employee at the time he gave the interview and the information is not accompany estimate. Neither is anything in the Kranjcevich report based on any scientific data on file with your office, the ground water division, EPA and OCD here.

Thank you for your courtesy in making the file available

Jud

Veronica
Vigil

if doc stapled, postie will be on 1st pg, but copy all stapled pgs

if postie'd and paper clipped, only copy clipped pages

if original not stapled, do not staple copy, even though paper clipped together unless specified on postie

if original stapled, staple copy

Some documents are fragile and

MEMORANDUM OF MEETING OR CONVERSATION

Eddy County initialed

☒ Telephone ☐ Personal	Time 2:00 AM ☒ PM ☐	Date 8/3/83
Parties Involved	Affiliation	Telephone Number
TO: Dean Jercinovic	4913 Pastura NW Albuquerque NM 87107	
From: Tom Kranjcevich	Consultant—	345-5257 or 265-9000 (Home office) leave message with daughter Vicki

DISCUSSION: Navajo Refinery

Wanted to know status of permitting for Solv-Ex Tar Sands project— was interested in seeing if they needed him to coordinate their permitting needs.

He used to work as the Chief Environmentalist for Navajo Refinery (backyround is in electrical engineering almost M.S. in Environmental management w/ law degree). While there, he worked with Paul Yaniga (Groundwater Technology Inc - GTI) on the fuel recovery going on at Navajo. They have calculated, based on monitoring wells and other field data, that the refinery has approximately 100,000 BBLS of diesel (51 gravity) grade fuel beneath it. In addition, while he worked there, he knew of at least 3 incidents where at least 30,000 BBLS OF GASOLINE were lost from a pipeline. Pipeline is owned by Southern Gas— Found valves leaking and when they dug down found product between 12' to 18' — saturated — 71 gravity gasoline.

CONCLUSION or AGREEMENT: DES put in two recovery wells (for diesel grade) and between 11/20/82 and 4/6/83, they recovered 190,000 gallons diesel.

Distribution

Signed Dean E Jercinovic

M E M O R A N D U M

TO: Richard Perkins, Program Manager, Surveillance Section

FROM: Devon Jercinovic, Surveillance Section

DATE: March 5, 1985

SUBJ: NAVAJO REFINERY ABSTRACT FROM APPENDIX B, PETROLEUM-PRODUCT CONTAMINATION OF SOIL AND WATER IN NEW MEXICO, NMEID/GWH - 84/4

The abstract which appeared in the report is as follows:

Petroleum Refinery (T17S, R26E, 8 and 9)

A ground-water investigation being conducted by the company has documented petroleum-product contamination at the site as a result of spills, leaks, and ongoing disposal practices. The company is defining the nature and extent of the soil and ground-water contamination and has initiated recovery of petroleum products such as diesel fuel. The company has estimated, based on monitoring-well data, that at least 15,897,000 liters (4,200,000 gallons) of diesel fuel (51 gravity) lie beneath the site. A minimum of three pipeline leaks have been documented in which approximately 4,769,100 liters (1,260,000 gallons) of gasoline (71 gravity) were lost during each incident. The site is underlain by fluvial gravels, sands, silts, and clays. The depth to ground water is approximately three meters. (9,11)

The information for the abstract was obtained from the following sources:

1. NMEID Ground Water/Hazardous Waste Bureau, Hydrocarbon Files, Navajo Refinery, specifically, 8/3/83 memorandum to file detailing interview with Tom Kranjcevich, Chief Environmentalist for Navajo Refinery until approximately 4/83. Duties included assessment of petroleum product quantity beneath the facility, supervision of petroleum-product recovery operations, and implementation of all ground-water investigations at the facility.

2. NMEID Ground Water/Hazardous Waste Bureau, RCRA Files, Navajo Refinery, specifically, results of water quality analyses performed on waters from facility monitoring wells, joint field investigations by the NMEID and the USEPA.

3. Oil Conservation Division, Environmental Bureau, Navajo Refinery Discharge Plan File, specifically, field notes (and photographs) of Oscar Simpson, Water Resource Specialist

Should Navajo Refinery wish to provide the NMEID with data more current than that available in 1983, I will be happy to revise the abstract for the next publication.

HEALTH ENVIRONMENT department

STATE OF NEW MEXICO
ENVIRONMENTAL IMPROVEMENT DIVISION
P.O. Box 968, Santa Fe, New Mexico 87504-0968
(505) 984-0020
Russell F. Rhoades, MPH, Director

TONEY ANAYA
GOVERNOR

ROBERT McNEILL
SECRETARY

ROBERT L. LOVATO, M.A.P.A.
DEPUTY SECRETARY

JOSEPH F. JOHNSON
DEPUTY SECRETARY

INSPECTION REPORT:

BY: JACK ELLVINGER, ENVIRONMENTAL SCIENTIST, HAZARDOUS WASTE UNIT

RE: NAVAJO REFINERY

DATE: MARCH 14, 1983

On March 1-3,1983 thru March 3, 1983 Mike Michaud and Lynn Dee Lewis of EPA together with Oscar Simpson of OCD and Pat Longmire and I from EID participated in a sampling inspection of the Navajo Refinery in Artesia. Navajo Refinery was represented primarily by Thomas Kranjcevich, their Chief Environmentalist and David Griffin who heads up Navajo's Laboratory.

During the paper work and walk-through tour portions of the inspection several points were raised that are of interest:

1. Until now the cooling tower blow down and their sludges were not considered hazardous waste. The blow down at the point of discharge should have a similar concentration of chemicals and metals as the water in the towers, i.e. 15 ppm chromates.

2. The sludge in the ditch as well as the evaporation ponds are considered non-hazardous waste and disposal sites, even though they receive the blow down water.

3. Samples taken for metals in the past were not properly preserved with acid to keep the chromates in solution.

4. Navajo has no idea (that they want to discuss) concerning the amount of product and crude that is lost through spills, overfills and leaks.

5. This facility currently has three recovery wells in operation. Recovery operations began August 22, 1982. Well A currently does not have any product in it. It is dry. Initially it had 2.5 feet of product. Draw down from the other two recovery wells, B and G, are the probable cause for A drying up. Well B has 3.89 feet of product in it and well G has 2.51 feet of product in it. Tom Kranjcevich made the statement that all the groundwater under Navajo is probably contaminated to some extent.

6. Material being recovered closely resembles diesel fuel. In excess of 100,000 gallons of product has been recovered to date.

7. Navajo is considering the use of a waste pile to weather their TEL wastes and close their present TEL pit.

8. The inspection showed that Navajo's up gradient ground water monitoring wells to be very close to the disposal operations. It was my opinion that these up gradient wells had to be influenced by the facilities due to their proximity and possible reverse flow of the ground water due to the influence of the recovery wells further up gradient. Pat Longmire agreed with this citing that the ground water flow would be slow due to flatness of the area and that a certain amount of mounding would result from the placement of liquids in this facility.

9. An elevated cyanide level has been detected. Navajo does not use cyanide in their process but contend that it is produced by reactions taking place in their fluid catalytic cracker (FCC) unit.

