

AP - 49

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 0858

April 7, 2003

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APR 10 2003

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

Mr. Wayne Price
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
JUSTIS H-2 SWD FACILITY, LEA COUNTY, NEW MEXICO
SEC. 2, T26S, R37E

Mr. Price:

Rice Operating Company (ROC) takes this opportunity to submit the 2002 Monitor Well Report for the H-2 Salt Water Disposal Facility located near Jal, New Mexico. There are 3 monitor wells at this site that are sampled quarterly pursuant to NMOCD guidelines. These groundwater impacts became evident during the removal of redwood tanks in 2001.

First quarter sampling events for 2002 were performed by Environmental Plus, Inc. Whole Earth Environmental, Inc. and ROC sampled the monitor wells in the second quarter. Highlander Environmental Corp. (Highlander) sampled the wells in the third and fourth quarters. Cardinal Laboratories of Hobbs and Environmental Lab Of Texas of Odessa provided laboratory Analysis. In 2003, Highlander will continue to sample to monitor wells with Environmental Lab performing the water analysis.

Highlander been contracted by ROC to generate a work plan for dealing with the groundwater at this site. An AFE for this work has been submitted to System Partners and approval is expected soon.

ROC is the service provider (operator) for the Justis Salt Water Disposal System and has not ownership of any portion of pipeline, well, or facility. The Justis 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
 Analytical results

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

Justis H-2
H. 2, 26S, 37E SWD facility

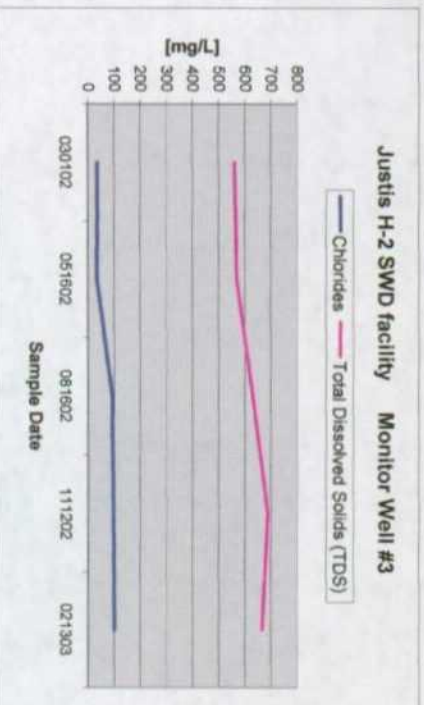
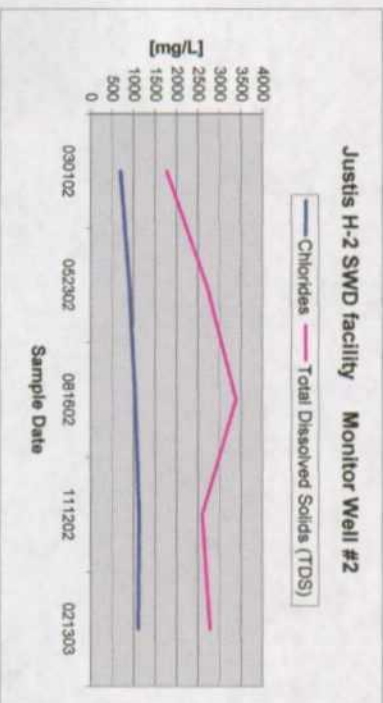
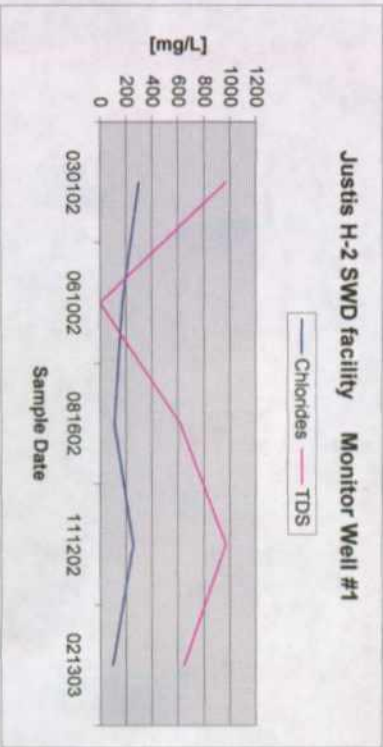
Rice Operating Co. Monitor Well Data Sheet

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 (57)	XXX	XXX	XXX	XXX	030102	1356	301	971	XXX	XXX	XXX	XXX
	105.00	160.00	55.000	150.00	061002	XXX	173	XXX	0.001	0.008	0.010	0.066
	116.2	137.20	21.000	66.00	061602	1230	111	619	<0.001	<0.001	<0.001	<0.001
	123.32	144.00	42.862	60.00	111202	1035	257	971	<0.001	0.001	<0.001	<0.001
	122.95	144.00		70.00	021303	1045	97.5	647	<0.001	<0.001	<0.001	<0.001
2	XXX	XXX	XXX	XXX	030102	1330	700	1780	XXX	XXX	XXX	XXX
	121.80	145.75	3.832	11.50	062302	1150	904	2710	<0.001	<0.001	<0.001	<0.001
	121.85	142.10	3.240	25.00	081602	1420	1040	3360	<0.001	<0.001	<0.001	<0.001
	122.10	142.00	3.184	25.00	111202	1330	1130	2600	0.002	0.003	<0.001	<0.002
	121.71	142.00		25.00	021303	1230	1110	2780	<0.001	<0.001	<0.001	<0.001
3	XXX	XXX	XXX	XXX	030102	1342	37.2	561	XXX	XXX	XXX	XXX
	118.68	135.95	2.760	8.50	051602	1130	35.4	570	<0.001	<0.001	<0.001	<0.001
	118.68	133.30	2.340	20.00	081602	1340	93.1	631	<0.001	<0.001	<0.001	<0.001
	118.90	133.00	2.256	25.00	111202	845	97.5	686	0.030	0.014	0.002	0.003
	118.53	133.00		25.00	021303	1135	102	666	<0.001	<0.001	<0.001	<0.001

extended casing

red & silty





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

Micro-Blaze

Micro-Blaze Out™

January 25, 2002

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

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APR 10 2003

ENVIRONMENTAL BUREAU
OF CONSERVATION DIVISION



Subject: South Justis H-2 SWD

Dear Mr. Anderson,

Included below is the monitor well development information for the three South Justis H-2 SWD monitor wells developed and sampled by Environmental Plus, Inc.

RICE OPERATING SOUTH JUSTIS H-2 SWD						
MONITOR WELL ID	DATE	WELL	WATER	TOTAL	BORE WATER VOLUME GALLONS	PURGE VOLUME GALLONS
		CASING	LEVEL FROM	DEPTH FROM		
		INSIDE DIAMETER INCHES	TOP OF CASING FEET	TOP OF CASING FEET		
MW1	1/3/2002	4	116.2	145.0	18.8	56.4
MW2	1/7/2002	2	122.0	142.6	13.4	40.3
MW3	1/7/2002	2	122.1	137.5	10.0	30.1

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.

