NM - 71

GENERAL CORRESPONDENCE

YEAR(S):

1999 - 1997

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

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

October 20, 1999

CERTIFIED MAIL
RETURN RECEIPT NO. P-326-936-653

Mr. V. Ed Butler
Northland Operating Company
13760 Noel Road
Suite 1030
Dallas, TX 75240-7336

RE: Pit Closure Approval
Northland Operating Company
SE/4, NE/4, Section 25, Township 13 South, Range 31 East, NMPM
Chaves County, New Mexico

Dear Mr. Butler:

The New Mexico Oil Conservation Division (OCD) has received the Northland Operating Company (Northland) pit remediation and closure report dated February 27, 1998, regarding the pit closures at the above referenced location. The OCD has reviewed the information provided by Northland on the **three saltwater disposal oveflow pits**. The pit sites have been remediated, filled, compacted and contoured according to the OCD requirements. The Rock Queen Unit Saltwater Plant #2 **pit closures are hereby approved.**

Please be advised that this approval does not relieve Northland of liability should their operation result in pollution of surface water, ground water, or the environment. In addition, OCD approval does not relieve Northland of liability for compliance with other laws and/or regulation.

If you require any further information please contact me at (505) 827-7153.

Sincerely,

Martyne J. Kieling
Environmental Geologist

xc: Hobbs OCD Office
Jim Hull, Northland Operating

QSR

QUEEN SAND RESOURCES, INC.

FAX

13760 Noel Rd.
Suite 1030, Stone Tower
Dallas, TX 75240-7336
Tel: (972) 233-9906
Fax: (972) 233-9575

30 Metcalfe Street
Suite 620
Ottawa, Canada K1P 5L4
Tel: (613) 230-7211
Fax: (613) 230-6055

1415 Louisiana
Suite 2601
Houston, TX 77002
Tel: (713) 752-1920
Fax: (713) 752-1942

Date: 10/19/99

To: MARTYNE KIELWC

Attention:

Fax Number: 505-827-5177

From: NORTHLAND OPERATING - JIM HULL @ 972-383-8260

MESSAGE:

MARTYNE -

HI! SORRY WE KEEP MISSING EACH OTHER.
FOLLOWING ARE COPIES OF TWO LETTERS
WRITTEN BY YOU REGARDING OUR PIT
CLOSURES. YOUR LETTER DATED 4/13/99
GIVES FINAL PIT CLOSURE APPROVAL ON ROCK
QUEEN TRACT 20.

PLEASE ISSUE LETTER INDICATING FINAL APPROVAL
ON PIT CLOSURES IN SECTION 25 (YOUR LETTER DATED
3/31/98 IS LAST CORRESPONDENCE I CAN FIND).
WE ARE CHANGING BANKS & NEW BANK IS
REQUESTING DOCUMENTATION. THANKS -

JIM

NEW MEXICO ENERGY, MINERALS & NATURAL RESOURCES DEPARTMENT

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

April 13, 1999

CERTIFIED MAIL
RETURN RECEIPT NO. P-326-936-529

Mr. V. Ed Butler
Northland Operating Company
13760 Noel Road
Suite 1030
Dallas, TX 75240-7336

RE: **Pit Closure Approval**
Northland Operating Company
SE/4, NW/4, Section 30, Township 13 South, Range 32 East, NMPM
Lea County, New Mexico

Dear Mr. Butler:

The New Mexico Oil Conservation Division (OCD) has received the Northland Operating Company (Northland) pit remediation and closure report dated December 30, 1998 and April 7, 1999 regarding the pit closures at the above referenced location. The OCD has reviewed the information provided by Northland on the **lined pit** and the **non-exempt (non-hazardous) pit**. The pit sites have been remediated, filled, compacted and contoured according to the OCD requirements outlined in the November 19, 1998 letter. The Rock Queen Unit Tract 20 **pit closures are hereby approved.**

Please be advised that this approval does not relieve Northland of liability should their operation result in pollution of surface water, ground water, or the environment. In addition, OCD approval does not relieve Northland of liability for compliance with other laws and/or regulation.

If you require any further information please contact me at (505) 827-7153.

Sincerely,

Martyne J. Kieling
Environmental Geologist

xc: Hobbs OCD Office
Mike Manush, State Land Office
Leon Anderson, Hobbs, State Land Office

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

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

March 31, 1998

CERTIFIED MAIL
RETURN RECEIPT NO. P-326-936-414

RECEIVED
4-6-98

Mr. V. Ed Butler
Northland Operating Company
3500 Oak Lawn
Suite 380
Dallas, TX 75219-4398

RE: Pit Closure Report
Northland Operating Company
SE/4 NE/4, Section 25, Township 13 South, Range 31 East, NMPM
Chaves County, New Mexico

Dear Mr. Butler:

The New Mexico Oil Conservation Division (OCD) has received the Northland Operating Company (Northland) letter and requested documentation dated February 27, 1998 regarding the pit closures at the above referenced location. The OCD has reviewed all of the material supplied by Northland regarding the three saltwater disposal overflow pits and finds it complete. Northland may proceed with back-filling the pit excavations.

The OCD hereby approves the pit closure report. Upon written notification to the Santa Fe and Hobbs OCD offices of completion of backfilling final closure of pits may be approved.

If you require any further information please contact me at (505) 827-7153.

Sincerely,

Martyne J. Kieling
Environmental Geologist

xc: Hobbs OCD Office
Ed Morney, Field Superintendent, Northland, P.O. Box 119, Maljamar, NM 88264

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☐ Telephone ☐ Personal	Time	Date
		10-20-99

Originating Party	Other Parties

Subject

Discussion

Note to File Pit sat SE/4 NE/4 Sec 25, T13S., R31E. NMPM ~~Eddy~~ Chaves County.
Pits are Back Filled & Mounded when Last Field Inspection Occured Spring 1998 5-18-98 At 15:35 +

Conclusions or Agreements

Distribution

Signed Martyn J Kuf

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

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

March 31, 1998

CERTIFIED MAIL
RETURN RECEIPT NO. P-326-936-414

Mr. V. Ed Butler
Northland Operating Company
3500 Oak Lawn
Suite 380
Dallas, TX 75219-4398

RE: Pit Closure Report
Northland Operating Company
SE/4 NE/4, Section 25, Township 13 South, Range 31 East, NMPM
Chaves County, New Mexico

Dear Mr. Butler:

The New Mexico Oil Conservation Division (OCD) has received the Northland Operating Company (Northland) letter and requested documentation dated February 27, 1998 regarding the pit closures at the above referenced location. The OCD has reviewed all of the material supplied by Northland regarding the three saltwater disposal overflow pits and finds it complete. Northland may proceed with back-filling the pit excavations.

The OCD hereby approves the pit closure report. Upon written notification to the Santa Fe and Hobbs OCD offices of completion of backfilling final closure of pits may be approved.

If you require any further information please contact me at (505) 827-7153.

Sincerely,

Martyne J. Kieling
Environmental Geologist

xc: Hobbs OCD Office
Ed Morney, Field Superintendent, Northland, P.O. Box 119, Maljamar, NM 88264

NMOCD: ID#. 022994 By: W Price #1
Date/Time: Jan 12, 1998 11am
Site/Co. Northland Operating Co.
Location: UL H sec 25-Ts13s-R31e
Subject: Looking SW. SWD Inj St
north pit, has been excavted.

NMOCD: ID#. 022994 By: W Price #2
Date/Time: Jan 12, 1998 11am
Site/Co. Northland Operating Co.
Location: UL H sec 25-Ts13s-R31e
Subject: Looking S. SWD Inj St
pits, has been excavted.


BORE
HOLE

NMOCD: ID#. 022994 By: W Price #3
Date/Time: Jan 12, 1998 11am
Site/Co. Northland Operating Co.
Location: UL H sec 25-Ts13s-R31e
Subject: Looking West. SWD Inj St
center pit bore hole.

NMOCD: ID#. 022994 By: W Price #4
Date/Time: Jan 12, 1998 11am
Site/Co. Northland Operating Co.
Location: UL H sec 25-Ts13s-R31e
Subject: Looking NE. SWD Inj St
center pit bore hole.

NMOCD: ID#. 022994 By: W Price #5
Date/Time: Jan 12, 1998 11am
Site/Co. Northland Operating Co.
Location: UL H sec 25-Ts13s-R31e
Subject: Looking SW. SWD Inj St
Berm holding snow water.

NMOCD: ID#. 022994 By: W Price #6
Date/Time: Jan 12, 1998 11am
Site/Co. Northland Operating Co.
Location: UL H sec 25-Ts13s-R31e
Subject: Looking West. SWD Inj St
Berm & Sec. Containment for tk.

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 S. PACHECO
SANTA FE, NM 87505

Northland Operating Company
3500 Oak Lawn, L.B. #31
Dallas, Texas 75219-4398
February 27, 1998

Ms. Martyne J. Kieling, Environmental Geologist
Environmental Bureau - OCD
New Mexico Energy, Minerals & Natural Resources
2040 South Pacheco
Santa Fe, New Mexico 87505

Re: Pit Closures - SE/4 NE/4 Section 25, T13S, R31E, NMPM
Chaves County, New Mexico

Dear Ms. Kieling:

In response to your letter dated February 17, 1998, the enclosed information is provided. The file copy of our earlier transmittal contained a copy of the chain of custody form for the Cardinal BTEX analysis requested in your item 1. Chain of custody forms for the playa and ground water samples taken in November requested under your item 2 are enclosed along with the laboratory reports for those samples. We have taken the liberty of also enclosing new water sample analyses requested by Mr. Bill Olson in your office. Mr. Olson requested analysis of both playa water and produced saltwater. The chain of custody forms for these samples is attached to the laboratory reports.

The Pit Remediation and Closure Reports for the three pits at this site have been signed and dated. The forms were not provided to you earlier since our February 4 letter was a simple request that you review the work that had been done at this site and give you the chance to note any deficiencies in the work that has been done. As soon as your requirements for these sites are satisfied, Northland will promptly proceed with back-filling operations for these three pits.

Respectfully,

John E. Rhoads
Agent

Cc: Mr. Wayne Price, OCD, Hobbs
Mr. Ed Butler

CARDINAL LABORATORIES

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page ___ of ___

Company Name: Abelwood operating
Project Manager: Joe F. Dean
Address:
City: State: Zip:
Phone #: 505-397-6588
Fax #: 397-0397
Project #:
Project Name:
Project Location: Salt water pit #2

BILL TO: PO #:
Company: BBC
Attn:
Address:
City:
State: Zip:
Phone #:
Fax #:

LAB I.D. #	Sample I.D.	COMP(C) OR GRAB(G)	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID:	ICE / COOL	OTHER:	DATE	TIME	Benzene								
H 3339	#1												11-24-97	10:30 Am	✓								
	#2												11/24/97	10:?? Am	✓								
	#3												11/24/97	10:40 Am	✓								

PLEASE NOTE: [illegible]

Sampler Relinquished:	Date: 11-24-97 / Time: 1:00pm	Received By:	Phone Result: ☐ Yes ☐ No Additional Fax #: / Fax Result: ☐ Yes ☐ No / REMARKS:
Relinquished By:	Date: / Time:	Received By: (Lab Staff)	
Delivered By: (Circle One) UPS - Fed Ex - Bus - Other:		Sample Condition: Cool ☐ Yes ☒ No; Intact ☒ Yes ☐ No	CHECKED BY: (Initials)

15053932476

NTCC
North Texas Chemical Consultants
Laboratory
Environmental & Analytical Services
2000 Old Burk Road Wichita Falls Texas 76304-1714
817-723-5868

CHAIN OF CUSTODY RECORD

№ 2920

CUSTOMER INFORMATION

COMPANY: NORTHLAND OPERATING
SEND REPORT TO: JOHN RHODES
ADDRESS: 719 SCOTT - SUITE 624
CITY: WICHITA FALLS STATE: TX ZIP: 76301
TELEPHONE: (940) 723 8511 FAX: 940 766-3089

BILLING INFORMATION

ADDRESS:
CITY: SAME STATE: ZIP:
PO NUMBER: TERMS:

PROJECT INFORAMATION

LOCATION: NUMBER: Pit Closures - Rock Queen Unit
CITY: STATE: ZIP:
SAMPLER: John Rhodes SIGNATURE:

REQUIRED TURNAROUND TIME: ☒ NORMAL
* expedited service may require surcharge ☐ EXPEDITED *
SHIPMENT METHOD: UPS DATE: 11/24/97
CUSTODY SEALED: Yes DATE: 11/20/97
NTCC LABORATORY JOB NUMBER: JR-000
COMMENTS:

REQUESTED ANALYSES

NTCC LAB ID	SAMPLE ID AND FIELD DESCRIPTION	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	TYPE G	TYPE C	PRESERVATIVE	NUMBER OF CONTAINERS	HOLD	BTEX	Cl- TDS by NTCC							COMMENTS
JR-001	WINDMILL Water 0.4 Mi N Sec 2	11/20/97	12:00	W	✓					X								ITS 5
JR-002	WINDMILL Water 2.4 Mi S - Sec 12	11/20/97	12:20	W	✓					X								Do BTEX
JR-003	Fresh Water-Playa Surface Water	11/20/97	12:50	W	✓					X	(X)							TESTING ONLY
JR-004	Crude Oil Sump	11/20/97	1:20	Oil	✓				X									

RELINQUISHED BY:	DATE: 11/22/97	TIME: 14:01	RECEIVED BY:	DATE:	TIME:
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
	RECEIVED IN LABORATORY BY:			DATE:	TIME:

NTCC
North Texas Chemical Consultants
Laboratory
Environmental & Analytical Services
2000 Old Burk Road Wichita Falls Texas 76304-1714
817-723-5868

CHAIN OF CUSTODY RECORD

№ 2921

CUSTOMER INFORMATION

COMPANY: NTCC LABORATORY
SEND REPORT TO: R. J. WILLIAMS
ADDRESS: 2000 OLD BURK RD
CITY: WICHITA FALLS STATE: TX ZIP: 76304
TELEPHONE: 940-723-5566 FAX: 940-723-5566

BILLING INFORMATION

ADDRESS: (SAME)
CITY: STATE: ZIP:
PO NUMBER: TERMS:

PROJECT INFORAMATION

LOCATION: NORTHLAND OPERATING NUMBER:
CITY: WICHITA FALLS STATE: ZIP:
SAMPLER: JOHN RHOADES SIGNATURE:

REQUIRED TURNAROUND TIME: ☐ NORMAL
* expedited service may require surcharge ☐ EXPEDITED *
SHIPMENT METHOD: UPS DATE: 11/24/97
CUSTODY SEALED: YES DATE: 11/24/97
NTCC LABORATORY JOB NUMBER: JR-008
COMMENTS:

REQUESTED ANALYSES

NTCC LAB ID	SAMPLE ID AND FIELD DESCRIPTION	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	TYPE G	TYPE C	PRESERVATIVE	NUMBER OF CONTAINERS	BTEX	COMMENTS
JR001	WINDMILL WATER 0.4 Mi N	11/24/97	12:10	W	X		4°C	2	X	14250-1
JR002	WINDMILL WATER 2.4 Mi S	11/24/97	12:20	W	X		4°C	2	X	2
JR003	FRESH WATER	11/24/97	12:50	W	X		4°C	2	X	3

ORIGINAL

RELINQUISHED BY:	DATE: 11/24/97	TIME: 2:30	RECEIVED BY:	DATE:	TIME:
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
	RECEIVED IN LABORATORY BY: B. Wilson			DATE: 11-25-97	TIME: 1035

NTCC
North Texas Chemical Consultants
Laboratory
Environmental & Analytical Services
2000 Old Burk Road Wichita Falls Texas 76304-1714
817-723-5868 940-723-5886 (FAX)
940

CHAIN OF CUSTODY RECORD

№ 2920

CUSTOMER INFORMATION

COMPANY: NORTHLAND OPERATING
SEND REPORT TO: JOHN RHODES
ADDRESS: 719 SCOTT - SUITE 624
CITY: WICHITA FALLS STATE: TX ZIP: 76301
TELEPHONE: (940) 723 8511 FAX: 940 766-3089

