

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

Form C-141  
Revised October 10, 2003

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

### Release Notification and Corrective Action

#### OPERATOR

☐ Initial Report ☒ Final Report

Name of Company	Linn Energy	Contact	Gary Wink
Address	2130 W. Bender Blvd., Hobbs, NM	Telephone No.	(575) 738-1739 ext. 1218
Facility Name	Caprock Maljamar Unit #98	Facility Type	Injection Well
Surface Owner	State Lease Angell	Mineral Owner	State of NM
		Lease No.	30-025-01525

#### LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
M	28	17S	33E	709	FSL	926	FWL	Lea

Latitude 32°48'0.745"N Longitude 103°40'25.7"W

#### NATURE OF RELEASE

Type of Release	Produced Water	Volume of Release	Unknown	Volume Recovered	Unknown
Source of Release	Fiberglass Line	Date and Hour of Occurrence	5/1/2012	Date and Hour of Discovery	5/1/2012
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Geoffrey Leking		
By Whom?	Gary Wink	Date and Hour			
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.\*

Describe Cause of Problem and Remedial Action Taken.\*

Fiberglass line ruptured. The line was excavated out and repaired with a flange. The flange failed, and the damaged line was replaced with a new joint.

Describe Area Affected and Cleanup Action Taken.\*

The leak affected approximately 6,700 square feet of pasture land. The impacted area was delineated and representative soil samples were sent to a commercial laboratory for chloride and TPH confirmation. Impacted soils were excavated into the root zone and removed to a NMOCD approved disposal facility. A 20 mil reinforced liner was placed in the excavation bottom. The excavation was backfilled with clean imported soil and contoured to the surrounding area. The site will be seeded with a natural vegetative blend.

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: <u>Gary W. Wink</u>		OIL CONSERVATION DIVISION	
Printed Name: Gary Wink		Approved by <u>ENV SPECIALIST</u> <u>Geoffrey Leking</u>	
Title: Production Foreman	Approval Date: <u>9/21/12</u>	Expiration Date: <u>-</u>	
E-mail Address: <u>gawink@linenergy.com</u>	Conditions of Approval: <u>-</u>	Attached <input type="checkbox"/>	
Date: <u>9/21/12</u>	Phone: (575) 738-1739 ext. 1218	<u>IRP-9-12-2848</u>	

\* Attach Additional Sheets If Necessary



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Facility Name	Caprock Maljamar Unit #98	Facility Type	Injection Well
Surface Owner	State lease Angell	Mineral Owner	State of NM
		Lease No.	30-025-01525

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Latitude 32°48'0.745"N Longitude 103°40'25.7"W

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Source of Release	Fiberglass Line	Date and Hour of Occurrence	5/1/2012	Date and Hour of Discovery	5/1/2012
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Geoffrey Leking		
By Whom?	Gary Wink	Date and Hour			
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.\*

Describe Cause of Problem and Remedial Action Taken.\*

Fiberglass line ruptured. The line was excavated out and repaired with a flange. The flange failed, and the damaged line was replaced with a new joint.

Describe Area Affected and Cleanup Action Taken.\*

The initial release affected 5,016 sq. ft. of pasture, and the second release affected 1,276 sq. ft. of pasture. The site will be remediated to NMOCD standards.

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.

**OIL CONSERVATION DIVISION**

Signature: <u>Gary W. Wink</u>	Approved by District Supervisor:		
Printed Name: Gary Wink			
Title: Production Foreman	Approval Date:	Expiration Date:	
E-mail Address: <u>gawink@linenergy.com</u>	Conditions of Approval:		Attached <input type="checkbox"/>
Date: 5/10/2012	Phone: 575-738-1739 ext. 1218		

\* Attach Additional Sheets If Necessary

# **LINN ENERGY**

2130 W. Bender Blvd.

Hobbs, NM 88241

Phone 575.738.1739

## Caprock Maljamar Unit #98

### Closure Report

API 30-025-01525

Release Date: May 1, 2012

Unit Letter M, Section 28, Township 17S, Range 33E

*approved*  
*Steve Loring*  
*Envr Specialist*  
*NMOC-DIST 1*  
*9/21/12*



## Rice Environmental Consulting & Safety

P.O. Box 5630 Hobbs, NM 88241

Phone 575.393.4411 Fax 575.393.0293

**August 13, 2012**

Geoffrey Leking

New Mexico Energy, Minerals, & Natural Resources

Oil Conservation Division, Environmental Bureau – District 1

1625 N. French Dr.

Hobbs, NM 88240-9273

**RE: TERMINATION REQUEST**

**Linn Energy – Caprock Maljamar Unit #98 AD**

**UL/M sec. 28 T17S R33E**

**API No. 30-025-01525**

Mr. Leking:

Linn Energy has retained Rice Environmental Consulting and Safety (RECS) to address potential environmental concerns at the site referenced above.

### **Background and Previous Work**

The site is an accidental discharge of produced water associated with the Caprock Maljamar Unit #98. A fiberglass line ruptured and released fluids into pasture land. The line was repaired with a flange. The flange failed, resulting in a second release, and the line was replaced with a new joint. An initial form C-141 was submitted by Linn Energy on May 10, 2012 (Appendix A). The site is located approximately 10 miles west of Buckeye in unit letter 'M' of section 28, T17S, R33E in Lea County, New Mexico.

Soil samples collected from the initial impacted area were field tested for chloride. Headspace measurements were also taken in the field using a Photo Ionization Detector (PID) (Figure 1). Samples from points 1 thru 4 were submitted to a commercial laboratory for chloride and TPH (GRO/DRO) analyses (Appendix C). All samples except the sample from Point #4 showed low chloride levels at approximately 1.5 ft. below ground surface (bgs).

The second leak event, due to a failed flange, further impacted the portion of the initial leak area surrounding Point #4 (Figure 2). From May 17 through June 12, 2012, soil bore sampling was used to determine the lateral and vertical extent of the secondary impact. Soil samples were similarly field tested and representative samples were submitted to a commercial laboratory for chloride and TPH analyses (Appendix C). Lab analysis confirmed that chloride levels decreased to less than 250 mg/kg at 65 ft. bgs. All soil bores were plugged in full with bentonite.

On June 11, 2012, a temporary groundwater monitoring well was installed approximately 90 ft. west of the leak area to a depth of 160 ft. to determine the existence of groundwater (Figure 2).



On June 14, 2012, groundwater was confirmed at a depth of 123 ft. bgs (Appendix D). The temporary monitoring well was plugged with bentonite to ground surface.

Succeeding these activities, NMOCD approved the following implementation. The area encompassing the second leak event was excavated to a depth of 5 ft. bgs (Figure 3). The bottom of the excavation was lined with a 20 mil reinforced plastic liner, and the remaining space was backfilled with clean soil to ground surface. The larger area encompassing the first leak event was excavated to 1.5 ft. bgs, and was backfilled with clean soil to ground surface as well. The entire affected area was contoured to the surrounding vicinity and was reseeded with Klein grass seed.

