AP - 64

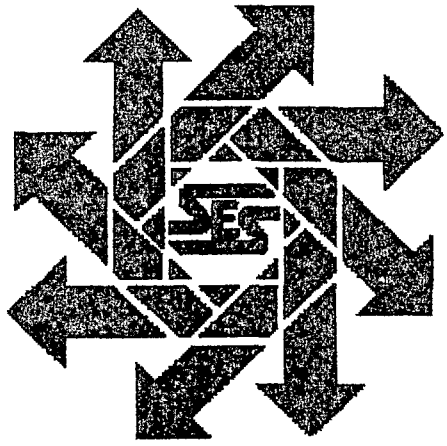
GW MONITORING REPORT

DATE:
9/26/00

AP-64
GW Mon. Report
9-26-2000

Rice Operating Company
F-29 Monitor Well Report
Section 29, T19S, R38E
Lea County, New Mexico

September 26, 2000



Prepared for:

Rice Operating Company
122 W. Taylor
Hobbs, New Mexico 88240

By:

Safety & Environmental Solutions, Inc.
703 E. Clinton, Suite 103
Hobbs, New Mexico 88240
(505) 397-0510

TABLE OF CONTENTS

I. Background

Safety & Environmental Solutions, Inc. (SESI) was engaged on March 21, 2000 to perform sampling and data collection on a Rice Operating SWD System Well. The well is referred to as the F-29 monitor well. The subject area is located in Sections 29, Township 19 S Range 38 E in Lea County, New Mexico. (See Vicinity Map) The original well has since been abandoned and a new well developed by Rice. SESI has resumed sampling and data collection on the new F-29 well.

II. Work Performed

SESI personnel, Dee Whatley, arrived at the site on September 26, 2000. Ground water samples were taken from each well after either hand bailing or a submersible pump developed the wells. Three to five casing volumes of water were removed from each well until pH and temperature of the water were stabilized. The samples were obtained and placed in appropriate containers, preserved and transported under chain of custody to Cardinal Laboratories of Hobbs, New Mexico for analysis. The analyses requested by Rice Operating Company included Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX) and Major Cations and Anions. (See Analytical Data)

In addition to the sampling, SESI also measured the depth to the top of ground water using a Solinst water level indicator. The total depth of each well was measured in order to compute the proper casing volumes. A summary of this data follows:

ID	Date	Casing Elevation	Depth to Water	Water Elevation	Free Product Thickness
F-29 Well	9/27/00	100.00'	49.26'	50.74'	N/a

III. Analytical Results

The analysis of the groundwater samples performed by Cardinal Laboratories are summarized as follows:

SAMPLE ID	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	TOTAL XYLENES (mg/L)
F-29 WELL	<0.002	<0.002	<0.002	<0.006