BILLING INFORMATION

ADDRESS: SAME
CITY: STATE: ZIP:
PO NUMBER: TERMS:

PROJECT INFORAMATION

LOCATION: NUMBER: Pit Closures - Rock Queen Unit
CITY: STATE: ZIP:
SAMPLER: JOHN RHODES SIGNATURE:

REQUIRED TURNAROUND TIME: ☐ NORMAL
* expedited service may require surcharge ☐ EXPEDITED *
SHIPMENT METHOD: DATE:
CUSTODY SEALED: DATE:
NTCC LABORATORY JOB NUMBER:
COMMENTS:

REQUESTED ANALYSES

NTCC LAB ID	SAMPLE ID AND FIELD DESCRIPTION	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	TYPE G	TYPE C	PRESERVATIVE	NUMBER OF CONTAINERS	HOLD	BTEX	Cl-TDS	COMMENTS
JR-001	WINDMILL Water 0.4 mi N-SCADA	11/20/97	12:00	W	✓					X		
JR-002	WINDMILL Water 2.4 mi S - SCADA	11/20/97	12:20	W	✓					X		
JR-003	Fresh Water Player Surface Water	11/20/97	12:50	W	✓					X	X	
JR-004	Crude Oil Sump	11/20/97	1:20	Oil	✓				X			

RELINQUISHED BY:	DATE: 11/22/97	TIME: 14:01	RECEIVED BY:	DATE:	TIME:
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
	RECEIVED IN LABORATORY BY:			DATE:	TIME:

NTCC
North Texas Chemical Consultants
Laboratory
Environmental & Analytical Services
2000 Old Burk Road Wichita Falls Texas 76304-1714
940-723-5868 / Fax 940-723-5886

Sample Submitted By: Northland Operating
719 Scott Suite 624
Wichita Falls, Texas 76301
Attention: John Rhodes

Report Date: December 9, 1997
Report Number: JR-003
Received Date: November 22, 1997
Received Time: 1401
Chain of Custody #: 2920

SAMPLE ID: Freshwater/Surfwater - November 20, 1997; 1250 Grab						
Parameter	*Method*	*Detection Limit mg/L*	*Analyst*	*Analyzed Date*	*Time*	*Results mg/L*
Dissolved Solids, Total	160.1	1.	JQ	12/02	1630	**9399.**
Chloride, as Cl^-	325.3	1.	JQ	12/02	1730	**5346.**

R.J. Williams, Ph.D.
President

Methods utilized are from "Methods for Chemical Analysis of Water and Wastes" EPA-600/4-79-020,"Test Methods for Evaluating Solid Waste EPA-SW846", and "Standard Methods for the Examination of Water and Wastewater" 18th Edition.

Intertek Testing Services
Environmental Laboratories

ANALYTICAL REPORT

DATE RECEIVED : 25-NOV-1997

REPORT NUMBER : D97-14250
REPORT DATE : 30-NOV-1997

ATTENTION : R.J. Williams
SAMPLE SUBMITTED BY : North Texas Chemical Consultants Laboratory,
ADDRESS : 2000 Old Burk Road
: Wichita Falls, Tx. 76304

PROJECT : JR-000

Included in this data package are the analytical results for the sample group which you have submitted to Intertek Testing Services for analysis. These results are representative of the samples as received by the laboratory.

The information contained herein has undergone extensive review and is deemed accurate and complete. Sample analysis and quality control were performed in accordance with all applicable protocols. Please refrain from reproducing this report except in its entirety.

If you have any questions regarding this report and its associated materials please call your Project Manager at (972) 238-5591.

We appreciate the opportunity to serve you and look forward to providing continued service in the future.

Martin Jeffus
General Manager

Intertek Testing Services NA Inc.
1089 East Collins Boulevard Richardson, TX 75081
Telephone (972) 238-5591 Fax (972) 238-5592

Intertek Testing Services
Environmental Laboratories

DATE RECEIVED : 25-NOV-1997

REPORT NUMBER : D97-14250-1
REPORT DATE : 30-NOV-1997

SAMPLE SUBMITTED BY : North Texas Chemical Consultants Laboratory,
ADDRESS : 2000 Old Burk Road
: Wichita Falls, Tx. 76304
ATTENTION : R.J. Williams

SAMPLE MATRIX : Water
ID MARKS : JR001
PROJECT : JR-000
DATE SAMPLED : 21-NOV-1997
ANALYSIS METHOD : EPA 8020B /1
ANALYZED BY : CNA
ANALYZED ON : 27-NOV-1997
DILUTION FACTOR : 1
METHOD FACTOR : 1
QC BATCH NO : 34-112697

BTEX ANALYSIS				
TEST REQUESTED	DETECTION LIMIT		RESULTS	
Benzene	1.0	µg/L	< 1.0	µg/L
Toluene	1.0	µg/L	< 1.0	µg/L
Ethyl benzene	1.0	µg/L	< 1.0	µg/L
Xylenes	1.0	µg/L	< 1.0	µg/L
BTEX (total)			< 1.0	µg/L #

QUALITY CONTROL DATA		
SURROGATE COMPOUND		SPIKE RECOVERED
Bromofluorobenzene		99.6 %

Based upon Good Laboratory Practice, the result is rounded to the appropriate number of significant figures.

Intertek Testing Services NA Inc.
1089 East Collins Boulevard Richardson, TX 75081
Telephone (972) 238-5591 Fax (972) 238-5592

Intertek Testing Services
Environmental Laboratories

DATE RECEIVED : 25-NOV-1997

REPORT NUMBER : D97-14250-2
REPORT DATE : 30-NOV-1997

SAMPLE SUBMITTED BY : North Texas Chemical Consultants Laboratory,
ADDRESS : 2000 Old Burk Road
: Wichita Falls, Tx. 76304
ATTENTION : R.J. Williams

SAMPLE MATRIX : Water
ID MARKS : JR002
PROJECT : JR-000
DATE SAMPLED : 21-NOV-1997
ANALYSIS METHOD : EPA 8020B /1
ANALYZED BY : CNA
ANALYZED ON : 27-NOV-1997
DILUTION FACTOR : 1
METHOD FACTOR : 1
QC BATCH NO : 34-112697

BTEX ANALYSIS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Benzene	1.0 µg/L	< 1.0 µg/L
Toluene	1.0 µg/L	< 1.0 µg/L
Ethyl benzene	1.0 µg/L	< 1.0 µg/L
Xylenes	1.0 µg/L	< 1.0 µg/L
BTEX (total)		< 1.0 µg/L #

QUALITY CONTROL DATA		
SURROGATE COMPOUND		SPIKE RECOVERED
Bromofluorobenzene		99.1 %

Based upon Good Laboratory Practice, the result is rounded to the appropriate number of significant figures.

Intertek Testing Services NA Inc.
1089 East Collins Boulevard Richardson, TX 75081
Telephone (972) 238-5591 Fax (972) 238-5592

Intertek Testing Services
Environmental Laboratories

DATE RECEIVED : 25-NOV-1997

REPORT NUMBER : D97-14250-3
REPORT DATE : 30-NOV-1997

SAMPLE SUBMITTED BY : North Texas Chemical Consultants Laboratory,
ADDRESS : 2000 Old Burk Road
: Wichita Falls, Tx. 76304
ATTENTION : R.J. Williams

SAMPLE MATRIX : Water
ID MARKS : JR003
PROJECT : JR-000
DATE SAMPLED : 21-NOV-1997
ANALYSIS METHOD : EPA 8020B /1
ANALYZED BY : CNA
ANALYZED ON : 27-NOV-1997
DILUTION FACTOR : 1
METHOD FACTOR : 1
QC BATCH NO : 34-112697

BTEX ANALYSIS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Benzene	1.0 µg/L	< 1.0 µg/L
Toluene	1.0 µg/L	< 1.0 µg/L
Ethyl benzene	1.0 µg/L	< 1.0 µg/L
Xylenes	1.0 µg/L	< 1.0 µg/L
BTEX (total)		< 1.0 µg/L #

QUALITY CONTROL DATA		
SURROGATE COMPOUND		SPIKE RECOVERED
Bromofluorobenzene		101 %

Based upon Good Laboratory Practice, the result is rounded to the appropriate number of significant figures.

Intertek Testing Services NA Inc.
1089 East Collins Boulevard Richardson, TX 75081
Telephone (972) 238-5591 Fax (972) 238-5592

Intertek Testing Services
Environmental Laboratories

REPORT DATE : 30-NOV-1997 REPORT NUMBER : D97-14250

SAMPLE SUBMITTED BY : North Texas Chemical Consultants Laboratory,
ATTENTION : R.J. Williams
PROJECT : JR-000

LABORATORY QUALITY CONTROL REPORT

ANALYTE	Benzene	Ethylbenzene
BATCH NO.	34-112697	34-112697
LCS LOT NO.	AC033-85B	AC033-85B
PREP METHOD	---	---
PREPARED BY	---	---
ANALYSIS METHOD	EPA 8020B	EPA 8020B
ANALYZED BY	CNA	CNA
UNITS	µg/L	µg/L
METHOD BLANK	< 1.00	< 1.00
SPIKE LEVEL	500	500
SPK REC LIMITS	75.0 - 125	75.0 - 125
SPK RPD LIMITS	20.0	20.0
MS RESULT	530	537
MS RECOVERY %	106	107
MSD RESULT	513	518
MSD RECOVERY %	103	104
MS/MSD RPD %	3.26	3.60
BS RESULT	NA	NA
BS RECOVERY %	NA	NA
BSD RESULT	NA	NA
BSD RECOVERY %	NA	NA
BS/BSD RPD %	NA	NA
DUP RPD LIMITS	---	---
DUPLICATE RPD %	NA	NA
LCS LEVEL	50.0	50.0
LCS REC LIMITS	75.0 - 125	75.0 - 125
LCS RESULT	52.1	52.9
LCS RECOVERY %	104	106
SPIKE SAMPLE ID	14251-7	14251-7
SAMPLE VALUE	< 1.00	< 1.00
DUP SAMPLE ID	---	---
DUP SAMPLE VAL/1	---	---
DUP SAMPLE VAL/2	---	---

NA Not applicable

Intertek Testing Services NA Inc.
1089 East Collins Boulevard Richardson, TX 75081
Telephone (972) 238-5591 Fax (972) 238-5592

NTCC
North Texas Chemical Consultants
Laboratory
Environmental & Analytical Services
2000 Old Burk Road Wichita Falls, Texas 76304-1714
940-723-5868
FAX 940-723-5886

CHAIN OF CUSTODY RECORD

№ 3213

CUSTOMER INFORMATION

COMPANY: Northland Operating

SEND REPORT TO: John Rhoads

ADDRESS: 719 Scott Suite 624

CITY: W Falls TX STATE: Texas ZIP: 76301

TELEPHONE: 940-723-8511 FAX: 940-766-3089

BILLING INFORMATION

ADDRESS: 3500 Oak Lawn LB #31

CITY: Dallas STATE: Texas ZIP: 75219-4398

PO NUMBER: TERMS:

PROJECT INFORAMATION

LOCATION: Tract 20 Rick Queen NUMBER:

CITY: STATE: New Mexico ZIP:

SAMPLER: John Rhoads SIGNATURE: John Rhoads

REQUIRED TURNAROUND TIME: ☐ NORMAL ☐ EXPEDITED *

* expedited service may require surcharge

SHIPMENT METHOD: DATE:

CUSTODY SEALED: DATE:

NTCC LABORATORY JOB NUMBER:

COMMENTS:

REQUESTED ANALYSES

NTCC LAB ID	SAMPLE ID AND FIELD DESCRIPTION	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	TYPE G	TYPE C	PRESERVATIVE	NUMBER OF CONTAINERS	BTEX	METAL	Na, Ca	HCO_3	SO_4^{2-}, Cl
JR006	1-SW	2/2	12:15	Water	G		—	1				X	X
JR007	2-SW	2/2	12:20	Water	G		HNO_3	1		X	X		
JRuuf	2-Playa	2/2	12:40	Water		C	HNO_3	1		X	X		X
JR009	3-Playa	2/2	12:45	Water		C	—	2	X			X	
~~[illegible]~~	~~4-Playa~~	~~2/2~~	~~12:45~~	~~Water~~		~~C~~	~~—~~		~~X~~				
JR010	3-SW	2/2	12:22	Water	G				X				
JR011	4-SW	2/2	12:25	Water	G				~~X~~			~~X~~	

Second Playa water analysis - for Bill Olsen
Pedernal SW also

Duplicate - Hold

RELINQUISHED BY: John Rhoads	DATE: 2/3/93	TIME: 11:40A	RECEIVED BY: [signature] DATE: TIME:
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY: DATE: TIME:
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY: DATE: TIME:
	RECEIVED IN LABORATORY BY:		DATE: TIME:

NTCC
North Texas Chemical Consultants
Laboratory
Environmental & Analytical Services
2000 Old Burk Road Wichita Falls, Texas 76304-1714
940-723-5868
FAX 940-723-5886

CHAIN OF CUSTODY RECORD

№ 3217

CUSTOMER INFORMATION			
COMPANY: NORTHLAND OPERATING			
SEND REPORT TO: R. WILLIAMS			
ADDRESS: 2000 OLD BURK RD			
CITY: WICHITA FALLS	STATE: TX	ZIP: 76304	
TELEPHONE: 940-723-5868	FAX: 723-5886		

BILLING INFORMATION		
ADDRESS: (SAME)		
CITY:	STATE:	ZIP:
PO NUMBER:	TERMS:	

PROJECT INFORAMATION		
LOCATION: TRACT 20 RICK QUIGLEY	NUMBER:	
CITY:	STATE: NEW MEXICO	ZIP:
SAMPLER:	SIGNATURE:	

REQUIRED TURNAROUND TIME: ☐ NORMAL
* expedited service may require surcharge ☐ EXPEDITED *

SHIPMENT METHOD: UPS DATE: 02/4/98
CUSTODY SEALED: YES DATE: 02/2/98
NTCC LABORATORY JOB NUMBER:
COMMENTS:

REQUESTED ANALYSES

NTCC LAB ID	SAMPLE ID AND FIELD DESCRIPTION	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	TYPE G	TYPE C	PRESERVATIVE	NUMBER OF CONTAINERS	ICP METALS: AL, Ag, Ba, B, Ca, Cd, Co, Cu, Fe	Pb, Mn, Mo, Ni, As, Zn	AA METALS: Hg, Se	BTEX	Alkalinity	COMMENTS
JR009	2-SW	2/2/98	12:20	W	X		HNO3 pH<2	1	X	X	X			10647-1
JR008	2-PLAZA	2/2/98	12:40	W		X	HNO3 pH<2	1	X	X	X			2
JR007	3-PLAZA	2/2/98	12:45	W		X	4°C	2				X	X	3
JR010	3-SW	2/2/98	12:22	W	X		4°C	1				X		4

ORIGINAL

RELINQUISHED BY:	DATE: 2/4/98	TIME: 15:00	RECEIVED BY:	DATE:	TIME:
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
	RECEIVED IN LABORATORY BY: B. Wilson			DATE: 2-5-98	TIME: 1035

SAMPLE RECEIVING CHECKLIST / COOLER RECEIPT

Customer: NTCC

Date received 2/5/98 Project Tract 20 Rock Queen

Login Signature: B. Wilson Date: 2-5-98

Cooler Information:

Shipping Carrier: FedEx DHL (UPS) USPS Pony Airborne Hand Other

YES (NO) Airbill Attached?

(YES) NO Custody Seals Type: Tape (COC Seals) Signed Tape

(YES) NO Seals Intact?

Cooler Temp: 4°C (Ice-present) Ice-melted Ice Substitute None

(YES) NO Were Containers Intact (no leaking or broken bottles)?

(YES) NO Were sample labels intact and in good condition?

COC / Sample Information:

(YES) NO Do the sample labels agree with the COC?

(YES) NO Sufficient Sample Provided?

(YES) NO Is it clear what analysis are needed?

(YES) NO Were samples received in hold time?

