

# FINAL C-141 AND SUPPORTING ITEMS

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources

Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

SEP 15 2011

Form C-141  
Revised October 10, 2003

Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

RECEIVED

## Release Notification and Corrective Action

## OPERATOR

☐ Initial Report ☒ Final Report

Name of Company	Quantum Resources	Contact	Cam Robbins
Address	5 Houston Center, 1401 McKinley St. Ste 2400, Houston, TX	Telephone No.	(575) 390-4666
Facility Name	Northeast Pearl Queen #13 AD	Facility Type	Well (API Number: 3002520580)
Surface Owner	Aline Sims	Mineral Owner	
		Lease No.	

## LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
H	23	19S	35E	1980	North Line	990	East Line	Lea

Latitude 32°38'52.423"N Longitude 103°25'21.463"W

## NATURE OF RELEASE

Type of Release	Produced water	Volume of Release	<20 bbls	Volume Recovered	0 bbls
Source of Release	Well head	Date and Hour of Occurrence	8/12/2011	Date and Hour of Discovery	8/12/2011 approx 5:00 pm
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Phone message was left at NMOCD District Office 1		
By Whom?	Martin Williams, Quantum Resources	Date and Hour	8/12/2011 5:30 pm		
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.\* No.

Describe Cause of Problem and Remedial Action Taken.\*

On 8/12/2011, the tubing on the well head leaked releasing less than 20 bbls of produced water. The well was shut in on the same day and the tubing repaired.

Describe Area Affected and Cleanup Action Taken.\* The lease pad surrounding the well head was scraped to remove the wet soil. The surface area off the pad was sampled for chlorides and screened in the field with a photoionization-detector. On 8/16/2011, these samples were taken to a commercial laboratory for analysis. The area was then augured to determine at what depth the chloride contamination ended. The samples were tested for chlorides and screened in the field with a photo-ionization detector and then taken to a commercial laboratory for analysis. The site was scraped between 1 - 3 ft deep and 132 yards of soil was disposed of at an NMOCD approved facility. On 8/26/2011, an 8 pt. composite sample was taken off the bottom of the scraped area. The 8 pt. bottom composite returned a chloride laboratory result of 48 mg/kg. The site was backfill with clean blow sand from P. Sims' pit.

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

Signature: <i>Cam Robbins</i>	OIL CONSERVATION DIVISION	
Printed Name: Cam Robbins	ENR ENGINEER: Approved by District Supervisor: <i>Jeffery</i>	
Title: Production Foreman	Approval Date: 09/15/11	Expiration Date: —
E-mail Address: crobbs@qracq.com	Conditions of Approval: —	Attached <input type="checkbox"/>
Date: 9/14/2011 Phone: (575) 390-4666		IRP-08-11-2734

