

AP - 45

ANNUAL MONITORING REPORT

YEAR(S):

2002

RICE Operating Company

122 West Taylor • Hobbs, New Mexico 88240
Phone: (505)393-9174 • Fax: (505) 397-1471

CERTIFIED MAIL

RETURN RECEIPT NO. 7002 2410 0000 4940 1008

April 10, 2003

Mr. William Olson
New Mexico Energy, Minerals, & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 S. St. Francis Drive
Santa Fe, New Mexico 87505

**RE: 2002 MONITOR WELL REPORT/SAMPLING SUMMARY
EME SWD SYSTEM
LEA COUNTY, NEW MEXICO**

Mr. Olson:

Rice Operating Company (ROC) takes this opportunity to submit the 2002 Monitor Well Report for the Eunice Monument Eumont (EME) Salt Water Disposal System. There are 7 sites in this system that have monitor wells that are sampled quarterly pursuant to NMOCD guidelines. Groundwater impact became apparent at these sites during the remediation process of the Junction Box Upgrade Plan except for P-6, which was the result of a pipeline leak.

Site Name	Unit Letter	Section	Township/Range
E-5 jct.	E	5	T20S, R37E
N-5 jct.	N	5	T20S, R37E
K-6 jct.	K	6	T20S, R37E
M-16-1 jct.	M	16	T20S, R37E
K-33-1 jct.	K	33	T19S, R37E
P-6 leak	P	6	T20S, R37E
A-20 jct.	A	20	T20S, R37E

The first quarter sampling events of 2002 were performed by Environmental Plus, Inc. of Eunice. ROC sampled the monitor wells each subsequent quarter. Analysis of the samples was provided by Cardinal Laboratories of Hobbs and Environmental Lab of Texas of Odessa. In 2003, ROC will continue to conduct the sampling of the monitor wells at these sites. As in 2002, either

Environmental Lab of Texas of Odessa, Texas, or Cardinal Laboratories of Hobbs will conduct analytical tests of the water samples of 2003.

Trident Environmental of Midland, Texas has been contracted by ROC to prioritize the junction box disclosure sites and to generate work plans for remediation of the vadose zone at groundwater-impacted sites. NMOCD can anticipate the submittal of work plans for several such sites in 2003. After NMOCD approval, AFE's will be submitted to System Partners for approval. Sites with confirmed groundwater impact will also be evaluated for the extent of groundwater impact.

ROC is the service provider (operator) for the EME Salt Water Disposal System and has no ownership of any portion of pipeline, well, or facility. The EME SWD System is owned by a consortium of oil producers, System Partners, who provide all operating capital on a percentage ownership/usage basis.

Thank you for your consideration concerning this annual summary of groundwater monitoring information. If you have any questions, do not hesitate to contact me.

RICE OPERATING COMAPANY

Kristin Farris

Kristin Farris
Project Scientist

Enclosures: Summary table & graph for each site
 Analytical results

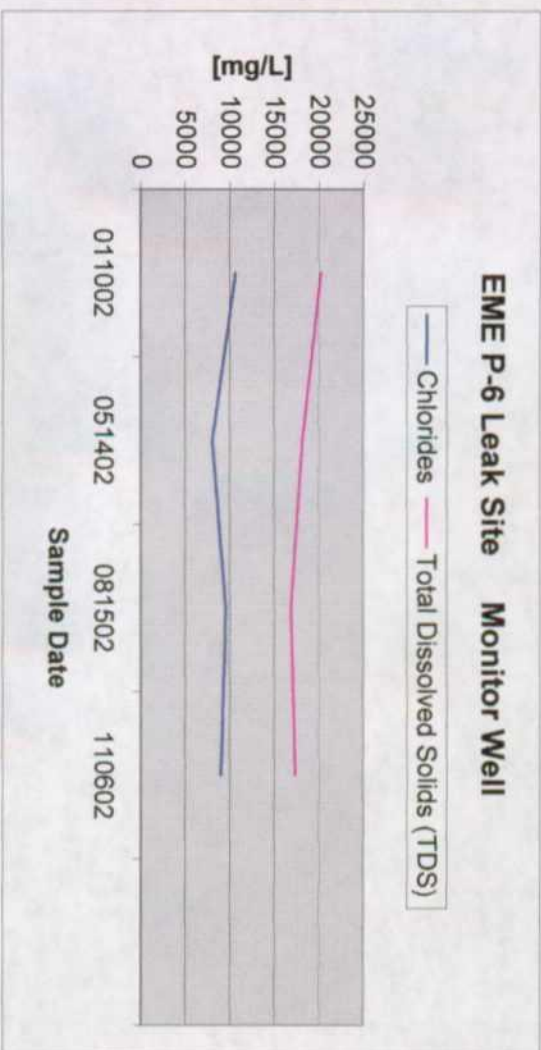
Cc: LBG, CDH, file, Wayne Price, Chris Williams
 NMOCD, District I Office
 1625 N. French Drive
 Hobbs, NM 88240

EME P-6 Leak Site
P. 6, 20S, 37E

Rice Operating Co. Monitor Well Data Sheet

All parameter concentrations are in mg/L.