10. In one area, where a large asphalt leak had developed in a storage tank, the facility had dug pits to contain the leak. In digging down they ran into hydrocarbon seeping up. This occurred at approximately 10 feet, three to four feet from the ground water level.

JE/ps

ENVIRONMENT department

STATE OF NEW MEXICO
ENVIRONMENTAL IMPROVEMENT DIVISION
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Thomas E. Baca, M.P.H., Director

Bruce King
GOVERNOR

George S. Goldstein, Ph.D.
SECRETARY

Larry J. Gordon, M.S., M.P.H.
DEPUTY SECRETARY

MEMORANDUM

TO: RAYMOND R. SISNEROS, HEALTH PROGRAM MANAGER, PEM SECTION

FROM: JACK ELLVINGER, ENVIRONMENTAL SCIENTIST, HAZARDOUS WASTE UNIT

RE: CALL FROM OSCAR SIMPSON OCD

DATE: DECEMBER 10 1982

I received a call from Oscar Simpson of OCD today. We discussed both the Plateau and Navajo Refineries. In discussing Plateau he informed me that ground water in the Refinery area exceeds the WQCC ground water standards for lead. One area sampled near a disposal pit, where recently approximately eight dump truck loads of sludge from their two oily ponds was disposed of, was in excess of eighteen parts per million of lead. He expressed his concern over the actual concentration in the sludge itself. Mr. Simpson said that he had been in contact with Scott Nicholson, EPA, on this and would transmit his findings to him. I suggested that as a next step the Hazardous Waste staff take some samples of the sludge that was recently disposed of and covered in the dry pit.

Mr. Simpson also mentioned that he was in possession of an aerial photo of the Navajo Refinery that clearly shows a sludge disposal pit. To my knowledge Navajo has never mentioned a sludge disposal pit in its notification or inspections. There is a possibility that this pit may be in violation of Hazardous Waste Regulations. I asked Mr. Simpson if this (the sludge pit) was the land farm or effluent pond areas to which he emphatically replied "No!"

Further discussion with Mr. Simpson brought out the following. According to Mr. Simpson a review of their regulations by their attorney indicated that they (OCD) only had regulatory control over produced brine water at the well head. He said EID had a lot of mistaken impressions concerning OCD's regulatory powers.

I invited Mr. Simpson to attend our sampling inspection of Navajo Refinery early next year, which he eagerly accepted and suggested we all get together and discuss these and other problems we may have in common.

JE/ps

cc: Plateau Refinery File
Navajo Refinery File

STATE OF NEW MEXICO
HEALTH AND ENVIRONMENT

MEMORANDUM

DATE: 5/17/84

TO: Bill Walker, General Counsel

FROM: Steven Asher, EID Director

SUBJECT: JOEL CARSON'S PHONE CALL

RECEIVED

MAY 18 1984

Office of General Counsel
Health and Environment Departmen

Whether EID/HED has any jurisdiction over spills at refineries does not turn on either what was said or done at the May 8, 1984 Water Quality Control Commission Meeting (nor whether "produced waters" exist). Although on May 8, the Commission changed some language pertaining to the scope of delegation to OCD under the Water Quality Act, it basically left unchanged the language in effect since, at least, May 1981, which stated, in pertinent part, "The OCD will administer through delegation all Commission regulations pertaining to surface and ground water at refineries . . . . This language and the language adopted on May 8, 1984 are attached for your information.

Thus, unless the Water Quality Control Commission changes its delegation (e.g., after our report at the June 5, 1984 meeting), I doubt EID has any jurisdiction - even over spills, (even if there is no "produced water") - under the Water Quality Control Commission regulations.

However, you folks are the Department's lawyers. Let me know, if you disagree. Furthermore, the Water Quality Control Commission's delegation to OCD, obviously, does not restrict any jurisdiction we may have under the Hazardous Waste Act, public nuisance, superfund, or other source of law.

Please let me know what you decide.

SA:cl

Enclosures

cc: Richard Holland
Tony Drypolcher
Ann Young

"Notice" for a hearing before the NM Water Quality Control Commission at their [illegible], 1981 meeting

The Oil Conservation Division will administer through delegation all Commission regulations pertaining to surface and ground water at refineries, geothermal installations, and carbon dioxide facilities and natural gas transmission lines.

The EID will administer regulations pertaining to the disposal of human excrement and bath water into surface or ground water at the above mentioned facilities when the treatment facilities for the sewage are a separate discharge stream, i.e., such as a small sewage treatment plant, package plant or septic tank and drainfield. If the sewage is in a combined waste stream, the OCD will have jurisdiction.

The EID will administer Commission regulations regarding discharges to ground or surface water from gas stations and oil or oil by-products transmission lines after refinement.

Mr. Reynolds moved that the Commission delegate the enforcement of these regulations to the Oil Conservation Division and the Environmental Improvement Division in accordance with the proposal placed before the Commission at this meeting. Mr. Johnson seconded the motion. The motion was unanimously adopted.

SEPTEMBER 13, 1983 WQCC Meeting

Mr. Reynolds came back to the Commission with new language as follows: An amendment to the May 1981 action whereby it would be rescinded and readopted if the Commission approved. "The Oil Conservation Division will administer through delegation all Commission regulations pertaining to surface and ground water at natural gas processing plants, geothermal installations, carbon dioxide facilities and natural gas transmission lines. The EID will administer regulations pertaining to the disposal of human excrement and bath water into surface or ground water at the above mentioned facilities when the treatment facilities for the sewage are a separate discharge stream, i.e., such as a small sewage treatment plant, package plant or septic tank and drainfield. If the sewage is in a combined waste stream with produced water, the OCD will have jurisdiction. The EID will administer Commission regulations regarding discharges to ground or surface water from brine manufacturing wells and oil refineries, oil or oil by-products transmission lines after refinement. Mr. Ramey moved that the Commission rescind the previous delegation and adopt the delegation as read by Mr. Reynolds. Mr. Reynolds seconded the motion. Mr. Ramey withdrew his other motion and Mr. McNall withdrew his second of the

HEALTH ENVIRONMENT department

STATE OF NEW MEXICO

ENVIRONMENTAL IMPROVEMENT DIVISION
P.O. Box 968, Santa Fe, New Mexico 87504-0968
(505) 984-0020

TONEY ANAYA
GOVERNOR

DENISE D. FORT
DIRECTOR

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
No. 612 424 527

December 5, 1984

Joel Carson
300 American Home Building
Post Office Drawer 239
Artesia, New Mexico 88211

Re: Gasoline Contamination, Navajo Refinery

Dear Mr. Carson:

This letter is in response to your letter of May 17, 1984. At the outset, I would like to express the EID's appreciation for the steps your client has taken and is presently taking to recover free-floating petroleum products from the ground water underlying the Navajo Refinery site. In addition, I will address the concerns raised by your letter.