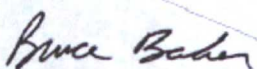
Impacted soils were removed from the excavations and transported to a NMOCD approved disposal facility. See Appendix B for photographs of field activities.

### Conclusion

Due to the removal of impacted soils in the root zone, confirmed depth to groundwater, and the installation of a protective barrier to prevent further downward migration of remaining chloride, RECS, on behalf of Linn Energy, submits the final C-141 (Appendix D) and respectfully requests the closure of the regulatory file for this site.

RECS appreciates the opportunity to work with you on this project. Please call me at the number below if you have any questions or comments.

Sincerely,



Bruce Baker  
Head Foreman  
RECS  
(575) 631-5157

### Attachments:

- Figure 1: Site Plat with Initial Release and Sample Data
- Figure 2: Site Plat with Second Release and Soil Bore Sampling Data
- Figure 3: Site Plat with Excavation and Liner Dimensions
- Appendix A: Initial Form C-141
- Appendix B: Site Photographs
- Appendix C: Laboratory Results
- Appendix D: Letter of Groundwater Verification and Drilling Photographs
- Appendix E: Final Form C-141



# Site Plat

**Point 1**

Sample Description	CI-	PID	LAB CI-
Pt 1 @ surface	12,596	65.1	18,800
Pt 1 @ 6"	174	52.5	
Pt 1 @ 1'	999	4	
Pt 1 @ 1.5'	147	1.5	192
Pt 1 @ 2'	205	1.1	240

**Point 2**

Sample Description	CI-	PID	LAB CI-
Pt 2 @ surface	7,366	11.9	6,480
Pt 2 @ 6"	143	14.1	
Pt 2 @ 1'	694	6.3	
Pt 2 @ 1.5'	145	5.9	32
Pt 2 @ 2'	254	6.1	160

**Point 3**

Sample Description	CI-	PID	LAB CI-
Pt 3 @ surface	11,879	39.7	14,600
Pt 3 @ 6"	337	11.9	
Pt 3 @ 1'	444	1.6	
Pt 3 @ 1.5'	236	6.6	288
Pt 3 @ 2'	145	6.2	80

**Point 4**

Sample Description	CI-	PID	LAB CI-	GRO	DRO
Pt 4 @ surface	10,902	27.5	11,600		
Pt 4 @ 6"	8,368	7			
Pt 4 @ 1'	8,364	7.9			
Pt 4 @ 1.5'	8,446	15.8			
Pt 4 @ 2'	9,146	5.6			
Pt 4 @ 2.5'	8,011	2.3			
Pt 4 @ 3'	3,188	4.1			
Pt 4 @ 3.5'	1,483	1.6			
Pt 4 @ 4'	1,019	1.8			
Pt 4 @ 4.5'	462	6.9	640	<10	15.7

**Point 7**

Sample Description	CI-	PID
PT 7 @ SURFACE	245	0
PT 7 @ 6"	1990	0
PT 7 @ 1'	1051	0
PT 7 @ 1'6"	876	0
PT 7 @ 2'	236	0
PT 7 @ 2'6"	151	0

**Point 8**

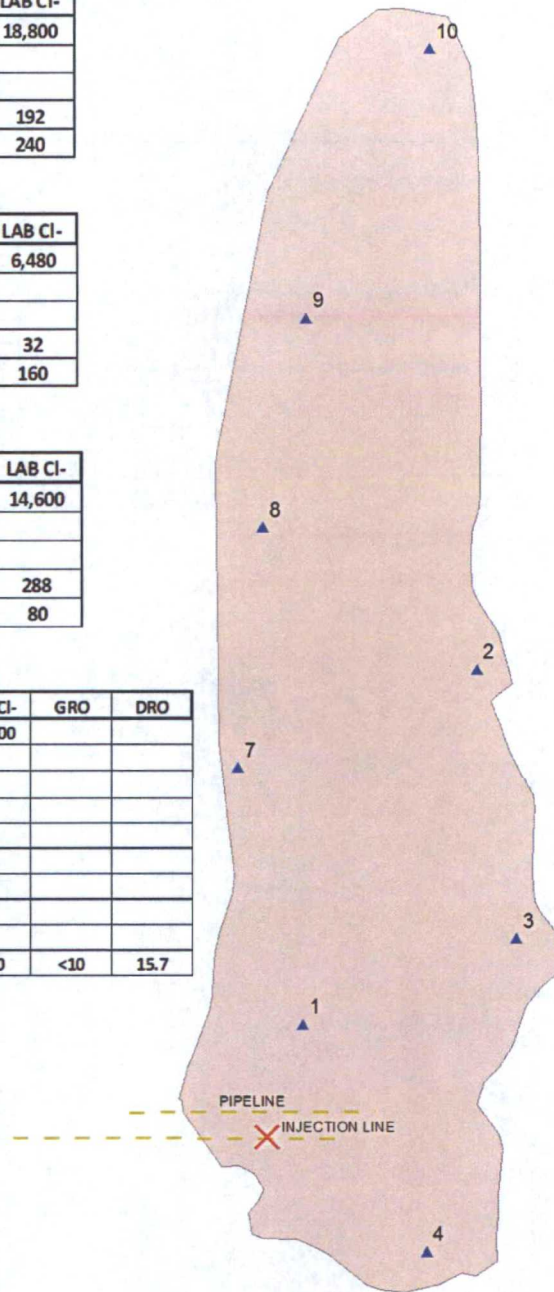
Sample Description	CI-	PID
PT 8 @ SURFACE	354	0
PT 8 @ 6"	1629	0
PT 8 @ 1'	1421	0
PT 8 @ 1'6"	145	0
PT 8 @ 2'	191	0

**Point 9**

Sample Description	CI-	PID
PT 9 @ SURFACE	393	0
PT 9 @ 6"	1967	0
PT 9 @ 1'	1054	0
PT 9 @ 1'6"	268	0
PT 9 @ 2'	202	0

**Point 10**

Sample Description	CI-	PID
PT 10 @ SURFACE	681	0
PT 10 @ 6"	1926	0
PT 10 @ 1'	617	0
PT 10 @ 1'6"	178	0
PT 10 @ 2'	150	0



## Legend

- ▲ SAMPLE POINT
- × SOURCE
- STAIN (8,157 sq ft)