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

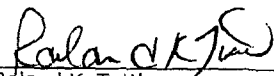
RICE OPERATING COMPANY
ATTN: DONNIE RICE
122 W. TAYLOR
HOBBS, NM 88240
FAX: 505-397-1471

Sample Type: Water
Sample Condition: Intact/ 7 deg C
Project Name: Justis, 2001 Project
Project #: SWD H-2 Facility Upgrade
Project Location: Lea County, NM
PO#: 719

Sampling Date: 12/05/01
Receiving Date: 12/10/01
Analysis Date: See Below

ELT#	FIELD CODE	Fluoride mg/L	Carbonate mg/L	Bicarbonate mg/L	Chloride mg/L	Sulfate mg/L	Nitrate mg/L	TDS mg/L
0102186-01	Willis House Water Well	3.56	<0.100	166	151	259	6.9	943
REPORT LIMIT		0.020	0.100	2.00	5.00	<0.500	<0.500	<10.0
QUALITY CONTROL		0.89	NA	NA	5050	52.0	10.3	NA
TRUE VALUE		1.00	NA	NA	5000	50.0	10.0	NA
% INSTRUMENT ACCURACY		89	NA	NA	101	104	103	NA
SPIKED AMOUNT		NA	NA	NA	250	NA	NA	NA
ORIGINAL SAMPLE		NA	NA	NA	151	NA	NA	NA
SPIKE		NA	NA	NA	403	NA	NA	NA
SPIKE DUP		NA	NA	NA	403	NA	NA	NA
% EXTRACTION ACCURACY		NA	NA	NA	101	NA	NA	NA
BLANK		<0.020	<0.100	<2.00	<5.00	<0.500	<0.500	<10.0
RPD		0.563	1.20	1.20	0.00	3.42	10.7	1.62
ANALYSIS DATE		12/12	12/18	12/18	12/14	12/12	12/12	12/11

METHODS: EPA 310.1, 375.4, 353.3, 340.1, 160.1, SW 846-9253


Roland K. Tuttle

12-19-01
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

RICE OPERATING COMPANY
ATTN: DONNIE ANDERSON
122 W. TAYLOR
HOBBS, NM 88240
FAX: 505-397-1471

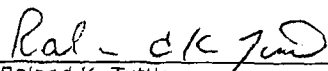
Sample Type: Water
Sample Condition: Intact/ 7 deg C
Project Name: Justis, 2001 Project
Project #: SWD H-2 Facility Upgrade
Project Location: Lea County, NM
PO#: 719

Sampling Date: 12/05/01
Receiving Date: 12/10/01
Analysis Date: 12/14/01

ELT#	FIELD CODE	Ca mg/L	K mg/L	Mg mg/L	Na mg/L
0102186-01	Willis House Water Well Sample	94.4	8.78	47.1	128

REPORT LIMIT	0.010	0.050	0.001	0.010
QUALITY CONTROL	1.99	1.84	2.12	1.85
TRUE VALUE	2.00	2.00	2.00	2.00
% INSTRUMENT ACCURACY	100	92	106	92
SPIKED AMOUNT	1.00	1.00	1.00	1.00
ORIGINAL SAMPLE	<0.010	<0.050	<0.001	<0.010
SPIKE	0.978	0.861	1.12	0.901
SPIKE DUP	0.966	0.863	1.10	0.874
% EXTRACTION ACCURACY	97	86	110	87
BLANK	<0.01	<0.05	<0.001	<0.01
RPD	1.21	0.27	1.98	3.03

METHODS: SW846-6010B


Raiand K. Tuttle

12-14-01
Date

Environmental Lab of Texas, Inc.

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: Donnie Anderson

Project Name: JUSTIS, 2001 PROJECT

Company Name Rice Operating Company

Project #: SWD H-2 FACILITY UPGRADE

Company Address: 122 W Taylor

Project Loc: Lea County NM

City/State/Zip: Hobbs, NM 88240

PO #: 719

Telephone No: 505-393-9174

Fax No: 505-397-1471

Sampler Signature:

Handwritten signature

[illegible]

$\text{Fe, Al, SiO}_2, \text{NO}_3, \text{Ca, Na, K, Mg}$ carb/b; carb



PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

PHONE (505) 393-2329 • 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: 01/08/02
Reporting Date: 01/14/02
Project Owner: RICE
Project Name: SOUTH JUSTIS MONITOR WELLS
Project Location: SOUTH JUSTIS

Analysis Date: 01/14/02
Sampling Date: 01/03-01/07/02
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: GP
Analyzed By: AH

LAB NUMBER	SAMPLE ID	Cl ⁻ (mg/L)
WROSJSWD1302MW1		348
WROSJSWD1702NWMW2		1819
WROSJSWD1702SEMW3		48
Quality Control		1040
True Value QC		1000
% Accuracy		104
Relative Percent Difference		1.0

METHOD: Standard Methods	4500-ClB
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Amy Hill
Chemist

1-14-02
Date

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H6399c



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

. mw 2

. mw 1

. mw 3

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

Receiving Date: 01/08/02
Reporting Date: 01/10/02
Project Owner: RICE OPERATING
Project Name: SOUTH JUSTIS MONITOR WELLS
Project Location: SOUTH JUSTIS

Sampling Date: 01/03/02, 01/07/02
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: GP
Analyzed By: AH

LAB NUMBER	SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (mS/cm)	T-Alkalinity (mgCaCO ₃ /L)
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ANALYSIS DATE:	01/10/02	01/09/02	01/09/02	01/09/02	01/09/02	01/09/02
H6399-1	WROSJSWD1302MW1	59	124	70	17.8	1790
H6399-2	WROSJSWD1702NWMW2	23	581	313	19.8	6175
H6399-3	WROSJSWD1702SEMW3	14	64	47	9.08	876
Quality Control		NR	55	49	5.27	1489
True Value QC		NR	50	50	5.00	1413
% Accuracy		NR	110	97.2	105	105
Relative Percent Difference		NR	0	8.0	0	0.3

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)
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ANALYSIS DATE:	01/09/02	01/09/02	01/09/02	01/09/02	01/09/02	01/10/02
H6399-1	WROSJSWD1302MW1	336	116	0	189	7.75
H6399-2	WROSJSWD1702NWMW2	1839	120	0	124	7.55
H6399-3	WROSJSWD1702SEMW3	48	145	0	216	7.80
Quality Control		1040	52.66	NR	984	7.01
True Value QC		1000	50.00	NR	1000	7.00
% Accuracy		104	105	NR	98.4	100
Relative Percent Difference		1.0	0.8	NR	2.7	0.3

METHODS:	SM4500-Cl-B	375.4	310.1	310.1	150.1	160.1
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Gayle A. Potter, Chemist

Date

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ARDINAL LABORATORIES

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

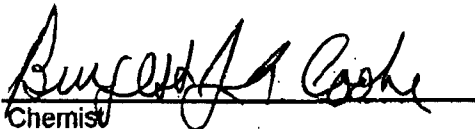
ANALYTICAL RESULTS FOR
RICE OPERATING CO.
ATTN: DONNIE ANDERSON
122 W. TAYLOR
HOBBS, NM 88240
FAX TO:

Receiving Date: 01/08/01
Reporting Date: 01/08/01
Project Owner: RICE OPERATING CO.
Project Name: SOUTH JUSTIS MONITOR WELLS
Project Location: SOUTH JUSTIS

Sampling Date: 01/03/02 (#1),
01/07/02 (#2 & #3)
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: GP
Analyzed By: BC

LAB NO. SAMPLE ID	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	TOTAL XYLENES (mg/L)
ANALYSIS DATE	01/08/02	01/08/02	01/08/02	01/08/02
H6399-1 WROSJSWD1302MW1	<0.002	<0.002	<0.002	<0.006
H6399-2 WROSJSWD1702NWMW2	<0.002	<0.002	<0.002	<0.006
H6399-3 WROSJSWD1702SEMW3	<0.002	<0.002	<0.002	<0.006
Quality Control	0.102	0.102	0.105	0.309
True Value QC	0.100	0.100	0.100	0.300
% Recovery	102	102	105	103
Relative Percent Difference	0.6	0.3	1.4	2.7

METHOD: EPA SW-846 8260


Chemist


Date 1/9/01

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H6399B.XLS



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APR 10 2003

ENVIRONMENTAL BUREAU
CONSERVATION DIVISION

Receiving Date: 01/08/02

Reporting Date: 01/10/02

Project Owner: RICE OPERATING

Project Name: SOUTH JUSTIS MONITOR WELLS

Project Location: SOUTH JUSTIS

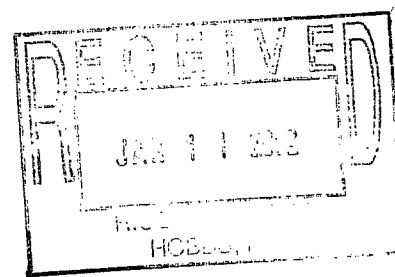
ANALYTICAL RESULTS FOR
RICE OPERATING CO.