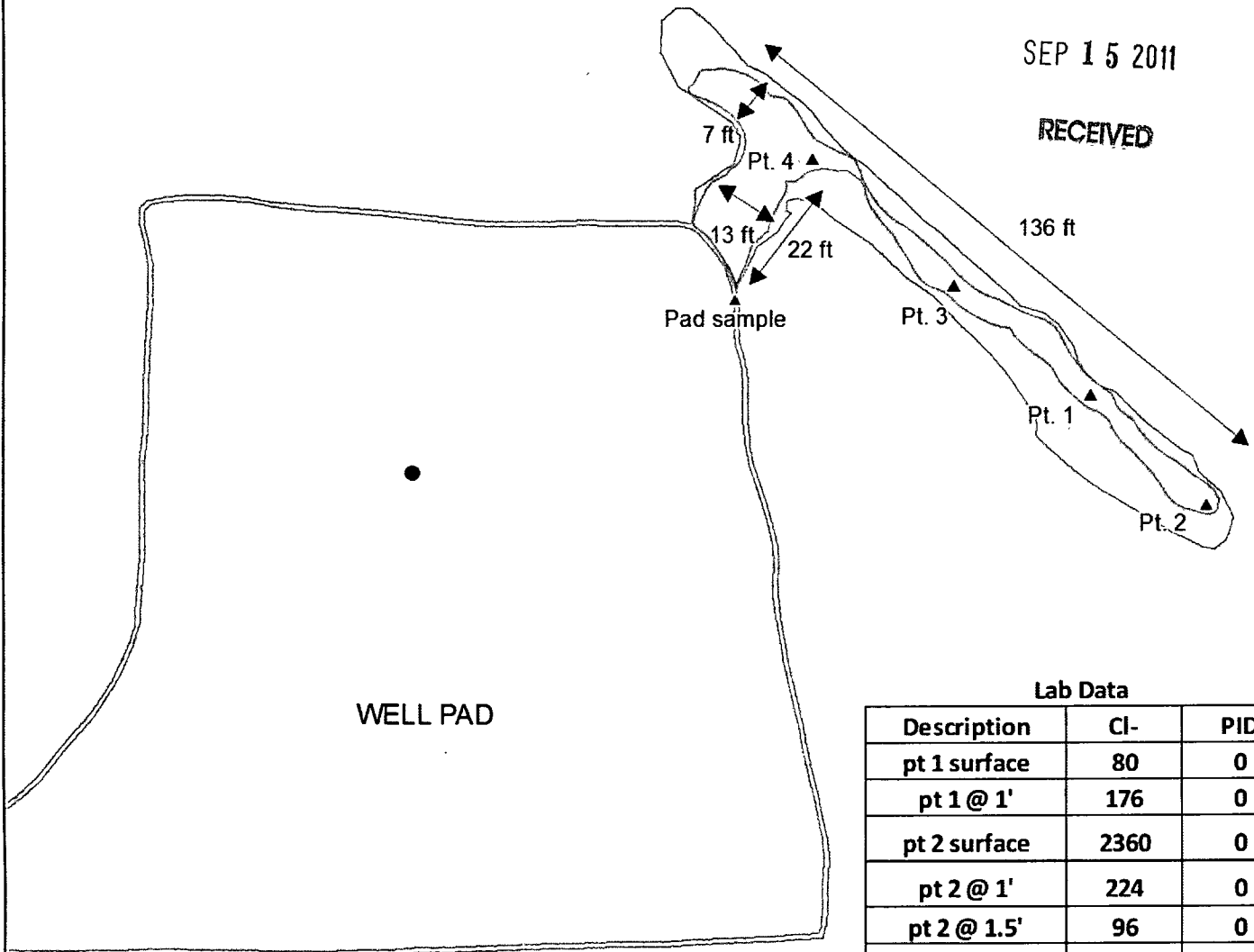
\* Attach Additional Sheets If Necessary

# Lab Data

HOBBS OCD

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Lab Data

Description	Cl-	PID
pt 1 surface	80	0
pt 1 @ 1'	176	0
pt 2 surface	2360	0
pt 2 @ 1'	224	0
pt 2 @ 1.5'	96	0
pt 3 surface	2080	0
pt 3 @ 1'	80	0
pt 3 @ 1.5'	48	0
pt 4 surface	3520	0
pt 4 @ 2' 6"	224	0
pt 4 @ 3'	192	0
Background	<16	
Pad sample @ 6"	224	
8 pt composite from bottom of excavation		
	48	

## Legend

- ▲ SAMPLE POINTS
- WELL HEAD
- LEAK AREA (1,022 sq ft)
- EXCAVATED AREA



**QUANTUM  
PEARL QUEEN #13 AD**

UL/H SECTION 23  
T-19-S R-35-E  
LEA COUNTY, NM



0 20 40  
Feet

A horizontal scale bar with markings for 0, 20, and 40 feet.

GPS date: 8/15 & 16/11 by DH  
Drawing date: 8/23/11  
Drafted by: L. Weinheimer

# Quantum Northeast Pearl Queen #13 AD

Unit H, Section 23, T19S, R35E

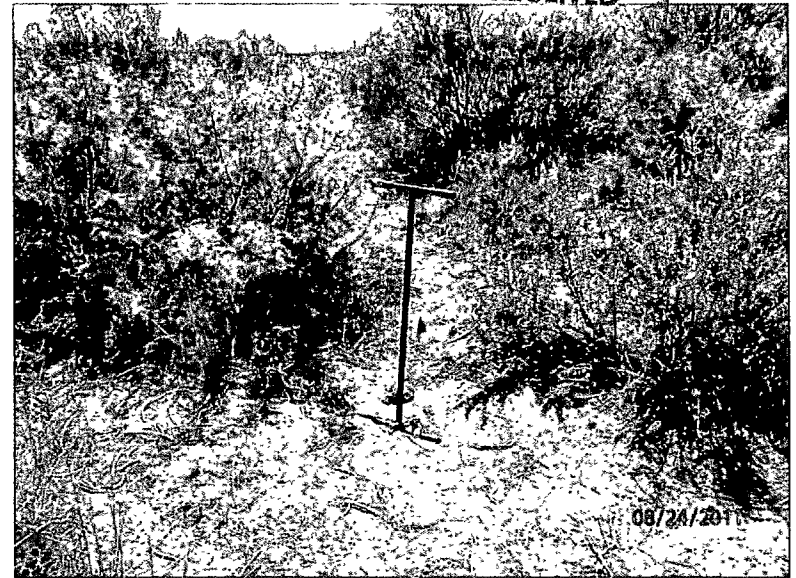
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Initial leak, facing south