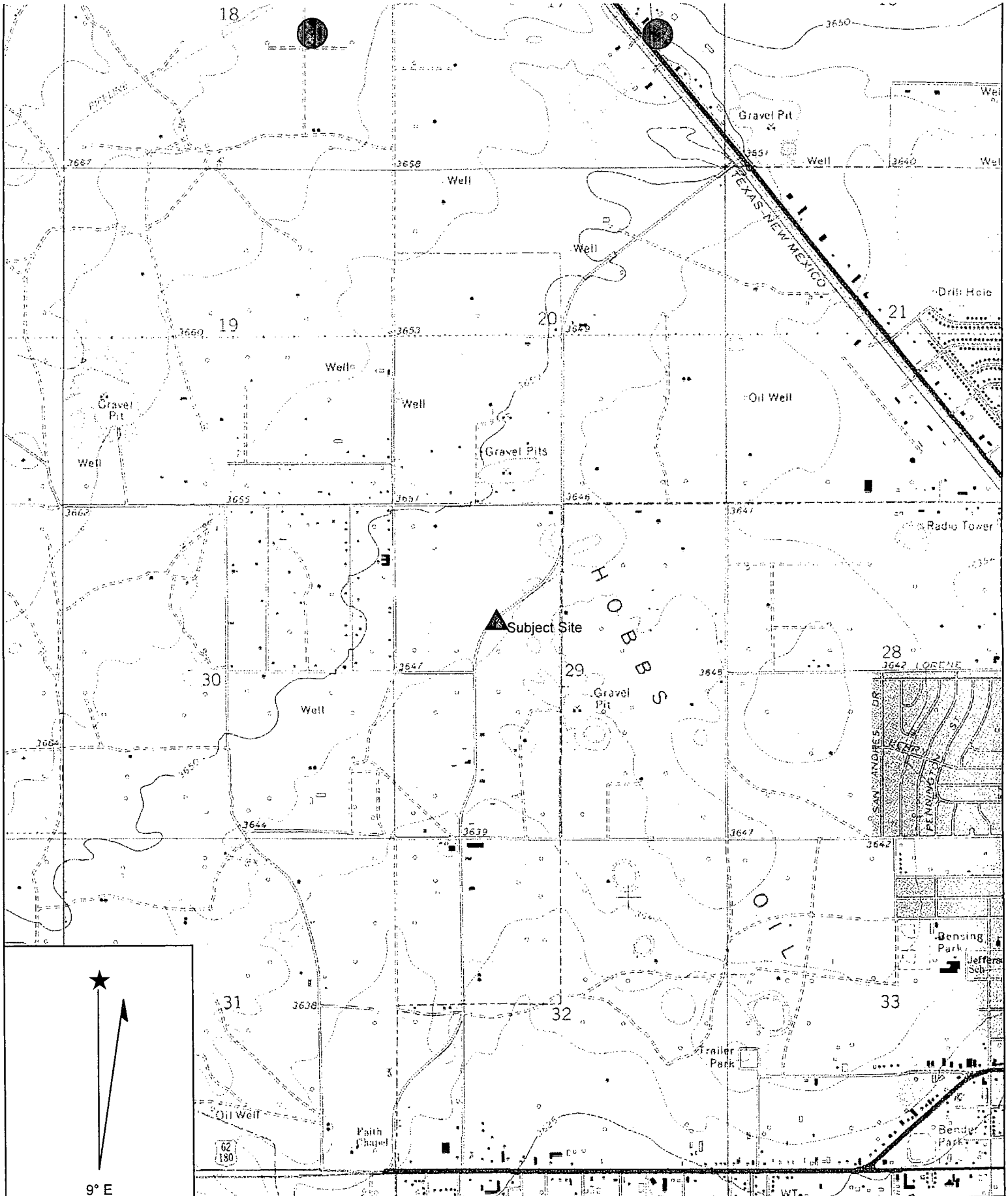
SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (umhos/cm)	T-Alkalinity ($mgCaCO_3/L$)
F-29 WELL	1097	177	43	11.64	5005	291

SAMPLE ID	Cl^- (mg/L)	SO_4 (mg/L)	CO_3 (mg/L)	HCO_3 (mg/L)	pH (s.u.)	TDS (mg/L)
F-29 WELL	1748	256	0	355	7.01	3032

IV. Maps and Figures

Vicinity Map
Analytical Results

Figure 1
Vicinity Map



Name: HOBBS WEST
Date: 10/24/2000
Scale: 1 inch equals 2000 feet

Location: 032° 43' 17.1" N 103° 10' 23.0" W
Caption: Rice Operating Company
New F-29 Monitor Well
Vicinity Map

Figure 2
Analytical Results

CARDINAL LABORATORIES, INC.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Page____ of ____

Company Name:	SESI	BILL TO	PO #:
Project Manager:	Dee Whatley	Company:	
Address:		Attn:	
City:	State: Zip:	Address:	
Phone #:		City:	
Fax #:		State:	Zip:
Project #:	Project Owner: Rice	Phone #:	
Project Name:	F-29 Monitor Well	Fax #:	
Project Location:	F-29 MW #2		

FOR LAB USE ONLY				MATRIX						PRES.			SAMPLING		ANALYSIS REQUEST		
LAB I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID:	ICE / COOL	OTHER:	DATE	TIME	BTEX	Cations	Anions
15207-1	MW #2	G	4	✓							✓		9-27-00	10:30	✓	✓	✓

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

Terms and Conditions: Interest will be charged on all accounts more than 30 days past due at the rate of 24% per annum from the original date of invoice, and all costs of collections, including attorney's fees.