First, although the Oil Conservation Division has retained jurisdiction over refineries insofar as the Water Quality Act and regulations promulgated thereunder are concerned, the EID has jurisdiction over the Navajo Refinery pursuant to New Mexico's public nuisance statutes and the New Mexico Hazardous Waste Act. Second, the quoted statement by Secretary Goldberg did not and was not intended to refer to Navajo Refinery. Third, if your client wishes to see the technical data upon which our letter of May 9, 1984 was based, that data is available for inspection and copying upon request. It is located in the EID's files in Santa Fe.

In addition to the above concerns, your letter inquired into what would be expected of your client if it entered into a compliance agreement. Basically, a compliance agreement would require Navajo Refining Company to take remedial steps in addition to the steps presently being taken to recover free-floating petroleum products. Such an agreement would require your client to institute steps to remove hydrocarbon contaminants which are in a dissolved phase. Given the cooperative attitude expressed in your letter, I trust Navajo's recovery efforts will go beyond its present free-floating product recovery.

Sincerely,

Duff Westbrook

DUFF WESTBROOK
Division Attorney

DW/sb

cc: Anthony Drypolcher, Chief, Ground Water/Hazardous Waste Bureau

STATE OF NEW MEXICO
HEALTH ENVIRONMENT

MEMORANDUM

DATE: 5/17/84

TO: Bill Walker, General Counsel

FROM: Steven Asher, EID Director

RECEIVED

MAY 18 1984

Office of General Counsel
Health and Environment Department

SUBJECT: JOEL CARSON'S PHONE CALL

Whether EID/HED has any jurisdiction over spills at refineries does not turn on either what was said or done at the May 8, 1984 Water Quality Control Commission Meeting (nor whether "produced waters" exist). Although on May 8, the Commission changed some language pertaining to the scope of delegation to OCD under the Water Quality Act, it basically left unchanged the language in effect since, at least, May 1981, which stated, in pertinent part, "The OCD will administer through delegation all Commission regulations pertaining to surface and ground water at refineries . . . . This language and the language adopted on May 8, 1984 are attached for your information.

Thus, unless the Water Quality Control Commission changes its delegation (e.g., after our report at the June 5, 1984 meeting?), I doubt EID has any jurisdiction - even over spills, (even if there is no "produced water") - under the Water Quality Control Commission regulations.

However, you folks are the Department's lawyers. Let me know, if you disagree. Furthermore, the Water Quality Control Commission's delegation to OCD, obviously, does not restrict any jurisdiction we may have under the Hazardous Waste Act, public nuisance, superfund, or other source of law.

Please let me know what you decide.

SA:cl

Enclosures

cc: Richard Holland
Tony Drypolcher
Ann Young

Proposal for hearing before the NM Water Quality Control Commission at their May 12, 1981 meeting

The Oil Conservation Division will administer through delegation all Commission regulations pertaining to surface and ground water at refineries, geothermal installations, and carbon dioxide facilities and natural gas transmission lines.

The EID will administer regulations pertaining to the disposal of human excrement and bath water into surface or ground water at the above mentioned facilities when the treatment facilities for the sewage are a separate discharge stream, i.e., such as a small sewage treatment plant, package plant or septic tank and drainfield. If the sewage is in a combined waste stream, the OCD will have jurisdiction.

The EID will administer Commission regulations regarding discharges to ground or surface water from gas stations and oil or oil by-products transmission lines after refinement.

Mr. Reynolds moved that the Commission delegate the enforcement of these regulations to the Oil Conservation Division and the Environmental Improvement Division in accordance with the proposal placed before the Commission at this meeting. Mr. Johnson seconded the motion. The motion was unanimously adopted.

SEPTEMBER 13, 1983 WQCC Meeting

Mr. Reynolds came back to the Commission with new language as follows: An amendment to the May 1981 action whereby it would be rescinded and readopted if the Commission approved. "The Oil Conservation Division will administer through delegation all Commission regulations pertaining to surface and ground water at natural gas processing plants, geothermal installations, carbon dioxide facilities and natural gas transmission lines. The EID will administer regulations pertaining to the disposal of human excrement and bath water into surface or ground water at the above mentioned facilities when the treatment facilities for the sewage are a separate discharge stream, i.e., such as a small sewage treatment plant, package plant or septic tank and drainfield. If the sewage is in a combined waste stream with produced water, the OCD will have jurisdiction. The EID will administer Commission regulations regarding discharges to ground or surface water from brine manufacturing wells and oil refineries, oil or oil by-products transmission lines after refinement. Mr. Ramey moved that the Commission rescind the previous delegation and adopt the delegation as read by Mr. Reynolds. Mr. Reynolds seconded the motion. Mr. Ramey withdrew his other motion and Mr. McNall withdrew his second of the

HEALTH ENVIRONMENT Department

STATE OF NEW MEXICO

ENVIRONMENTAL IMPROVEMENT DIVISION
P.O. Box 968, Santa Fe, New Mexico 87504-0968
(505) 984-0020

Steven Asher, Director

TONEY ANAYA
GOVERNOR

JOSEPH GOLDBERG
SECRETARY

TED GUAMBANA
DEPUTY SECRETARY

JOSEPH F. JOHNSON
DEPUTY SECRETARY

M E M O R A N D U M

TO: Tony Drypolcher, Acting Bureau Chief, Ground Water/Hazardous Waste Bureau

FROM: Charles Nylander, Chief, Surface Water Quality Bureau

RE: OCD-EID WQCC Delegations

DATE: May 5,1984

Tony, the following delegation language in historical order, has been excerpted from the WQCC minutes. This information provides some historical background to the proposed motion which was tabled at the September, 1983 WQCC meeting.

I have prepared the attached motion for Asher, which could be used, depending on OCD's action at the May, 1984 meeting. I believe that some all-inclusive delegation resolution would be helpful in any case to clarify the Commission's position. Additionally, it may be worthwhile to clarify the NPDES delegation solely to EID.

Good Luck.

> Mr. Gordon moved that the New Mexico Oil Conservation Commission be assigned the responsibility for administering regulations of the N.M. Water Quality Control Commission concerning the pollution of water resulting from activities associated with the exploration for or development, production, transportation, refining, storage, or treating of oil or gas or oil or gas products. This includes the production, handling, transportation, storage, or disposition of water containing salt or other mineralized or chemical substances produced or used in the exploration, development, production, transportation, refining, storage, or treating of oil or gas, or oil or gas products. Mr. Rierson seconded the motion, and it carried.

PROPOSED MOTION

The Oil Conservation Division will administer through delegation all Commission regulations pertaining to surface ~~and ground water at~~ natural gas processing plants, oil refineries, geothermal installations, carbon dioxide facilities and natural ~~gas~~ transmission lines. The EID will administer regulations pertaining to the disposal of human excrement and bath water into surface or ground water at the above-mentioned facilities when the treatment facilities for the sewage are a separate discharge stream, i.e. such as a small sewage treatment plant, package plant or septic tank and drainfield. If the sewage is in a combined waste stream with produced water, the OCD will have jurisdiction. The EID will administer Commission regulations regarding discharges to ground or surface water from brine manufacturing wells, gas stations, and oil or oil by-products transmission lines after refinement.