YES NO Short holding parameters flagged / Lab notified

Person(s) notified: _____ time: _____

Notes: _____

_____

_____

ITS Intertek Testing Services
Environmental Laboratories

SAMPLE PRESERVATION INFORMATION SHEET

Preserved By	BDF	**JOB NUMBER**	1064
Date	2-9-98		
Time		Client Name	NTCC

Sample No.	Container Type	Apparent Volume (mLs)	pH (of preserved samples)	Preservative Added	Filtration	Comments
1064-1	1G	1L	<2	3		metals
-2	1	500mls	1	1		L
						* Preserved by client
						2-9-98 BDF

PRESERVATION / FILTRATION KEY

1 = Pre-preserved
2 = H_2SO_4 to pH<2
3 = HNO_3 to pH<2
4 = HCl to pH<2
5 = NaOH to pH>12
6 = $Na_2S_2O_3$ (0.008%)
7 = 2 mL Zn OAc/NaOH to pH>12
8 = No Preservative Required
F = Chain-of-Custody indicates sample was filtered in the field
L = Sample filtered (0.45 pm) in the laboratory before preservation

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NTCC
North Texas Chemical Consultants
Laboratory
Environmental & Analytical Services
2000 Old Burk Road Wichita Falls Texas 76304-1714
940-723-5868 / Fax 940-723-5886

Produced & Analyzed

Sample Submitted By: Northland Operating
719 Scott Suite 624
Wichita Falls, Texas 76301
Attention: John Rhodes

Report Date: February 19,1998 [Revised Copy]
Report Number: JR-006
Received Date: February 3, 1998
Received Time: 1140
Chain of Custody #: 3213

SAMPLE ID: 1-SW - February 2, 1998; 1215 Grab						
Parameter	*Method*	*Detection Limit mg/L*	*Analyst*	*Analyzed Date*	*Time*	*Results mg/L*
Sulfate, Total as SO_4^{2-}	375.4	100.	JQ	02/05	1500	**1700.**
Alkalinity, Total as $CaCO_3$	310.1	1.	JQ	02/05	1830	**75.**
Chloride, as Cl^-	325.3	1.	JQ	02/05	1730	**185,100.**

QUALITY CONTROL DATA					
Parameter	*Blank mg/L*	*Standard Recovery**	*Spike Recovery %*	*Sample Batch SD*	*Sample Batch CV %*
Alkalinity, Total as $CaCO_3$	0.00			1.8	2.4
Chloride, as Cl^-	0.	101 %		12.8	0.3
Sulfate, Total as SO_4^{2-}	0.	96 %		70.5	4.2

- Hach Sulfate Std. : 50.0 mg/L; Chloride Std. 100.0 mg/L.

R.J. Williams, Ph.D.
President

Methods utilized are from "Methods for Chemical Analysis of Water and Wastes" EPA-600/4-79-020,"Test Methods for Evaluating Solid Waste EPA-SW846", and "Standard Methods for the Examination of Water and Wastewater" 18th Edition.

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North Texas Chemical Consultants
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2000 Old Burk Road Wichita Falls Texas 76304-1714
940-723-5868 / Fax 940-723-5886

Produced Saltwater

Sample Submitted By: Northland Operating
719 Scott Suite 624
Wichita Falls, Texas 76301
Attention: John Rhodes

Report Date: February 26, 1998
Report Number: JR-007
Received Date: February 3, 1998
Received Time: 1140
Chain of Custody #: 3213

SAMPLE ID: 2-SW, February 2, 1998; 1220 Grab						
Parameter	*Method*	*Detection Limit mg/L*	*Analyst*	*Analyzed Date*	*Time*	*Results mg/L*
Calcium, Total	215.1	0.02	RW	02/11	2020	**2101.**
Sodium, Total	273.1	0.1	RW	02/12	2235	**66,975.**

QUALITY CONTROL DATA					
Parameter	*Blank mg/L*	*Standard Recovery**	*Spike Recovery %*	*Sample Batch SD*	*Sample Batch CV %*
Calcium, Total	0.00	99%		10.0	6.4%
Sodium, Total	0.8	105 %		0.9	0.7

R.J. Williams, Ph.D.
President

Methods utilized are from "Methods for Chemical Analysis of Water and Wastes" EPA-600/4-79-020,"Test Methods for Evaluating Solid Waste EPA-SW846", and "Standard Methods for the Examination of Water and Wastewater" 18th Edition.

Intertek Testing Services
Environmental Laboratories

ANALYTICAL REPORT

DATE RECEIVED : 5-FEB-1998

REPORT NUMBER : D98-1064
REPORT DATE : 16-FEB-1998

ATTENTION : R.J. Williams
SAMPLE SUBMITTED BY : North Texas Chemical Consultants Laboratory,
ADDRESS : 2000 Old Burk Road
: Wichita Falls, Tx. 76304

PROJECT : Tract 20 Rock Queen

Included in this data package are the analytical results for the sample group which you have submitted to Intertek Testing Services for analysis. These results are representative of the samples as received by the laboratory.

The information contained herein has undergone extensive review and is deemed accurate and complete. Sample analysis and quality control were performed in accordance with all applicable protocols. Please refrain from reproducing this report except in its entirety.

If you have any questions regarding this report and its associated materials please call your Project Manager at (972) 238-5591.

We appreciate the opportunity to serve you and look forward to providing continued service in the future.

Project Manager

Intertek Testing Services NA Inc.
1089 East Collins Boulevard Richardson, TX 75081
Telephone (972) 238-5591 Fax (972) 238-5592

Intertek Testing Services
Environmental Laboratories

DATE RECEIVED : 5-FEB-1998

REPORT NUMBER : D98-1064-1
REPORT DATE : 16-FEB-1998

SAMPLE SUBMITTED BY : North Texas Chemical Consultants Laboratory,
ADDRESS : 2000 Old Burk Road
: Wichita Falls, Tx. 76304
ATTENTION : R.J. Williams

SAMPLE MATRIX : Liquid
ID MARKS : JR007
PROJECT : Tract 20 Rock Queen
DATE SAMPLED : 2-FEB-1998

TOTAL METALS			
TEST REQUESTED		DETECTION LIMIT	RESULTS
Silver	/1	0.005 mg/L	0.013 mg/L
Dilution Factor : 1 Prepared using EPA 200.7 on 10-FEB-1998 by CEL Analyzed using EPA 200.7 on 12-FEB-1998 by MPE QC Batch No : AC330-13			
Aluminum	/1	0.05 mg/L	< 0.05 mg/L
Dilution Factor : 1 Prepared using EPA 200.7 on 10-FEB-1998 by CEL Analyzed using EPA 200.7 on 10-FEB-1998 by GAY QC Batch No : AC330-13			
Arsenic	/1	0.01 mg/L	< 0.01 mg/L
Dilution Factor : 1 Prepared using EPA 200.7 on 10-FEB-1998 by CEL Analyzed using EPA 200.7 on 10-FEB-1998 by GAY QC Batch No : AC330-13			
Barium	/1	0.010 mg/L	0.111 mg/L
Dilution Factor : 1 Prepared using EPA 200.7 on 10-FEB-1998 by CEL Analyzed using EPA 200.7 on 10-FEB-1998 by GAY QC Batch No : AC330-13			
Boron	/1	10 mg/L	210 mg/L
Dilution Factor : 100 Prepared using EPA 200.7 on 10-FEB-1998 by CEL Analyzed using EPA 200.7 on 13-FEB-1998 by GAY QC Batch No : AC330-13			

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REPORT NUMBER : D98-1064-1 PAGE 2

TOTAL METALS			
TEST REQUESTED		DETECTION LIMIT	RESULTS
Cadmium	/1	0.005 mg/L	< 0.005 mg/L
Dilution Factor : 1 Prepared using EPA 200.7 on 10-FEB-1998 by CEL Analyzed using EPA 200.7 on 10-FEB-1998 by GAY QC Batch No : AC330-13			
Cobalt	/1	0.050 mg/L	< 0.050 mg/L
Dilution Factor : 1 Prepared using EPA 200.7 on 10-FEB-1998 by CEL Analyzed using EPA 200.7 on 10-FEB-1998 by GAY QC Batch No : AC330-13			
Chromium	/1	0.025 mg/L	< 0.025 mg/L
Dilution Factor : 1 Prepared using EPA 200.7 on 10-FEB-1998 by CEL Analyzed using EPA 200.7 on 10-FEB-1998 by GAY QC Batch No : AC330-13			
Copper	/1	0.025 mg/L	< 0.025 mg/L
Dilution Factor : 1 Prepared using EPA 200.7 on 10-FEB-1998 by CEL Analyzed using EPA 200.7 on 10-FEB-1998 by GAY QC Batch No : AC330-13			
Iron	/1	0.500 mg/L	13.6 mg/L
Dilution Factor : 1 Prepared using EPA 200.7 on 10-FEB-1998 by CEL Analyzed using EPA 200.7 on 10-FEB-1998 by GAY QC Batch No : AC330-13			
Mercury	/1	0.0002 mg/L	< 0.0002 mg/L
Dilution Factor : 1 Prepared using EPA 245.1 on 11-FEB-1998 by IH Analyzed using EPA 245.1 on 12-FEB-1998 by AH QC Batch No : AC330-25			
Manganese	/1	0.005 mg/L	4.68 mg/L
Dilution Factor : 1 Prepared using EPA 200.7 on 10-FEB-1998 by CEL Analyzed using EPA 200.7 on 10-FEB-1998 by GAY QC Batch No : AC330-13			

REPORT NUMBER : D98-1064-1 PAGE 3

TOTAL METALS			
TEST REQUESTED		DETECTION LIMIT	RESULTS
Molybdenum	/1	0.025 mg/L	< 0.025 mg/L
Dilution Factor : 1 Prepared using EPA 200.7 on 10-FEB-1998 by CEL Analyzed using EPA 200.7 on 10-FEB-1998 by GAY QC Batch No : AC330-13			
Nickel	/1	0.025 mg/L	< 0.025 mg/L
Dilution Factor : 1 Prepared using EPA 200.7 on 10-FEB-1998 by CEL Analyzed using EPA 200.7 on 10-FEB-1998 by GAY QC Batch No : AC330-13			
Lead	/1	0.025 mg/L	< 0.025 mg/L
Dilution Factor : 1 Prepared using EPA 200.7 on 10-FEB-1998 by CEL Analyzed using EPA 200.7 on 10-FEB-1998 by GAY QC Batch No : AC330-13			
Selenium	/1	0.3 mg/L	< 0.3 mg/L
Dilution Factor : 25 Prepared using EPA 206.2/270.2 on 11-FE3-1998 by CEL Analyzed using EPA 270.2 on 12-FEB-1998 by AH QC Batch No : AC330-22F			
Zinc	/1	0.100 mg/L	< 0.100 mg/L
Dilution Factor : 1 Prepared using EPA 200.7 on 10-FEB-1998 by CEL Analyzed using EPA 200.7 on 10-FEB-1998 by GAY QC Batch No : AC330-13			

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North Texas Chemical Consultants
Laboratory
Environmental & Analytical Services
2000 Old Burk Road Wichita Falls Texas 76304-1714
940-723-5868 / Fax 940-723-5886

Playa water

Sample Submitted By: Northland Operating
719 Scott Suite 624
Wichita Falls, Texas 76301
Attention: John Rhodes

Report Date: February 26, 1998
Report Number: JR-008
Received Date: February 3, 1998
Received Time: 1140
Chain of Custody #: 3213

SAMPLE ID: 2-Playa, February 2, 1998; 1240 Grab						
Parameter	*Method*	*Detection Limit mg/L*	*Analyst*	*Analyzed Date*	*Time*	*Results mg/L*
Calcium, Total	215.1	0.02	RW	02/11	2020	**147.9**
Sodium, Total	273.1	0.1	RW	02/12	2235	**2827.**

QUALITY CONTROL DATA					
Parameter	*Blank mg/L*	*Standard Recovery**	*Spike Recovery %*	*Sample Batch SD*	*Sample Batch CV %*
Calcium, Total	0.00	99%		10.0	6.4%
Sodium, Total	0.8	105 %		0.9	0.7

R.J. Williams, Ph.D.
President

Methods utilized are from "Methods for Chemical Analysis of Water and Wastes" EPA-600/4-79-020,"Test Methods for Evaluating Solid Waste EPA-SW846", and "Standard Methods for the Examination of Water and Wastewater" 18th Edition.

NTCC
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Laboratory
Environmental & Analytical Services
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940-723-5868 / Fax 940-723-5886

Playa water

Sample Submitted By: Northland Operating
719 Scott Suite 624
Wichita Falls, Texas 76301
Attention: John Rhodes

Report Date: February 26, 1998
Report Number: JR-008
Received Date: February 3, 1998
Received Time: 1140
Chain of Custody #: 3213

SAMPLE ID: 2-Playa, February 2, 1998; 1240 Grab						
Parameter	*Method*	*Detection Limit mg/L*	*Analyst*	*Analyzed Date*	*Time*	*Results mg/L*
Sulfate, Total as SO_4^{2-}	375.4	100.	JQ	02/05	1500	**23.**
Chloride, as Cl^-	325.3	1.	JQ	02/05	1730	**5058.**

QUALITY CONTROL DATA					
Parameter	*Blank mg/L*	*Standard Recovery**	*Spike Recovery %*	*Sample Batch SD*	*Sample Batch CV %*
Chloride, as Cl^-	0.	101 %		12.8	0.3
Sulfate, Total as SO_4^{2-}	0.	96 %		70.5	4.2

- Hach Sulfate Std. : 50.0 mg/L; Chloride Std. 100.0 mg/L.

R.J. Williams, Ph.D.
President

Methods utilized are from "Methods for Chemical Analysis of Water and Wastes" EPA-600/4-79-020, "Test Methods for Evaluating Solid Waste EPA-SW846", and "Standard Methods for the Examination of Water and Wastewater" 18th Edition.