Sampler Relinquished:	Date: 9-27-00	Received By:	Phone Result ☐ Yes ☐ No Additional Fax #:
	Time:		Fax Result: ☐ Yes ☐ No
Relinquished By:	Date: 09/27/2000	Received By: (Lab Staff)	REMARKS:
	Time: 11:15 AM		
Delivered By: (Circle One)	Sample Condition: Cool ☒ Yes ☐ No; Intact ☒ Yes ☐ No	CHECKED BY: (Initials)	
Sampler - UPS - Bus - Other:			

† Cardinal cannot accept verbal changes. Please fax written changes to 915-673-7020.

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC
ATTN: DEE WHATLEY
703 E. CLINTON, STE. 103
HOBBS, NM 88240
FAX TO:

Receiving Date: 09/27/00
Reporting Date: 09/28/00
Project Owner: RICE
Project Name: F-29 MONITOR WELL
Project Location: F-29 MW #2

Sampling Date: 09/27/00
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:		09/28/00	09/27/00	09/27/00	09/26/00	09/27/00	09/27/00
H5207-1	MW #2	1097	177	43	11.64	5005	291
Quality Control		2.113	44	55	4.72	1368	NR
True Value QC		2	50	50	5.00	1413	NR
% Accuracy		106	88	110	94.3	96.7	NR
Relative Percent Difference		0.4	4.5	1.8	7.0	0.1	NR
METHODS:		273.1	3500-Ca-D	3500-Mg E	8049	120.1	310.1

LAB NUMBER	SAMPLE ID	Cl^- (mg/L)	SO_4 (mg/L)	CO_3 (mg/L)	HCO_3 (mg/L)	pH (s.u.)	TDS (mg/L)
ANALYSIS DATE:		09/27/00	09/27/00	09/27/00	09/27/00	09/27/00	09/28/00
H5207-1	MW #2	1748	256	0	355	7.01	3032
Quality Control		971	56.50	NR	1000	7.04	NR
True Value QC		1000	50.00	NR	1000	7.00	NR
% Accuracy		97.1	113	NR	100	101	NR
Relative Percent Difference		0.9	8.8	NR	8.8	0	
METHODS:		SM4500-Cl-B	375.4	310.1	310.1	150.1	160.1

Amy Hill
Chemist

9-28-00
Date

H5207A.XLS

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC
ATTN: DEE WHATLEY
703 E. CLINTON, STE. 103
HOBBS, NM 88240
FAX TO:

Receiving Date: 09/27/00
Reporting Date: 09/29/00
Project Owner: RICE
Project Name: F-29 MONITOR WELL
Project Location: F-29 MW #2

Sampling Date: 09/27/00
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		09/27/00	09/27/00	09/27/00	09/27/00
H5207-1	MW #2	<0.002	<0.002	<0.002	<0.006
Quality Control		0.088	0.096	0.100	0.302
True Value QC		0.100	0.100	0.100	0.300
% Recovery		87.7	96.2	100	101
Relative Percent Difference		8.8	1.4	3.1	2.5