Tony, please note that at the September 13, 1983 Commission meeting, Mr. Ramey said he was polling gas transmission line companies and oil refineries concerning quantities of discharges and amount of produced water and that he would share this information with the Commission.

CLN:fmg

The EID will administer through delegation all Commission regulations pertaining to surface and ground water at oil refineries, natural gas processing plants, geothermal installations, carbon dioxide facilities and natural gas transmission lines, except that the EID will administer Commission regulations pertaining to the disposal of human excrement and bath water into surface or ground water at the above-mentioned facilities when the treatment facilities for the sewage are a separate discharge stream, i.e. such as a small sewage treatment plant, package plant or septic tank and drainfield. If the sewage is in a combined waste stream with produced water, the OCD will have jurisdiction. The EID will administer Commission regulations regarding discharges to ground or surface water from brine manufacturing wells and transmission and storage facilities (including, but not limited to gasoline stations) used for refined oil products, except those within the refinery premises.

Excerpt of Minutes of 5/8/84 WQCC meeting

fmg

LAW OFFICES
LOSEE, CARSON & DICKERSON, P. A.
300 AMERICAN HOME BUILDING
P. O. DRAWER 239
ARTESIA, NEW MEXICO 88211-0239

AREA CODE 505
746-3508

A. J. LOSEE
JOEL M. CARSON
CHAD DICKERSON
DAVID R. VANDIVER
ELIZABETH LOSEE
REBECCA DICKERSON

17 May 1984

Mr. William G. Walker
General Counsel
Department of Health
and Environment
P. O. Box 968
Santa Fe, New Mexico 87504-0968

Dear Mr. Walker:

As I said on the telephone yesterday, this office represents Navajo Refining Company which received your letter dated May 9, 1984.

Navajo reports to the New Mexico Oil Conservation Division of the Energy and Minerals Department insofar as the Water Quality Control Act is concerned. We understand that at a meeting of the Water Quality Control Board on May 8 it was decided that OCD would retain jurisdiction over refineries and that EID would have jurisdiction only over product storage and product lines after they left the plant.

Navajo is subject to the control of the EPA at the present time insofar as hazardous wastes are concerned. Navajo has been reporting to EPA in Dallas and as a matter of comity has been furnishing the EID with copies of its reports. Navajo is not to its knowledge polluting any of the public waters of this state.

In a press release to the Albuquerque Journal Secretary Goldberg is alleged to have stated:

> "We've had negotiations for as long as a year and there is no movement (to settle)."

There have been no negotiations with Navajo concerning the matters mentioned in the letter and, as I mentioned on the telephone, we have not been made privy to the investigative report described in your letter and at this time Navajo is at a loss to determine the authority for Secretary Goldberg's action or the reasons why his department is concerned about Navajo.

Before responding more formally to your letter or to Anthony Drypolcher as required by your letter, Navajo would appreciate it if you would supply us with:

(a) an explanation as to what laws Navajo has violated and the authority under which you are proposing to act in accomplishing the matters outlined in your letter of May 9, 1984.

(b) a copy of the investigation report which indicates that "Navajo has discharged contaminants to subsurface soil or ground water" and some sort of explanation as to how those discharges, if there are any, are subject to the jurisdiction of your agency.

(c) a statement as to what you would expect Navajo to do if it were to be required to enter into a compliance agreement.

As I stated on the telephone, Navajo has no intention of harming anyone. It has, for many years, been testing and making reports to the OCD and EPA and their predecessor agencies. We are now faced with a new assertion of jurisdiction by an agency which has not heretofore sought to exercise jurisdiction over Navajo since the OCD assumed control over the refinery. We are now faced with proposed legal action within 15 days if we do not properly respond to an investigation and investigation report about which we have no knowledge.

If we can work together for a common goal once Navajo understands the nature of the charge and the reasons why it is being charged, we will try to cooperate; but first Navajo needs to know the answers to the questions posed above so that it can make a reasonable answer to the letter of May 9, 1984.

Yours truly,

LOSEE, CARSON & DICKERSON, P.A.

Joel M. Carson

JMC:bjk

cc: Mr. Anthony Drypolcher

STATE OF NEW MEXICO
GOVERNOR'S CABINET
SANTA FE
87503
984-0020

TONEY ANAYA
GOVERNOR

JOSEPH GOLDBERG
SECRETARY
FOR HEALTH & ENVIRONMENT

May 9, 1984

CERTIFIED MAIL

Mr. J.P. Reid
Navajo Refining Co.
P.O. Drawer 159
Artesia, New Mexico 88210

RE: Navajo Refinery, Artesia, NM

Dear Mr. Reid:

Our investigation indicates your facility has discharged hydrocarbon contaminants to subsurface soil or ground water. These discharges constitute violations of state law, including the New Mexico Water Quality and Hazardous Waste Acts and the regulations adopted under those acts. Additionally, such conduct amounts to a public nuisance for which civil and criminal sanctions may be applicable to you.

These state laws and regulations, when violated, require the party responsible for the discharge to undertake remedial steps to restore and reclaim the contaminated soil and ground water in order to preserve and protect the public health, safety, welfare and property. To avoid litigation and pursuant to statute we are seeking your voluntary cooperation in the analysis of the discharge and the appropriate remedial steps necessary to eliminate the present contamination.

Within 15 days from the date of this letter please contact, in writing, Anthony Drypolcher, Acting Chief, Ground Water Hazardous Waste Bureau, at P.O. Box 968, Santa Fe, New Mexico 87504-0968, to make arrangements to supply us with the required data and information to structure a compliance agreement. This agreement will detail the phased schedule and remedial measures necessary to eliminate the existing and potential contamination at your facility. If we do not obtain your voluntary compliance to eliminate the environmental hazards caused by your discharge, we will proceed with legal action.

Sincerely,

William G. Walker
General Counsel

William L. McClain
Attorney

Conoco Inc.
P.O. Box 2197
Houston, TX 77252

May 23, 1984

Mr. Anthony Drypolcher
Acting Chief
Ground Water Hazardous Waste Bureau
P. O. Box 968
Santa Fe, New Mexico 87504-0968

Re: Navajo Refinery, Artesia, NM
Paul's Place Service Station, Tome, NM

Dear Mr. Drypolcher:

The purpose of this letter is to respond to the attached request from Mr. William G. Walker concerning the above referenced facilities. Unfortunately, Mr. Walker's letter was sent to a Stamford, Connecticut address of a former Conoco office, and thus our receipt of the letter was substantially delayed. As such, we have had a very limited time to review our records and provide you with a response within the requested time.

Our records do indicate that Conoco at one time owned and operated a petroleum refining facility in Artesia, New Mexico. We have no present records which would indicate the environmental conditions at the Artesia facility. We would appreciate receiving any information you have which indicates that an environmental problem presently exists at the site. Notwithstanding our lack of any evidence that Conoco's activities caused any environmental problem at the Artesia facility, I would like to assure you that to the extent that Conoco-generated hazardous substances at the Artesia facility are shown to be presenting an endangerment to human health or the environment, we will cooperate with reasonable evaluative and/or corrective efforts.

