1R - 425-3

REPORTS

DATE:

SEPT 6, 2006

RICE *Operating Company*

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

2006 SEP 11 PM 12 08

CERTIFIED MAIL
RETURN RECEIPT NO. 7005 1820 0001 6802 2477

September 6, 2006

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

RE: NOTIFICATION OF GROUNDWATER IMPACT
VACUUM SWD SYSTEM, K-35-1 boot
UNIT 'K', SEC. 35, T17S, R35E
OCD CASE #1R425-03

Mr. Price:

Rice Operating Company (ROC) takes this opportunity to notify the New Mexico Oil Conservation Division (OCD) Environmental Bureau Chief of groundwater impact in accordance with NM Rule 116. The remediation of this site may fall under NM Rule 19 procedures. Survey delays and laboratory concerns have resulted in the delay of this submission.

The following work was performed in accordance with the OCD-approved Investigation and Characterization Plan (ICP) submitted by the consultant, L. Peter Galusky, Jr., P.E., to investigate potential groundwater impact at this junction box site in the abandoned Vacuum SWD System near Buckeye. Two delineation soil bores and three 2-inch monitoring well installations were conducted June 22-23, 2006 under the supervision of Galusky. Groundwater was encountered at approximately 55 feet. These wells were developed and sampled pursuant to OCD guidelines by Arc Environmental (Arc) of Lovington. Laboratory analysis of the groundwater samples confirmed the Water Quality Control Commission (WQCC) standards for chloride and Total Dissolved Solids are exceeded at MW-1. Arc will continue to sample the wells on a quarterly basis. Following evaluation of this data, OCD may expect a Corrective Action Plan submitted by Galusky for this site by September 6, 2006.

Please accept this notification for the referenced site. Should you have any questions or concerns regarding this site or submission, please do not hesitate to contact me at the number listed above or Galusky at 877-534-9001.

ROC is the service provider (agent) for the Vacuum Salt Water Disposal System and has no ownership of any portion of pipeline, well, or facility. The Vacuum SWD System is owned by a consortium of oil producers, System Partners, who provide all operating capital on a percentage ownership/usage basis. In 2004, the Vacuum System Partners approved the discontinuance of the SWD System. Efforts are moving toward abandonment.

RICE OPERATING COMPANY

Kristin Farris Pope

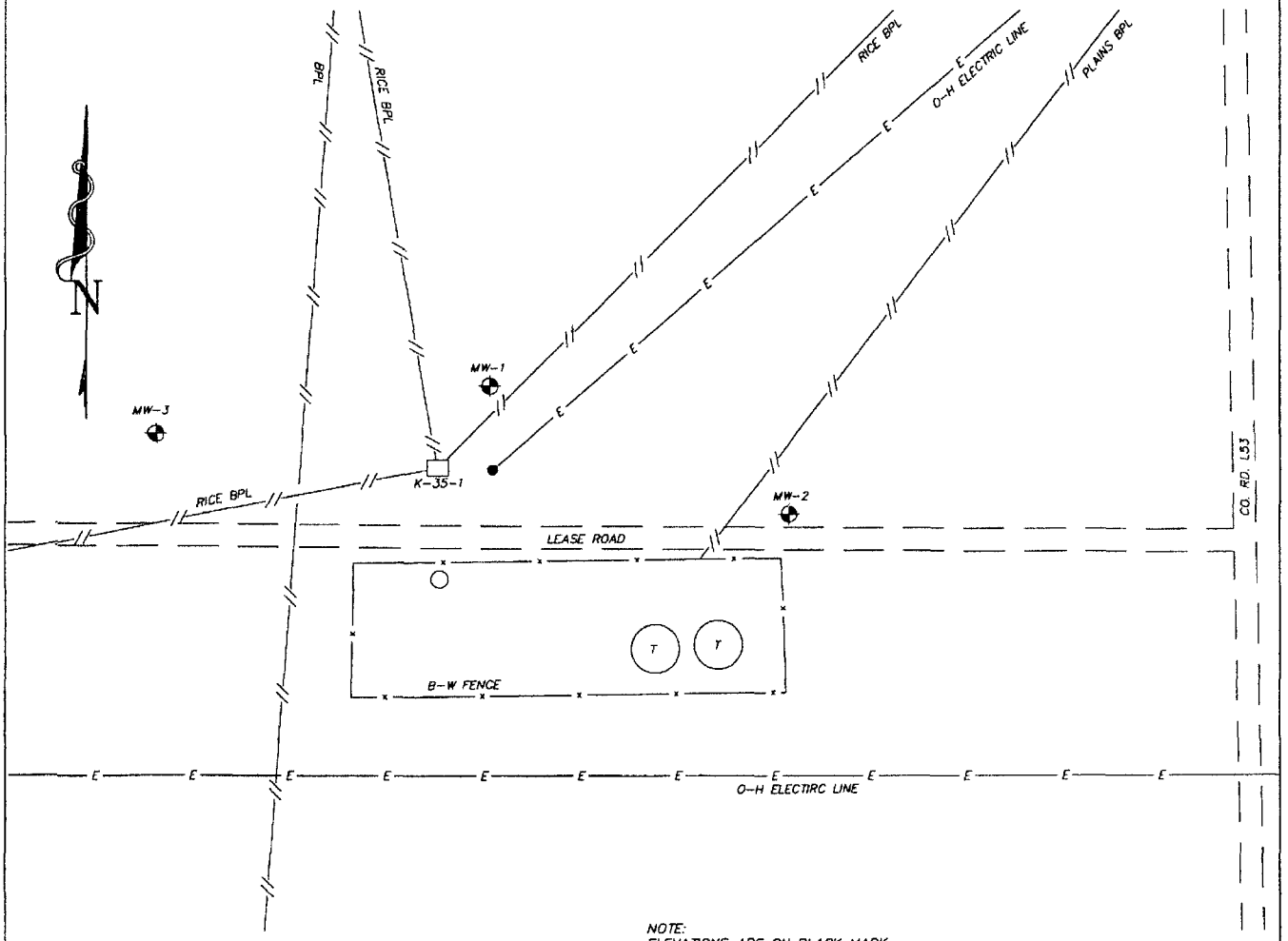
Kristin Farris Pope
Project Scientist

cc: LBG, CDH, Galusky, Marathon Oil, file,

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

enclosures: water analyses, well logs, survey maps

SECTION 35, TOWNSHIP 17 SOUTH, RANGE 35 EAST, N.M.P.M.,
LEA COUNTY, **NEW MEXICO.**



NOTE:
ELEVATIONS ARE ON BLACK MARK
ON NORTH SIDE OF PVC CASING.

NEW MEXICO STATE PLANE COORDINATES (NAD83)

WELL	NORTHING	EASTING	LATITUDE	LONGITUDE	ELEV. PVC	ELEV. GRND
MW-1	652394.636	819003.676	N 32°47'24.7"	W 103°25'47.2"	3905.90'	3902.81'
MW-2	652315.477	819189.252	N 32°47'23.9"	W 103°25'45.0"	3904.69'	3902.15'
MW-3	652365.006	818797.121	N 32°47'24.5"	W 103°25'49.6"	3908.54'	3905.95'

100 0 100 200 FEET

SCALE: 1" = 100'

I HEREBY CERTIFY THAT THIS PLAT WAS PREPARED FROM FIELD NOTES OF AN ACTUAL SURVEY AND MEETS OR EXCEEDS ALL REQUIREMENTS FOR LAND SURVEYS AS SPECIFIED BY THIS STATE.

GARY L. JONES N.M. P.S. No. 7977
TEXAS P.L.S. No. 5074

GARY L. JONES NEW MEXICO 7977 REGISTERED PROFESSIONAL LAND SURVEYOR

BASIN SURVEYS P.O. BOX 1786 – HOBBS, NEW MEXICO

RICE OPERATING COMPANY

REF: VAC. JCT K-35-1

MONITOR WELLS LOCATED IN
SECTION 35, TOWNSHIP 17 SOUTH, RANGE 35 EAST,
N.M.P.M., LEA COUNTY, NEW MEXICO.

W.O. Number: 6905	Drawn By: J. M. SMALL		
Date: 08-05-2006	Disk: JMS 6905MW	Survey Date: 08-01-2006	Sheet 1 of 1 Sheets

CARDINAL LABORATORIES

PHONE (325) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
RICE OPERATING CO.
ATTN: KRISTIN FARRIS POPE
122 W. TAYLOR
HOBBS, NM 88240
FAX TO: (505) 397-1471

Receiving Date: 06/29/06
Reporting Date: 06/30/06
Project Number: NOT GIVEN
Project Name: VACUUM K-35-1
Project Location: LEA COUNTY, NM

Sampling Date: 06/28/06
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: HM
Analyzed By: BC

LAB NUMBE	SAMPLE ID	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	TOTAL XYLENES (mg/L)
ANALYSIS DATE		06/29/09	06/29/06	06/29/06	06/29/06
H11298-1	MONITOR WELL #1	<0.002	<0.002	<0.002	<0.006
H11298-2	MONITOR WELL #2	<0.002	<0.002	<0.002	<0.006
H11298-3	MONITOR WELL #3	<0.002	<0.002	<0.002	<0.006
Quality Control		0.091	0.098	0.092	0.300
True Value QC		0.100	0.100	0.100	0.300
% Recovery		90.7	98.1	92	100
Relative Percent Difference		9.8	1.7	5.9	1.9

METHOD: EPA SW-846 8260

Chemist

6/30/06
Date

H11298B

CARDINAL LABORATORIES

PHONE (325) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
RICE OPERATING COMPANY
ATTN: KRISTIN FARRIS-POPE
122 W. TAYLOR STREET
HOBBS, NM 88240
FAX TO: (505) 397-1471

Receiving Date: 06/29/06
Reporting Date: 07/05/06
Project Number: NOT GIVEN
Project Name: VACUUM K-35-1
Project Location: LEA COUNTY, NM

Sampling Date: 06/28/06
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: HM
Analyzed By: HM/AB

LAB NUMBER	SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (μS/cm)	T-Alkalinity ($mgCaCO_3/L$)
ANALYSIS DATE:		07/03/06	07/03/06	07/03/06	07/05/06	07/03/06	07/03/06
H11298-1	MONITOR WELL #1	293	80	19	13.9	1980	160
H11298-2	MONITOR WELL #2	13	64	19	3.31	565	160
H11298-3	MONITOR WELL #3	162	48	10	5.09	935	200
Quality Control		NR	48.0	48.6	1.75	1414	NR
True Value QC		NR	50.0	50.0	2.00	1413	NR
% Recovery		NR	96	97	87	100	NR
Relative Percent Difference		NR	0.0	0.0	2.0	1.0	NR
METHODS:			SM3500-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:		07/03/06	07/05/06	07/03/06	07/03/06	07/03/06	07/03/06
H11298-1	MONITOR WELL #1	508	54.3	0	195	7.79	1101
H11298-2	MONITOR WELL #2	32	64.1	0	195	7.77	350
H11298-3	MONITOR WELL #3	140	117	0	244	8.05	540
Quality Control		990	24.4	NR	976	7.01	NR
True Value QC		1000	25.0	NR	1000	7.00	NR
% Recovery		99	97.5	NR	98	100	NR
Relative Percent Difference		1.0	8.4	NR	0.0	0.01	NR
METHODS:		SM4500-Cl-B	375.4	310.1	310.1	150.1	160.1

Chemist

07-05-06
Date

H11298

Cardinal Laboratories, Inc.

101 East Marland, Hobbs, NM 88240 ~ (505)393-2326 FAX (505)393-2476

CHAIN OF CUSTODY AND ANALYSIS REQUEST

Project Manager: Kristin Farris Pope kpope@riceswd.com

Company Name: RICE Operating Company

Company Address: 122 W. Taylor Street

City/State/Zip: Hobbs, New Mexico 88240

Telephone No: (505) 393-9174 Fax No: (505) 397-1471

Sampler Signature: Rozanne Johnson (505) 631-9310

Email: rozanne@valornet.com

Project Name: Vacuum ~~K-31-1~~ K-35-1, 3B

Project Location: Lea County

Bill To: RICE Operating Company

PO Number

FOR LAB USE ONLY		Sampling				Preservative							Matrix				Analysis Request																	
																	TCLP:																		
																	TOTAL:								X									
LAB ID	Sampe ID	Date Sampled	Time Sampled	(G)rab or (C)omposite	No. of Containers	Ice	HNO_3	HCl (2) 40 ml glass vials	NaOH	H_2SO_4	None (1) 1 Liter HDPE	Other (Specify)	Water	Sludge	Soil	Other (specify):	TPH: 418.1 8015M 1005 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, CO3, HCO3)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030	RCI	N.O.R.M.	Total Dissolved Solids							
H11298-1	Monitor Well #1	6/28/2006	11:30	G	3	X		2			1		X					X	X					X			X						
-2	Monitor Well #2	6/28/2006	10:00	G	3	X		2			1		X					X	X					X			X						
-3	Monitor Well #3	6/28/2006	8:30	G	3	X		2			1		X					X	X					X			X						

Special Instructions:

PLEASE Email RESULTS TO: kpope@riceswd.com ~ mfranks@riceswd.com

~ rozanne@valornet.com

Delivered By: Sampler - UPS - Bus - Other:

Custody Seals: Containers / Cooler (Y) N (Y) N

Labels on container? (Y) N

Temperature Upon Receipt:

Phone Results: Y (N)

Fax Results: Y (N)

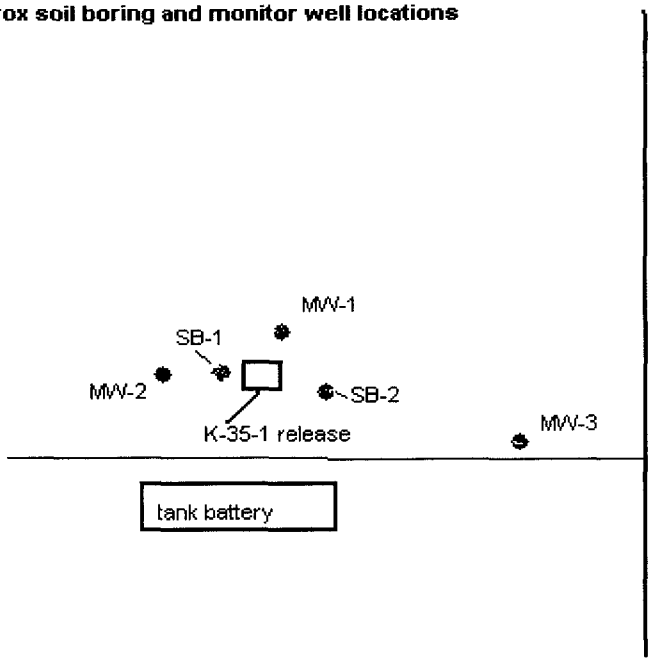
Laboratory Comments:

Relinquished by:	Date	Time	Received by:	Date	Time
Rozanne Johnson	6/29/06				
Relinquished by:	Date	Time	Received by Lab Staff:	Date	Time
			Hope S. Moreno	6/29/06	8:25

RICE Operating Company
Vacuum SWD System
K-35-1 boot

June 22-23, 2006

K-35-1 Approx soil boring and monitor well locations



Soil Boring Log
RICE Operating Company
***Vacuum* SWD System**
K-35-1 boot

Identification: **MW-1**
Date: 6/22/2006
Driller: Ken Cooper (Harrison and Cooper, Inc.)
Drill method: Air Rotary
Logged by: L. Peter Galusky, Jr.
Monitor well screened interval : top 45 ft below ground surface
bottom 65 "

Depth (ft)	Field Chloride Test (ppm)	Lab Chloride Test (ppm)	Field OVM test (ppm)	Lab BTEX test (ppm)	Cutting Description	Well Schematic
0					light gray caliche	solid pipe
5	117		0.0		"	"
10	3497		0.0		"	"
15	2271		0.0		light brown sand	"
20	6737		0.0		"	"
25	5898		0.0		"	"
30	7464		0.0		"	"
35	7891	4415	0.0		"	"
40	5142		0.0		" (thin sandstone layer at 45 ft)	"
45	3112		0.0		"	screen
50	693		0.0		reddish brown sand	"
55	149	144	0.0		"	"
60	110		0.0		"	"
65	189		0.0			

Soil Boring Log
RICE Operating Company
Vacuum SWD System
K-35-1 boot

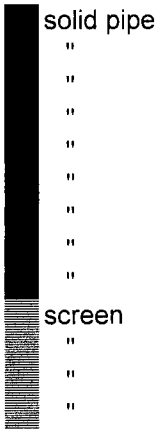
Identification: **MW-2**
Date: 6/22/2006
Driller: Ken Cooper (Harrison and Cooper, Inc.)
Drill method: Air Rotary
Logged by: L. Peter Galusky, Jr.
Monitor well screened interval : top 44 ft below ground surface
bottom 64 "

Depth (ft)	Field Chloride Test (ppm)	Lab Chloride Test (ppm)	Field OVM test (ppm)	Lab BTEX test (ppm)	Cutting Description	Well Schematic
0					light gray caliche	solid pipe
5					"	"
10	89		0.0		"	"
15					light brown sand	"
20	92		0.0		"	"
25					"	"
30	86		0.0		"	"
35					"	"
40	60		0.0		reddish brown sand	"
45					"	screen
50	83		0.0		"	"
55					"	"
60	29	<16	0.0		"	"
65						

Soil Boring Log
RICE Operating Company
Vacuum SWD System
K-35-1 boot

Identification: **MW-3**
Date: 6/23/2006
Driller: Ken Cooper (Harrison and Cooper, Inc.)
Drill method: Air Rotary
Logged by: L. Peter Galusky, Jr.
Monitor well screened interval : top 45 ft below ground surface
bottom 65 "

Depth (ft)	Field Chloride Test (ppm)	Lab Chloride Test (ppm)	Field OVM test (ppm)	Lab BTEX test (ppm)	Cutting Description	Well Schematic
0					light gray caliche	solid pipe
5					"	"
10	60		0.0		"	"
15					light brown sand	"
20	114		0.0		"	"
25					"	"
30	83		0.0		"	"
35					"	"
40	59		0.0		reddish brown sand	"
45					"	screen
50	56		0.0		"	"
55					"	"
60	30	32	0.0		"	"
65						



Soil Boring Log
RICE Operating Company
Vacuum SWD System
K-35-1 boot

Identification: **SB-1**
Location: approx. 20 ft nw of center of release
Date: 6/22/2006
Driller: Ken Cooper (Harrison and Cooper, Inc.)
Drill method: Air Rotary
Logged by: L. Peter Galusky, Jr.

Depth (ft)	Field Chloride Test (ppm)	Lab Chloride Test (ppm)	Field OVM test (ppm)	Lab BTEX test (ppm)	Cutting Description
0					light gray caliche
5	468		0.0		"
10	2609		0.0		"
15	3561		0.0		light brown sand
20	4145		0.1		"
25	3611		0.1		"
30	4095		0.3		"
35	8347		0.0		"
40	7780		0.3		"
45	5132		0.0		reddish brown sand
50	3147	3839	0.9	Non-Detect	"
55	1356		0.0		
60					

Soil Boring Log
RICE Operating Company
Vacuum SWD System
K-35-1 boot

Identification: **SB-2**
Location: approx. 50 ft east of center of release
Date: 6/23/2006
Driller: Ken Cooper (Harrison and Cooper, Inc.)
Drill method: Air Rotary
Logged by: L. Peter Galusky, Jr.

Depth (ft)	Field Chloride Test (ppm)	Lab Chloride Test (ppm)	Field OVM test (ppm)	Lab BTEX test (ppm)	Cutting Description
0					light gray caliche
5	85		0.0		"
10	85		0.0		"
15	170		0.0		light brown sand
20	486		0.0		"
25	3504		0.0		"
30	4627		0.0		"
35	4332		0.0		"
40	4115		0.0		" (thin sandstone layer at 45 ft)
45	2929		0.0		"
50	1589		0.0		reddish brown sand
55	848	1104	0.0		"
60					"

RICE Operating Company
Vacuum SWD System
K-35-1 boot

Price, Wayne, EMNRD

From: L. Peter Galusky, Jr. P.E. [lpg@texerra.com]
Sent: Thursday, June 01, 2006 3:14 PM
To: Price, Wayne, EMNRD
Cc: Kristin Pope
Subject: RE: Rice Operating Company Vaccum Field K-35-1 OCD# 1R425-03

Wayne,

Please be advised that we plan to conduct drilling/soil sampling activities under this ICP during the last week in June. I will advise you of the specific day shortly.

In regard to your comments below, please note that Rice considered this to be a "disclosure", rather than a "closure". Thus, the work submitted thus far was intended to be preliminary, ahead of an ICP.

Please note that no soil material was hauled off the site, as it was simply backfilled into the excavation, as noted in the disclosure report. Thus, the clay barrier that was installed was simply as an interim precaution to preclude chloride migration. Subsequent investigation during the ICP will determine if this needs to be removed, redone, etc. We do plan to sample above and below this interim clay barrier.

Lastly, we will follow the ICP as written and approved by you, and will also address the points that you note, below.

Thank you.

Sincerely,

L. Peter (Pete) Galusky, Jr.
877-534-9001
lpg@texerra.com

"Price, Wayne, EMNRD" <wayne.price@state.nm.us> wrote:

> OCD hereby approves of the ICP for the above site with the following conditions:
>
> 1. Please provide the sample results of all remediated soils above and below the clay liner within 10 days.
> 2. Please provide waste disposal manifest.
> 3. The vertical delineation shall consist of at least one bore hole through the area of noted highest contamination. Soil samples shall be collected above and below the clay barrier for any constituent of concern. Other bore holes are recommended.
> 4. This approval will be included in the final report.
> 5. This project has been assigned OCD # 1R425-03. Please provide this number on all correspondence.
> 6. The ICP shall be completed by July 14, 2006 and all information, included information requested above shall be reported to OCD no later than July 28, 2006.
> 7. Notify the OCD Santa Fe office and the OCD District office at least 48 hours in advance of all scheduled activities such that the OCD has the opportunity to witness the events and/or split samples during OCD's normal business hours.

Special Note: From looking at the disclosure report it appeared that chloride levels ranged from 479 to 6807. If this project was closed pursuant to "in accordance with the OCD-approved Junction Box Upgrade Work Plan (Rev. July 2003)" which only allow soils containing 1000 ppm chlorides there may be an issue of proper closure. Please investigate this issue and explain why the clay barrier was placed before final investigation. Also explain why this closure did not follow the Jct Box work plan.

Please be advised that NMOCD approval of this plan does not relieve the owner/operator of Responsibility should their operations fail to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD approval does not relieve the owner/operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

From: L. Peter Galusky, Jr. P.E. [mailto:lpg@texerra.com]
Sent: Thursday, May 18, 2006 10:51 AM
To: Price, Wayne, EMNRD
Cc: Kristin Pope
Subject: Rice Operating Company Vaccum Field K-35-1

Wayne,

Please find attached, in Adobe .pdf format, and ICP for the above referenced site.

As we are interested in scheduling field sampling for this site in tandem with other nearby sites in June, we would be most grateful for your review of this ICP at your earliest opportunity.

Please call me if you have any questions or need additional information.

Thank you.

Sincerely,

Pete G.

L. Peter Galusky, Jr. Ph.D., P.E.
Environmental Engineer
Energy Square
505 N. Big Spring, Suite 404
Midland, Texas 79701
E-mail: lpg@texerra.com
Cell: 432-967-2128
Web: www.texerra.com

L. Peter Galusky, Jr. Ph.D., P.E.
Environmental Engineer
Energy Square
505 N. Big Spring, Suite 404
Midland, Texas 79701
E-mail: lpg@texerra.com
Web: www.texerra.com
Office Telephone/Fax: 877-534-9001

Price, Wayne, EMNRD

From: Price, Wayne, EMNRD
Sent: Friday, May 19, 2006 2:07 PM
To: 'lpg@texerra.com'
Cc: Kristin Pope
Subject: RE: Rice Operating Company Vaccum Field K-35-1 OCD# 1R425-03

OCD hereby approves of the ICP for the above site with the following conditions:

1. Please provide the sample results of all remediated soils above and below the clay liner within 10 days.
2. Please provide waste disposal manifest.
3. The vertical delineation shall consist of at least one bore hole through the area of noted highest contamination. Soil samples shall be collected above and below the clay barrier for any constituent of concern. Other bore holes are recommended.
4. This approval will be included in the final report.
5. This project has been assigned OCD # 1R425-03. Please provide this number on all correspondence.
6. The ICP shall be completed by July 14, 2006 and all information, included information requested above shall be reported to OCD no later than July 28, 2006.
7. Notify the OCD Santa Fe office and the OCD District office at least 48 hours in advance of all scheduled activities such that the OCD has the opportunity to witness the events and/or split samples during OCD's normal business hours.

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Please be advised that NMOCD approval of this plan does not relieve the owner/operator of Responsibility should their operations fail to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD approval does not relieve the owner/operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

From: L. Peter Galusky, Jr. P.E. [mailto:lpg@texerra.com]
Sent: Thursday, May 18, 2006 10:51 AM
To: Price, Wayne, EMNRD
Cc: Kristin Pope
Subject: Rice Operating Company Vaccum Field K-35-1

Wayne,

Please find attached, in Adobe .pdf format, and ICP for the above referenced site.

As we are interested in scheduling field sampling for this site in tandem with other nearby sites in June, we would be most grateful for your review of this ICP at your earliest opportunity.

Please call me if you have any questions or need additional information.

Thank you.

Sincerely,

Pete G.

L. Peter Galusky, Jr. Ph.D., P.E.
Environmental Engineer
Energy Square
505 N. Big Spring, Suite 404
Midland, Texas 79701
E-mail: lpg@texerra.com
Cell: 432-967-2128
Web: www.texerra.com

Price, Wayne, EMNRD

From: L. Peter Galusky, Jr. P.E. [lpg@texerra.com]
Sent: Thursday, May 18, 2006 10:51 AM
To: Price, Wayne, EMNRD
Cc: Kristin Pope
Subject: Rice Operating Company Vaccum Field K-35-1
Attachments: 4226327511-Rice Vacuum Field K-35-1 ICP.pdf

Wayne,

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Please call me if you have any questions or need additional information.

Thank you.

Sincerely,

Pete G.

L. Peter Galusky, Jr. Ph.D., P.E.
Environmental Engineer
Energy Square
505 N. Big Spring, Suite 404
Midland, Texas 79701
E-mail: lpg@texerra.com
Cell: 432-967-2128
Web: www.texerra.com

L. Peter Galusky, Jr. Ph.D., P.G.
Consulting Hydrogeologist

May 19th, 2006

Mr. Wayne Price
New Mexico Energy, Minerals, & Natural Resources
Oil Conservation Division, Environmental Bureau
1220 S. St. Francis Drive
Santa Fe, New Mexico 87504

RE: **Investigation and Characterization Plan**
Vacuum K-35-1 Junction Box, UL K Sec 35 T17S R35E

CERTIFIED MAIL, RETURN RECEIPT

Mr. Price:

RICE Operating Company (ROC) has retained L. Peter Galusky, Jr. Ph.D. to address potential environmental concerns at the above-referenced site. ROC is the service provider (operator) for the Vacuum SWD System and has no ownership of any portion of the pipeline, well, or facility. The System is owned by a consortium of oil producers, System Partners, who provide all operating capital on a percentage ownership/usage basis. Environmental projects of this magnitude require System Partner AFE approval, and work begins as funds are received. In general, project funding is not forthcoming until NMOCD approves the work plan. Therefore, your timely review of this submission would be greatly appreciated.

For all such environmental projects, ROC will choose a path forward that:

- protects public health,
- provides the greatest net environmental benefit,
- complies with NMOCD Rules, and
- is supported by good science.

Each site shall generally have three submissions, as described below:

1. **This** Investigation and Characterization Plan (**ICP**) **is a proposal** for data gathering and site characterization and assessment.

2. Upon evaluating the data and results from the ICP, a recommended remedy will be submitted in a Corrective Action Plan (CAP) if this is warranted.

3. Finally, after implementing the remedy, a Closure Report with final documentation will be submitted.

Background and Previous Work

The subject site is located approximately approximately 2 miles ESE of Buckeye, NM, and approximately 3,000 ft south-southwest of the intersection of Buckeye Road and County Road 53; (*please see Appendix A for location and site maps*). The topography is gently sloping toward the southeast. Soils on the site are mapped (as KO) in the Lea County Soil Survey[1] as belonging to the Kimbrough gravelly loam soil series. These are characterized by gravelly loam to a depth of approximately 6 inches, and this is underlain by several feet of calcium indurated caliche. Groundwater is estimated to occur at a depth of approximately 54 feet, in unconsolidated Tertiary alluvium of the Ogallala Formation[2].

In October of 2004, ROC removed a junction box at the referenced site, in accordance with the OCD-approved Junction Box Upgrade Work Plan (Rev. July 2003). During excavation, visual evidence of contamination was suspected. Subsequent soil investigation (using field titration kits) revealed detectable levels of chlorides, ranging from approx. 500 ppm near the surface to approximately 7,000 ppm at the limit of excavation, 12 ft below ground surface; (please see Appendix B). PID measure of hydrocarbon revealed insignificant levels (less than 10 ppm). The areal extent and depth of chloride contamination from the replaced junction box are not presently known, and further evaluation will be needed to determine this.

The old, wooden junction box was removed and soils beneath it were excavated to a depth of approximately 12 feet. The excavated soil was blended on site and then backfilled into the excavation to a depth of 4 feet below ground surface. At 4 feet depth, a compacted clay barrier was installed to inhibit further downward migration of any remaining chlorides above this level. The excavation was then backfilled with native material. (Please *see Appendix B for field* sampling results and photographs from preliminary soils evaluation, and schematics of junction box replacement).

The surface (ecological) impact of this release was relatively small. However, as the potential for groundwater contamination exists, this warrants further evaluation for chlorides and petroleum hydrocarbons, the constituents of concern. Therefore, ROC proposes additional investigative work, as outlined in the Investigation and Characterization Plan (ICP) below, to more definitively evaluate the extent of contamination caused by the release, and to then evaluate the potential for groundwater degradation.

It should be noted that the source of this impact is historical. There is no longer a threat of continued, compounded impact at this site, as the junction box has been removed, and the Vacuum SWD System subsequently placed out of service.

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[1] USDA SCS. Soil Survey of Lea County, New Mexico. Issued January, 1974.
[2] New Mexico Bureau of Geology & Mineral Resources. 1982. Circular 175 – Western extent of the Ogallala Formation in New Mexico.

Investigation and Characterization Plan

Task 1 - Collect Regional Hydrogeological Data

Published maps and reports of surficial geology, soils, hydrogeology and ecosystem characteristics will be reviewed and summarized to provide a context and baseline from which to evaluate the results of subsequent analysis. State and county records of water wells will be reviewed and summarized to identify downgradient receptors which could potentially be affected.

Task 2 - Evaluate Concentrations of Constituents of Concern in Soil (and Ground Water)

Soils samples will be taken from a sufficient number of selected representative locations and depths in order to quantify the areal extent and depth of contamination with respect to chlorides and hydrocarbons. Soil samples will be taken and tested for chlorides, using field titration methods, and for BTEX, using EPA-standard PID methodology. A small sub-set of samples at key locations (such as the total sampled depth, apparent "hot spots", etc.) will be sent to a commercial laboratory for verification/calibration of the field tests, according to standard EPA sampling and laboratory methods.

A limited number of monitoring wells may be constructed in selected, representative locations, generally where WQCC standards are exceeded within 10+/- feet of the water table and where the location of such wells will useful for hydrogeological analysis . All such monitoring wells will be constructed (with the annular space sealed with a cement/bentonite mix) per NM Dept. Environment standards; (*see Appendix C*).

Task 3 - Evaluate Risk of Groundwater Impact

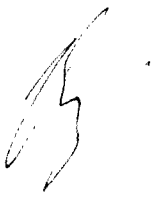
The data gathered from this study will be summarized and presented in simple and clear graphs and maps. This will provide a means for an intuitive evaluation of the apparent potential for groundwater impacts. Additionally, simple spreadsheet vadose zone /or groundwater dilution models may be used as a supplemental, interpretive tool. The information thus obtained from this work will be evaluated to determine if there exists any substantial risk for groundwater impacts resulting from this release of produced water.

If the evaluation demonstrates that residual constituents pose no threat to ground water quality, then only a surface restoration plan will be proposed to OCD. If, as a result of this work, it is believed that this produced water leak does pose a present or future risk of impacting groundwater quality, then a *risk-based* corrective action plan (CAP) will be developed and proposed to OCD which addresses the identified risks.

I appreciate the opportunity to work with you on this project. Please call either myself, at the number below, or Kristin Farris Pope (ROC) at 505-393-9174, if you have any questions or wish to discuss these matters.

Thank you for your consideration.

Sincerely,



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cc: CDH, KFP, file

attachments as noted

Appendix A – Maps

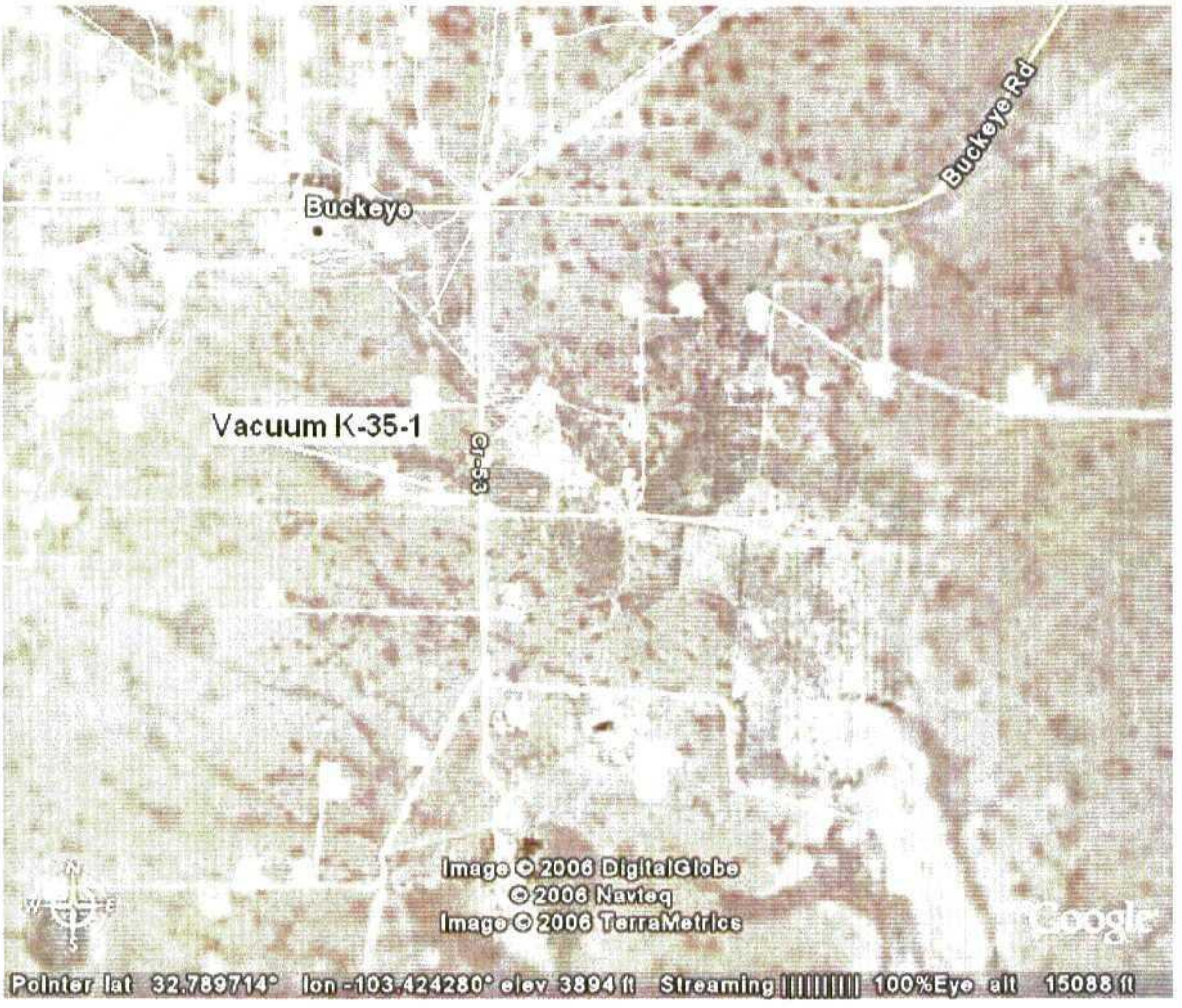

Figure A-1 – Satellite photo (15,000 ft view) showing location[3] of Jct Box K-35-1.

[3] From www.earth.google.com .

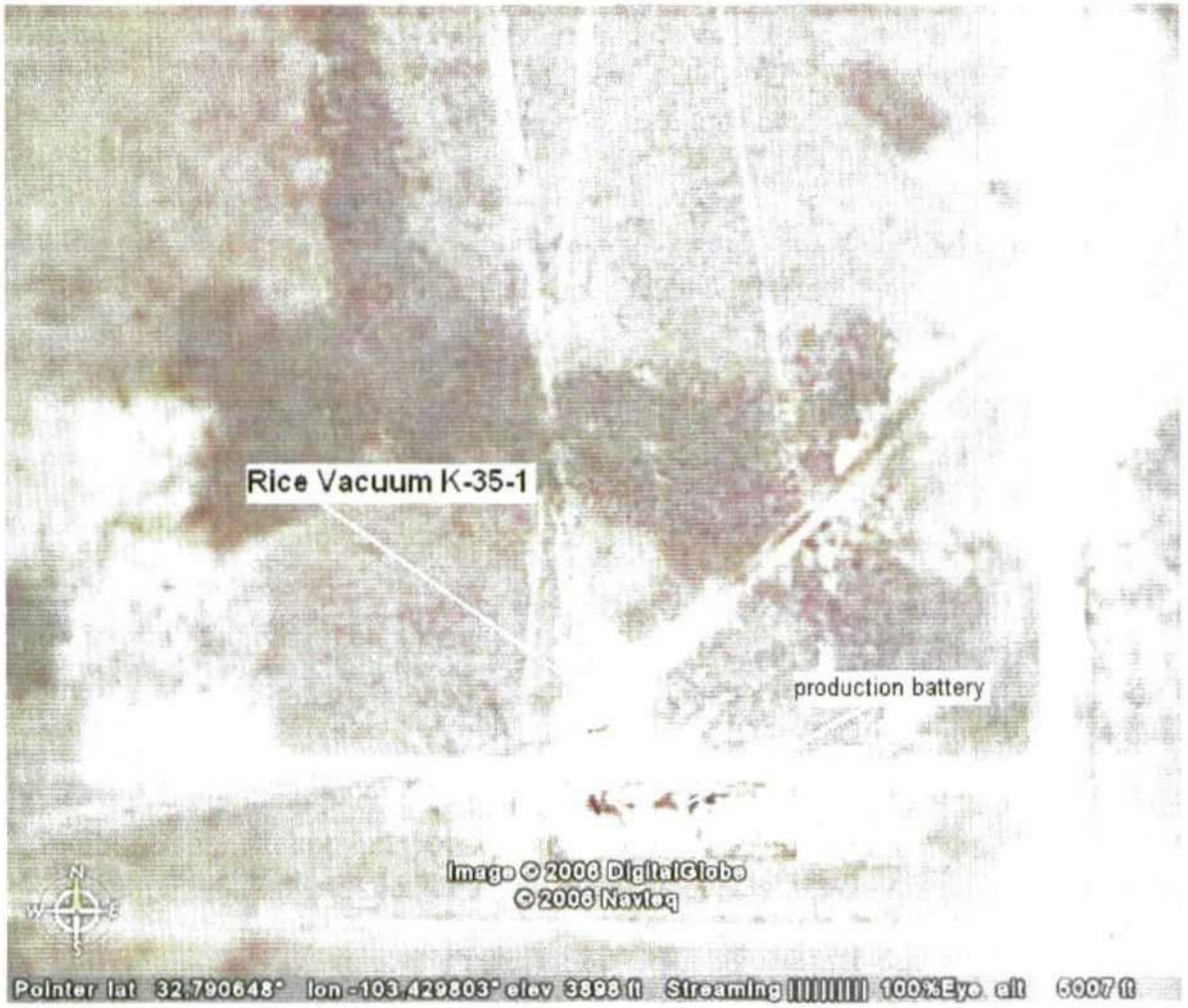

Figure A-2 – Satellite photo (5,000 ft view) showing location[4] of Jct Box K-35-1. Note oil production battery just south of site.

[4] From www.earth.google.com .

Appendix B – Photographs, Preliminary Data & Junction Box Schematic

Figure B-1 – Photographs taken October, 2004

RICE OPERATING COMPANY
JUNCTION BOX **DISCLOSURE** REPORT

BOX LOCATION

SWD SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE	COUNTY	BOX DIMENSIONS - FEET		
							Length	Width	Depth
Vacuum	K-35-1 boot	K	35	17S	35E	Lea	no box--eliminated		

LAND TYPE: BLM _____ STATE X FEE LANDOWNER _____ OTHER _____

Depth to Groundwater 54 feet NMOCD SITE ASSESSMENT RANKING SCORE: 10

Date Started 9/29/2004 Date Completed 10/25/2004 NMOCD Witness no

Soil Excavated 400 cubic yards Excavation Length 30 Width 30 Depth 12 feet

Soil Disposed 0 cubic yards Offsite Facility n/a Location n/a

FINAL ANALYTICAL RESULTS:

Sample Date 10/12/2004 **Sample Depth** 12 ft

Procure 5-point composite sample of bottom and 4-point composite sample of excavation sidewalls. TPH and chloride laboratory test results completed by using an approved lab and testing procedures pursuant to NMOCD guidelines.

Sample Location	PID ppm	GRO mg/kg	DRO mg/kg	Chloride mg/kg
4-WALL COMP.	1.1	<10.0	63.5	10400
BOTTOM COMP.	9.6	12.9	90.4	9190
REMED. BACKFILL	6.0	25	435	9860

General Description of Remedial Action: This junction box contained a boot. The junction was eliminated and the box was removed. The site was remediated using a backhoe while PID and chloride field tests were conducted at regular intervals. Although PID readings were relatively low, the soils exhibited physical signs of slight hydrocarbon impact. Chloride field tests revealed concentrations that did not relent with depth or breadth throughout the 30 x 30 x 12 ft deep excavation. The excavated soil was blended on site and then backfilled into the excavation to 4 ft BGS. At 4 ft, a compacted clay barrier was installed to inhibit further downward migration of remaining chloride impact. The remaining spoils were backfilled on top of the clay and contoured to the surrounding surface. Remaining hydrocarbon is expected to naturally attenuate. An identification plate was placed on the surface of the backfilled site to mark the former location of the junction box and the clay below. NMOCD was notified of potential groundwater impact at this site on 11/29/2004.

enclosures: chloride graphs, photos, lab results, PID field screenings, cross-section, clay test

CHLORIDE FIELD TESTS

LOCATION	DEPTH (ft)	ppm
vertical at junction box	4	479
	5	779
	6	749
	7	869
	8	2489
	9	4978
	10	5587
	11	5338
	12	6807
20 ft North of junction	4	5248
	5	1229
	6	2369
	7	9327
	8	14605
	9	13645
	10	10826
	11	12206
	12	12026
4-wall comp.	n/a	9267
bottom comp.	12	9926
backfill comp.	n/a	9177

I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

SITE SUPERVISOR Rob Elam SIGNATURE not available COMPANY Curt's Environmental--Odessa, TX

Figure B-2 – ROC Junction Box Disclosure Report

CHLORIDE CONCENTRATION CURVE

RICE *Operating Company*

Vacuum K-35-1 boot

1178, R35E

Vertical at junction box

Depth bgs (ft)	[Cl⁻] ppm
4	479
5	779
6	749
7	869
8	2489
9	4978
10	5587
11	5338
12	6869

Groundwater – 54 ft

Figure B-3 – Preliminary Chloride Data

Figure B-4 – Junction Box Removal Schematic Diagram

Figure B-5 – Photograph taken February, 2006

Appendix C – NM Environmental Dept. Monitoring Well Standards

In order to accurately determine aquifer characteristics and obtain representative ground- water samples, it is important that monitoring wells be constructed and installed properly. In addition, the construction materials utilized should not alter the chemical composition of the groundwater in such a way as to interfere with the compounds being analyzed during assessment activities. The practices set forth in the American Society for Testing and Materials (ASTM) document D 5092-90 and in the State Engineer Office regulations should be followed, in addition to the items below (see schematic diagram below text):

- Borehole: The borehole should be drilled a minimum of 4 inches larger than the casing diameter, to allow for the emplacement of sand and sealant.

- Casing: The casing should, unless otherwise approved by the department, consist of Schedule 40 or heavier, flush mount threaded, o-ring sealed, PVC pipe of not less than two inches nominal inside diameter. Four inches nominal inside diameter may be appropriate for wells greater than or equal to 100 feet deep. No adhesive should be used to join the sections of casing.

- Screen: The screen should be of an appropriate length not to exceed 20 feet and should be machine slotted or other manufactured screen. The slot size should be appropriate for the grain size of the sand pack. No on-site or hack-saw slotting is permitted. A sediment sump should be attached to the base of the screen, with a cap at the bottom. The length of the sump may vary, depending on the nature and grain size of the formation, but should be a minimum of 2 feet in length. If the uppermost aquifer is unconfined, the top of the screen should be five feet above the water table to allow for seasonal fluctuations and to determine if NAPL is present. If the aquifer is confined, the top of the screen should be placed in such a way as to preserve the integrity of the aquifer.

- Filter pack: An annular space from 2 feet below to 2 feet above the screen should be packed with filter pack sand. The sand should be clean, silica based, and properly sized to prevent fines from entering the well. A tremmie pipe should be used for sand placement for wells greater than 50 feet deep.

- Filter pack seal: When appropriate, monitoring wells and piezometers should be constructed with a filter pack seal. The filter pack seal is to extend 1 foot above the top of the filter pack and should consist of 1 foot of clean, fine-grained silica sand.

- Bentonite seal: The annular space for at least 2 feet above the filter pack seal should be grouted or sealed with hydrated bentonite pellets, 0.25 or 0.5 inch in size as appropriate.

- Annular space above seal: The annular space above the seal should be filled with a bentonite/cement grout to reduce permeability.

  Note: Where shallow groundwater exists (less than 10 feet below ground surface), well construction must be pre-approved by the department.

- Surface completion: Where site conditions allow, the casing should extend at least 2 feet above ground surface. The casing top should be protected by a locking cap, and a locking shroud or well vault is to protect the exposed casing. Caps or steel covers should contain a clear label for monitoring well. The shroud or vault should be large enough to allow easy access for removal of the well cap. Flush mounted well vaults should be water tight, bolted down, and appropriately sized for anticipated traffic. A concrete slab (minimum of a 2 foot radius and a 6 inch thickness and reinforced in high traffic areas) should be poured around the shroud. The pad should be sloped so that rainfall and runoff flows away from the shroud.

- Well construction: Care must be taken during installation to prevent contaminants from entering the well. After installation is complete, develop the monitoring well to remove all sediment, to reduce turbidity to the greatest extent possible, and to allow groundwater to flow freely through the well screen. See Chapter 1, Section 1.5 for procedures on monitoring well development.

- Survey: The top of casing of each monitoring well should be surveyed to determine its USGS elevation. This elevation and the depth to water should be established to an accuracy of 0.01 foot. In this way, the USGS elevation of the groundwater surface can be established. A unique, easily identifiable point should be marked on the top of the casing for this measurement. The horizontal location of the well should be determined to an accuracy of 0.1 foot.

- Lithologic log: A lithologic log and a well construction diagram should be completed for each monitoring well and submitted to the Department.

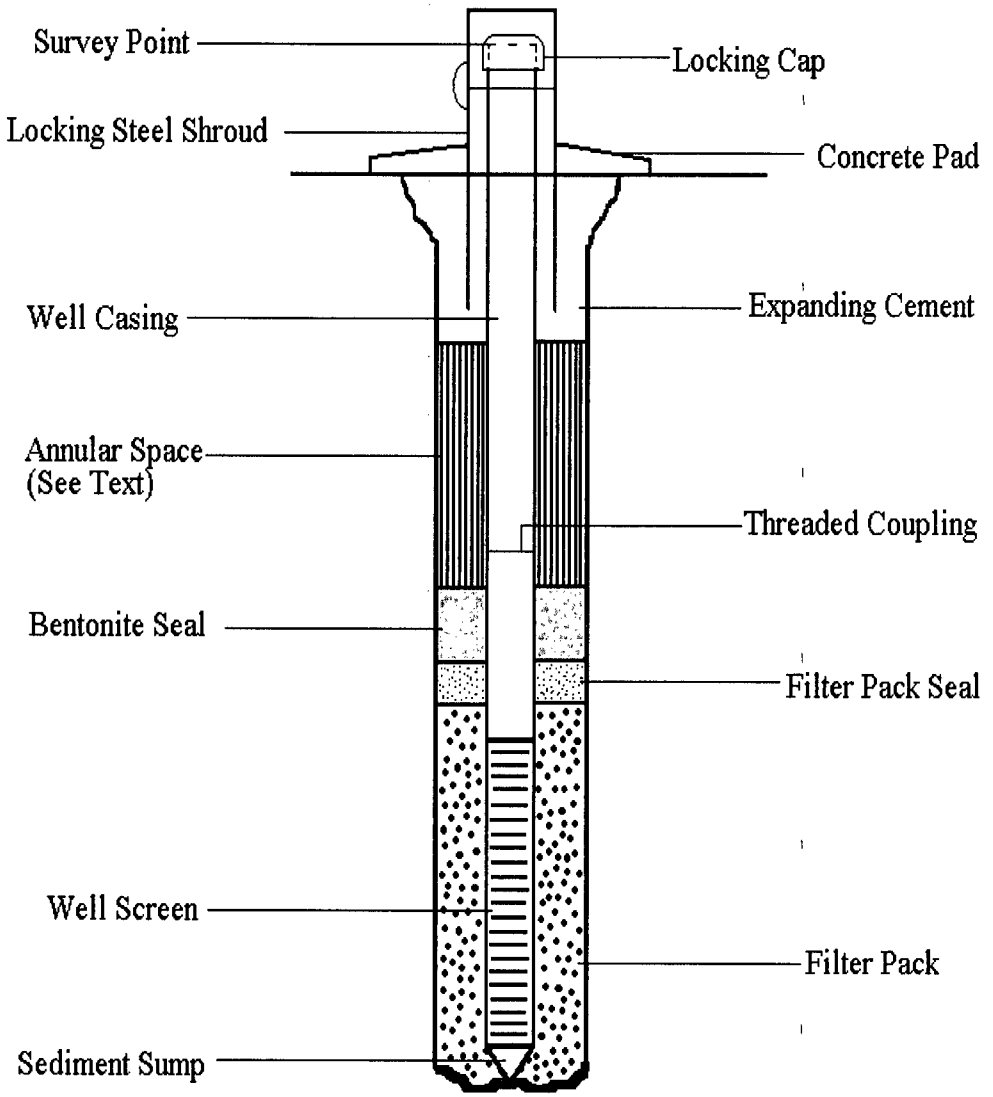

Figure C-1 - Monitoring Well Construction Diagram