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Environmental Laboratories

Plug A water

DATE RECEIVED : 5-FEB-1998

REPORT NUMBER : D98-1064-2
REPORT DATE : 16-FEB-1998

SAMPLE SUBMITTED BY : North Texas Chemical Consultants Laboratory,
ADDRESS : 2000 Old Burk Road
: Wichita Falls, Tx. 76304
ATTENTION : R.J. Williams

SAMPLE MATRIX : Liquid
ID MARKS : JR008
PROJECT : ~~Tract~~ 20 Rick Queen
DATE SAMPLED : 2-FEB-1998

TOTAL METALS			
TEST REQUESTED		DETECTION LIMIT	RESULTS
Silver	/1	0.005 mg/L	< 0.005 mg/L
Dilution Factor : 1 Prepared using EPA 200.7 on 10-FEB-1998 by CEL Analyzed using EPA 200.7 on 12-FEB-1998 by MPE QC Batch No : AC330-13			
Aluminum	/1	0.05 mg/L	1.54 mg/L
Dilution Factor : 1 Prepared using EPA 200.7 on 10-FEB-1998 by CEL Analyzed using EPA 200.7 on 10-FEB-1998 by GAY QC Batch No : AC330-13			
Arsenic	/1	0.01 mg/L	< 0.01 mg/L
Dilution Factor : 1 Prepared using EPA 200.7 on 10-FEB-1998 by CEL Analyzed using EPA 200.7 on 10-FEB-1998 by GAY QC Batch No : AC330-13			
Barium	/1	0.010 mg/L	0.784 mg/L
Dilution Factor : 1 Prepared using EPA 200.7 on 10-FEB-1998 by CEL Analyzed using EPA 200.7 on 10-FEB-1998 by GAY QC Batch No : AC330-13			
Boron	/1	1.0 mg/L	4.0 mg/L
Dilution Factor : 10 Prepared using EPA 200.7 on 10-FEB-1998 by CEL Analyzed using EPA 200.7 on 13-FEB-1998 by GAY QC Batch No : AC330-13			

REPORT NUMBER : D98-1064-2 PAGE 2

TOTAL METALS			
TEST REQUESTED		DETECTION LIMIT	RESULTS
Cadmium	/1	0.001 mg/L	< 0.001 mg/L
Dilution Factor : 1 Prepared using EPA 200.7 on 10-FEB-1998 by CEL Analyzed using EPA 200.7 on 10-FEB-1998 by GAY QC Batch No : AC330-13			
Cobalt	/1	0.010 mg/L	< 0.010 mg/L
Dilution Factor : 1 Prepared using EPA 200.7 on 10-FEB-1998 by CEL Analyzed using EPA 200.7 on 10-FEB-1998 by GAY QC Batch No : AC330-13			
Chromium	/1	0.005 mg/L	0.007 mg/L
Dilution Factor : 1 Prepared using EPA 200.7 on 10-FEB-1998 by CEL Analyzed using EPA 200.7 on 10-FEB-1998 by GAY QC Batch No : AC330-13			
Copper	/1	0.005 mg/L	< 0.005 mg/L
Dilution Factor : 1 Prepared using EPA 200.7 on 10-FEB-1998 by CEL Analyzed using EPA 200.7 on 10-FEB-1998 by GAY QC Batch No : AC330-13			
Iron	/1	0.100 mg/L	0.935 mg/L
Dilution Factor : 1 Prepared using EPA 200.7 on 10-FEB-1998 by CEL Analyzed using EPA 200.7 on 10-FEB-1998 by GAY QC Batch No : AC330-13			
Mercury	/1	0.0002 mg/L	< 0.0002 mg/L
Dilution Factor : 1 Prepared using EPA 245.1 on 11-FEB-1998 by IH Analyzed using EPA 245.1 on 12-FEB-1998 by AH QC Batch No : AC330-25			
Manganese	/1	0.005 mg/L	0.130 mg/L
Dilution Factor : 1 Prepared using EPA 200.7 on 10-FEB-1998 by CEL Analyzed using EPA 200.7 on 10-FEB-1998 by GAY QC Batch No : AC330-13			

REPORT NUMBER : D98-1064-2 PAGE 3

TOTAL METALS			
TEST REQUESTED		DETECTION LIMIT	RESULTS
Molybdenum	/1	0.005 mg/L	< 0.005 mg/L
Dilution Factor : 1 Prepared using EPA 200.7 on 10-FEB-1998 by CEL Analyzed using EPA 200.7 on 10-FEB-1998 by GAY QC Batch No : AC330-13			
Nickel	/1	0.005 mg/L	0.007 mg/L
Dilution Factor : 1 Prepared using EPA 200.7 on 10-FEB-1998 by CEL Analyzed using EPA 200.7 on 10-FEB-1998 by GAY QC Batch No : AC330-13			
Lead	/1	0.005 mg/L	< 0.005 mg/L
Dilution Factor : 1 Prepared using EPA 200.7 on 10-FEB-1998 by CEL Analyzed using EPA 200.7 on 10-FEB-1998 by GAY QC Batch No : AC330-13			
Selenium	/1	0.002 mg/L	< 0.002 mg/L
Dilution Factor : 1 Prepared using EPA 206.2/270.2 on 11-FEB-1998 by CEL Analyzed using EPA 270.2 on 12-FEB-1998 by AH QC Batch No : AC330-22F			
Zinc	/1	0.020 mg/L	< 0.020 mg/L
Dilution Factor : 1 Prepared using EPA 200.7 on 10-FEB-1998 by CEL Analyzed using EPA 200.7 on 10-FEB-1998 by GAY QC Batch No : AC330-13			

Intertek Testing Services
Environmental Laboratories

Plaza water

DATE RECEIVED : 5-FEB-1998

REPORT NUMBER : D98-1064-3
REPORT DATE : 16-FEB-1998

SAMPLE SUBMITTED BY : North Texas Chemical Consultants Laboratory,
ADDRESS : 2000 Old Burk Road
: Wichita Falls, Tx. 76304
ATTENTION : R.J. Williams

SAMPLE MATRIX : Liquid
ID MARKS : JR009
PROJECT : Tract 20 Rock Queen
DATE SAMPLED : 2-FEB-1998
ANALYSIS METHOD : EPA 602 /1
ANALYZED BY : CNA
ANALYZED ON : 9-FEB-1998
DILUTION FACTOR : 1
METHOD FACTOR : 1
QC BATCH NO : 30-020898A

BTEX ANALYSIS			
TEST REQUESTED	DETECTION LIMIT	RESULTS	
Benzene	1.0 µg/L	< 1.0 µg/L	
Toluene	1.0 µg/L	< 1.0 µg/L	
Ethyl benzene	1.0 µg/L	< 1.0 µg/L	
Xylenes	1.0 µg/L	< 1.0 µg/L	
BTEX (total)		< 1.0 µg/L	#

QUALITY CONTROL DATA		
SURROGATE COMPOUND		SPIKE RECOVERED
Bromofluorobenzene		101 %

Based upon Good Laboratory Practice, the result is rounded to the appropriate number of significant figures.

Intertek Testing Services NA Inc.
1089 East Collins Boulevard Richardson, TX 75081
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ITS Intertek Testing Services
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Playa water

DATE RECEIVED : 5-FEB-1998

REPORT NUMBER : D98-1064-3
REPORT DATE : 16-FEB-1998

SAMPLE SUBMITTED BY : North Texas Chemical Consultants Laboratory,
ADDRESS : 2000 Old Burk Road
: Wichita Falls, Tx. 76304
ATTENTION : R.J. Williams

SAMPLE MATRIX : Liquid
ID MARKS : JR009
PROJECT : Tract 20 Rick Queen
DATE SAMPLED : 2-FEB-1998

MISCELLANEOUS ANALYSES			
TEST REQUESTED		DETECTION LIMIT	RESULTS
Alkalinity	/1	1.00 mg/L CaCO3	66.0 mg/L CaCO3
Analyzed using SM 2320B on 11-FEB-1998 by AMM QC Batch No : 206078			

Intertek Testing Services NA Inc.
1089 East Collins Boulevard Richardson, TX 75081
Telephone (972) 238-5591 Fax (972) 238-5592

Intertek Testing Services
Environmental Laboratories

Produced Saltwater

DATE RECEIVED : 5-FEB-1998

REPORT NUMBER : D98-1064-4
REPORT DATE : 16-FEB-1998

SAMPLE SUBMITTED BY : North Texas Chemical Consultants Laboratory,
ADDRESS : 2000 Old Burk Road
: Wichita Falls, Tx. 76304
ATTENTION : R.J. Williams

SAMPLE MATRIX : Liquid
ID MARKS : JR0010
PROJECT : Tract 20 Rick Queen
DATE SAMPLED : 2-FEB-1998
ANALYSIS METHOD : EPA 602 /1
ANALYZED BY : CNA
ANALYZED ON : 9-FEB-1998
DILUTION FACTOR : 50
METHOD FACTOR : 1
QC BATCH NO : 30-020898A

BTEX ANALYSIS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Benzene	50	µg/L	478	µg/L	
Toluene	50	µg/L	356	µg/L	
Ethyl benzene	50	µg/L	116	µg/L	
Xylenes	50	µg/L	296	µg/L	
BTEX (total)			1250	µg/L	#

QUALITY CONTROL DATA			
SURROGATE COMPOUND		SPIKE RECOVERED	
Bromofluorobenzene		102	%

Based upon Good Laboratory Practice, the result is rounded to the appropriate number of significant figures.

Intertek Testing Services
Environmental Laboratories

REPORT DATE : 16-FEB-1998 REPORT NUMBER : D98-1064

SAMPLE SUBMITTED BY : North Texas Chemical Consultants Laboratory,
ATTENTION : R.J. Williams
PROJECT : Tract 20 Rick Queen

LABORATORY QUALITY CONTROL REPORT

ANALYTE	Benzene	Ethylbenzene	Silver	Aluminum	Arsenic
BATCH NO.	30-020898A	30-020898A	AC330-13	AC330-13	AC330-13
LCS LOT NO.	AC033-85B	AC033-85B	AC223-25A,B	AC223-25	AC223-25
PREP METHOD	---	---	EPA 200.7	EPA 200.7	EPA 200.7
PREPARED BY	---	---	CEL	CEL	CEL
ANALYSIS METHOD	EPA 602	EPA 602	EPA 200.7	EPA 200.7	EPA 200.7
ANALYZED BY	CNA	CNA	MPE	GAY	GAY
UNITS	µg/L	µg/L	µg/L	µg/L	µg/L
METHOD BLANK	< 1.00	< 1.00	< 5.00	< 50.0	< 10.0
SPIKE LEVEL	500	500	200	10000	1000
SPK REC LIMITS	75.0 - 125	75.0 - 125	70.0 - 130	80.0 - 120	80.0 - 120
SPK RPD LIMITS	20.0	20.0	30.0	20.0	20.0
MS RESULT	501	498	205	10300	1030
MS RECOVERY %	100	99.6	103	102	103
MSD RESULT	559	563	210	9480	945
MSD RECOVERY %	112	113	105	93.6	94.5
MS/MSD RPD %	10.9	12.3	2.41	8.39	8.61
BS RESULT	NA	NA	210	9670	989
BS RECOVERY %	NA	NA	105	96.7	98.9
BSD RESULT	NA	NA	212	10600	1080
BSD RECOVERY %	NA	NA	106	106	108
BS/BSD RPD %	NA	NA	0.95	9.18	8.80
DUP RPD LIMITS	---	---	---	---	---
DUPLICATE RPD %	NA	NA	NC	NC	NC
LCS LEVEL	50.0	50.0	---	---	---
LCS REC LIMITS	75.0 - 125	75.0 - 125	---	---	---
LCS RESULT	52.0	51.8	SEE_BS	SEE_BS	SEE_BS
LCS RECOVERY %	104	104	SEE_BS	SEE_BS	SEE_BS
SPIKE SAMPLE ID	1064-3	1064-3	1177-11	1177-11	1177-11
SAMPLE VALUE	< 1.00	< 1.00	< 5.00	121	< 10.0
DUP SAMPLE ID	---	---	1177-11	1177-11	1177-11
DUP SAMPLE VAL/1	---	---	---	---	---
DUP SAMPLE VAL/2	---	---	---	---	---

NA Not applicable
SEE_BS LCS and LCS Duplicate reported as BS and BSD.
NC Not calculable

Intertek Testing Services NA Inc.
1089 East Collins Boulevard Richardson, TX 75081
Telephone (972) 238-5591 Fax (972) 238-5592

ITS Intertek Testing Services
Environmental Laboratories

REPORT DATE : 16-FEB-1998 REPORT NUMBER : D98-1064

SAMPLE SUBMITTED BY : North Texas Chemical Consultants Laboratory,
ATTENTION : R.J. Williams
PROJECT : Tract 20 Rick Queen

LABORATORY QUALITY CONTROL REPORT

ANALYTE	Barium	Boron	Cadmium	Cobalt	Chromium
BATCH NO.	AC330-13	AC330-13	AC330-13	AC330-13	AC330-13
LCS LOT NO.	AC223-25	AC223-25	AC223-25	AC223-25	AC223-25
PREP METHOD	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7
PREPARED BY	CEL	CEL	CEL	CEL	CEL
ANALYSIS METHOD	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7	EPA 200.7
ANALYZED BY	GAY	GAY	GAY	GAY	GAY
UNITS	µg/L	µg/L	µg/L	µg/L	µg/L
METHOD BLANK	< 10.0	< 100	< 1.00	< 50.0	< 5.00
SPIKE LEVEL	1000	1000	500	1000	1000
SPK REC LIMITS	80.0 - 120	80.0 - 120	80.0 - 120	80.0 - 120	80.0 - 120
SPK RPD LIMITS	20.0	20.0	20.0	20.0	20.0
MS RESULT	1040	1110	513	1020	1040
MS RECOVERY %	99.7	111	103	102	104
MSD RESULT	959	1020	471	940	952
MSD RECOVERY %	91.6	102	94.2	94.0	95.2
MS/MSD RPD %	8.47	8.45	8.54	8.16	8.84
BS RESULT	952	1050	493	984	991
BS RECOVERY %	95.2	105	98.6	98.4	99.1
BSD RESULT	1040	1160	537	1070	1080
BSD RECOVERY %	104	116	107	107	108
BS/BSD RPD %	8.84	9.95	8.54	8.37	8.59
DUP RPD LIMITS	20.0	---	---	---	---
DUPLICATE RPD %	9.01	NC	NC	NC	NC
LCS LEVEL	---	---	---	---	---
LCS REC LIMITS	---	---	---	---	---
LCS RESULT	SEE_BS	SEE_BS	SEE_BS	SEE_BS	SEE_BS
LCS RECOVERY %	SEE_BS	SEE_BS	SEE_BS	SEE_BS	SEE_BS
SPIKE SAMPLE ID	1177-11	1177-11	1177-11	1177-11	1177-11
SAMPLE VALUE	42.9	< 100	< 1.00	< 50.0	< 5.00
DUP SAMPLE ID	1177-11	1177-11	1177-11	1177-11	1177-11
DUP SAMPLE VAL/1	39.2	---	---	---	---
DUP SAMPLE VAL/2	42.9	---	---	---	---

SEE_BS LCS and LCS Duplicate reported as BS and BSD.
NC Not calculable

Intertek Testing Services NA Inc.
1089 East Collins Boulevard Richardson, TX 75081
Telephone (972) 238-5591 Fax (972) 238-5592

Intertek Testing Services
Environmental Laboratories

REPORT DATE : 16-FEB-1998 REPORT NUMBER : D98-1064

SAMPLE SUBMITTED BY : North Texas Chemical Consultants Laboratory,
ATTENTION : R.J. Williams
PROJECT : Tract 20 Rick Queen

LABORATORY QUALITY CONTROL REPORT

ANALYTE	Copper	Iron	Mercury	Manganese	Molybdenum
BATCH NO.	AC330-13	AC330-13	AC330-25	AC330-13	AC330-13
LCS LOT NO.	AC223-25	AC223-25	AC223-20	AC223-25	AC223-25
PREP METHOD	EPA 200.7	EPA 200.7	EPA 245.1	EPA 200.7	EPA 200.7
PREPARED BY	CEL	CEL	IH	CEL	CEL
ANALYSIS METHOD	EPA 200.7	EPA 200.7	EPA 245.1	EPA 200.7	EPA 200.7
ANALYZED BY	GAY	GAY	AH	GAY	GAY
UNITS	µg/L	µg/L	µg/L	µg/L	µg/L
METHOD BLANK	< 5.00	< 100	< 0.200	< 5.00	< 5.00
SPIKE LEVEL	1000	10000	3.00	1000	400
SPK REC LIMITS	80.0 - 120	80.0 - 120	80.0 - 120	80.0 - 120	80.0 - 120
SPK RPD LIMITS	20.0	20.0	20.0	20.0	20.0
MS RESULT	2140	10500	2.95	1070	412
MS RECOVERY %	102	105	94.7	106	103
MSD RESULT	1970	9650	2.93	981	381
MSD RECOVERY %	85.0	96.5	94.0	97.6	95.3
MS/MSD RPD %	18.2	8.44	0.71	8.72	7.82
BS RESULT	973	10000	NA	1020	397
BS RECOVERY %	97.3	100	NA	102	99.3
BSD RESULT	1060	10900	NA	1110	435
BSD RECOVERY %	106	109	NA	111	109
BS/BSD RPD %	8.56	8.61	NA	8.45	9.13
DUP RPD LIMITS	20.0	---	---	20.0	---
DUPLICATE RPD %	8.37	NC	NC	14.4	NC
LCS LEVEL	---	---	3.00	---	---
LCS REC LIMITS	---	---	80.0 - 120	---	---
LCS RESULT	SEE_BS	SEE_BS	2.89	SEE_BS	SEE_BS
LCS RECOVERY %	SEE_BS	SEE_BS	96.3	SEE_BS	SEE_BS
SPIKE SAMPLE ID	1177-11	1177-11	1064-2	1177-11	1177-11
SAMPLE VALUE	1120	< 100	0.110	5.36	< 5.00
DUP SAMPLE ID	1177-11	1177-11	1064-2	1177-11	1177-11
DUP SAMPLE VAL/1	1030	---	---	4.64	---
DUP SAMPLE VAL/2	1120	---	---	5.36	---