MW #	(ft)		(gal)		SAMPLE DATE	TIME	CL-	TDS	BENZENE	TOLUENE	ETHYL BENZENE	TOTAL XYLENES
	WATER LEVEL	TOTAL DEPTH	WELL VOLUME	VOLUME BAILED								
1	36.70	48.00	1.800	5.50	011002	1030	10700	20248	<0.002	<0.002	<0.002	<0.006
1	36.73	48.60	1.900	6.00	051402	1344	8060	18200	<0.001	<0.001	<0.001	<0.001
1	36.95	47.80	1.736	5.50	081502	1110	9570	16900	<0.001	<0.001	<0.001	<0.001
1	37.15	47.77	1.699	5.02	110602	1345	9040	17400	<0.001	<0.001	<0.001	<0.001



ANALYTICAL REPORT

Prepared for:

Kristin Farris
Rice Operating
122 W. Taylor
Hobbs, NM 88240

Project: P-6 Leak
PO#: 510
Order#: G0204936
Report Date: 11/13/2002

Certificates

US EPA Laboratory Code TX00158

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

Rice Operating
122 W. Taylor
Hobbs, NM 88240
505-397-1471

Order#: G0204936
Project: None Given
Project Name: P-6 Leak
Location: EME

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

<u>Lab ID:</u>	<u>Sample :</u>	<u>Matrix:</u>	<u>Date / Time</u> <u>Collected</u>	<u>Date / Time</u> <u>Received</u>	<u>Container</u>	<u>Preservative</u>
0204936-01	MW 1	WATER	11/6/02 13:45	11/6/02 19:30	See COC	See COC
<u>Lab Testing:</u>		Rejected: No	Temp: 4 C			
8021B/5030 BTEX						
Anions						
Cations						
Total Dissolved Solids (TDS)						

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

Kristin Farris
Rice Operating
122 W. Taylor
Hobbs, NM 88240

Order#: G0204936
Project: None Given
Project Name: P-6 Leak
Location: EME

Lab ID: 0204936-01
Sample ID: MW 1

8021B/5030 BTEX

Method	Date	Date	Sample	Dilution		
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>	<u>Analyst</u>	<u>Method</u>
0003670-02		11/7/02	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Ethylbenzene	<0.001	0.001
Toluene	<0.001	0.001
p/m-Xylene	0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	94%	80	120
Bromofluorobenzene	95%	80	120

Approval:

Raland K. Tuttle
Raland K. Tuttle, Lab Director, QA Officer
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

Date

11-13-02

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

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ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

Kristin Farris
Rice Operating
122 W. Taylor
Hobbs, NM 88240

Order#: G0204936
Project: None Given
Project Name: P-6 Leak
Location: EME

Lab ID: 0204936-01
Sample ID: MW 1

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	210	mg/L	1	2.00	310.1	11/7/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	11/7/02	SB
Chloride	9040	mg/L	1	5.00	9253	11/12/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	11/7/02	SB
SULFATE, 375.4	952	mg/L	25	12.5	375.4	11/12/02	SB

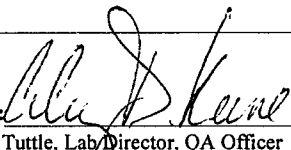
Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Calcium	1400	mg/L	1000	10.0	6010B	11/11/02	SM
Magnesium	49.5	mg/L	100	0.10	6010B	11/11/02	SM
Potassium	50.1	mg/L	10	0.50	6010B	11/11/02	SM
Sodium	2990	mg/L	1000	10.0	6010B	11/11/02	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	17400	mg/L	1	5.0	160.1	11/7/02	TAL

Approval:


Raland K. Tuttle, Lab Director, QA Officer
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Morg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

Date

11/13/02

RL = Reporting Limit N/A = Not Applicable

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ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8021B/5030 BTEX