Landowner: State Lease to Darr Angell

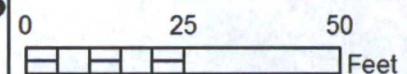
DGW = 123 ft



**LINN OPERATING  
CAPROCK  
MALJAMAR UNIT #98**

UL/M SECTION 28  
T-17-S R-33-E  
LEA COUNTY, NM

**Figure 1**



GPS date: 5-9-12 by BB  
Drawing date: 5-10-12  
Drafted by: L. Weinheimer



# Site Plat

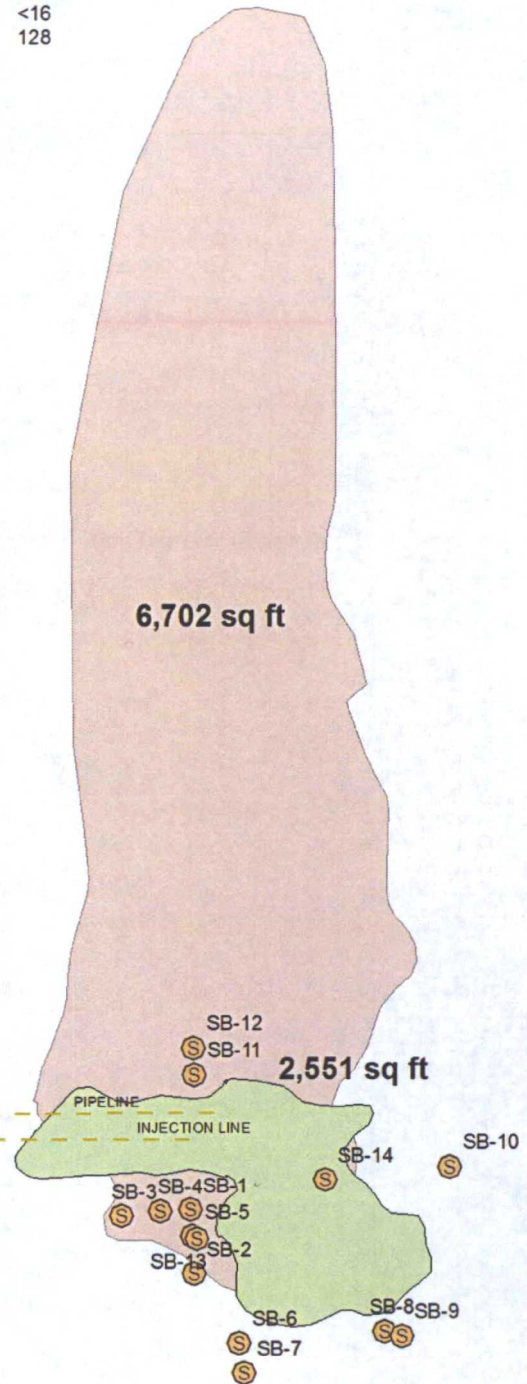
SB-1			SB-3			SB-9			SB-10			
Depth	CI-	PID	Depth	CI-	PID	Depth	CI-	PID	Depth	CI-	PID	LAB CI-
2	850	2.5	1	222	0.2	1	85	5.6	1	85	1.5	<16
4	2690	0.9	2	536	0.4	2	85	4.8	2	169	1.4	128
6	5374	4.9	3	123	0.3							
8	5303	6.5	4	117	0.5							
10	7572	8.7										
12	7838	4.1	SB-4			SB-11						
14	7784	7.1	Depth	CI-	PID	LAB CI-	Depth	CI-	PID	LAB CI-		
16	10143	6.3	1	883	0.3	880	1	1510	1.4			
18	12497	10	2	466	0.4		2	4241	1.6			
20	7364	8.2	3	141	0.2	32	3	5810	2.1	6160		
22	5886	5.4	4	117	0.3	64	4	1565	1.1			
24	5393	3.8					5	2336	2.7			
26	4953	2.9	SB-5			SB-12						
28	6307	3.6	Depth	CI-	PID	LAB CI-	Depth	CI-	PID	LAB CI-		
30	4774	7.1	1	285	0.2		1	627	1.4			
32	5185	9.6	2	4739	0	5200	2	5200	1	1020		
34	6624	5.2	3	118	0.5	<16	3	3261	0.5			
36	7988	6	4	120	0.4	32	4	118	1.5	<16		
38	9277	10.5					5	140	2.4	<16		
40	8449	5.2	SB-6			SB-13						
42	6853	5.5	Depth	CI-	PID	LAB CI-	GRO	DRO				
44	6707	6.4	1	500	1.9		SS	1501	8.7			
46	6912	9.2	2	3058	2.2		5	148	2.9			
48	7922	10.2	3	6010	12.6		10	2816	5.1			
49	8006	7.4	4	6884	9.8		15	3856	6.9			
							20	2596	1.5			
							25	1803	5.3			
							30	2623	4.7			
							35	1404	5.8			
							40	677	6.4			
							45	360	2.3			
							50	284	2.6			
							55	302	4.4			
							60	434	6.5			
							65	200	2.1			
							70	249	2			
									128	<10	<10	
									160	<10	<10	

## Legend

- SOIL BORES
- TEMPORARY MW
- STAIN 2nd RELEASE (1,276 sq ft)
- STAIN (8,157 sq ft)

Temporary MW  
Total Depth = 160 ft

SB-14					
Depth	CI-	PID	LAB CI-	GRO	DRO
SS	3970	1.5			
5	4697	2			
10	3919	3			
15	7490	5.9	3840	<10	<10
20	4325	2.2			-
25	4468	4.2		-	-
30	4272	1.8			
35	1151	3.3			
40	543	3.9			
45	1454	5.9			
50	2056	5.1			
55	365	0.8			
60	218	2.9	128	<10	<10
65	178	4.1	32	<10	<10