8/16/11



Hand auguring, facing west

8/24/11



Initial leak, facing north

8/16/11



Scraping the site, facing southwest

8/26/11

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Excavation, facing south

8/26/11



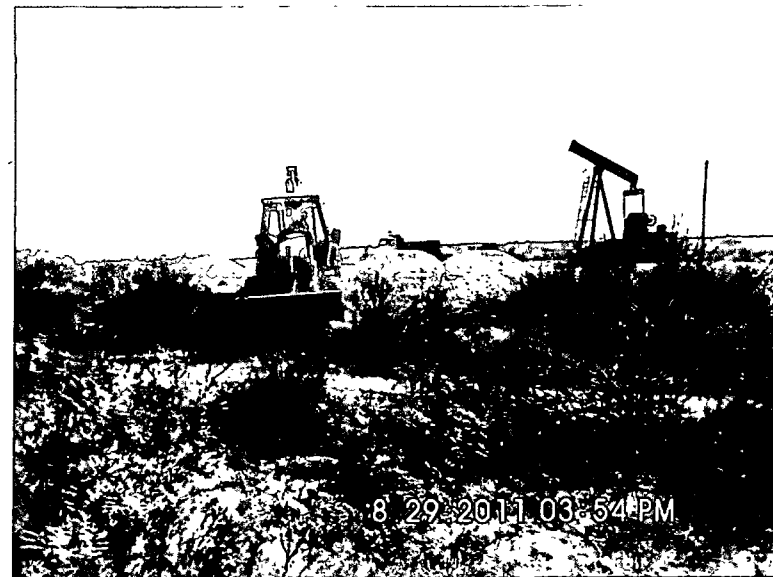
Backfilling the site, facing southeast

8/29/11



Exporting soil, facing west

8/26/11



Backfilling the site, facing southwest

8/29/11

August 19, 2011

HOBBS OCD

BRUCE BAKER

SEP 15 2011

RICE ENVIRONMENTAL CONSULTING &amp; SAFETY LLC

112 W. TAYLOR

RECEIVED

HOBBS, NM 88240

RE: N. E. PEARL QUEEN #13

Enclosed are the results of analyses for samples received by the laboratory on 08/17/11 16:38.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

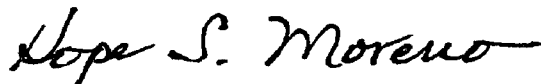
Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Hope Moreno

Inorganic Technical Director

**Analytical Results For:**

RICE ENVIRONMENTAL CONSULTING & SAFETY I  
BRUCE BAKER  
112 W. TAYLOR  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received: 08/17/2011  
Reported: 08/19/2011  
Project Name: N. E. PEARL QUEEN #13  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 08/16/2011  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: PT. 1 142' E PASTURE (H101737-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	08/18/2011	ND	432	108	400	3.77	

**Sample ID: PT. 1 @ 6" (H101737-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	08/18/2011	ND	432	108	400	3.77	

**Sample ID: PT. 1 @ 1' (H101737-03)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	08/18/2011	ND	432	108	400	3.77	

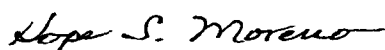
**Sample ID: PT. 2 142' E / 40' S (H101737-04)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2360	16.0	08/18/2011	ND	432	108	400	3.77	

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\*=Accredited Analyte

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Hope Moreno, Inorganic Technical Director

**Analytical Results For:**

 RICE ENVIRONMENTAL CONSULTING & SAFETY I  
 BRUCE BAKER  
 112 W. TAYLOR  
 HOBBS NM, 88240  
 Fax To: (575) 397-1471

 Received: 08/17/2011  
 Reported: 08/19/2011  
 Project Name: N. E. PEARL QUEEN #13  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 08/16/2011  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: PT. 2 @ 6" (H101737-05)**

