

1R - 186

# REPORTS

DATE:

2/27/1998

Northland Operating Company

3500 Oak Lawn, L.B. #31

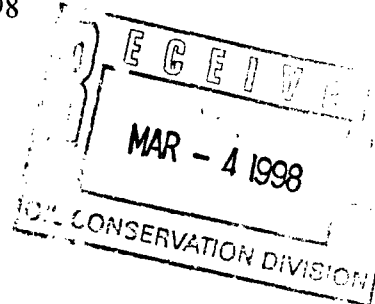
Dallas, Texas 75219-4398

February 27, 1998

MAR 11 1998

Environmental Bureau  
Oil Conservation Division

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

# CHAIN OF CUSTODY RECORD

No 3213

CUSTOMER INFORMATION										REQUIRED TURNAROUND TIME:									
COMPANY: Northland Operating										<input type="checkbox"/> NORMAL									
SEND REPORT TO: John Rhoads										<input type="checkbox"/> EXPEDITED *									
ADDRESS: 719 Scott Suite 634										SHIPMENT METHOD:									
CITY: McAllen TX STATE: Texas ZIP: 78501										CUSTODY SEALED:									
TELEPHONE: 940-723-8511 FAX: 940-766-3089										NTCC LABORATORY JOB NUMBER:									
BILLING INFORMATION										COMMENTS:									
ADDRESS: 3500 Oak Lawn LB # 31										REQUESTED ANALYSES									
CITY: Dallas STATE: Texas TERMS: ZIP: 75219-4398																			
PROJECT INFORMATION																			
LOCATION: Tract 20 Rick Green																			
CITY: STATE: NEW Mexico ZIP:																			
SAMPLER: John Rhoads SIGNATURE: [Signature] DATE: 2/3/93																			
NTCC LAB ID										BTEX									
SAMPLE ID AND FIELD DESCRIPTION										METAL									
DATE										Na, Ca									
SAMPLE TIME										HCO <sub>3</sub>									
SAMPLE MATRIX										50g <sup>±</sup> , Ca <sup>-</sup>									
PREP G C																			
PRESERVATIVE																			
NUMBER OF CONTAINERS																			
COMMENTS																			
JR006	1-SW	2/2	12:15	Water G															
JR007	2-SW	2/2	12:20	Water G															
JR008	2-Flange	2/2	12:40	Water G															
JR009	3-Flange	2/2	12:45	Water G															
JR010	4-Flange	2/2	12:45	Water G															
JR011	3-SW	2/2	12:22	Water G															
JR012	4-SW	2/2	12:25	Water G															
RELINQUISHED BY: John Rhoads										DATE: 2/3/93									
RELINQUISHED BY:										DATE:									
RELINQUISHED BY:										DATE:									
RECEIVED IN LABORATORY BY:										DATE:									

**CHAIN OF CUSTODY RECORD**  
 No 3217

CUSTOMER INFORMATION										REQUIRED TURNAROUND TIME:					
COMPANY: <u>WORTHMAN OPEN TIRE</u>										<input type="checkbox"/> NORMAL	<input type="checkbox"/> EXPEDITED *				
SEND REPORT TO: <u>R. WILLIAMS</u>										SHIPMENT METHOD: <u>UPS</u>					
ADDRESS: <u>2000 Old Burk Road</u>										CUSTODY SEALED: <u>YES</u>					
CITY: <u>WICHITA FALLS</u> STATE: <u>TX</u> ZIP: <u>76704</u>										NTCC LABORATORY JOB NUMBER:					
TELEPHONE: <u>940-723-5766</u> FAX: <u>940-723-5886</u>										COMMENTS:					
BILLING INFORMATION										REQUESTED ANALYSES					
ADDRESS: <u>(SAME)</u>															
CITY: _____ STATE: _____ ZIP: _____															
PO NUMBER: _____ TERMS: _____															
PROJECT INFORMATION															
LOCATION: <u>TRUCK 20 BLACK COUNTRY</u> NUMBER: _____															
CITY: _____ STATE: <u>TX</u> ZIP: _____															
SAMPLER: _____ SIGNATURE: _____															
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, AR, BA, B, CA, CH, CO, CU, FE, Pb, Mn, Mo, Ni, AS, Zn	AA METALS: Hg, Se	BTX	Alkalinity	DATE	TIME	COMMENTS
JR007	2-SW	2/2/98	12:20	W	X		PH 4.2	1	X	X					1064-1
JR008	2-PLA24	2/2/98	12:40	W		X	PH 4.2	1	X	X					3M
JR009	3-PLA20	2/2/98	12:45	W		X	PH 4.2	2	X	X					4
JR010	3-SW	2/2/98	12:22	W	X		PH 4.2	1	X	X					
<b>ORIGINAL</b>															
RELINQUISHED BY: <u>[Signature]</u> DATE: <u>2/4/98</u> TIME: <u>15:00</u>										RECEIVED BY: _____		DATE: _____		TIME: _____	
RELINQUISHED BY: _____ DATE: _____ TIME: _____										RECEIVED BY: _____		DATE: _____		TIME: _____	
RELINQUISHED BY: _____ DATE: _____ TIME: _____										RECEIVED BY: <u>B.D. [Signature]</u>		DATE: <u>2-5-98</u>		TIME: <u>1035</u>	

# SAMPLE RECEIVING CHECKLIST / COOLER RECEIPT

Customer: NTCC

Date received: 2-5-98

Project: Tract 20 Rock Queen

Login Signature: B. Wilcox

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?