Our records do not indicate that Conoco owns or operates Paul's Place Service Station in Tome, New Mexico. We would appreciate receiving the information upon which you have based the assertion that Conoco is responsible for the Tome facility. Until we receive such information, we are unable to adequately respond to Mr. Walker's letter.

Please forward all correspondence and any further questions concerning this matter to me. My phone number is 713/965-1023.

Sincerely,

Wm. L. McClain

/bjc

cc: Wm. G. Walker

STATE OF NEW MEXICO
GOVERNOR'S CABINET
SANTA FE
87503
505- 984-0020

TONEY ANAYA
GOVERNOR

JOSEPH GOLDBERG
SECRETARY
FOR HEALTH & ENVIRONMENT

May 9, 1984

CERTIFIED MAIL

Conoco Inc.
High Ridge Park
Box 1050
Stanford, CT 06904

RE: Navajo Refinery, Artesia, NM
Paul's Place Service Station, Tome, NM

Dear Sir:

Our investigation indicates your facility has discharged hydrocarbon contaminants to subsurface soil or ground water. These discharges constitute violations of state law, including the New Mexico Water Quality and Hazardous Waste Acts and the regulations adopted under those acts. Additionally, such conduct amounts to a public nuisance for which civil and criminal sanctions may be applicable to you.

These state laws and regulations, when violated, require the party responsible for the discharge to undertake remedial steps to restore and reclaim the contaminated soil and ground water in order to preserve and protect the public health, safety, welfare and property. To avoid litigation and pursuant to statute we are seeking your voluntary cooperation in the analysis of the discharge and the appropriate remedial steps necessary to eliminate the present contamination.

Within 15 days from the date of this letter please contact, in writing, Anthony Drypolcher, Acting Chief, Ground Water Hazardous Waste Bureau, at P.O. Box 968, Santa Fe, New Mexico 87504-0968, to make arrangements to supply us with the required data and information to structure a compliance agreement. This agreement will detail the phased schedule and remedial measures necessary to eliminate the existing and potential contamination at your facility. If we do not obtain your voluntary compliance to eliminate the environmental hazards caused by your discharge, we will proceed with legal action.

Sincerely,

William G. Walker
General Counsel

STATE OF NEW MEXICO
GOVERNOR'S CABINET
SANTA FE
87503
984-0020

TONEY ANAYA
GOVERNOR

JOSEPH GOLDBERG
SECRETARY
FOR HEALTH & ENVIRONMENT

May 9, 1984

CERTIFIED MAIL

Holly Corp.
2600 Diamond Shamrock Tower
717 N. Harwood
Dallas, TX 75201

RE: Navajo Refinery, Artesia, NM

Dear Sir:

Our investigation indicates your facility has discharged hydrocarbon contaminants to subsurface soil or ground water. These discharges constitute violations of state law, including the New Mexico Water Quality and Hazardous Waste Acts and the regulations adopted under those acts. Additionally, such conduct amounts to a public nuisance for which civil and criminal sanctions may be applicable to you.

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Sincerely,

William G. Walker
General Counsel

TELEPHONE
(505) 748-3311

TELETYPE
(910) 986-0990

Navajo REFINING COMPANY
501 EAST MAIN STREET • P. O. DRAWER 159
ARTESIA, NEW MEXICO 88210

March 12, 1985

Mrs. Devon E. Jercinovic
Surveillance Section
Environmental Improvement Division
P. O. Box 968
Santa Fe, New Mexico 87501-0968

Regarding: Hydrocarbon Recovery Information

Dear Mrs. Jercinovic:

This letter is to confirm our telephone conversations of Friday, March 8, 1985, and Tuesday, March 12, 1985, regarding facts on Navajo Refining Company's hydrocarbon recovery efforts. As we discussed, the only documentation of any amount of estimated fuel in the ground underneath the refinery is given on an AFE, a copy of which you should have received attached to a letter from me of March 8, 1985. This AFE was prepared to cover the installation of the first recovery wells to recover a plume of diesel fuel under Navajo's North Division and lists the estimated amount of fuel as around 16,000 barrels. Navajo has recovered 5,084 barrels of this estimated 16,000 barrels of diesel or 32%. Recovery operations at this site have now dwindled to about one barrel per month.

In my opinion, this operation has accomplished the following things:

1. Stopped the potential spread of the underground fuel.

2. Recovered most of the available fuel in the ground with recovery operations continuing.

3. Halted the threat of hydrocarbons seeping into Eagle Draw.

The figures we discussed concerning the other recovery operation at Navajo which is recovering a product more like gasoline were 3,250 barrels of product recovered to date from an area where a documented leak of approximately 10,000 barrels of product occurred about 20 years ago.

As I pointed out in our conversations, Navajo has determined that one of the major sources of these losses was underground transfer pipelines. Navajo does have an ongoing policy of replacing any underground lines in the refinery with lines in racks above the ground and we are about 90% complete in this effort. There are no known sources at this time contributing to the underground hydrocarbons.

I will be in touch with you as soon as a date is confirmed with Mr. David Boyer of the Oil Conservation Division for Navajo's demonstration of the subsurface geology in the refinery. In particular, we would like to demonstrate to you and Mr. Boyer that the hydrocarbons under the refinery are separated from the groundwater and to show you how and why the recovery wells are constructed.

Sincerely,

David G. Griffin
Superintendent of Environmental
Affairs and Quality Control

DGGr/cjo

cc: David Boyer
N.M. Oil Conservation Division
Joel Carson, Attorney

TELEPHONE
(505) 748-3311

Navajo REFINING COMPANY
501 EAST MAIN STREET • P. O. DRAWER 159
ARTESIA, NEW MEXICO 88210

TELETYPE
(910) 986-0990

October 26, 1984

Mr. David G. Boyer, Hydrogeologist
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

Dear Mr. Boyer:

Concerning our conversation of October 26, 1984, enclosed are copies of my file on the letter of accusations from William G. Walker, General Counsel of the Health and Environment Department.

The file consists of Walker's letter to both Navajo and our parent corporation, Holly, a copy of the May 9, 1984 Albuquerque Journal article, where we first learned of the situation (we received Walker's letter a couple of days after the newspaper article), and a copy of our reply by Joel Carson. To date, we have received no response to our reply.

I would appreciate being informed of any pending action on this matter you may know of.

Sincerely,

David G. Griffin
Superintendent of Environmental
Affairs and Quality Control

DGG/cjo
Enclosures

RECEIVED
OCT 30 1984
OIL CONSERVATION DIVISION
SANTA FE

TONEY ANAYA
GOVERNOR

STATE OF NEW MEXICO
GOVERNOR'S CABINET
SANTA FE
87503
984-0020

JOSEPH GOLDBERG
SECRETARY
FOR HEALTH & ENVIRONMENT

MAY 1 . 1984

NAVAJO REFINING CO.