Order#: G0204936

BLANK		LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
	WATER						
Benzene-mg/L		0003670-02			<0.001		
Ethylbenzene-mg/L		0003670-02			<0.001		
Toluene-mg/L		0003670-02			<0.001		
p/m-Xylene-mg/L		0003670-02			<0.001		
o-Xylene-mg/L		0003670-02			<0.001		
CONTROL		LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
	WATER						
Benzene-mg/L		0003670-03		0.1	0.096	96.%	
Ethylbenzene-mg/L		0003670-03		0.1	0.099	99.%	
Toluene-mg/L		0003670-03		0.1	0.098	98.%	
p/m-Xylene-mg/L		0003670-03		0.2	0.209	104.5%	
o-Xylene-mg/L		0003670-03		0.1	0.101	101.%	
CONTROL DUP		LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
	WATER						
Benzene-mg/L		0003670-04		0.1	0.098	98.%	2.1%
Ethylbenzene-mg/L		0003670-04		0.1	0.101	101.%	2.%
Toluene-mg/L		0003670-04		0.1	0.100	100.%	2.%
p/m-Xylene-mg/L		0003670-04		0.2	0.213	106.5%	1.9%
o-Xylene-mg/L		0003670-04		0.1	0.102	102.%	1.%
SRM		LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
	WATER						
Benzene-mg/L		0003670-05		0.1	0.100	100.%	
Ethylbenzene-mg/L		0003670-05		0.1	0.102	102.%	
Toluene-mg/L		0003670-05		0.1	0.102	102.%	
p/m-Xylene-mg/L		0003670-05		0.2	0.216	108.%	
o-Xylene-mg/L		0003670-05		0.1	0.103	103.%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Cations

Order#: G0204936

BLANK							
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Calcium-mg/L		0003711-02			<0.010		
Magnesium-mg/L		0003711-02			<0.001		
Potassium-mg/L		0003711-02			<0.050		
Sodium-mg/L		0003711-02			<0.010		
DUPLICATE							
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Calcium-mg/L		0204950-02	314		312		0.6%
Magnesium-mg/L		0204950-02	12.8		12.5		2.4%
Potassium-mg/L		0204950-02	17.2		16.8		2.4%
Sodium-mg/L		0204950-02	468		472		0.9%
SRM							
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Calcium-mg/L		0003711-05		2	2.01	100.5%	
Magnesium-mg/L		0003711-05		2	1.90	95.5%	
Potassium-mg/L		0003711-05		2	1.79	89.5%	
Sodium-mg/L		0003711-05		2	1.79	89.5%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Test Parameters

Order#: G0204936

BLANK	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Total Dissolved Solids (TDS)-mg/L		0003668-01			<5.0		
DUPLICATE	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Total Dissolved Solids (TDS)-mg/L		0204936-01	17400		17200		1.2%

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Anions

Order#: G0204936

BLANK						
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery
Bicarbonate Alkalinity-mg/L		0003690-01			<2.00	
Carbonate Alkalinity-mg/L		0003691-01			<0.10	
Chloride-mg/L		0003720-01			<5.00	
Hydroxide Alkalinity-mg/L		0003692-01			<0.10	
SULFATE, 375.4-mg/L		0003722-01			<0.50	
DUPLICATE						
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery
Bicarbonate Alkalinity-mg/L		0204935-01	422		423	0.2%
Carbonate Alkalinity-mg/L		0204935-01	0		<0.10	0.0%
Hydroxide Alkalinity-mg/L		0204935-01	0		<0.10	0.0%
SULFATE, 375.4-mg/L		0204935-01	116		120	3.4%
MS						
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery
Chloride-mg/L		0204935-01	833	500	1330	99.4%
MSD						
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery
Chloride-mg/L		0204935-01	833	500	1320	97.4%
SRM						
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery
Bicarbonate Alkalinity-mg/L		0003690-04		0.05	0.0496	99.2%
Carbonate Alkalinity-mg/L		0003691-04		0.05	0.0496	99.2%
Chloride-mg/L		0003720-04		5000	4960	99.2%
Hydroxide Alkalinity-mg/L		0003692-04		0.05	0.0496	99.2%
SULFATE, 375.4-mg/L		0003722-04		50	49.0	98.0%

12600 West I-20 East
Odessa, Texas 79763

Phone: 915-563-1800
Fax: 915-563-1713

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager:

Kristin Farris

Project Name: P-6 leak

Company Name

RICE Operating

Project #:

Company Address:

122 W. Taylor

Project Loc:

City/State/Zip:

City/State/Zip: Hobbs, NM 88240

PO #: 510

Telephone No. (505) 393-9174

Fax No: (505) 397-1471

Sampler Signature:

Christie Jarvis

[illegible]

ANALYTICAL REPORT

Prepared for:

Kristin Farris
Rice Operating
122 W. Taylor
Hobbs, NM 88240

P-6

Project: MW 1
PO#: 510
Order#: G0204252
Report Date: 08/27/2002

Certificates

US EPA Laboratory Code TX00158

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

Rice Operating
122 W. Taylor
Hobbs, NM 88240
505-397-1471

Order#: G0204252
Project:
Project Name: MW 1
Location: EME P-6

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

<u>Lab ID:</u>	<u>Sample :</u>	<u>Matrix:</u>	<u>Date / Time</u> <u>Collected</u>	<u>Date / Time</u> <u>Received</u>	<u>Container</u>	<u>Preservative</u>
0204252-01	MW 1	WATER	8/15/02 11:00	8/16/02 19:35	See COC	See COC
<u>Lab Testing:</u>		Rejected: No	Temp:	0 C		
8021B/5030 BTEX						
Anions						
Cations						
Total Dissolved Solids (TDS)						

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

Kristin Farris
Rice Operating
122 W. Taylor
Hobbs, NM 88240

Order#: 0204252
Project:
Project Name: MW 1
Location: EME P-6

Lab ID: 0204252-01

Sample ID: MW 1

8021B/5030 BTEX

Method	Date	Date	Sample	Dilution	Analyst	Method
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>		
0002969-02		8/26/02 20:07	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Ethylbenzene	<0.001	0.001
Toluene	<0.001	0.001
p/m-Xylene	<0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	107%	73	115
Bromofluorobenzene	111%	72	110

Approval:

Raland K. Tuttle, Lab Director, QA Officer
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

Date

Raland K. Tuttle 8-28-02

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

Kristin Farris
Rice Operating
122 W. Taylor
Hobbs, NM 88240

Order#: G0204252
Project:
Project Name: MW 1
Location: EME P-6

Lab ID: 0204252-01
Sample ID: MW 1

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	208	mg/L	1	2.00	310.1	8/17/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	8/17/02	SB
Chloride	957	mg/L	1	5.00	9253	8/17/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	8/17/02	SB
SULFATE, 375.4	646	mg/L	1	0.5	375.4	8/21/02	SB

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Calcium	1510	mg/L	1000	10.0	6010B	8/22/02	SM
Magnesium	436	mg/L	100	0.10	6010B	8/22/02	SM
Potassium	48	mg/L	10	0.50	6010B	8/22/02	SM
Sodium	5780	mg/L	1000	10.0	6010B	8/22/02	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	16900	mg/L	1	5.0	160.1	8/19/02	SB

Approval:

Raland K. Tuttle 8-28-02
Raland K. Tuttle, Lab Director, QA Officer
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

RL = Reporting Limit N/A = Not Applicable

Page 1 of 1

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8021B/5030 BTEX

Order#: G0204252

BLANK							
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/L		0002969-02			<0.001		
Ethylbenzene-mg/L		0002969-02			<0.001		
Toluene-mg/L		0002969-02			<0.001		
p/m-Xylene-mg/L		0002969-02			<0.001		
o-Xylene-mg/L		0002969-02			<0.001		
MS							
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/L		0204252-01	0	0.1	0.097	97.0%	
Ethylbenzene-mg/L		0204252-01	0	0.1	0.098	98.0%	
Toluene-mg/L		0204252-01	0	0.1	0.099	99.0%	
p/m-Xylene-mg/L		0204252-01	0	0.2	0.205	102.5%	
o-Xylene-mg/L		0204252-01	0	0.1	0.098	98.0%	
MSD							
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/L		0204252-01	0	0.1	0.091	91.0%	6.4%
Ethylbenzene-mg/L		0204252-01	0	0.1	0.092	92.0%	6.3%
Toluene-mg/L		0204252-01	0	0.1	0.093	93.0%	6.3%
p/m-Xylene-mg/L		0204252-01	0	0.2	0.192	96.0%	6.5%
o-Xylene-mg/L		0204252-01	0	0.1	0.092	92.0%	6.3%
SRM							
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/L		0002969-05		0.1	0.094	94.0%	
Ethylbenzene-mg/L		0002969-05		0.1	0.094	94.0%	
Toluene-mg/L		0002969-05		0.1	0.095	95.0%	
p/m-Xylene-mg/L		0002969-05		0.2	0.196	98.0%	
o-Xylene-mg/L		0002969-05		0.1	0.094	94.0%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Anions