METHOD: EPA SW-846 8260

Chemist

9/29/00
Date

H5207B.XLS

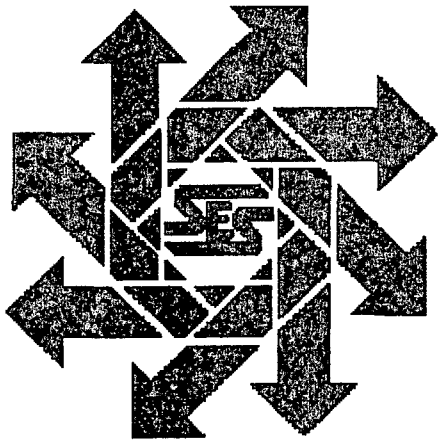
Figure 3
Water Analysis Validation

Portrait

Cations and Anions Calculation Check								
	Sample Name	H5207-1						
	Well Number	MW#2						
	Date	09/26/00						
Equivalent Weight:	**Lab**	Cardinal						
22.99	**Sodium (mg/L)**	1,097						
20.04	**Calcium (mg/L)**	177						
12.15	**Magnesium (mg/L)**	43						
39.09	**Potassium (mg/L)**	11.6						
35.45	**Chloride (mg/L)**	1,748						
48.04	**Sulfate (mg/L)**	256						
30.00	**Carbonate (mg/L)**	0.0						
61.01	**Bicarbonate (mg/L)**	355						
50.04	**Alkalinity (mg/L CaCO3)**	291						
62.00	**Nitrate (mg/L)**	0.0						
	Sum Cations (meq/L)	60.4						
	Sum Anions (meq/L)	60.5						
	Percent Difference	0.1						
	Measured TDS (evap., mg/L)	3,032						
	TDS (calc. USGS sum, mg/L)	3,507						
	TDS (meas.) / TDS (calc. USGS)	0.9						
	TDS (calc. sum, mg/L)	3,688						
	Elect. Conductivity (umhos/cm)	5,005						
	TDS (C*0.7, mg/L)	3,504						
	TDS (calc. USGS) / Conductivity	0.70						
Test Criteria								
1. Anion-Cation Balance:			Anion Sum	Max % diff.				
			0 - 3.0	± 0.2				
			3.0 - 10.0	± 2				
			10.0 - 800	± 5				
2. TDS, Measured to Calculated:			1.0 < (measured TDS/calculated TDS) < 1.2					
3. TDS (calculated USGS) to EC Ratio:			Calculated TDS/conductivity = 0.55 - 0.7					

Rice Operating Company
F-29 Monitor Well Report
Section 29, T19S, R38E
Lea County, New Mexico

December 12, 2000



Prepared for:

Rice Operating Company
122 W. Taylor
Hobbs, New Mexico 88240

By:

Safety & Environmental Solutions, Inc.
703 E. Clinton, Suite 103
Hobbs, New Mexico 88240
(505) 397-0510

TABLE OF CONTENTS

III. Analytical Results

The analysis of the groundwater samples performed by Cardinal Laboratories are summarized as follows:

SAMPLE ID	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	TOTAL XYLENES (mg/L)
F-29 WELL	<0.002	<0.002	<0.002	<0.006

