AP - 008

STAGE 1 & 2 REPORTS

DATE: July 14, 2004

JUNCTION 1-9

Stage 2 Abatement Report Rice Operating Company Hobbs, New Mexico



Infrastructure, buildings, environment, communications

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1. Introduction

The subject site is a former pipeline connection point on the Rice Operating Company (ROC) Hobbs Salt Water Disposal System. The pipeline transports produced water from oil and gas leases to a permitted well for disposal by subsurface injection. The site is located in southwest Hobbs, New Mexico approximately 0.6 miles south of the intersection of Grimes Street and Stanolind Road (Section 9, T19S-R38E, Lea County) (Figure 1).

2. Site History

A pipeline leak was discovered and repaired at the subject site on June 5, 1998. Notification of an unauthorized release was submitted to the New Mexico Oil Conservation Division (NMOCD) District I Office located in Hobbs, New Mexico. A Stage I Abatement Plan was submitted to the NMOCD on January 19, 1999. Interim abatement site activities including assessment of impacts to soil and groundwater and excavation of impacted soil were conducted from August 24, 1998 to September 2, 1999. Recovery of phase-separated hydrocarbons (PSH) from groundwater has been conducted from January 18 to May 7, 1999. A total of four monitor wells, one recovery well and nine boreholes was installed at the subject site. A Stage 1 Abatement Plan report detailing the results of the Stage 1 Abatement investigation was submitted to the NMOCD on September 10, 1999.

A Stage 2 Abatement Plan Proposal was submitted to the NMOCD on January 10, 2000. Following requests for additional information from the NMOCD, three Revised Stage 2 Abatement Plan proposals were submitted. (December 13, 2000, March 31, 2001 and December 13, 2001). A final Stage 2 Abatement Plan Proposal revision was requested by ROC on April 5, 2004 and approved by the NMOCD on June 4, 2004.

Copies of the plan, revisions and NMOCD approvals are on file at the NMOCD office in Santa Fe. The approved Stage 2 Abatement Plan Proposal is as follows:

• Sampling monitor wells 1, 3, 4 and the McNeil well quarterly for four quarters and analyzing for benzene, toluene, ethylbenzene and xylenes (BTEX), general quality and New Mexico Water Quality Control Commission (WQCC) metals. Based on sample results for four quarters, the sampling frequency will be reviewed and may be revised.

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 Sampling will be discontinued when eight quarters of sample results indicate that BTEX concentrations are below WQCC Title 20, Chapter 6, Part 2 standards. Rice Operating Company Hobbs, New Mexico

- Excavation of soils in the area where hydrocarbons were detected in groundwater until the soil associated with the PSH is removed. When groundwater is encountered, excavation will be discontinued just below the depth where groundwater is encountered.
- Installation of a 12-15" compacted clay layer that meets or exceeds 95% of a Proctor Test ASTM-D-98 and permeability equal to or less than 1 x 10⁻⁷ cm/sec over the area excavated to groundwater. The liner extended 10 feet in all directions beyond the excavated area.
- Following backfilling, installation of a 12-15" compacted clay layer that meets or exceeds 95% of a Proctor Test ASTM-D-98 and permeability equal to or less than 1 x 10⁻⁷ cm/sec over the entire excavated area at a depth of 6-7 feet below ground surface (bgs).
- Excavation of soils exceeding total petroleum hydrocarbon (TPH), BTEX, benzene and chloride concentrations of 100 milligrams per kilogram (mg/kg), 50 mg/kg, 10 mg/kg and 250 mg/kg, respectively.
- Backfilling of blended soils not exceeding TPH, BTEX, benzene and chloride concentrations of 100 mg/kg, 50 mg/kg, 10 mg/kg and 1,099 mg/kg, respectively.
- Grading of the site to prevent ponding of rain water.

3. Geology and Hydrogeology

The Ogallala Formation is the principal source of groundwater in the subject area. Depth to groundwater in Lea County ranges from approximately 12 to approximately 300 feet bgs. The Ogallala consists of predominantly coarse fluvial conglomerate and sandstone and fine-grained Eolian siltstone and clay. Where present in the subject area, the Ogallala unconformably overlies Triasssic redbeds. The regional and site groundwater gradient is to the south/southeast.

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Depth to groundwater at the subject site is approximately 36 bgs. Groundwater elevations measured in the monitor wells at the subject site are shown in Table 1.

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Table 1 GROUNDWATER ELEVATIONS Junction I-9 Site HOBBS, NEW MEXICO

MONITORING WELL	TOP OF CASING (feet)*	DATE	DEPTH TO GROUNDWATER (feet)*	WATER ELEVATION (feet)*
MW-1	3595.37	01/12/99	31.75	3563.62
MW-1	3595.37	01/16/99	32.04	3563.33
MW-1	3595.37	08/31/99	29.03	3566.34
MW-1	3595.37	03/02/04	36.78	3558.59
MW-2	3595.58	01/12/99	31.82	3563.76
MW-2	3595.58	01/16/99	32.04	3563.54
MW-2	3595.58	08/31/99	28.89	3566.69
MW-2	3595.58	03/02/04	Dry	-
MW-3	3595.62	01/12/99	30.58	3565.04
MW-3	3595.62	01/06/99	31.85	3563.77
MW-3	3595.62	08/31/99	26.24	3569.38
MW-3	3595.62	03/02/04	35.58	3560.04
MW-4	3595.15	09/02/99	28.98	3566.17
MW-4	3595.15	03/02/04	36.80	3558.35

^{*}Based on survey data provided by Rice Operating Company. Used surveyed benchmark = top of casing on MW-3.

4. Stage 2 Abatement Field Activities

Stage 2 Abatement field activities were conducted between September 15, 2000 and October 3, 2000 and September 26, 2003 and February 4, 2004. Stage 2 Abatement field activities included sampling of three monitoring wells and an agricultural well, excavation of impacted soils, installation of an upper and lower liner and backfilling and grading of the site. All field activities were performed in accordance with the Stage 2 Abatement Plan Proposal and revisions as approved by the NMOCD. Photographs of field activities are included in Appendix A.

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4.1 Soil Excavation

Stage 2 excavation activities were performed at the site between September 15, 2000 and October 3, 2000 and September 26, 2003 and February 4, 2004. Excavation activities were continued in the area where hydrocarbons were detected on the groundwater until the soil associated with the PSH was removed. Soil in this area was excavated to 30-32' bgs. When groundwater was encountered, excavation was discontinued just below the depth where groundwater was encountered in order to maintain safe and practical excavation of soils. PSH was recovered with absorbent material where possible. Soil excavation continued until no visible staining of the soils occurred and no photoionization detecter (PID) readings were observed. Soil samples were collected to confirm that impacted soils had been removed and that TPH, BTEX, benzene and chloride concentrations did not exceed the concentrations as approved for the Stage 2 Abatement Plan. Confirmation sample results and PID readings are shown in Table 2. The area of excavation and sample locations are shown in the figures included in Appendix B. Laboratory analysis is included in Appendix B.

A 12-15" compacted clay layer was installed according to NMOCD clay layer specifications (meet or exceed 95% of a Proctor Test ASTM-D-698 an permeability equal to or less than 1 x 10⁻⁷ cm/sec) over the area excavated to the groundwater interface in order to inhibit downward migration of constituents and to protect the groundwater interface that was exposed. Once the excavation was backfilled, an additional compacted clay layer was installed (to NMOCD specifications) approximately 6-7 feet below bgs over the entire excavation in order to inhibit downward migration of potential constituents in soils below the compacted clay layer. Liner design specifications were submitted to the OCD on March 30, 2001. Proctor and Density test results are included in Appendix C.

Approximately 11,000 loose cubic yards of impacted soils were disposed at an NMOCD-approved facility during initial Stage 2 Abatement activities. All remaining excavated soils, between 70,000 and 80,000 cubic yards, were blended with overburden/replacement soils and returned to the excavation as backfill. TPH, BTEX, benzene and chloride concentrations in the blended backfill material did not exceed the concentrations as approved for the Stage 2 Abatement Plan.

Following excavation the site was graded to prevent ponding of water and seeded with 11 pounds of Homsted, 11 pounds of Reclaimation mix and 2 pounds of salt bush.

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4.2 Sampling of Monitor Wells

A total of four monitor wells and one recovery well were installed in the subject area. An additional existing well referred to as the McNeil well has been added to the monitor well sampling program. Monitor well MW-2 was dry and, therefore, not sampled in the March 2004 sampling event. The recovery well was removed during excavation activities. Well locations are shown in the figures included in Appendix B.

Groundwater samples were collected from MW-1, MW-2 and MW-3 on January 16, 1999 and analyzed for volatile organics, semi-volatile organics, general chemistry and metals using USEPA Methods 8260, 8270C, 325.3, 4500, 150.1, 120.1, 375.4, 160.1, and 6010B.

MW-1 and MW-2 were resampled on July 7, 1999 to determine if BTEX concentrations were representative of downgradient aquifer conditions. The groundwater samples were submitted for analysis for BTEX using USEPA Method 8021B.

MW-4 was sampled on September 2, 1999 and analyzed for volatile organics, semi-volatile organics, general chemistry and metals using USEPA Methods 8260, 8270C, 325.3, 4500, 150.1, 120.1, 375.4, 160.1 and 6010B.

MW-1, MW-3, MW-4 and the McNeil well were sampled on March 2, 2004 and analyzed for volatile organics, gasoline range organics, diesel range organics and total hydrocarbon, die organics, general chemistry and metals using USEPA Methods 8260B, 8015M, 310.2M, 340.1, 325.3, 4500, 150.1, 120.1, 375.4, 160.1 and 7470A and 6010B. Laboratory analysis for March 2, 2004 sampling event is included in Appendix B. Groundwater analytical results are summarized in Table 3.

Benzene was detected in the samples collected from MW-1 and MW-2 on January 16, 1999 and July 7, 1999 at a concentration of 0.008 milligrams per liter (mg/L), 0.017 mg/L, 0.262 mg/L and 0.289 mg/L, respectively. Toluene was detected in the samples collected from MW-1 on July 7, 1999 at a concentration of 0.01 mg/L. Ethylbenzene was detected in the samples collected from MW-1 and MW-2 on January 16, 1999 and July 7, 1999 at a concentration of 0.032 mg/L, 0.007 mg/L, 0.286 mg/L and 0.061 mg/L, respectively. Xylenes were detected in the samples collected from MW-1 and MW-2 on January 16, 1999 and July 7, 1999 at a concentration of 0.012 mg/L, 0.012 mg/L, 0.131 mg/L and 0.008 mg/L, respectively. 1,2,4-trimethylbenzene was detected

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g/L.

in the January 1999 sample collected from MW-1 at a concentration of 0.007 mg/L. No other analyzed organic compounds were detected.

Naturally-occurring inorganic analytes (metals, chlorides, pH, sulfate, TDS, calcium, potassium, bicarbonate, manganese and sodium) were detected in the groundwater samples collected from MW-1, MW-2, MW-3 and MW-4.

No hydrocarbons (TPH or BTEX) were detected in any of the wells during the March 2004 groundwater sampling event. Metals analysis indicates a decrease in metals concentrations since the July and September 1999 sampling. Aluminum and lead were detected at concentrations in excess of New Mexico Water Quality Control Commission (WQCC) standards; however, the concentrations of these compounds have decreased since the wells were last sampled. Boron was detected at a concentration in excess of the WQCC standard. Boron has not previously been analyzed. Total dissolved solids and sodium were detected at a concentration above the WQCC standard, and chlorides were detected above the WQCC standard in one well, MW-3.

No free product is evidenced at the site. During excavation activities the site was excavated to groundwater in the source area. No product was evidenced in the excavation.

5. Conclusions

Soils exceeding TPH, BTEX, benzene and chloride concentrations of 100 mg/kg, 50 mg/kg, 10 mg/kg and 250 mg/kg, respectively have been excavated and two clay liners installed as described in this report. Backfill material (blended soils) concentrations did not exceed TPH, BTEX, benzene and chloride concentrations of 100 mg/kg, 50 mg/kg, 10 mg/kg and 1,099 mg/kg, respectively. The site has been graded to prevent ponding of rainwater.

No hydrocarbons (TPH or BTEX) were detected in any of the wells during the March 2004 groundwater sampling event. Metals analysis indicates a decrease in metals concentrations since the July and September 1999 sampling. Aluminum and lead were detected at concentrations in excess of WQCC standards; however, the concentrations of these compounds have decreased since the wells were last sampled. Boron was detected at a concentration in excess of the WQCC standard. Boron has not previously been analyzed. Total dissolved solids and sodium were detected at a concentration

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above the WQCC standard, and chlorides were detected above the WQCC standard in one well, MW-3.

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No free product is evidenced at the site. During excavation activities the site was excavated to groundwater in the source area. No measurable product was evidenced in the excavation.

ROC will continue groundwater sampling of Monitor Well 1, 3, 4 and the McNeil well quarterly for four quarters and analyze for BTEX, general quality and WQCC metals. Based on sample results for four quarters the sampling frequency will be reviewed and may be revised.

Sampling will be discontinued when eight quarters of sample results indicate that BTEX concentrations are below WQCC Title 20, Chapter 6, Part 2 standards.

6. References

- Groundwater Handbook; United States Environmental Protection Agency, Office of Research and Development, Center for Environmental Research Information; 1992.
- Hydrology and Hydrochemistry of the Ogallala Aquifer, Southern High Plains, Texas Panhandle and Eastern New Mexico; Report Number 177; Bureau of Economic Geology; 1988.
- Hydrogeochemistry and Water Resources of the Lower Dockum Group in the Texas Panhandle and Eastern New Mexico; Report Number 161; Bureau of Economic Geology; 1986.
- New Mexico Water Quality Control Commission, Title 20 Chapter 6, Part 2, Subpart I.
- Junction I-9 Release Site, Stage 1 Abatement Report (Site Assessment Investigation); ARCADIS Geraghty and Miller; September 10, 1999

Table 2 Soil Analytical Results

Si										П		П							П		П	П										
Total Xylenes	N/A	A/N	W/W	A/N	A/N	A/N	N/A	A/N	W/N	A/N	A/N	N/A	N/A	A/N	A/N	W/A	N/A	A/N	W/A	A/N	N/A	N/A	N/A	A/N	A/N	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ethyl Benzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Toluene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Field CI		104					183					126					105					129					101					156
Field PID		NW 4.0	NE 4.8	Center 3.6	SW 6.0	SE 5.3	3.4	2.9	2.7	2.2	2.3	NE 3.3	0.9 MN	Center 3.6	SE 4.8	SW 2.0	SE 13.8	NE 1.4	Center 4.5	NW 3.5	SW 9.3	SE 5.3	NE 5.8	Center 10.3	SW 15.0	NW 3.3	NW 3.4	NE 3.3	Center 10.9	SE 3.6	SW 37.2	NE 4.8
Lab CL	144	112					176					128					96					80					80					96
Lab DRO	<10	<10					<10					<10					<10					<10					<10					34.2
Lab GRO	<10	×10					<10					×10					<10					<10					<10					<10
Comment	Surface 5pt Comp	1st 5' lift after clay liner @ 8' S. 1/2					1st 5' lift after clay liner @ 8' N. 1/2					N 1/2 4th 5' lift					S 1/2 4th 5' lift					N. 3rd 5' lift comp					S. 3rd 5' lift by MW #1					S. 2nd 5' lift by MW #1
Lab Number	H8435	H8420					H8407					H8347					H8331		E !			H8307					H8289					H8265
Date	2/5/2004	1/29/2004	-	=	=	=	1/26/2004	=	=	=	=	1/12/2004	_	=	=	=	1/6/2004	=	Ξ	Ξ	=	12/30/2003	Б	=	=	=	12/23/2003	=	=	Ξ	=	12/17/2003