ATTN: DONNIE ANDERSON

122 W. TAYLOR

HOBBS, NM 88240

FAX TO:



Sampling Date: 01/03/02, 01/07/02

Sample Type: GROUNDWATER

Sample Condition: COOL & INTACT

Sample Received By: GP

Analyzed By: AH

LAB NUMBER	SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (mS/cm)	T-Alkalinity (mgCaCO ₃ /L)
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ANALYSIS DATE:	01/10/02	01/09/02	01/09/02	01/09/02	01/09/02	01/09/02
H6399-1 WROSJSWD1302MW1	59	124	70	17.6	1790	155
H6399-2 WROSJSWD1702NWMW2	23	581	313	19.8	6175	102
H6399-3 WROSJSWD1702SEMW3	14	64	47	9.08	876	177
Quality Control	NR	55	49	5.27	1489	NR
True Value QC	NR	50	50	5.00	1413	NR
% Accuracy	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)
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ANALYSIS DATE:	01/09/02	01/09/02	01/09/02	01/09/02	01/09/02	01/10/02
H6399-1 WROSJSWD1302MW1	336	116	0	189	7.75	1112
H6399-2 WROSJSWD1702NWMW2	1839	120	0	124	7.55	3908
H6399-3 WROSJSWD1702SEMW3	48	145	0	216	7.80	577
Quality Control	1040	52.66	NR	984	7.01	NR
True Value QC	1000	50.00	NR	1000	7.00	NR
% Accuracy	104	105	NR	98.4	100	NR
Relative Percent Difference	1.0	0.6	NR	2.7	0.3	5.1

METHODS:	SM4500-Cl-B	375.4	310.1	310.1	150.1	160.1
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Gayle A. Potter

Gayle A. Potter, Chemist

01/10/2002

Date

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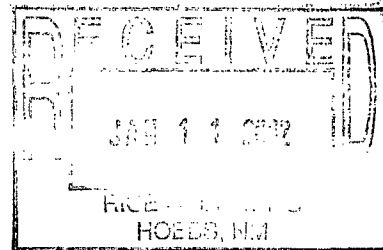
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PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

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



Receiving Date: 01/08/01
Reporting Date: 01/09/01
Project Owner: RICE OPERATING CO.
Project Name: SOUTH JUSTIS MONITOR WELLS
Project Location: SOUTH JUSTIS

Sampling Date: 01/03/02 (#1),
01/07/02 (#2 & #3)
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: GP
Analyzed By: BC

LAB NO. SAMPLE ID	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	TOTAL XYLENES (mg/L)
ANALYSIS DATE	01/08/02	01/08/02	01/08/02	01/08/02
H6399-1 WROSJSWD1302MW1	<0.002	<0.002	<0.002	<0.006
H6399-2 WROSJSWD1702NWMW2	<0.002	<0.002	<0.002	<0.006
H6399-3 WROSJSWD1702SEMW3	<0.002	<0.002	<0.002	<0.006
Quality Control	0.102	0.102	0.105	0.309
True Value QC	0.100	0.100	0.100	0.300
% Recovery	102	102	105	103
Relative Percent Difference	0.6	0.3	1.4	2.7

METHOD: EPA SW-846 8260

Chemist

Date 1/9/01

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.

H6399B.XLS

2111 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:	Date	Received By:		Fax Results To Pat McCasland 505-394-2601 & Donnie Anderson 505-397-1471
	Time			
Relinquished by:	Date	Received By: (lab staff)		REMARKS:
	Time			
Delivered by Sampler	Sample Cool & Intact ☒ Yes ☐ No		Checked By:	



PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

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

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ENVIRONMENTAL BUREAU
CONSERVATION DIVISION

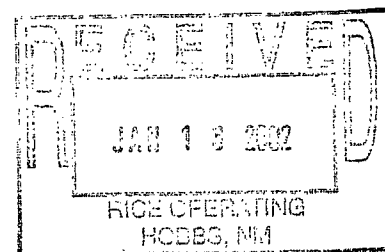
ANALYTICAL RESULTS FOR
RICE OPERATING CO.
ATTN: DONNIE ANDERSON
122 W. TAYLOR
HOBBS, NM 88240
FAX TO:

Receiving Date: 01/08/02
Reporting Date: 01/14/02
Project Owner: RICE
Project Name: SOUTH JUSTIS MONITOR WELLS
Project Location: SOUTH JUSTIS

Analysis Date: 01/14/02
Sampling Date: 01/03-01/07/02
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: GP
Analyzed By: AH

LAB NUMBER	SAMPLE ID	Cl ⁻ (mg/L)
	WROSJSWD1302MW1	348
	WROSJSWD1702NWMW2	1819
	WROSJSWD1702SEMW3	48
	Quality Control	1040
	True Value QC	1000
	% Accuracy	104
	Relative Percent Difference	1.0

METHOD: Standard Methods	4500-Cl ⁻ B
--------------------------	------------------------



Amy Hill
Chemist

1-14-02
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.

H6399c


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

RECEIVED
APR 10 2003

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

 ENVIRONMENTAL BUREAU
 CONSERVATION DIVISION

 Receiving Date: 01/08/02
 Reporting Date: 01/10/02
 Project Owner: RICE OPERATING
 Project Name: SOUTH JUSTIS MONITOR WELLS
 Project Location: SOUTH JUSTIS

 Sampling Date: 01/03/02, 01/07/02
 Sample Type: GROUNDWATER
 Sample Condition: COOL & INTACT
 Sample Received By: GP
 Analyzed By: AH

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

ANALYSIS DATE:	01/10/02	01/09/02	01/09/02	01/09/02	01/09/02	01/09/02
H6399-1 WROSJSWD1302MW1	59	124	70	17.6	1790	155
H6399-2 WROSJSWD1702NWMW2	23	581	313	19.8	6175	102
H6399-3 WROSJSWD1702SEMW3	14	64	47	9.08	878	177
Quality Control	NR	55	49	5.27	1489	NR
True Value QC	NR	50	50	5.00	1413	NR
% Accuracy	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
----------	-------------	-----------	------	-------	-------

Cl ⁻ (mg/L)	SO ₄ (mg/L)	CO ₃ (mg/L)	HCO ₃ (mg/L)	pH (s.u.)	TDS (mg/L)
---------------------------	---------------------------	---------------------------	----------------------------	--------------	---------------

ANALYSIS DATE:	01/09/02	01/08/02	01/09/02	01/09/02	01/09/02	01/10/02
H6399-1 WROSJSWD1302MW1	336	116	0	189	7.75	1112
H6399-2 WROSJSWD1702NWMW2	1839	120	0	124	7.55	3908
H6399-3 WROSJSWD1702SEMW3	48	145	0	216	7.80	577
Quality Control	1040	52.66	NR	984	7.01	NR
True Value QC	1000	50.00	NR	1000	7.00	NR
% Accuracy	104	105	NR	98.4	100	NR
Relative Percent Difference	1.0	0.6	NR	2.7	0.3	5.1

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

Gayle A. Potter, Chemist

Date

LEASE 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. 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.