Order#: G0204252

BLANK						
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery
Bicarbonate Alkalinity-mg/L		0002886-01			<2.00	
Carbonate Alkalinity-mg/L		0002888-01			<0.10	
Chloride-mg/L		0002896-01			<5.00	
Hydroxide Alkalinity-mg/L		0002890-01			<0.10	
SULFATE, 375.4-mg/L		0002932-01			<0.50	
DUPLICATE						
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery
Bicarbonate Alkalinity-mg/L		0204251-01	188		189	0.5%
Carbonate Alkalinity-mg/L		0204251-01	0		<0.10	0.0%
Hydroxide Alkalinity-mg/L		0204251-01	0		<0.10	0.0%
SULFATE, 375.4-mg/L		0204251-01	256		255	0.4%
MS						
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery
Chloride-mg/L		0204220-01	70.9	250	319	99.2%
MSD						
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery
Chloride-mg/L		0204220-01	70.9	250	319	99.2%
SRM						
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery
Bicarbonate Alkalinity-mg/L		0002886-04		0.05	0.0496	99.2%
Carbonate Alkalinity-mg/L		0002888-04		0.05	0.0496	99.2%
Chloride-mg/L		0002896-04		5000	4960	99.2%
Hydroxide Alkalinity-mg/L		0002890-04		0.05	0.0496	99.2%
SULFATE, 375.4-mg/L		0002932-04		50	49.5	99.0%

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Cations

Order#: G0204252

BLANK		LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
	WATER						
Calcium-mg/L		0002943-02			<0.01		
Magnesium-mg/L		0002943-02			<0.001		
Potassium-mg/L		0002943-02			<0.05		
Sodium-mg/L		0002943-02			<0.01		
DUPLICATE		LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
	WATER						
Calcium-mg/L		0204220-04	100		99.5		0.5%
Magnesium-mg/L		0204220-04	13.7		13.5		1.5%
Potassium-mg/L		0204220-04	5.48		5.4		1.5%
Sodium-mg/L		0204220-04	78.8		78.7		0.1%
SRM		LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
	WATER						
Calcium-mg/L		0002943-05		2	2.02	101.1%	
Magnesium-mg/L		0002943-05		2	1.91	95.5%	
Potassium-mg/L		0002943-05		2	1.94	97.1%	
Sodium-mg/L		0002943-05		2	2	100.0%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Test Parameters

Order#: G0204252

BLANK	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Total Dissolved Solids (TDS)-mg/L		0002885-01			<5.00		
DUPLICATE	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Total Dissolved Solids (TDS)-mg/L		0204251-01	1450		1510		4.1%

12600 West I-20 East
Odessa, Texas 79763

Phone: 915-563-1800
Fax: 915-563-1713

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Kristin Farris

Project Name:

WILL

Rice Operating

Project #:

122 W Taylor

Project Loc: ENE P-6

Hobbs, Nim 88240

PO #: 510

(505) 393-9174

Fax No: (505) 397-1471

Yours truly,

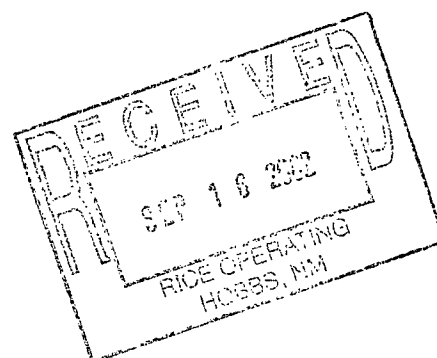
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Cl-
Correction

ANALYTICAL REPORT

Prepared for:

Kristin Farris
Rice Operating
122 W. Taylor
Hobbs, NM 88240



Project: MW 1
PO#: 510
Order#: G0204252
Report Date: 09/10/2002

Certificates

US EPA Laboratory Code TX00158

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

Kristin Farris
Rice Operating
122 W. Taylor
Hobbs, NM 88240

Order#: G0204252
Project:
Project Name: MW 1
Location: EME P-6

Lab ID: 0204252-01
Sample ID: MW 1

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	208	mg/L	1	2.00	310.1	8/17/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	8/17/02	SB
Chloride	9570	mg/L	1	5.00	9253	8/17/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	8/17/02	SB
SULFATE, 375.4	646	mg/L	1	0.5	375.4	8/21/02	SB

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Calcium	1510	mg/L	1000	10.0	6010B	8/22/02	SM
Magnesium	436	mg/L	100	0.10	6010B	8/22/02	SM
Potassium	48	mg/L	10	0.50	6010B	8/22/02	SM
Sodium	5780	mg/L	1000	10.0	6010B	8/22/02	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	16900	mg/L	1	5.0	160.1	8/19/02	SB

Approval:

Raland K. Tuttle 9-09-02
Raland K. Tuttle, Lab Director, QA Officer
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

Date

RL = Reporting Limit N/A = Not Applicable

Page 1 of 1

ANALYTICAL REPORT

Prepared for:

DONNIE ANDERSON
RICE OPERATING COMPANY
122 W. TAYLOR
HOBBS, NM 88242

Project: P-6
Order#: G0203360
Report Date: 05/17/2002

Certificates

US EPA Laboratory Code TX00158

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

RICE OPERATING COMPANY
122 W. TAYLOR
HOBBS, NM 88242
505-397-1471

Order#: G0203360
Project:
Project Name: P-6
Location: EME Leak Site

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas.