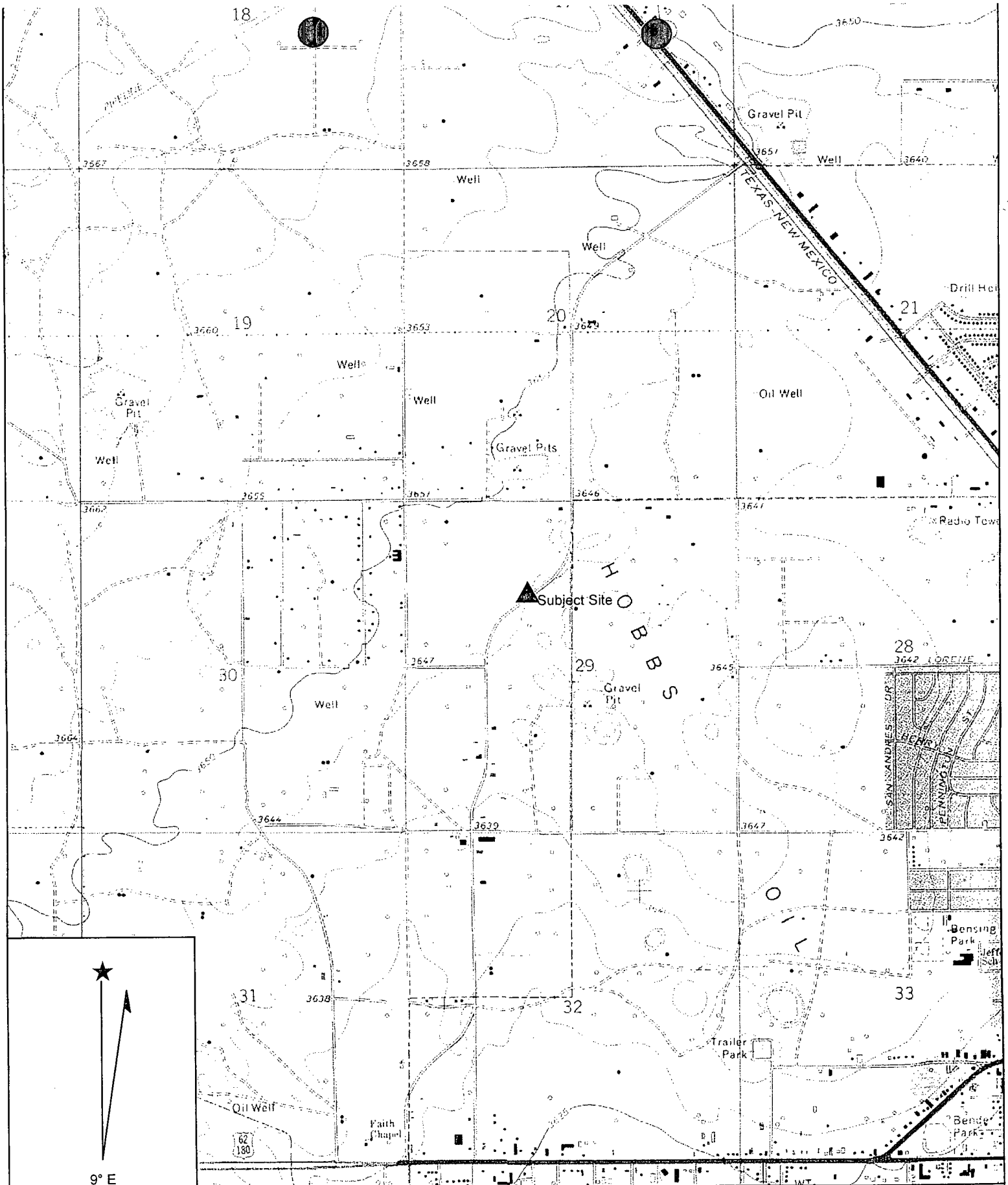
SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (umhos/cm)	T-Alkalinity ($mgCaCO_3/L$)
F-29 WELL	500	250	51	15.16	4239	246

SAMPLE ID	Cl^- (mg/L)	SO_4 (mg/L)	CO_3 (mg/L)	HCO_3 (mg/L)	pH (s.u.)	TDS (mg/L)
F-29 WELL	1027	127	0	300	7.32	2586

IV. Maps and Figures

Vicinity Map
Analytical Results

Figure 1
Vicinity Map



Name: HOBBS WEST
Date: 12/26/2000
Scale: 1 inch equals 2000 feet

Location: 032° 43' 17.5" N 103° 10' 25.8" W
Caption: Rice Operating Company
F-29 Monitor Well
Vicinity Map

Figure 2
Analytical Results

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: BOB ALLEN
703 E. CLINTON, STE. 103
HOBBS, NM 88240
FAX TO: (505) 393-4388

Receiving Date: 12/12/00
Reporting Date: 12/14/00
Project Owner: NOT GIVEN
Project Name: RICE F-29
Project Location: WEST COUNTY ROAD

