

1R - 186

# REPORTS

DATE:

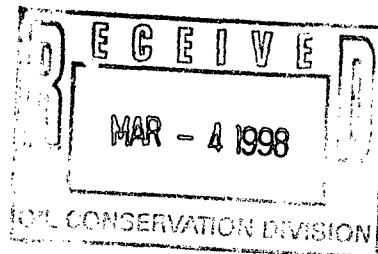
2/27/1998

# Northland Operating Company

3500 Oak Lawn, L.B. #31

Dallas, Texas 75219-4398

February 27, 1998



Mr. William C. Olson, Hydrogeologist  
Environmental Bureau, OCD  
New Mexico Energy, Minerals & Natural Resources  
2040 South Pacheco  
Santa Fe, New Mexico 87505

RE: Northland Operating Company - Playa spill (3/6/97)  
Additional requested data - SE/4 NW/4, Section 30, T13S, R32E, Lea County

Dear Mr. Olson:

The enclosed reports were picked up at the North Texas Chemical Consultants' laboratory yesterday. Everything that was furnished to us is included with this material. This is the same material furnished to you via facsimile on this date. In conjunction with our response dated January 30, 1998, we believe that the enclosed data addresses all of the points raised in your original letter dated January 12, 1998. Please advise if this is not the case.

BTEX levels in this second sample are again at non-detectable levels, which is good news for all of us. As expected, the TDS level is elevated somewhat (approximating 8100 ppm), but less in this sample than in the sample taken earlier. Heavy snow melt in the 45 days prior to taking this sample lend credence to our opinion that TDS in the playa water will correlate strongly with the inverse of precipitation.

Please call if there are any questions that I can answer regarding this data. I may be reached at 940-723-8511 (alpha page at 940-716-7822) in Wichita Falls. As before, all correspondence should be sent to Mr. Ed Butler at the Dallas address.

Respectfully,

A handwritten signature in cursive script that reads "John E. Rhoads".

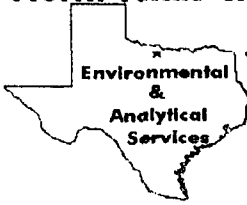
John E. Rhoads  
Agent

Enclosures

Cc: Mr. Wayne Price, OCD, Hobbs  
Mr. Ed Butler, Northland Operating Company

# 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 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		Results mg/L
				Date	Time	
Sulfate, Total as SO <sub>4</sub> <sup>2-</sup>	375.4	100.	JQ	02/05	1500	1700.
Alkalinity, Total as CaCO <sub>3</sub>	310.1	1.	JQ	02/05	1830	75.
Chloride, as Cl <sup>-</sup>	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 <sub>3</sub>	0.00			1.8	2.4
Chloride, as Cl <sup>-</sup>	0.	101 %		12.8	0.3
Sulfate, Total as SO <sub>4</sub> <sup>2-</sup>	0.	96 %		70.5	4.2

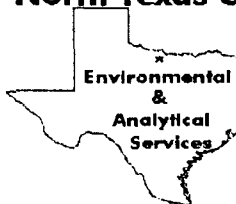
\* 11ach Sulfate Std. : 50.0 mg/L; Chloride Std. 100.0 mg/L.

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.

# 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-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		Results mg/L
				Date	Time	
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



# 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 Rick 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-1993 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

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

**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 SO <sub>4</sub> <sup>2-</sup>	375.4	100.	JQ	02/05	1500	23.
Chloride, as Cl <sup>-</sup>	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 <sup>-</sup>	0.	101 %		12.8	0.3
Sulfate, Total as SO <sub>4</sub> <sup>2-</sup>	0.	96 %		70.5	4.2

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

R.J. Williams, Ph.D.  
President



**ITS** Intertek Testing Services  
Environmental Laboratories

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

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  
ANALYSIS METHOD : EPA 602 /1  
ANALYZED BY : CNA  
ANALYZED ON : 9-FEB-1998  
DILUTION FACTOR : 1  
METHOD FACTOR : 1  
QC BATCH NO : 30-020898A

BTX ANALYSIS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Benzene	1.0 $\mu\text{g/L}$	< 1.0 $\mu\text{g/L}$
Toluene	1.0 $\mu\text{g/L}$	< 1.0 $\mu\text{g/L}$
Ethyl benzene	1.0 $\mu\text{g/L}$	< 1.0 $\mu\text{g/L}$
Xylenes	1.0 $\mu\text{g/L}$	< 1.0 $\mu\text{g/L}$
BTX (total)		< 1.0 $\mu\text{g/L}$ #