Table 2 Soil Analytical Results

			_				_	_					_		_						_			_	_							_
Total Xylenes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.015
Ethyl Benzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.005
Toluene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.005
Benzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.005
Field CI					101					82				115					96					180	105	177		110	105	203.44		
Field PID	NW 5.2	Center 9.3	SE 6.3	SW 3.0	3.2	3.5	3.8	3.7	1.9	2.1				1.1	0.5	0.4	9.0	1.3	4.4	0.5	1.1	0.5	1.3	34.5	1.7	1.8		2.5	2.6	6.1	0.2	
Lab CL					128					176	144	08	96	08					112					160	112	144	96	32	16	48	160	80
Lab DRO					<10					<10	<10	<10	<10	<10					<10					<10	<10	<10	<10	<10	<10	<10	<10	28.8
Lab GRO					<10					<10	<10	<10	<10	<10					<10					<10	<10	<10	<10	<10	<10	<10	<10	<10
Comment					S. 1st 5' lift 4th clay liner					2nd lift 3rd clay liner	S. wall 2pt comp	S. end @ GW @ 36'	5pt comp S. end bttm	E. wall 5pt comp N. 1/2					E. wall 5pt comp S. 1/2					5pt comp 3rd liner 1st 5' lilft	4pt comp @ GW 36'	5pt base comp @ 30'	3W backfill S. end	S. wall comp E. end	S. wall comp W. end	S. @ GW 36'	Nater table backfill	7pt comp @ GW 36'
Lab Number					H8246					H8236	H8230-1	H8230-2	H8230-3	H8223-1					H8223-2					H8214	H8202-1	H8202-2	H8148 (H8133-1	H8133-2	H8129	H8113	H8102-1
Date	ı	н	н	=	12/11/2003	ı	и	11	u	12/9/2003	12/5/2003		ŧ	12/4/2003	=	=	=	=	12/4/2003	=	11	11	=	12/2/2003	11/21/2003	=	11/6/2003	10/31/2003	:	10/30/2003	10/24/2003	10/21/2003
	Lab Number Comment Lab GRO Lab ORO Lab CL Field PID Field Cl Benzene Toluene Ethyl Benzene	Lab Number Comment Lab GRO Lab DRO Lab CL Field PID Field Cl Benzene Toluene Ethyl Benzene	Lab Number Comment Lab GRO Lab DRO Lab CL Field PID Field CI Benzene Ethyl Benzene N/A N/A N/A N/A N/A N/A N/A	Lab Number Comment Lab GRO Lab DRO Lab CL Field PID Field CI Benzene Ethyl Benzene N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	Lab Number Comment Lab GRO Lab DRO Lab CL Field PID Field CI Benzene Toluene Ethyl Benzene MA N/A N/A N/A N/A N/A N/A MA N/A N/A N/A N/A N/A MA N/A N/A N/A N/A MA N/A N/A N/A N/A	Lab Number Comment Lab GRO Lab DRO Lab CL Field PID Field CI Benzene Toluene Ethyl Benzene MA N/A N/A N/A N/A N/A N/A MA N/A N/A N/A N/A N/A N/A H8246 S. 1st 5' lift 4th clay liner <10	Lab Number Comment Lab GRO Lab DRO Lab CL Field PID Field CI Benzene Toluene Ethyl Benzene Mark Lab M	Lab Number Comment Lab GRO Lab DRO Lab CL Field PID Field CI Benzene Toluene Ethyl Benzene Hab Cl Toluene Toluene	Lab Number Comment Lab GRO Lab DRO Lab CL Field PID Field CI Benzene Toluene Ethyl Benzene Hab CL Toluene N/A N/A N/A N/A N/A Hab CL Toluene Series N/A N/A N/A N/A HB CL Solution All Contents Series N/A N/A N/A HB CL Solution All Contents Series N/A N/A N/A HB CL Solution All Contents Series N/A N/A N/A HB CL Solution All Contents All Contents N/A N/A N/A HB CL All Contents All Contents All Contents N/A N/A N/A HB CL All Contents All Contents All Contents All Contents N/A N/A N/A HB CL All Contents All Contents All Contents All Contents N/A N/A N/A HB	Lab Number Comment Lab GRO Lab DRO Lab CL Field PID N/A N/A N/A H8246 S. 1st 5' lift 4th clay liner <10	Lab Number Comment Lab GRO Lab DRO Lab CL Field PID Field CI Benzene Toluene Ethyl Benzene H8246 S. 1st 5' lift 4th clay liner <10	Lab Number Comment Lab GRO Lab DRO Lab CL Field PIO IN/A N/A N/A N/A H8246 S. 1st 5' lift 4th clay liner <10	Lab Number Comment Lab GRO Lab DRO Lab CRO Field PID M/A N/A N/	Lab Number Comment Lab GRO Lab DRO Lab CL Lejeld PID Field CI Renzene Field CI Renzene Toluene Toluene Ethyl Benzene H8246 S. 1st 5' lift 4th clay liner <10	Lab Number Comment Lab GRO Lab DRO Lab CL Field PID INA N/A N/A <td>Lab Number Comment Lab GRO Lab DRO Lab CL Field PID N/A N/A<td>Lab Number Comment Lab GRO Lab DRO Lab CRO Lab GRO Lab DRO Lab GRO In/A <t< td=""><td>Lab Number Comment Lab GRO Lab DRO Lab CL Field PID MA N/A N/A N/A H8246 S. 1st 5' lift 4th ciay liner <10</td> <10</t<></td> <128</td> 3.5 N/A N/A N/A N/A H8236 S. 1st 5' lift 4th ciay liner <10	Lab Number Comment Lab GRO Lab DRO Lab CL Field PID N/A N/A <td>Lab Number Comment Lab GRO Lab DRO Lab CRO Lab GRO Lab DRO Lab GRO In/A <t< td=""><td>Lab Number Comment Lab GRO Lab DRO Lab CL Field PID MA N/A N/A N/A H8246 S. 1st 5' lift 4th ciay liner <10</td> <10</t<></td> <128	Lab Number Comment Lab GRO Lab DRO Lab CRO Lab GRO Lab DRO Lab GRO In/A In/A <t< td=""><td>Lab Number Comment Lab GRO Lab DRO Lab CL Field PID MA N/A N/A N/A H8246 S. 1st 5' lift 4th ciay liner <10</td> <10</t<>	Lab Number Comment Lab GRO Lab DRO Lab CL Field PID MA N/A N/A N/A H8246 S. 1st 5' lift 4th ciay liner <10	Lab Number Comment Lab GRO Lab DRO Lab DRO Lab GRO Lab DRO Lab DRO Lab GRO Lab MA N/A N	Lab Number Comment Lab GRO Lab DRO Lab CL Field PID MA N/A N/A<	Lab Number Contiment Lab GRO Lab DRO Lab CRO Lab GRO Lab GRO	Lab Number Comment Lab GRO Lab DRO Lab CL Lab Field PID Field CI Benzene Toluene Fithyl Benzene H8246 S. 1st 5' liff 4th clay liner <10	Lab Number Comment Lab GRO Lab DRO Lab CFI Field PID Field CI Benzene Toluene Ethyl Benzene H8246 S. 1 st 5' lift 4th clay liner <10	Lab Number Comment Lab GRO Lab DRO Lab DRO Lab CR Field PID Field CI Benzene Tolinen Fithyl Benzene Ethyl Benzene Fithyl Benzene Ethyl Benzene Ethyl Benzene Ethyl Benzene Ethyl Benzene Ethyl Benzene Inva N/A N/A <t< td=""><td>Lab Number Comment Lab GRO Lab DRO Lab DC Leid PID Field PID Field CI Benzene Tolluene Ethyl Benzene H8246 S. 1st 5 lift 4th clay liner <10</td> <10</t<>	Lab Number Comment Lab GRO Lab DRO Lab DC Leid PID Field PID Field CI Benzene Tolluene Ethyl Benzene H8246 S. 1st 5 lift 4th clay liner <10	Lab Number Comment Lab GRO Lab DRO Lab Celefo PIO Field PIO Field CI Benzene Tolliene Ethyl Benzene He246 S. 1st G'iff 4th clay liner <10	Lab Number Comment Lab GRO Lab DRO Lab CRO Field PID Field	Lab Number Comment Lab GRO Lab DRO Lab DCL Field PID Field CI Benzene Field PID Field CI Benzene Toluene Ethyl Benzene H8246 S. 1st Sifft 4th clay liner <10	Lab Number Comment Lab GRO Lab DRO Lab DRO Lab CL Field PID Field PID Benzene Toluene Ethyl Benzene H6246 S. 1st 5" lift 4th clay liner <10	Lab Number Comment Lab GRO Lab DRO Lab CHO Field PID Field PID Field CI Beazene Toluene Ethyl Benzene H8246 S. 1st 5 lift 4th clay liner <10	Lab Number Comment Lab GRO Lab DRO Lab CHO Field PIO Field CI Bonzene Toluene Ethyl Benzene HB246 S. 1st S lift 4th clay liner <10	Lab Number Comment Lab GRO Lab DRO Lab CL Field PID Field CI Benzene Field PID Field CI Benzene Toluene Ethyl Benzene INA NNA NNA <th< td=""></th<>

Table 2 Soil Analytical Results

	ARCADIS			l able 2 Soil Analytical Results	able 2 Iytical Res	ults					
Date	Lab Number	Comment	Lab GRO	Lab DRO	Lab CL	Field PID	Field CI	Benzene	Toluene	Ethyl Benzene	Total Xylenes
=	H8102-2	W. wall S. 1/2 5pt comp	×10	16.7	96			<0.005	<0.005	<0.005	<0.015
=	H8102-3	W. wall N. 1/2 5pt comp	<10	<10	64			<0.005	<0.005	<0.005	<0.015
10/1/2003	H8053-1	Btm #1	<10	<10	64	1.3	200	<0.005	<0.005	<0.005	<0.015
=	H8053-2	Btm #2	<10	<10	64	1	234	<0.005	<0.005	<0.005	<0.015
=	H8053-3	Btm #3	<10	<10	253	2.5	366	<0.005	<0.005	<0.005	<0.015
=	H8053-4	Btm #4	<10	<10	448	2.3	680	<0.005	<0.005	<0.005	<0.015
2	H8053-5	Btm #5	<10	<10	112	0.7	231	<0.005	<0.005	<0.005	<0.015
	Lab ID	ELOT									
11/26/2003	0308006-01	N. wall E. 1/2 comp	<10	<10	<20			N/A	N/A	N/A	N/A
=	0308006-02	N. wall W. 1/2 comp	<10	<10	21.3			N/A	N/A	N/A	N/A
10/6/2003	0307653-01	1st lift #1	<10	26.4	35.4	1.3	185.55	N/A	N/A	N/A	N/A
=	0307653-02	1st lift #2	<10	<10	53.2	2	147.46	N/A	N/A	N/A	N/A
=	0307653-03	1st lift #3	<10	<10	35.4	0.7	360.89	N/A	N/A	N/A	N/A
=	0307653-04	1st lift #4	<10	12.1	35.4	1.5	153.76	N/A	N/A	N/A	N/A
=	0307653-05	1st lift #5	<10	18.9	35.4	1.7	154.46	N/A	N/A	N/A	N/A
=	0307653-06	W. wall bttm #6	<10	11.6	106	18.1	176.45	N/A	N/A	N/A	N/A
11	0307653-07	W. wall bttm #7	<10	<10	<20	1.6	162.35	N/A	N/A	N/A	N/A
=	0307653-08	W. wall bttm #8	<10	<10	<20	9.9	114.96	N/A	N/A	N/A	N/A
=	0307653-09	0307653-09 W. wall bttm #9	71.4	401	1770	96	2044.36	N/A	N/A	N/A	N/A

TABLE 3
GROUNDWATER ANALYTICAL RESULTS

Well Name		MW-1		MV			W-3		N-4	McNeil Well
Date Sampled	1/16/1999	7/7/1999	3/2/2004	1/16/1999	7/7/1999	1/16/1999	3/2/2004	9/2/1999	3/2/2004	3/2/2004
Compound Name	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
VOCs	0.000	0.262	NTD	0.017	0.289	NTD	NTD :	NTS 1	7100	
Benzene Bromobenzene	0.008 ND	0.262 NA	ND_NA	ND	0.289 NA	ND ND	ND NA	ND NA	ND NA	ND NA
Bromochloromethane	ND	NA NA	NA NA	ND .	NA NA	ND	NA NA	NA NA	NA NA	NA NA
Bromodichloromethane	ND	NA	NA	ND	NA	ND	NA	NA	NA	NA
Bromoform	ND	NA	NA_	ND	NA	ND	NA	NA	ŇA	NA
Bromomethane	ND	NA	NA	ND	NA	ND	NA	NA	NA	NA
n-butylbenzene	ND	NA	NA	ND	NA	ND	NA	NA	NA	NA
sec-butylbenzene	ND	NA	NA	ND	NA	ND	NA	NA	NA	NA NA
tert-butylbenzene	ND	NA NA	NA NA	ND ND	NA NA	ND ND	NA NA	NA NA	NA	NA NA
Carbon tetrachloride Chlorobenzene	ND ND	NA NA	NA NA	ND ND	NA NA	ND	NA NA	NA NA	NA NA	NA NA
Chlorodibromomethane	ND	NA NA	NA NA	ND	NA NA	ND	NA NA	NA NA	NA NA	NA NA
Chloroethane	ND	NA	NA	ND	NA.	ND	NA	ŇA	NA	NA
Chloroform	ND	NA	NA	ND	NA	ND	NA	NA	NA	NA
Chloromethane	ND	NA	NA	ND	ŇA	ND	NA	NA	NA	NA
2-Chlorotoluene	ND	NA	NA	ND	NA	ND	NA	NA	NA	NA
4-Chlorotoluene	ND	NA	NA	ND	NA	ND	NA	NA	NA	NA
1,2-Dibromo-3-chloropropane	ND	NA	NA_	ND	NA NA	ND	NA NA	NA NA	NA NA	NA NA
1,2-Dibromoethane	ND	NA NA	NA NA	ND ND	NA NA	ND ND	NA NA	NA NA	NA NA	NA NA
Dibromomethane 1,2-Dichlorobenzene	ND ND	NA NA	NA NA	ND	NA NA	ND ND	NA NA	NA NA	NA NA	NA NA
1,3-Dichlorobenzene	ND	NA NA	NA NA	ND	NA NA	ND	NA NA	NA NA	NA NA	NA NA
1,4-Dichlorobenzene	ND	NA NA	NA	ND	NA.	ND	NA NA	NA	NA	NA NA
Dichlorodifluoromethane	ND	NA	NA	ND	NA	ND	NA	NA	NA	NA
1,1-Dichloroethane	ND	NA	NA	ND	NA	ND	NA	NA	NA	NA
1,2-Dichlorethane	ND	NA	NA	ND	NA	ND	NA	NA	NA	NA
1,1-Dichloroethene	ND	NA	NA NA	ND	NA	ND	NA	NA	NA	NA
cis-1,2-dichloroethene	ND	NA NA	NA_	ND ND	NA NA	ND	NA .	NA NA	NA	NA NA
trans-1,2-dichloroethene	ND ND	NA NA	NA NA	ND ND	NA NA	ND ND	NA NA	NA NA	NA NA	NA NA
1,2-Dichloropropane 1,3-Dichloropropane	ND ND	NA NA	NA NA	ND ND	NA NA	ND ND	NA NA	NA NA	NA NA	NA NA
2,2-Dichloropropane	ND	NA NA	NA NA	ND	NA	ND	NA NA	NA.	NA	NA NA
1,1-Dichloropropene	ND	NA	NA	ND	NA	ND	· NA	NA	NA	NA
Ethylbenzene	0.032	0.286	ND	0.007	0.061	ND	ND :	- ND	ND	ND
Hexachlorobutadiene	ND	NA	NA	ND	NA	ND	NA	NA	NA	NA
Isopropylbenzene	ND	NA	NA	ND	NA	ND	NA	NA	NA	NA
p-isopropytoluene	ND	NA	NA_	ND	NA	ND	NA	NA	NA	NA
Methylene chloride	ND	NA NA	NA	ND	NA	ND	NA_	NA	NA NA	NA NA
Naphthalene	ND	NA NA	NA NA	ND ND	NA NA	ND ND	NA NA	NA NA	NA NA	NA NA
n-propylbenzene Styrene	ND ND	NA NA	NA NA	ND ND	NA NA	ND ND	NA NA	NA NA	NA NA	NA NA
1,1,1,2-Tetrachloroethane	ND ND	NA NA	NA NA	ND	NA NA	ND	NA NA	NA NA	NA NA	NA NA
1.1.2.2-Tetrachloroethane	ND	NA.	NA NA	ND	NA	ND	NA.	NA	NA.	NA
Tetrachloroethene	ND	ŇA	NA	ND	NA	ND	NA	NA	NA	NA
Toluene	ND	0.01	ND _	ND	<0.005	ND	ND	ND	ND	ND
1,2,3-Trichlorobenzene	ND	NA	NA	ND	NA	ND	NA	NA	NA	NA
1,2,4-Trichlorobenzene	ND	NA	NA	ND	NA	ND	NA	NA	NA	NA
1,1,1-Trichloroethane	ND	NA NA	NA_	ND	NA NA	ND	NA .	NA	NA	NA NA
1,1,2-Trichloroethane	ND	NA NA	NA_	ND	NA NA	ND	NA NA	NA NA	NA NA	NA NA
Trichloroethene	ND ND	NA NA	NA NA	ND ND	NA NA	ND ND	NA NA	NA NA	NA NA	NA NA
Trichlorofluoromethane 1,2,3-Trichloropropane	ND	NA NA	NA NA	ND ND	NA NA	ND ND	NA NA	NA NA	NA NA	NA NA
1,2,4-Trimethylbenzene	0.007	NA NA	NA NA	ND	NA NA	ND	NA NA	NA NA	NA NA	NA NA
1,3,5-Trimethylbenzene	ND	NA NA	NA	ND	NA	ND	NA NA	NA	NA	NA NA
Vinyl chloride	ND	NA	NA	ND	NA	ND	NA	NA	NA	NA
Xylenes, total	0.012	0.131	ND	0.012	0.008	.ND	ND'	: ND	ND	ND
Acetone	ND	NA	NA	ND	NA	ND	NA	NA	NA	NA
Carbon disulfide	ND	NA NA	NA_	ND ND	NA NA	ND	NA NA	NA NA	NA	NA NA
Vinyl acetate	ND	NA NA	NA NA	ND ND	NA NA	ND ND	NA NA	NA NA	NA NA	NA NA
2-Butanone 1,2-Dichloroethene	ND ND	NA NA	NA NA	ND ND	NA NA	ND ND	NA NA	NA NA	NA NA	NA NA
2-Chloethylvinylether	ND	NA NA	NA NA	ND	NA NA	ND	NA NA	NA NA	NA NA	NA NA
4-Methyl-2-pentanone	ND	NA NA	NA NA	ND	NA NA	ND	NA NA	NA NA	NA NA	NA NA
cis-1,3-dichloropropene	ND	NA	NA	ND	NA	ND	NA	NA	NA	NA
trans-1,3-dichloropropene	ND	NA	NA	ND	NA	ND	NA	NA	NA	NA
2-Hexanone	ND	NA	NA	ND	NA	ND	NA	NA	NA	NA
Methyl tert butyl ether	ND	NA	NA	ND	NA	ND	NA	NA.	NA	NA
evoc.	 	-		 	+	 	 	 	1	1
SVOCs	ND	NA	NA	ND	NA	ND	NA	ND	NA	NA
Acenaphthene	ND	1 11/4	INA	עאו	1 NA	MD	I INA	1 ND	1 11/4	IVA