SEE_BS LCS and LCS Duplicate reported as BS and BSD.
NC Not calculable
NA Not applicable

Intertek Testing Services NA Inc.
1089 East Collins Boulevard Richardson, TX 75081
Telephone (972) 238-5591 Fax (972) 238-5592

Intertek Testing Services
Environmental Laboratories

REPORT DATE : 16-FEB-1998 REPORT NUMBER : D98-1064

SAMPLE SUBMITTED BY : North Texas Chemical Consultants Laboratory,
ATTENTION : R.J. Williams
PROJECT : Tract 20 Rick Queen

LABORATORY QUALITY CONTROL REPORT

ANALYTE	Nickel	Lead	Selenium	Zinc	Alkalinity
BATCH NO.	AC330-13	AC330-13	AC330-22F	AC330-13	206078
LCS LOT NO.	AC223-25	AC223-25	AC223-20	AC223-25	809056C
PREP METHOD	EPA 200.7	EPA 200.7	EPA 206.2/270.2	EPA 200.7	---
PREPARED BY	CEL	CEL	CEL	CEL	---
ANALYSIS METHOD	EPA 200.7	EPA 200.7	EPA 270.2	EPA 200.7	SM 2320B
ANALYZED BY	GAY	GAY	AH	GAY	AMM
UNITS	µg/L	µg/L	µg/L	µg/L	mg/L
METHOD BLANK	< 5.00	< 5.00	< 2.00	< 20.0	< 1.00
SPIKE LEVEL	1000	1000	20.0	1000	100
SPK REC LIMITS	80.0 - 120	80.0 - 120	80.0 - 120	80.0 - 120	80.0 - 120
SPK RPD LIMITS	20.0	20.0	20.0	20.0	10.0
MS RESULT	1020	1030	18.3	1090	242
MS RECOVERY %	102	103	91.5	102	88.0
MSD RESULT	934	949	18.8	997	240
MSD RECOVERY %	93.4	94.9	94.0	93.0	86.0
MS/MSD RPD %	8.80	8.19	2.70	9.52	2.30
BS RESULT	976	995	NA	976	NA
BS RECOVERY %	97.6	99.5	NA	97.6	NA
BSD RESULT	1070	1080	NA	1070	NA
BSD RECOVERY %	107	108	NA	107	NA
BS/BSD RPD %	9.19	8.19	NA	9.19	NA
DUP RPD LIMITS	---	---	---	20.0	10.0
DUPLICATE RPD %	NC	NC	NC	7.60	2.63
LCS LEVEL	---	---	20.0	---	100
LCS REC LIMITS	---	---	80.0 - 120	---	80.0 - 120
LCS RESULT	SEE_BS	SEE_BS	17.5	SEE_BS	96.0
LCS RECOVERY %	SEE_BS	SEE_BS	87.5	SEE_BS	96.0
SPIKE SAMPLE ID	1177-11	1177-11	1212-2	1177-11	1099-1
SAMPLE VALUE	< 5.00	< 5.00	< 2.00	66.9	154
DUP SAMPLE ID	1177-11	1177-11	1212-2	1177-11	1099-1
DUP SAMPLE VAL/1	---	---	---	62.0	150
DUP SAMPLE VAL/2	---	---	---	66.9	154

SEE_BS LCS and LCS Duplicate reported as BS and BSD.
NC Not calculable
NA Not applicable

Intertek Testing Services NA Inc.
1089 East Collins Boulevard Richardson, TX 75081
Telephone (972) 238-5591 Fax (972) 238-5592

Date Remediation Started: Nov. 18, 1997 **Date Completed:** Nov. 28, 1997

Remediation Method: (Check all appropriate sections) **Excavation** xx **Approx. cubic yards** 240 yards *

Landfarmed ___ **Insitu Bioremediation** ___

Other * plus additional 320 yards from tank cleaning

Remediation Location: (ie. landfarmed onsite, name and location of offsite facility) **Onsite** ___ **Offsite** Hauled all material to Controlled Recovery, Inc.

General Description Of Remedial Action: Hauled to Controlled Recovery, Inc as above

Ground Water Encountered: **No** xx **Yes** ___ **Depth** ___

Final Pit: Closure Sampling: (if multiple samples, attach sample results and diagram of sample locations and depths)

Sample location Multiple samples, see attached

Sample depth ___

Sample date ___ **Sample time** ___

Sample Results

Benzene(ppm) ___

Total BTEX(ppm) ___

Field headspace(ppm) ___

TPH ___

Ground Water Sample: **Yes** ___ **No** ___ (If yes, attach sample results)

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

DATE 2/27/98

SIGNATURE V. E Butler PRINTED NAME AND TITLE V. Ed Butler Vice President

NORTHLAND OPERATING COMPANY
Rock Queen Unit Saltwater Plant #2
North (primary) pit
Sample Results

Sample location or depth below ground level (BGL)		
Random in bottom of pit (BBC International, November 24, 1997 - Cardinal Laboratories H3332-3 #3)	BTEX: benzene	< 0.002 ppm (mg/Kg)
	toluene	< 0.002 ppm
	ethyl benzene	0.022 ppm
	total xylenes	0.089 ppm

The above sample was taken prior to repair work on the saltwater tank at this location. That work resulted in this pit being used for drainage from the tank so that repairs could be made.

Random in bottom of pit after repairs (SESI, field sample, December 10, 1997)	Total Petroleum Hydrocarbon: TPH 1870 ppm
Vertical Profile samples December 10, 1997	
19' BGL (field sample, SESI)	TPH: 13 ppm BTEX: 12 ppm by PID
28' BGL (field sample, SESI)	TPH: 53 ppm BTEX: 1.4 ppm by PID
28' BGL (Cardinal Laboratories H3371-1, confirming sample)	TPH: < 10 ppm (mg/Kg)

Depth of pit: approximately 8' BGL

P.O. Box 1980, Hobbs, NM
District II
P.O. Drawer DD, Artesia, NM 88211
District III
1000 Rio Brazos Rd, Aztec, NM 87410

Energy, Minerals and Natural Resources Department

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

SUBMIT 1 COPY TO APPROPRIATE DISTRICT OFFICE AND 1 COPY TO SANTA FE OFFICE

(Revised 3/9/94)

PIT REMEDIATION AND CLOSURE REPORT

Operator: Northland Operating Company **Telephone:** 1-214-521-9959

Address: 3500 Oak Lawn, L.B. #31, Dallas, Texas 75219-4398

Facility Or: Well Name Rock Queen Unit Saltwater Plant #2 - middle pit

Location: Unit or Qtr/Qtr Sec SE/4, NE/4 Sec 25 T 13S R 31E County Chaves

Pit Type: Separator ___ Dehydrator ___ Other Secondary emergency overflow

Land Type: BLM ___, State ___, Fee ___, Other Private

Pit Location: (Attach diagram)

Pit dimensions: length 35', width 40', depth 6' after excavation

Reference: wellhead ___, other ___

Footage from reference: ___

Direction from reference: ___ Degrees ___ East North ___ of ___ West South ___

Depth To Ground Water: (Vertical distance from contaminants to seasonal high water elevation of ground water)	Less than 50 feet (20 points) 50 feet to 99 feet (10 points) Greater than 100 feet (0 Points)	0
Wellhead Protection Area: (Less than 200 feet from a private domestic water source, or; less than 1000 feet from all other water sources)	Yes (20 points) No (0 points)	0
Distance To Surface Water: (Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)	Less than 200 feet (20 points) 200 feet to 1000 feet (10 points) Greater than 1000 feet (0 points)	0
	RANKING SCORE (TOTAL POINTS):	0

NORTHLAND OPERATING COMPANY
Rock Queen Unit Saltwater Plant #2
Middle pit
Sample Results

Sample location or depth below ground level (BGL)		
Random sample from bottom of pit (BBC International, November 24, 1997 - Cardinal Laboratories H3332-2 #2)	BTEX: benzene:	< 0.002 ppm(mg/Kg)
	toluene:	0.008 ppm
	ethyl benzene:	0.012 ppm
	total xylenes:	0.038 ppm
BBC - field sample November 24	Total Petroleum hydrocarbon: TPH:	2220 ppm

The above sample was taken for establishing the results of work done to that point in time. Hauled additional material from this pit on November 28 in order to reduce further the TPH level.

Random sample from the bottom of the pit December 10, 1997, field sample, SESI	TPH:	2667 ppm
Vertical Profile samples December 10, 1997		
10' BGL (field sample, SESI) (4' below pit floor)	TPH:	267 ppm
20' BGL (field sample, SESI)	TPH:	non-detect
20' BGL (Cardinal Laboratories H3371-2)	TPH:	< 10 ppm (mg/Kg)

Bottom of pit 6' below ground level after final excavation

P.O. Box 1980, Hobbs, NM
District II
P.O. Drawer DD, Artesia, NM 88211
District III
1000 Rio Brazos Rd, Aztec, NM 87410

Energy, Minerals and Natural Resources Department

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

SUBMIT 1 COPY TO APPROPRIATE DISTRICT OFFICE AND 1 COPY TO SANTA FE OFFICE

(Revised 3/9/94)

PIT REMEDIATION AND CLOSURE REPORT

Operator: Northland Operating Company **Telephone:** 1-214-521-9959

Address: 3500 Oak Lawn, L.B. #31, Dallas, Texas 75219-4398

Facility Or Well Name: Rock Queen Unit Saltwater Plant #2 - South (never used) pit

Location: Unit or Qtr/Qtr Sec SE/4, NE/4 Sec 25 T 13S R 31E County Chaves

Pit Type: Separator___ Dehydrator___ Other Never used, intended as overflow

Land Type: BLM___, State ___, Fee ___, Other Private

Pit Location: (Attach diagram)

Pit dimensions: length 66', width 72', depth 9'

Reference: wellhead___, other _____

Footage from reference: _____

Direction from reference: _____ Degrees ___ East North ___ of ___ West South ___

Depth To Ground Water: (Vertical distance from contaminants to seasonal high water elevation of ground water)	Less than 50 feet (20 points) 50 feet to 99 feet (10 points) Greater than 100 feet (0 Points)	0
Wellhead Protection Area: (Less than 200 feet from a private domestic water source, or; less than 1000 feet from all other water sources)	Yes (20 points) No (0 points)	0
Distance To Surface Water: (Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)	Less than 200 feet (20 points) 200 feet to 1000 feet (10 points) Greater than 1000 feet (0 points)	0
	RANKING SCORE (TOTAL POINTS):	0

Date Remediation Started: n/a **Date Completed:** n/a

Remediation Method: (Check all appropriate sections) **Excavation** ___ **Approx. cubic yards** none

Landfarmed ___ **Insitu Bioremediation** ___

Other _____

Remediation Location: (ie. landfarmed onsite, name and location of offsite facility) **Onsite** ___ **Offsite** n/a

General Description Of Remedial Action: Tested soil in bottom of pit to see if any action was necessary. See sample results below.

Ground Water Encountered: **No** XX **Yes** ___ **Depth** _____

Final Pit: Closure Sampling: (if multiple samples, attach sample results and diagram of sample locations and depths)

Sample location Random sample in bottom of pit

Sample depth Pit bottom surface sample

Sample date November 24, 1997 **Sample time** _____

Sample Results

Benzene(ppm) 0.002 ppm (mg/Kg)

Total BTEX(ppm) see attached

Field headspace(ppm) _____

TPH _____

Ground Water Sample: **Yes** ___ **No** ___ (If yes, attach sample results)

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

DATE 2/27/98

SIGNATURE V. Ed Butler **PRINTED NAME AND TITLE** V. Ed Butler, Vice President

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

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

February 17, 1998

CERTIFIED MAIL
RETURN RECEIPT NO. P-326-936-397

Mr. V. Ed Butler
Northland Operating Company
3500 Oak Lawn
Suite 380
Dallas, TX 75219-4398

RE: Pit Closure Report
Northland Operating Company
SE/4, NE/4, Section 25, Township 13 South, Range 31 East, NMPM
Chaves County, New Mexico

Dear Mr. Butler:

The New Mexico Oil Conservation Division (OCD) has received the Northland Operating Company (Northland) Pit Closure Report dated January 16, 1998 regarding the pit closures at the above referenced location. The OCD has reviewed the information provided by Northland and requires additional information to aid in the review of the closure report. Northland shall submit the following:

1. Chain of custody for the BETX analysis, Cardinal Laboratories number H3332-1, H3332-2, and H3332-3;

2. Chain of custody and original laboratory report for the ground water and playa analysis, sample ID JR001, JR002, and JR003;

3. Completed Pit Remediation And Closure Report Forms. The Form shall stipulate the location to which the contaminated soil was hauled. In addition, all Forms shall have the original date and signature by the appropriate Northland Operating Company representative.

Final approval of the closure plan will be deferred until the requested materials listed above are received and evaluated. Northland shall submit the requested materials to the OCD Santa Fe office and a copy to the Hobbs District office **no later than March 6, 1998**.

If you require any further information concerning closure procedures please contact me at (505) 827-7153.

Sincerely,

Martyne J. Kieling
Environmental Geologist

xc: Hobbs OCD Office
Ed Morney, Field Superintendent, Northland, P.O. Box 119, Maljamar, NM 88264

Northland

MEMORANDUM OF CONVERSATION

12-9-97 &

✓ TELEPHONE ___ PERSONAL TIME 10:45 DATE 12-10-97

ORIGINATTING PARTY Dike Browning Saftey Solutions (Bob Alan)
505 397 0510
505 369 9239

OTHER PARTIES Martyne Kicling

DISCUSSION Sampling of Exempt Waste Pits Next to SWD
Take one Sample From the center of the two Pits that had contamination. Plug with Bentonite & Grout top 5 Feet.
At the Non exempt waste pit Take Sample for Waste Characterization and Document Vertical Extent.

CONCLUSIONS

~~CHRIS EUSTICE~~

MEMORANDUM OF CONVERSATION

X TELEPHONE ___ PERSONAL TIME 8:30 DATE 11-15-17

ORIGINATTING PARTY Art Hillier

OTHER PARTIES Martyne Kicling

DISCUSSION SE, NE, 25 T13S R31E

Northland 3 pits waste is exemp and is Going to CRI. I Confirmed waste is exempt And is ok to Accept at CRI with waste Status C138

CONCLUSIONS

~~CHRIS EUSTICE~~ Martyne Kicling

NORTHLAND OPERATING COMPANY

February 4, 1998

Ms. Martyne Kieling
Environmental Geologist
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division – Environmental Bureau
2040 South Pacheco Street
Santa Fe, New Mexico 87505

Re: Pit Closures – Rock Queen Unit Saltwater Plant #2 (three pits)

Dear Ms. Kieling:

As you are aware, Northland has excavated and hauled to an approved facility approximately 560 yards of material from the 'north' pit and 286 yards of material from the 'middle' pit at the referenced facility. Soil samples were taken from the bottom of all three pits at this facility (the 'south' pit appeared to have never received any hydrocarbons). These samples were collected by an independent third party (BBC International) and submitted to Cardinal Laboratory for BTEX analysis. The report from Cardinal is attached. Samples from these three pits are identified as H3332-3 #3 (north pit), H-3332-2 #2 (middle pit) and H3332-1 #1 (south pit). After these pit bottom tests, Northland made provisions to determine the vertical extent of any hydrocarbon migration beneath the north and middle pits. A path was made into these two pits to allow the drilling rig to set up in the bottom of the two pits. This was the optimal place to determine if any significant vertical migration had occurred. Enclosed are the reports from Safety & Environmental Solutions, Inc. that provide details of this vertical profiling work in the north and middle pits.

Please review the enclosed material for completeness as it relates to your needs. It is our position that these three pits are ready to be filled, but we are reluctant to proceed without your approval. It appears we have met all of the requirements of the pit closure guidelines. Please be aware that we did not notify the OCD when the pit bottom samples were taken for BTEX analysis on November 24, 1997. Excavation had been done and I personally was too eager to wait a couple of days to determine the levels of contamination remaining. In the interest of impartiality, we did employ a third party to collect these samples and submit them to a laboratory of his choice for analysis. We have no doubts as to the validity or impartiality of these BTEX results. At this point in time, additional pit floor samples from the north and middle pits would require that we excavate the material that was unavoidably pushed into these pits to provide access to the drilling rig used for vertical profiling. Please let us know your thoughts.