<u>Lab ID:</u>	<u>Sample :</u>	<u>Matrix:</u>	<u>Date / Time</u> <u>Collected</u>	<u>Date / Time</u> <u>Received</u>	<u>Container</u>	<u>Preservative</u>
0203360-01	MW 1	WATER	5/14/02 13:44	5/15/02 10:00	See COC	See COC
<u>Lab Testing:</u>		Rejected: No	Temp: See COC			
8021B/5030 BTEX						
Anions						
Cations						
Total Dissolved Solids (TDS)						

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

DONNIE ANDERSON
RICE OPERATING COMPANY
122 W. TAYLOR
HOBBS, NM 88242

Order#: G0203360
Project:
Project Name: P-6
Location: EME Leak Site

Lab ID: 0203360-01
Sample ID: MW 1

8021B/5030 BTEX

Method	Date	Date	Sample	Dilution	Analyst	Method
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>		
0001724-02		5/15/02 19:27	1	1	CK	8021B

Parameter	Result µg/L	RL
Benzene	<1.00	1.00
Ethylbenzene	<1.00	1.00
Toluene	<1.00	1.00
p/m-Xylene	<1.00	1.00
o-Xylene	<1.00	1.00

Approval:

Cele D. Keene
Raland K. Tuttle, Lab Director, QA Officer
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

Date

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

DONNIE ANDERSON
RICE OPERATING COMPANY
122 W. TAYLOR
HOBBS, NM 88242

Order#: G0203360
Project:
Project Name: P-6
Location: EME Leak Site

Lab ID: 0203360-01

Sample ID: MW 1

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	206	mg/L	1	2.0	310.1	5/15/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.1	310.1	5/15/02	SB
Chloride	8060	mg/L	1	5.00	9253	5/16/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.1	310.1	5/15/02	SB
SULFATE, 375.4	852	mg/L	25	12.5	375.4	5/17/02	SB

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Calcium	1460	mg/L	250	2.50	6010B	5/16/02	SM
Magnesium	470	mg/L	250	0.250	6010B	5/16/02	SM
Potassium	50.1	mg/L	10	0.500	6010B	5/16/02	SM
Sodium	2900	mg/L	1250	12.5	6010B	5/16/02	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	18200	mg/L	1	5.0	160.1	5/15/02	SB

Approval: Raland K. Tuttle 5-19-02

Raland K. Tuttle, Lab Director, QA Officer Date

Celey D. Keene, Org. Tech. Director

Jeanne McMurrey, Inorg. Tech. Director

Sandra Biezugbe, Lab Tech.

Sara Molina, Lab Tech.

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8021B/5030 BTEX

Order#: G0203360

BLANK						
WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-µg/L	0001724-02			<1.00		
Ethylbenzene-µg/L	0001724-02			<1.00		
Toluene-µg/L	0001724-02			<1.00		
p/m-Xylene-µg/L	0001724-02			<1.00		
o-Xylene-µg/L	0001724-02			<1.00		
CONTROL						
WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-µg/L	0001724-03		100	115	115.0%	
Ethylbenzene-µg/L	0001724-03		100	114	114.0%	
Toluene-µg/L	0001724-03		100	112	112.0%	
p/m-Xylene-µg/L	0001724-03		200	225	112.5%	
o-Xylene-µg/L	0001724-03		100	113	113.0%	
CONTROL DUP						
WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-µg/L	0001724-04		100	114	114.0%	0.9%
Ethylbenzene-µg/L	0001724-04		100	110	110.0%	3.6%
Toluene-µg/L	0001724-04		100	109	109.0%	2.7%
p/m-Xylene-µg/L	0001724-04		200	225	112.5%	0.0%
o-Xylene-µg/L	0001724-04		100	112	112.0%	0.9%
SRM						
WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-µg/L	0001724-05		100	115	115.0%	
Ethylbenzene-µg/L	0001724-05		100	112	112.0%	
Toluene-µg/L	0001724-05		100	109	109.0%	
p/m-Xylene-µg/L	0001724-05		200	226	113.0%	
o-Xylene-µg/L	0001724-05		100	111	111.0%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Anions