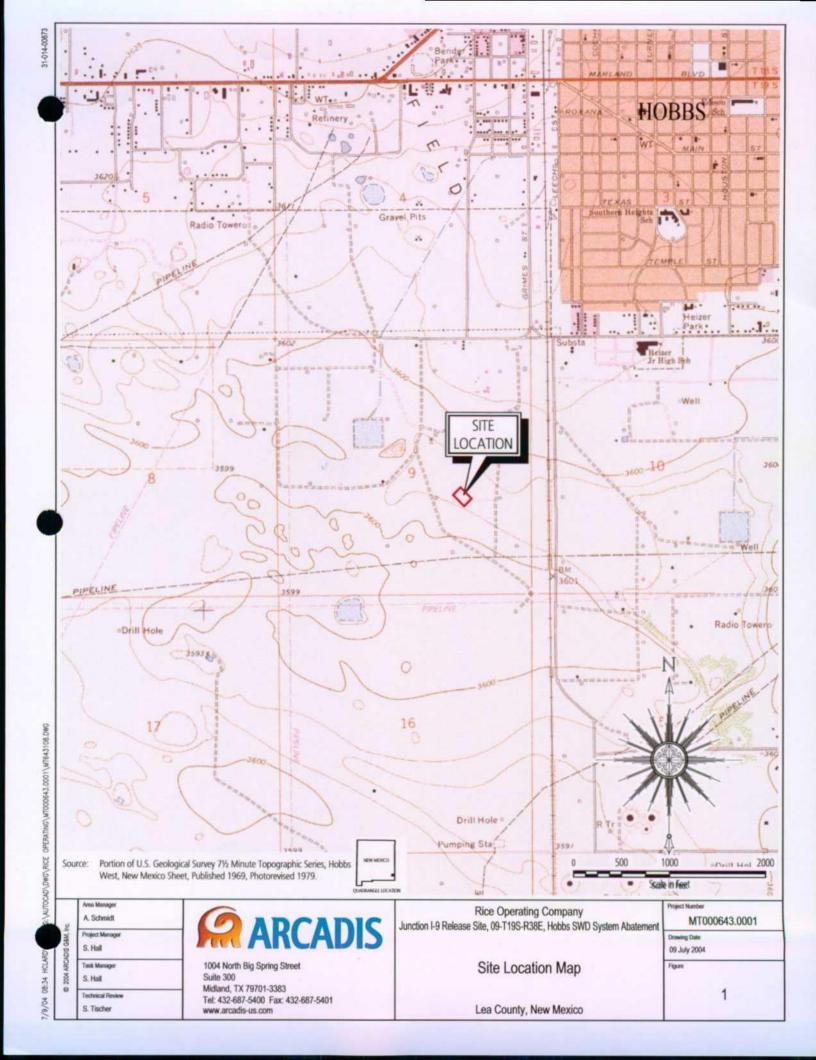
TABLE 3
GROUNDWATER ANALYTICAL RESULTS

Well Name		MW-1		MV	V-2	M	W-3	M	W-4	McNeil Well
Date Sampled	1/16/1999	7/7/1999	3/2/2004	1/16/1999	7/7/1999	1/16/1999	3/2/2004	9/2/1999	3/2/2004	3/2/2004
Compound Name	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
Acenaphthylene	ND	NA	NA	ND	NA	ND	NA	ND	NA	NA
Aniline	ND	NA	NA	ND	NA.	ND	NA NA	NA	NA.	NA NA
Anthracene Benzo(a)anthracene	ND ND	NA NA	NA NA	ND ND	NA NA	ND ND	NA NA	NA ND	NA NA	NA NA
Benzo(b)fluoranthene	ND	NA NA	NA NA	ND	NA NA	ND	NA NA	ND	NA NA	NA NA
Benzo(k)fluoranthene	ND	NA .	NA	ND	NA.	ND	NA	ND	NA	NA NA
Benzo(a)pyrene	ND	NA	NA	ND	NA	ND	NA	ND	NA	NA
Benzoic acid	ND	NA	NA	ND	NA	ND	NA	NA	NA	NA
Benzo(g,h,i)perylene	ND	NA	NA	ND	NA	ND	NA NA	ND	NA	NA NA
Benzyl alcohol 4-Bromophenylphenyl ether	ND ND	NA NA	NA NA	ND ND	NA NA	ND ND	NA NA	NA NA	NA NA	NA NA
Butybenzylphthalate	ND ND	NA NA	NA NA	ND	NA NA	ND	NA NA	NA NA	NA NA	NA NA
di-n-butyl phthalate	ND	NA NA	NA	· ND	NA	ND	NA	NA	NA	NA
Carbazole	ND	NA	NA	ND	NA	ND	NA	NA	NA	NA
4-Chloroaniline	ND	NA	NA	ND	NA	ND	NA	NA	NA	NA
bis(2-chloroethoxy)methane	ND	NA	NA	ND	NA	ND	NA	NA	NA	NA
bis(2-chloroethyl)ether	ND	NA	NA	ND	NA	ND	NA	NA	NA	NA NA
bis(2-chloroisopropyl)ether	ND ND	NA NA	NA NA	ND ND	NA NA	ND ND	NA NA	NA NA	NA NA	NA NA
4-Chloro-3-methylphenol 2-Chloronaphthalene	ND ND	NA NA	NA NA	ND ND	NA NA	ND ND	NA NA	NA NA	NA NA	NA NA
2-Chlorophenol	ND	NA NA	NA NA	ND	NA NA	ND	NA NA	NA NA	NA NA	NA NA
4-Chlorophenylphenyl ether	ND	NA	NA	ND	NA	ND	NA	NA	NA	NA
Chrysene	ND	NA	NA	ND	NA	ND	NA	ND	NA	NA
Dibenz(a,h)anthracene	ND	NA	NA	ND	NA	ND	NA	ND	NA	NA
Dibenzofuran	ND	NA	NA	ND	NA	ND	NA NA	NA	NA	NA NA
1,2-Dichlorobenzene	ND	NA NA	NA NA	ND ND	NA NA	ND ND	NA NA	NA NA	NA NA	NA NA
1,3-Dichlorobenzene 1,4-Dichlorobenzene	ND ND	NA NA	NA NA	ND	NA NA	ND	NA NA	NA NA	NA NA	NA NA
3,3-Dichlorobenzidine	ND	NA NA	NA.	ND	NA.	ND	NA.	NA	NA.	NA
2,4-Dichlorophenol	ND	NA	NA	ND	NA	ND	NA	NA	NA	NA
Diethylphthalate	ND	NA	NA	ND	NA	ND	NA	NA	NA	NA
2,4-Dimethylphenol	ND	NA	NA	ND	NA	ND	NA	NA	NA	NA
Dimethyl phthalate	ND	NA	NA	ND	NA	ND	NA.	NA	NA NA	NA
4,6-Dinitro-2-methylphenol	ND ND	NA NA	NA NA	ND ND	NA NA	ND ND	NA NA	NA NA	NA NA	NA NA
2,4-Dinitrophenol 2,4-Dinitrotoluene	ND ND	NA NA	NA NA	ND ND	NA NA	ND ND	NA NA	NA NA	NA NA	NA NA
2,6-Dinitrotoluene	ND	NA.	NA.	ND	NA.	ND	NA	NA	NA	NA
1,2-Diphenylhydrazine	ND	NA	NA	ND	NA	ND	NA	NA	NA	NA
bis(2-ethylhexyl)phthalate	ND	NA	NA	ND	NA	ND	NA	NA	NA	NA
Fluoranthene	ND	NA	NA	ND	NA	ND	NA	ND	NA	NA
Fluorene	ND	NA NA	NA NA	ND	NA NA	ND ND	NA NA	ND NA	NA NA	NA NA
Hexachlorobenzene Hexachlorobutadiene	ND ND	NA NA	NA NA	ND ND	NA NA	ND ND	NA NA	NA NA	NA NA	NA NA
Hexachloroethane	ND	NA NA	NA NA	ND	NA NA	ND	NA NA	NA	NA	NA NA
Hexachlorocyclopehtadiene	ND	NA	NA	ND	NA	ND	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	ND	NA	NA	ND	NA	ND	NA	ND	NA	NA
Isophorone	ND	NA	NA	ND	NA	ND	NA	NA	NA	NA
2-Methylnaphthalene	ND	NA	NA	ND	NA NA	ND	NA NA	NA	NA.	NA NA
2-Methylphenol	ND ND	NA NA	NA NA	ND ND	NA NA	ND ND	NA NA	NA NA	NA NA	NA NA
4-Methylphenol Naphthalene	ND	NA NA	NA NA	ND	NA NA	ND	NA NA	ND	NA NA	NA NA
2-Nitroaniline	ND	NA NA	NA NA	ND	NA NA	ND	NA NA	NA	NA.	NA NA
3-Nitroaniline	ND	NA	NA	ND	NA	ND	NA	NA	NA	NA
4-Nitroaniline	ND	NA	NA	ND	NA	ND	NA	NA	NA	NA
Nitrobenzene	ND	NA	NA	ND	NA	ND	NA .	NA	NA	NA
2-Nitrophenol	ND	NA	NA NA	ND	NA	ND	NA NA	NA	NA	NA
4-Nitrophenol N-nitrosodiphenylamine	ND ND	NA NA	NA NA	ND ND	NA NA	ND ND	NA NA	NA NA	NA NA	NA NA
N-nitroso-di-n-propylamine	ND	NA NA	NA NA	ND	NA NA	ND	NA NA	NA NA	NA	NA NA
Di-n-octyl phthalate	ND	NA NA	NA	ND	NA NA	ND	NA NA	NA	NA NA	NA NA
Pentachlorophenol	ND	NA	NA	ND	NA	ND	NA	NA	NA	NA
Phenanthrene	ND	NA·	NA	ND	NA	ND	NA	ND	NA	NA
Phenol	ND	NA	NA	ND	NA	ND	NA	NA	NA	NA
Pyrene	ND_	NA.	NA_	ND	NA NA	ND ND	NA NA	ND NA	NA NA	NA NA
Pyridine 1,2,4-Trichlorobenzene	ND ND	NA NA	NA NA	ND ND	NA NA	ND ND	NA NA	NA NA	NA NA	NA NA
2,4,5-Trichlorophenol	ND	NA NA	NA NA	ND	NA NA	ND	NA NA	NA NA	NA NA	NA NA
2,4,6-Trichlorophenol	ND	NA NA	NA NA	ND	NA NA	ND	NA NA	NA NA	NA NA	NA NA
Gasoline Range C6-C12	NA	NA	ND	NA	NA	NA	· ND	NA	ND'	ND
Diesel Range >C12-C35	NA	NA	ND	NA	NA	NA	ND	NA	ND	ND
TPH C6-C35	NA	NA	ND	NA	NA	NA	ND	NA	ND	ND

TABLE 3
GROUNDWATER ANALYTICAL RESULTS

Well Name		MW-1		MW	V-2	M V	V-3	M	N-4	McNeil Well
Date Sampled	1/16/1999	7/7/1999	3/2/2004	1/16/1999	7/7/1999	1/16/1999	3/2/2004	9/2/1999	3/2/2004	3/2/2004
Compound Name	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
	(B-)	\ <u></u>	(g -/	((<u>````</u>	((((
General Chemistry										
Resistivity	0.74	NA	NA	0.58	NA	0.53	NA	0.0009	NA	NA
Specific Gravity	0.982	NA	NA	0.985	NA	0.996	NA	NA	NA	NA
Chloride	128	NA	195	230	NA .	195	319	100	164	81.5
Carbonate (CaCO ₃)	ND	.NA	ND	ND	NA	ND	ND	ND	ND	ND
Bicarbonate (CaCO ₃)	332	NA	478	322	NA	370	380	220	264	185
Hydroxide Alkalinity	NA:	NA ·	ND	NA	NA 5	NA	ND	NA	ND	ND
рH	7.29	NA	7.22	7.51	NA T	7.51	6.99	NA	7.03	-7.52
Sulfate	318	NA	440	372	NA	483	499	180	367	69.2
Total dissolved solids	890	NA	1720	1190	NA	1340	1320	770	1040	468
Calcium	727	NA	72.8	578	· NA	1255	94.4	93	100	25.9
Potassium	3.	NA	4.45	30	NA	- 8	2.7	2.4	1.85	2.95
Sodium	144	NA .	244	171	- NA	310	200	124	129	104
Specific Conductance	NA:	NA.	1870	NA	NA	NA	1740	NA ·	1380	724
Fluoride	NA'	NA	1.57	NA .	NA -	NA	1.91	NA	1.89	1.03
Nitrate as N	. NA	NA NA	0.2	NA	NA	NA	0.1	NA	0.2	0.4
Metals										
Silver	ND	NA	ND	ND	NA	ND	ND	ND	ND ·	ND
Aluminum	12.3	NA	.7	16.5	NA	32.7	15.7	3.1	1.14	0.0491
Arsenic	0.019	NA	ND	0.025	NA	0.028	0.0127	0.03	ND :	0.0467
Barium	0.87	NA	0.446	0.970	NA`	3.91	1.87	- 0.11	0.0932	0.0543
Boron	NA	NA	1:38	NA s	NA	NA NA	0.999	NA	0.592	0.127
Cadmium	ND	NA	'ND	ND	NA	ND	ND	ND	0.0134	ND
Cobalt	ND	NA	J[0.0008]	ND	NA	ND	0.0047 <	··ND	ND	ND
Chromium	ND .	NA	J[0.0024]	0.02	NA	0.03	0.0139	ND	ND	ND
Copper	0.02	NA	0.0044	0.02	NA .	0.02	ND	0.03	ND ·	ND
Iron	9.34	NA:	5.58	11.6	NA:	26.4	13.8	2.4	-1.06	0.0609
Mangnesium	NA	NA .	28.1	NA	NA	NA	38.8	NA	31.2	3.93
Mercury	ND	NA	ND	ND	NA	ND	ND	ND	ND,	ND
Manganese	0.214	NA .	0.0741	0.288	NA	0.535	0.458	0.03	0.0524	0.0221
Molybdenum	ND	NA	ND	ND -	NA	0.03	ND	0.02	ND	ND
Nickel	0.02	· NA	ND .	ND	NA	0.05	ND	0.1	ND	ND
Lead	0.005	. NA	- ND	0.007	NA	0.013	ND	0.008	ND	ND
Selenium	ND	NA	ND	ND	NA	ND	. ND	0.02	ND	ND
Zinc	0.05	NA	0.098	0.04	NA ,	0.04	0.0342	0.04	0.0863	0.0331

All results are reported in milligrams per liter (mg/L) NA - Not analyzed ND - Not detected



Appendix A

Photographs



Excavation to groundwater in area where PSH was detected.