Landowner = State Leased to Dar Angell

DGW = 123 ft



**LINN OPERATING  
CAPROCK  
MALJAMAR UNIT #98**

UL/M SECTION 28  
T-17-S R-33-E  
LEA COUNTY, NM

Figure 2








0 25 50  
Feet

GPS date: 5-9-12 by BB  
Drawing date: 5-10-12  
Drafted by: L. Weinheimer

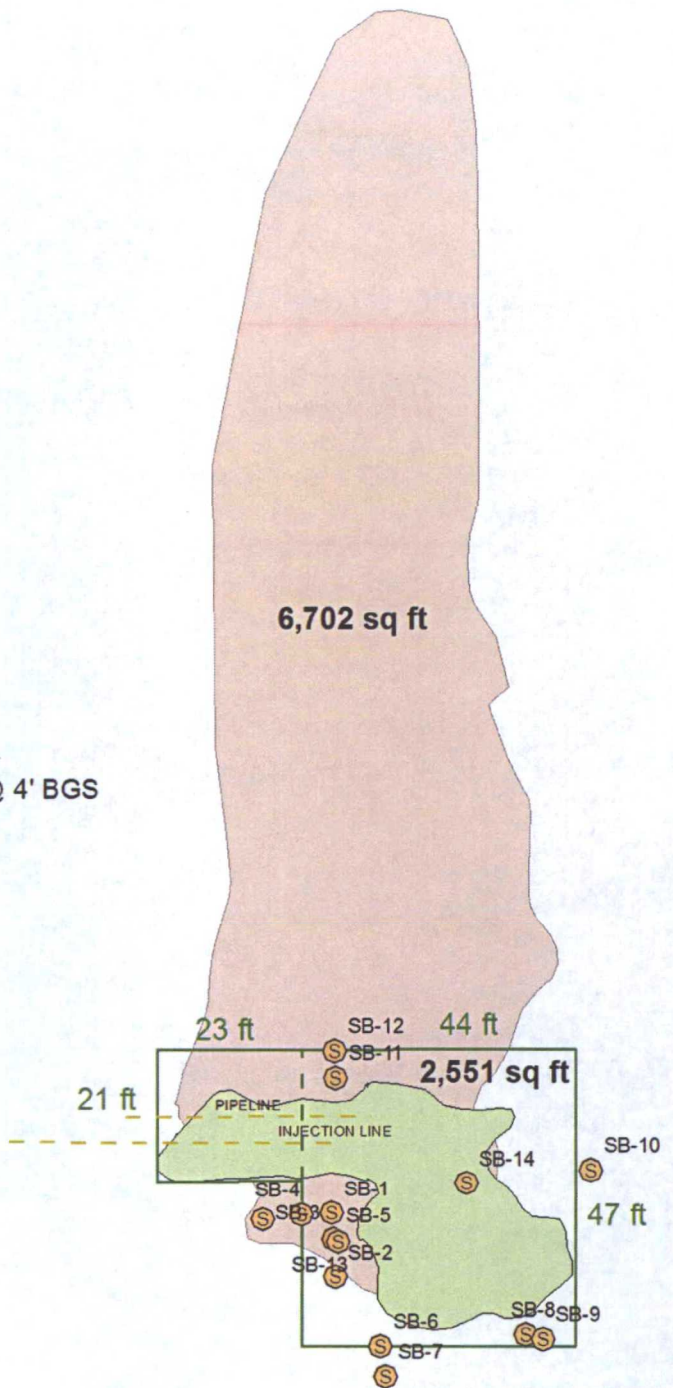


# Site Plat

## Legend

-  SOIL BORES
-  TEMPORARY MW
-  PROPOSED 20-MIL REINFORCED POLY LINER @ 4' BGS
-  STAIN 2nd RELEASE (1,276 sq ft)
-  STAIN (8,157 sq ft)

  
Temporary MW  
Total Depth = 160 ft



Landowner = State Leased to Dar Angell

DGW = 123 ft



**LINN OPERATING  
CAPROCK  
MALJAMAR UNIT #98**

UL/M SECTION 28  
T-17-S R-33-E  
LEA COUNTY, NM

**Figure 3**



0 25 50  
Feet

GPS date: 5-9-12 by BB  
Drawing date: 5-10-12  
Drafted by: L. Weinheimer



# Caprock Maljamar Unit #98

Unit M, Section 28, T17S, R33E



Initial release in pasture, facing west

5/1/2012



Collecting sample, facing south

5/1/2012



Collecting sample, facing south

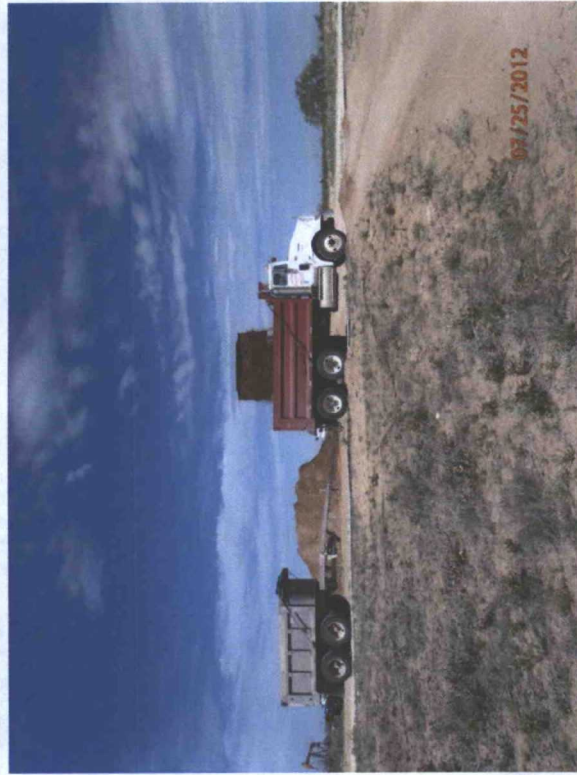
5/9/2012



Beginning excavation, facing north

7/20/2012





Exporting spoil pile, facing west

7/25/2012



Excavating, facing south

7/25/2012



Backfilling above liner, facing north

7/31/2012



Packing soil under lines, facing east

7/31/2012





Seaming liner, facing east

8/1/2012



Importing clean soil, facing west

8/2/2012



Backfilling site, facing south

8/2/2012



Site backfilled, facing north

8/3/2012





Site backfilled, facing south

8/3/2012



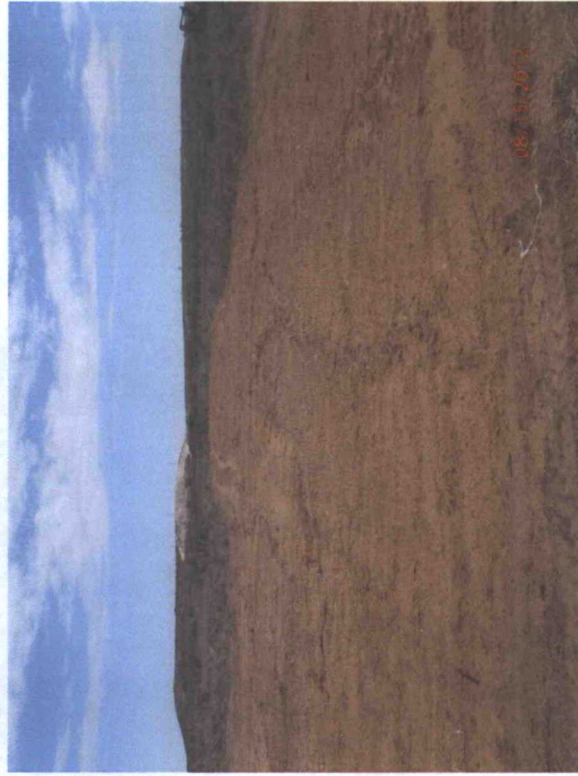
Spreading seed, facing north

8/15/2012



Raking seed, facing east

8/15/2012



Site complete, facing east

8/15/2012



**Analytical Results For:**

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

 Received: 05/04/2012  
 Reported: 05/10/2012  
 Project Name: CAPROCK MALJAMAR #98  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 05/01/2012  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: POINT 1 @ SURFACE (H201024-01)**

Chloride, SM4500CI-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	18800	16.0	05/07/2012	ND	400	100	400	7.69	

**Sample ID: POINT 1 @ 1.5' (H201024-02)**

Chloride, SM4500CI-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	05/07/2012	ND	400	100	400	7.69	

**Sample ID: POINT 1 @ 2' (H201024-03)**

Chloride, SM4500CI-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	05/07/2012	ND	400	100	400	7.69	

**Sample ID: POINT 2 @ SURFACE (H201024-04)**

Chloride, SM4500CI-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6480	16.0	05/07/2012	ND	400	100	400	7.69	

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

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

 Received: 05/04/2012  
 Reported: 05/10/2012  
 Project Name: CAPROCK MALJAMAR #98  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 05/01/2012  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: POINT 2 @ 1.5' (H201024-05)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	05/07/2012	ND	400	100	400	7.69		