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

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		



**ITS** Intertek Testing Services  
Environmental Laboratories

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

## 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

## 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

**CHAIN OF CUSTODY RECORD**  
 No 3213

**CUSTOMER INFORMATION**

COMPANY: *North Texas Chemical Consultants*

SEND REPORT TO: *John Rhoads*

ADDRESS: *719 Scott Suite 634*

CITY: *W Falls TX* STATE: *Texas* ZIP: *76301*

TELEPHONE: *940-723-8501* FAX: *940-766-3089*

**BILLING INFORMATION**

ADDRESS: *3500 Oak Lawn LB # 31*

CITY: *Dallas* STATE: *Texas* ZIP: *75219-4398*

PO NUMBER: \_\_\_\_\_ TERMS: \_\_\_\_\_

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

SHIPMENT METHOD: \_\_\_\_\_ DATE: \_\_\_\_\_

CUSTODY SEALED: \_\_\_\_\_ DATE: \_\_\_\_\_

NTCC LABORATORY JOB NUMBER: \_\_\_\_\_

COMMENTS: \_\_\_\_\_

**PROJECT INFORMATION**

LOCATION: *Tract 20 Rick Green* NUMBER: \_\_\_\_\_

CITY: \_\_\_\_\_ STATE: *Texas* ZIP: \_\_\_\_\_

SAMPLER: *John Rhoads* SIGNATURE: \_\_\_\_\_ ZIP: \_\_\_\_\_

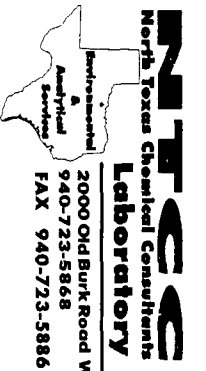
NTCC LAB ID	SAMPLE ID AND FIELD DESCRIPTION	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	EXPE G	EXPE C	PRESERVATIVE	NUMBER OF CONTAINERS	REQUESTED ANALYSES	COMMENTS
JR006	1-SW	2/2	12:15	water G			-	1	BTEX METAL Na, Ca HCO <sub>3</sub> <sup>-</sup> SO <sub>4</sub> <sup>2-</sup> , Cl <sup>-</sup>	
JR007	2-SW	2/2	12:20	water G			HNO <sub>3</sub>	1		
JR008	2-Flange	2/2	12:40	water			C HNO <sub>3</sub>	1		
JR009	3-Flange	2/2	12:45	water			-	2		
JR010	3-SW	2/2	12:22	water G				1		
JR011	4-SW	2/2	12:25	water G				1		
JR012	4-Flange	2/2	12:45	water				1		

**REINQUISHED BY:** *John Rhoads* DATE: *2/3/93* TIME: *11:40A*

**REINQUISHED BY:** \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

**REINQUISHED BY:** \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

**RECEIVED IN LABORATORY BY:** \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_



# CHAIN OF CUSTODY RECORD

No 3217

## CUSTOMER INFORMATION

COMPANY: WORTHLAND OPERATING  
 SEND REPORT TO: R. WILLIAMS  
 ADDRESS: 2000 OLD BURK ROAD  
 CITY: WICHITA FALLS STATE: TX ZIP: 76704  
 TELEPHONE: 940-723-5762 FAX: 927-5226  
 BILLING INFORMATION

## REQUIRED TURNAROUND TIME:

NORMAL  
 expedited service may require surcharge  
 EXPEDITED\*

## PROJECT INFORMATION

LOCATION: TRAIL 20 NICK QUARRY NUMBER:  
 CITY: STATE: SIGNATURE: ZIP:  
 SAMPLE: AL36 METALS

NTCC LAB ID	SAMPLE ID AND FIELD DESCRIPTION	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX		TYPE G   C	PRESERVATIVE	NUMBER OF CONTAINERS
				G	C			
JR007	2-SW	2/2/92	12:25				PH 4.2 H2O2	1
JR008	2-PLA2A	2/2/92	12:45				PH 4.2 H2O2	1
JR009	3-PLA2A	2/2/92	12:45				PH 4.2 H2O2	2
JR010	3-SW	2/2/92	12:22				PH 4.2	1

ICP METALS: AL, AS, BA, B, CD, CR, CO, CU, FE  
 Pb, Mn, Mo, Ni, AS, Zn  
 AA METALS: Hg, Se

BTEX  
 Alkalinity

REQUESTED ANALYSES

COMMENTS  
 1064-1  
 [Signature]

ORIGINAL

RELINQUISHED BY: [Signature] DATE: 2/4/92 TIME: 15:00 RECEIVED BY: [Signature] DATE: 2-5-98 TIME: 1035

RECEIVED IN LABORATORY BY: [Signature]

SAMPLE RECEIVING CHECKLIST / COOLER RECEIPT

Customer: NTCC

Date received: 2,5,98

Project: Tract 20 Rick Queen

Login Signature: B.W. Jones

Date: 2-5-98

Cooler Information:

Shipping Carrier: FedEx DHL UPS USPS Pony Airborne Hand Other

YES NO Aircell 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 Shou hold time parameters passed / Log notified

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

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