Respectfully,

John E. Rhoads
Agent for Northland Operating

cc: Mr. Wayne Price, OCD

3500 OAKLAWN, L. B. #31 • DALLAS, TEXAS • 75219-4398
PHONE: 214-521-9959 • FAX: 214-521-9960

CARDINAL LABORATORIES

PHONE (915) 673-7001 · 2111 BEECHWOOD · ABILENE, TX 79603
PHONE (505) 393-2326 · 101 E. MARLAND · HOBBS, NM 88240

ANALYTICAL RESULTS FOR
BBC INTERNATIONAL
ATTN: JOE FRANK DEAN
P O. BOX 297
HOBBS, NM 88241-0297
FAX TO: 505-397-0397

Receiving Date: 11/24/97
Reporting Date: 12/01/97
Project Number: NOT GIVEN
Project Name: NORLAND OPERATING
Project Location: SALT WATER PIT #2

Sampling Date: 11/24/97
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: JS
Analyzed By: BC

LAB NUMBER	SAMPLE ID	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS DATE		11/25/97	11/25/97	11/25/97	11/25/97
H3332-1	#1	<0.002	<0.002	<0.002	<0.006
H3332-2	#2	<0.002	0.008	0.012	0.036
H3332-3	#3	<0.002	<0.002	0.022	0.089
Quality Control		0.101	0.090	0.094	0.278
True Value QC		0.100	0.100	0.100	0.300
% Accuracy		101	90	94	92
Relative Percent Difference		0.9	11.1	6.4	0.5

METHOD: EPA SW 846-8020, 5030, Gas Chromatography

Chemist

12/1/97
Date

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
BBC INTERNATIONAL
ATTN: JOE FRANK DEAN
P.O. BOX 297
HOBBS, NM 88240
FAX TO: 505-397-0397

Receiving Date: 11/21/97
Reporting Date: 11/24/97
Project Number: NOT GIVEN
Project Name: NORTHERN OPERATION
Project Location: NOT GIVEN

Analysis Date: 11/21/97
Sampling Date: 11/21/97
Sample Type: SOIL
Sample Condition: COOL, INTACT
Sample Received By: AH
Analyzed By: AH

LAB NUMBER	SAMPLE ID	TPH (mg/Kg)
H3328-1	-	2220
Quality Control		212
True Value QC		200
% Recovery		106
Relative Percent Difference		0.5

METHOD: EPA 418.1, 3510, 3540, or 3550; Infrared Spectroscopy

Chemist

11/24/97
Date

CARDINAL LABORATORIES

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page ___ of ___

Company Name:	~~BBC~~ Abortion operations
Project Manager:	Joe F. Dean
Address:	
City: State: Zip:	
Phone #:	505-397-6580
Fax #:	392-0397
Project #:	
Project Name:	
Project Location:	Salt water pit #2

BILL TO	PO #:
Company:	BBC
Attn:	
Address:	
City:	
State: Zip:	
Phone #:	
Fax #:	

LAB I.D. #	Sample I.D.	COMP(C) OR GRAB(G)	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID:	ICE / COOL	OTHER:	DATE	TIME	Benzene (Analysis Request)								
H 3339	~~Sample~~ #1												11-24-97	10:20 Am	✓								
	#2												11/24/97	10:15 Am	✓								
	#3												11/24/97	10:40 Am	✓								

PLEASE NOTE: [illegible]

Sampler Relinquished: [signature]	Date: 11-24-97 Time: 1:09pm	Received By: [signature]	Phone Result: ☐ Yes ☐ No Additional Fax #:
Relinquished By:	Date: Time:	Received By: (Lab Staff) [signature]	Fax Results: ☐ Yes ☐ No
Delivered By: (Circle One) UPS - Fed Ex - Bus - Other:		Sample Condition: Cool ☐ Yes ☒ No; Intact ☒ Yes ☐ No	CHECKED BY: (Initials) REMARKS:

15053932476

CARDINAL LABS

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

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

November 6, 1997

CERTIFIED MAIL
RETURN RECEIPT NO. P-326-936-364

Mr. Robert E. McKnight
Northland Operating Company
3500 Oak Lawn
Suite 380
Dallas, TX 75219-4398

RE: Pit Closure
Northland Operating Company
SE/4, NE/4, Section 25, Township 13 South, Range 31 East, NMPM
Chaves County, New Mexico

Dear Mr. McKnight:

The New Mexico Oil Conservation Division (OCD) has received the Northland Operating Company (Northland) letter dated October 30, 1997 regarding the pit closures at the above referenced location. According to the information supplied by Northland and the fact that there were no drums, buckets or containers in the pits at the above referenced location the OCD agrees with Northland's determination that the waste is exempt oilfield waste.

In addition, The concepts proposed in the Northland pit closure outline are hearby tentatively approved. However, final approval of the closure plan will be deferred until sample analysis are received and evaluated from Step IV, proposed in the pit closure outline. At such time Northland shall clarify Step V of the pit closure plan. Northland may proceed with Steps I-IV and VII proposed in the pit closure outline. Northland shall submit the sample analysis data and clarification to Step V to the OCD Santa Fe office and a copy to the Hobbs District office **no later than January 20, 1998**.

If you require any further information concerning closure procedures please contact me at (505) 827-7153.

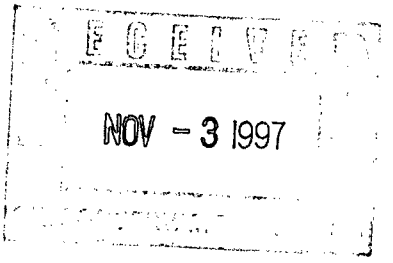
Sincerely,

Martyne J. Kieling
Environmental Geologist

xc: Hobbs OCD Office
Ed Morney, Field Superintendent, Northland, P.O. Box 119, Maljamar, NM 88264

NORTHLAND OPERATING CO.

3500 Oak Lawn, Suite 380, LB #31
Dallas, Texas 75219-4398
214-521-9959; 214-521-9960 Fax



October 30, 1997

Ms. Martyne J. Kieling, Environmental Geologist
New Mexico Energy, Minerals & Natural Resources Department
Oil Conservation Division
2040 South Pacheco Street
Santa Fe, New Mexico 87505

Re: Unauthorized Waste Disposal Pits
SE/4 of NE/4, Section 25, T13S, R31E
Chaves County, New Mexico

Dear Ms. Kieling:

We are in receipt of your letter dated October 22, 1997 regarding the inspection on September 22, 1997 by yourself and other employees of the OCD, representatives of the U. S. Environmental Protection Agency and the U. S. Fish & Wildlife Commission. This letter is to inform you of the steps we have taken to address the issues raised as a result of that inspection, to respond to your request for information, and to outline our plans for closing the three pits at this location.

As was evident during your inspection, the north and middle pits of the three small pits just east of the saltwater facility have been used as emergency overflow pits for the single saltwater storage tank at this site. We did not feel that it would be prudent to close these pits before providing emergency storage for the operational mishaps that occur from time to time. Without emergency storage, we would be faced with an *un-contained* release of saltwater to the surface of the land. Accordingly, we have already set a tank for the collection of the fluids coming from the operation of the saltwater pump at this facility. This tank will be equipped with a sump pump to transfer any such fluids back into the storage tanks. We have arranged for an additional 1000 barrel emergency overflow tank to be set (complete with a liner and secondary containment) to the west of the existing tank. This tank will be operational within the next few days. We have ordered an alarm system for this facility to provide our operational personnel with an early warning when abnormal operational conditions occur. The alarm system is scheduled to be in place within ten days.

Answers to the four questions posed at the top of the second page of your letter are as follows:

1) "the names and addresses of all waste generators who are utilizing the pits" -
Northland Operating is the only known current user of these pits, whose address is that noted in the above letterhead.
2) "the names and addresses of all waste transporters;" -
It is assumed on our part that you are asking if waste is hauled into and disposed of in these pits by others. No other waste is placed in these pits other than produced water (occasionally skim oil and miniscule amounts of lube oil) from wells operated by Northland on the Rock Queen Unit.
3) "the location of all waste generation (exact well locations);" -
Attached please find a plat (showing the well spots within the section, township and range) of the currently producing wells that generate saltwater for disposal by this facility.
4) "the total volume of waste from each location that has gone into the unauthorized pits." -
Northland Operating company has no records that would allow us to answer this question even for the short period of time we have operated this property. Prior operators likewise did not keep such records.

An outline of our pit closure plan is also enclosed. Please advise if our plan is deficient in any way or lacks essential elements.

Sincerely,

Robert E. McKnight
Engineer

cc: Mr. Wayne Price, OCD, Hobbs

NORTHLAND OPERATING COMPANY
Pit Closure Outline
October 30, 1997

Step I: Finish setting overflow tank at the site to preclude further saltwater releases to the emergency pit.

Step II: Empty the north-most and the middle pit of all liquids that can be pulled with a vacuum truck. Liquids (predominately produced saltwater) will to be hauled to CRI in Hobbs.

Step III: With 'track-hoe', excavate sludge material and haul to CRI in Hobbs for possible oil reclaimation or land farming. Provisions will be taken to ensure that no fluids are lost during transportation. An accounting of all materials removed shall be made and appropriate records kept.

Step IV: Starting with the south-most pit, core samples will be taken at the southeast edge of each pit to determine the vertical extent of contamination. Samples will be taken at 10' intervals and detection of TPH and BTEX will utilize field instrumentation for screening purposes. Once the field instrumentation indicates TPH and BTEX levels at or below levels of regulatory concern, confirmation samples will be sent to a laboratory for testing in compliance with EPA standards and protocols.

Step V: The results of the vertical profiling will determine which method of remediation will be most effective for each of the three pits at this site. If feasible, subsurface media contaminated at levels above those of regulatory concern will be brought to the surface, placed on impervious liners and remediated on-site. It is reported that solid rock is in the near surface; rock may be difficult to 'remediate'. If on-site remediation is not feasible, the operator would like to retain the flexibility to haul material to a licensed disposal facility (tentatively CRI in Hobbs), to blend with other soils or gravel to levels below regulatory concern for use as road material, or to propose a closure protocol that includes contamination plume migration modeling if feasible and allowable.

Step VI: If additional material is needed to fill these pits to grade level as a result of the excavation and hauling of material from these pits, materials will be purchased from a local private source for back-filling these pits. Pits will be brought to or above grade and re-seeded with native or improved dry-land grasses.

Step VII: The District Office of the OCD will be contacted anytime material is to to hauled off-site or when sampling is to be done. Photographs will be taken at appropriate stages during the entire process.

Northland Operating Company
Pit Closure Outline
October 30, 1997

Step VIII: A final report documenting all the work performed during the pit closures will be submitted to the New Mexico OCD.

Range 31 East

Range 32 East

T 13 S

Northland Operating Company
Dallas, Texas
Wells marked green are active producing wells at this time (October 29, 1997) that produce saltwater that is ultimately disposed via the facilities at Rock Queen Unit Saltwater Plant #2 (noted in red).

Chaves and Lea Counties
New Mexico

Scale: 1,320' per inch
(4" per mile)

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

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

Originated 6/27/97

Submit Original
Plus 1 Copy
to Santa Fe

PIT INVENTORY FORM

Operator: Northland Operating Company

Address: 3500 Oak Lawn, Suite 380, LB #31

Dallas, Texas 75219-4398

Phone Number: 214-521-9959

Previous Operator(s): Circle Ridge (1988-1995)/ Great Western Drilling (original Unit operator)

Is the pit permitted: Yes ☐ No ☒

Unit Letter: A Section: 25 Township: 13S Range: 31E NE/4 of the NE/4

County: Chaves

Location Name: Rock Queen Unit Saltwater Plant #2

Number of wells to the pit: none

Are the wells to the pit operated by one operator ☒ or multiple operators ☐

Total daily volume (in barrels) to the pit: None - no evidence that this pit has ever had any significant amounts of fluid in it except rainwater

Pit Type: Emergency
(Emergency, Production, Workover, Reserve/Drilling(greater than 6 months old),Flare, Blowdown, Seperator, Dehydrator, Line Drip, BS&W/Tank Bottoms, Compressor, Pigging, Washdown, or other)

What types of wastes are accepted in the pit (Exempt, Non-exempt, Both, None): Exempt

Pit age (years): Greater than 30

Is the pit lined ☐ or unlined ☒

Type of liner (None, Synthetic, Clay) : _____

Is leak detection present: Yes ☐ No ☒

Is the pit netted: Yes ☐ No ☒

Pit dimensions (LxWxD): 80' x 80' x 4' (south pit)

CERTIFICATION

I hereby certify that the information submitted is true and correct to the best of my knowledge and belief.

Name: Robert E. McKnight Title: Engineer

Signature: [signature] Date: October 30, 1997

A pit is defined as any below grade or surface feature which receives any materials other than fresh water.

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Unit Letter: A Section: 25 Township: 13S Range: 31E NE/4 of the NE/4

County: Chaves

Location Name: Rock Queen Unit Saltwater Plant #2

Number of wells to the pit: none directly; receives over-flow from the north pit

Are the wells to the pit operated by one operator ☒ or multiple operators ☐

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Type of liner (None, Synthetic, Clay) : _____

Is leak detection present: Yes ☐ No ☒

Is the pit netted: Yes ☐ No ☒

Pit dimensions (LxWxD): 50' x 40' x 8' (middle of three small pits)

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Unit Letter: A Section: 25 Township: 13S Range: 31E NE/4 of the NE/4

County: Chaves

Location Name: Rock Queen Unit Saltwater Plant #2

Number of wells to the pit: Water from 24 producing wells

Are the wells to the pit operated by one operator ☒ or multiple operators ☐

Total daily volume (in barrels) to the pit: None except during storage tank overflow

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(Emergency, Production, Workover, Reserve/Drilling(greater than 6 months old),Flare, Blowdown, Seperator, Dehydrator, Line Drip, BS&W/Tank Bottoms, Compressor, Pigging, Washdown, or other)

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Is the pit netted: Yes ☐ No ☒

Pit dimensions (LxWxD): 30' x 30' 6' (northern-most pit of three)

CERTIFICATION

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Signature: [signature] Date: October 30, 1997

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Operator: Northland Operating Company

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Dallas, Texas 75219-4398

Phone Number: 214-521-9959

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Name: Robert E. McKnight Title: Engineer

Signature: [signature] Date: October 30, 1997

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John E. Rhoads

719 Scott, Suite 624
Wichita Falls, Texas 76301
940-723-8511
October 13, 1997

Mr. Wayne Price
New Mexico Energy, Minerals and Natural
Resources Department, Oil Conservation Division
1000 West Broadway
Hobbs, New Mexico 88240

Re: Northland Operating Company
Rock Queen Unit, Lea and Chaves County, New Mexico
SPCC Plans for Tract 20 and Saltwater Plant #2

Dear Mr. Price:

Enclosed are the two SPCC Plans I mentioned to you on September 22, 1997. It is unclear to me whether or not these have been sent to you as requested. In the interest of certainty, I will duplicate the effort if it has already been done.

Northland has been removing the liquids from the pits that were inspected. It now appears that there is a diminishing return on efforts to hot oil and remove as liquid the remainder of the sludge. Accordingly, a dirt contractor is in the process of estimating costs and making arrangements for a track-hoe and trucks to remove the remaining sludge.

Respectfully,

John E. Rhoads
For Northland Operating

cc: Mr. Bob McKnight, Northland Operating

SPILL PREVENTION & COUNTERMEASURE PLAN

GENERAL INFORMATION

1. Name of Facility: Rock Queen Unit Saltwater Plant #2

2. Type of Facility: Produced Saltwater storage

3. Location of Facility: Chaves County, New Mexico
NE/4 of NE/4 Section 25, T13S-R31E

4. Name and address of owner or operator:

Name : Northland Operating Company

Address: 3500 Oak Lawn, Suite 380, L.B. #31
Dallas, Texas 75219-4398

5. Designated person accountable for oil spill prevention at facility:

Name and title: Ed Marney, Field Superintendent

6. This facility did <u>not</u> experience a reportable oil spill event during the twelve months prior to January 10, 1974 (effective date of 40 CFR, Part 112).