H6399


CARDINAL
LABORATORIES

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: 01/08/01
 Reporting Date: 01/09/01
 Project Owner: RICE OPERATING CO.
 Project Name: SOUTH JUSTIS MONITOR WELLS
 Project Location: SOUTH JUSTIS

Sampling Date: 01/03/02 (#1),
 01/07/02 (#2 & #3)
 Sample Type: GROUNDWATER
 Sample Condition: COOL & INTACT
 Sample Received By: GP
 Analyzed By: BC

LAB NO. SAMPLE ID	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	TOTAL XYLENES (mg/L)
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ANALYSIS DATE	01/08/02	01/08/02	01/08/02	01/08/02
H6399-1 WROSJSWD1302MW1	<0.002	<0.002	<0.002	<0.006
H6399-2 WROSJSWD1702NWMW2	<0.002	<0.002	<0.002	<0.006
H6399-3 WROSJSWD1702SEMW3	<0.002	<0.002	<0.002	<0.006
Quality Control	0.102	0.102	0.105	0.309
True Value QC	0.100	0.100	0.100	0.300
% Recovery	102	102	105	103
Relative Percent Difference	0.6	0.3	1.4	2.7

METHOD: EPA SW-846 8260

Burgess A. Cook
 Chemist

1/9/01
 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.

H6399B.XLS

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ENVIRONMENTAL BUREAU
CONSERVATION DIVISION

ANALYTICAL REPORT

Prepared for:

**DONNIE ANDERSON
RICE OPERATING CORP.
122 WEST TAYLOR
HOBBS, NM 88240**

Project: Justis SWD System
Order#: G0202745
Report Date: 03/13/2002

Certificates

US EPA Laboratory Code TX00158

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

RICE OPERATING CORP.
122 WEST TAYLOR

HOBBS, NM 88240

Order#: G0202745
Project: H-2 SWD
Facility
Project Name: Justis SWD System
Location: Lea County, NM

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.

			Date / Time	Date / Time		
0202745-01	MW#1	WATER	03/01/2002 13:56	03/05/2002 17:00	1 L Plastic	ice
	<u>Lab Testing:</u>	Rejected: No		Temp: 0C		
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					
0202745-02	MW#2	WATER	03/01/2002 13:30	03/05/2002 17:00	1 L Plastic	ice
	<u>Lab Testing:</u>	Rejected: No		Temp: 0C		
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					
0202745-03	MW#3	WATER	03/01/2002 13:42	03/05/2002 17:00	1 L Plastic	ice
	<u>Lab Testing:</u>	Rejected: No		Temp: 0C		
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

DONNIE ANDERSON
RICE OPERATING CORP.
122 WEST TAYLOR
HOBBS, NM 88240

Order#: G0202745
Project: H-2 SWD Facility
Project Name: Justis SWD System
Location: Lea County, NM

Lab ID: 0202745-01
Sample ID: MW#1

Cations

<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Prepared</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Calcium	92	mg/L	25	0.250	6010B	03/11/2002	03/11/2002	SM
Magnesium	44.4	mg/L	25	0.0250	6010B	03/11/2002	03/11/2002	SM
Potassium	10	mg/L	10	0.50	6010B	03/11/2002	03/11/2002	SM
Sodium	124	mg/L	25	0.250	6010B	03/11/2002	03/11/2002	SM

Lab ID: 0202745-02
Sample ID: MW#2

Cations

<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Prepared</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Calcium	215	mg/L	100	1.0	6010B	03/11/2002	03/11/2002	SM
Magnesium	99	mg/L	25	0.0250	6010B	03/11/2002	03/11/2002	SM
Potassium	10.9	mg/L	10	0.50	6010B	03/11/2002	03/11/2002	SM
Sodium	106	mg/L	25	0.250	6010B	03/11/2002	03/11/2002	SM

Lab ID: 0202745-03
Sample ID: MW#3

Cations

<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Prepared</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Calcium	54.1	mg/L	25	0.250	6010B	03/11/2002	03/11/2002	SM
Magnesium	25.1	mg/L	10	0.010	6010B	03/11/2002	03/11/2002	SM
Potassium	5.31	mg/L	10	0.50	6010B	03/11/2002	03/11/2002	SM
Sodium	61.5	mg/L	25	0.250	6010B	03/11/2002	03/11/2002	SM

Approval:

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

3-13-02

Date

N/A = Not Applicable RL = Reporting Limit

Page 1 of 1

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

DONNIE ANDERSON
RICE OPERATING CORP.
122 WEST TAYLOR
HOBBS, NM 88240

Order#: G0202745
Project: H-2 SWD Facility
Project Name: Justis SWD System
Location: Lea County, NM

Lab ID: 0202745-01

Sample ID: MW#1

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	157	mg/L	1	2.0	310.1	03/11/2002	CC
Carbonate Alkalinity	<2.0	mg/L	1	2.0	310.1	03/11/2002	CC
Chloride	301	mg/L	1	5.00	9253	03/12/2002	CC
Hydroxide Alkalinity	<2	mg/L	1	2	310.1	03/13/2002	CC
SULFATE, 375.4	190	mg/L	1	0.5	375.4	03/08/2002	CC

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	971	mg/L	1	5.0	160.1	03/06/2002	SB

Lab ID: 0202745-02

Sample ID: MW#2

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	109	mg/L	1	2.0	310.1	03/11/2002	CC
Carbonate Alkalinity	<2.0	mg/L	1	2.0	310.1	03/11/2002	CC
Chloride	700	mg/L	1	5.00	9253	03/12/2002	CC
Hydroxide Alkalinity	<2	mg/L	1	2	310.1	03/13/2002	CC
SULFATE, 375.4	150	mg/L	1	0.5	375.4	03/08/2002	CC

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	1780	mg/L	1	5.0	160.1	03/06/2002	SB

Lab ID: 0202745-03

Sample ID: MW#3

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	161	mg/L	1	2.0	310.1	03/11/2002	CC
Carbonate Alkalinity	<2.0	mg/L	1	2.0	310.1	03/11/2002	CC
Chloride	37.2	mg/L	1	5.00	9253	03/12/2002	CC
Hydroxide Alkalinity	<2	mg/L	1	2	310.1	03/13/2002	CC
SULFATE, 375.4	167	mg/L	1	0.5	375.4	03/08/2002	CC

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	561	mg/L	1	5.0	160.1	03/06/2002	SB

RL = Reporting Limit N/A = Not Applicable

Page 1 of 2

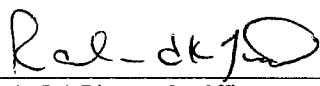
ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

DONNIE ANDERSON
RICE OPERATING CORP.
122 WEST TAYLOR
HOBBS, NM 88240

Order#: G0202745
Project: H-2 SWD Facility
Project Name: Justis SWD System
Location: Lea County, NM

Approval:

 3-13-02
Raland K. Tuttle, Lab Director, QA Officer
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Irene Perry, QA Assistant
Sandra Biezugbe, Lab Tech.
Curt Cowdrey, Lab Tech.
Sara Molina, Lab Tech.

