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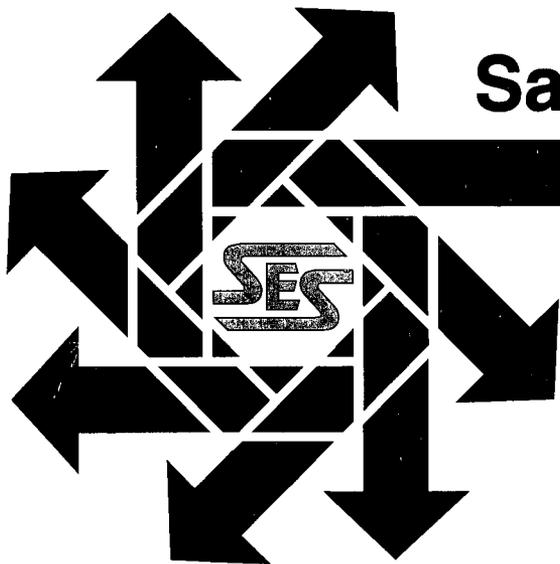
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# **REPORTS**

**DATE:**

*1998*

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**Safety & Environmental**

**Solutions, Inc.**

**COPY**

**Navajo Refining Company  
Pipeline Division**

**Abo 4" Closure Report  
Eddy County, New Mexico**

*Safety & Environmental Solutions, Inc.  
703 E. Clinton Suite 103  
Hobbs, New Mexico 88240  
(505) 397-0510*

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**I. Physical Description**

The legal description of the leak site is in Section 18 Township 17S, Range 27E, Eddy County, New Mexico. The site is located about 100 yards south of US Highway 82 along the west side of the Pecos River. The leak site is situated on a relatively level site. (Vicinity Map) The land is owned by State of New Mexico.

**II. Background**

There is no evidence of past historical leaks observed on the surface along the pipeline.

**III. Contaminant and Size of Leak**

The leak in the abandoned pipeline resulted in oil being discharged. Prior to our arrival onsite, the leak had been excavated by Navajo personnel to an area approximately 20 feet in width, 10 feet in width and 10 feet in depth. No evidence of other contaminants was observed upon our arrival.

**IV. Vertical and Horizontal Extent of Contamination**

On November 23, 1998, composite samples were taken at the bottom and sides of the excavation. Total Petroleum Hydrocarbons (EPA Method 418.1) was performed on these samples by a third party laboratory. These tests verify the extent of contamination and insure removal of the contaminants to an acceptable regulatory level.

A water sample was also taken at this time of the groundwater that had seeped into the excavated area. This sample was also taken to a third party laboratory for analysis.

The test results are as follows:

<u>Site</u>	<u>TPH</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>
South Side	<10ppm				
North Side	<10ppm				
Bottom	25.6ppm				
South East Side		<.002ppm	.004ppm	.004ppm	<.006ppm
South West Side		<.002ppm	<.003ppm	<.002ppm	<.006ppm

<b>South East Bottom</b>	<.002ppm	<.003ppm	<.002ppm	<.006ppm	
<b>South West Bottom</b>	<.002ppm	<.003ppm	<.002ppm	<.006ppm	
<b>North East Side</b>	<.002ppm	.004ppm	.004ppm	<.006ppm	
<b>North West Side</b>	<.002ppm	<.003ppm	<.002ppm	<.006ppm	
<b>North East Bottom</b>	<.002ppm	<.003ppm	<.002ppm	<.006ppm	
<b>North West Bottom</b>	<.002ppm	<.002ppm	<.002ppm	<.006ppm	
<b>Water</b>	22.3ppm	.061ppm	.117ppm	.051ppm	.075ppm

V. **Surface Water and Waterways**

The distance to the nearest surface water is approximately three eighths of a mile.

VI. **Groundwater**

The groundwater was encountered at a depth of approximately ten feet.

VII. **Soil Information**

The soil in the area consists of sandy clay to total excavation depth.