May 9, 1984

CERTIFIED MAIL

Mr. J.P. Reid
Navajo Refining Co.
P.O. Drawer 159
Artesia, New Mexico 88210

RE: Navajo Refinery, Artesia, NM

Dear Mr. Reid:

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Sincerely,

William G. Walker
General Counsel

EIP
LN

STATE OF NEW MEXICO
GOVERNOR'S CABINET
SANTA FE
87503
984-0020

TONEY ANAYA
GOVERNOR

JOSEPH GOLDBERG
SECRETARY
FOR HEALTH & ENVIRONMENT

May 9, 1984

CERTIFIED MAIL

Holly Corp.
2600 Diamond Shamrock Tower
717 N. Harwood
Dallas, TX 75201

RE: Navajo Refinery, Artesia, NM

Dear Sir:

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Sincerely,

William G. Walker
General Counsel

UPI Telephoto

National Assembly Building During Standoff
endered After Killing 3, Injuring 14

winning 89 delegate votes in Ohio and 24 in Maryland.

Hart's spokeswoman, Kathy Bushkin, said she thought he'd won Indiana, adding, "We needed to show we could win in a Northern industrial state." Still, Ohio, with 154 delegates at stake, was the central battleground.

The Rev. Jesse Jackson was attracting more than three-quarters of the black vote, according to TV network interviews, but failed to garner significant white support.

The contests carried a prize of 368 delegates to the Democratic National Convention, the third richest single-day harvest of the campaign season.

In Ohio, with 40 percent of the votes counted, Hart had 41 percent; Mondale had 39 percent. Jackson had 18 percent.

Ohio was the key for Hart, who needed a big-state victory following a string of defeats that culminated in Saturday's Texas defeat. All three networks said the election would be very close.

In Ohio, with 154 delegates at stake, Hart led for 70, Mondale for 67 and Jackson for 11. Hart had 43 percent of the popular vote, to 41

anniversary of D-Day draws near, the English have been recalling the ...asion's "darkest secret," the ...ht German ...rpedo ...ats slip... ...into a ...-shrouded ...ay on the ...English ...annel coas... ...and ...pe... ...d th... ...landi... ...ra... ...prac... ...in ...r th... ...Norman... ...as... ...ult.

...At ...east ... ...American G... ...we... ...ed, more than the number who died five weeks later in the real invasion when their units stormed ashore on Utah Beach.

So disastrous was the attack that Gen. Dwight D. Eisenhower, the Allied commander, ordered it kept secret. The victims were buried in mass graves, and their families didn't learn the truth until years after the war.

It was just past midnight on April 28, 1944, when the convoy of landing craft chugged slowly into Lyme Bay on the Devon coast.

On board were soldiers of the U.S. 4th Division, mostly engineers, shifting heavy backpacks and peering into the pre-dawn mist. The target, Slapton Sands, had been chosen for its resemblance to Utah Beach.

At about 1:30 a.m., two flotillas of

Continued on A-3

oyalist forces, urces and Ital- ...id. **Page A-2.**

...lan Rejected

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	D-1, 2
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	B-4
	D-12

State May Sue 3 Gas Stations Over Tank Leaks

By DAVID STEINBERG
Of the Journal's
Capitol Bureau

SANTA FE — The state on Tuesday was preparing to file lawsuits against the owners of three service stations in Albuquerque, Socorro and Alamogordo, charging them with failure to prevent gasoline-storage tanks from leaking cancer-causing pollutants into the ground water.

At the same time, the state was notifying owners of a coal mine, an oil refinery, an equipment-cleaning business and other service stations to clean up similar tank-initiated pollutants or face the threat of a lawsuit.

"This is a very serious public health hazard. This may be one of the largest and most serious public haalth hazard of the 1980s," said Joseph Goldberg, secretary of tha state Health and Environment Department.

Lengthy negotiations with the three service-station owners are at an impasse and the lawsuits are a last resort to get the firms to clean up the pollution, Goldberg said.

State estimates of the cleanup cost at each of the three locations run from $10,000 to $1 million. It was uncertain if any costs would qualify under the requirements for federal Superfund pollution-cleanup money.

Bill Walker, HED chief counsel, identified the three stations as Gas N Save, 4257 Isleta SW, Albuquerque, owned by Charles Bass and

Continued on A-3

Did CIA Train Salvadoran Death Squads?

By DENNIS VOLMAN
Christian Science Monitor Service

Democratic Leader Warns Against Salvador Cuts: A-10

SAN SALVADOR, El Salvador — The U.S. Central Intelligence Agency and military advisers have helped organize and have financed, trained and advised special Salvadoran army and intelligence units which, although presumably set up for counter-intelligence purposes, subsequently engaged in death-squad activities.

These units frequently torture and sometimes kill Salvadoran citizens — apparently with the knowledge of their U.S. mentors.

These charges are made by two well-informed sources, one civilian and one military, closely connected with the upper reaches of the Salvadoran political and military power structure. Circumstantial evidence backing up their charges comes from sworn testimony given to the leading human-rights group in El Salvador, the legal protection division (Tutela Legal) of the Roman Catholic archbishop's office.

"How absurd you Americans are," the civilian source remarked bitterly. "With the one hand you send your vice president here to control the death squads, and with the other you participate in them."

His reference was to vice presi-

Continued on A-3

By coincidence, Los Angeles Olympic President Peter V. Ueberroth and the president of the International Olympic Committee, Spain's Juan Antonio Samaranch, were enroute to Washington, D.C. for a scheduled afternoon meeting with President Reagan at the time the Soviet announcement came. They promised a public statement later.

In Lausanne, Switzerland, International Olympic Committee officials said Tuesday that they had yet to receive official notification from the Soviets that they would not participate in this summer's games.

Another IOC official, who asked not to be named, questioned whether the Soviet statement definitely ruled out Soviet participation.

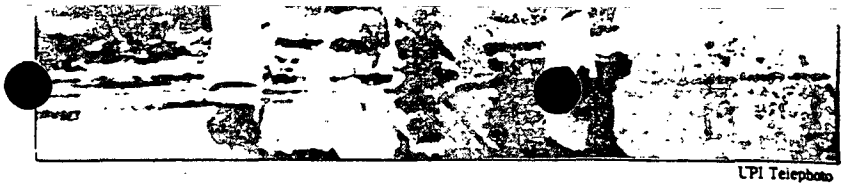
"I don't see it as a statement saying they will definitely not participate," the official said, requesting anonymity. "The statement really says that under prevailing conditions, the Soviets find it impossible, which doesn't radically alter what happened here a few weeks ago."

At the Los Angeles Olympic Organizing Committee offices, all reporters and unscheduled visitors were barred and a committee spokeswoman said no staff members would be permitted to make comment. Even messages were not being relayed from the front door inside.

Expressing pleasure at the Soviet decision were the leaders of the Southern California-based Ban the Soviet Coalition, which had worked since last fall to discourage the Soviets from coming to the games.

"We're overjoyed," said David Balsiger, the group's executive drector. "I'm sure they decided to pull out because the U.S. would not muzzle our coalition and agree to turn defectors back over to the KGB, which probably was the major reason they withdrew."