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Cations

Order#: G0202745

BLANK	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Calcium-mg/L	0000814-02			<0.01		
Magnesium-mg/L	0000814-02			<0.001		
Potassium-mg/L	0000814-02			<0.05		
Sodium-mg/L	0000814-02			<0.01		
CONTROL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Calcium-mg/L	0000814-03		1	0.924	92.4%	
Magnesium-mg/L	0000814-03		1	1.05	105.5%	
Potassium-mg/L	0000814-03		1	0.867	86.7%	
Sodium-mg/L	0000814-03		1	0.877	87.7%	
CONTROL DUP	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Calcium-mg/L	0000814-04		1	0.917	91.7%	0.8%
Magnesium-mg/L	0000814-04		1	1.04	104.5%	1.1%
Potassium-mg/L	0000814-04		1	0.855	85.5%	1.4%
Sodium-mg/L	0000814-04		1	0.869	86.9%	0.9%
SRM	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Calcium-mg/L	0000814-05		2	2	100.0%	0.0%
Magnesium-mg/L	0000814-05		2	2.1	105.0%	0.0%
Potassium-mg/L	0000814-05		2	1.76	88.0%	0.0%
Sodium-mg/L	0000814-05		2	1.8	90.0%	0.0%

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Anions

Order#: G0202745

BLANK	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Bicarbonate Alkalinity-mg/L	0000813-01			<5.0		
Carbonate Alkalinity-mg/L	0000813-01			<5.0		
Chloride-mg/L	0000817-01			<5.00		
Hydroxide Alkalinity-mg/L	0000836-01			<2		
SULFATE, 375.4-mg/L	0000798-01			<0.5		
CONTROL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Bicarbonate Alkalinity-mg/L	0000813-02		0.05	0.0462	92.4%	
Carbonate Alkalinity-mg/L	0000813-02		0.05	0.0462	92.4%	
SULFATE, 375.4-mg/L	0000798-02		50	46.8	93.6%	
CONTROL DUP	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
SULFATE, 375.4-mg/L	0000798-03		50	46.5	93.6%	0.6%
DUPLICATE	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Bicarbonate Alkalinity-mg/L	0202722-01	149		144		3.4%
Carbonate Alkalinity-mg/L	0202722-01	0		<5.0		0.0%
Hydroxide Alkalinity-mg/L	0202745-01	0		<2		0.0%
SULFATE, 375.4-mg/L	0202722-01	386		360		7.0%
MS	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/L	0202745-01	301	500	789	97.6%	
MSD	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/L	0202745-01	301	500	780	95.8%	1.1%
SRM	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/L	0000817-04		5000	4963	99.3%	0.0%
Hydroxide Alkalinity-mg/L	0000836-04		0.05	0.0462	92.4%	0.0%

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Test Parameters

Order#: G0202745

<i>BLANK</i>	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Total Dissolved Solids (TDS)-mg/L	0000794-01			<5.0		
<i>DUPLICATE</i>	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Total Dissolved Solids (TDS)-mg/L	0202745-01	971		968		0.3%

**112600 West I-20 East
Odessa, Texas 79763**

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Donnie Anderson

Project Name: JUSTIS SWD SYSTEM

Company Name Rice Operating Company

Project #: H-2 SWD Facility

Company Address: 122 W Taylor

Project Loc: Lea County NM

City/State/Zip: Hobbs, NM 88240

PO#: 719

Telephone No: 505-393-9174/

Fax No: 505-397-1471

Sampler Signature:

[illegible]

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APR 10 2003

ENVIRONMENTAL BUREAU
CONSERVATION DIVISION

ANALYTICAL REPORT

Prepared for:

MIKE GRIFFIN
WHOLE EARTH
19606 SAN GABRIEL
HOUSTON, TX 77084

Project: H-2
Order#: G0203622
Report Date: 06/19/2002

Certificates

US EPA Laboratory Code TX00158

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

WHOLE EARTH
19606 SAN GABRIEL
HOUSTON, TX 77084
281-646-8996

Order#: G0203622
Project:
Project Name: H-2
Location: MW-1

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>
0203622-01	H-2 M-1	WATER	6/10/02 13:10	6/11/02 13:18	See COC	See COC
<u>Lab Testing:</u>		Rejected: No	Temp:	4.0 C		
8021B/5030 BTEX Chloride						

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MIKE GRIFFIN
WHOLE EARTH
19606 SAN GABRIEL
HOUSTON, TX 77084

Order#: G0203622
Project:
Project Name: H-2
Location: MW-1

Lab ID: 0203622-01

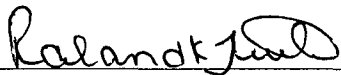
Sample ID: H-2 M-1

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0002078-02		6/17/02 18:13	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	0.001	0.001
Ethylbenzene	0.010	0.001
Toluene	0.008	0.001
p/m-Xylene	0.050	0.001
o-Xylene	0.016	0.001

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.

6-19-02
Date

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MIKE GRIFFIN
WHOLE EARTH
19606 SAN GABRIEL
HOUSTON, TX 77084

Order#: G0203622
Project:
Project Name: H-2
Location: MW-1

Lab ID: 0203622-01
Sample ID: H-2 M-1

Test Parameters

<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution</u> <u>Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date</u> <u>Analyzed</u>	<u>Analyst</u>
Chloride	173	mg/L	1	5.00	9253	6/11/02	SB

Approval: Raland K. Tuttle 6-19-02
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.

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8021B/5030 BTEX

Order#: G0203622

BLANK		LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
	WATER						
Benzene-mg/L		0002078-02			<0.001		
Ethylbenzene-mg/L		0002078-02			<0.001		
Toluene-mg/L		0002078-02			<0.001		
p/m-Xylene-mg/L		0002078-02			<0.001		
o-Xylene-mg/L		0002078-02			<0.001		
MS		LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
	WATER						
Benzene-mg/L		0203601-02	0	0.1	0.101	101.%	
Ethylbenzene-mg/L		0203601-02	0	0.1	0.097	97.%	
Toluene-mg/L		0203601-02	0	0.1	0.095	95.%	
p/m-Xylene-mg/L		0203601-02	0	0.2	0.196	98.%	
o-Xylene-mg/L		0203601-02	0	0.1	0.098	98.%	
MSD		LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
	WATER						
Benzene-mg/L		0203601-02	0	0.1	0.101	101.%	0.%
Ethylbenzene-mg/L		0203601-02	0	0.1	0.096	96.%	1.%
Toluene-mg/L		0203601-02	0	0.1	0.094	94.%	1.1%
p/m-Xylene-mg/L		0203601-02	0	0.2	0.195	97.5%	0.5%
o-Xylene-mg/L		0203601-02	0	0.1	0.097	97.%	1.%
SRM		LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
	WATER						
Benzene-mg/L		0002078-05		0.1	0.104	104.%	
Ethylbenzene-mg/L		0002078-05		0.1	0.098	98.%	
Toluene-mg/L		0002078-05		0.1	0.096	96.%	
p/m-Xylene-mg/L		0002078-05		0.2	0.199	99.5%	
o-Xylene-mg/L		0002078-05		0.1	0.099	99.%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Test Parameters

Order#: G0203622

BLANK	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/L		0002043-01			<5.00		
MS	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/L		0203578-01	88.6	250	341	101.0%	
MSD	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/L		0203578-01	88.6	250	341	101.0%	0.0%
SRM	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery -	RPD
Chloride-mg/L		0002043-04		5000	5050	101.0%	

2600 West I-20 East
dessa, Texas 79763
Phone: 915-563-1800
Fax: 915-563-1713

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Name: H-2

Project #:

Project Loc:

PO#:

Fax No: 281.646.8996

11.00.00 70.5 90

$$15.4' \times .877 = 13.5$$
$$\text{min. bail} = 40.5 \text{ gal}$$
[illegible]

Invoice Rice Open. Copy of report to Rice.