VIII. **Work Performed**

The initial sampling performed on November 23, 1998. As the water sample showed contamination, the site was evacuated of water and left open. On November 30, 1998, the water was resampled to confirm any potential contamination. Those results are as follows:

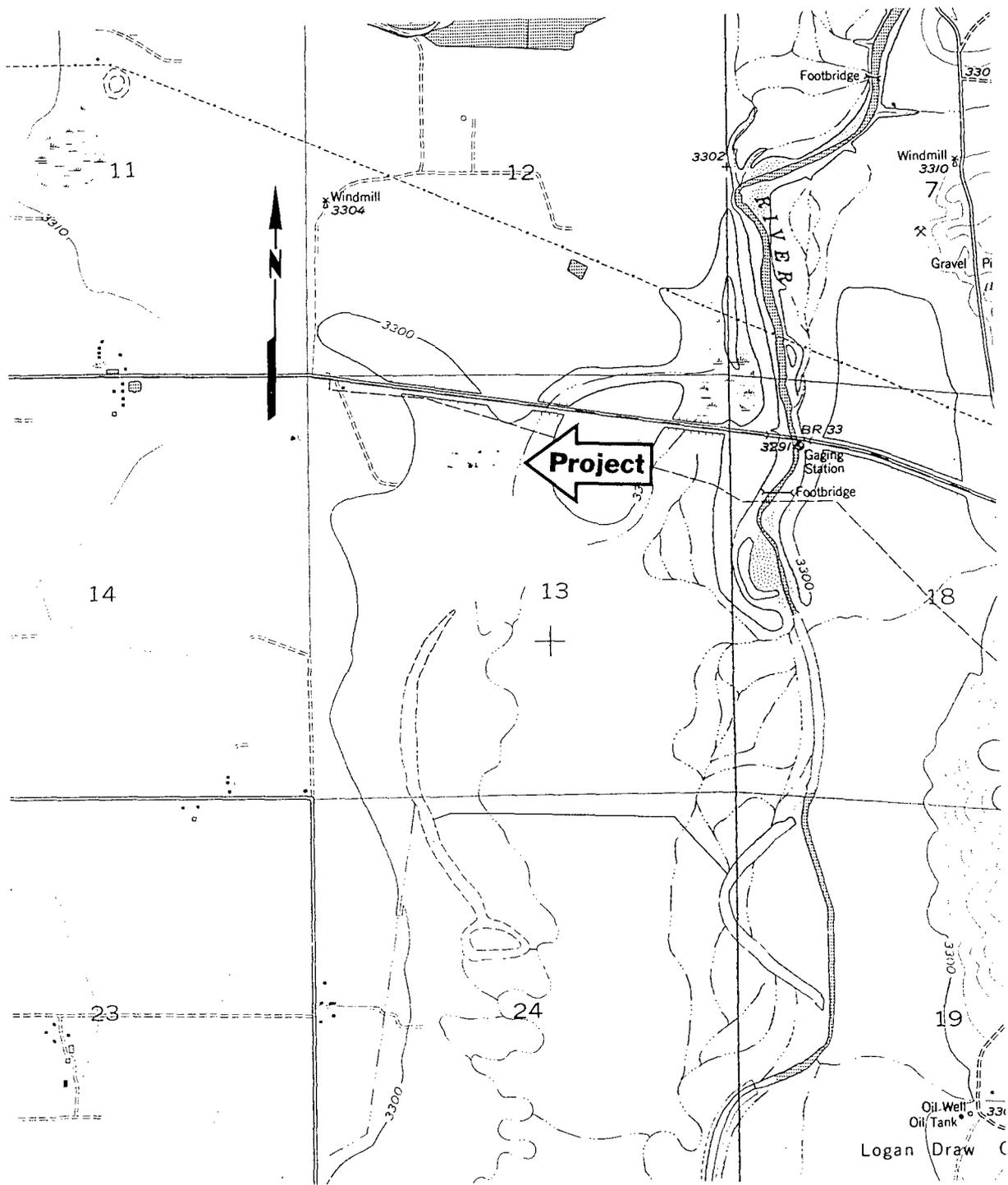
<u>Site</u>	<u>TPH</u>	<u>Benzene</u>	<u>Ethyl Toluene</u>	<u>Total Benzene</u>	<u>Xylenes</u>
<b>Water</b>	<1.0ppm	<.002ppm	<.002ppm	<.002ppm	<.006ppm

Based upon the results of the second water sampling, approval was received from the New Mexico Oil Conservation Division in Santa Fe, New Mexico for closure on the leak site.