Excavation to groundwater in area where PSH was detected.



Excavation to groundwater in area where PSH was detected.



Installation of lower liner.



Installation of lower liner.



Excavation of sidewalls.



Backfilling over lower liner.



Backfilling over lower liner.



Backfilling.



Backfilling.



Installation of upper liner.



Proctor testing of upper liner.



Proctor testing of upper liner.



Backfilling over upper liner.



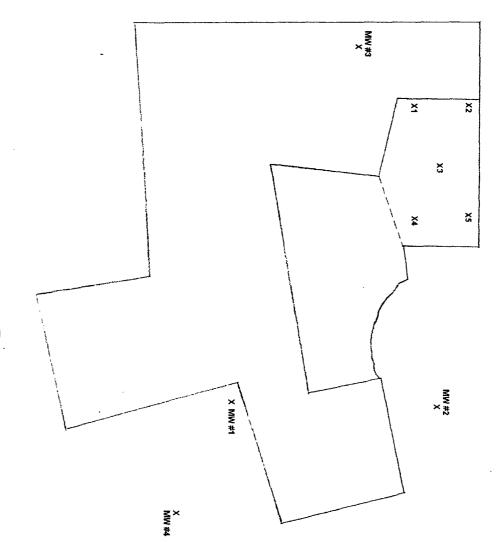
Backfilling over upper liner.



Site grading.

Appendix B

Laboratory Analytical Results





X McNell Well

DICE C	PERATING CON	AD A NIV		July 7, 2004	Drawing/R
IVIOL	PERATING CON	/IPANY			Rice
122 W. Taylor	Hobbs, New Mexico 88240	Tel: (505)393-9174	Fax: (505)397-1471		Junction

_	Date	File Location	Complier	Project Manag	er Area Manager					
	July 7, 2004	Drawing/ROC	S. Hicks	R. Rascoi	,					
		Rice Oper	ating Company		Checked					
1		•	tate 2 Remedia	tion	R. Rascon					
	_	Samp	ling Points		Figure 2A					





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

ANALYTICAL RESULTS FOR RICE OPERATING CO. ATTN: KRISTIN FARRIS 122 W. TAYLOR **HOBBS, NM 88240**

FAX TO:

Receiving Date: 10/01/03 Reporting Date: 10/02/03

Project Number: HOBBS 1-9

... Project Name: HOBBS I-9 Project Location: NOT GIVEN

Relative Percent Difference

Sampling Date: 10/01/03

Sample Type: SOIL

Sample Condition: COOL & INTACT

6.7

Sample Received By: AH Analyzed By: BC/AH

LAB NUMB	ER SAMPLE ID	GRO (C_6-C_{10}) (mg/Kg)	DRO (>C ₁₀ -C ₂₈) (mg/Kg)	Ci* (mg/Kg)
ANALYSIS	DATE	10/01/03	10/01/03	10/02/03
H8053-1	H-I-9 SP #1 BTM	<10.0	<10.0	64
H8053-2	H-I-9 SP #2	<10.0	<10.0	64
H8053-3	H-I-9 SP #3	<10.0	<10.0	253
H8053-4	H-I-9 SP #4	<10.0	<10.0	448
H8053-5	H-I-9 SP #5	<10.0	<10.0	112
Quality Con	trol	802	761	1050
True Value	QC	800	800	1000
% Recovery	/	100	95.1	105

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; CI: Std. Methods 4500-CIB *Analyses performed on 1:4 w:v aqueous extracts.

1.7



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

ANALYTICAL RESULTS FOR RICE OPERATING CO.

ATTN: KRISTIN FARRIS

122 W. TAYLOR HOBBS, NM 88240

FAX TO:

Receiving Date: 10/01/03 Reporting Date: 10/02/03

Project Number: HOBBS I-9

Project Name: HOBBS I-9
Project Location: NOT GIVEN

Sampling Date: 10/01/03

Sample Type: SOIL

Sample Condition: COOL & INTACT

Sample Received By: AH

Analyzed By: BC

LAB NUMBER	SAMPLE ID	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS DA	TE	10/01/03	10/01/03	10/01/03	10/01/03
H8053-1	H-I-9 SP #1 BTM	<0.005	<0.005	< 0.005	<0.015
H8053-2	H-I-9 SP #2	<0.005	<0.005	< 0.005	<0.015
H8053-3	H-I-9 SP #3	<0.005	< 0.005	< 0.005	<0.015
H8053-4	H-I-9 SP #4	<0.005	<0.005	< 0.005	<0.015
H8053-5	H-I-9 SP #5	<0.005	<0.005	<0.005	<0.015
Quality Control		0.105	0.099	0.090	0.273
True Value QC		0.100	0.100	0.100	0.300
% Recovery		105	98.8	90.4	90.9
Relative Perce	nt Difference	6.2	<0.1	1.8	0.1

METHOD: EPA SW-846 8260

Date

COPY

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

	•	Do	
	•	ARDINAL LABORATORIES, INC	•
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/045) 672.7004 Fit /045) 672.700	2111 Beechwood, Abliene, TX 79603	LAB	
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14/04/7	bilene,	TORI	
1 873 7	TX 790	ES, II	
3	ő	5	

111 Beechwood, Abliene, TX 79603 101 East Mariand, Hobbs, NM 88240

!	/04E) 673 7004 Ety /04E) 673 7030		0	4 !	3		È :	2	5	٤		n		(NOR) 202 2228 Cov (ROR) 202 2/78	170								Pace	Ď	2	í	
Company Name: R	ILF OPER	1				ľ		- 19	}	Ì	Š		. }	(000)					Ą	ANALYSIS		REQUEST	-				
	KRISTIN FARRIU	P	V				. [1381818180	88		0	PO #:		_	_		_	\dashv							
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*				-				-	Σ	Address:	859	**										•					
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Project #: Hobbs I	-9 Project Owner:	•							Ø	State:			. 1	Zip:													
0	05 I-9				- 1		ĺ		Ð	Phone #:	#					m											
Project Location:									F	Fax#:	22					5				·							
FOR LAB USE ONLY		┪	┪		, ,	MATRIX	2			Н	PRES.	8	Н	SAMPLING) /									-		
LAB I.D.	Sample I.D.	(G)RAB OR (C)OMP.	#CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID:	ICE / COOL		OTHER:	DATE	TIME	TPH 80	BTEX	C1-									
H 8053-1 H-	-I-9 SP#1 B[m]	6	_			<					V			0-1-03 1	1000	<	<			\vdash		П					
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FLEASE NOTE: Liability and Damages. Cardinate sability and clear's exclusive hamsely for any claim analog whether based in contract or tort, shall be limited to the amount paid by the clear for the shall see for he had been been and any other cause whatboever shall be deared watwed in whiting and received by Cardinal within 30 days after completed or the applicable	Cardinate Eablity and offents exclusive application of the cardinate of th	Permed	y for a	No offi	APA F	56		0.0	5 5	Ho di	3 2	3 5	g §	be limited to the amo Cardinal within 30 de	ount paid by the lys after compl	client for I	ne počesti	•		Terms and 30 days pa	Conditions at due at the	Terms and Conditions: interest will be charged on all succurs more than 30 days past due at the rais of 24% per aroun from the original date of inv	it be chan	yed on all s in from the	original da	Terms and Conditions: interest will be charged on all scoours more than 30 days past due at the rais of 24% per aroum from the original date of invoice,	-

† Cardinal cannot accept verbal channes. Plasea for uniffer channes to 648 and some

Relinguished By:

Time: /2-/-03

Rebelved By: (Lab)Sta

none Result □ Yes □ No Additional Fax #: ax Result: □ Yes □ No

PLEASE

FAX

COPY

CHECKED BY: (Initials)

Delivered By: (Circle One)

Bus - Other:

RICE OPERATING COMPANY

122 WEST TAYLOR HOBBS, NEW MEXICO 88240

PHONE: (505) 393-9174 FAX: (505) 397-1471

VOC FIELD TEST REPORT FORM

MINI RAE PLUS CLASSIC PHOTOIONIZATION GAS DETECTOR

MODEL NO: PGM 761S

SERIAL NO: 104412

CALIBRATION GAS

GAS COMPOSITION: ISOBUTYLENE

100 PPM

AIR

BALANCE

LOT NO: 02 - 2230

EXP. DATE: 11-20-04

ACCURACY: 100POM ± 2%

METER READING

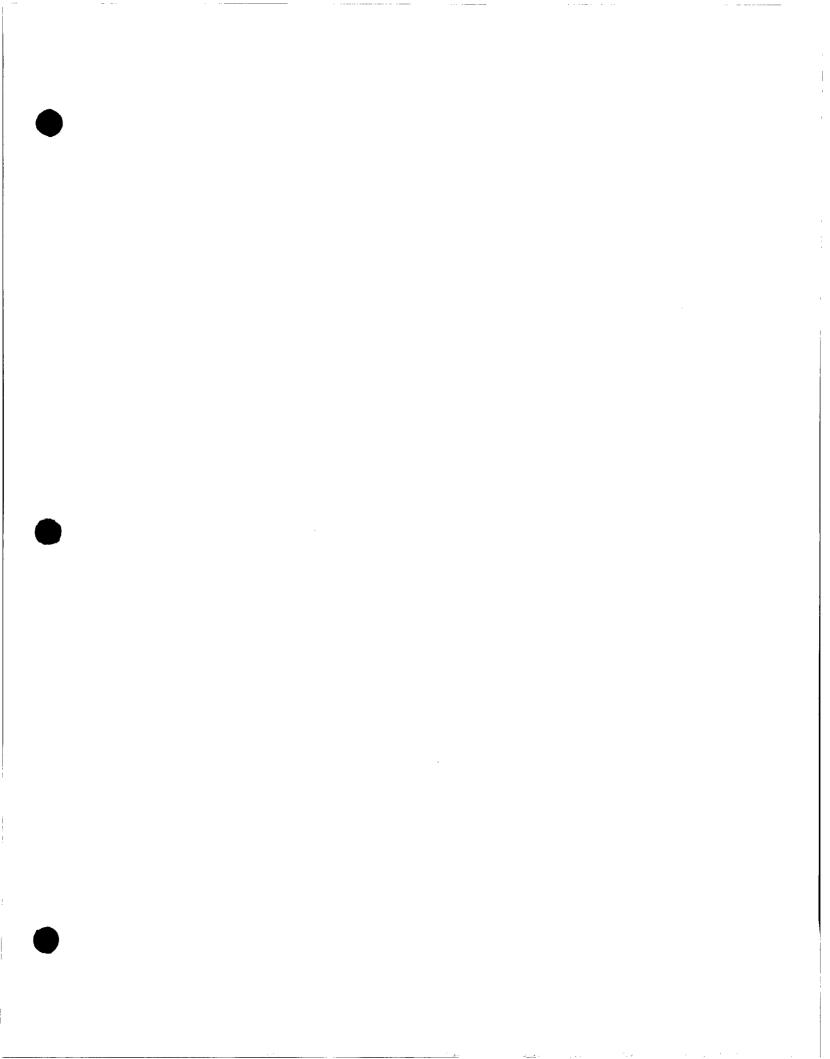
ACCURACY: 100.1

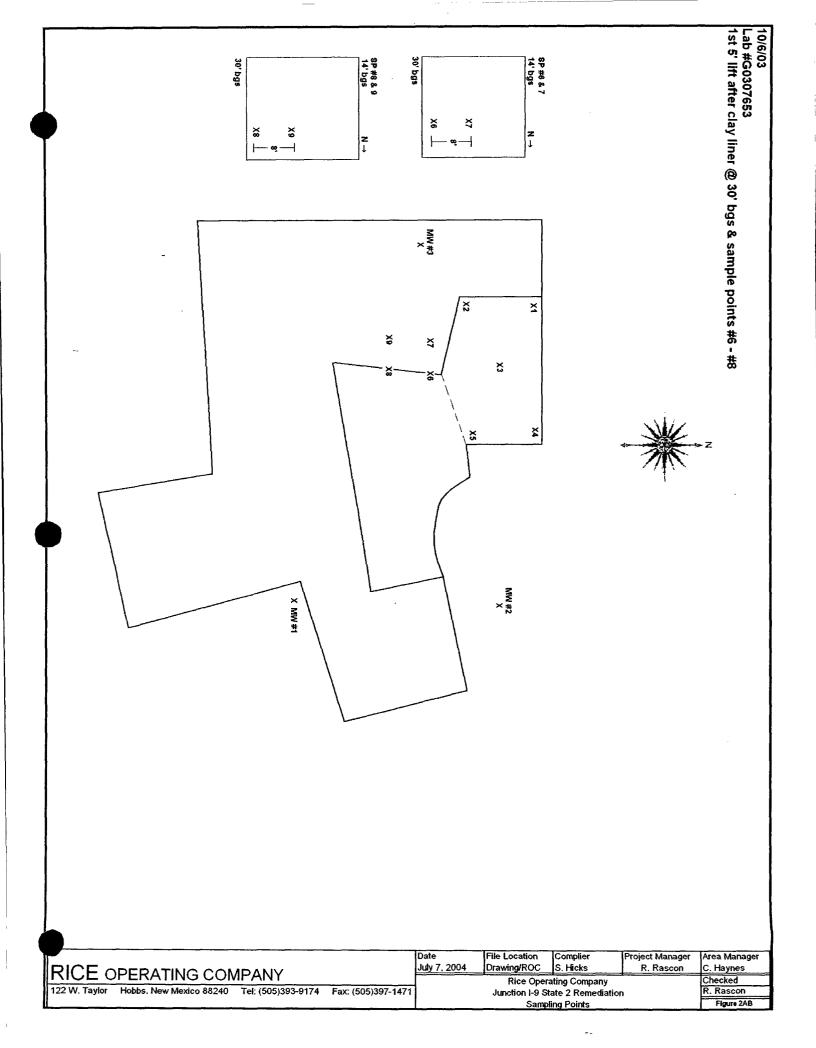
SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE
Hobbs	I-9	I.	9	195	R38E

SAMPLE	PID RESULT	SAMPLE	PID RESULT
SAMPLE Point #1	1.3 PPM		
#2	1.0 PPM		
#3	2.5 PPM		
#4	2.3 PPM		
#5	.7 PPM		
		•	·

I certify that I have calibrated the above instrument in accordance to the manufacture operation manual.