I hereby certify that I have examined the facility , and being familiar with the provisions of 40 CFR, Part 112, attest that this SPCC Plan has been prepared in accordance with good engineering practices.

Ed Butler, Registered Professional Engineer

(Seal) J. Ed Butler
Signature

Date: 7/23/96 Registration No. 54443 State of Texas

==========

MANAGEMENT APPROVAL

This SPCC Plan will be implemented as herein described.

Signature: J. Ed Butler

Name : Ed Butler Title: Vice President

FACILITY DESCRIPTION

The Rock Queen Unit Saltwater Plant #2 facility is identical to the Rock Queen Saltwater Plant #1 (see photogragh filed with the Plant #1 SPCC), except there is no idle tank at this site. This facility includes the following equipment:

One (1) 3,000 barrel steel saltwater tank

FACILITY OPERATION

This facility is for receipt, storage and subsequent disposal of produced saltwater only. It is the intent of Northland Operating to treat spills of saltwater to the surface of the land on a par with oil spills. This facility receives approximately 1,900 barrels of water per day for disposal.

FACILITY INSPECTION

The facility was personally inspected during July 1996. All subsequent inspections will follow a written inspection procedure. A written record of these inspections will be kept in the Dallas office. The site description and operations noted during this inspection are as noted above. The following observations and recommendations are hereby recorded:

1. There is no secondary containment at this site. It is recommended that dikes or other means of secondary containment be installed immediately around the storage tank. The volume of secondary containment should approximate 3,500 barrels.

POTENTIAL SITE DRAINAGE

Terrain is flat with overall drainage to the east. There is a stock pond to the south of this facility, but drainage would not be toward this water. It is not reasonable to expect that oil from this saltwater facility would reach navigable waters. As a result, the facility is deemed NOT subject to the provisions of the Oil Pollution Act of 1990 and no Facility Response Plan is required.

SPILL CONTROL AND COUNTERMEASURE PLANS

All operating personnel will be informed of the requirements for spill prevention and control. Each employee or contract personnel will be provided with instructions and information that will allow him to initiate the appropriate action upon the discovery of a spill or potential spill.

I. SPILL PREVENTION CONTROL PLAN

A. Each lease operator and will be advised that his responsibilities include:

1. A daily inspection of all oil handling and oil treating equipment on each lease to assure proper functioning.
2. A daily inspection of all storage facilities to insure adequate storage volumes. Bypass, drain and pipeline valves should be checked for proper position and for security.
3. A daily inspection of all producing wells will be made to insure proper functioning of stuffing boxes, valves and connections (pumping wells), and chokes (flowing wells) for setting or mechanical integrity.
4. A daily determination of oil production. If shortages or overages occur, an immediate survey shall be conducted to determine the cause of the variance. Flowlines, leaking tanks or separators should be checked in the event of shortages; plugged waterlegs or dump valves on separation equipment that may have caused water to dump to the oil production tanks should be checked; for flowing wells, overages could be due to washed out or broken chokes.
5. Daily reports of leaks and potential problems shall be reported to the lease operator's supervisor.

B. Each production foreman will be advised that his responsibilities include:

1. A daily review of lease operations and operational problems with the lease operator.
2. Periodic inspection of the lease equipment and storage facilities to insure that the lease operator is operating and maintaining equipment in an environmentally acceptable manner as directed by the company. The production foreman will make a concerted effort to determine if corrosion problems or other potential leak sources exist.

3. Immediate reporting of leaks or potential leaks to the Superintendent. In the event the Superintendent is unavailable, the foreman will be authorized to take all actions necessary to stop leakages and to initiate measures to contain and mitigate any spill.

II. SPILL COUNTERMEASURE PLAN

A. Immediate reports of oil spills or leaks shall be made to the proper production personnel. They may contacted as follows:

Ed Marney	1-505-676-2130	site office
	1-505-369-5451	mobile
	1-505-676-6755	residence on site
Bob McKnight	1-214-521-9959	office
	1-972-612-5744	home
Ed Butler	1-214-521-9959	office
	1-214-507-8003	mobile
	1-817-549-2946	home

B. Immediate action shall be initiated to stop any leakage and to contain and remove any oil spillage. For this property, the Company has available on site both personnel and equipment to contain and remove oil and saltwater spills. The equipment includes but is not limited to a bulldozer, a vacuum truck and a backhoe. The company has a roustabout crew that is dedicated to this property and is on call for emergency spills.

C. Any problem relating to the engineering or design of this plan for the control or containment of oil and saltwater spills should be referred to Ed Butler, Vice President of Northland Operating.

D. Every employee needs to be aware of the Company's concern regarding potential spills and the Company's dictate for immediate action in the event of a spill or leak. Each employee shall be encouraged to evaluate potentially hazardous operations and to proceed only after careful consideration of the situation and an evaluation of the available equipment for the particular cleanup operation. The employee is reminded that certain hazardous material (crude oil) cleanup operations may be beyond the capabilities immediately available on the lease and that personnel with proper HAZWOPER training may need to be called for these operations.

E. Any oil spill that has the possibility of entering "navigable waters of the United States" should be reported immediately to the regional office of the United States Environmental Protection Agency in Dallas, Texas.

F. The lease operator needs to be aware of "Reportable Limits" set by regulators. Oil spill volumes above these limits may need to be reported to both the United States Department of Interior, Bureau of Land Management and the Oil Conservation Division, State of New Mexico.

WRITTEN COMMITMENT OF MANPOWER

It is the policy of Northland Operating Company that in the event of a spill, the containment and cleanup effort shall take precedence over all other operations and all necessary employees shall be made available for such effort.

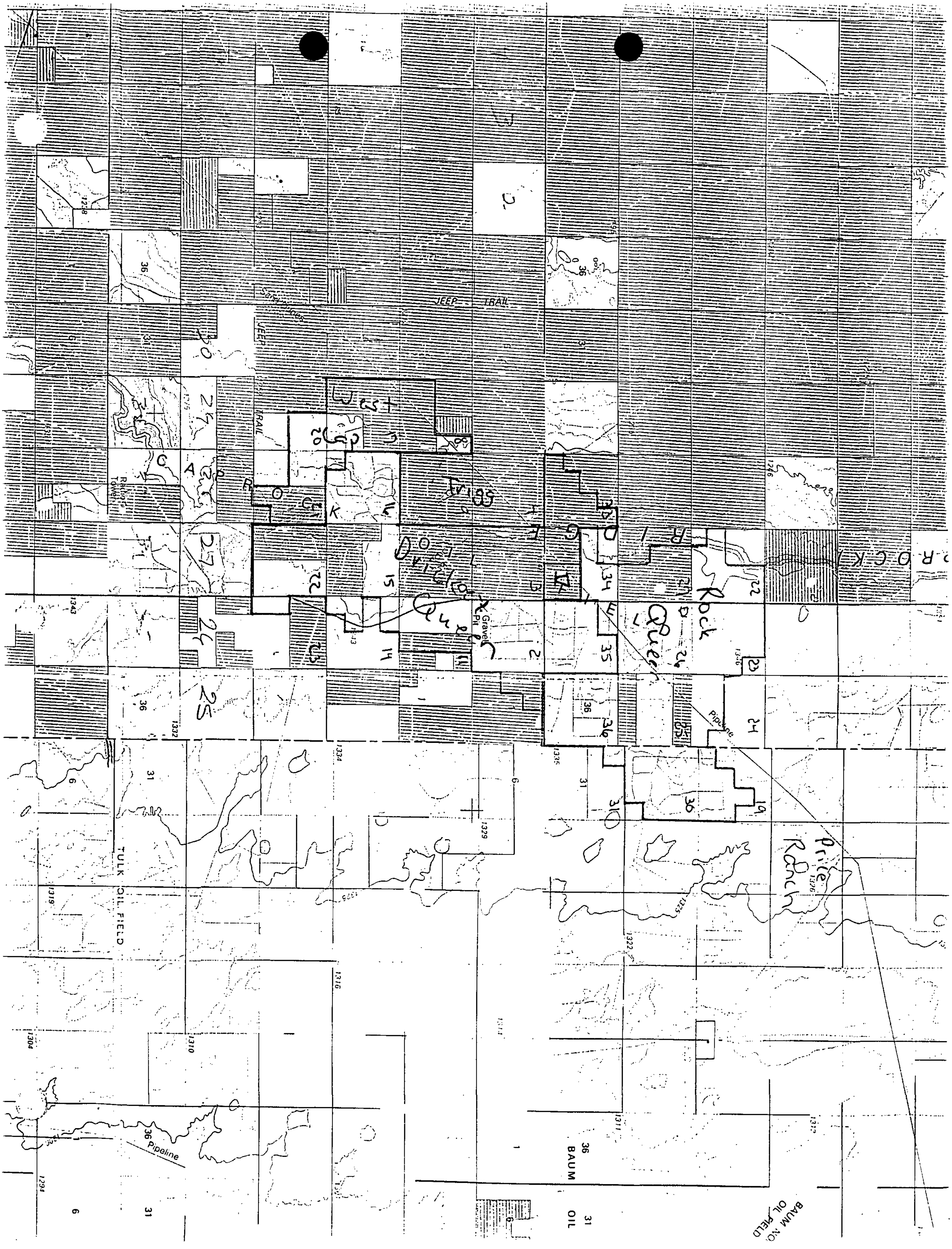
APPLICABLE TELEPHONE NUMBERS

U. S. Department of the Interior, Bureau of Land Management
2909 West Second Street
Roswell, New Mexico 1-505-627-0272

Oil Conservation Division, State of New Mexico
Jerry Sexton, District Supervisor
P. O. Box 1980
Hobbs, New Mexico 1-505-393-6161

United States Environmental Protection Agency
Region 6
1445 Ross Avenue
Dallas, Texas 75202-2733 1-214-655-6444

National Response Center (oil on navigable waters only)
1-800-424-8802


JEEP TRAIL
TRAIL
C A P R O C K
R O C K
West Cap
Rock Queen
Price Ranch
Gravel Pit
Pipeline
TULK OIL FIELD
BAUM OIL
BAUM NO. OIL FIELD

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

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

October 22, 1997

CERTIFIED MAIL
RETURN RECEIPT NO. P-326-936-350

Mr. Robert E. McKnight
Northland Operating Company
3500 Oak Lawn
Suite 380
Dallas, TX 75219-4398

RE: NOTICE OF VIOLATION
Unauthorized Waste Disposal Pits
Northland Operating Company
SE/4, NE/4, Section 25, Township 13 South, Range 31 East, NMPM
Chaves County, New Mexico

Dear Mr. McKnight:

On September 22, 1997 The New Mexico Oil Conservation Division (OCD), identified three unauthorized, unlined waste disposal pits located in the SE/4, NE/4, Section 25, Township 13 South, Range 31 East, NMPM, Chaves County, New Mexico (see attached map). These unauthorized pits are owned by Northland Operating Company (Northland).

OCD personnel performed an onsite inspection of the facility on September 22, 1997 and noted the following:

1) These unlined pits owned by Northland are being utilized on land that according to county records is private land;
2) These pits are accepting oilfield waste;
4) These pits were not screened or netted;
5) Thirty-six birds were collected within one pit by the US Fish and Wildlife.

Surface waste management facilities must be permitted pursuant to Rule 711 (as amended 1-1-96). In addition, pursuant to the OCD Order R-8952, all tanks exceeding 16 feet in diameter and all exposed pits and ponds shall be screened, netted or covered unless rendered non-hazardous to migratory birds. Order R-3221, as amended, prohibits the disposal of water produced in conjunction with the production of oil and gas in unlined pits or ponds where such disposal may impact fresh water supplies of the state of New Mexico. Therefore, all discharges into the unauthorized, unlined pits must cease.

The OCD hearby requires Northland Operating Company to submit the following information: 1) the names and addresses of all waste generators who are utilizing the pits; 2) the names and addresses of all waste transporters; 3) the location of all waste generation (exact well locations); and 4) the total volume of waste from each location that has gone into the unauthorized pits.

In addition, Northland Operating Company must either permit the facility as a waste management facility or close the pits. Regardless of whether the facility is to be permitted or closed, Northland must submit a closure plan to the Santa Fe OCD office and a copy to the Hobbs District office. Included in the closure plan must be a plan for determining the nature and extent of contamination that has left the pits, how far the contamination has migrated. For your use please find enclosed a copy of the Order amending Rule 711, a form C-137 and OCD's pit closure guidelines. **A response is required by Northland Oil Corporation to these deficiencies by November 3, 1997.**

Failure to respond to this notice of violation by November 3, 1997 may result in a show cause hearing against Northland, requiring Northland to appear and show cause why it should not be ordered to close these pits and why it should not also be assessed civil penalties.

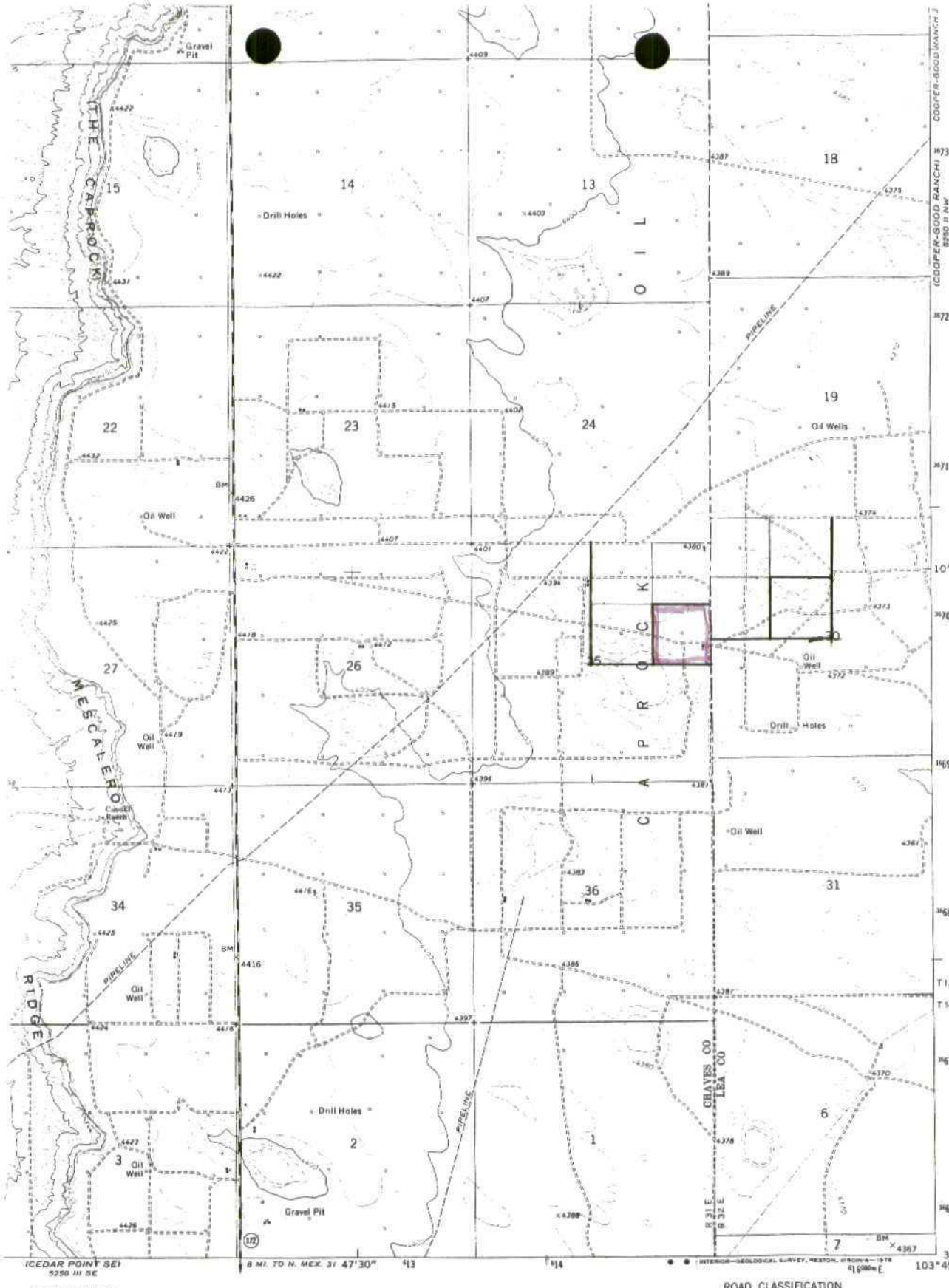
If you require any further information concerning permitting/closure procedures please contact me at (505) 827-7153.