Received by:

Time 1318

Date _____ Time _____

Received by EL0T:

Date	Time
------	------

Received by ELOT: *Jeanne McManney*

RECEIVED

APR 10 2003

ENVIRONMENTAL BUREAU
CONSERVATION DIVISION

ANALYTICAL REPORT

Prepared for:

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

**Project: H-2
Order#: G0203437
Report Date: 06/03/2002**

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#: G0203437
Project:
Project Name: H-2
Location: Justis SWD

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>
0203437-01	MW 2	WATER	5/23/02 11:50	5/24/02 19:00	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#: G0203437
Project:
Project Name: H-2
Location: Justis SWD

Lab ID: 0203437-01
Sample ID: MW 2

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>
0001806-02		5/28/02 17:21	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

Approval: Raland K. Tuttle 6-04-02
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

ANALYTICAL REPORT

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

Order#: G0203437
Project:
Project Name: H-2
Location: Justis SWD

Lab ID: 0203437-01
Sample ID: MW 2

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	122	mg/L	1	2.00	310.1	5/28/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	5/28/02	SB
Chloride	904	mg/L	1	5.00	9253	5/30/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	2	310.1	5/28/02	SB
SULFATE, 375.4	243	mg/L	5	2.5	375.4	5/31/02	CC

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Calcium	269	mg/L	100	1.00	6010B	5/31/02	SM
Magnesium	135	mg/L	50	0.050	6010B	5/31/02	SM
Potassium	13.9	mg/L	10	0.500	6010B	5/31/02	SM
Sodium	136	mg/L	50	0.500	6010B	5/31/02	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	2710	mg/L	1	5.0	160.1	5/28/02	SB

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

RL = Reporting Limit N/A = Not Applicable

Page 1 of 1

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8021B/5030 BTEX

Order#: G0203437

BLANK						
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery
						RPD
Benzene-mg/L		0001806-02			<0.001	
Ethylbenzene-mg/L		0001806-02			<0.001	
Toluene-mg/L		0001806-02			<0.001	
p/m-Xylene-mg/L		0001806-02			<0.001	
o-Xylene-mg/L		0001806-02			<0.001	
MS						
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery
						RPD
Benzene-mg/L		0203439-04	0	0.1	0.105	105.0%
Ethylbenzene-mg/L		0203439-04	0	0.1	0.109	109.0%
Toluene-mg/L		0203439-04	0	0.1	0.110	110.0%
p/m-Xylene-mg/L		0203439-04	0	0.2	0.221	110.5%
o-Xylene-mg/L		0203439-04	0	0.1	0.110	110.0%
MSD						
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery
						RPD
Benzene-mg/L		0203439-04	0	0.1	0.110	110.0%
Ethylbenzene-mg/L		0203439-04	0	0.1	0.114	114.0%
Toluene-mg/L		0203439-04	0	0.1	0.111	111.0%
p/m-Xylene-mg/L		0203439-04	0	0.2	0.231	115.5%
o-Xylene-mg/L		0203439-04	0	0.1	0.116	116.0%
SRM						
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery
						RPD
Benzene-mg/L		0001806-05		0.1	0.098	98.0%
Ethylbenzene-mg/L		0001806-05		0.1	0.102	102.0%
Toluene-mg/L		0001806-05		0.1	0.100	100.0%
p/m-Xylene-mg/L		0001806-05		0.2	0.208	104.0%
o-Xylene-mg/L		0001806-05		0.1	0.102	102.0%

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Anions

Order#: G0203437

BLANK						
WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Bicarbonate Alkalinity-mg/L	0001839-01			<2.00		
Carbonate Alkalinity-mg/L	0001840-01			<0.10		
Chloride-mg/L	0001833-01			<5.00		
Hydroxide Alkalinity-mg/L	0001841-01			<0.10		
SULFATE, 375.4-mg/L	0001847-01			<0.5		
CONTROL						
WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Bicarbonate Alkalinity-mg/L	0001839-02		0.05	0.0491	98.2%	
Carbonate Alkalinity-mg/L	0001840-02		0.05	0.0491	98.2%	
Hydroxide Alkalinity-mg/L	0001841-02		0.05	0.0491	98.2%	
CONTROL DUP						
WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Bicarbonate Alkalinity-mg/L	0001839-03		0.05	0.0496	99.2%	1.0%
Carbonate Alkalinity-mg/L	0001840-03		0.05	0.0496	99.2%	1.0%
Hydroxide Alkalinity-mg/L	0001841-03		0.05	0.0496	99.2%	1.0%
DUPLICATE						
WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
SULFATE, 375.4-mg/L	0203436-01	286		275		3.9%
MS						
WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/L	0203436-01	461	500	966	101.0%	
MSD						
WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/L	0203436-01	461	500	957	99.2%	0.9%
SRM						
WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/L	0001833-04		5000	5050	101.0%	
SULFATE, 375.4-mg/L	0001847-04		50	45.3	90.6%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Test Parameters

Order#: G0203437

BLANK						
WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Total Dissolved Solids (TDS)-mg/L	0001837-01			<5.00		
DUPLICATE						
WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Total Dissolved Solids (TDS)-mg/L	0203385-02	522		506		3.1%

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Cations

Order#: G0203437

BLANK						
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery
Calcium-mg/L		0001863-02			<0.010	
Magnesium-mg/L		0001863-02			<0.001	
Potassium-mg/L		0001863-02			<0.050	
Sodium-mg/L		0001863-02			<0.010	
DUPLICATE						
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery
Calcium-mg/L		0203437-01	269		272	1.1%
Magnesium-mg/L		0203437-01	135		130	3.8%
Potassium-mg/L		0203437-01	13.9		13.7	1.4%
Sodium-mg/L		0203437-01	136		138	1.5%
SRM						
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery
Calcium-mg/L		0001863-05		2	1.96	98.0%
Magnesium-mg/L		0001863-05		2	2.05	102.5%
Potassium-mg/L		0001863-05		2	1.9	95.0%
Sodium-mg/L		0001863-05		2	1.89	94.5%

12500 West I-20 East
Odessa, Texas 79763

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Name: H-2

Project #:

Project Loc: Justis SWD

PO #: 719

Fax No. (505) 397-1471

Sampler Signature: YOUNG J. J.

[illegible]

Special Instructions:

Major anions/cations; ~~present to K⁺~~

Relinquished by:	Date	Time	Received by:

Relinquished by:	Kustin Farris	Date	5/24/02	Time	11:30am
------------------	---------------	------	---------	------	---------

Relinquished by:

(1) burgers

Received by:

5/24/02	11:30pm
Date	Time

Receved by FLOT

Black Joe

Date	Time
------	------

	7
	8

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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Date	File
1-24-02	1500

Sample Containers Intact? Temperature Upon Receipt Laboratory Comments:

Per yds. C.