ANALYTICAL REPORT

Prepared for:

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

Project:

Hobbs Jct. I-9

PO#:

Order#:

G0307653

Report Date:

10/08/2003

Certificates

US EPA Laboratory Code TX00158



SAMPLE WORK LIST

Rice Operating 122 W. Taylor Hobbs, NM 88240 505-397-1471

Order#:

G0307653

Project:

Project Name: Hobbs Jct. I-9

Location:

None Given

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

				Date / Time	D	ate / Time		
Lab ID:	Sample:	Matrix:		Collected	_1	Received	<u>Container</u>	Preservative
0307653-01	1st 5' Lift #1	SOIL		10/3/03		10/6/03	Plastic Bag	ice
				11:30		8:00		
Lai	b Testing:	Rejected:	No	Те	mp:	4.0 C		
	8015M							
	Chloride							
0307653-02	1st 5' Lift #2	SOIL		10/3/03		10/6/03	Plastic Bag	ice
000.000 02				11:45		8:00		
La	b Testing:	Rejected:	No	Te	mp:	4.0 C		_
	8015M							
	Chloride			·,,,,,		· · · · · · · · · · · · · · · · · · ·		
0307653-03	1st 5' Lift #3	SOIL		10/3/03		10/6/03	Plastic Bag	ice
				12:00		8:00		
La	b Testing:	Rejected:	No	Te	mp:	4.0 C		
	8015M							
	Chloride							
0307653-04	1st 5' Lift #4	SOIL		10/3/03		10/6/03	Plastic Bag	ice
				12:15		8:00		
<u>La</u>	<u>b Testing:</u>	Rejected:	No	Te	mp:	4.0 C		
	8015M							
	Chloride							
0307653-05	1st 5' Lift #5	SOIL		10/3/03		10/6/03	Plastic Bag	ice
				12:30		8:00		
<u>La</u>	b Testing:	Rejected:	No	Te	emp:	4.0 C		
	8015M							
	Chloride							
0307653-06	West Wall Btm #6	SOIL		10/3/03		10/6/03	Plastic Bag	ice
350,355 00				13:00		8:00		
<u>La</u>	b Testing:	Rejected:	No	Te	emp:	4.0 C		
	8015M							
	Chloride							
0307653-07	West Wall Btm #7	SOIL		10/3/03		10/6/03	Plastic Bag	ice
_				13:10		8:00		
<u>La</u>	b Testing:	Rejected:	No	Te	emp:	4.0 C		

SAMPLE WORK LIST

Rice Operating 122 W. Taylor Hobbs, NM 88240

505-397-1471

Order#:

G0307653

Project:

Project Name: Hobbs Jct. I-9

Location:

None Given

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

Lab ID:	Sample : 8015M Chloride	Matrix:	Date / Time Collected	Date / Time Received	Container	Preservative
0307653-08	West Wall 8' FB #8	SOIL	10/3/03 13:20	10/6/03 8:00	Plastic Bag	ice
<u>La</u>	<i>b Testing:</i> 8015M Chloride	Rejected: No	Тег	np: 4.0 C		
0307653-09	West Wall 8' FB #9	SOIL	10/3/03 13:30	10/6/03 8:00	Plastic Bag	ice
<u>La</u>	<i>b Testing:</i> 8015M Chloride	Rejected: No	Ter	np: 4.0 C		



ANALYTICAL REPORT

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

G0307653

Project:

Project Name:

Hobbs Jct. I-9

Location:

None Given

Lab ID:

0307653-01

Sample ID:

1st 5' Lift #1

8015M

Method Blank

Prepared

Date

Date Analyzed 10/7/03

Sample Amount 1

Dilution Factor 1

Analyst ЛLН

Method 8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	26.4	10.0
TOTAL, C6-C35	26.4	10.0

Surrogates	% Recovered	QC Li	mits (%)
1-Chlorooctane	96%	70	130
1-Chlorooctadecane	101%	70	130

Lab ID:

0307653-02

Sample ID:

1st 5' Lift #2

8015M

Method Blank

Date Prepared

Date Analyzed 10/7/03

Sample Amount 1

Dilution **Factor**

1

Analyst JLH

Method 8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

Surrogates	% Recovered	QC Li	mits (%)
1-Chlorooctane	94%	70	130
1-Chlorooctadecane	102%	70	130



ANALYTICAL REPORT

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

Order#:

G0307653

Project:

Project Name:

Hobbs Jct, I-9

Location:

None Given

Lab ID:

0307653-03

Sample ID:

1st 5' Lift #3

8015M

Method Blank

Date Prepared Date
Analyzed
10/7/03

Sample <u>Amount</u> 1 Dilution <u>Factor</u>

Analyst JLH

Method 8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

Surrogates	% Recovered	QC Limits (%	
1-Chlorooctane	102%	70	130
1-Chlorooctadecane	113%	70	130

Lab ID:

0307653-04

Sample 1D:

1st 5' Lift #4

8015M

Method Blank Date Prepared Date
<u>Analyzed</u>
10/7/03

Sample Amount

1

Dilution <u>Factor</u> Analyst

JLH

Method 8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	12.1	10.0
TOTAL, C6-C35	12.1	10.0

Surrogates	% Recovered	QC Limits (
1-Chlorooctane	95%	70	130
1-Chlorooctadecane	99%	70	130



ANALYTICAL REPORT

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

G0307653

Project:

Project Name:

Hobbs Jct. I-9

Location:

None Given

Lab ID:

0307653-05

Sample ID:

1st 5' Lift #5

8015M

Method Blank

Date Prepared

Date Analyzed 10/7/03

Sample **Amount**

1

Dilution

Factor

1

Analyst JLH

Method 8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	18.9	10.0
TOTAL, C6-C35	18.9	10.0

Surrogates	% Recovered	QC Li	mits (%)
1-Chlorooctane	85%	70	130
1-Chlorooctadecane	88%	70	130

Lab ID:

0307653-06

Sample ID:

West Wall Btm #6

8015M

Method Blank

Prepared

Date

Date Analyzed 10/7/03

Sample **Amount** 1

Dilution **Factor**

1

Analyst

JLH

Method 8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	11.6	10.0
TOTAL, C6-C35	11.6	10.0

Surrogates	% Recovered	QC Limits (%)		
1-Chlorooctane	79%	70	130	
1-Chlorooctadecane	81%	70	130	



ANALYTICAL REPORT

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

Order#:

G0307653

Project:

Project Name:

Hobbs Jct. 1-9

Location:

None Given

Lab ID:

0307653-07

Sample ID:

West Wall Btm #7

8015M

Method Blank Date Prepared Date Analyzed 10/7/03 Sample Amount

1

Dilution Factor

1

Analyst JLH

Method 8015M

 Parameter
 Result mg/kg
 RL

 GRO, C6-C12
 <10.0</td>
 10.0

 DRO, >C12-C35
 <10.0</td>
 10.0

 TOTAL, C6-C35
 <10.0</td>
 10.0

Surrogates	% Recovered	QC Limits (%)		
1-Chlorooctane	84%	70	130	
1-Chlorooctadecane	88%	70	130	

Lab ID:

0307653-08

Sample ID:

West Wall 8' FB #8

8015M

Method Blank Date Prepared Date Analyzed 10/7/03 Sample Amount

1

Dilution Factor

1

Analyst

JLH

Method

8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

Surrogates	% Recovered	QC Limits (%)		
1-Chlorooctane	90%	70	130	
1-Chlorooctadecane	96%	70	130	



Page 4 of 5

ANALYTICAL REPORT

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

Order#:

G0307653

Project:

Project Name:

Hobbs Jct. 1-9

Location:

None Given

Lab ID:

0307653-09

Sample ID:

West Wall 8' FB #9

8015M

Method Blank Date Prepared Date
Analyzed
10/7/03

Sample Amount

1

Dilution Factor

1

Analyst JLH

Method 8015M

 Parameter
 Result mg/kg
 RL

 GRO, C6-C12
 71.4
 10.0

DRO, >C12-C35 401 10.0 TOTAL, C6-C35 472 10.0

Surrogates	% Recovered	QC Limits (%)		
1-Chlorooctane	109%	70	130	
1-Chlorooctadecane	123%	70	130	

Approval:

Raland K. Tuttle, Lab Director, QA Officer Celey D. Keene, Org. Tech. Director

Jeanne McMurrey, Inorg. Tech. Director Sandra Biezugbe, Lab Tech.

Sara Molina, Lab Tech.



ANALYTICAL REPORT

Kristin Farris ice Operating

> 122 W. Taylor Hobbs, NM 88240

Order#:

G0307653

Project:

Project Name: Location:

Hobbs Jct. I-9 None Given

Lab ID:

0307653-01

Sample ID:

1st 5' Lift #1

Test Parameters

Parameter Chloride

Result 35.4

Units mg/kg

Dilution Factor RL20

Method 9253

Date Analyzed 10/7/03

Analyst SB

Lab ID:

0307653-02

Sample ID:

1st 5' Lift #2

Test Parameters

Parameter

Result 53.2

Units mg/kg

Dilution **Factor**

RL20

Method 9253

Date Analyzed 10/7/03

Analyst SB

Lab ID:

Chloride

0307653-03

Sample ID:

1st 5' Lift #3

Test Parameters

Parameter

Result 35.4

Units mg/kg

Dilution **Factor** 1

<u>RL</u> 20

Method 9253

Date Analyzed

10/7/03

<u>Analyst</u> SB

Lab ID:

0307653-04

Sample ID:

Chloride

1st 5' Lift #4

Test Parameters

Parameter Chloride

Result 35.4

Units mg/kg

Dilution **Factor** RL20

Method 9253

Date Analyzed 10/7/03

Analyst SB

Lab ID:

0307653-05

Sample ID:

1st 5' Lift #5

Test Parameters

Parameter Chloride

Result 35.4

Units mg/kg

Dilution **Factor** 1

1

<u>RL</u> 20

Method 9253

Date Analyzed 10/7/03

Analyst SB

Lab ID:

0307653-06

Sample ID:

West Wall Btm #6

Test Parameters

Parameter Chloride

Result 106

Units mg/kg

Dilution Factor 1

RL20

Method

9253

Date Analyzed 10/7/03

Analyst SB

RL = Reporting Limit

N/A = Not Applicable

Page 1 of 2

ANALYTICAL REPORT

Kristin Farris Rice Operating

122 W. Taylor Hobbs, NM 88240 Order#:

G0307653

Project:

Project Name:

Hobbs Jct. I-9

Location:

None Given

20

Lab ID:

0307653-07

Sample ID:

Chloride

West Wall Btm #7

Test Parameters

Parameter

Result <20

Units mg/kg

Dilution **Factor** <u>RL</u>

1

Method 9253

Analyzed Analyst 10/7/03

Date

SB

Lab ID:

0307653-08

Sample ID:

West Wall 8' FB #8

Test Parameters

Parameter Chloride

Result <20

Units mg/kg

Dilution **Factor**

RL20

Method 9253

Date Analyzed 10/7/03

<u>Analyst</u> SB

Lab ID:

0307653-09

Sample ID:

West Wall 8' FB #9

Test Parameters

Parameter Chloride

Result 1770

Units mg/kg Dilution **Factor** 1

RL20

Method 9253

Date Analyzed 10/7/03

<u>Analyst</u> SB

Approval: Raland K. Tuttle, Lab Director, QA Officer Celey D. Keene, Org. Tech/Director

Jeanne McMurrey, Inorg. Tech. Director

Sandra Biezugbe, Lab Tech. Sara Molina, Lab Tech.



QUALITY CONTROL REPORT

Test Parameters

Order#: G0307653

BLANK	SOIL	LAB-ID#	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD	
Chloride-mg/kg		0007064-01			<20			
MS	SOIL	LAB-ID#	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD	
Chloride-mg/kg		0307648-01	1030	500	1540	102.%		
MSD	- SOIL	LAB-ID#	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD	
Chloride-mg/kg	,	0307648-01	1030	500	1560	106.%	1.3%	
SRM	SOIL	LAB-ID#	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD	
Chloride-mg/kg		0007064-04		5000	4960	99.2%		



QUALITY CONTROL REPORT

8015M

Order#: G0307653

BLANK SOIL		LAB-ID#	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
ΓΟΤΑL, C6-C35-mg/kg		0007072-02			<10.0		
MS	SOIL	LAB-ID#	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg		0307653-01	26.4	952	1046	107.1%	
MSD SOIL		LAB-ID#	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg		0307653-01	26.4	952	1027	105.1%	1.8%
SRM	SOIL	LAB-ID#	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg		0007072-05		1000	1008	100.8%	<u></u>



Tonmental Lab of Texas, Inc. 12600 West 1-20 East Odessa, Texas 79763

Phone: 915-563-1800 Fax: 915-563-1713

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Name: Hbbbs

Project #:

Project Loc:

Company Name RICE Operating Co. Project Manager: Kristin Farris

City/State/Zip: Hobbs, NM 88240 Company Address: 122 W. Taylor

Telephone No(505) 393-9174

Sampler Signature: Yalltin Salle

Pax No: (505) 397- 1471

PO #:

TCLP: TOTAL: 8271 153

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RICE OPERATING COMPANY

122 WEST TAYLOR **HOBBS, NEW MEXICO 88240**

PHONE: (505) 393-9174 FAX: (505) 397-1471

VOC FIELD TEST REPORT FORM

MINI RAE PLUS CLASSIC PHOTOIONIZATION GAS DETECTOR

MODEL: NO: PGM 761S
CALIDD ATION CAC

SERIAL NO: 104412

CALIBRATION GAS GAS COMPOSITION: ISOBUTYLENE

100 PPM **BALANCE**

LOT NO: 02-2230

FILL DATE: 5-20-03

EXP. DATE: 11-20-04

ACCURACY: 100 PPM + - 276

METER READING

ACCURACY: /O/ 1

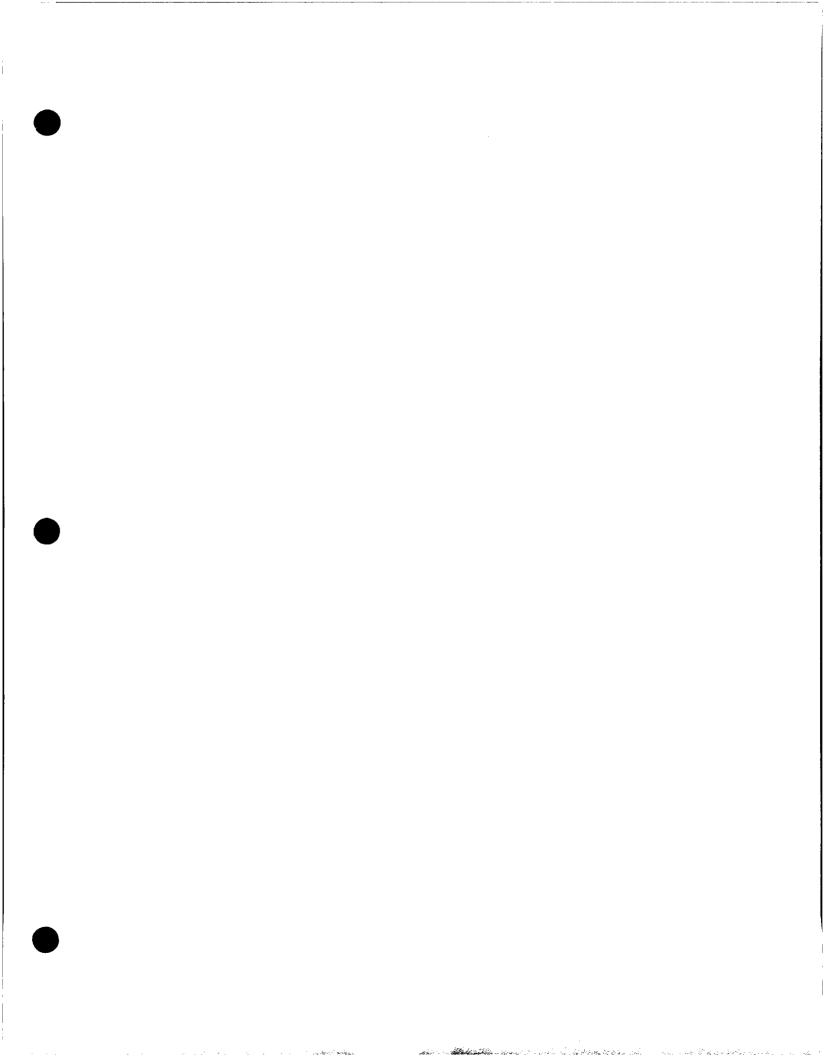
SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE
Hobbs	I-9	對工	9	19	38

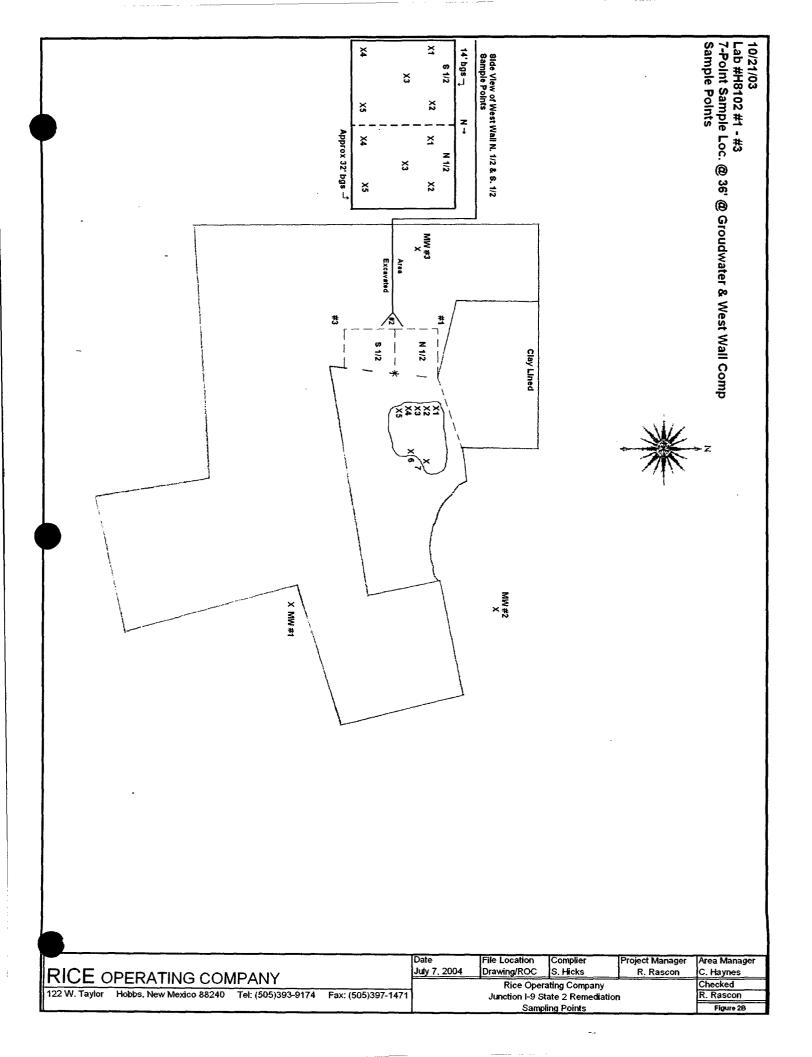
5 1/2 BTTM @ APPROX 29' After Clay LINER 15t 5' Lift SAMPLE PID RESULT SAMPLE PID RESULT 1.3 2.0 Bottom 4 Bottom WEST WALL Above From 1.6 18.1 96.0 6.6

I certify that I have calibrated the above instrument in accordance to the manufacture operation manual.