Some athletes reacted to the news with bitter disappointment. Al Oerter, a four-time gold-medal winner in the discus, said, "If other countries follow the Soviet lead, the games will be reduced to nothing more than a regional contest, similar to the way our pullout in 1980 reduced the Moscow games to nothing more than regionals. ... The games are in real jeopardy now."



UPI Telephoto

Bill Thorpe Jr., Gina Hemphill Run With Torch in New York City
Grandchildren of Olympic Greats Jim Thorpe and Jesse Owens

State May Sue 3 Gas Stations Over Tank Leaks

Continued From A-1

operated by Roberts Oil Co.; the Standard Transpipe station, owned and operated by Standard Transpipe Corp. and providing jet fuel for Holloman Air Force Base in Alamogordo; and the Chevron station, at 1101 California St., Socorro, owned and operated by Chevron USA.

The leaks occurred in rusting underground storage tanks during or since 1980, Walker said.

The pollutants that reportedly have seeped into the soil and ground water are toxic, carcinogenic, teratogenic and mutagenic, he said." Teratogens cause birth defects and mutagens cause enduring changes in gene structure, Walker said.

The Albuquerque South Valley station also poses a potential for explosion because gasoline vapors may be in nearby sewage pipelines, utility lines, and in crawlspaces and basements of homes, Walker said.

"Explosions could occur if somebody lights a match. We've got to get that vapor vented and out of there," he said.

The jet fuel believed emanating from the Alamogordo terminal has shown up in domestic wells of a community water system, Walker said

At the Chevron station in Socorro, 14,000 gallons of gasoline have leaked from the storage tank into the soil and ground water, he said. Officials could not provide amount of leakage at the other two stations.

Efforts to reach representatives of Gas N Save and Chevron were not successful.

Jim Wilson, manager of the Standard Transpipe jet-fuel terminal, said he couldn't comment on the proposed lawsuit. "I'm not informed and offically I don't know it is happening, though I've heard it may happen," Wilson said.

The complaint, which is to be filed on behalf of the Water Quality Control Commission and the Environmental Improvement Division, will ask that the companies be ordered to clean up the pollutants and pay fines.

Walker said the suits will ask for court orders for enforcement of the New Mexico Water Quality Act, the New Mexico Hazardous Act and the state Public Nuisance Act. The suits are to be filed in state District Courts in Bernalillo County, Socorro County and Otero County.

State law permits court action only after attempts to reach voluntary compliance with cleanup requests have failed.

We've had negotiations for as long as a year and there's no movement (to settle). I don't think that we're carrying out the public responsibility by continuing to negotiate. We're not seeing any headway," Goldberg said.

The following firms are being asked to voluntarily clean up pollution from leaking gasoline storage tanks:

Navajo Refining Co., Artesia; Paul's Place, a gas station in Tome; Chama Rainbow Gas Station; Chama Texaco station; Big Chief Fina, Albuquerque; ; the Texaco gas station eight miles west of Gallup owned by Indian Capital Distributing Co.; the owner of an abandoned Texaco station south on the Santa Fe Highway in Taos; The Country Kitchen restaurant which had operated a gas station at Arroyo Hondo, near Santa Fe; the Chevron service station at Pierce and Spring streets in Carlsbad; the Union 76 truck stop, Albuquerque; the Diamond Shamrock gas station, on California Street, Socorro; the Cal-Gas bulk gasoline terminal, 4120 Broadway SE, Albuquerque; the York Canyon coal mine near Raton; and the Hydrostatic Testing Co. which cleans oil-field equipment, Hobbs.

DGGR

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ELIZABETH LOSEE
REBECCA DICKERSON

17 May 1984

Mr. William G. Walker
General Counsel
Department of Health
and Environment
P. O. Box 968
Santa Fe, New Mexico 87504-0968

Dear Mr. Walker:

As I said on the telephone yesterday, this office represents Navajo Refining Company which received your letter dated May 9, 1984.

Navajo reports to the New Mexico Oil Conservation Division of the Energy and Minerals Department insofar as the Water Quality Control Act is concerned. We understand that at a meeting of the Water Quality Control Board on May 8 it was decided that OCD would retain jurisdiction over refineries and that EID would have jurisdiction only over product storage and product lines after they left the plant.

Navajo is subject to the control of the EPA at the present time insofar as hazardous wastes are concerned. Navajo has been reporting to EPA in Dallas and as a matter of comity has been furnishing the EID with copies of its reports. Navajo is not to its knowledge polluting any of the public waters of this state.

In a press release to the Albuquerque Journal Secretary Goldberg is alleged to have stated:

> "We've had negotiations for as long as a year and there is no movement (to settle)."

There have been no negotiations with Navajo concerning the matters mentioned in the letter and, as I mentioned on the telephone, we have not been made privy to the investigative report described in your letter and at this time Navajo is at a loss to determine the authority for Secretary Goldberg's action or the reasons why his department is concerned about Navajo.

Before responding more formally to your letter or to Anthony Drypolcher as required by your letter, Navajo would appreciate it if you would supply us with:

(a) an explanation as to what laws Navajo has violated and the authority under which you are proposing to act in accomplishing the matters outlined in your letter of May 9, 1984.

(b) a copy of the investigation report which indicates that "Navajo has discharged contaminants to subsurface soil or ground water" and some sort of explanation as to how those discharges, if there are any, are subject to the jurisdiction of your agency.

(c) a statement as to what you would expect Navajo to do if it were to be required to enter into a compliance agreement.

As I stated on the telephone, Navajo has no intention of harming anyone. It has, for many years, been testing and making reports to the OCD and EPA and their predecessor agencies. We are now faced with a new assertion of jurisdiction by an agency which has not heretofore sought to exercise jurisdiction over Navajo since the OCD assumed control over the refinery. We are now faced with proposed legal action within 15 days if we do not properly respond to an investigation and investigation report about which we have no knowledge.

If we can work together for a common goal once Navajo understands the nature of the charge and the reasons why it is being charged, we will try to cooperate; but first Navajo needs to know the answers to the questions posed above so that it can make a reasonable answer to the letter of May 9, 1984.

Yours truly,

LOSEE, CARSON & DICKERSON, P.A.

Joel M. Carson

JMC:bjk

cc: Mr. Anthony Drypolcher

bcc: Mr. Henry Stern
Mr. Wink Chamberlain
Mr. Jack P. Reid

HEALTH ENVIRONMENT department

STATE OF NEW MEXICO

ENVIRONMENTAL IMPROVEMENT DIVISION
P.O. Box 968, Santa Fe, New Mexico 87504-0968
(505) 984-0020

TONEY ANAYA
GOVERNOR

DENISE D. FORT
DIRECTOR

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

March 5, 1985

Navajo Refining Company
Attention: David Griffin, Environmental
Coordinator
P.O. Box 159
501 East Main
Artesia, New Mexico 88210

Re: Navajo Refining Company
NMD048918817
COMPLIANCE ORDER/SCHEDULE

Dear Mr. Griffin:

Enclosed herein is a COMPLIANCE ORDER/SCHEDULE filed against Navajo Refining (Navajo) pursuant to the New Mexico Hazardous Waste Act, Laws of 1977, ch. 313, presently compiled as 74-4-1 to 74-4-3, 74-4-4, 74-4-5, 74-4-8, 74-4-11 and 74-4-12 NMSA 1978. The Compliance Order/Schedule states that Navajo has failed to comply with the Hazardous Waste Regulations promulgated under the authority of the New Mexico Hazardous Waste Act. These violations are specifically set out.