Sincerely,

Martyne J. Kieling
Environmental Geologist

Attachments- location map, Order R-10411-B (Rule 711), Form C-137, and pit closure guidelines.

xc: Hobbs OCD Office
Ed Morney, Field Superintendent, Northland, P.O. Box 119, Maljamar, NM 88264



SCALE 1:24 000

0 1 MILE

2000 3000 4000 5000 6000 7000 FEET

0 1 KILOMETRE

CONTOUR INTERVAL 10 FEET

GEODETIC VERTICAL DATUM OF 1929

ROAD CLASSIFICATION

Primary highway, hard surface

Secondary highway, hard surface

Light-duty road, hard or improved surface

Unimproved road

Interstate Route U. S. Route State Route

NEW MEXICO

QUADRANGLE LOCATION

ES WITH NATIONAL MAP ACCURACY STANDARDS
RVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
OGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

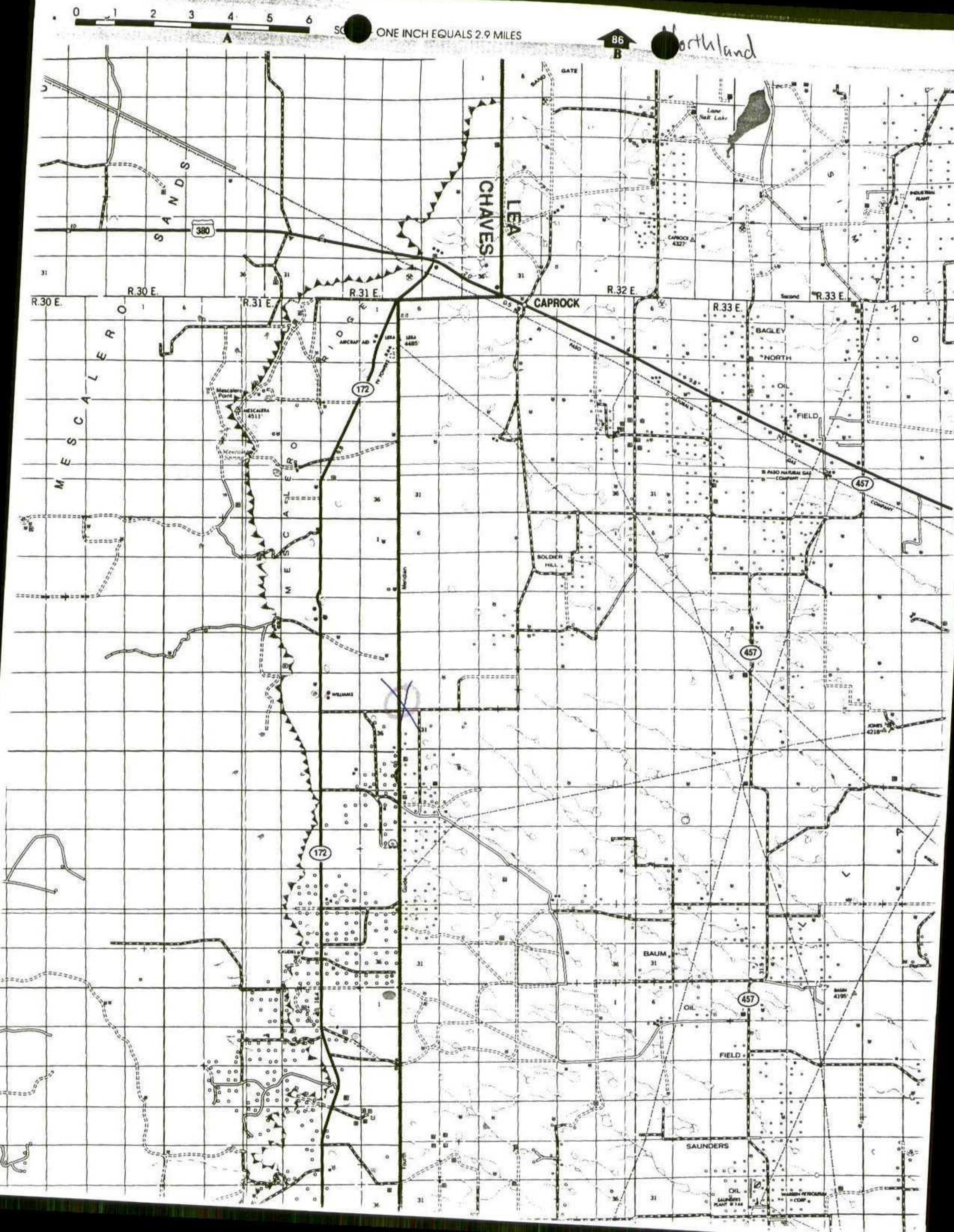
CAUDILL RANCH, N. MEX.

N3307.5—W10345/7.5

1973

AMS 5250 III NE—SERIES V881

m98


0 1 2 3 4 5 6
A
ONE INCH EQUALS 2.9 MILES
86
B
Northland
CHAVES
LEA
380
R.30 E.
R.31 E.
R.32 E.
R.33 E.
CAPROCK
BAGLEY
NORTH
OIL
FIELD
172
457
SOLDIER
HILL
WILLIAMS
BAUM
OIL
FIELD
SAUNDERS
GATE
Mescalero Point
MESCALERA 4511'
CAPROCK 4327'
EL PASO NATURAL GAS COMPANY
Meridian

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☒ Telephone ☐ Personal	Time 10:20	Date 10-20-97

Originating Party	Other Parties
John Rhodes Eagle Eye Consulting	Martyne Kieling

Subject

Northland operating Co

Discussion

will be sending a letter to the Santa Fe office on how they will Propose to close the pits (5 total)

Conclusions or Agreements

Distribution

Signed Martyne Kieling

PROBLEM OIL PIT INSPECTION CHECKLIST

Site Number (State-Year-Waypoint):

Northland

Checklists Completed (circle those that apply):

A B C

Prepared by the US Environmental Protection Agency Region VIII and US Fish and Wildlife Service Region VI

6/12/97 ---Reproduced by US EPA Region VI with permission 9/19/97

PROBLEM OIL PIT INSPECTION CHECKLIST

SECTION ONE: Site Information

Site Name and Waypoint: Northland operation (Ed Mannie

Lease # and Operator: Saltwater plant #2 Rock Queen unit

Site Location Section/Township/Range: 25 T13S R31E

GPS Coordinates Obtained During Aerial Survey: _____

GPS Coordinates Obtained During Site Inspection: _____ Northland operating

Site Address: P. O. Box 119 3500 Oaklawn

City/County/State/Zip: Maljamar, NM Dallas, TX

214-521-9959

USFWS Case ID #: _____ Fax 214-521-9960

EPA Facility ID # and/or NMOCD ID #'s: _____

Contact Name/Affiliation/Phone: Ed Mannie 505-676-2130
Field Superintendent

Contact Address (if different from site address): _____

Site Type (production, commercial disposal, other): Production

SECTION TWO: Inspection Information

Inspection date and time: 9/22/97

Describe weather conditions (including estimated temperature): clear warm

If known, list federal, state, or tribal programs that this site is subject to regulation under via a permit and list all permit number(s):

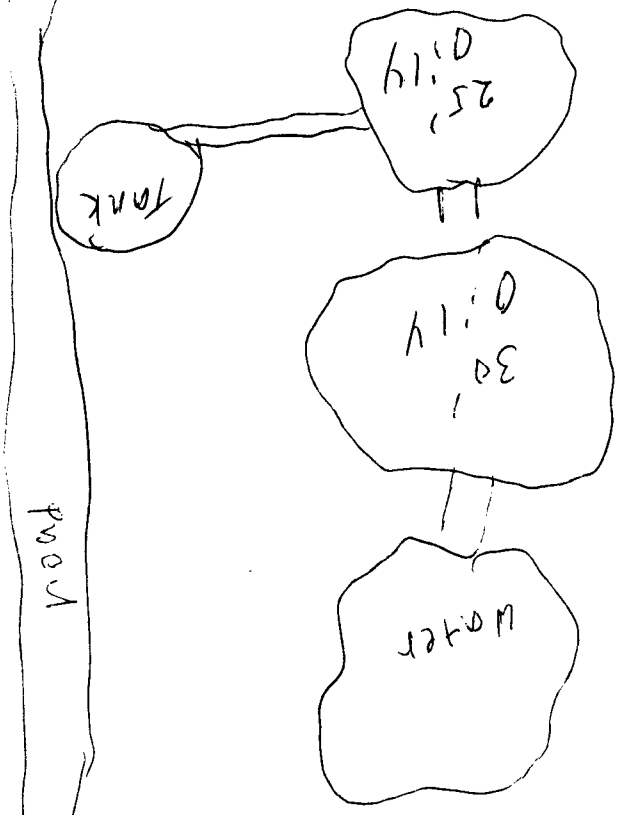
Inspection Team: Wayne Price

Inspector 1	Manni	Agency/Program:	OCD	Phone:	
Inspector 2	Nick Chavez	Agency/Program:	FWS	Phone:	
Inspector 3	Greg Pashia	Agency/Program:	EPA	Phone:	
Inspector 4		Agency/Program:		Phone:	
Inspector 5		Agency/Program:		Phone:	
Inspector 6		Agency/Program:		Phone:	

SECTION THREE: Sketch of Site/Layout

Site Number and Name : Northland

Include the estimated size (including depth) of any pits and describe site operations on site sketch. Include description of pertinent features such as waters of the US (location of, distance to, description of conduits to, etc.) or electrical equipment areas, for example. Include a north arrow on site sketch.



SECTION FOUR: General Observations

A. *PITS (complete checklist A if any of the following conditions exist)*

1. Does accumulated oil exist on the surface of any pits, ponds, sumps, or other open-topped storage devices ? Yes X No ___

2. Are pits, ponds, tanks, sumps, or other devices which may accumulate oil covered with netting or are there any other wildlife exclusionary or deterrent devices in use (covers, flagging, etc.) ? Yes ___ No X

3. Are there any dead or oiled birds or other wildlife on or near the site or any indication of oiled birds/wildlife previously at or near the site (oily tracks, etc.) ? Yes X No ___

B. *DISCHARGES (complete checklist B if any of the following conditions exist)*

1. Is there a discharge (either ongoing or one-time) from a pit, pond, tank, or other device at the site ? Yes ___ No X

2. Is there indication of any past or potential future discharge from a pit, pond, tank, or other device at the site (soil staining, fresh dirt or gravel used as cover, 2 ft or less freeboard maintained, eroded berms, etc.) ? Yes ___ No X

C. *TANKS AND CONTAINERS (complete checklist C if any of the following conditions exist)*

1. Are there any tanks or containers on site ? Yes ___ No ___

No tank problems, Tank closed at top. ~~except~~ No ~~oil~~ secondary containment.

CHECKLIST "A" - PITS

1. If accumulated oil exists on the surface of any pits, ponds, sumps, or other open-topped storage devices, describe observed conditions including size of each pit, pond, sump, or device, percentage of area covered, and thickness of oil. Describe any other observations (visual, odor) of the material in each pit, pond, sump, or other device:

1 pit ≈ 25' diameter with oily water and sludge
2 pit ≈ 35' diameter with oily sludge and some oil.

2. Describe any netting or other wildlife exclusionary or deterrent devices in use at the site. Include description of condition, coverage, netting mesh size, etc.:

No netting on any pit.

3. Describe any oiled or dead birds or other wildlife found at or near the site. Indicate the number of mortalities and the seizure tag numbers for any birds collected:

4. Describe the construction and operation of any pits or ponds located at the site. Include a description of the pond liner system, if possible. Estimate the freeboard observed at the time of the inspection:

All pits unlined.

5. Indicate how long any pits or ponds at the site have been in operation:

40 years

6. If a pit, pond, sump, or other device is used as a loading/unloading area at a non-production site, describe any secondary containment used:

CHECKLIST "B" - DISCHARGES AND SPILLS

1. Indicate whether or not the site has a NPDES permit and, if so, indicate the permit number and whether or not the number is posted on site:

   No NPDES

2. Describe any **ongoing discharges or one-time spills** from pits, ponds, or other devices at the site. For each discharge, include a description of the source, duration, and rate (gal/min or cfs) of material discharged. For each spill, describe the amount and area of the spilled material. Also describe any observations (oil sheen, odor) regarding the type of material discharged or spilled:

   no spills apparent.

3. Describe any indications (e.g. soil / vegetation staining on ground or in drainages) of **past discharges or spills** from pits, ponds, tanks, or other devices at the site. Include any indication of the type of material discharged or spilled (e.g. oil stain, salt brine, etc.) and when and for how long the discharge or spill occurred:

   salt water discharge

4. Identify and describe the **drainage pathway** (dry arroyo, ditch, stream, etc.) of any current or suspected past discharges or spills from the site. Trace the drainage pathway to a flowing waterway, if possible, and describe the extent of any oil staining. Include a description of whether the drainage is dry at the time of the inspection, contains standing water that doesn't appear to be flowing or, if flowing, the estimated flowrate (gal/min or cfs) of water and/or discharged material:

   N/A

5. Identify and describe any pits, ponds, or other devices in which less than 2 ft of freeboard exists at the time of the inspection. Also describe any indications that less than 2 ft of freeboard has been maintained in the past, such as staining of pond banks or overtopping of berms, etc.:

   N/A

6. If possible, estimate the receipt rate or production rate (gal/day) of oil and/or produced water at the site:

   19 wells.

7. If possible, determine whether or not any discharges or spills from the site have been reported and, if so, describe how (letter, phone, etc.), when, and to whom (EPA, BLM, DEQ, OGCC, BIA, etc.) it was reported:

   N/A.

8. Describe the general housekeeping and maintenance of the facility and any conditions which could result in a discharge or spill (valves which could be opened, poorly supported pipelines, etc.):

CHECKLIST "C" - TANKS AND CONTAINERS

1. Identify whether or not the site has a Spill Prevention, Control, and Countermeasure (SPCC) Plan. If so, verify by personally viewing the plan, if possible. Has it been certified by a registered Professional Engineer?:

   NO SPCC plan available.

2. Describe the type, use, condition, maximum capacity (gal or bbl), contents, markings, and actual quantity at the time of the inspection for each tank and container on the site. Also describe any secondary containment for each tank and container, including its condition, estimated capacity, and method of precipitation removal:

Tank / Container Type and Use	Maximum Capacity	Actual Quantity	Secondary Containment	Markings	Comments (including condition)
~~Saltwater~~ Produced waters	2000 bbls		No containment	No markings. Bottom unknown	Good condition
Bolted Tank					

CONTINUATION SHEET (identify Section and/or Checklist continued)

PHOTO LOG

Site Number: Northland

Film Type/ASA/Size: 200 ASA / 135 / Kodak

Photographer: Wallace O'Rear

Photo Number	Subject
R2E06	Dead bird in old sludge, Looking Southeast
R2E07	another Dead bird in old sludge.
R2E08	another dead bird
R2E09	Another dead bird in pit
R2E10	Photograph of Old Sludge Pit, Looking SouthEast
R2E11	View of Old Sludge Pit looking northeast
R2E12	View of west side of old sludge pit, Looking North
R2E13	Additional dead bird on north side of Oil sludge pond
R2E14	Another dead bird
R2E15	Dead bird partially submerged with beak + feet sticking up out of sludge.