Rey & Litscon	Environ Project Leader	10-6-03
Signature	Title	Date











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

ANALYTICAL RESULTS FOR RICE OPERATING CO. ROY R. RASCON 122 W. TAYLOR HOBBS, NM 88240 FAX TO:

Receiving Date: 10/21/03

Reporting Date: 10/22/03 Project Number: NOT GIVEN

Project Name: HOBBS JCT I-9
Project Location: HOBBS SYSTEM

Sampling Date: 10/20/03 Sample Type: SOIL

Sample Condition: COOL & INTACT

Sample Received By: AH

Analyzed By: BC

LAB NUMBER	SAMPLE ID	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS DA	TE	10/21/03	10/21/03	10/21/03	10/21/03
H8102-1	7 PT GW @ 36' COMP.	<0.005	< 0.005	<0.005	<0.015
H8102-2	WWS 1/2 5 PT COMP	<0.005	<0.005	< 0.005	<0.015
H8102-3	WWN 1/2 5 PT COMP	<0.005	<0.005	<0.005	<0.015
Quality Control		0.107	0.099	0.094	0.276
True Value QC		0.100	0.100	0.100	0.300
% Recovery		107	99.3	93.9	92.2
Relative Perce	nt Difference	6.1	0.6	6.6	8.5

METHOD: EPA SW-846 8260

Buy of A Cooke

Date

Date

PLEASE NOTE: Liability and Dermages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client to rankyses.

All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.







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

ANALYTICAL RESULTS FOR RICE OPERATING CO. ROY R. RASCON 122 W. TAYLOR HOBBS, NM 88240 FAX TO:

Receiving Date: 10/21/03
Reporting Date: 10/22/03
Project Number: NOT GIVEN
Project Name: HOBBS: JCT I-9
Project Location: HOBBS SYSTEM

Sampling Date: 10/20/03 Sample Type: SOIL

Sample Condition: COOL & INTACT

Sample Received By: AH Analyzed By: BC/AH

	GRO	DRO	
	(C_6-C_{10})	(>C ₁₀ -C ₂₈)	Ci*
LAB NUMBER SAMPLE ID	(mg/Kg)	(mg/Kg)	(mg/Kg)

ANALYSIS	DATE	10/21/03	10/21/03	10/21/03
H8102-1	7 PT GW @ 36' COMP.	<10.0	28.8	80
H8102-2	WWS 1/2 5 PT COMP	<10.0	16.7	96
H8102-3	WWN 1/2 5 PT COMP	<10.0	<10.0	64
······				
Quality Con	trol	761	816	960
True Value	QC	800	800	1000
% Recovery	1	95.1	102	96.0
Relative Pe	rcent Difference	1.9	3.6	8.3

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; Cl⁻: Std. Methods 4500-Cl⁻B *Analyses performed on 1:4 w.v aqueous extracts.

Chemist Chemist

Date

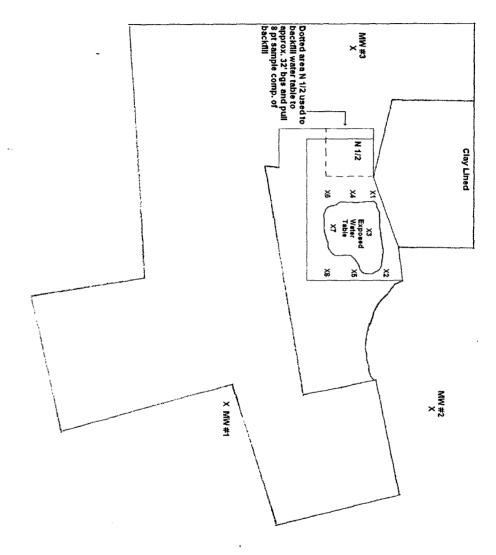
H8403A: VI G

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



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

ARDINAL LABORATORIES, INC. 2111 Beechwood, Abilene, TX 79603 101 E	101 East Marland, Hobbs, NM 88240	obbs, NM 88240				.
Company Name: RILE OPER, CO.			**************************************		ANALYSIS REQUEST	
R. RASC	76	P.O. #:				
TA4	C	Company:				
	State: N M, Zip: 88240	Attn:				
Phone #: 393 - 9/74 Fax #:		Addres:				
Project #: Hobbs JCT I-9 Project Owner:	C	City:				
	6	State: Zip:				
Project Location: 140 665 System	9	Phone #:		1		
Roy Rif	F	Fax #:		· M		
	MATRIX	PRESERV. SAMPLING	ត	5		
	MERS WATER ATER			1 801. EX		
cao i.D. Sample i.D.	(G)RAB OF # CONTAIN GROUNDY WASTEW/ SOIL CRUDE OF SLUDGE OTHER:	ACID/BASI	TIME C1-			
H8102-1 7976We 36 Comp.	+	10-20-03	3:45	ر د		
-2 WWS1/2 SPT COMP	CPV	V 10.2003	4:10 V	\ \ \		
SPI	CPV	V /0·20-03	4:00 Y	< <		
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hed:	eceived By	•	Phone Result: Fax Result:	OYes UNO	Add'i Phone #: Add'i Fax #:	
Reilinguished By: Time: 70:00 Date:	Received By: (Lab Staff)		REMARKS:)		
Time:	my H	1		$\widehat{\Omega}$	○回 ◎	
Delivered By: (Circle One)	Sample Condition	CHECKED BY:		(%	
Sampler UPS - Bus - Other:	Dives Dives					
† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476	ax written changes to 505-	393-2476.				





RICE	OPERATING COMPANY

122 W. Taylor Hobbs, New Mexico 88240 Tel: (505)393-9174 Fax: (505)397-1471

Date File Location
July 7, 2004 Drawing/ROC

Complier S. Hicks

Project Manager R. Rascon

Area Manager C. Haynes

Rice Operating Company Junction I-9 State 2 Remediation Sampling Points Checked R. Rascon Figure 2C



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: ROY R. RASCON 122 W. TAYLOR HOBBS, NM 88240 FAX TO: OCT 2 8 2003

RICE OPERATING
HOBBS, NM

Receiving Date: 10/24/03 Reporting Date: 10/27/03 Project Number: NOT GIVEN

Project Number: NOT GIVEN
Project Name: HOBBS JCT. I-9
Project Location: NOT GIVEN

Sampling Date: 10/24/03 Sample Type: SOIL

Sample Condition: COOL & INTACT

Sample Received By: AH Analyzed By: BC/AH

 $\begin{array}{ccc} & & \text{GRO} & \text{DRO} \\ & & (C_6\text{-}C_{10}) & (>C_{10}\text{-}C_{28}) & \text{CI*} \\ \text{LAB NUMBER SAMPLE ID} & & (mg/Kg) & (mg/Kg) & (mg/Kg) \\ \end{array}$

ANALYSIS	DATE	10/27/03	10/27/03	10/27/03
H8113-1	HOBBS I-9 WATER TABLE	<10.0	<10.0	160
	BACKFILL			
Quality Con		754	793	1020
True Value	QC	800	800	1000
% Recovery		94.2	99.2	102
Relative Per	rcent Difference	2.8	10.0	5.9

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; CI: Std. Methods 4500-CIB *Analyses performed on 1:4 w.v aqueous extracts.

Buy do AR Cable

10/27/03

Date

COPY

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

e e			CHA	IN-OF-CUSTODY	CHAIN-OF-CUSTODY AND ANALYSIS REQUEST
a X	ALDINAL LABORATORIES, INC. 2111 Beechwood, Abliene, TX 78603	101 East Marfand, Hobbs, NM 88240	bs, NM 88240		
Company News		(606) 393-2326 Fax (605) 393-2476	i se		Page of
Collibration realities.	KIGG		01 77/11		ANALTOIS REMOES!
Project Menager:	Roy R. RASCON		P.O. #:		
Address: 122	W. TAYLOR		Company:		
CIV: 140 6/05	State: N. M. Zip:	: 88240	Attn:		
Phone #:	Fax #:		Address:		
Project #: i-b bbs	35 JCT I-9 Project Owner:		Clty:		
Project Name:			State: Zip:	·V	
Project Location:			*	U	
Sampler Name: Dou	200 R. RASCON		Fax 4:	5	
FOR LABUSE ONLY		MATRIX	PRESERV. SAMPLING		
Lab 1.D.	Gample I.D.	CONTAINERS ASTEMATER ASTEMATER ASTEMATER		18 HOL	10
18/13-	Hobbs I-9 WATER table BACKS! 11 C	0 0 0	ж У	3 1450 1	
				$oxed{oxed}$	
PLASE NOTE: Labsity and ampres. At delms including the	PEASE NOTE. Labity and Jamages, Cardinal's lability and cuert's exchange namedy for any carn triang evinative based in contract or tong, abuse to similar to the amount paid by it empresses the second of the secon	ensing whather beased in cominact or tort, also be smilled to the amount paid by the client under harmfag and received by Cardial with 30 days after controllent of the applicable	triding whether based in contract or toot, also be similed to the amount point by the client for the arises in writing and resolved by Caudisia within 30 days after compression of the applicable.	Terms and	Geres and Caedillone: Interest will be charged on all accounts more than 30 days past due at the rate of 24 % per annum from the original date of brides.
services, in the event shall Carolin effectes of successors prinking or	antion. In no event shall Cardinal be lathe for incidental or consequental demages, including without britishes è effectes or aucossave prishe set et or citated in the performance et derices herwinder by Cardinal, reprofess, of which	n, bustness étheruptibens, loss of use, er less of profile éreursed by sikent, les subsidiaries less of vrieties puch tisée le based upon sery of the above stated ressens er etherwise	urned by often, he adoidentes, e stated resears et etherwise,		Ĩ
Sampler Relinquie	23	Racelved By:		Phone Result: C Fax Result: F REMARKS:	W Yes D No
Relinquished By:	Dett:	Received By: (Lab Staff)			
Delivered By: (Circle One) Sampler UPS - Bus - Other:	ircie One) ius - Other:	Semple Condition Temp. C Infact?	Checked Py: (Initials))	
† Cardinal ca	† Cardinal cannot accept verbal changes. Please fax written changes to (915) 573-7020.	ges to (915) 673-7020.			

RICE OPERATING COMPANY

122 WEST TAYLOR HOBBS, NEW MEXICO 88240

PHONE: (505) 393-9174 FAX: (505) 397-1471

VOC FIELD TEST REPORT FORM

MINI RAE PLUS CLASSIC PHOTOIONIZATION GAS DETECTOR

M	OI	DE	L	N	Ю	: P	G	M	-	761S	
_			_				_	_		_	

SERIAL NO: 104412

CALIBRATION GAS

GAS COMPOSITION: ISOBUTYLENE

100 PPM

BALANCE

LOT NO: <u>02-22.30</u>

FILL DATE: 5-20 -03

EXP. DATE: 11-20-04

ACCURACY: 100 PPM + - 2%

METER READING

ACCURACY: 100.1

SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE
Hobbs	I9.	I	9	195	38 E

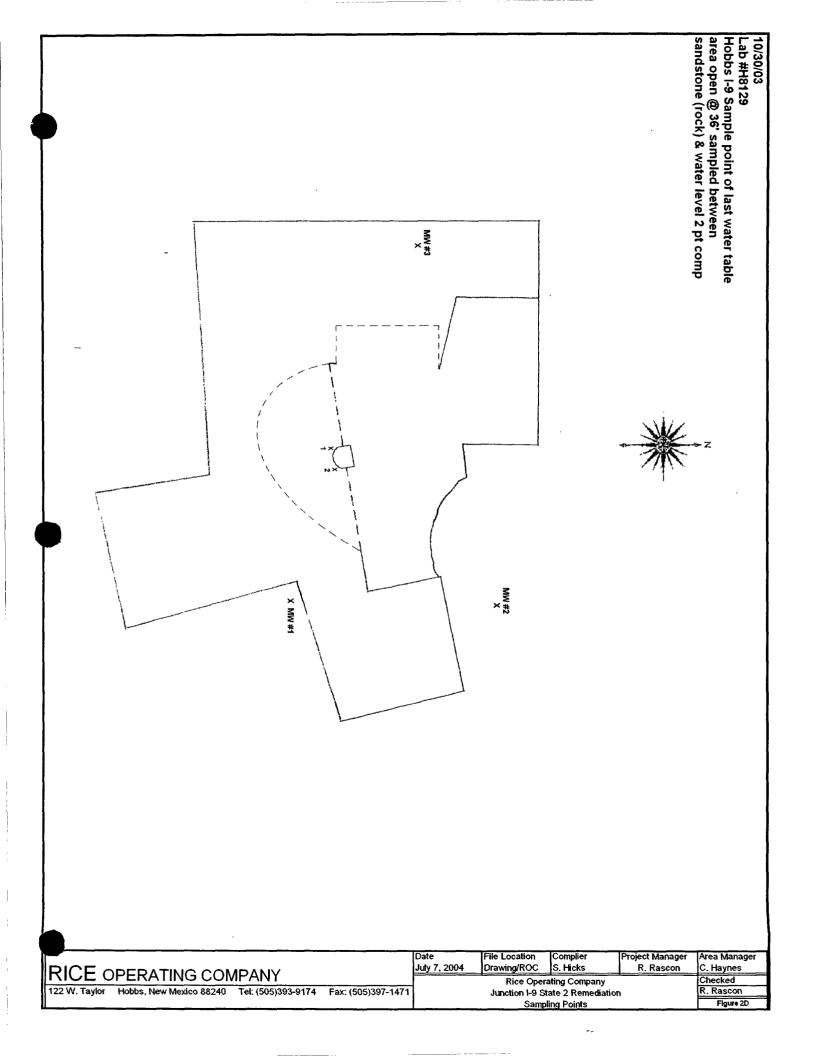
SAMPLE	PID RESULT	SAMPLE	PID RESULT
@ 36' BGS 5.WAII @ WATER TABLE @ 32 BGS E,WAII BY P/LE, SlOPE 8 PT. WATER TABLE BACK 4,11	25.2		
@ 32 BGS E.WAII BY P/LE, SlOPE	1010 .02		
BACK fill	.02		
		4	₽ .

I certify that I have calibrated the above instrument in accordance to the manufacture operation manual.

Enuron, Project Leader 10-24-03

Title Date





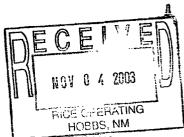




PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

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

Receiving Date: 10/30/03
Reporting Date: 10/31/03
Project Number: NOT GIVEN
Project Name: HOBBS JCT I-9
Project Location: NOT GIVEN



Sampling Date: 10/29/03 Sample Type: SOIL

Sample Condition: COOL & INTACT

Sample Received By: BC Analyzed By: BC/HM

	GRO	DRO	
	(C_6-C_{10})	(>C ₁₀ -C ₂₈)	Ci*
LAB NUMBER SAMPLE ID	(mg/Kg)	(mg/Kg)	(mg/Kg)

ANALYSIS DATE	10/30/03	10/30/03	10/31/03
H8129-1 HOBBS I-9 S. @ WATER	<10.0	<10.0	48
TABLE 36'			
Quality Control	754	793	1020
True Value QC	800	800	1000
% Recovery	94.2	99.2	102
Relative Percent Difference	2.8	10.0	5.9

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; Cl⁻: Std. Methods 4500-Cl⁻B *Analyses performed on 1:4 w.v aqueous extracts.