Sampling Date: 12/12/00
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: BC

LAB NUMBER	SAMPLE ID	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	TOTAL XYLENES (mg/L)
ANALYSIS DATE		12/13/00	12/13/00	12/13/00	12/13/00
H5423-1	WELL #1	<0.002	<0.002	<0.002	<0.006
Quality Control		0.090	0.095	0.093	0.280
True Value QC		0.100	0.100	0.100	0.300
% Recovery		90.0	95.0	93.0	93.2
Relative Percent Difference		14.6	6.3	7.4	5.9

METHOD: EPA SW-846 8260

Chemist

12/14/00
Date

H5423B.XLS

CARDINAL LABORATORIES

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

ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: BOB ALLEN
703 E. CLINTON, STE. 103
HOBBS, NM 88240
FAX TO: (505) 393-4388

Receiving Date: 12/12/00
Reporting Date: 12/14/00
Project Owner: NOT GIVEN
Project Name: RICE F-29
Project Location: WEST COUNTY ROAD

Sampling Date: 12/12/00
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: AH

LAB NUMBER SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (mS/cm)	T-Alkalinity (mgCaCO3/L)
ANALYSIS DATE:	12/16/00	12/13/00	12/13/00	12/13/00	12/13/00	12/13/00
H5423-1 WELL #1	500	250	51	15.16	4239	246
Quality Control	NR	46	55	5.02	1489	NR
True Value QC	NR	50	50	5.00	1413	NR
% Recovery	NR	92	110	100	105	NR
Relative Percent Difference	NR	4.3	1.8	1.2	0.3	NR
METHODS:		SM3500-Ca-D	3500-Mg E	8049	120.1	310.1

LAB NUMBER SAMPLE ID	Cl (mg/L)	SO4 (mg/L)	CO3 (mg/L)	HCO3 (mg/L)	pH (s.u.)	TDS (mg/L)
ANALYSIS DATE:	12/13/00	12/13/00	12/13/00	12/13/00	12/13/00	12/14/00
H5423-1 WELL #1	1027	127	0	300	7.32	2586
Quality Control	994	52.62	NR	975	7.04	NR
True Value QC	1000	50.00	NR	1000	7.00	NR
% Recovery	99.4	105	NR	97.5	101	NR
Relative Percent Difference	4.1	0.6	NR	2.6	0	NR
METHODS:	SM4500-Cl-B	375.4	310.1	310.1	150.1	160.1

Chemist

12/19/2000
Date

CARDINAL LABORATORIES, INC.

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page____ of____

Company Name: SESI
Project Manager:
Address: 703 E. CLINTON, #103
City: HOBBS State: NM Zip: 88240
Phone #: (505) 397-0510
Fax #: (505) 393-4388
Project #: Project Owner:
Project Name: Rice - F-29
Project Location: West County Road

BILL TO PO #:
Company: SAME
Attn:
Address:
City:
State: Zip:
Phone #:
Fax #:

FOR LAB USE ONLY				MATRIX							PRES.			SAMPLING		ANALYSIS REQUEST		
LAB I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID:	ICE / COOL	OTHER:	DATE	TIME	BTEX	Cations + Anions	PH
H5423-1	Well #1			X	X						X		12-12-00		X	X	X

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

Terms and Conditions: Interest will be charged on all accounts more than 30 days past due at the rate of 24% per annum from the original date of invoice, and all costs of collections, including attorney's fees.

Sampler Relinquished: Date: Time:
Received By:

Relinquished By: Sergio Contreras, Jr. Date: 12-12-00 Time:
Received By: (Lab Staff)

Delivered By: (Circle One)
Sampler - UPS - Bus - Other:

Sample Condition: Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No
CHECKED BY: (Initials)

Phone Result ☐ Yes ☐ No Additional Fax #:
Fax Result: ☐ Yes ☐ No
REMARKS:

† Cardinal cannot accept verbal changes. Please fax written changes to 915-673-7020.