Chloride, SM4500Cl-B			mg/kg		Analyzed By: HM				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	400	16.0	08/18/2011	ND	432	108	400	3.77	

**Sample ID: PT. 2 @ 1' (H101737-06)**

Chloride, SM4500Cl-B			mg/kg		Analyzed By: HM				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	08/18/2011	ND	432	108	400	3.77	

**Sample ID: PT. 3 142' E / 43' N (H101737-07)**

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2080	16.0	08/19/2011	ND	432	108	400	3.77	

**Sample ID: PT. 3 @ 6" (H101737-08)**

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1020	16.0	08/19/2011	ND	432	108	400	3.77	


**Sample ID: PT. 3 @ 1' (H101737-09)**

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	08/19/2011	ND	432	108	400	3.77	

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Hope Moreno, Inorganic Technical Director



**Analytical Results For:**

 RICE ENVIRONMENTAL CONSULTING & SAFETY  
 BRUCE BAKER  
 112 W. TAYLOR  
 HOBBS NM, 88240  
 Fax To: (575) 397-1471

 Received: 08/17/2011  
 Reported: 08/19/2011  
 Project Name: N. E. PEARL QUEEN #13  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 08/16/2011  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: PT. 4 142' E / 87' N (H101737-10)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3520	16.0	08/19/2011	ND	432	108	400	3.77	

**Sample ID: PT. 4 @ 6" (H101737-11)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	544	16.0	08/19/2011	ND	432	108	400	3.77	

**Sample ID: PT. 4 @ 1' (H101737-12)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1010	16.0	08/19/2011	ND	432	108	400	3.77	

**Sample ID: PT. 4 @ 1' 6" (H101737-13)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1410	16.0	08/19/2011	ND	432	108	400	3.77	

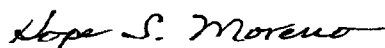
**Sample ID: PT. 4 @ 2' (H101737-14)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	08/19/2011	ND	432	108	400	3.77	

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Hope Moreno, Inorganic Technical Director

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BRUCE BAKER  
112 W. TAYLOR  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received: 08/17/2011  
Reported: 08/19/2011  
Project Name: N. E. PEARL QUEEN #13  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 08/16/2011  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: PT 4 @ 2' 6" (H101737-15)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	224	16.0	08/19/2011	ND	432	108	400	3.77		

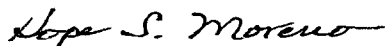
**Sample ID: BACKGROUND (H101737-16)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	08/19/2011	ND	432	108	400	3.77		

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**Notes and Definitions**

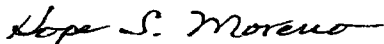
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

---

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Hope Moreno, Inorganic Technical Director

1 of 2



# CARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603  
(505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325) 673-7020

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Quantum Resources				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>																			
Project Manager: Bruce Baker				P.O. #:				<div style="display: flex; flex-direction: column; align-items: center;"> <div>Chlorides</div> <div>TPH 8015 M</div> <div>BTEX</div> <div>Texas TPH</div> <div>Complete Cations/Anions</div> <div>TDS</div> </div>																			
Address:				Company:																							
City: Hobbs State: NM Zip:				Attn:																							
Phone #: Fax #:				Address:																							
Project #: Project Owner:				City:																							
Project Name: N. E. Pearl Queen #13				State: Zip:																							
Project Location:				Phone #: Fax #:																							
Sampler Name: Dak Harris																											
FOR LAB USE ONLY																											
Lab I.D.	Sample I.D.	(C/RAB OR C/OMP)	# CONTAINERS	MATRIX					PRESERV		SAMPLING																
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE	ICE/COOL	OTHER	DATE	TIME													
1	Pt.1 142'E Pasture	1	1			✓				✓			8/16/11	10:00	✓												
2	Pt.1 @ 6"	1	1			✓				✓			8/16/11	10:06	✓												
3	Pt.1 @ 1'	1	1			✓				✓			8/16/11	10:10	✓												
4	Pt.2 142'E/40'S	1	1			✓				✓			8/16/11	10:15	✓												
5	Pt.2 @ 6"	1	1			✓				✓			8/16/11	10:20	✓												
6	Pt.2 @ 1'	1	1			✓				✓			8/16/11	10:28	✓												
7	Pt.3 142'E/43'N	1	1			✓				✓			8/16/11	10:32	✓												
8	Pt.3 @ 6"	1	1			✓				✓			8/16/11	10:37	✓												
9	Pt.3 @ 1'	1	1			✓				✓			8/16/11	10:48	✓												
10	Pt.4 142'E/87'N	1	1			✓				✓			8/16/11	11:02	✓												
<small>PLEASE NOTE: Liability and Damages: Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.</small>																											
Relinquished By: <i>Dak Harris</i>				Date: 8/17/11				Received By: <i>Wendi Benson</i>				Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				Add'l Phone #:											
Time: 4:30												Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				Add'l Fax #:											
Relinquished By:				Date:				Received By:				REMARKS:  email results  Zconder@rice-ecs.com; Bbaker@rice-ecs.com; hconder@rice-ecs.com; Lweinheimer@rice-ecs.com															
Time:																											
Delivered By: (Circle One)				Sample Condition				CHECKED BY:																			
Sampler - UPS - Bus - Other:				Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				(Initials) <i>GH</i>																			