Chemist Chemist

|8/31/03

Date

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



ARDINAL LABORATORIES, INC. 2111 Beechwood, Abliene, TX 78803 101 East Marland, Hobbe, NM 88240 (915) 873-7001 Fax (916) 673-7020 (605) 303-2328 Fax (605) 303-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

	(915) 673-7001 Fax (915) 673-7020		5) 39	3-232	(605) 393-2326 Fax (505) 393-2476	(909)	393	2476			•						Page	I	Б
Company Name:	Company Name: KIRE OFER, CO.								178081	0.1				ANA	ANALYSIS		REQUEST		
Project Manager:	Project Manager: 122 W. THYLOR YOY R. LASCON	ASC	5				P.O.										_	_	
Address:						O	Company:	ıny:											
City: Hobbs	State: NM	21p: 88240	83	Q		-	Attm												
Phone #: 393-9/74	-9/74 Fax#:	i				-	Address	.: 9											
Project#:	Project Owner:					0	ži O												
Project Name:	46665 JCT I-9					80	State:		Zip:	=									
Project Location:						-	Phone #:	*				Į							
Sampler Name:	Bampler Name: Ray X. Lats con					-	Fex #:					W_	_						
FOR LAB USE ONLY		-	Ц	Ξ	MATRIX		Ē	PRESERV.	_ 	SAMPLING	HO	5,							
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	GROUNDWATER	MASTEWATER 1102	oir eoir	SEDIE	ACIDABASE:	ICE / COOF	: язнто	DATE	TIME	108 HAI	-17						
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PULKEE HOTE: Labury and	PLASS NOTE I LAXUITY and Darmages. Cardinals lashingy and Clearl's markans nemacy for any clean grazing whother beaud circonifect or tack, stall be benined to the amount pard by the cleant are the	hether bus	o u co	itact or	OK. Shall	enium eq	atio the	d jurnour	and by the	Clerit for the			e see Co	Germas and Cheeckbancs inferest will be charged on all accounts more than	JM Sale)	elirayo eq	34 ja uo p	ms your	vore them
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COPY composite @ LAb Checked By: (initials) Reseived By: (Lab Sta 0-36-03 Time / 0 / 0 Sampler - UPS - Bus - Other: Delivered By: (Circle One)

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

CLERATING COMPANY

122 WEST TAYLOR

HOBBS, NEW MEXICO 88240

PHONE: (505) 393-9174 FAX: (505) 397-1471

VOC FIELD TEST REPORT FORM

MINI RAE PLUS CLASSIC PHOTOIONIZATION GAS DETECTOR

MODEL	NO: PGM	761S

SERIAL NO: 104412

CALIBRATION GAS

GAS COMPOSITION: ISOBUTYLENE

100 PPM

LOT NO: <u>62-2230</u>

BALANCE

FILL DATE: 5-20-03

EXP. DATE: 11-20-04

ACCURACY: 100 PPM + - 2 %

METER READING ACCURACY: 99.8

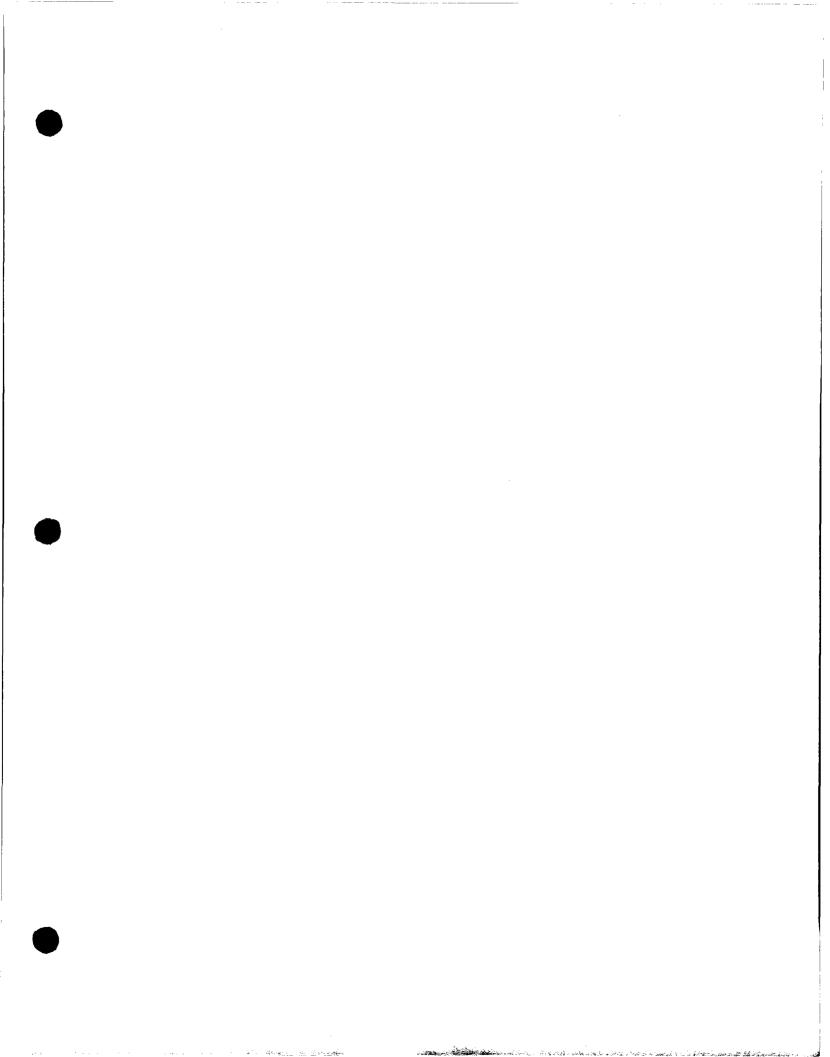
SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE
Hobbs	I-9	I	9	195	738E

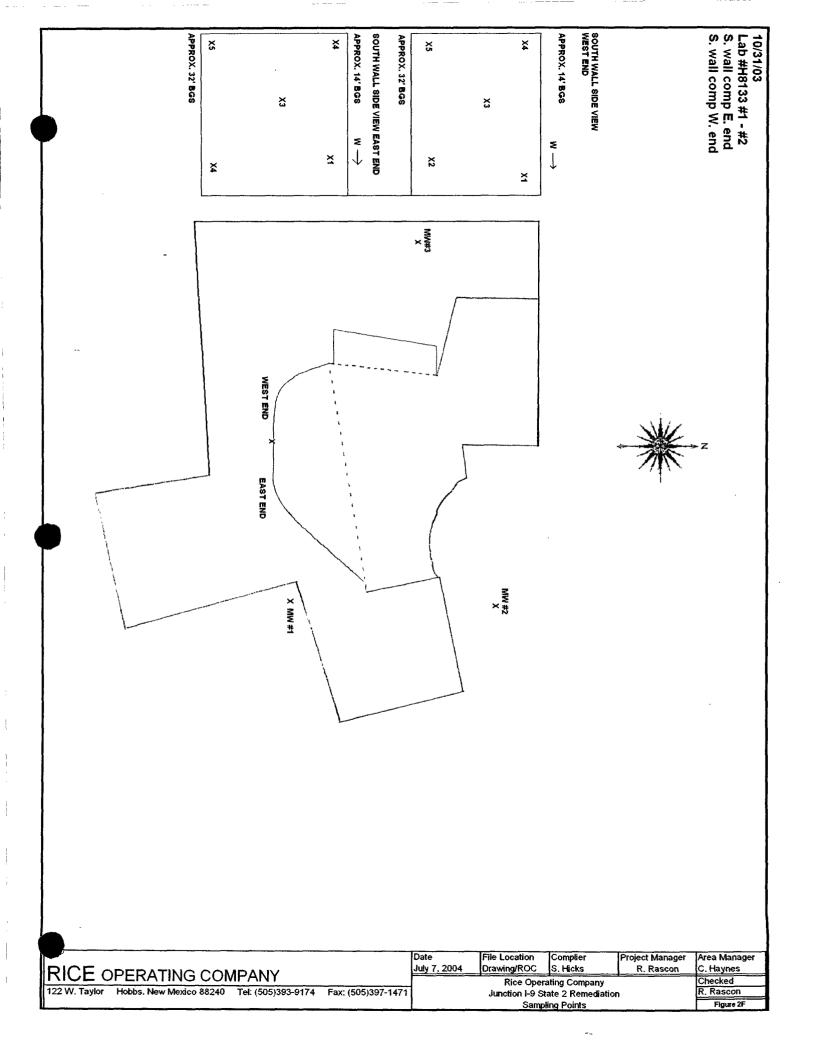
SAMPLE	PID RESULT	SAMPLE	PID RESULT
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I certify that I have calibrated the above instrument in accordance to the manufacture operation manual.

Environ. Project Leader 10-30-03
Title Date









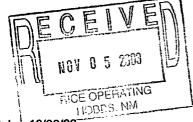


PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR RICE OPERATING CO. ATTN: ROY R. RASCON 122 W. TAYLOR HOBBS, NM 88240 FAX TO: (505) 393-9174

Receiving Date: 10/31/03 Reporting Date: 11/04/03 Project Owner: RICE

Project Name: HOBBS JCT I-9 Project Location: NOT GIVEN



Sampling Date: 10/30/03 Sample Type: SOIL

Sample Condition: COOL & INTACT

Sample Received By: BC Analyzed By: BC/HM

LAB NUMBER SAMPLE ID	GRO (C ₆ -C ₁₀) (mg/Kg)	DRO (>C ₁₀ -C ₂₈) (mg/Kg)	CI* (mg/Kg)
ANALYSIS DATE	10/31/03	10/31/03	10/31/03

ANALYSIS	DATE	10/31/03	10/31/03	10/31/03
H8133-1	S. WALL COMP. EAST END	<10.0	<10.0	32
H8133-2	S. WALL COMP. WEST END	<10.0	<10.0	16
Quality Cor	ntrol	779	818	950
True Value		800	800	1000
% Recover	у	97.4	102	95.0
Relative Pe	ercent Difference	1.5	1.1	6.9

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; CI: Std. Methods 4500-CIB *Analysis performed on a 1:4 w.v aqueous extract.

Chemist Chapt

11 /04/03 Date

COPY

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses.

All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thinty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Delivered By: (Circle One)	Reinquished By:	Row R. RASCON	empler Relinguisned:	This ex success states and at contract to the performance of services instructor by Cardinal reportations of whithin such claim is based upon style of the above stated resears or otherwise.	TARDOR MY HE, NAMENY DER MATERIAL MANIAN REPORTED PROCESSES AND RECORD OF THE STATE								U. 84.	Į	H 8 3 - 1 5. wall Comp.	Lab I.D. Sa	FOR LAB USE ONLY	Sampler Name: Koy K. RAS CO 1	Project Location:	Project Name:	Project #: Hobbs JCT I	Phone #: 393 - 9/74	city: Hobbs	Address: 122 W TAYLOR	Roy R.	Rice 0	
	Date: Time:	Time 920	70-31-03	ance of services hareunder by Cardinal, regardess of w	end come y enclose, renegy or ary class energy er dame wintedver shall be deemed welved crises to necessitäl damagas, including without limbalan, busho								West Cin	i	w. East End	Sample i.D.		60			-9 Project Owner: 1	Fax #:	State: N.M. Zip:	R	eascon	PER. Co.	916) 873-7001 Fax (918) 873-7020
	Received By: (Lab Stam)		Xece.	hether evon	maio in writing William in one	L	F			\exists	4		9	?	<u>२</u> ८	(G)RAB OR (C)OMP.					RICE		Zip:				
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Delivered By: (Circle One) Sampler - UPS - Bus - Other:

[†] Cardinal cannot accept verbal changes. Please fax written changes to (915) 873-7020. Sample Con Temp, &

RICE OPERATING COMPANY

122 WEST TAYLOR

HOBBS, NEW MEXICO 88240

PHONE: (505) 393-9174 FAX: (505) 397-1471 **VOC FIELD TEST REPORT FORM**

MINI RAE PLUS CLASSIC PHOTOIONIZATION GAS DETECTOR

MODEL	NO:	PGM	761S
OAT TOD	A TOTAL	NI (1)	

SERIAL NO: 104412

CALIBRATION GAS GAS COMPOSITION: ISOBUTYLENE

100 PPM

BALANCE

LOT NO: <u>02-2230</u> EXP. DATE: <u>11-20-04</u>

FILL DATE: 5-20-03

ACCURACY: 100 PPm + - 2%

METER READING ACCURACY: 100,1

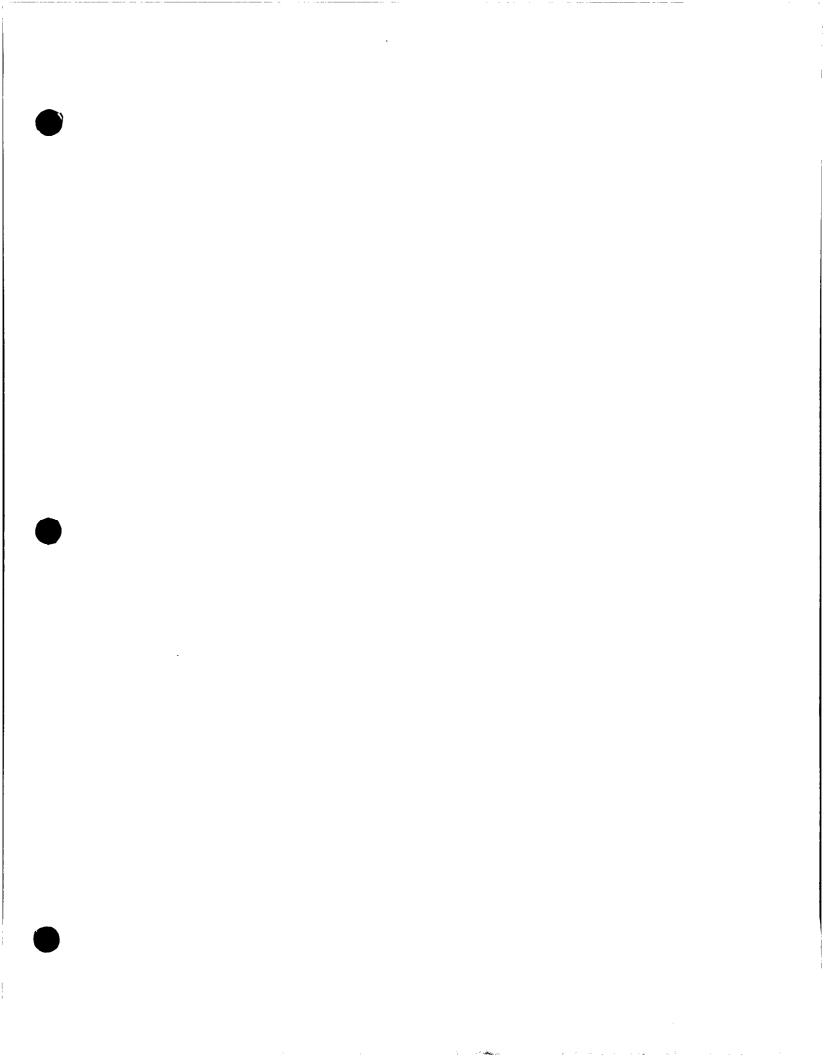
SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE
Hobbs	I 9	I	9	195	38E

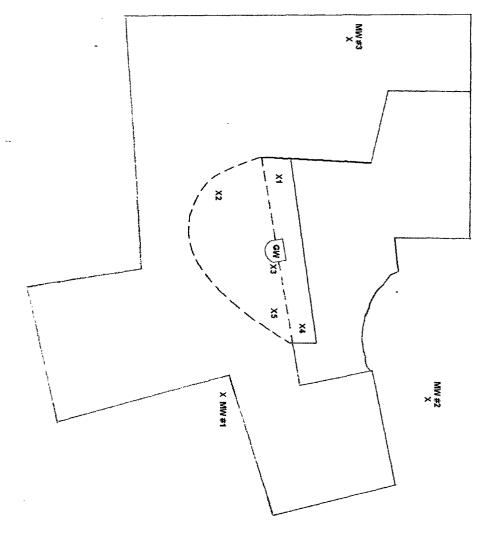
SAMPLE	PID RESULT	SAMPLE	PID RESULT
S. WALL RAMP	139		
N. WALL@ 32'BGS	279		
E. Water Hole@36	9,9		
5. Wall W. End	2.6		
S.WALL E. End	2.5		
— 			
		····	

I certify that I have calibrated the above instrument in accordance to the manufacture operation manual.