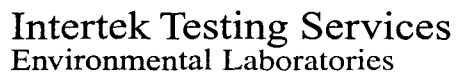
YES ☒ NO ☐ Is it clear what analysis are needed?

YES ☒ NO ☐ Were samples received in hold time?

YES ☒ NO ☐ Short holding parameters flagged / Was notified

Person(s) notified: \_\_\_\_\_ time: \_\_\_\_\_

Notes: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



## SAMPLE PRESERVATION INFORMATION SHEET

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

[illegible]

**PRESERVATION / FILTRATION KEY**

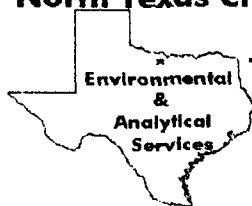
- 1 = Pre-preserved  
2 = H<sub>2</sub>SO<sub>4</sub> to pH<2  
3 = HNO<sub>3</sub> to pH<2  
4 = HCl to pH<2

- 5 = NaOH to pH>12  
6 = Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> (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 µm) in the laboratory before preservation

# NTCC

North Texas Chemical Consultants  
Laboratory



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

*Produced  
Sulfate*

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 $\text{SO}_4^{2-}$	375.4	100.	JQ	02/05	1500	1700.
Alkalinity, Total as $\text{CaCO}_3$	310.1	1.	JQ	02/05	1830	75.
Chloride, as $\text{Cl}^-$	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 $\text{CaCO}_3$	0.00			1.8	2.4
Chloride, as $\text{Cl}^-$	0.	101 %		12.8	0.3
Sulfate, Total as $\text{SO}_4^{2-}$	0.	96 %		70.5	4.2

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

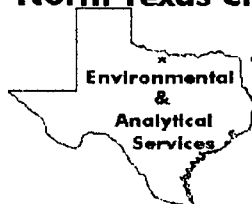
*R.J. Williams*

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

North Texas Chemical Consultants  
**Laboratory**



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

*Produced  
Saturated*

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*

R.J. Williams, Ph.D.  
President





# 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

## 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 Rick 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		

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 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		



# Intertek Testing Services

## Environmental Laboratories

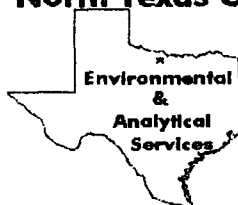
REPORT NUMBER : D98-1064-1

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-FEB-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		

# NTCC

North Texas Chemical Consultants  
Laboratory



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		Results mg/L
				Date	Time	
Calcium, Total	215.1	0.02	RW	02/11	2020	147.9
Sodium, Total	273.1	0.1	RW	02/12	2235	2827.

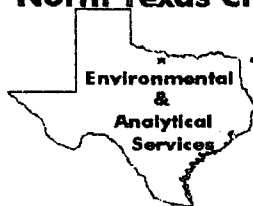
## QUALITY CONTROL DATA

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

# NTCC

North Texas Chemical Consultants  
Laboratory



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: February 26, 1998

Report Number: JR-008

Received Date: February 3, 1998

Received Time: 1140

Chain of Custody #: 3213

*Playa water*

**SAMPLE ID: 2-Playa, February 2, 1998; 1240 Grab**

Parameter	Method	Detection Limit mg/L	Analyst	Analyzed		Results mg/L
				Date	Time	
Sulfate, Total as $\text{SO}_4^{2-}$	375.4	100.	JQ	02/05	1500	23.
Chloride, as $\text{Cl}^-$	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 $\text{Cl}^-$	0.	101 %		12.8	0.3
Sulfate, Total as $\text{SO}_4^{2-}$	0.	96 %		70.5	4.2

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

*R.J. Williams*

R.J. Williams, Ph.D.  
President



# Intertek Testing Services

## Environmental Laboratories

*Playa 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		



# Intertek Testing Services

## Environmental Laboratories

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		





# Intertek Testing Services

## Environmental Laboratories

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

*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 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  
Environmental Laboratories

*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 CaCO <sub>3</sub>	66.0 mg/L CaCO <sub>3</sub>
Analyzed using SM 2320B on 11-FEB-1998 by AMM QC Batch No : 206078		



# Intertek Testing Services

## Environmental Laboratories

*Produced  
Satisfactorily*

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 $\mu\text{g/L}$	478 $\mu\text{g/L}$
Toluene	50 $\mu\text{g/L}$	356 $\mu\text{g/L}$
Ethyl benzene	50 $\mu\text{g/L}$	116 $\mu\text{g/L}$
Xylenes	50 $\mu\text{g/L}$	296 $\mu\text{g/L}$
BTEX (total)		1250 $\mu\text{g/L}$ #

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	939
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  
SEE\_BS  
NC

Not applicable  
LCS and LCS Duplicate reported as BS and BSD.  
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	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  
NC

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

Intertek Testing Services NA Inc.  
1089 East Collins Boulevard Richardson, TX 75081  
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# 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  
NC  
NA

LCS and LCS Duplicate reported as BS and BSD.  
Not calculable  
Not applicable

Intertek Testing Services NA Inc.  
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# 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  
NC  
NA

LCS and LCS Duplicate reported as BS and BSD.  
Not calculable  
Not applicable

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