**Sample ID: POINT 2 @ 2' (H201024-06)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	05/07/2012	ND	400	100	400	7.69	

**Sample ID: POINT 3 @ SURFACE (H201024-07)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	14600	16.0	05/07/2012	ND	400	100	400	7.69	

**Sample ID: POINT 3 @ 1.5 (H201024-08)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	288	16.0	05/07/2012	ND	400	100	400	7.69		

**Sample ID: POINT 3 @ 2' (H201024-09)**

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	05/07/2012	ND	400	100	400	7.69		

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

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

 Received: 05/04/2012  
 Reported: 05/10/2012  
 Project Name: CAPROCK MALJAMAR #98  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 05/01/2012  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: POINT 4 @ SURFACE (H201024-10)**

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	11600	16.0	05/07/2012	ND	400	100	400	7.69		

**Sample ID: POINT 4 @ 4.5' (H201024-11)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	640	16.0	05/07/2012	ND	400	100	400	7.69	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/09/2012	ND	193	96.5	200	1.03	
DRO >C10-C28	15.7	10.0	05/09/2012	ND	184	92.0	200	3.04	

Surrogate: 1-Chlorooctane 89.6 % 55.5-154

Surrogate: 1-Chlorooctadecane 109 % 57.6-158

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Celey D. Keene, Lab Director/Quality Manager



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

## 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

Company Name: <b>ACECS</b>										BILL TO										ANALYSIS REQUEST																													
Project Manager: <b>Bruce Baker</b>										P.O. #:																																							
Address:										Company:																																							
City: Hobbs										Attn:																																							
State: NM Zip: 88240																																																	
Phone #:										Address:																																							
Project #:										City:																																							
Project Name:										State:										Zip:																													
Project Location: <b>Caprock Majanar # 98</b>										Phone #:																																							
Sampler Name: <b>Kyle Norman</b>										Fax #:																																							
FOR LAB USE ONLY										MATRIX										PRESERV.										SAMPLING																			
Lab I.D. <b>W2D1024</b>										GROUNDWATER										ACID/BASE										ICE / COOL										OTHER									
Sample I.D.										# CONTAINERS																																							
1 Point 1 @ Surface										1																				5/1/12 10:00																			
2 Point 1 @ 1.5'										1																				5/1/12 10:10																			
3 Point 1 @ 2'										1																				5/1/12 10:20																			
4 Point 2 @ Surface										1																				5/1/12 10:30																			
5 Point 2 @ 1.5'										1																				5/1/12 10:35																			
6 Point 2 @ 2'										1																				5/1/12 10:40																			
7 Point 3 @ Surface										1																				5/1/12 10:50																			
8 Point 3 @ 1.5'										1																				5/1/12 10:55																			
9 Point 3 @ 2'										1																				5/1/12 11:00																			
10 Point 4 @ Surface										1																				5/1/12 11:10																			
																														Chlorides																			
																														TPH 8015 M																			
																														BTEX																			
																														Texas TPH																			
																														Complete Cations/Anions																			
																														TDS																			

Relinquished By: *[Signature]*

Relinquished By: *[Signature]*

Date: 5-4-12

Time: 4:25

Date:

Time:

Received By: *[Signature]*

Received By:

Checked By: *[Signature]*

Sample Condition

Cool/Intact

Yes ☒ No ☐

Delivered By: (Circle One)

Sampler - UPS - Bus - Other:

Phone Result: ☐ Yes ☒ No

Fax Result: ☐ Yes ☒ No

ADD'l Phone #:

ADD'l Fax #:

email results

Knorman@rice-ecs.com

Bbaker@rice-ecs.com; hconder@rice-ecs.com;

Lweinheimer@rice-ecs.com

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



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

## ARDINAL 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

Company Name: <b>ARDINAL RECS</b>		<b>BILL TO</b>		<b>ANALYSIS REQUEST</b>															
Project Manager: <b>Bruce Baker</b>		P.O. #:		Company:		Attn:		Address:		City:		State:		Zip:		Phone #:		Fax #:	
Address:		City: Hobbs		State: NM		Zip: 88240		Phone #:		Fax #:		Project Owner:		Project Name:		Project Location: <b>Caprock Majamar # 98</b>		Sampler Name: <b>Kyle Norman</b>	
FOR LAB USE ONLY		Lab I.D.		Sample I.D.		(G) RAB OR (C) OMP		# CONTAINERS		GROUNDWATER		WASTEWATER		SOIL		SLUDGE		OTHER:	
DATE		TIME		ACID/BASE		ICE / COOL		OTHER:		PRESERV.		SAMPLING		CHLORIDES		TPH 8015 M		BTEX	
5/1/12		11:20		5/1/12		11:20		5/1/12		5/1/12		5/1/12		5/1/12		5/1/12		5/1/12	
Point 4 @ 4.5'		G 1		G 1		G 1		G 1		G 1		G 1		G 1		G 1		G 1	
Relinquished By: <b>Kyle</b>		Date: <b>5-4-12</b>		Time: <b>9:25</b>		Received By: <b>Debi Henderson</b>		Date: <b>5-4-12</b>		Time: <b>9:25</b>		Received By: <b>Debi Henderson</b>		Date: <b>5-4-12</b>		Time: <b>9:25</b>		Received By: <b>Debi Henderson</b>	
Relinquished By: <b>Kyle</b>		Date: <b>5-4-12</b>		Time: <b>9:25</b>		Received By: <b>Debi Henderson</b>		Date: <b>5-4-12</b>		Time: <b>9:25</b>		Received By: <b>Debi Henderson</b>		Date: <b>5-4-12</b>		Time: <b>9:25</b>		Received By: <b>Debi Henderson</b>	
Delivered By: (Circle One)		Sample Condition		Cool / Intact		Checked By: <b>(Initials)</b>		Sample Condition		Cool / Intact		Checked By: <b>(Initials)</b>		Sample Condition		Cool / Intact		Checked By: <b>(Initials)</b>	
Sampler - UPS - Bus - Other:		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
email results		Knorman@rice-ecs.com		Bbaker@rice-ecs.com; hconder@rice-ecs.com;		Lweinheimer@rice-ecs.com		email results		Knorman@rice-ecs.com		Bbaker@rice-ecs.com; hconder@rice-ecs.com;		Lweinheimer@rice-ecs.com		email results		Knorman@rice-ecs.com	

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

#26



**Analytical Results For:**

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

 Received: 05/18/2012  
 Reported: 05/22/2012  
 Project Name: CAPROCK MALJAMAR #98  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 05/17/2012  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: SB 4 @ 1' (H201111-01)**

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	880	16.0	05/21/2012	ND	416	104	400	0.00	

**Sample ID: SB 4 @ 3' (H201111-02)**

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	05/21/2012	ND	416	104	400	0.00	

**Sample ID: SB 4 @ 4' (H201111-03)**

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	05/21/2012	ND	416	104	400	0.00	