The leak site excavation was then backfilled to grade by Navajo personnel with clean soils. The contaminated soils were hauled offsite to another Navajo property.

**IX. Maps and Figures**

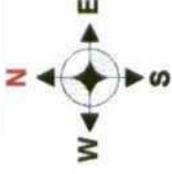
Vicinity Map  
Site Plan  
Photo Exhibits  
Chain of Custody for Samples  
Analytical Results



Navajo Refining Company  
Pipeline Division

Abo #4 Leak Site  
Vicinity Map

Safety & Environmental  
Solutions, Inc.  
Hobbs, NM



20'



10'

NOT TO SCALE

Navajo Refining Co.  
Pipeline Division

**Site Plan**  
**Abo #4 Discharge Leak**

Safety & Environmental Solutions,  
Inc. Hobbs, New Mexico



Abo #4 - During Excavation



Abo #4 - During Excavation



Abo #4 - After Excavation



Abo #4 - After Excavation



# ARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR  
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.  
ATTN: DEE WHATLEY  
703 E. CLINTON SUITE 103  
HOBBS, NM 88240  
FAX TO:

Receiving Date: 11/24/98  
Reporting Date: 11/30/98  
Project Number: NOT GIVEN  
Project Name: NAVAJO AB 4"  
Project Location: MILE POST 4.1

Sampling Date: 11/24/98  
Sample Type: SOIL\*  
Sample Condition: COOL & INTACT  
Sample Received By: AH  
Analyzed By: BC

LAB NO.	SAMPLE ID	TPH (mg/kg)	BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYL BENZENE (mg/kg)	TOTAL XYLENES (mg/kg)
ANALYSIS DATE:		11/24/98	11/24/98	11/24/98	11/24/98	11/24/98
H3944-1	SOUTH SIDE	<10	-	-	-	-
H3944-2	NORTH SIDE	<10	-	-	-	-
H3944-3	BOTTOM HOLE	25.6	-	-	-	-
H3944-4	GROUNDWATER*	22.3	0.061	0.117	0.051	0.075
H3944-5	SOUTH E. SIDE	-	<0.002	0.004	0.004	<0.006
H3944-6	SOUTH W. SIDE	-	<0.002	<0.003	<0.002	<0.006
H3944-7	SOUTH E. BOTTOM	-	<0.002	<0.003	<0.002	<0.006
H3944-8	SOUTH W. BOTTOM	-	<0.002	<0.003	<0.002	<0.006
H3944-9	NORTH E. SIDE	-	<0.002	<0.003	<0.002	<0.006
H3944-10	NORTH W. SIDE	-	<0.002	<0.003	<0.002	<0.006
H3944-11	NORTH E. BOTTOM	-	<0.002	0.003	0.002	<0.006
H3944-12	NORTH W. BOTTOM	-	<0.002	<0.002	<0.002	<0.006
Quality Control		240	0.101	0.105	0.105	0.312
True Value QC		260	0.100	0.100	0.100	0.300
% Recovery		92.3	101	105	105	104
Relative Percent Difference		5.6	5.9	3.2	11.1	9.6

METHODS: TRPHC - EPA 600/7-79-020, 418.1; BTEX - EPA SW846-8020, 8260

\*Except H3944-4 (Groundwater, in mg/L).