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

2072



# **CARDINAL LABORATORIES**

101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603  
(505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325) 673-7020

## **CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

Company Name: Quantum Resources				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>											
Project Manager: Bruce Baker				P.O. #:				<div style="display: flex; flex-direction: column; align-items: center;"> <div>Chlorides</div> <div>TPH 8015 M</div> <div>BTEX</div> <div>Texas TPH</div> <div>Complete Cations/Anions</div> <div>TDS</div> </div>											
Address:				Company:															
City: Hobbs State: NM Zip:				Attn:															
Phone #: Fax #:				Address:															
Project #: Project Owner:				City:															
Project Name: N. E. Pearl Queen #13				State: Zip:															
Project Location:				Phone #:															
Sampler Name: Dak Harris				Fax #:															
FOR LAB USE ONLY																			
Lab I.D.	Sample I.D.	(C)RAB OR (C)OMP	# CONTAINERS	MATRIX				PRESERV.		SAMPLING									
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE:	ICE/COOL	OTHER	DATE	TIME					
H101739																			
11	Pt 4 @ 6"	G	1			✓				✓			8/16/11	11:11	✓				
12	Pt 4 @ 1'	G	1			✓				✓			8/16/11	11:20	✓				
13	Pt 4 @ 1' 6"	G	1			✓				✓			8/16/11	11:33	✓				
14	Pt 4 @ 2'	G	1			✓				✓			8/16/11	11:45	✓				
15	Pt 4 @ 2' 6"	G	1			✓				✓			8/16/11	11:56	✓				
16	Background	G	1			✓				✓			8/16/11		✓				

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

Relinquished By: <i>Dak Harris</i>	Date: 8/17/11	Received By: <i>Wendi Nenson</i>	Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Phone #:
	Time: 4:38		Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS:	
	Time:		email results	
Delivered By: (Circle One)	Sample Condition	CHECKED BY: (Initials)	Zconder@rice-ecs.com; Bbaker@rice-ecs.com;	
Sampler - UPS - Bus - Other:	Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No	<i>WEN</i>	hconder@rice-ecs.com; Lweinheimer@rice-ecs.com	

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476.

#26

August 31, 2011

BRUCE BAKER

RICE ENVIRONMENTAL CONSULTING &amp; SAFETY LLC

112 W. TAYLOR

HOBBS, NM 88240

HOBBS OCD

SEP 15 2011

RECEIVED

RE: N. E. PEARL QUEEN #13

Enclosed are the results of analyses for samples received by the laboratory on 08/24/11 16:20.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

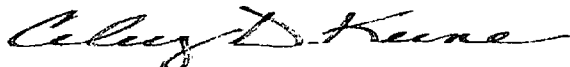
Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

RICE ENVIRONMENTAL CONSULTING & SAFETY I  
BRUCE BAKER  
112 W. TAYLOR  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received: 08/24/2011  
Reported: 08/31/2011  
Project Name: N. E. PEARL QUEEN #13  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 08/24/2011  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Jodi Henson

**Sample ID: PT 2 @ 1.5' (H101797-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	08/25/2011	ND	432	108	400	0.00	

**Sample ID: PT 3 @ 1.5' (H101797-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	08/25/2011	ND	432	108	400	0.00	

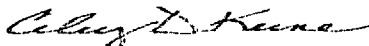
**Sample ID: PT 4 @ 3' (H101797-03)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	08/25/2011	ND	432	108	400	0.00	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
.	Samples reported on an as received basis (wet) unless otherwise noted on report