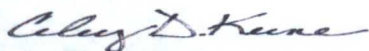
**Sample ID: SB 5 @ 2' (H201111-04)**

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5200	16.0	05/21/2012	ND	416	104	400	0.00	

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

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

 Received: 05/18/2012  
 Reported: 05/22/2012  
 Project Name: CAPROCK MALJAMAR #98  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 05/17/2012  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: SB 5 @ 3' (H201111-05)**

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	05/21/2012	ND	416	104	400	0.00	

**Sample ID: SB 5 @ 4' (H201111-06)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	05/21/2012	ND	416	104	400	0.00	

**Sample ID: SB 7 @ 1' (H201111-07)**

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	05/21/2012	ND	416	104	400	0.00	

**Sample ID: SB 7 @ 2' (H201111-08)**

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	05/21/2012	ND	416	104	400	0.00	

**Sample ID: SB 10 @ 1' (H201111-09)**

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	05/21/2012	ND	416	104	400	0.00	

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

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

 Received: 05/18/2012  
 Reported: 05/22/2012  
 Project Name: CAPROCK MALJAMAR #98  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 05/17/2012  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: SB 10 @ 2' (H201111-10)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	05/21/2012	ND	416	104	400	0.00	

**Sample ID: SB 11 @ 3' (H201111-11)**

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	6160	16.0	05/21/2012	ND	416	104	400	0.00		

**Sample ID: SB 11 @ 6' (H201111-12)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	05/21/2012	ND	416	104	400	0.00		

**Sample ID: SB 11 @ 7' (H201111-13)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	05/21/2012	ND	416	104	400	0.00		

**Sample ID: SB 12 @ 2' (H201111-14)**

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	05/21/2012	ND	416	104	400	0.00		

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

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

Received: 05/18/2012  
Reported: 05/22/2012  
Project Name: CAPROCK MALJAMAR #98  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 05/17/2012  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SB 12 @ 4' (H201111-15)**

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	05/21/2012	ND	416	104	400	0.00	

**Sample ID: SB 12 @ 5' (H201111-16)**

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	05/21/2012	ND	416	104	400	0.00	

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

## 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

Company Name: <u>Cardinal Laboratories</u>		P.O. #:		ANALYSIS REQUEST									
Project Manager: <u>Bruce Baker</u>		Company:		TPH 8015 M		BTEX		Texas TPH		Complete Cations/Anions		TDS	
Address:		City: Hobbs		State: NM		Zip: 88240							
Phone #:		Fax #:											
Project #:		Project Owner:											
Project Name:		Project Location: <u>Cuprock Maljamar #48</u>		State:		Zip:							
Sampler Name: <u>Kyle Norman</u>		Phone #:		City:		State:		Zip:					
Fax #:													

Lab I.D.	Sample I.D.	MATRIX				PRESERV	SAMPLING	DATE	TIME
		GROUNDWATER	WASTEWATER	SOIL	SLUDGE				
1201111	-1 SB 4 @ 1'							5-17-12	9:45
	-2 SB 4 @ 3'							5-17-12	10:00
	3 SB 4 @ 4'							5-17-12	10:30
	4 SB 5 @ 2'							5-17-12	12:00
	5 SB 5 @ 3'							5-17-12	12:15
	6 SB 5 @ 4'							5-17-12	12:30
	7 SB 7 @ 1'							5-17-12	1:00
	8 SB 7 @ 2'							5-17-12	1:15
	9 SB 10 @ 1'							5-17-12	2:30
	10 SB 10 @ 2'							5-17-12	2:45

Relinquished By: <u>Kyle Norman</u>	Date: <u>5-18-12</u>	Received By: <u>David Jensen</u>	Date: <u>5-18-12</u>
Relinquished By: <u>David Jensen</u>	Date: <u>5-18-12</u>	Received By: <u>David Jensen</u>	Date: <u>5-18-12</u>
Delivered By: <u>Circle One</u>		Sample Condition:	CHECKED BY: <u>(initials)</u>
Sampler - UPS - Bus - Other:		Cool <input type="checkbox"/> Intact <input type="checkbox"/>	
		Yes <input type="checkbox"/> No <input type="checkbox"/>	

Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #: _____
Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #: _____
REMARKS:	
email results Knorman@rice-ecs.com Bbaker@rice-ecs.com; hconder@rice-ecs.com; Lweinheimer@rice-ecs.com	

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



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

## ARDINAL 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

BILL TO		ANALYSIS REQUEST										
Company Name:	P.O. #:	Company:	Chlorides	TPH 8015 M	BTEX	Texas TPH	Complete Cations/Anions	TDS				
Project Manager: <i>Bruce Baker</i>		Attn:										
Address:		Address:										
City: Hobbs	State: NM Zip: 88240	City:										
Phone #:	Fax #:	State:										
Project #:	Project Owner:	Phone #:										
Project Name:		Fax #:										
Project Location: <i>Caprock Plateau #48</i>												
Sampler Name: Kyle Norman												

Lab I.D.	Sample I.D.	MATRIX			PRESERV			DATE	TIME
		GROUNDWATER	WASTEWATER	SLUDGE	OTHER:	ACID/BASE	ICE/COOL		
H2O111	11 SB110 3'							5-17-12	3:45
	12 SB110 6'							5-17-12	4:00
	13 SB110 7'							5-17-12	4:30
	14 SB120 2'V							5-17-12	5:00
	15 SB120 4'							5-17-12	5:15
	16 SB120 5'							5-17-12	5:30

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Relinquished By: <i>Kyle Norman</i>	Date: <i>5-18-12</i>	Time: <i>1:00</i>	Received By: <i>Yodi Jensen</i>	Date: <i>5-18-12</i>	Time: <i>1:00</i>
Relinquished By: <i>Kyle Norman</i>	Date: <i>5-18-12</i>	Time: <i>1:00</i>	Received By: <i>Yodi Jensen</i>	Date: <i>5-18-12</i>	Time: <i>1:00</i>
Delivered By: (Circle One)	Sample Condition: <input checked="" type="checkbox"/> Intact <input type="checkbox"/> Broken				
Sampler - UPS - Bus - Other:	Checked By: (Initials) <i>YJ</i>				

Phone Result: ☐ Yes ☒ No Fax Result: ☐ Yes ☒ No Add'l Phone #: Add'l Fax #:

REMARKS: email results  
Knorman@rice-ecs.com  
Bbaker@rice-ecs.com; hconder@rice-ecs.com;  
Lweinheimer@rice-ecs.com

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



**Analytical Results For:**

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

 Received: 06/13/2012  
 Reported: 06/18/2012  
 Project Name: CAPROCK MALJAMAR #98  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 06/11/2012  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: SB 13 @ 15' (H201329-01)**

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>4440</b>	16.0	06/15/2012	ND	416	104	400	3.77	
TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/14/2012	ND	177	88.7	200	6.72	
DRO >C10-C28	<10.0	10.0	06/14/2012	ND	176	87.9	200	8.73	
Surrogate: 1-Chlorooctane 93.6 % 65.2-140									
Surrogate: 1-Chlorooctadecane 109 % 63.6-154									