You are required to respond to this Compliance Order/Schedule within the provided time frames. You may be subject to penalties of up to ten thousand ($10,000) dollars per day per violation for failure to comply with this Compliance Order/Schedule after expiration of those time frames. Note that each day the cited violations continue constitutes a new violation for which additional penalties may be imposed.

We await your response and are available for consultation on this matter. The Hazardous Waste staff can be reached at (505) 984-0020, Ext. 340. All inquiries should be addressed to Peter H. Pache.

Sincerely,

Denise Fort

Denise Fort
Director

DF/JE/mp

cc: Guanita Reiter, EPA, Region VI
Duff Westbrook, EID Legal
John Guinn, District IV
Dave Boyer, OCD

ENVIRONMENTAL IMPROVEMENT DIVISION

IN THE MATTER OF:	)	Docket Number
Navajo Refining	)	NMHWA 001005
Artesia, N.M.	)	
EPA ID # NMD048918817	)	COMPLIANCE ORDER / SCHEDULE

This Compliance Order / Schedule is issued pursuant to Section 74-4-10 of the New Mexico Hazardous Waste Act, Laws of 1977, ch. 313, NMSA 1978 by the authority delegated by the New Mexico Legislature to the Director of the Environmental Improvement Division (EID).

Complainant, the Director of the EID, has determined that Navajo Refining, EPA ID # NMD048918817, hereinafter referred to as Respondent, has violated the New Mexico Hazardous Waste Act and the regulations promulgated thereunder.

FINDINGS

1. Respondent is an owner or operator of a facility which generates and treats, stores and/or disposes of hazardous waste at its facility located at Artesia, New Mexico.

2. Pursuant to Section 202.B. & 202.D. of the New Mexico Hazardous Waste Regulations, Respondent timely notified EPA that it was a generator and treatment, storage and/or disposal facility for hazardous waste. That notification included a surface impoundment for the disposal of tetraethyl lead (TEL).

3. On or about June 6, 1984, Respondent was conducting business at its facility in Artesia, New Mexico.

4. On or about June 6, 1984, Respondent was inspected by New Mexico EID personnel to determine compliance with the Hazardous Waste Management Regulations (HWMR-2). The following items were found by the EID inspector to be in non-compliance:

   a. Section 206.C.6.b. requires treatment, storage, and/or disposal facilities that operate a surface impoundment to maintain a minimum of two feet of freeboard to prevent overtopping.

      At the time of the inspection, it was observed at the TEL surface impoundment that parts of the dike's freeboard were deteriorated to less than two feet. In addition, approximately five to six feet of the dike's freeboard was deteriorated to less than one foot. There was also evidence of overtopping of the dikes.

   b. Section 206.C.6.c. requires that earthen dikes and berms of surface impoundments have a protective cover to minimize wind and water erosion and to preserve their structural integrity.

At the time of the inspection, it was observed that the TEL surface impoundment dike did not have an adequate cover as was evidenced by the deteriorated dike.

5. On December 11, 1984, a Notice of Violation (NOV) was issued to the Respondent for violations found at the time of the inspection, particularly the violations noted at the TEL surface impoundment. In that NOV the opportunity for a meeting was extended to the Respondent.

6. A meeting was requested by the Respondent and subsequently held on January 9, 1985 in Santa Fe at the Complainant's office.

7. The main point of the December 11, 1984 NOV, the January 9, 1985 meeting, and this compliance order/schedule was/is to bring the TEL surface impoundment into compliance with HWMR-2.

8. The January 9, 1985 meeting covered two possible options for bringing the TEL surface impoundment into compliance with HWMR-2: (A) correction of the freeboard dike covering violations and cleanup of material outside the impoundment; or (B) submit a closure plan and officially close the TEL surface impoundment. The Respondent expressed interest in the latter option.

9. The January 9, 1985 meeting discussed the disposal of hazardous waste from the TEL surface impoundment at the truck by-pass land farm. That land farm has not been used for hazardous waste disposal to date. It does have interim status because of the Respondent's initial notification.

COMPLIANCE ORDER / SCHEDULE

10. Based on the above findings the Complainant hereby issues this compliance order / schedule (New Mexico Hazardous Waste Act Section 74-4-10) to the Respondent. The following must be submitted by March 31, 1985:

A. The Respondent will submit to the EID a closure plan that meets the requirements of HWMR-2 (Section 206.D.2.&6.) for a closure plan, including post-closure ground-water monitoring.

B. The Complainant will review the closure plan in accordance with Section 206.C.2.c. (4) of HWMR-2.

C. The closure plan must include a schedule for the closure activities. This is required under Section 206.C.2.d. The Respondent has expressed that it will take approximately one year to dispose of the TEL surface impoundment contents on the land farm to prevent overloading. This time frame is in excess of the 180 days provided under the regulations and, therefore, requires a schedule to be submitted to, and approved by, the Director of the EID.

D. The closure plan's final date for completion of the TEL surface impoundment, including the submittal of the certification of closure by a registered professional engineer, must not exceed 2/1/86.

E. The Respondent must meet the requirements of HWMR-2 Section 206.D.9. for the truck by-pass land farm prior to closure of the TEL surface impoundment. Documentation demonstrating that these requirements have been met must be provided with the closure plan for the TEL surface impoundment. This documentation must include, but is not limited to:

a. Description of unsaturated zone monitoring;
b. A geological profile;
c. Cation exchange capacity; and,
d. A treatment demonstration.

11. Compliance with these requirements does not relieve the Respondent of its responsibilities under any other statutes or regulations. Compliance with this order will not necessarily fulfill the requirements for completion of the Respondent's Part B application for the truck by-pass land farm. It is recommended that the Respondent address this operation as if it were a permit operation. This will eliminate the necessity of doing additional work in the near future to comply with the Part B standards. Attached are comments on the Respondent's land farm Part B submittal. They will be of help in completing the tasks under this compliance order/schedule.

PENALTY

12. The EID, in accordance with its enforcement policy for the Hazardous Waste Section, has pursued this matter to the end of its administrative options. If for any reason the Respondent should default on any provision of the enclosed compliance order / schedule, the Complainant will file an action in District Court to enforce this order / schedule and seek court penalties pursuant to Section 74-4-12 (Civil Penalties) of the New Mexico Hazardous Waste Act which provides for a civil penalty of up to ten thousand ($10,000) dollars per day for each violation.

13. All correspondence relating to this compliance order / schedule shall be sent by Registered Mail or Certified Mail, return receipt requested, to the following address:

Peter H. Pache, Program Manager
Hazardous Waste Section
P.O. Box 968 - Crown Building
Santa Fe, New Mexico 87504-0968

Denise Fort

Denise Fort, Director
Environmental Improvement Division