RECEIVED

APR 10 2003

ENVIRONMENTAL BUREAU
CONSERVATION DIVISION

ANALYTICAL REPORT

Prepared for:

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

Project: H-2
Order#: G0203378
Report Date: 05/21/2002

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#: G0203378
Project:
Project Name: H-2
Location: Justis SWD

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>
0203378-01	MW 3	WATER	5/16/02 11:30	5/16/02 19:45	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

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

Order#: G0203378
Project:
Project Name: H-2
Location: Justis SWD

Lab ID: 0203378-01
Sample ID: MW 3

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>
0001761-02		5/20/02 16:00	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

Approval: Raland K Tuttle 5-22-02
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

ANALYTICAL REPORT

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

Order#: G0203378
Project:
Project Name: H-2
Location: Justis SWD

Lab ID: 0203378-01
Sample ID: MW 3

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	174	mg/L	1	2.00	310.1	5/17/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	5/17/02	SB
Chloride	35.4	mg/L	1	5.00	9253	5/17/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	5/17/02	SB
SULFATE, 375.4	182	mg/L	1	0.50	375.4	5/17/02	SB

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Calcium	51.3	mg/L	50	0.500	6010B	5/17/02	SM
Magnesium	24.5	mg/L	10	0.010	6010B	5/17/02	SM
Potassium	6.70	mg/L	10	0.500	6010B	5/17/02	SM
Sodium	75	mg/L	50	0.500	6010B	5/17/02	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	570	mg/L	1	5.0	160.1	5/17/02	SB

Approval:

Raland K. Tuttle 5-22-02
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

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8021B/5030 BTEX

Order#: G0203378

BLANK							
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/L		0001761-02			<0.001		
Ethylbenzene-mg/L		0001761-02			<0.001		
Toluene-mg/L		0001761-02			<0.001		
p/m-Xylene-mg/L		0001761-02			<0.001		
o-Xylene-mg/L		0001761-02			<0.001		
MS							
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/L		0203378-01	0	0.1	0.104	104.%	
Ethylbenzene-mg/L		0203378-01	0	0.1	0.104	104.%	
Toluene-mg/L		0203378-01	0	0.1	0.105	105.%	
p/m-Xylene-mg/L		0203378-01	0	0.2	0.210	105.%	
o-Xylene-mg/L		0203378-01	0	0.1	0.104	104.%	
MSD							
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/L		0203378-01	0	0.1	0.101	101.%	2.9%
Ethylbenzene-mg/L		0203378-01	0	0.1	0.101	101.%	2.9%
Toluene-mg/L		0203378-01	0	0.1	0.103	103.%	1.9%
p/m-Xylene-mg/L		0203378-01	0	0.2	0.205	102.5%	2.4%
o-Xylene-mg/L		0203378-01	0	0.1	0.101	101.%	2.9%
SRM							
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/L		0001761-05		0.1	0.102	102.%	
Ethylbenzene-mg/L		0001761-05		0.1	0.102	102.%	
Toluene-mg/L		0001761-05		0.1	0.104	104.%	
p/m-Xylene-mg/L		0001761-05		0.2	0.208	104.%	
o-Xylene-mg/L		0001761-05		0.1	0.102	102.%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Anions

Order#: G0203378

BLANK						
WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Bicarbonate Alkalinity-mg/L	0001754-01			<2.00		
Carbonate Alkalinity-mg/L	0001755-01			<0.10		
Chloride-mg/L	0001753-01			<5.00		
Hydroxide Alkalinity-mg/L	0001756-01			<0.10		
SULFATE, 375.4-mg/L	0001741-01			<0.50		
DUPLICATE						
WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Bicarbonate Alkalinity-mg/L	0203375-01	503		505		0.4%
Carbonate Alkalinity-mg/L	0203375-01	0		<0.10		0.0%
Hydroxide Alkalinity-mg/L	0203375-01	0		<0.10		0.0%
SULFATE, 375.4-mg/L	0203355-01	610		610		0.0%
MS						
WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/L	0203375-01	3720	5000	8600	97.6%	
MSD						
WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/L	0203375-01	3720	5000	8680	99.2%	0.9%
SRM						
WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Bicarbonate Alkalinity-mg/L	0001754-04		0.05	0.0496	99.2%	
Carbonate Alkalinity-mg/L	0001755-04		0.05	0.0496	99.2%	
Chloride-mg/L	0001753-04		5000	5050	101.0%	
Hydroxide Alkalinity-mg/L	0001756-04		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#: G0203378

BLANK		LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
	WATER						
Calcium-mg/L		0001757-02			<0.01		
Magnesium-mg/L		0001757-02			<0.001		
Potassium-mg/L		0001757-02			<0.05		
Sodium-mg/L		0001757-02			<0.01		
DUPLICATE		LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
	WATER						
Calcium-mg/L		0203375-01	240		258		7.2%
Magnesium-mg/L		0203375-01	93.4		96.4		3.2%
Potassium-mg/L		0203375-01	13.4		13.5		0.7%
Sodium-mg/L		0203375-01	2120		1970		7.3%
SRM		LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
	WATER						
Calcium-mg/L		0001757-05		2	2.06	103.5%	
Magnesium-mg/L		0001757-05		2	2.11	105.5%	
Potassium-mg/L		0001757-05		2	2.07	103.5%	
Sodium-mg/L		0001757-05		2	2.1	105.5%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Test Parameters

Order#: G0203378

BLANK						
WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Total Dissolved Solids (TDS)-mg/L	0001760-01			<5.00		
DUPLICATE						
WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Total Dissolved Solids (TDS)-mg/L	0203376-01	3260		3580		9.4%

12600 West I-20 East
Odessa, Texas 79763

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Krishin Farris

Project Name:

 $\frac{1}{2}$

Rice Operating

Project #:

22 W. Taylor

Project Loc:

Project Loc: Justis SLD

City/State/Zip: Hobbs, NM 88246

PO #:

612

505) 393-9174

Fax No: (505) 397-1471

Kaiserin Franz

[illegible]



Highlander Environmental Corp.

Midland, Texas

August 28, 2002

RECEIVED

APR 10 2003

ENVIRONMENTAL BUREAU
CONSERVATION DIVISION



Ms. Christen Farris
Rice Operating Company
122 West Taylor
Hobbs, New Mexico 88240

Re: Monitor Well Sampling, Rice Operating Company, Justis Saltwater Disposal System, SWD Well #H-2, Unit H, Section 2, T-26-S, R-37-E, Lea County, New Mexico

Dear Ms. Farris:

This letter details the sampling of three (3) Rice Operating monitor wells at the above-mentioned location.

Highlander was contacted by Rice Operating Company to purge and sample three monitor wells on a site near Jal, New Mexico. On August 16, 2002, Highlander personnel traveled to the location. Prior to sampling, the wells were gauged for static water levels and total depths to calculate accurate purging volumes. Monitor well #1 is a 5 inch diameter well with a total depth of approximately 137'. Monitor wells #2 and #3 are 2 inch diameter wells with approximate total depths of 142' and 133' respectively.

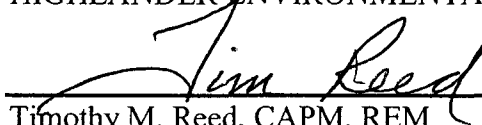
At the time of sampling, all monitor well caps were opened and water level measurements were taken from the top of the casing. The measurements were taken to the nearest 0.01 feet. The water level measurements for the monitor wells are shown in Table 1. Proper purging procedures were followed for each monitor well. Each well was purged using a portable submersible pump. Between purging events, the pump and associated tubing were washed with a laboratory grade detergent and rinsed with deionized water.

Approximately three casing volumes of water were purged from each well prior to sampling. Groundwater samples were collected as soon as possible after the groundwater returned to its static level. Each well was inspected for the presence of phase-separated hydrocarbons (PSH).

Groundwater samples were collected using clean disposable polyethylene bailers and disposable line. The samples were transferred into labeled and preserved containers provided

by the laboratory. All the samples were delivered under proper chain-of-custody control to Environmental Labs of Texas, Inc., Odessa, Texas. The groundwater samples were analyzed for major anions and cations, and Benzene, Toluene, Ethylbenzene, and Xylene (BTEX) by method EPA 8021B. Copies of the laboratory analyses are enclosed.