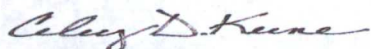
**Sample ID: SB 13 @ 65' (H201329-02)**

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>128</b>	16.0	06/15/2012	ND	416	104	400	3.77	
TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/14/2012	ND	177	88.7	200	6.72	
DRO >C10-C28	<10.0	10.0	06/14/2012	ND	176	87.9	200	8.73	
Surrogate: 1-Chlorooctane 92.4 % 65.2-140									
Surrogate: 1-Chlorooctadecane 110 % 63.6-154									

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

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

 Received: 06/13/2012  
 Reported: 06/18/2012  
 Project Name: CAPROCK MALJAMAR #98  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 06/11/2012  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: SB 13 @ 70' (H201329-03)**

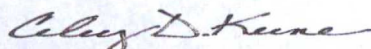
Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	06/15/2012	ND	416	104	400	3.77		
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/14/2012	ND	177	88.7	200	6.72		
DRO >C10-C28	<10.0	10.0	06/14/2012	ND	176	87.9	200	8.73		

 Surrogate: 1-Chlorooctane 94.4 % 65.2-140  
 Surrogate: 1-Chlorooctadecane 112 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager



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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

<b>Company Name:</b> <u>RECS</u> <b>Project Manager:</b> <u>Bruce Baker</u> <b>Address:</b> <b>City:</b> <u>State: NM Zip:</u> <b>Phone #:</b> <u>Fax #:</u> <b>Project #:</b> <u>Project Owner:</u> <b>Project Name:</b> <b>Project Location:</b> <u>Cape K. Maljano - #98</u> <b>Sampler Name:</b> <u>Kyle Norman</u>		<b>BILL TO</b>		<b>ANALYSIS REQUEST</b>																																																																																				
<b>P.O. #:</b> <b>Company:</b> <b>Attn:</b> <b>Address:</b> <b>City:</b> <b>State:</b> <b>Phone #:</b> <b>Fax #:</b>		<b>TPH 8015 M</b> <b>BTEX</b> <b>Texas TPH</b> <b>Complete Cations/Anions</b> <b>TDS</b>																																																																																						
<b>FOR LAB USE ONLY</b>		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="2" style="text-align: left;">Lab I.D.</th> <th colspan="2" style="text-align: left;">Sample I.D.</th> <th colspan="2" style="text-align: left;"># CONTAINERS</th> <th colspan="3" style="text-align: left;">MATRIX</th> <th colspan="3" style="text-align: left;">PRESERV.</th> <th colspan="3" style="text-align: left;">SAMPLING</th> </tr> <tr> <th colspan="2"></th> <th colspan="2"></th> <th colspan="2"></th> <th>GROUNDWATER</th> <th>WASTEWATER</th> <th>SOIL</th> <th>OIL</th> <th>SLUDGE</th> <th>OTHER:</th> <th>ACID/BASE</th> <th>ICE / COOL</th> <th>OTHER:</th> <th>DATE</th> <th>TIME</th> </tr> <tr> <td colspan="2">1 SB13 @ 15'</td> <td colspan="2">SB13</td> <td colspan="2">1</td> <td>✓</td> <td></td> <td>✓</td> <td></td> <td></td> <td></td> <td>✓</td> <td></td> <td></td> <td>6-11-12</td> <td>2:00</td> </tr> <tr> <td colspan="2">2 SB13 @ 65'</td> <td colspan="2">SB13</td> <td colspan="2">1</td> <td>✓</td> <td></td> <td>✓</td> <td></td> <td></td> <td></td> <td>✓</td> <td></td> <td></td> <td>6-11-12</td> <td>2:45</td> </tr> <tr> <td colspan="2">3 SB13 @ 70'</td> <td colspan="2">SB13</td> <td colspan="2">1</td> <td>✓</td> <td></td> <td>✓</td> <td></td> <td></td> <td></td> <td>✓</td> <td></td> <td></td> <td>6-11-12</td> <td>3:00</td> </tr> </table>				Lab I.D.		Sample I.D.		# CONTAINERS		MATRIX			PRESERV.			SAMPLING									GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE	ICE / COOL	OTHER:	DATE	TIME	1 SB13 @ 15'		SB13		1		✓		✓				✓			6-11-12	2:00	2 SB13 @ 65'		SB13		1		✓		✓				✓			6-11-12	2:45	3 SB13 @ 70'		SB13		1		✓		✓				✓			6-11-12	3:00
Lab I.D.		Sample I.D.		# CONTAINERS		MATRIX			PRESERV.			SAMPLING																																																																												
						GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE	ICE / COOL	OTHER:	DATE	TIME																																																																								
1 SB13 @ 15'		SB13		1		✓		✓				✓			6-11-12	2:00																																																																								
2 SB13 @ 65'		SB13		1		✓		✓				✓			6-11-12	2:45																																																																								
3 SB13 @ 70'		SB13		1		✓		✓				✓			6-11-12	3:00																																																																								
<b>Relinquished By:</b> <u>Kyle N</u> <b>Relinquished By:</b> <u>[Signature]</u> <b>Delivered By:</b> <u>(Circle One)</u> <b>Sampler - UPS - Bus - Other:</b>		<b>Received By:</b> <u>[Signature]</u> <b>Received By:</b> <u>[Signature]</u> <b>Received By:</b> <u>[Signature]</u>		<b>Phone Result:</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Fax Result:</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>REMARKS:</b>																																																																																				
<b>Relinquished By:</b> <u>Kyle N</u> <b>Relinquished By:</b> <u>[Signature]</u> <b>Delivered By:</b> <u>(Circle One)</u> <b>Sampler - UPS - Bus - Other:</b>		<b>Received By:</b> <u>[Signature]</u> <b>Received By:</b> <u>[Signature]</u> <b>Received By:</b> <u>[Signature]</u>		<b>Phone Result:</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Fax Result:</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>REMARKS:</b>																																																																																				

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



**Analytical Results For:**

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

 Received: 06/13/2012  
 Reported: 06/18/2012  
 Project Name: CAPROCK MALJAMAR #98  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 06/12/2012  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: SB 14 @ 15' (H201328-01)**

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3840	16.0	06/15/2012	ND	416	104	400	3.77	
TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/14/2012	ND	177	88.7	200	6.72	
DRO >C10-C28	<10.0	10.0	06/14/2012	ND	176	87.9	200	8.73	
Surrogate: 1-Chlorooctane	97.4 %	65.2-140							
Surrogate: 1-Chlorooctadecane	116 %	63.6-154							


**Sample ID: SB 14 @ 60' (H201328-02)**

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	128	16.0	06/15/2012	ND	416	104	400	3.77		
TPH 8015M			mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/14/2012	ND	177	88.7	200	6.72		
DRO >C10-C28	<10.0	10.0	06/14/2012	ND	176	87.9	200	8.73		
Surrogate: 1-Chlorooctane	92.6 %	65.2-140								
Surrogate: 1-Chlorooctadecane	110 %	63.6-154								