Figure 3
Water Analysis Validation

Price, Wayne

From: riceswd[SMTP:riceswd@gte.net]
Sent: Monday, September 11, 2000 11:56 AM
To: Price, Wayne
Subject: Updates on Several Subjects

Wayne,

Just a few notes to update you on several projects that are on-going.

The Stage II Abatement for the Hobbs I-9 Release site on Bill McNeill's land:

The AFE has been approved and the money was supposed to be IN today. Well, it isn't. Oxy Permian has decided that they are responsible for the well commitment of all the wells in the North and South Hobbs Units. This was confirmed by email and Rice is awaiting the hard paper copy. Anyway, what this means is that Rice will have to re-bill according to the new percentages. I'm still hoping we can get started with the one-call before Friday, September 15th.

Rice finally heard from Mr. McNeill's legal representative concerning Mr. McNeill's requirements for the vadose zone remediation. Basically:

1. chlorides removed to background levels
2. Zero BTEX
3. less than 100 ppm TPH
4. ground re-planted in gramma grass
5. no outside fill soils
6. damages
7. McNeill caliche for purchase
8. McNeill topsoil for purchase

I believe these stipulations are not deal-breakers and we can abide with them.

Now, we just wait for money. I'll keep you informed.

RICE SWD F-29 located on West Co. Road between Bender and Sanger Streets

This is the wellsite where Rice replaced redwoods and closed an emergency overflow pit. The groundwater results of the new monitor well was found to be high in TDS and Chlorides, but below limits for BTEX and no hydrocarbon product. This result is highly frustrating because the vadose zone investigation clearly indicated that chloride impact at the redwood site stopped between 30 and 40 feet BGS and the pit site at 8 feet BGS (pit was hardly ever used). The reason Rice agreed to sample a monitor well was because of the TPH pocket found at 40 feet BGS (which also stopped before GW impact) at the redwood site. Initial GW sampling (while you were present with Wes Root at the well drilling) found the GW to be not impacted with TDS.

I contacted you by phone with these recent results and we decided that an up-gradient well would allow for information about other possible sources of TDS impact. I contacted the landowner of the surrounding property, Mr. Gary Schubert of Grimes Land Company to negotiate drilling a monitor well. Mr. Schubert feels that drilling a monitor well on his land in order to investigate groundwater impact is not in his best interest or the best interest of the value of his property, and he declines to allow permission or right-of-way to drill a well.

At this point, Rice will continue to sample the monitor well for TDS, Cl, and BTEX for the allotted time frame. Again, we were willing to monitor because of the TPH found at 40' BGS and to be sure that it did not migrate downward. Rice did install a compacted clay layer to inhibit downward migration before the excavation was backfilled.

If you have suggestions about an alternate path to proceed, please inform Rice of the possibilities.

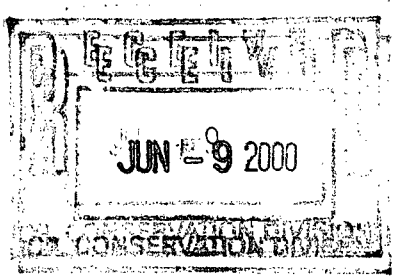
JUNCTION BOX UPGRADE WORK PLAN

Rice is preparing the junction box locations and site assessments to send in to you for the EME and BD systems, where the AFE's have been approved and funding is available. Please expect this before the end of the month.

I should be in the office most of this week and next. Thank you,

Carolyn Haynes

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



CERTIFIED MAIL
RETURN RECEIPT NO. Z 577 009 790

June 7, 2000

Mr. Wayne Price
NM Energy and Minerals Dept.
Oil Conservation Division
2040 South Pacheco Street
Santa Fe, NM 87505

Re: SWD F-29 Facility – Groundwater Monitoring
NW/4, Unit Letter F, Sec. 29, T18S, R38E
Lea County, NM

Dear Mr. Price:

Rice Operating Company (ROC) appreciates your consideration and response concerning the closure for the emergency overflow pit and the below-ground redwood tanks that were located at the F-29 Facility. ROC understands that NMOCD requests a two-year sampling plan for monitoring the groundwater at this facility.

The monitor well at this location is documented to have been completed with 2-inch casing to 60 feet BGS with 10 feet of screen above the water table interface and 10 feet below. The initial sample was tested for BTEX and Chlorides and was found to be within the WQCC limits.

At this time, the well cannot be properly purged and there is sparse influx of water into the wellbore. Depth indicators reveal that the well has filled with sand to 51 feet BGS and the water table is at 50.5 feet BGS. ROC has tried to bail the sand from the well with no avail.

In order to assure re-producible water sampling events, ROC is requesting to re-complete this monitor well with 4-inch casing and 15 feet of screen: 5 feet above the water table interface and 10 feet below. (Verbal approval was received via telephone conversation June 1, 2000; this letter is to confirm the request.)

A wellbore diagram and location map will be forwarded to the NMOCD upon re-completion of the monitor well.

The ground water will be tested for BTEX, pH, TDS, Conductivity, T-Alkalinity, and routine major cations and anions: Na, Ca, Mg, K, Cl, SO_4, CO_3, HCO_3. The well will be sampled pursuant to NMOCD specifications and the Hobbs NMOCD Office will be notified 48 hours in advance of sampling events.

If you have any questions, please call.

Carolyn Doran Haynes

Carolyn Doran Haynes
Operations Engineer

Enclosures: Monitor Well Boring Diagram

Cc: KH, LBG, file, Donna Williams
OCD Hobbs District
1625 N. French Drive
Hobbs, NM 88240

DRILLING LOG

RICE *Operating Company*
122 West Taylor
Hobbs, New Mexico 88240
Phone: (505) 393-9174
Fax: (505) 397-1471

SW Facility F-29
29-18S-R38E
Lea Co. New Mexico

B-1	3-5-99	C. Harrison	FWR
Well Depth: 60'	Boring Depth:	Well Material: Sch 40 PVC	Construction: Grouted Bentonite plug
Casing Length: 30'/40' GS	Boring Diameter: 6"	Casing Size: 2"	
Screen Length: 20'	Drilling Method: Air Rotary	Slot Size: 0.02" FS	

DEPTH (Feet)	SUBSURFACE LITHOLOGY	Sample Type	OVM (ppm)	REMARKS
10	Bottom of Excavation at 10' BGS			
11	Gray- brown, fine-grained, calcareous sand (caliche)			
12				
13	Indurated light brown calcareous sand (caliche)			
14				
15	Light brown calcareous sand (caliche)	Split-Spoon	242	• Chloride – 800 ppm
16				
17				
18				
19				
20		Split-Spoon	452	• Chloride – 800 ppm
21				
22				
23				
24				
25		Split-Spoon	456	• Chloride – 1700 ppm
26				
27				
28				
29	Indurated silicaous sandstone			
30	Light red-brown calcareous sand (SM)	Split-Spoon	241	• Chloride – 700 ppm
31				
32				
33				
34				
35	Light gray limestone interbedded with sand stringers	Split-Spoon	549	
36				
37				
38				
39	Brown fine grain slightly calcareous sand			
40		Split-Spoon	1125	• Chloride – 440 ppm ♦ Chloride – 206 ppm ♦ TPH – 3660 ppm
41				
42				
43	Sand interbedded w/ gray limestone stringers			
44				
45		Split-Spoon	61	• Chloride – 150 ppm ♦ Chloride – 158 ppm ♦ TPH – 70.8 ppm
46				
47	Brown fine grain slightly calcareous sand (SM)			
48				
49				
50		Split-Spoon	4	DTW 50' @ 15:30

• Field Test
♦ Laboratory Result

Cement Grout
Bentonite Seal
Sand Pack
0.02 Screen

Boring