Respectfully Submitted,
HIGHLANDER ENVIRONMENTAL CORP.



Timothy M. Reed, CAPM, REM
Vice President



Rice Engineering - SWD H-2

Table I: *Water Level Measurements*

MW #	Total Depth (TOC) (feet)	Depth to Water (TOC) (feet)	Purge Volume (Gallons)
MW-1	137.2	116.20	66
MW-2	142.1	121.85	25
MW-3	133.3	118.68	20



APPENDIX A

Laboratory Analysis

ANALYTICAL REPORT

Prepared for:

IKE TAVAREZ
HIGHLANDER ENVIRONMENTAL CORP.
1910 N. BIG SPRING STREET
MIDLAND, TX 79705

Project: Rice Operating/ Justis SWD Well #H-
2

PO#:

Order#: G0204259

Report Date: 08/27/2002

Certificates

US EPA Laboratory Code TX00158

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

HIGHLANDER ENVIRONMENTAL CORP.
1910 N. BIG SPRING STREET
MIDLAND, TX 79705
682-3946

Order#: G0204259
Project: 1863
Project Name: Rice Operating/ Justis SWD Well #H-2
Location: Lea County, NM

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>
0204259-01	MW-1	WATER	8/16/02 12:30	8/19/02 14:12	See COC	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: 4.0 C		
	8021B/5030 BTEX					
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					
0204259-02	MW-2	WATER	8/16/02 14:20	8/19/02 14:12	See COC	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: 4.0 C		
	8021B/5030 BTEX					
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					
0204259-03	MW-3	WATER	8/16/02 13:40	8/19/02 14:12	See COC	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: 4.0 C		
	8021B/5030 BTEX					
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

IKE TAVAREZ
HIGHLANDER ENVIRONMENTAL CORP.
1910 N. BIG SPRING STREET
MIDLAND, TX 79705

Order#: G0204259
Project: 1863
Project Name: Rice Operating/ Justis SWD Well #H-2
Location: Lea County, NM

Lab ID: 0204259-01
Sample ID: MW-1

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0002969-02		8/26/02 20:29	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	113%	73	115
Bromofluorobenzene	117%	72	110

Lab ID: 0204259-02
Sample ID: MW-2

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0002969-02		8/26/02 20:51	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	109%	73	115
Bromofluorobenzene	117%	72	110

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

Page 1 of 2

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

IKE TAVAREZ
HIGHLANDER ENVIRONMENTAL CORP.
1910 N. BIG SPRING STREET
MIDLAND, TX 79705

Order#: G0204259
Project: 1863
Project Name: Rice Operating/ Justis SWD Well #H-2
Location: Lea County, NM

Lab ID: 0204259-03
Sample ID: MW-3

8021B/5030 BTEX

Method	Date	Date	Sample	Dilution	Analyst	Method
Blank	Prepared	Analyzed	Amount	Factor		
0002969-02		8/26/02	1	1	CK	8021B
		21:13				

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	120%	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

8-28-02

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

IKE TAVAREZ
HIGHLANDER ENVIRONMENTAL CORP.
1910 N. BIG SPRING STREET
MIDLAND, TX 79705

Order#: G0204259
Project: 1863
Project Name: Rice Operating/ Justis SWD Well #H-2
Location: Lea County, NM

Lab ID: 0204259-01
Sample ID: MW-1

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	186	mg/L	1	2.00	310.1	8/19/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	8/19/02	SB
Chloride	111	mg/L	1	5.00	9253	8/20/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	8/19/02	SB
SULFATE, 375.4	202	mg/L	1	0.5	375.4	8/21/02	SB

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Calcium	55.2	mg/L	10	0.10	6010B	8/22/02	SM
Magnesium	21.7	mg/L	10	0.010	6010B	8/22/02	SM
Potassium	24.5	mg/L	10	0.50	6010B	8/22/02	SM
Sodium	186	mg/L	100	1.0	6010B	8/22/02	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	619	mg/L	1	5.0	160.1	8/20/02	SB

Lab ID: 0204259-02
Sample ID: MW-2

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	130	mg/L	1	2.00	310.1	8/19/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	8/19/02	SB
Chloride	1040	mg/L	1	5.00	9253	8/20/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	8/19/02	SB
SULFATE, 375.4	188	mg/L	1	0.5	375.4	8/21/02	SB

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Calcium	239	mg/L	100	1.0	6010B	8/22/02	SM
Magnesium	87.5	mg/L	10	0.010	6010B	8/22/02	SM
Potassium	38.4	mg/L	10	0.50	6010B	8/22/02	SM
Sodium	264	mg/L	100	1.0	6010B	8/22/02	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	3390	mg/L	1	5.0	160.1	8/20/02	SB

RL = Reporting Limit N/A = Not Applicable

Page 1 of 2

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

IKE TAVAREZ
HIGHLANDER ENVIRONMENTAL CORP.
1910 N. BIG SPRING STREET
MIDLAND, TX 79705

Order#: G0204259
Project: 1863
Project Name: Rice Operating/ Justis SWD Well #H-2
Location: Lea County, NM

Lab ID: 0204259-03
Sample ID: MW-3

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	160	mg/L	1	2.00	310.1	8/19/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	8/19/02	SB
Chloride	93.1	mg/L	1	5.00	9253	8/20/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	8/19/02	SB
SULFATE, 375.4	238	mg/L	1	0.5	375.4	8/21/02	SB

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Calcium	45.3	mg/L	10	0.10	6010B	8/22/02	SM
Magnesium	18	mg/L	10	0.010	6010B	8/22/02	SM
Potassium	26.1	mg/L	10	0.50	6010B	8/22/02	SM
Sodium	171	mg/L	100	1.0	6010B	8/22/02	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	631	mg/L	1	5.0	160.1	8/20/02	SB

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

9-04-02

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8021B/5030 BTEX

Order#: G0204259

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#: G0204259

BLANK	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Bicarbonate Alkalinity-mg/L		0002887-01			<2.00		
Carbonate Alkalinity-mg/L		0002889-01			<0.10		
Chloride-mg/L		0002908-01			<5.00		
Hydroxide Alkalinity-mg/L		0002891-01			<0.10		
SULFATE, 375.4-mg/L		0002932-01			<0.50		
DUPLICATE	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Bicarbonate Alkalinity-mg/L		0204259-01	186		185		0.5%
Carbonate Alkalinity-mg/L		0204259-01	0		<0.10		0.0%
Hydroxide Alkalinity-mg/L		0204259-01	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	RPD
Chloride-mg/L		0204259-01	111	250	359	99.2%	
MSD	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/L		0204259-01	111	250	354	97.2%	1.4%
SRM	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Bicarbonate Alkalinity-mg/L		0002887-04		0.05	0.0496	99.2%	
Carbonate Alkalinity-mg/L		0002889-04		0.05	0.0496	99.2%	
Chloride-mg/L		0002908-04		5000	4960	99.2%	
Hydroxide Alkalinity-mg/L		0002891-04		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#: G0204259

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.%	
Magnesium-mg/L		0002943-05		2	1.91	95.5%	
Potassium-mg/L		0002943-05		2	1.94	97.%	
Sodium-mg/L		0002943-05		2	2	100.%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Test Parameters

Order#: G0204259

BLANK	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Total Dissolved Solids (TDS)-mg/L		0002931-01			<5.00		
DUPLICATE	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Total Dissolved Solids (TDS)-mg/L		0204259-01	619		606		2.1%