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

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

 Received: 06/13/2012  
 Reported: 06/18/2012  
 Project Name: CAPROCK MALJAMAR #98  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 06/12/2012  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: SB 14 @ 65' (H201328-03)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	06/15/2012	ND	416	104	400	3.77	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/14/2012	ND	177	88.7	200	6.72	
DRO >C10-C28	<10.0	10.0	06/14/2012	ND	176	87.9	200	8.73	


Surrogate: 1-Chlorooctane 99.1 % 65.2-140

Surrogate: 1-Chlorooctadecane 112 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

## 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

BILL TO				ANALYSIS REQUEST										
Company Name: <u>REC'S</u>														
Project Manager: <u>Bruce Baker</u>														
Address:														
City:														
State: NM Zip:														
Phone #:														
Fax #:														
Project #:														
Project Name:														
Project Location: <u>Capeck Adaljaner #98</u>														
Sampler Name: <u>Kyle Norman</u>														
Lab I.D.	Sample I.D.	(G) RAB OR (C)OMP.	# CONTAINERS	MATRIX	PRESERV.	SAMPLING	DATE	TIME	Chlorides	TPH 8015 M	BTEX	Texas TPH	Complete Cations/Anions	TDS
<u>W201322</u>	<u>SBH @ 15'</u>	<u>1</u>	<u>1</u>	<u>GROUNDWATER</u>	<u>ACID/BASE</u>	<u>ICE / COOL</u>	<u>6-12-12</u>	<u>8:30</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>
<u>2</u>	<u>SBH @ 60'</u>	<u>1</u>	<u>1</u>	<u>GROUNDWATER</u>	<u>ACID/BASE</u>	<u>ICE / COOL</u>	<u>6-12-12</u>	<u>8:50</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>
<u>3</u>	<u>SBH @ 65'</u>	<u>1</u>	<u>1</u>	<u>GROUNDWATER</u>	<u>ACID/BASE</u>	<u>ICE / COOL</u>	<u>6-12-12</u>	<u>9:15</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>

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Relinquished By: <u>[Signature]</u>	Date: <u>6-13-12</u>	Time: <u>7:30</u>	Received By: <u>[Signature]</u>	Date: <u>6-13-12</u>	Time: <u>10:50</u>
Relinquished By: <u>[Signature]</u>	Date: <u>6-13-12</u>	Time: <u>10:50</u>	Received By: <u>[Signature]</u>	Date: <u>6-13-12</u>	Time: <u>10:50</u>
Delivered By: <u>(Circle One)</u>	Sample Condition: <u>Cool</u> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No				
Sampler: <u>UPS - Bus - Other:</u>	CHECKED BY: <u>[Signature]</u> (Initials)				

Phone Result: ☐ Yes ☒ No Fax Result: ☐ Yes ☒ No Add'l Phone #: Add'l Fax #: email results kjones@riceswd.com; knorman@rice-ecs.com; Zcorder@rice-ecs.com; Bbaker@rice-ecs.com; hconder@rice-ecs.com; Lweinheimer@rice-ecs.com

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

# 26



**Analytical Results For:**

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

Received: 07/30/2012  
Reported: 08/01/2012  
Project Name: CAPROCK MALJAMAR UNIT #98  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 07/23/2012  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: 5 PT COMP @ 2' IN PASTURE SCRAPE (H201759-01)**

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	08/01/2012	ND	416	104	400	3.92	

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Celey D. Keene, Lab Director/Quality Manager



**ARDINAL LABORATORIES**

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(505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325) 673-7020

[illegible][illegible]

Relinquished By:		Date: 10/12	Received By:	CHECKED BY:	
<i>[Signature]</i>		Time: 7:30	<i>[Signature]</i>	Cool	(Initials)
				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<i>[Signature]</i>
Relinquished By:		Date: 11/30/12	Received By:	Sample Condition	
<i>[Signature]</i>		Time: 8:23	<i>[Signature]</i>	Cool Intact	
				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Delivered By: (Circle One)					
Sampler - UPS - Bus - Other:					

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



# HARRISON & COOPER, INC.

*Drilling & Pump Professionals*

7414 85<sup>th</sup> Street, Lubbock, Texas 79424-4951

P.O. Box 96, Wolfforth, Texas 79382-0096

Ph: (806) 866-4026

Fax: (806) 866-4044

[hcidrill.com](http://hcidrill.com)

July 18, 2012

## INVOICE #71219

Rice Environmental Consulting & Safety  
112 W. Taylor  
Hobbs, NM 88240

**RE: Site: Linn Operating Caprock Maljamar #98**

To whom it may concern:

Harrison & Cooper, Inc. installed a soil boring at the subject location to determine if groundwater existed. After allowing a 48 hour holdover time water did exist at a static water level of 123'. If there are any questions please do not hesitate to call Kenny Cooper @ 806.300.1886.

Sincerely,

Kenny Cooper

Copies: File  
Email (Rice)

Regulated by: Texas Dept. of Licensing & Regulation, Water Well Division, P.O. Box 12157, Austin, TX 78711, (800) 803-9202



**Linn Operating Caprock Maljamar Unit #98**  
**Unit M, Section 28, T-17-S, R-33-E**  
**SB1 through SB12**



Drilling SB-1, facing south 5/17/12



Collecting sample, facing west 5/17/12



Plugging SB-1 in total with bentonite 5/17/12



Completed SB-1 and drilling SB-2, facing south  
5/17/12



Plugging SB-2 in total with bentonite 5/17/12



Drilling SB-3, facing south 5/17/12





Plugging SB-3 in total with bentonite 5/17/12



Collecting sampling from SB-4 5/17/12



Plugging SB-4 in total with bentonite 5/17/12



Drilling SB-5, facing southwest 5/17/12



Drilling SB-6, facing west 5/17/12



Plugging SB-6 in total with bentonite 5/17/12





Plugging SB-7 in total with bentonite 5/17/12



Drilling SB-8, facing east 5/17/12



Plugging SB-8 in total with bentonite 5/17/12



Drilling SB-9, facing north 5/17/12



Plugging SB-9 in total with bentonite 5/17/12



Drilling SB-10, facing west 5/17/12





Plugging SB-10 in total with bentonite 5/17/12



Plugging SB-11 in total with bentonite 5/17/12



Plugging SB-12 in total with bentonite 5/17/12



Soil bores completed, facing north 5/17/12



Soil bores completed, facing south 5/17/12



Soil bores completed, facing southeast 5/17/12



**Linn Operating Caprock Maljamar Unit #98  
Unit Letter M, Section 28, T-17-S, R-33-E  
Temporary Monitoring Well, SB13, and SB14**



Drilling temporary MW, facing west 6/11/12



Drilling SB-13, facing east 6/11/12



Plugging SB-13 in total with bentonite 6/11/12



Completed SB-13, facing west 6/11/12



Drilling SB-14, facing east 6/12/12



Plugging SB-14 in total with bentonite 6/12/12