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Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





# CARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603  
(505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325) 673-7020

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Quantum Resources				<b>BILL TO</b>												<b>ANALYSIS REQUEST</b>											
Project Manager: Bruce Baker				P.O. #:				<div style="display: flex; flex-direction: column; align-items: center;"> <div>Chlorides</div> <div>TPH 8015 M</div> <div>BTEX</div> <div>Texas TPH</div> <div>Complete Cations/Anions</div> <div>TDS</div> </div>																			
Address:				Company:																							
City: Hobbs State: NM Zip:				Attn:																							
Phone #: Fax #:				Address:																							
Project #: Project Owner:				City:																							
Project Name: N.E. Pearl Queen #13				State: Zip:																							
Project Location:				Phone #:																							
Sampler Name: DAK HAREIS				Fax #:																							
FOR LAB USE ONLY																											
Lab I.D.		Sample I.D.		GRAB OR (COMP.)	# CONTAINERS	MATRIX					PRESERV		SAMPLING														
						GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE	ICE/COOL	OTHER													DATE
H101791		PT 2 @ 1.5'		G	1									8-24-11	1:00												
		PT 3 @ 1.5'		G	1									8-24-11	1:05												
		PT 4 @ 3'		G	1									8-24-11	1:10												

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Relinquished By: <i>Lab Harris</i>		Date: 8/24/11		Received By: <i>Node Henson</i>		Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Add'l Phone #:	
Time: 4:20						Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Add'l Fax #:	
Relinquished By:		Date:		Received By:		REMARKS:	
Time:						email results	
Delivered By: (Circle One)				Sample Condition		CHECKED BY:	
Sampler - UPS - Bus - Other:				Cool Intact		(Initials)	
				Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		<i>GA</i>	
				Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		Zcorder@rice-ecs.com; Bbaker@rice-ecs.com; hcondor@rice-ecs.com; Lweinheimer@rice-ecs.com	

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476.

#26



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

August 29, 2011

HOBBS OCD

HACK CONDER

SEP 15 2011

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

112 W. TAYLOR

HOBBS, NM 88240

RECEIVED

RE: N. E. PEARL QUEEN #13

Enclosed are the results of analyses for samples received by the laboratory on 08/26/11 17:10.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Celey D. Keene". The signature is fluid and cursive, with a long horizontal stroke at the end.

Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

RICE ENVIRONMENTAL CONSULTING & SAFETY I  
HACK CONDER  
112 W. TAYLOR  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received:	08/26/2011	Sampling Date:	08/26/2011
Reported:	08/29/2011	Sampling Type:	Soil
Project Name:	N. E. PEARL QUEEN #13	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

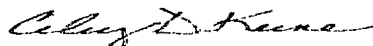
**Sample ID: PAD @ 6" (H101815-01)**

Chloride, SM4500Cl-B		mg/kg	Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	4.00	08/29/2011	ND	432	108	400	3.64	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

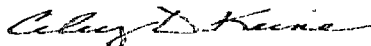
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Quantum  
Hack Consider

North East Paul Queen #13

1-151014

Paed @ 6 11

5.

501

9-11-43

52/210/170-1

5:10 April Jensen

30°

[illegible]

August 29, 2011

HACK CONDER

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

112 W. TAYLOR

HOBBS, NM 88240

HOBBS OCD

SEP 15 2011

RECEIVED

RE: N. E. PEARL QUEEN #13

Enclosed are the results of analyses for samples received by the laboratory on 08/26/11 17:09.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

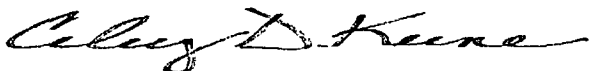
Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

RICE ENVIRONMENTAL CONSULTING & SAFETY  
HACK CONDER  
112 W. TAYLOR  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received:	08/26/2011	Sampling Date:	08/26/2011
Reported:	08/29/2011	Sampling Type:	Soil
Project Name:	N. E. PEARL QUEEN #13	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

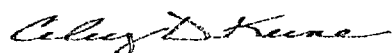
**Sample ID: 8 PT. COMP (H101816-01)****Chloride, SM4500Cl-B****mg/kg****Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>48.0</b>	4.00	08/29/2011	ND	432	108	400	3.64	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

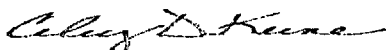
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

---

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\*=Accredited Analyte

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---

Celey D. Keene, Lab Director/Quality Manager