Order#: G0203360

BLANK		LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
	WATER						
Bicarbonate Alkalinity-mg/L		0001737-01			<2.00		
Carbonate Alkalinity-mg/L		0001738-01			<0.10		
Chloride-mg/L		0001733-01			<5.00		
Hydroxide Alkalinity-mg/L		0001739-01			<0.10		
SULFATE, 375.4-mg/L		0001741-01			<0.50		
DUPLICATE		LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
	WATER						
Bicarbonate Alkalinity-mg/L		0203354-01	292		293		0.3%
Carbonate Alkalinity-mg/L		0203354-01	0		<0.10		0.0%
Hydroxide Alkalinity-mg/L		0203354-01	0		<0.10		0.0%
SULFATE, 375.4-mg/L		0203355-01	610		610		0.0%
MS		LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
	WATER						
Chloride-mg/L		0203354-01	860	500	1360	100.0%	
MSD		LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
	WATER						
Chloride-mg/L		0203354-01	860	500	1360	100.0%	0.0%
SRM		LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
	WATER						
Bicarbonate Alkalinity-mg/L		0001737-04		0.05	0.0496	99.2%	
Carbonate Alkalinity-mg/L		0001738-04		0.05	0.0496	99.2%	
Chloride-mg/L		0001733-04		5000	5050	101.0%	
Hydroxide Alkalinity-mg/L		0001739-04		0.05	0.0496	99.2%	
SULFATE, 375.4-mg/L		0001741-04		50	49.9	99.8%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Cations

Order#: G0203360

BLANK							
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Calcium-mg/L		0001725-02			<0.010		
Magnesium-mg/L		0001725-02			<0.001		
Potassium-mg/L		0001725-02			<0.050		
Sodium-mg/L		0001725-02			<0.010		
DUPLICATE							
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Calcium-mg/L		0203354-01	266		264		0.8%
Magnesium-mg/L		0203354-01	106		106		0.0%
Potassium-mg/L		0203354-01	15.4		14.8		4.0%
Sodium-mg/L		0203354-01	303		308		1.6%
SRM							
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Calcium-mg/L		0001725-05		2	1.99	99.5%	
Magnesium-mg/L		0001725-05		2	2.06	103.0%	
Potassium-mg/L		0001725-05		2	1.77	88.5%	
Sodium-mg/L		0001725-05		2	1.91	95.5%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Test Parameters

Order#: G0203360

BLANK						
WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Total Dissolved Solids (TDS)-mg/L	0001731-01			<5.00		
DUPLICATE						
WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Total Dissolved Solids (TDS)-mg/L	0203354-01	2680		2760		2.9%

EME P-6 Leak Site
P, 6, 20S, 37E

Rice Operating Co. Monitor Well Data Sheet

* All parameter concentrations are in mg/L.

MW #	WATER LEVEL (ft)	TOTAL DEPTH (ft)	WELL VOLUME (gal)	VOLUME BAILED (gal)	SAMPLE DATE	TIME	CL-	BENZENE	TOLUENE	ETHYL BENZENE	TOTAL XYLENES
1	36.70	48.00	1.800	5.50	01.10.02	10:30 AM	10700	<0.002	<0.002	<0.002	<0.006
1	36.73	48.60	1.900	6.00	5.14.02	1:44 PM	8060	<.001	<.001	<.001	<.001



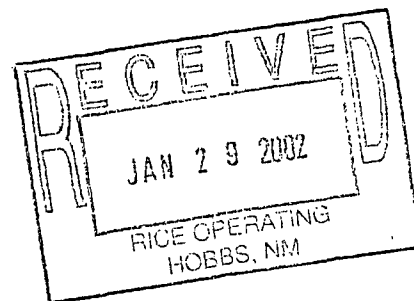
ENVIRONMENTAL PLUS, INC.
STATE APPROVED LAND FARM AND ENVIRONMENTAL SERVICES

Micro-Blaze

Micro-Blaze One™

January 25, 2002

Mr. Donnie Anderson
Rice Operating Company
122 West Taylor
Hobbs, New Mexico 88240



Subject: Monument EME System Monitor Well Sampling

Dear Mr. Anderson,

Included below is the development and sampling information collected by Environmental Plus, Inc. (EPI) on 1-10-02 for the Monument EME System monitor wells.

RICE OPERATING MONUMENT EME SYSTEM MONITOR WELLS						
MONITOR WELL ID	DATE	WELL CASING INSIDE DIAMETER INCHES	WATER LEVEL FROM TOP OF CASING FEET	TOTAL DEPTH FROM TOP OF CASING FEET	BORE WATER VOLUME GALLONS	PURGE VOLUME GALLONS
P6-1	1/10/2002	2	36.7	48.0	1.8	5.5
K33-1	1/10/2002	2	36.9	41.0	0.7	2.0
M16-1	1/10/2002	2	22.6	35.1	2.0	6.1
JUNCTION N-5	1/10/2002	2	35.5	41.3	0.9	2.8

If you have any questions or require more information please call Mr. Ben Miller or myself at the office or at 505.390.0288 or 505.390.7864, respectively.