Chemist

11/30/98  
Date

H3944-1.XLS

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

**CARDINAL LABORATORIES, INC.**  
2111 Beechwood, Abilene, TX 79603  
(915) 673-7001 Fax (915) 673-7020

101 East Marland, Hobbs, NM 88240  
(505) 393-2326 Fax (505) 393-2476

FOR LAB USE ONLY		BILL TO		ANALYSIS REQUEST	
LAB I.D.	Sample I.D.	MATRIX	PRES.	DATE	TIME
H3944-5	South East Side	SOIL	✓	11-24-98	2:15
-6	South West Side	SLUDGE			
-7	South East Bottom	WASTEWATER			
-8	South West Bottom	GROUNDWATER			
-9	North East Side	OTHER			
-10	North West Side	ACID			
-11	North East Bottom	ICE / COOL			
-12	North West Bottom	OTHER			

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analysis. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Company Name: <u>SESI</u>	Project Owner: _____	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Additional Fax #: <input type="checkbox"/> Yes <input type="checkbox"/> No
Project Manager: <u>Dec White</u>	Project Location: <u>Mile Post 4.1</u>	Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	REMARKS:
Address: _____	City: _____ State: _____ Zip: _____	Company: _____	
Attn: _____	Phone #: _____	PO #: _____	
Address: _____			
City: _____			
State: _____			
Phone #: _____			
Fax #: _____			
Project Name: <u>Navejo ABO 4"</u>			
Project Location: <u>Mile Post 4.1</u>			
Received By: <u>Dec White</u>	Date: <u>11-24-98</u>	Time: <u>2:15</u>	Received By: (Lab Staff) - _____
Delivered By: (Circle One)	Date: <u>11/24/98</u>	Time: <u>2:15</u>	Checked By: (Initials) _____
Sampler - UPS - Bus - Other:	Sample Condition	Cool Intact	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

† Cardinal cannot accept verbal changes. Please fax written changes to 915-673-7020.



**ARDINAL**  
LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR  
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.  
ATTN: DEE WHATLEY  
703 E. CLINTON, STE 103  
HOBBS, NM 88240  
FAX TO:

Receiving Date: 12/01/98  
Reporting Date: 12/02/98  
Project Number: NOT GIVEN  
Project Name: NAVAJO REFINING  
Project Location: ABO 4" MILEPOST 4.1

Sampling Date: 12/01/98  
Sample Type: GROUNDWATER  
Sample Condition: COOL, INTACT  
Sample Received By: AH  
Analyzed By: BC

LAB NUMBER	SAMPLE ID	TPH (mg/L)	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	TOTAL XYLENES (mg/L)
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ANALYSIS DATE:		12/01/98	12/01/98	12/01/98	12/01/98	12/01/98
H3947-1	NOT GIVEN	<1.0	<0.002	<0.002	<0.002	<0.006
Quality Control		139	0.097	0.096	0.091	0.278
True Value QC		150	0.100	0.100	0.100	0.300
% Recovery		92.8	96.9	95.6	90.9	92.7
Relative Percent Difference		0.2	4.4	9.5	15.7	12.2

METHODS: TRPHC - EPA 600/7-79-020, 418.1; BTEX - EPA SW-846-8260

*Burgess J. A. Cooke*  
Burgess J. A. Cooke, Ph. D.

*12/2/98*  
Date





ANALYTICAL RESULTS FOR  
 SAFETY & ENVIRONMENTAL SOLUTIONS, INC.  
 ATTN: DEE WHATLEY  
 703 E. CLINTON, STE 103  
 HOBBS, NM 88240  
 FAX TO:

Receiving Date: 12/01/98  
 Reporting Date: 12/02/98  
 Project Number: NOT GIVEN  
 Project Name: NAVAJO REFINING  
 Project Location: ABO 4" MILEPOST 4.1

Sampling Date: 12/01/98  
 Sample Type: GROUNDWATER  
 Sample Condition: COOL, INTACT  
 Sample Received By: AH  
 Analyzed By: BC

LAB NUMBER	SAMPLE ID	TPH (mg/L)	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	TOTAL XYLENES (mg/L)
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ANALYSIS DATE:		12/01/98	12/01/98	12/01/98	12/01/98	12/01/98
H3947-1	NOT GIVEN	<1.0	<0.002	<0.002	<0.002	<0.006
Quality Control		139	0.097	0.096	0.091	0.278
True Value QC		150	0.100	0.100	0.100	0.300
% Recovery		92.8	96.9	95.6	90.9	92.7
Relative Percent Difference		0.2	4.4	9.5	15.7	12.2

METHODS: TRPHC - EPA 600/7-79-020, 418.1; BTEX - EPA SW-846-8260

*Burgess J. A. Cooke*  
 Burgess J. A. Cooke, Ph. D.

12/2/98  
 Date

PLEASE SEE PAGE 18947.XLS  
 Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.



TELEPHONE  
(505) 748-3311

EASYLINK  
62905278



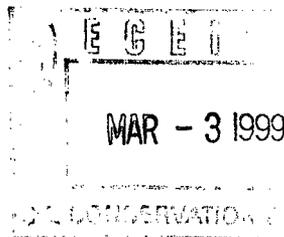
## REFINING COMPANY

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

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

March 2, 1999

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



**RE: Abo 4" Spill Closure Report, Navajo Refining Co.**

Dear Roger,

Enclosed, please find the closure report for a spill that occurred on November 20, 1998 along Navajo's abandoned 4" Abo Pipeline. The spill occurred as a result of a contractor hitting the line with a backhoe. Mike Stubblefield of the Artesia District office was notified of the spill within one hour and representatives of the OCD have inspected this site regularly during the clean-up and closure phase. Also, two copies of this report have been sent to Mr. Tim Gumm of the OCD District office in Artesia.

The closure report by Safety and Environmental Solutions, details the cleanup activities and sampling that were done. If you have any questions after going over the report, I can be reached at 505-748-3311. Thank you for your attention to this matter.

Sincerely,  
NAVAJO REFINING CO.

Darrell Moore  
Environmental Mgr. for Water and Waste

Encl.

District I - (505) 393-0101  
 P. O. Box 1980  
 Hobbs, NM 88241-1980  
 District II - (505) 748-1283  
 811 South First  
 Artesia, NM 88210  
 District III - (505) 334-6178  
 1000 Rio Brazos Road  
 Aztec, NM 87410  
 District IV - (505) 827-7131

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

Form C-14  
 Originated 2/13/98  
 Submit 2 copies to  
 Appropriate District  
 Office in accordance  
 with Rule 116 c  
 back side of form

Release Notification and Corrective Action  
 OPERATOR

Initial Report  Final Report

Name <b>Navajo Refining Company</b>	Contact <b>albert Reyes</b>
Address <b>501 East Main Street</b>	Telephone No. <b>505-748-3311</b>
Facility Name <b>Abo Discharge Line</b>	Facility Type <b>Pipeline</b>

Surface Owner <b>Blaine Haines</b>	Mineral Owner	Lease No.
---------------------------------------	---------------	-----------

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
<b>D</b>	<b>13</b>	<b>17s</b>	<b>27e</b>	<b>100</b>	<b>North</b>	<b>500</b>	<b>West</b>	<b>Eddy</b>

NATURE OF RELEASE

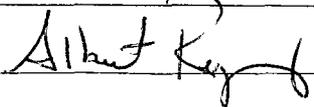
Type of Release <b>Crude Oil</b>	Volume of Release <b>65 bbls.</b>	Volume Recovered <b>65 bbls.</b>
Source of Release <b>4" steel pipeline</b>	Date and Hour of Occurrence <b>1:00 p.m. 11-20-98</b>	Date and Hour of Discovery <b>1:00 p.m. 11-20-98</b>
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? <b>Mike Stubblefield NM Oil Conservation Division</b>	
By Whom? <b>Albert Reyes</b>	Date and Hour <b>2:00 p.m. 11-20-98</b>	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully. (Attach Additional Sheets If Necessary) **The leak occurred approximately one (1) mile West of the Pecos River and the water table is at four (4) feet. The water flowing into the excavation is what was impacted, however, the water table itself remained unimpacted, all information and analysis on this spill are provided in the closure report.**

Describe Cause of Problem and Remedial Action Taken. (Attach Additional Sheets If Necessary) **Pipeline construction contractor hit the line with a trackhoe. This line has been out of service which helped minimize the amount of product released. The leak was contained in a 15 foot diameter and was clamped temporarily until the line could be repaired.**

Describe Area Affected and Cleanup Action Taken. (Attach Additional Sheets If Necessary) **The area affected was salt grass pasture land with salt cedar brush. Clean up action is included in the closure report.**

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: 	<b>OIL CONSERVATION DIVISION</b>		
Printed Name: <b>Albert D. Reyes</b>	Approved by District Supervisor:		
Title: <b>Crude Systems Supervisor</b>	Approval Date:	Expiration Date:	
Date:	Phone: <b>505-748-3311</b>	Conditions of Approval:	Attached <input type="checkbox"/>

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

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

Form C-14  
 Originated 2/13/98

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

**Release Notification and Corrective Action**

**OPERATOR**

Initial Report     Final Report

Name <b>Navajo Refining Company</b>	Contact <b>Albert Reyes</b>
Address <b>501 East Main Street</b>	Telephone No. <b>505-748-3311</b>
Facility Name <b>Abo Discharge Line</b>	Facility Type <b>Pipeline</b>

Surface Owner <b>Blaine Haines</b>	Mineral Owner	Lease No.
---------------------------------------	---------------	-----------

**LOCATION OF RELEASE**

Unit Letter <b>D</b>	Section <b>13</b>	Township <b>17s</b>	Range <b>27e</b>	Feet from the <b>100</b>	North/South Line <b>North</b>	Feet from the <b>500</b>	East/West Line <b>West</b>	County <b>Eddy</b>
-------------------------	----------------------	------------------------	---------------------	-----------------------------	----------------------------------	-----------------------------	-------------------------------	-----------------------

**NATURE OF RELEASE**

Type of Release <b>Crude Oil</b>	Volume of Release <b>65 bbls.</b>	Volume Recovered <b>65 bbls.</b>
Source of Release <b>Pipeline</b>	Date and Hour of Occurrence <b>1:00 p.m. 11-20-98</b>	Date and Hour of Discovery <b>1:00 p.m. 11-20-98</b>
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? <b>Mike Stubblefield NM Oil Conservation Div</b>	
By Whom? <b>Albert Reyes</b>	Date and Hour <b>2:00 p.m. 11-20-98</b>	
Was a Watercourse Reached? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, Volume Impacting the Watercourse. <b>65 bbls.</b>	

If a Watercourse was Impacted, Describe Fully. (Attach Additional Sheets If Necessary)  
**The leak occurred approximately one (1) mile West of the Pecos River bridge on US Hwy. 82**

Describe Cause of Problem and Remedial Action Taken. (Attach Additional Sheets If Necessary)  
**Contractor excavating hit and cut into the pipeline. Crews immediately contained the spill in a 10' x 20' area. All liquid was recovered and the leak was repaired. The contaminated soil was excavated immediately and hauled to an off-site location at Navajo Refining Company.**

Describe Area Affected and Cleanup Action Taken. (Attach Additional Sheets If Necessary)  
**The area affected is private land with very little vegetation with most of it being salt grass. All liquid was recovered and the contaminated soil was excavated and hauled to the refinery at Navajo. The clean up will follow NMOCD guidelines.**

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature:	<b>OIL CONSERVATION DIVISION</b>		
Printed Name: <b>Albert D. Reyes</b>	Approved by District Supervisor:		
Title: <b>Crude Systems Supervisor</b>	Approval Date:	Expiration Date:	
Date:	Phone: <b>505-748-3311</b>	Conditions of Approval:	Attached <input type="checkbox"/>