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Annual GW Mon. REPORTS

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ARCADIS
Infrastructure, environment, facilities

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CERTIFIED MAIL
RETURN RECEIPT NO. 7002 2410 0001 5813 3593

May 5, 2008

ENVIRONMENTAL

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

Date:
May 7, 2008

Contact:
Sharon E. Hall

Phone:
432 687-5400

Email:
shall@arcadis-us.com

Our ref:
MT000821.0001

RE: ADDENDUM TO 2007 ANNUAL GROUNDWATER REMEDIATION/MONITORING REPORT
N-6 PIPELINE LEAK, WEST COUNTY ROAD SITE
HOBBS SWD SYSTEM
SW1/4, NW ¼, SEC. 5 & 6, T19S, R38E, LEA COUNTY, NEW MEXICO

Dear Mr. Hansen:

Rice Operating Company (ROC) takes this opportunity to submit this update letter for the Hobbs Salt Water Disposal (SWD) System N-6 Release Site. The site is located immediately south of the intersection of Highway 62-180 and the South Loop of the Hobbs West County Road By-Pass.

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

On April 1, 2008 I submitted the 2007 Monitor Well report for this site. The report provided monitor well analytical results and discussed the operation of two and planned addition of a third biosparge well to remediate hydrocarbons at the site. The third biosparge well has been brought on line. Photos of the system are attached.

Product removal from MW-1 will continue in 2008. Operation and sampling of the biosparge wells will continue in 2008, and the effectiveness of the biosparge wells in remediation of hydrocarbons at the site evaluated.

The 2007 Monitor Well Report requested approval to plug and abandon all the monitor wells at the site with the exception of MW-1. ROC plans to use the existing monitor wells to assist in evaluating the effectiveness of the biosparge wells. **We are therefore not asking NMOCD for approval to plug and abandon the monitor wells at this time.**

Thank you for consideration concerning this information. Should you have any questions regarding this submission, please do not hesitate to contact me.

Very truly yours,

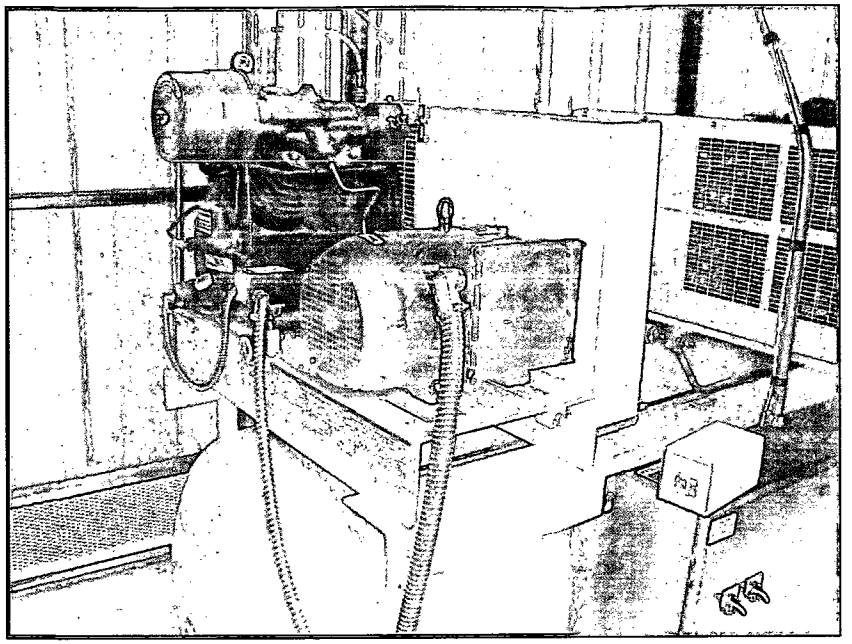
ARCADIS

Sharon E. Hall

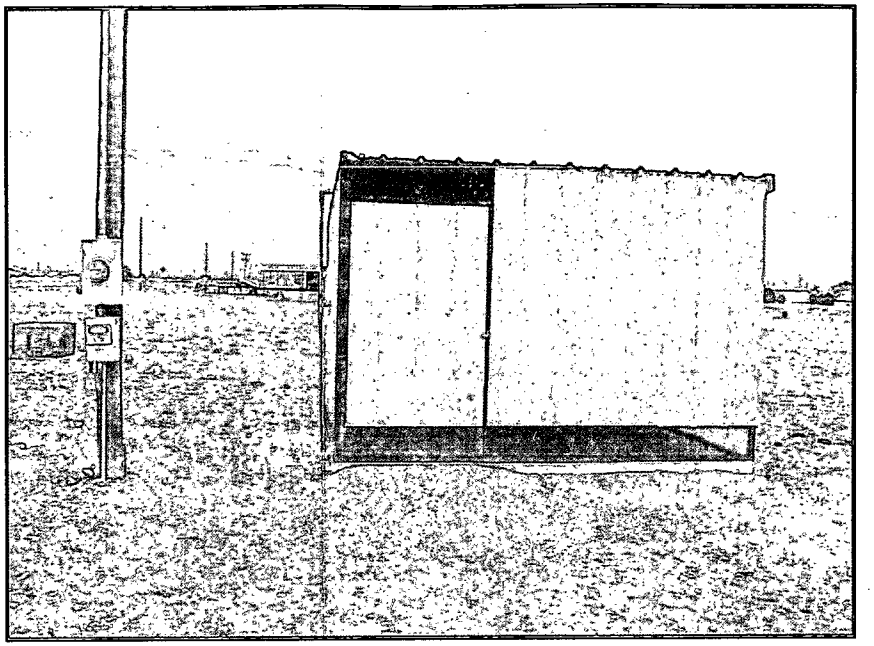
Sharon E. Hall
Site Evaluation Department Manager

enclosures:
Photographs

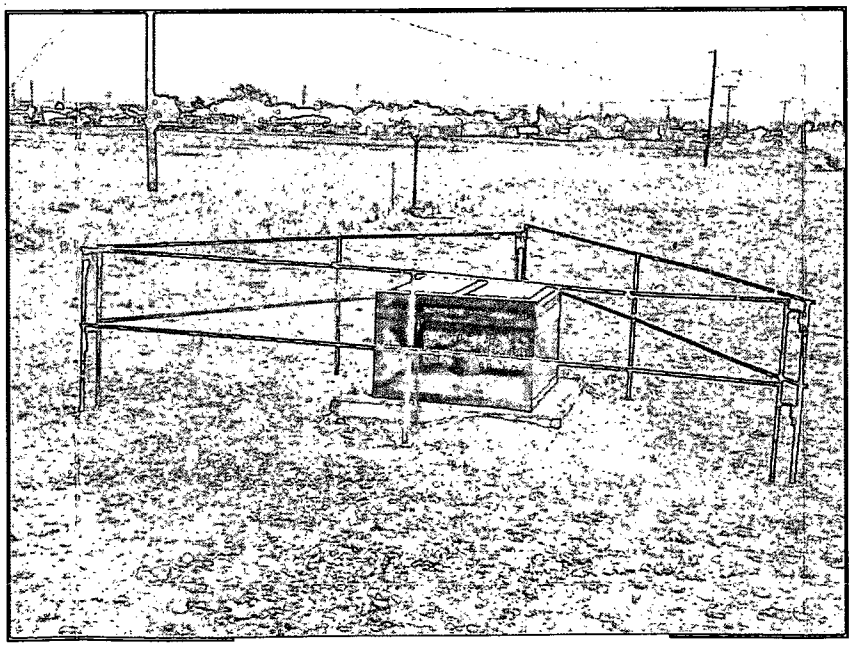
cc: Kristin Farris Pope - ROC



N-6 Compressor System



N-6 Compressor Building



N-6 Biosparge Well

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ENVIRONMENTAL

Date:
April 1, 2008

Contact:
Sharon E. Hall

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432 687-5400

Email:
shall@arcadis-us.com

Our ref:
MT000821.0001

CERTIFIED MAIL
RETURN RECEIPT NO. 7002 2410 0001 5813 3548

April 1, 2008

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

RE: 2007 MONITOR WELL REPORT
GROUNDWATER REMEDIATION/MONITORING
N-6 PIPELINE LEAK, WEST COUNTY ROAD SITE
HOBBS SWD SYSTEM
SW1/4, NW ¼, SEC. 5 & 6, T19S, R38E, LEA COUNTY, NEW MEXICO

Dear Mr. Hansen:

Rice Operating Company (ROC) takes this opportunity to submit the 2007 Monitor Well Report for the Hobbs Salt Water Disposal (SWD) System N-6 Release Site. The site is located immediately south of the intersection of Highway 62-180 and the South Loop of the Hobbs West County Road By-Pass.

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

Groundwater Sampling

Wells are sampled quarterly in accordance with NMOCD guidelines. The attached table summarizes the analytical results from groundwater samples collected from monitor wells in 2007. 2007 groundwater laboratory reports are also attached.

Free Product Removal

In 1994, a leak was discovered in a buried SWD pipeline. An assessment program was completed and a free product recovery program initiated. The free product has historically been collected from Monitor Well 1, initially in 1996 in conjunction with groundwater recovery, and then beginning in 2000 with product recovery only. During 2007, phase separated hydrocarbon recovery was conducted by weekly replacement of an absorbant sock placed in the well. Product thickness and recovery information is shown in the attached table.

A biosparge well designed to maximize in-situ biodegradation and minimize volatilization of hydrocarbons was installed at the site and became operational in August 2005. Four borings were drilled on November 8 and 9, 2006 in order to evaluate hydrocarbon occurrence in the vadose zone. Based on drilling observations a second biosparge well was installed approximately 30 feet east of the original biosparge well. The second biosparge well became operational in March 2007. In November of 2007 an additional 8 soil borings (piezometers) were drilled and a third biosparge well was installed SW of the pump house. These soil borings were located in areas between previous sampling points, outside of the previously identified core source area, and as close as possible to previous (2006) soil borings from which samples had been collected and tested for total petroleum hydrocarbons and total organic compounds.

Between October 24, 2007 and November 20, 2007 the air sparge system at the site was tested by collection of soil gas samples during a cycled shut down. A similar test protocol was performed in May/June 2007 as well. The soil gas samples from these testing events were analyzed for methane, carbon dioxide, oxygen and benzene, toluene, ethylbenzene and xylenes.

Biosparge Well Operation and Evaluation

Evaluation of soil gas and monitoring well data indicates that the biosparge wells are effective in the remediation of free-phase hydrocarbons at the site. Biochemical results also suggest groundwater chemistry indicative of bioremediation. Operation of the existing biosparge wells in conjunction with use of absorbent socks and evaluation of their effectiveness will continue in 2008.

Recommendations

Based on the historical analytical results, ARCADIS recommends modification of the sampling at the site. With the exception of MW-3 and MW-7, all of the monitoring wells have exhibited chloride concentrations below the WQCC standard of 250 milligrams per liter (mg/L) and total dissolved solids (TDS) concentrations below the WQCC standard of 1,000 mg/L for at least the last 10 consecutive quarters. Further, chloride and TDS concentrations in MW-2, MW-4, and MW-6 have never exceeded WQCC standards.

MW-5 exhibited a spike in chloride and TDS concentrations in March 2004 and MW-7 exhibited a spike in concentrations in March 2003 and March 2004 above the WQCC standards. IWW exhibited a spike in concentrations in March 2004 and March 2005, the only concentration detected above WQCC standards in samples collected from this well. Chloride concentrations in samples collected from MW-7 consistently range at a concentration of 201-256 mg/L. The consistently low concentrations suggest that the concentration spikes are anomalous and may be indicative of laboratory error. Similarly, in September 2008 benzene was detected in IWW and benzene, toluene, ethylbenzene and xylenes were detected at low concentrations in MW-2. The low concentrations suggest that the detections are anomalous and may be indicative of laboratory error or exposure to hydrocarbons during sampling.

It is recommended that sampling of all wells with the exception of MW-3 be discontinued and the wells plugged.

The source of chloride impact was removed in 1994 and groundwater recovery to remove chlorides was initiated in 1996, yet MW-3 continues to exhibit elevated chloride and TDS concentrations. This well, unlike the others at the site, was drilled to the base of the Ogallala which is underlain by Triassic red-beds. The elevated chloride, TDS and sulfate concentrations in this well are markedly higher than the other wells at the site and are strongly indicative of naturally occurring geochemical conditions at the base of the Ogallala. BTEX concentrations have been consistently below WQCC standards. Therefore, it is recommended that sampling of MW-3 be discontinued and the well also plugged.

Product removal from MW-1 will continue in 2008. Operation and sampling of the biosparge wells will continue in 2008, and the effectiveness of the biosparge wells in remediation of hydrocarbons at the site evaluated. The third biosparge well will come on line within two weeks.

Thank you for consideration concerning this information. Should you have any questions regarding this submission, please do not hesitate to contact me.

Very truly yours,

ARCADIS

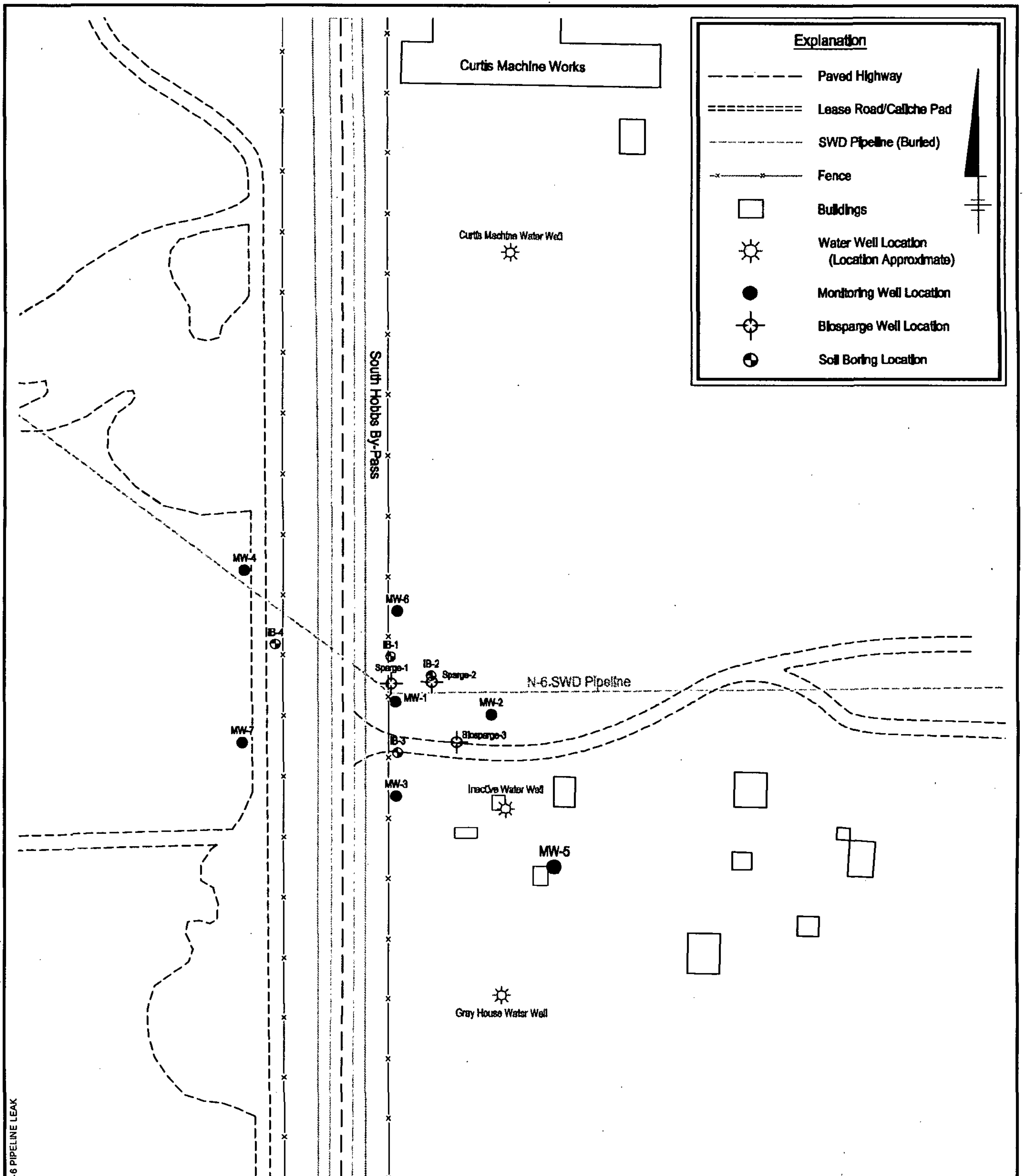
Sharon E. Hall

Sharon E. Hall
Site Evaluation Department Manager

enclosures:

Summary of Analytical Results tables
Laboratory Results
Figure of Well Locations

cc: Kristin Farris Pope - ROC



RICE OPERATING COMPANY
LEA COUNTY, NEW MEXICO
N-6 PIPELINE LEAK

MONITOR WELL AND SOIL BORING LOCATIONS

ARCADIS

FIGURE 1

CITY: MID-TX DIV 85/GROUP: ENV DB: HC LD: PIC: PM: SH TM: LYR: ON=*;OFF=*REF* UN: 31-014-00912
G:\CAD\ACT\MT000821\0001\00001\DWG\00821B04.dwg LAYOUT: 1 SAVED: 3/18/2008 8:44 AM ACADVER: 17.0S (LMS TECH) PAGESETUP: HP 1050C PLOTSTYLETABLE: ACAD.CTB PLOTTED: — BY: CLARDY, HERB

XREFS: IMAGES: 33103-F2-TF-024.tif HOBBS WEST NE.tif PROJECTNAME: N-6 PIPELINE LEAK

N-6 Leak
IWW

Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Laboratory and Field Results (mg/kg)						
					Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate
40.42	98.25	58.98	176.95	8/14/2002	XXX	XXX	XXX	XXX	XXX	XXX	XXX
40.79	98.18	37.3	111.91	3/14/2003	239	XXX	0.004	<0.001	<0.001	<0.001	110
40.45	98.24	37.56	112.69	6/27/2003	40.7	465	<0.001	<0.001	<0.001	<0.001	102
40.43	98.2	37.78	113.34	9/22/2003	42.5	493	<0.001	<0.001	<0.001	<0.001	79.6
40.33	98.23	37.8	113.42	12/18/2003	52	485	<0.002	<0.002	<0.002	<0.006	38.6
41.75	98.23	82.96	248.9	3/15/2004	487	1130	0.00619	<0.001	<0.001	<0.001	130
40.12	98.22	37.93	113.81	5/27/2004	40.8	474	<0.001	<0.001	<0.001	<0.001	100
41.93	98.2	57.4	172.19	9/8/2004	78	583	<0.001	<0.001	<0.001	<0.001	89.6
39.71	98.2	59.66	178.98	11/23/2004	88.3	XXX	<0.001	<0.001	<0.001	<0.001	82.5
39.01	98.2	XXX	250	3/29/2005	419	1010	<0.001	<0.001	<0.001	<0.001	81
39.39	50	XXX	21	6/28/2005	85.3	510	<0.001	<0.001	<0.001	<0.001	73.5
39.6	98.2	59.8	185	12/6/2005	49	498	<0.001	<0.001	<0.001	<0.001	64.2
39.83	98.2	59.5	180	2/28/2006	41.9	532	<0.001	<0.001	<0.001	<0.001	60.3
40.2	98.2	59.2	180	6/5/2006	44.5	494	<0.001	<0.001	<0.001	<0.001	61.1
39.76	98.2	59.6	180	9/12/2006	38.8	528	<0.001	<0.001	<0.001	<0.001	80.7
39.61	98.2	59.8	180	11/14/2006	43.7	434	<0.001	<0.001	<0.001	<0.001	78.1
40.13	97.9	58.9	180	3/14/2007	35.2	538	<0.001	<0.001	<0.001	<0.001	66.7
40.5	97.9	58.5	180	6/11/2007	40.1	490	<0.001	<0.001	<0.011	<0.001	74.7
40.49	97.9	58.6	180	9/18/2007	48	606	0.006	<0.001	<0.001	<0.003	91.9
40.58	97.9	58.5	200	12/5/2007	44	505	<0.001	<0.001	<0.001	<0.003	87.5

N-6 Leak
Bio Sparge 1

					Laboratory and Field Results (mg/kg)						
Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate
40.9	65.7	16.1	25	12/6/2005	92.6	608	0.0323	0.0209	0.107	0.0825	54.4
43.33	65.7	14.5	45	3/1/2006	105	912	0.44	0.0357	0.168	0.1195	
41.08	65.7	16	50	6/5/2006	171	858	0.544	0.0125	1.142	0.03479	45
39.9	65.7	16.8	70	9/12/2006	142	1010	1.15	0.0283	0.207	0.04044	33.2
39.92	63.75	15.5	50	11/15/2006	283	1450	1.06	0.0298	0.159	0.0772	28.6
40.47	63.74	15.1	50	3/14/2007	427	2040	1.19	0.0402	0.323	0.0958	24.2
42.59	63.74	13.7	50	6/12/2007	346	1580	0.569	0.00923	0.146	0.0891	24.7
42.45	63.74	13.8	45	9/18/2007	428	1804	1.88	0.026	0.394	0.202	13.2
44.18	63.74	12.7	45	12/6/2007	500	1997	1.31	0.001	0.255	0.11	66.1

N-6 Leak
Bio Sparge 2

					Laboratory and Field Results (mg/kg)						
Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate
42.59	73.32	20	60	11/15/2006	81.8	522	0.0373	0.00314	0.0404	0.0994	107
41.4	71.59	19.6	60	3/14/2007	64.5	444	0.00274	j[0.000935]	0.00225	0.00282	74.4
41.8	71.59	19.4	60	6/12/2007	83.8	546	0.00179	0.00119	0.002	0.0011	75.9
41.65	71.59	19.5	60	9/18/2007	108	588	<0.001	<0.001	<0.001	<0.003	111
41.5	71.59	19.6	60	12/6/2007	108	571	0.001	<0.001	0.002	<0.003	97.5

N-6 Leak
Bio Sparge 3

Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Laboratory and Field Results (mg/kg)						
					Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate
41.65	70.8	18.9	65	12/5/2007	576	1553	0.062	<0.001	0.069	0.021	73.7

N-6 Leak
MW-2

Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Laboratory and Field Results (mg/kg)						
					Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate
40.2	52.18	7.78	23.36	8/14/2002	XXX	XXX	XXX	XXX	XXX	XXX	XXX
40.34	52.11	7.65	22.75	12/6/2002	XXX	XXX	XXX	XXX	XXX	XXX	XXX
40.61	52.2	7.53	22.6	3/14/2003	53.2	XXX	0.003	0.001	0.006	0.004	109
40.29	52.13	7.69	23.08	6/27/2003	40.8	499	<0.001	<0.001	<0.001	<0.001	112
40.26	52.14	7.75	23.27	9/22/2003	31.9	504	<0.001	<0.001	<0.001	<0.001	88.8
40.39	52.13	7.66	22.99	12/18/2003	44	458	<0.002	<0.002	<0.002	<0.006	37.7
41.53	52.13	6.92	20.76	3/15/2004	39	484	0.00458	<0.001	0.00236	0.001929	108
40.3	52.12	7.71	23.15	5/27/2004	31.9	481	0.000448	<0.001	0.000482	<0.001	89.4
41.69	52.24	6.86	20.57	9/8/2004	70.9	577	0.0289	0.00219	0.0126	0.00837	91.4
39.4	52.24	8.35	25.04	11/22/2004	58.1	XXX	0.0238	0.00269	0.0239	0.01051	90.2
38.73	52.24	XXX	32	3/29/2005	39.1	444	0.00169	<0.001	0.00151	0.00101	93.6
39.12	55	XXX	31.4	6/28/2005	42.4	515	<0.001	<0.001	<0.001	<0.001	100
39.21	55	XXX	31	9/6/2005	49.5	517	<0.001	<0.001	<0.001	<0.001	69.5
39.3	52.24	8.4	30	12/6/2005	58	380	0.00325	<0.001	<0.001	<0.001	107
39.56	52.24	8.2	25	2/28/2006	29.5	538	<0.001	<0.001	<0.001	<0.001	56.3
39.97	52.24	8	25	6/5/2006	38.5	552	<0.001	<0.001	<0.001	<0.001	76.6
39.44	52.24	8.3	25	9/11/2006	31.1	428	<0.001	<0.001	<0.001	<0.001	92
39.47	52.24	8.3	30	11/14/2006	33.6	442	j[0.000709]	<0.001	j[0.00609]	<0.001	91.7
39.89	52.24	8	30	3/13/2007	34.5	422	0.00134	<0.001	<0.001	<0.001	81.5
40.26	52.24	7.8	30	6/12/2007	33.3	444	j (0.000649)	0.0016	j (0.000792)	ND	77.6
40.22	52.24	7.8	25	9/18/2007	36	512	0.056	0.012	0.054	0.037	100
40.35	52.24	7.7	25	12/6/2007	40	454	<0.001	<0.001	<0.001	<0.003	92.7

N-6 Leak
MW-3

Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Laboratory and Field Results (mg/kg)						
					Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate
40.57	156.05	7.65	225.18	8/14/2002	XXX	XXX	XXX	XXX	XXX	XXX	XXX
40.76	156.02	74.92	224.76	12/6/2002	XXX	XXX	XXX	XXX	XXX	XXX	XXX
10.95	156.02	74.79	224.38	3/14/2003	5850	XXX	0.06	0.001	0.001	0.003	888
40.69	156.04	74.97	224.93	6/27/2003	5320	10700	0.013	<0.001	<0.001	0.001	1120
40.68	156.06	75.34	226.02	9/22/2003	5320	10900	0.008	<0.001	<0.001	0.001	1050
40.82	156.03	75.23	225.69	12/18/2003	5398	10512	0.018	<0.002	<0.002	<0.006	399
41.82	156.03	74.57	223.73	3/15/2004	5140	8990	0.0354	<0.001	0.000821	0.001646	793
40.83	156.05	75.23	225.71	5/27/2004	5230	8060	0.0131	0.000238	0.000248	0.000975	664
41.93	156.15	74.27	222.73	9/8/2004	5140	8600	0.0152	<0.001	0.00184	0.003572	762
39.64	156.15	75.73	227.19	11/23/2004	3890	XXX	0.0281	0.000202	0.000775	0.004491	683
38.73	156.15	XXX	235	3/29/2005	7300	14700	0.0805	<0.001	0.00291	0.00422	1030
39.35	156.15	XXX	39.35	6/28/2005	7280	8930	0.00619	<0.001	<0.001	<0.001	2760
39.43	155.78	XXX	40	9/6/2005	4660	7070	0.00566	<0.001	0.00219	0.00455	874
39.52	156.15	75.8	230	12/6/2005	7130	12100	0.0529	0.000572	0.00312	<0.001	848
39.82	156.15	75.6	230	2/28/2006	7270	15300	0.0315	0.00264	0.00535	<0.001	829
40.19	156.15	75.4	230	6/5/2006	7660	13600	0.0171	j[0.000488]	0.00258	<0.001	914
39.8	156.15	75.6	225	9/12/2006	7390	13100	0.0107	j[0.000587]	<0.001	<0.001	939
39.67	156.15	75.7	230	11/14/2006	6810	12600	0.00697	j[0.000417]	j[0.000413]	<0.001	901
42.15	156.68	9.4	30	3/14/2007	7810	13500	0.00177	j[0.000597]	j[0.000405]	<0.001	916
40.48	156.15	75.2	230	6/11/2007	9390	16100	0.0139	0.00168	0.00485	0.010056	1100
40.43	156.15	75.2	230	9/18/2007	7298	14814	0.028	0.001	<0.001	0.009	1010
40.5	156.15	75.2	320	12/5/2007	2700	5870	0.052	0.001	0.001	0.003	680

N-6 Leak
MW-4

					Laboratory and Field Results (mg/kg)						
Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate
42.42	56.65	9.24	27.74	8/14/2002	XXX	XXX	XXX	XXX	XXX	XXX	XXX
42.6	56.66	9.14	27.42	12/6/2002	XXX	XXX	XXX	XXX	XXX	XXX	XXX
42.84	56.63	8.96	26.89	3/14/2003	84.2	XXX	<0.001	<0.001	<0.001	<0.001	123
42.58	56.65	9.14	27.43	6/27/2003	62	520	<0.001	<0.001	<0.001	0.002	138
42.66	56.7	9.16	27.5	9/22/2003	65	569	<0.001	<0.001	<0.001	<0.001	123
42.69	56.67	9.12	27.38	12/18/2003	64	547	<0.002	<0.002	<0.002	<0.006	44.8
43.77	56.67	8.42	25.27	3/15/2004	124	560	0.00103	<0.001	<0.001	<0.001	127
42.65	56.65	9.14	27.42	5/27/2004	49.6	484	<0.001	<0.001	<0.001	<0.001	107
43.92	56.71	8.31	24.94	9/8/2004	49.6	492	0.00142	<0.001	<0.001	<0.001	114
41.26	56.71	10.04	30.13	11/23/2004	55.2	XXX	<0.001	<0.001	<0.001	<0.001	99.2
40.85	56.71	XXX	32	3/29/2005	47	424	<0.001	<0.001	<0.001	<0.001	101
41.32	61.65	XXX	40	6/28/2005	44.8	519	<0.001	<0.001	<0.001	<0.001	102
41.42	61.65	XXX	40	9/6/2005	69.7	523	<0.001	<0.001	<0.001	<0.001	92.5
41.58	56.71	9.8	30	12/6/2005	40.4	370	<0.001	<0.001	<0.001	<0.001	82.2
41.84	56.71	9.7	30	2/28/2006	39.7	556	<0.001	<0.001	<0.001	<0.001	71.7
42.27	56.71	9.4	30	6/5/2006	59.2	476	<0.001	<0.001	<0.001	<0.001	76.2
41.66	56.71	9.8	30	9/11/2006	65.7	588	<0.001	<0.001	<0.001	<0.001	87
41.63	56.71	9.8	30	11/14/2006	93.4	498	<0.001	<0.001	<0.001	<0.001	90.8
42.15	56.68	9.4	30	3/13/2007	95.3	528	<0.001	<0.001	<0.001	<0.001	82.7
42.59	56.68	9.2	30	6/11/2007	69.9	516	<0.001	<0.001	<0.001	<0.001	77.6
42.53	56.68	9.2	30	9/18/2007	84	604	<0.001	<0.001	<0.001	<0.003	93.2
42.65	56.68	9.1	30	12/6/2007	120	588	<0.001	<0.001	<0.001	<0.003	99.7

N-6 Leak
MW-5

Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Laboratory and Field Results (mg/kg)						
					Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate
38.66	51.29	8.2	24.62	8/14/2002	XXX	XXX	XXX	XXX	XXX	XXX	XXX
38.82	51.18	8.01	24.04	12/6/2002	XXX	XXX	XXX	XXX	XXX	XXX	XXX
39.04	51.18	7.89	23.67	3/14/2003	39	XXX	<0.001	<0.001	<0.001	<0.001	105
38.81	51.21	8.06	24.18	6/27/2003	35.4	513	<0.001	<0.001	<0.001	0.002	120
51.2	38.77	8.11	24.35	9/22/2003	33.7	508	<0.001	<0.001	<0.001	<0.001	88.2
38.91	51.19	8.01	24.05	12/18/2003	56	474	<0.002	<0.002	<0.002	<0.006	39.4
40	51.19	7.3	21.92	3/15/2004	762	1620	0.0107	<0.001	0.000543	0.000876	216
38.9	51.19	8.02	24.07	5/27/2004	33.7	473	<0.001	<0.001	<0.001	<0.001	94
40.18	51.31	7.23	21.7	9/8/2004	35.4	517	<0.001	<0.001	<0.001	<0.001	79.4
38.12	51.31	8.57	25.72	11/23/2004	57.3	XXX	<0.001	<0.001	<0.001	<0.001	85.4
37.3	51.31	XXX	32	3/29/2005	35	449	<0.001	<0.001	<0.001	<0.001	83.1
XXX	XXX	XXX	XXX	6/28/2005	38.1	504	<0.001	<0.001	<0.001	<0.001	95.8
37.74	51.07	XXX	26.11	9/6/2005	66.8	488	<0.001	<0.001	<0.001	<0.001	103
37.8	51.31	8.8	30	12/6/2005	29.6	442	0.00044	<0.001	<0.001	<0.001	67
38.11	51.31	8.6	30	2/28/2006	27.9	504	<0.001	<0.001	<0.001	<0.001	62.8
38.48	51.31	8.3	30	6/5/2006	37.8	484	<0.001	<0.001	<0.001	<0.001	69
38.08	51.31	8.6	30	9/11/2006	39	596	<0.001	<0.001	<0.001	<0.001	81.2
37.94	51.31	8.7	30	11/14/2006	30.2	430	<0.001	<0.001	<0.001	<0.001	85
38.33	51.3	8.4	30	3/13/2007	36.2	420	<0.001	<0.001	<0.001	<0.001	78
38.82	51.3	8.1	30	6/11/2007	35.2	454	<0.001	<0.001	<0.001	<0.001	71.8
38.78	51.3	8.1	30	9/18/2007	40	574	<0.001	<0.001	<0.001	<0.003	89.6
38.85	51.3	8.1	30	12/6/2007	32	484	<0.001	<0.001	<0.001	<0.003	91.4

N-6 LEAK
MW-6

					Laboratory and Field Results (mg/kg)						
Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate
40.7	52.98	1.96	5.89	8/14/2002	XXX	XXX	XXX	XXX	XXX	XXX	XXX
40.87	53.02	1.94	5.83	12/6/2002	XXX	XXX	XXX	XXX	XXX	XXX	XXX
41.1	53	1.9	5.71	3/14/2003	42.5	XXX	<0.001	<0.001	<0.001	<0.001	96.6
40.81	53.03	1.95	5.86	6/27/2003	35.4	743	<0.001	<0.001	<0.001	<0.001	97.5
40.79	52.97	1.98	5.95	9/22/2003	39	484	<0.001	<0.001	<0.001	<0.001	88.4
40.93	53	1.96	5.9	12/18/2003	44	452	<0.002	<0.002	<0.002	<0.006	36.8
42.02	53	1.78	5.36	3/15/2004	222	692	0.0026	<0.001	<0.001	<0.001	94.2
40.91	53.01	1.97	5.91	5/27/2004	31.9	443	<0.001	<0.001	<0.001	<0.001	86.6
42.16	53.1	1.75	5.25	9/8/2004	53.2	488	<0.001	<0.001	<0.001	<0.001	85
39.62	53.1	2.16	6.47	11/23/2004	76.1	XXX	<0.001	<0.001	<0.001	<0.001	84
39.14	53.1	XXX	8	3/29/2005	97.8	473	<0.001	<0.001	<0.001	<0.001	81.1
39.6	54.49	XXX	7.6	6/28/2005	122	541	<0.001	<0.001	0.000812	0.002845	103
39.61	61.65	XXX	10.78	9/6/2005	40.4	442	<0.001	<0.001	<0.001	<0.001	23.4
39.75	53.1	2.1	7	12/6/2005	52.7	458	<0.001	<0.001	<0.001	<0.001	58.2
40.06	53.1	2.1	7	2/28/2006	59.2	552	<0.001	<0.001	<0.001	<0.001	67.6
40.53	53.1	2	10	6/5/2006	67.2	512	<0.001	<0.001	<0.001	<0.001	72.2
40.05	53.1	2.1	10	9/11/2006	67.6	552	<0.001	<0.001	<0.001	<0.001	101
39.88	53.1	2.1	8	11/14/2006	53.9	464	<0.001	<0.001	<0.001	<0.001	95.4
40.34	53.1	2	8	3/13/2007	57.7	466	<0.001	<0.001	<0.001	<0.001	90.3
40.78	53.1	2	8	6/11/2007	61.8	528	<0.001	<0.001	<0.001	<0.001	85.4
40.64	53.1	2	8	9/18/2007	72	566	<0.001	<0.001	<0.001	<0.002	105
40.85	53.1	2	8	12/6/2007	76	525	<0.001	<0.001	<0.001	<0.003	111

N-6 Leak
MW-7

Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Laboratory and Field Results (mg/kg)						
					Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate
40.74	47.2	1.03	3.1	8/14/2002	XXX	XXX	XXX	XXX	XXX	XXX	XXX
40.94	47.17	0.99	2.98	12/6/2002	XXX	XXX	XXX	XXX	XXX	XXX	XXX
41.22	47.18	0.95	2.86	3/14/2003	266	XXX	0.001	<0.001	<0.001	<0.001	XXX
40.88	47.15	1	3	6/27/2003	222	802	<0.001	<0.001	<0.001	<0.001	122
40.86	47.11	1.01	3.05	9/22/2003	222	861	<0.001	<0.001	<0.001	<0.001	133
41.03	47.18	1	3	12/18/2003	208	827	<0.002	<0.002	<0.002	<0.006	110
42.17	47.18	0.81	2.44	3/15/2004	1080	2220	0.0131	<0.001	<0.001	<0.001	44.4
41	47.15	1	3	5/27/2004	213	986	<0.001	<0.001	<0.001	<0.001	220
42.34	47.25	0.79	2.36	9/8/2004	230	731	<0.001	<0.001	<0.001	<0.001	105
39.82	47.25	1.19	178.98	11/23/2004	188	XXX	<0.001	<0.001	<0.001	<0.001	111
39.33	47.25	XXX	4	3/29/2005	234	791	<0.001	<0.001	<0.001	<0.001	96.1
39.6	47	XXX	3.7	6/28/2005	216	783	<0.001	<0.001	0.00114	0.0038	96.9
39.86	47	XXX	3.5	9/6/2005	187	802	<0.001	<0.001	<0.001	<0.001	76.9
39.93	47.25	1.2	4	12/6/2005	201	670	<0.001	<0.001	<0.001	<0.0001	85.2
40.27	47.25	1.1	4	2/28/2006	202	876	<0.001	<0.001	<0.001	<0.001	72.4
40.63	47.25	1.1	10	6/5/2006	225	794	<0.001	<0.001	<0.001	<0.001	74
40.17	47.25	1.1	10	9/11/2006	202	710	<0.001	<0.001	<0.001	<0.001	77.9
40.01	47.25	1.2	7	11/14/2006	223	764	<0.001	<0.001	<0.001	<0.001	86.5
40.53	47.31	1.1	5	3/13/2007	206	724	<0.001	<0.001	<0.001	<0.001	79.9
40.92	47.31	1	5	6/11/2007	228	846	<0.001	<0.001	<0.001	<0.001	75.9
40.92	47.31	1	5	9/18/2007	252	868	<0.001	<0.001	<0.001	<0.003	97.7
41.03	47.31	1	5	12/6/2007	256	882	<0.001	<0.001	<0.001	<0.003	105

CARDINAL LABORATORIES

PHONE (575) 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: (575) 397-1471

Receiving Date: 12/07/07
Reporting Date: 12/20/07
Project Number: NOT GIVEN
Project Name: HOBBS N-6
Project Location: T19S-R38E-SEC5&6 E/H~LEA COUNTY, NM

Sampling Date: 12/05/07 & 12/06/07
Sample Type: WATER
Sample Condition: COOL & INTACT
Sample Received By: NF
Analyzed By: HM/KS/AB

LAB NUMBER	SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (uS/cm)	T-Alkalinity ($mgCaCO_3/L$)
ANALYSIS DATE:		12/19/07	12/18/07	12/18/07	12/19/07	12/18/07	12/18/07
H13876-1	MONITOR WELL #2	31	87.8	18.6	2.13	684	212
H13876-2	MONITOR WELL #3	1,558	373	105	27.5	9,340	276
H13876-3	MONITOR WELL #4	97	102	5.65	2.78	942	268
H13876-4	MONITOR WELL #5	68	85.2	8.07	2.23	709	256
H13876-5	MONITOR WELL #6	55	98.5	15.3	1.80	791	208
Quality Control		NR	49.2	54.0	3.19	1,411	NR
True Value QC		NR	50.0	50.0	3.00	1,413	NR
% Recovery		NR	98.5	108	106	99.9	NR
Relative Percent Difference		NR	< 0.1	6.1	10.2	0.7	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:		12/18/07	12/19/07	12/18/07	12/18/07	12/18/07	12/11/07
H13876-1	MONITOR WELL #2	40	92.7	0	259	6.28	454
H13876-2	MONITOR WELL #3	2,700	680	0	337	6.56	5,751
H13876-3	MONITOR WELL #4	120	99.7	0	268	7.16	588
H13876-4	MONITOR WELL #5	32	91.4	0	312	7.21	484
H13876-5	MONITOR WELL #6	76	111	0	254	7.23	525
Quality Control		490	27.8	NR	1000	7.06	NR
True Value QC		500	25.0	NR	1000	7.00	NR
% Recovery		98.0	111	NR	100	101	NR
Relative Percent Difference		2.0	17.4	NR	< 0.1	0.3	NR
METHODS:		SM4500-Cl-B	375.4	310.1	310.1	150.1	160.1

Chemist

12-21-07
Date

H13876 RICE

CARDINAL LABORATORIES

PHONE (575) 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: (575) 397-1471

Receiving Date: 12/07/07
Reporting Date: 12/20/07
Project Number: NOT GIVEN
Project Name: HOBBS N-6
Project Location: T19S-R38E-SEC5&6 E/H~LEA COUNTY, NM

Sampling Date: 12/05/07 & 12/06/07
Sample Type: WATER
Sample Condition: COOL & INTACT
Sample Received By: NF
Analyzed By: HM/KS/AB

LAB NUMBER	SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (u S/cm)	T-Alkalinity ($mgCaCO_3$/L)
ANALYSIS DATE:		12/19/07	12/18/07	12/18/07	12/19/07	12/18/07	12/18/07
H13876-6	MONITOR WELL #7	192	114	3.23	4.56	1,398	252
H13876-7	IWW	101	59.9	19.4	3.69	810	300
H13876-8	BIO SPARGE #1	753	16.0	18.6	22.0	3,260	1010
H13876-9	BIO SPARGE #2	57	97.1	22.6	7.43	877	216
H13876-10	BIO SPARGE #3	476	66.5	25.0	21.4	2,668	444
Quality Control		NR	49.2	54.0	3.19	1,411	NR
True Value QC		NR	50.0	50.0	3.00	1,413	NR
% Recovery		NR	98.5	108	106	99.9	NR
Relative Percent Difference		NR	< 0.1	6.1	10.2	0.7	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:		12/18/07	12/19/07	12/18/07	12/18/07	12/18/07	12/11/07
H13876-6	MONITOR WELL #7	256	105	0	307	7.23	882
H13876-7	IWW	44	87.5	0	366	7.40	505
H13876-8	BIO SPARGE #1	500	66.1	0	1230	7.81	1,997
H13876-9	BIO SPARGE #2	108	97.5	0	264	7.52	571
H13876-10	BIO SPARGE #3	576	73.7	0	542	7.59	1,553
Quality Control		490	27.8	NR	1000	7.06	NR
True Value QC		500	25.0	NR	1000	7.00	NR
% Recovery		98.0	111	NR	100	101	NR
Relative Percent Difference		2.0	17.4	NR	< 0.1	0.3	NR
METHODS:		SM4500-Cl-B	375.4	310.1	310.1	150.1	160.1

Chemist

12-21-07
Date

H13876 RICE

CARDINAL LABORATORIES

PHONE (575) 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: (575) 397-1471

Receiving Date: 12/07/07
Reporting Date: 12/10/07
Project Number: NOT GIVEN
Project Name: HOBBS N-6
Project Location: T19S-R38E-SEC5&6 E/H ~ LEA COUNTY, NM

Sampling Date: 12/05/07-12/06/07
Sample Type: WATER
Sample Condition: COOL & INTACT
Sample Received By: NF
Analyzed By: AB

LAB NUMBER	SAMPLE ID	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	TOTAL XYLENES (mg/L)
ANALYSIS DATE		12/10/07	12/10/07	12/10/07	12/10/07
H13876-1	MONITOR WELL #2	<0.001	<0.001	<0.001	<0.003
H13876-2	MONITOR WELL #3	0.052	0.001	0.001	0.003
H13876-3	MONITOR WELL #4	<0.001	<0.001	<0.001	<0.003
H13876-4	MONITOR WELL #5	<0.001	<0.001	<0.001	<0.003
H13876-5	MONITOR WELL #6	<0.001	<0.001	<0.001	<0.003
H13876-6	MONITOR WELL #7	<0.001	<0.001	<0.001	<0.003
H13876-7	IWW	<0.001	<0.001	<0.001	<0.003
H13876-8	BIO SPARGE #1	1.31	0.001	0.255	0.110
H13876-9	BIO SPARGE #2	0.001	<0.001	0.002	<0.003
H13876-10	BIO SPARGE #3	0.062	<0.001	0.069	0.021
Quality Control		0.106	0.097	0.098	0.309
True Value QC		0.100	0.100	0.100	0.300
% Recovery		106	97	98	103
Relative Percent Difference		5.3	0.5	3.9	1.8

METHOD: EPA 624/SW-846 8260

Chemist

12/12/07
Date

H13876 RICE

101 East Marland - Hobbs, New Mexico 88240
Tel (505) 393-2326
Fax (505) 393-2476

Cardinal Laboratories, Inc.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # _____

Company Name:	BILL TO Company:	PO#
RICE Operating Company	RICE Operating Company	
Project Manager:	**Address:** (Street, City, Zip)	
Kristin Farris-Pope, Project Scientist	122 W Taylor Street ~ Hobbs, New Mexico 88240	
Address: (Street, City, Zip)	**Phone#:**	**Fax#:**
122 W Taylor Street ~ Hobbs, New Mexico 88240	(505) 393-9174	(505)397-1471
Phone #:	**Fax #:**	
(505) 393-9174	(505) 397-1471	
Project #:	**Project Name:**	
	Hobbs N-6	
Project Location:	**Sampler Signature:**	Rozanne Johnson (505)631-9310 rozanne@valornet.com
T19S-R38E-Sec5&6 E/H ~ Lea County - New Mexico		

LAB # (LAB USE ONLY)	FIELD CODE	(G)rab or (C)omp	# CONTAINERS	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL (2 40ml VOA)	HNO_3	$NaHSO_4$	H_2SO_4	ICE (1-1Liter HDPE)	NONE	SAMPLING: DATE (2007)	TIME
H13376-1	Monitor Well #2	G	3	X				2				1		12-6	13:15
-2	Monitor Well #3	G	3	X				2				1		12-5	14:35
-3	Monitor Well #4	G	3	X				2				1		12-6	10:10
-4	Monitor Well #5	G	3	X				2				1		12-6	12:25
-5	Monitor Well #6	G	3	X				2				1		12-6	11:30
-6	Monitor Well #7	G	3	X				2				1		12-6	9:00
-7	IWW	G	3	X				2				1		12-5	12:40
-8	Bio Sparge #1	G	3	X				2				1		12-6	14:35
-9	Bio Sparge #2	G	3	X				2				1		12-6	15:55
-10	Bio Sparge #3	G	3	X				2				1		12-5	15:50

ANALYSIS REQUEST

(Circle or Specify Method No.)

MTBE 8021B/602	BTEX 8021B/602	TPH 418.1/TX1005 / TX1005 Extended (C35)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol. 8260B/624	GC/MS Semi. Vol. 8270C/625	PCB's 8082/608	Pesticides 8081A/608	BOD, TSS, pH	Moisture Content	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, CO3, HCO3)	Total Dissolved Solids	Chlorides	Turn Around Time ~ 24 Hours
	X															X	X	X		
	X															X	X	X		
	X															X	X	X		
	X															X	X	X		
	X															X	X	X		
	X															X	X	X		
	X															X	X	X		
	X															X	X	X		
	X															X	X	X		
	X															X	X	X		

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Rozanne Johnson	12-7-2007	3:40		12-7-07	3:40PM
Relinquished by:	Date:	Time:	Received By: (Laboratory Staff)	Date:	Time:

Delivered By: (Circle One)	Sample Condition	CHECKED BY:
Sampler - UPS - Bus - Other:	Cool: Yes [X] No [ ] Intact: Yes [X] No [ ]	(Initials)

Phone Results		Yes		No
Fax Results		Yes		No Additional Fax Number:

REMARKS:

Email Results to: kpope@riceswd.com
lweinheimer@riceswd.com
rozanne@valornet.com