Sincerely,

Pat McCasland
EPI Technical Services Manager

cc: Ben Miller, EPI Vice President and General Manager
Sherry Miller, EPI President
file

ENVIRONMENTAL PLUS, INC.



PHONE (915) 873-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

PHONE (505) 393-2328 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
RICE OPERATING CO.
ATTN: DONNIE ANDERSON
122 W. TAYLOR
HOBBS, NM 88240
FAX TO:

Receiving Date: 01/11/02
Reporting Date: 01/16/02
Project Owner: RICE OPERATING CO.
Project Name: PG EME SYSTEM *pg EME*
Project Location: NOT GIVEN

Sampling Date: 01/10/02
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: HM

LAB NUMBER	SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (μ S/cm)	T-Alkalinity (mgCaCO ₃ /L)
------------	-----------	--------------	--------------	--------------	-------------	-------------------------------	--

ANALYSIS DATE:	01/18/02	01/15/02	01/15/02	01/15/02	01/15/02	01/15/02	01/15/02
H6431-1 R011002PGEMESMW	2735	1760	1452	33	24994	252	
Quality Control	NR	55.0	48.6	5.27	1489	NR	
True Value QC	NR	50.0	50.0	5.00	1413	NR	
% Recovery	NR	110	97.2	105	105	NR	
Relative Percent Difference	NR	0	6.0	0	0.3	NR	

METHODS:	SM3500-Ca-D	3500-Mg E	8049	120.1	310.1		
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	Cl ⁻ (mg/L)	SO ₄ (mg/L)	CO ₃ (mg/L)	HCO ₃ (mg/L)	pH (s.u.)	TDS (mg/L)	
ANALYSIS DATE:	01/15/02	01/15/02	01/15/02	01/15/02	01/15/02	01/15/02	01/15/02
H6431-1 R011002PGEMESMW	10700	999	0	307	6.95	20248	
Quality Control	1040	52.88	NR	984	7.00	NR	
True Value QC	1000	50.00	NR	1000	7.00	NR	
% Recovery	104	105	NR	98.4	100	NR	
Relative Percent Difference	1.0	0.6	NR	2.7	0.1	NR	

METHODS:	SM4500-Cl-B	375.4	310.1	310.1	150.1	160.1	
----------	-------------	-------	-------	-------	-------	-------	--

Amy Hill
Chemist

1-16-02
Date

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 services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.

H6431A.XLS



PHONE (915) 873-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
RICE OPERATING CO.
ATTN: DONNIE ANDERSON
122 W. TAYLOR
HOBBS, NM 88240
FAX TO:

Receiving Date: 01/11/02

Reporting Date: 01/12/02

Project Owner: RICE OPERATING CO.

Project Name: PG EME SYSTEM PG EME

Project Location: NOT GIVEN

Sampling Date: 01/10/02

Sample Type: GROUNDWATER

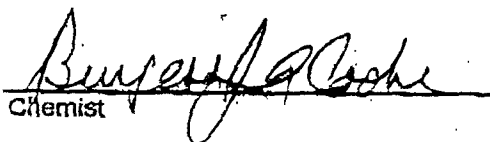
Sample Condition: COOL & INTACT

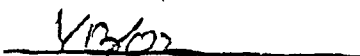
Sample Received By: AH

Analyzed By: BC

LAB NUMBER	SAMPLE ID	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	TOTAL XYLENES (mg/L)
ANALYSIS DATE		01/11/02	01/11/02	01/11/02	01/11/02
H6431-1	R011002PGEMESMW	<0.002	<0.002	<0.002	<0.006
Quality Control		0.100	0.104	0.108	0.314
True Value QC		0.100	0.100	0.100	0.300
% Recovery		99.9	104	108	105
Relative Percent Difference		1.8	2.8	2.2	1.9

METHOD: EPA SW-846 8260


Chemist


Date

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 services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.

H6431B.XLS

Cardinal Laboratories Inc.

21111 Beechwood, Abilene, TX 79603

915-673-7001 Fax 915-673-7020

101 East Marland, Hobbs, NM 88240

505-393-2326 Fax 505-393-2476

[illegible]

Sampler Relinquished: <i>Braddy Blaine</i>	Date: <i>1-18-02</i> Time: <i>2:15</i>	Received By: 	REMARKS:
Relinquished by: 	Date: <i>1-18-02</i> Time: <i>4:07</i>	Received By: (lab staff) <i>[Signature]</i>	
Delivered by Sampler	Sampled Cool & Intact? Yes ☐ No ☒		Checked By: