AP - 49

ANNUAL MONITORING REPORT

YEAR(S): 2010

TETRA TECH

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March 30, 2011

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

Re: 2010 Annual Groundwater Summary Report & Project Status Report, Rice Operating Company, Justis Saltwater Disposal System (SWD) H-2, Unit H, Section 2, T-26-S, R-37-E, Lea County, New Mexico, NMOCD CASE #1R0423-01 (AP-49)

Mr. Hansen:

Tetra Tech Inc. (Tetra Tech) submits the following 2010 Annual Groundwater Summary Report for the Rice Operating Company (ROC), SWD H-2 site, located in the Justis Salt Water Disposal System (AP-49). This report consists of the following sections:

1. A figure presenting the location of the monitoring wells and most recent groundwater sampling events.
2. Tables summarizing all laboratory results and depths to groundwater at the site, including the current year (2010).
3. Graphs depicting the concentration of chlorides, total dissolved solids (TDS), and sulfates over time.
4. Laboratory results for the most recent groundwater sampling event.

A Stage 2 Abatement Plan was prepared and submitted to the NMOCD on May 25, 2006. On June 7, 2006, the NMOCD certified the plan "Administratively Complete". A public notice was submitted and approved on July 21, 2006. Final approval for the Stage 2 Abatement plan was received on October 3, 2006. The abatement system, consisting of a solar/wind powered pump and Reverse Osmosis (R/O) system, was installed on November 6, 2006. From January 1, 2010 through December 31, 2010, a total of 15,933.10 gallons of water had been pumped from MW-2 with 5,913.70 gallons of treated water re-injected into the aquifer at the site and 10,019.40 gallons disposed into the permitted SWD well on site. Since startup in 2007, a total of 157,081.80 gallons

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TETRA TECH

have been removed from MW-2 with 61,252.30 gallons re-injected and 95,829.50 gallons disposed into the permitted SWD well on site.

On July 16, 2009, a formal request was submitted to the NMOCD for suspension of further sampling of BTEX/Sulfate at the site. As of this report, a response has not been received from the NMOCD in regards to the suspension request. For 2011, the R/O system will continue to be operated at this site with quarterly sampling performed for the year.

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

Thank you for your consideration of this annual summary information. If you have any questions, please contact me at (432) 682-4559, or Hack Conder of ROC at (575) 393-9174.

STATE OF TEXAS
JEFFREY KINDLEY
GEOLOGY
1110
LICENSED
PROFESSIONAL GEOSCIENTIST

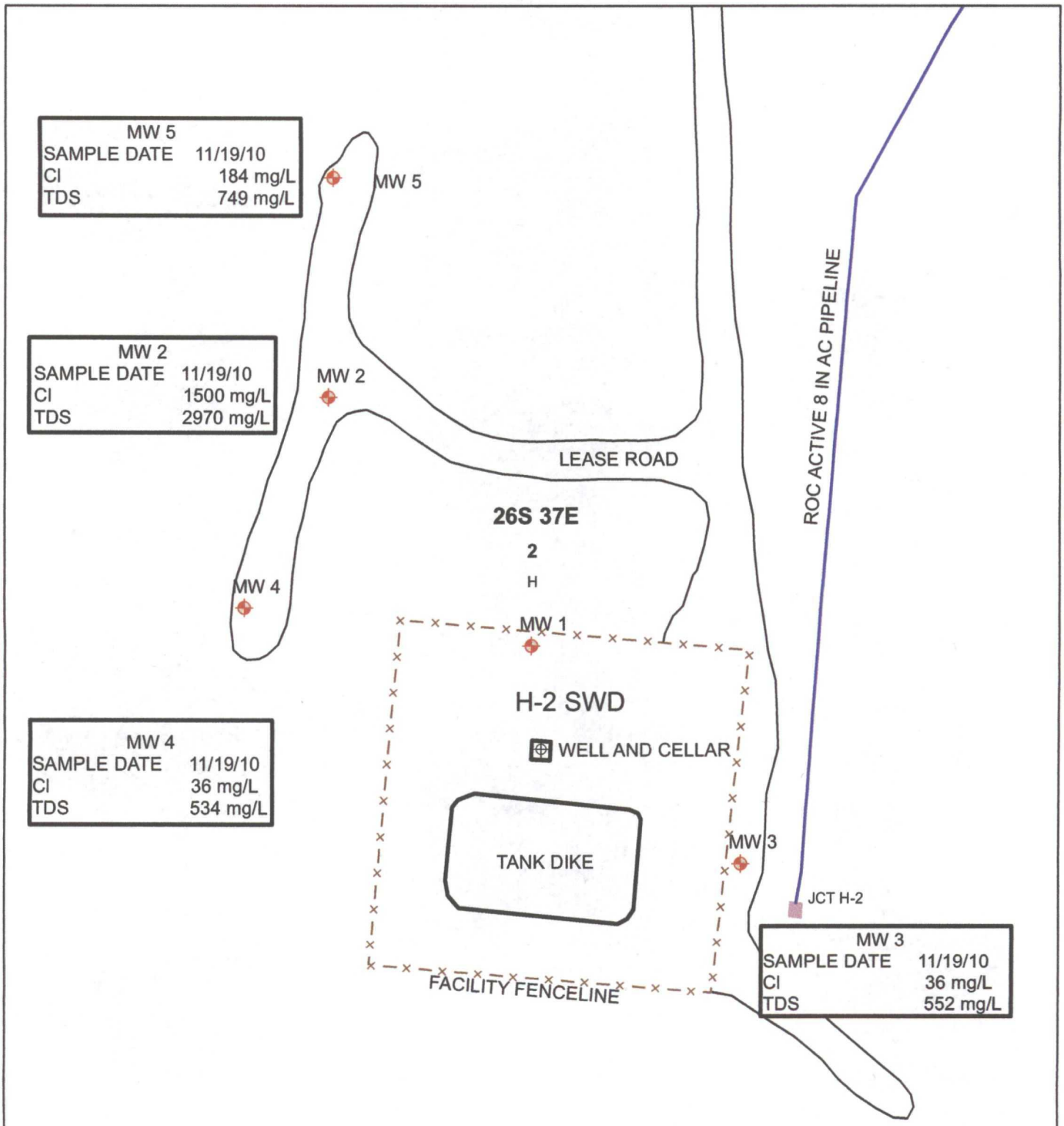
Respectfully Submitted,
Tetra Tech, Inc.

Jeffrey W. Kindley, P.G.
Senior Project Manager

cc: Hack Conder – ROC
Enclosures: Figure, Tables, Graphs, Lab Results

FIGURES

MONITOR WELL SAMPLING DATA



RICE ENVIRONMENTAL RECS CONSULTING & SAFETY, LLC

JUSTIS H-2

Legals: UL/H SEC 2
T-26-S R-37-E

NMOCD Case #: AP 49

FIGURE 1

N W E S

0 30 60 120 Feet

Drawing date: 3/24/11
Revision date:
Drafted by: TONY GRIECO

TABLES

Table 1
Rice Operating Company
Justis H-2
Lea County, New Mexico

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
1	116.20	145.00	18.80	56.4	01/03/02	336	1112	<0.002	<0.002	<0.002	<0.006	116	xxx
1	xxx	xxx	xxx	xxx	03/01/02	301	971	xxx	xxx	xxx	xxx	190	xxx
1	xxx	xxx	xxx	xxx	06/10/02	173	xxx	0.001	0.008	0.01	0.066	xxx	xxx
1	116.20	137.00	xxx	66.0	08/16/02	111	619	<0.001	<0.001	<0.001	<0.001	202	xxx
1	123.32	144.00	xxx	60.0	11/12/02	257	971	<0.001	<0.001	<0.001	<0.001	194	xxx
1	122.95	144.00	xxx	70.0	02/13/03	97.5	647	<0.001	<0.001	<0.001	<0.001	200	xxx
1	123.34	144.00	xxx	70.0	05/20/03	102	682	<0.001	<0.001	<0.001	<0.001	196	xxx
1	122.94	144.00	xxx	70.0	09/16/03	594	1920	<0.001	<0.001	<0.001	<0.001	186	xxx
1	123.19	144.00	xxx	70.0	12/16/03	81.5	587	0.013	<0.001	<0.001	<0.001	180	xxx
1	122.43	144.00	xxx	70.0	03/11/04	727	2060	<0.001	<0.001	<0.001	<0.001	227	xxx
1	122.24	144.00	xxx	70.0	06/28/04	1030	3230	0.0056	<0.001	<0.001	<0.001	349	xxx
1	122.22	144.00	xxx	70.0	09/23/04	106	749	<0.001	<0.001	<0.001	<0.001	175	xxx
1	122.18	144.00	xxx	68.0	12/21/04	93.1	858	<0.001	<0.001	<0.001	0.00108	215	xxx
1	121.97	144.00	xxx	75.0	03/29/05	98.2	608	<0.001	<0.001	<0.001	<0.001	169	xxx
1	122.08	144.00	xxx	80.0	06/16/05	173	711	<0.001	<0.001	<0.001	<0.001	166	xxx
1	xxx	xxx	xxx	xxx	09/15/05	151	840	<0.001	<0.001	<0.001	<0.001	133	xxx
1	122.12	153.00	31.50	100.0	12/05/05	93.5	586	<0.001	<0.001	<0.001	<0.001	114	xxx
1	121.81	153.00	31.80	100.0	02/27/06	414	1120	<0.001	<0.001	<0.001	<0.001	157	xxx
1	121.94	153.00	31.70	100.0	06/14/06	206	782	<0.001	<0.001	<0.001	<0.001	151	xxx
1	121.80	153.00	31.80	100.0	09/13/06	430	1,260	<0.001	<0.001	<0.001	<0.001	194	xxx
1	121.89	153.00	31.70	100.0	12/05/06	223	512	<0.001	<0.001	<0.001	<0.001	47.6	xxx

Graph 1
Rice Operating Company
MW-1
Justis H-2
Lea County, New Mexico

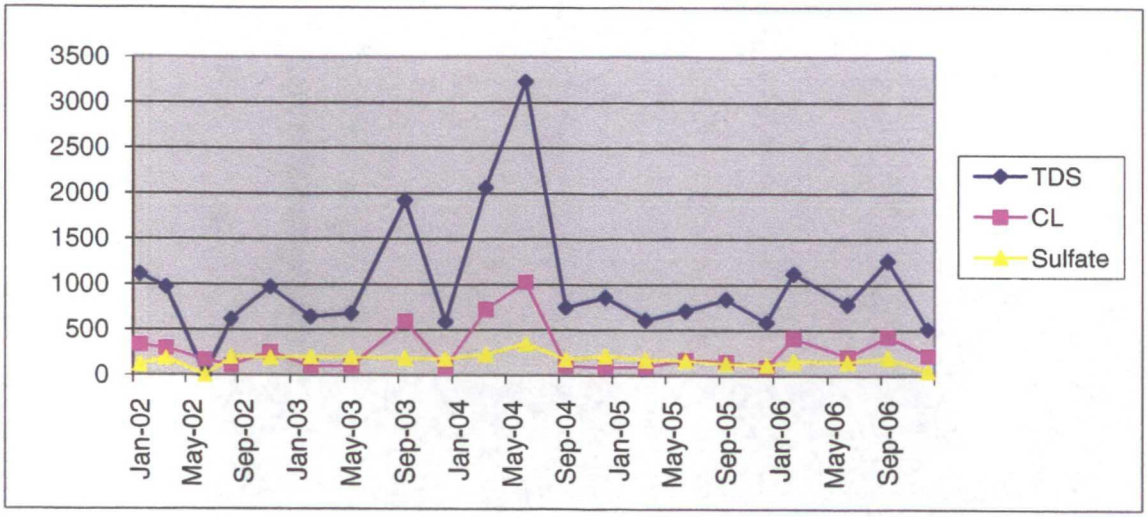


Table 2
Rice Operating Company
Justis H-2
Lea County, New Mexico

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
2	122.00	142.60	13.40	40.3	01/07/02	1839	3908	<0.002	<0.002	<0.002	<0.006	120	xxx
2	xxx	xxx	xxx	xxx	03/01/02	700	1780	xxx	xxx	xxx	xxx	150	xxx
2	xxx	xxx	xxx	xxx	05/23/02	904	2710	<0.001	<0.001	<0.001	<0.001	243	xxx
2	121.85	142.00	xxx	25.0	08/16/02	1040	3390	<0.001	<0.001	<0.001	<0.001	188	xxx
2	122.10	142.00	xxx	25.0	11/12/02	1130	2600	0.002	0.003	<0.001	<0.002	200	xxx
2	121.71	142.00	xxx	25.0	02/13/03	1110	2780	<0.001	<0.001	<0.001	<0.001	216	xxx
2	122.08	142.00	xxx	25.0	05/20/03	1130	3600	<0.001	<0.001	<0.001	<0.001	215	xxx
2	121.70	142.00	xxx	25.0	09/16/03	1070	3540	<0.001	<0.001	<0.001	<0.001	167	xxx
2	122.00	142.00	xxx	30.0	12/16/03	1230	2490	0.032	0.003	<0.001	<0.001	202	xxx
2	121.87	142.00	xxx	30.0	03/11/04	1200	3660	<0.001	<0.001	<0.001	<0.001	164	xxx
2	121.74	142.00	xxx	30.0	06/28/04	2570	6290	0.0112	<0.001	<0.001	<0.001	208	xxx
2	121.70	142.00	xxx	25.0	09/23/04	1130	3760	<0.001	<0.001	<0.001	<0.001	198	xxx
2	121.65	142.00	xxx	10.0	12/21/04	1150	2877	0.0055	<0.001	<0.001	<0.001	210	xxx
2	121.45	142.00	xxx	25.0	03/29/05	1310	2620	<0.001	<0.001	<0.001	<0.001	186	xxx
2	121.58	142.00	xxx	30.0	06/16/05	1280	3080	<0.001	<0.001	<0.001	<0.001	221	xxx
2	xxx	xxx	xxx	xxx	09/15/05	1110	3240	<0.001	<0.001	<0.001	<0.001	196	xxx
2	121.52	142.60	3.40	20.0	12/05/05	1110	2630	<0.001	<0.001	<0.001	<0.001	134	xxx
2	121.40	142.60	3.40	20.0	02/27/06	1360	3450	<0.001	<0.001	<0.001	<0.001	139	xxx
2	121.40	142.60	3.40	15.0	06/14/06	1260	3520	<0.001	<0.001	<0.001	<0.001	204	xxx
2	121.34	142.60	3.40	15.0	09/13/06	1130	2,560	<0.001	<0.001	<0.001	<0.001	166	xxx
2	Pump	142.60	xxx	xxx	12/05/06	1240	2,300	<0.001	<0.001	<0.001	<0.001	156	xxx
2	Pump	142.60	xxx	xxx	03/15/07	1810	3,540	<0.001	<0.001	<0.001	<0.001	222	Clear no odor
2	Pump	142.60	xxx	xxx	06/13/07	1350	3,820	<0.001	<0.001	<0.001	<0.001	193	Clear no odor
2	Pump	142.60	xxx	xxx	09/17/07	1424	3,820	<0.002	<0.002	<0.002	<0.006	234	Clear no odor
2	Pump	142.60	xxx	xxx	11/13/07	1600	3053	<0.001	<0.001	<0.001	<0.003	177	Clear no odor
2	Pump	142.60	xxx	xxx	02/23/08	1500	3,390	<0.001	<0.001	<0.001	<0.003	169	Clear no odor

Graph 2
Rice Operating Company
MW-2
Justis H-2
Lea County, New Mexico

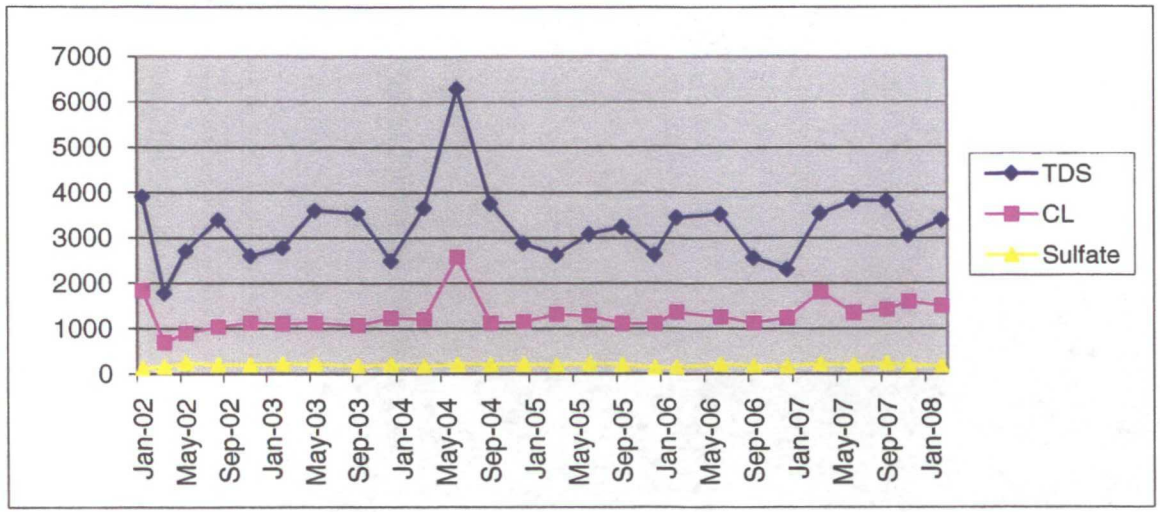


Table 3
Rice Operating Company
Justis H-2
Lea County, New Mexico

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl mg/L	TDS mg/L	Benzene mg/L	Toluene mg/L	Ethyl Benzene mg/L	Total Xylenes mg/L	Sulfate mg/L	Comments
2R	120.90	153.80	21.40	75	05/21/08	1600	4490	<0.002	<0.002	<0.002	<0.006	252	Clear
2R	xxx	xxx	xxx	xxx	08/27/08	1360	3090	<0.001	<0.001	<0.001	<0.003	198	Clear
2R	xxx	xxx	xxx	xxx	12/01/08	1800	3,600	<0.001	<0.001	<0.001	<0.003	176	Clear
2R	xxx	xxx	xxx	xxx	02/25/09	2320	3,850	<0.001	<0.001	<0.001	<0.003	52	Clear
2R	xxx	xxx	xxx	xxx	06/15/09	1440	3030	<0.001	<0.001	<0.001	<0.003	146	Clear
2R	xxx	xxx	xxx	xxx	09/04/09	1500	3,390	<0.001	<0.001	<0.001	<0.003	166	Clear
2R	xxx	xxx	xxx	xxx	11/16/09	1580	2,870	<0.001	<0.001	<0.001	<0.003	128	Clear
2R	xxx	xxx	xxx	xxx	03/05/10	1520	3,790	<0.001	<0.001	<0.001	<0.003	175	Clear
2R	xxx	xxx	xxx	xxx	06/01/10	1600	3,730	<0.001	<0.001	<0.001	<0.003	184	Clear
2R	xxx	xxx	xxx	xxx	08/23/10	1640	2,690	<0.001	<0.001	<0.001	<0.003	160	Clear
2R	xxx	xxx	xxx	xxx	11/19/10	1500	2,970	<0.001	<0.001	<0.001	<0.003	197	Clear

Graph 3
Rice Operating Company
MW-2R
Justis H-2
Lea County, New Mexico

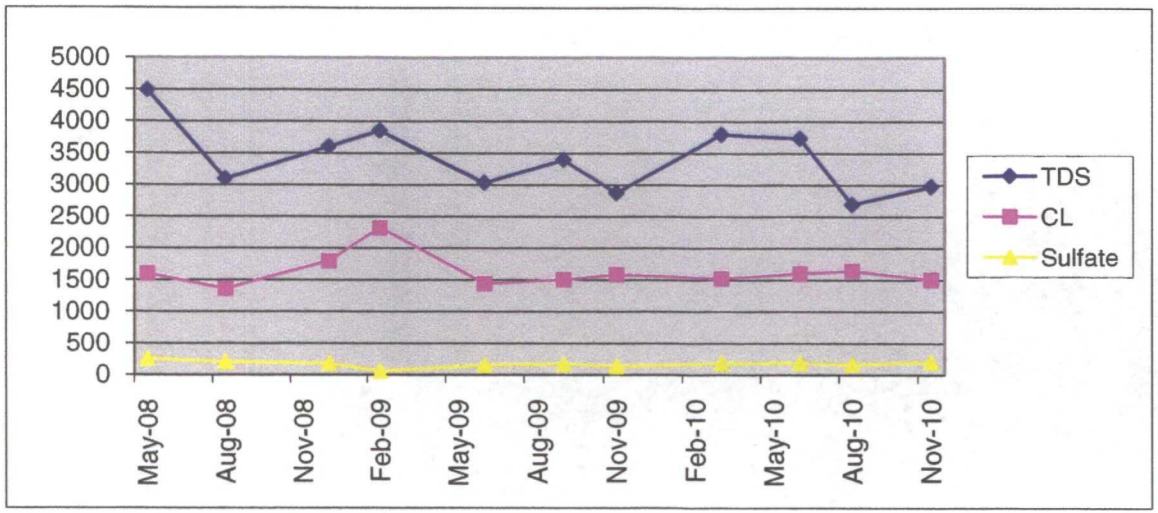


Table 4
Rice Operating Company
Justis H-2
Lea County, New Mexico

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl mg/L	TDS mg/L	Benzene mg/L	Toluene mg/L	Ethyl Benzene mg/L	Total Xylenes mg/L	Sulfate mg/L	Comments
3	122.10	137.50	10.00	30.1	01/07/02	48	577	<0.005	<0.005	<0.005	<0.015	145	xxx
3	xxx	xxx	xxx	xxx	03/01/02	37.2	561	xxx	xxx	xxx	xxx	167	xxx
3	xxx	xxx	xxx	xxx	05/16/02	35.4	570	<0.001	<0.001	<0.001	<0.001	182	xxx
3	118.68	133.00	xxx	20.0	08/16/02	93.1	631	<0.001	<0.001	<0.001	<0.001	238	xxx
3	118.90	133.00	xxx	25.0	11/12/02	97.5	688	0.030	0.014	0.002	0.003	219	xxx
3	118.53	133.00	xxx	25.0	02/13/03	102	666	<0.001	<0.001	<0.001	<0.001	250	xxx
3	118.87	133.00	xxx	25.0	05/20/03	168	885	<0.001	<0.001	<0.001	<0.001	278	xxx
3	118.53	133.00	xxx	25.0	09/16/03	204	568	<0.001	<0.001	<0.001	<0.001	184	xxx
3	118.79	133.00	xxx	30.0	12/16/03	40.8	517	0.013	<0.001	<0.001	<0.001	204	xxx
3	118.71	133.00	xxx	30.0	03/11/04	65	666	<0.001	<0.001	<0.001	<0.001	203	xxx
3	118.53	133.00	xxx	30.0	06/28/04	124	735	0.0124	<0.001	<0.001	<0.001	295	xxx
3	118.52	133.00	xxx	25.0	09/23/04	115	703	0.00113	<0.001	<0.001	<0.001	242	xxx
3	118.52	133.00	xxx	7.0	12/21/04	154	1057	0.0127	<0.001	0.00144	<0.001	272	xxx
3	118.31	133.00	xxx	25.0	03/29/05	108	670	<0.001	<0.001	<0.001	<0.001	215	xxx
3	118.41	133.00	xxx	30.0	06/16/05	62.4	535	<0.001	<0.001	<0.001	<0.001	180	xxx
3	xxx	xxx	xxx	xxx	09/15/05	56.4	664	<0.001	<0.001	<0.001	<0.001	139	xxx
3	118.25	133.70	2.50	20.0	12/05/05	30.7	450	<0.001	<0.001	<0.001	<0.001	131	xxx
3	118.18	133.70	2.50	15.0	02/27/06	26.8	562	<0.001	<0.001	<0.001	<0.001	123	xxx
3	118.18	133.70	2.50	15.0	06/14/06	38.3	514	<0.001	<0.001	<0.001	<0.001	151	xxx
3	118.23	133.70	2.50	15.0	09/13/06	28	610	<0.001	<0.001	<0.001	<0.001	170	xxx
3	118.21	133.70	2.50	10.0	12/05/06	26.1	486	<0.001	<0.001	<0.001	<0.001	164	xxx
3	118.26	133.40	2.40	10.0	03/15/07	77.6	532	<0.001	<0.001	<0.001	<0.001	226	xxx
3	118.49	133.40	2.40	10.0	06/13/07	86.9	512	<0.001	<0.001	<0.001	<0.001	193	xxx
3	118.07	133.40	2.50	10.0	09/17/07	36	564	<0.002	<0.002	<0.002	<0.006	201	xxx
3	118.23	133.40	2.40	10.0	11/13/07	32	537	<0.001	<0.001	<0.001	<0.003	223	xxx
3	118.08	133.40	2.50	10.0	02/23/08	32	548	<0.001	<0.001	<0.001	<0.003	157	xxx
3	117.98	133.40	2.50	10.0	05/21/08	32	519	<0.002	<0.002	<0.002	<0.002	156	xxx
3	118.13	133.40	2.40	10.0	08/27/08	32	544	<0.001	<0.001	<0.001	<0.003	183	xxx
3	118.26	133.40	2.40	10.0	12/01/08	36	577	<0.001	<0.001	<0.001	<0.003	177	xxx
3	118.11	134.30	2.60	10.0	02/25/09	36	543	<0.001	<0.001	<0.001	<0.003	169	xxx
3	118.14	134.30	2.60	10.0	06/15/09	36	591	<0.001	<0.001	<0.001	<0.003	145	xxx

Table 4
Rice Operating Company
Justis H-2
Lea County, New Mexico

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl mg/L	TDS mg/L	Benzene mg/L	Toluene mg/L	Ethyl Benzene mg/L	Total Xylenes mg/L	Sulfate mg/L	Comments
3	118.04	134.30	2.60	10.0	09/04/09	36	588	<0.001	<0.001	<0.001	<0.003	172	xxx
3	118.13	134.30	2.60	10.0	11/16/09	48	527	<0.001	<0.001	<0.001	<0.003	142	xxx
3	117.88	134.31	2.60	10.0	03/05/10	36	565	<0.001	<0.001	<0.001	<0.003	202	Sand/clear
3	117.93	134.31	2.60	10.0	06/01/10	32	567	<0.001	<0.001	<0.001	<0.003	178	Sand/clear
3	117.92	134.31	2.60	10.0	08/23/10	36	560	<0.001	<0.001	<0.001	<0.003	180	Sand/clear
3	117.83	134.31	2.60	10.0	11/19/10	36	552	<0.001	<0.001	<0.001	<0.003	206	Sand/clear
3													

Graph 4
Rice Operating Company
MW-3
Justis H-2
Lea County, New Mexico

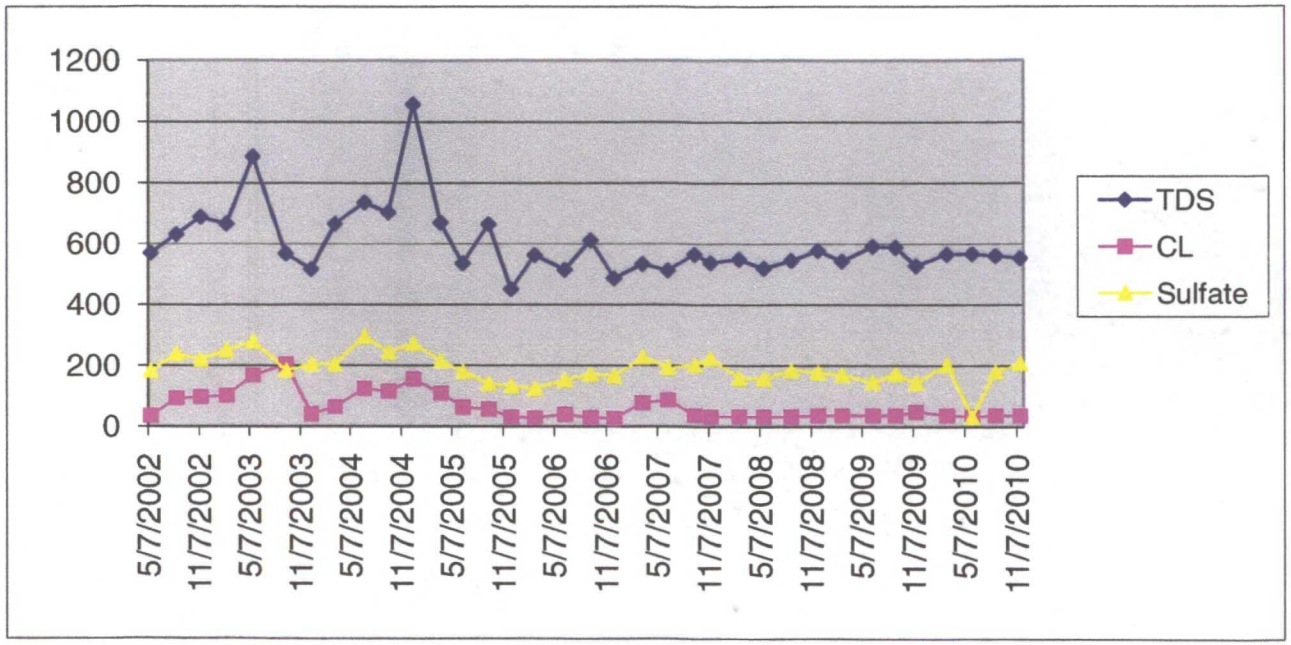


Table 5
Rice Operating Company
Justis H-2
Lea County, New Mexico

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl mg/L	TDS mg/L	Benzene mg/L	Toluene mg/L	Ethyl Benzene mg/L	Total Xylenes mg/L	Sulfate mg/L	Comments
4	122.12	137.00	xxx	30.0	03/11/04	35.4	610	<0.001	<0.001	<0.001	<0.001	174	xxx
4	121.96	137.00	xxx	30.0	06/28/04	57.6	596	0.00749	<0.001	<0.001	<0.001	225	xxx
4	121.93	137.00	xxx	25.0	09/23/04	53.2	648	<0.001	<0.001	<0.001	<0.001	180	xxx
4	121.88	137.00	xxx	8.0	12/21/04	59.1	865	0.00275	<0.001	<0.001	<0.001	210	xxx
4	121.66	137.00	xxx	25.0	03/29/05	55.7	506	<0.001	<0.001	<0.001	<0.001	186	xxx
4	121.80	137.00	xxx	30.0	06/16/05	49.8	543	<0.001	<0.001	<0.001	<0.001	179	xxx
4	xxx	xxx	xxx	xxx	09/15/05	48.2	634	<0.001	<0.001	<0.001	<0.001	135	xxx
4	121.81	141.40	3.10	20.0	12/05/05	29.1	496	<0.001	<0.001	<0.001	<0.001	136	xxx
4	121.59	141.40	3.20	20.0	02/27/06	29.1	542	<0.001	<0.001	<0.001	<0.001	136	xxx
4	121.61	141.40	3.20	15.0	06/14/06	39.6	564	<0.001	<0.001	<0.001	<0.001	157	xxx
4	121.62	141.40	3.20	15.0	09/13/06	31.3	746	<0.001	<0.001	<0.001	<0.001	180	xxx
4	121.63	141.40	3.20	15.0	12/05/06	30.0	476	<0.001	<0.001	<0.001	<0.001	176	Clear/no odor
4	121.65	140.95	3.10	15.0	03/15/07	40.8	514	<0.001	<0.001	<0.001	<0.001	211	Clear/no odor
4	121.58	140.95	3.10	15.0	06/13/07	30.3	534	<0.001	<0.001	<0.001	<0.001	149	Clear/no odor
4	121.45	140.95	3.10	15.0	09/17/07	40.0	612	<0.002	<0.002	<0.002	<0.006	220	Clear/no odor
4	121.64	140.95	3.10	15.0	11/13/07	36.0	547	<0.001	<0.001	<0.001	<0.003	222	Clear/no odor
4	121.45	140.95	3.10	15.0	02/23/08	36.0	585	<0.001	<0.001	<0.001	<0.003	190	Clear/no odor
4	121.31	140.95	3.10	15.0	05/21/08	36.0	533	<0.002	<0.002	<0.002	<0.006	169	Clear/no odor
4	121.53	140.95	3.10	15.0	08/27/08	36.0	581	<0.001	<0.001	<0.001	<0.003	181	Clear/no odor
4	121.65	140.95	3.10	15.0	12/01/08	36.0	621	<0.001	<0.001	<0.001	<0.003	187	Clear/no odor
4	121.48	140.89	3.10	15.0	02/25/09	36.0	540	<0.001	<0.001	<0.001	<0.003	180	Clear/no odor
4	121.53	140.89	3.10	15.0	06/15/09	40.0	593	<0.001	<0.001	<0.001	<0.003	169	Clear/no odor
4	121.39	140.89	3.10	15.0	09/04/09	36.0	580	<0.001	<0.001	<0.001	<0.003	169	Clear/no odor
4	121.56	140.89	3.10	15.0	11/16/09	36.0	471	<0.001	<0.001	<0.001	<0.003	148	Clear/no odor
4	121.22	140.90	3.10	15.0	03/05/10	36.0	562	<0.001	<0.001	<0.001	<0.003	197	Clear/no odor
4	121.28	140.90	3.10	15.0	06/01/10	32.0	579	<0.001	<0.001	<0.001	<0.003	176	Clear/no odor
4	121.31	140.90	3.10	15.0	08/23/10	40.0	600	<0.001	<0.001	<0.001	<0.003	186	Clear/no odor
4	121.14	140.90	3.20	15.0	11/19/10	36.0	534	<0.001	<0.001	<0.001	<0.003	214	Clear/no odor
4													

Graph 5
Rice Operating Company
MW-4
Justis H-2
Lea County, New Mexico

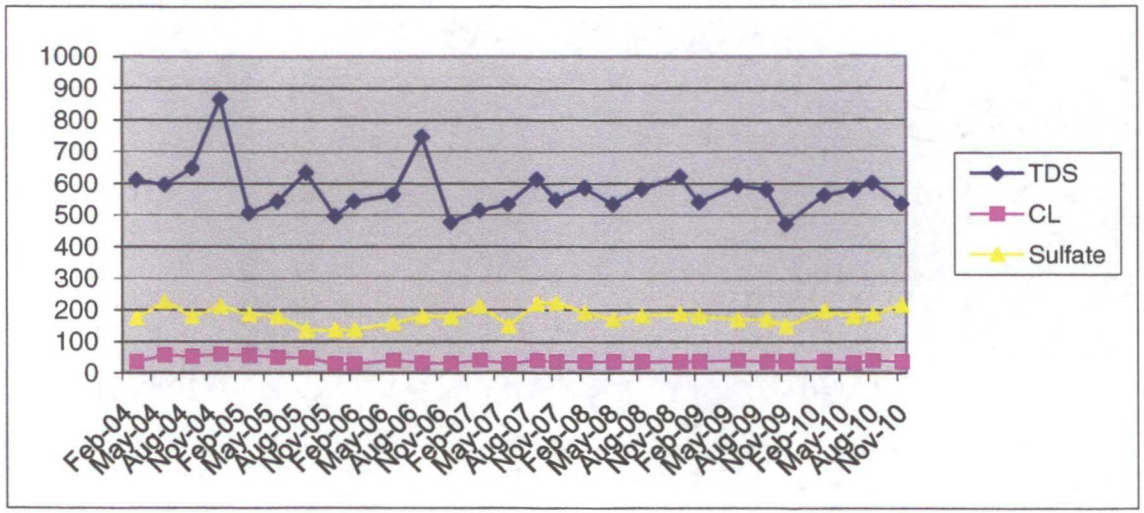
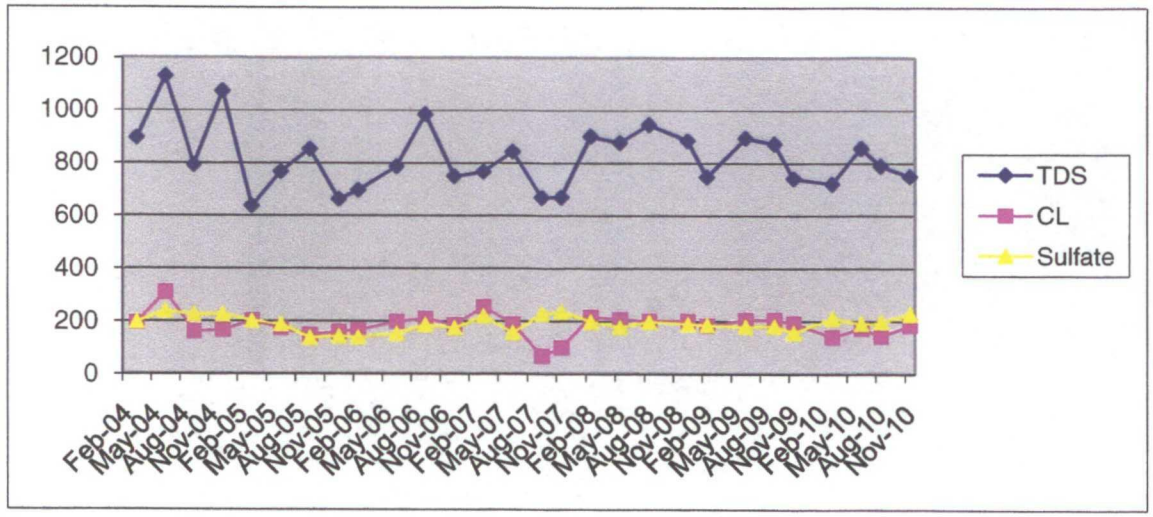


Table 6
Rice Operating Company
Justis H-2
Lea County, New Mexico

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl mg/L	TDS mg/L	Benzene mg/L	Toluene mg/L	Ethyl Benzene mg/L	Total Xylenes mg/L	Sulfate mg/L	Comments
5	120.15	135.00	xxx	30.0	03/11/04	195	894	<0.001	<0.001	<0.001	<0.001	198	xxx
5	120.04	135.00	xxx	30.0	06/28/04	310	1130	0.0105	<0.001	0.00108	<0.001	238	xxx
5	119.98	135.00	xxx	25.0	09/23/04	160	792	<0.001	<0.001	<0.001	<0.001	224	xxx
5	119.93	135.00	xxx	8.0	12/21/04	165	1072	0.00292	<0.001	<0.001	<0.001	224	xxx
5	119.73	135.00	xxx	25.0	03/29/05	202	636	<0.001	<0.001	<0.001	<0.001	201	xxx
5	119.88	135.00	xxx	30.0	06/16/05	172	767	<0.001	<0.001	<0.001	<0.001	187	xxx
5	xxx	xxx	xxx	xxx	09/15/05	147	852	<0.001	<0.001	<0.001	<0.001	136	xxx
5	119.80	140.00	3.20	20.0	12/05/05	159	662	<0.001	<0.001	<0.001	<0.001	142	xxx
5	119.68	140.00	3.30	20.0	02/27/06	167	696	<0.001	<0.001	<0.001	<0.001	139	xxx
5	119.65	140.00	3.30	15.0	06/14/06	197	786	<0.001	<0.001	<0.001	<0.001	152	xxx
5	119.69	140.00	3.20	15.0	09/13/06	209	984	<0.001	<0.001	<0.001	<0.001	186	xxx
5	119.74	140.00	3.20	15.0	12/05/06	186	748	<0.001	<0.001	<0.001	<0.001	173	Clear/no odor
5	119.72	138.80	3.10	15.0	03/15/07	255	766	<0.001	<0.001	<0.001	<0.001	220	Clear/no odor
5	119.65	138.80	3.10	15.0	06/13/07	189	842	<0.001	<0.001	<0.001	<0.001	156	Clear/no odor
5	119.53	138.80	3.10	15.0	09/17/07	68	668	<0.002	<0.002	<0.002	<0.006	227	Clear/no odor
5	119.70	138.80	3.10	15.0	11/13/07	100	669	<0.001	<0.001	<0.001	<0.003	234	Clear/no odor
5	119.55	138.80	3.10	15.0	02/23/08	216	900	<0.001	<0.001	<0.001	<0.003	198	Clear/no odor
5	119.41	138.80	3.10	15.0	05/21/08	208	877	<0.002	<0.002	<0.002	<0.006	177	Clear/no odor
5	119.59	138.80	3.10	15.0	08/27/08	200	945	<0.001	<0.001	<0.001	<0.003	198	Clear/no odor
5	119.70	138.80	3.10	15.0	12/01/08	200	885	<0.001	<0.001	<0.001	<0.003	189	Clear/no odor
5	119.54	138.75	3.10	15.0	02/25/09	184	747	<0.001	<0.001	<0.001	<0.003	185	Clear/no odor
5	119.55	138.75	3.10	15.0	06/15/09	204	894	<0.001	<0.001	<0.001	<0.003	179	Clear/no odor
5	119.46	138.75	3.10	15.0	09/04/09	204	873	<0.001	<0.001	<0.001	<0.003	181	Clear/no odor
5	119.61	138.75	3.10	15.0	11/16/09	192	741	<0.001	<0.001	<0.001	<0.003	157	Clear/no odor
5	119.27	138.75	3.10	15.0	03/05/10	140	721	<0.001	<0.001	<0.001	<0.003	210	Clear/no odor
5	119.34	138.75	3.10	15.0	06/01/10	172	855	<0.001	<0.001	<0.001	<0.003	190	Clear/no odor
5	119.29	138.75	3.10	15.0	08/23/10	144	788	<0.001	<0.001	<0.001	<0.003	196	Clear/no odor
5	119.23	138.75	3.10	15.0	11/19/10	184	749	<0.001	<0.001	<0.001	<0.003	226	Clear/no odor
5													

Graph 6
Rice Operating Company
MW-5
Justis H-2
Lea County, New Mexico



APPENDIX A

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

December 03, 2010

Hack Conder

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: JUSTIS H-2 SWD

Enclosed are the results of analyses for samples received by the laboratory on 11/22/10 14:03.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydorcarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene
Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 * 101 E. MARLAND * HOBBS, NM 88240

Analytical Results For:

Rice Operating Company
Hack Conder
112 W. Taylor
Hobbs NM, 88240
Fax To: (575) 397-1471

Received:	11/22/2010	Sampling Date:	11/19/2010
Reported:	12/03/2010	Sampling Type:	Water
Project Name:	JUSTIS H-2 SWD	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Jodi Henson
Project Location:	T26S-R37E-SEC2 H - LEA CTY., NM		

Sample ID: MONITOR WELL #2R (H021371-01)

BTEX 8021B mg/L **Analyzed By: cms**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	11/23/2010	ND	0.026	102	0.0250	7.87	
Toluene*	<0.001	0.001	11/23/2010	ND	0.025	100	0.0250	6.00	
Ethylbenzene*	<0.001	0.001	11/23/2010	ND	0.024	94.1	0.0250	0.606	
Total Xylenes*	<0.003	0.003	11/23/2010	ND	0.070	93.8	0.0750	5.13	

Surrogate: 4-Bromofluorobenzene (PIL 105 % 80-120

Chloride, SM4500Cl-B mg/L **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1500**	4.00	12/01/2010	ND	104	104	100	3.77	

Sulfate 375.4 mg/L **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate	**197**	10.0	12/01/2010	ND	46.1	115	40.0	2.55	

TDS 160.1 mg/L **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS	**2970**	5.00	11/22/2010	ND				23.8	

Cardinal Laboratories *=Accredited Analyte

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Rice Operating Company
Hack Conder
112 W. Taylor
Hobbs NM, 88240
Fax To: (575) 397-1471

Received:	11/22/2010	Sampling Date:	11/19/2010
Reported:	12/03/2010	Sampling Type:	Water
Project Name:	JUSTIS H-2 SWD	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Jodi Henson
Project Location:	T26S-R37E-SEC2 H - LEA CTY., NM		

Sample ID: MONITOR WELL #3 (H021371-02)

BTEX 8021B mg/L **Analyzed By: cms**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	11/23/2010	ND	0.026	102	0.0250	7.87	
Toluene*	<0.001	0.001	11/23/2010	ND	0.025	100	0.0250	6.00	
Ethylbenzene*	<0.001	0.001	11/23/2010	ND	0.024	94.1	0.0250	0.606	
Total Xylenes*	<0.003	0.003	11/23/2010	ND	0.070	93.8	0.0750	5.13	

Surrogate: 4-Bromofluorobenzene (PIL 114 % 80-120

Chloride, SM4500Cl-B mg/L **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**36.0**	4.00	12/01/2010	ND	104	104	100	3.77	

Sulfate 375.4 mg/L **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate	**206**	10.0	12/01/2010	ND	46.1	115	40.0	2.55	

TDS 160.1 mg/L **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS	**552**	5.00	11/22/2010	ND				23.8	

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Rice Operating Company
Hack Conder
112 W. Taylor
Hobbs NM, 88240
Fax To: (575) 397-1471

Received:	11/22/2010	Sampling Date:	11/19/2010
Reported:	12/03/2010	Sampling Type:	Water
Project Name:	JUSTIS H-2 SWD	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Jodi Henson
Project Location:	T26S-R37E-SEC2 H - LEA CTY., NM		

Sample ID: MONITOR WELL #4 (H021371-03)

BTEX 8021B mg/L **Analyzed By: cms**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	11/23/2010	ND	0.026	102	0.0250	7.87	
Toluene*	<0.001	0.001	11/23/2010	ND	0.025	100	0.0250	6.00	
Ethylbenzene*	<0.001	0.001	11/23/2010	ND	0.024	94.1	0.0250	0.606	
Total Xylenes*	<0.003	0.003	11/23/2010	ND	0.070	93.8	0.0750	5.13	

Surrogate: 4-Bromofluorobenzene (PIL 112 % 80-120

Chloride, SM4500Cl-B mg/L **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**36.0**	4.00	12/01/2010	ND	104	104	100	3.77	

Sulfate 375.4 mg/L **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate	**214**	10.0	12/01/2010	ND	46.1	115	40.0	2.55	

TDS 160.1 mg/L **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS	**534**	5.00	11/22/2010	ND				23.8	

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Analytical Results For:

Rice Operating Company
Hack Conder
112 W. Taylor
Hobbs NM, 88240
Fax To: (575) 397-1471

Received:	11/22/2010	Sampling Date:	11/19/2010
Reported:	12/03/2010	Sampling Type:	Water
Project Name:	JUSTIS H-2 SWD	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Jodi Henson
Project Location:	T26S-R37E-SEC2 H - LEA CTY., NM		

Sample ID: MONITOR WELL #5 (H021371-04)

BTEX 8021B mg/L **Analyzed By: cms**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	11/23/2010	ND	0.026	102	0.0250	7.87	
Toluene*	<0.001	0.001	11/23/2010	ND	0.025	100	0.0250	6.00	
Ethylbenzene*	<0.001	0.001	11/23/2010	ND	0.024	94.1	0.0250	0.606	
Total Xylenes*	<0.003	0.003	11/23/2010	ND	0.070	93.8	0.0750	5.13	

Surrogate: 4-Bromofluorobenzene (PIL 112 % 80-120

Chloride, SM4500Cl-B mg/L **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**184**	4.00	12/01/2010	ND	104	104	100	3.77	

Sulfate 375.4 mg/L **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate	**226**	10.0	12/01/2010	ND	46.1	115	40.0	2.55	

TDS 160.1 mg/L **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS	**749**	5.00	11/22/2010	ND				23.8	

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

101 East Marland - Hobbs, New Mexico 88240
Tel (575) 393-2326
Fax (575) 393-2476

Cardinal Laboratories, Inc.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # _____

Company Name: RICE Operating Company
BILL TO Company: RICE Operating Company
PO#
Project Manager: Hack Conder
Address: (Street, City, Zip) 122 W Taylor Street ~ Hobbs, New Mexico 88240
Address: (Street, City, Zip) 122 W Taylor Street ~ Hobbs, New Mexico 88240
Phone#: (575) 393-9174
Fax#: (575)397-1471
Phone #: (575) 393-9174
Fax #: (575)397-1471
Project #:
Project Name: Justis H-2 SWD
Project Location: T26S-R37E-Sec2 H ~ Lea County - New Mexico
Sampler Signature: Rozanne Johnson (575)631-9310 rozanne@valornet.com

ANALYSIS REQUEST
(Circle or Specify Method No.)

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 (2010)	TIME	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)	Sulfates	Total Dissolved Solids	Chlorides	Turn Around Time ~ 24 Hours
H21371-1	Monitor Well #2R	G	3	X					2				1		11-19	11:20		X																	X	X	X	
A-C 2	Monitor Well #3	G	3	X					2				1		11-19	9:40		X																	X	X	X	
3	Monitor Well #4	G	3	X					2				1		11-19	10:50		X																	X	X	X	
4	Monitor Well #5	G	3	X					2				1		11-19	12:05		X																	X	X	X	

Relinquished by: Rozanne Johnson Date: 11-22-2010 Time: 14:03
Received by: Jodi Henson Date: 11/22/10 Time: 14:03
Relinquished By: Date: Time:
Received By: (Laboratory Staff) Date: Time:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:
Sample Condition: Cool Yes ✓ No; Intact Yes ✓ No
CHECKED BY: (Initials) JH

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

REMARKS:

Email Results to: hconder@riceswd.com
iweinheimer@rice-ecs.com
kjones@riceswd.com
rozanne@valornet.com

#26