-	. 00	. • ,		
Kun	R. RASCON		Enveron, Project Leader	10-31-03
	Signature		Thle	Date









RICE c	PERATING CO	MPANY
122 W. Taylor	Hobbs, New Mexico 88240	Tel: (505)3

88240 Tel	: (505)393-9174	Fax: (505)397-1471

Rice Operating Company
Junction I-9 State 2 Remediation
Sampling Points

Checked R. Rascon Figure 2E





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

ANALYTICAL RESULTS FOR RICE OPERATING CO. ATTN: ROY R. RASCON 122 W. TAYLOR HOBBS, NM 88240

HOBBS, NM 88240 FAX TO: (505) 397-1471 Sampling Date: 11/05/03

Sample Condition: COOL & INTACT

HOULD, MM

Sample Received By: AH Analyzed By: BC/AH

Sample Type: SOIL

Receiving Date: 11/06/03
Reporting Date: 11/07/03
Project Number: NOT GIVEN
Project Name: HOBBS JCT I-9
Project Location: HOBBS SYSTEM

 $\begin{array}{ccc} & & \text{GRO} & \text{DRO} \\ & (C_6\text{-}C_{10}) & (>C_{10}\text{-}C_{28}) & \text{CI}^\star \\ \text{LAB NUMBER SAMPLE ID} & (mg/Kg) & (mg/Kg) & (mg/Kg) \end{array}$

ANALYSIS	DATE	11/05/03	11/05/03	11/06/03
H8148-1	WATER TABLE BACKFILL	<10.0	<10.0	96
	S. END			
Quality Con		783	807	950
True Value	QC	800	800	1000
% Recovery		97.8	101	95.0
Relative Per	rcent Difference	2.0	5.1	6.9

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; Cl⁻: Std. Methods 4500-Cl⁻B *Analyses performed on 1:4 w.v aqueous extracts.

mydd faloohe

Date

COPY

H8148.ALS

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page of

ARDINAL LABORATORIES, INC. 2111 Beechwood, Abilene, TX 79803

101 East Marland, Hobbs, NM 88240	(EAE) 202 3238 Eau (EAE) 202 3478
111 Beechwood, Abilene, TX 79603	(045) 873_7004 Eav (045) 873_7030

Company Name:	RICE OPER CO.												!				₹	ANALYSIS	SIS	REC	REQUEST	F				
Project Manager:	Project Manager: Roy R. RASCON								BILLTO	10	PO#:	#			r							-				
Address: 122 W. TAY LUR	3. TAYLOR							Com	Company:										_						_	
city: Abbbs	State: N.M. Zip: 88240	B	ž	3				Attn:													•					
Phone #: 393	393-9174							Address:	ess:									_								
Fax #:								City:																		
Project #: //bbbs	Project #: 1666s JCT I-9 Project Owner:							State:			7	Zip:														
Project Name:								Phone #:	e #:					u								***	,,**			
Project Location:	Project Location: 140bbs System							Fax #:	#					<u>7</u> S												
FOR LAB USE ONLY			٣		W	MATRIX	×	Н	PRES.	S.	SAM	SAMPLING		7(-				
LAB I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	OIF SOIF	SLUDGE	SATHTO	ICE I COOF	: язнто	DATE		TIME	18 HJI	-17	 	····		 -	· · · · · · · · · · · · · · · · · · ·					_	
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service, in no event shall Cardin affiliates or successors arieling ou	service, in no event shall Cardinal be fable for incidental or connequental damages, including without it selfates or assessment at element out of or related to the battomatics of services haveauder by Cardinal.	reunder	dag w	Albout I	Imitatio	m, busi	vhether	auch of	e, 10ee	of use,	or lose of pr	mitation, business interruptions, loss of use, or loss of profits incurred by clear, its subsidiation regardless of whether such titling is based upon any of the above stated resears or otherwise	Initiation, business interuptions, loss of use, or loss of profits incursed by clear, its subsidiaries, recardless of whether such claim is based upon any of the above stated reasons or otherwise.	s subsidiar	.			a pua	osts of o	olections	including	and all costs of collections, including attorney's fees.	į			

Phone Result C Yes C No Additional Fax #:	REMARKS:	Lab Staff		on CHECKED BY:	
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Date:	TIES.	Date:	Time:		
Sampler Relinquished:	R. R. Dueron	Relinquished By:		Delivered By: (Circle One)	Sampler - UPS - Bus - Other:

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

122 WEST TAYLOR HOBBS, NEW MEXICO 88240

PHONE: (505) 393-9174 FAX: (505) 397-1471

VOC FIELD TEST REPORT FORM

MINI RAE PLUS CLASSIC PHOTOIONIZATION GAS DETECTOR

MO	DEL	NO:	PGM	761S
CAT	IDD	ATT	MC	10

SERIAL NO: 104412

CALIBRATION GAS

GAS COMPOSITION: ISOBUTYLENE

100 PPM

BALANCE

EXP. DATE: 11-20-09

FILL DATE: 5-20-03

METER READING

ACCURACY: 100, 1

ACCURACY: 100 PPm + - 2%

SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE
Hobbs	I 9	I	9	195	38E

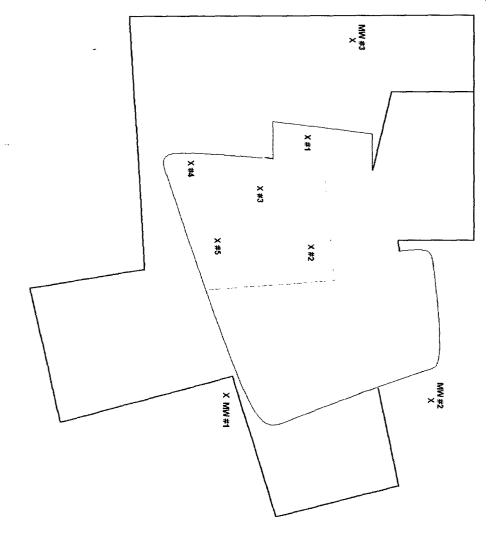
SAMPLE	PID RESULT	SAMPLE	PID RESULT
S. WALL RAMP	139		
N. WALL@ 32'BGS	279		
E. WATER Hole@36	9,9		
5. WALL W. End	2.6		
S.WAll E. End	2.5		
			- •

I certify that I have calibrated the above instrument in accordance to the manufacture operation manual.

Environ, Project Leader Title



12/9/03 Lab #H8236 2nd 5' lift 3rd clay liner 5 pt comp





	Date	File Location	Complier	Project Manager	Area Manager
RICE OPERATING COMPANY	July 7, 2004	Drawing/ROC	S. Hicks	R. Rascon	C. Haynes
		Rice Opera	ating Company		Checked
122 W. Taylor Hobbs, New Mexico 88240 Tel: (505)393-9174 Fax: (505)397-1471		•	ate 2 Remediation	1	R. Rascon
	1	Sampl	ina Points		Figure 2K



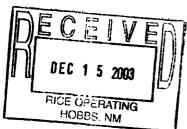


PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

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

Receiving Date: 12/09/03 Reporting Date: 12/10/03 Project Owner: RICE

Project Name: HOBBS JCT I-9 Project Location: NOT GIVEN



Sampling Date: 12/05/03 Sample Type: SOIL

Sample Condition: COOL & INTACT

Sample Received By: GP Analyzed By: BC/AH

	GRO	DRO	
	$(C_{6}-C_{10})$	(>C ₁₀ -C ₂₈)	CI*
LAB NUMBER SAMPLE ID	(mg/Kg)	(mg/Kg)	(mg/Kg)

ANALYSIS DATE	12/09/03	12/09/03	12/09/03
H8236-1 2nd LIFT 3rd CLAY LINER	<10.0	<10.0	176
Quality Control	795	833	940
True Value QC	800	800	1000
% Recovery	99.4	104	94.0
Relative Percent Difference	10.7	9.5	7.4

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; Cl⁻: Std. Methods 4500-Cl⁻B *Analysis performed on a 1:4 w:v aqueous extract.



H8236.XLS

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

	S, INC.	2111 Beechwood, Abilene, TX 79603 101 East Marland, Hobbs, NM 88240	(915) 673-7001 Fax (915) 673-7020 (505) 393-2326 Fax (505) 393-2476
la	ARDINAL LABORATORIES, INC.	2111 Beechwood, Abilene, TX 79603	(915) 673-7001 Fax (915) 673-7020

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Address: Chy: Chy: State: 2lp: Phone #: Fax #: WASTEWATER WASTEWATER WASTEWATER CRUDE OL CRUDE O	Address: CITY: State: ZIP: State: ZIP: State: ZIP: Bytone #: Fax ## MATRIX WASTIEWAN WASTI	ŧ I			Attn:					
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Time: Z ANW Sample Condition CHECKED BY: Circle One Condition CHECKED BY: CONDITION CONDIT	Time: 120 Received By: (Lab-Stuff) 120 12 12 12 12 12 12 1	Eampler Relinguished	13-9-03	Received By:		tesult: sult:	오 다 다	Add'i Phone #: Add'i Fax #:		
Time: (2 Ayr) Circle One) Sample Condition CHECKED BY: Cool Intact (Initials) Cool Initials Cool	Time: (2 Am Sample Condition CHECKED BY: Cool Intact (Initials) Cool Initials Cool Initial	Zan Zan	0/:0/ 10:10			KEMAKKS:				
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		Sampler UPS - Bus	· Other:					,		

122 WEST TAYLOR HOBBS, NEW MEXICO 88240

PHONE: (505) 393-9174 FAX: (505) 397-1471

VOC FIELD TEST REPORT FORM

MINI RAE PLUS CLASSIC PHOTOIONIZATION GAS DETECTOR

MOD	EL-1	NO:	PGM	761S
CAT	mn /	477	214	A C

SERIAL NO: 104412

CALIBRATION GAS

100 PPM

GAS COMPOSITION: ISOBUTYLENE AIR

BALANCE

FILL DATE: 5-20-03

LOT NO: 02-2236 EXP. DATE: 1/-20-04

ACCURACY: 100 PM+ - 296

METER READING

ACCURACY: /00, 2

SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE
Hoph's	I-9	I	9	19	38

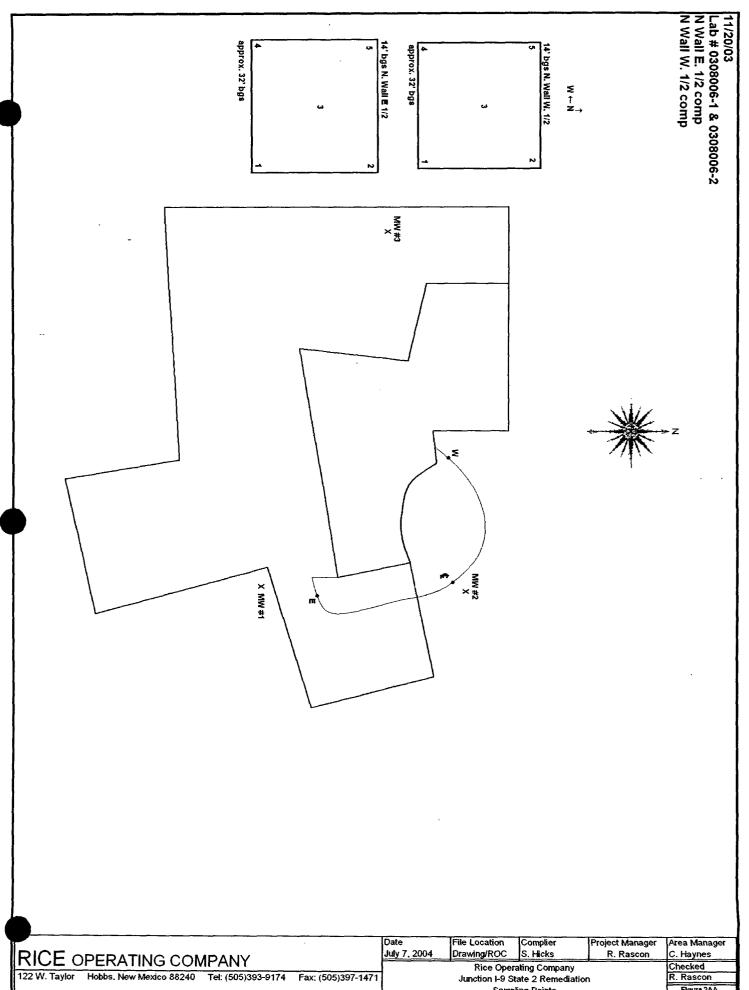
SAMPLE | PID RESULT | SAME SAMPLE PID RESULT #/ 3.2 #2 3.6 #3 4,3 #4 2.6 Comp 1-5 2.1

I certify that I have calibrated the above instrument in accordance to the manufacture operation manual.

Signature

Courson Project Leader 12-9-03
Title Date





Rice Operating Company Junction I-9 State 2 Remediation R. Rascon Sampling Points Figure 2AA

ANALYTICAL REPORT

Prepared for:

Roy Rascon
Rice Operating
122 West Taylor
Hobbs, NM 88240

Project:

Hobbs Jct. I-9

PO#:

Order#:

G0308006

Report Date:

11/26/2003

Certificates

US EPA Laboratory Code TX00158



SAMPLE WORK LIST

Rice Operating 122 West Taylor Hobbs, NM 88240 505-397-1471

Order#:

G0308006

Project:

Project Name: Hobbs Jct. I-9

Location:

None Given

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

Lab ID:	Sample:	Matrix:	Date / Time Collected	Date / Time Received	Container	Preservative
0308006-01	N Wall E. 1/2 Comp.	SOIL	11/20/03 14:25	11/20/03 20:30	4 oz glass	ice
<u>La</u>	b Testing:	Rejected: No	Ten	ip: 4.0 C		
	8015M					
	Chloride					
0308006-02	N Wall W. 1/2 Comp.	SOIL	11/20/03 14:10	11/20/03 20:30	4 oz glass	ice
<u>La</u>	b Testing:	Rejected: No	Ten	np: 4.0 C		
	8015M				<u>.</u>	
	Chloride					



ANALYTICAL REPORT

Roy Rascon Rice Operating 122 West Taylor Hobbs, NM 88240 Order#:

G0308006

Project:

Project Name:

Hobbs Jct. I-9

Location:

None Given

Lab ID:

0308006-01

Sample ID:

N Wall E. 1/2 Comp.

8015M

Method Blank

Date Prepared

Date Analyzed 11/21/03 Sample Amount

1

Dilution Factor

Analyst JLH

Method

8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

Surrogates	% Recovered	QC Li	mits (%)
1-Chlorooctane	94%	70	130
1-Chlorooctadecane	84%	70	130

Lab ID:

0308006-02

Sample ID:

N Wall W. 1/2 Comp.

8015M

Method Blank

Date Prepared

Date Analyzed 11/21/03

Sample Amount

1

Dilution **Factor**

Analyst JLH

Method 8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

Surrogates	% Recovered	QC Li	mits (%)
1-Chlorooctane	91%	70	130
1-Chlorooctadecane	84%	70	130

Approval: Raland K. Tuttle, Lab Director, QA Officer

Date

Celey D. Keene, Org. Tech. Director Jeanne McMurrey, Inorg. Tech. Director

Sandra Biezugbe, Lab Tech.

Sara Molina, Lab Tech

Page 1 of 1

ANALYTICAL REPORT

Roy Rascon Rice Operating 122 West Taylor

Hobbs, NM 88240

Order#:

G0308006

Project:

Hobbs Jct. I-9

Project Name: Location:

None Given

Lab ID:

0308006-01

Sample ID:

N Wall E. 1/2 Comp.

Test Parameters

Parameter Chloride

Units

mg/kg

Dilution **Factor** · <u>RL</u>

Method 9253

Date Analyzed <u>Analyst</u>

SB

Lab ID:

0308006-02

Sample ID:

Chloride

N Wall W. 1/2 Comp.

Test Parameters

Parameter

Result 21.3

Result

<20.0

Units mg/kg Dilution **Factor**

1

RL

20

Method 9253

Date Analyzed 11/23/03

11/23/03

<u>Analyst</u> SB

11-2603

Date

Raland K. Tuttle, Lab Director, QA Officer

Celey D. Keene, Org. Tech. Director Jeanne McMurrey, Inorg. Tech. Director Sandra Biezugbe, Lab Tech.

Sara Molina, Lab Tech.

QUALITY CONTROL REPORT

8015M

Order#: G0308006

BLANK	SOIL	LAB-ID#	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg		0007537-02			<10		
MS	SOIL	LAB-ID#	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg		0308006-01	0	952	845	88.8%	
MSD	SOIL	LAB-ID#	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg		0308006-01	0	952	865	90.9%	2.3%
SRM	SOIL	LAB-ID#	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg		0007537-05		1000	928	92.8%	



QUALITY CONTROL REPORT

Test Parameters

Order#: G0308006

BLANK	SOIL	LAB-ID#	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/kg		0007529-01			<12.0		
MS	SOIL	LAB-ID#	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/kg	······································	0307976-21	1180	500	1620	88.%	
MSD	SOIL	LAB-ID#	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/kg		0307976-21	1180	500	1630	90.%	0.6%
SRM	SOIL	LAB-ID#	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/kg		0007529-04		5000	5000	100.%	



Englormental Lab of Texas, Inc.

12600 West 1-20 East Odessa, Texas 79763

Phone: 915-563-1800 Fax: 915-563-1713

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Name: 16665 JCT

Project #:

Project Loc:

Project Manager: Roy R. RASCON

COMPANY NAME AICE OPER, CO,

Company Address: 122 W. THY LOR

Gity/State/Zip: Lobbs, N.M.

Sampler Signature: Deay R. Potts Con

Talephone No: 505 - 393 - 9174

88240

PO #:

Fax No: 105 - 397 - 147,

TOTAL

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122 WEST TAYLOR HOBBS, NEW MEXICO 88240

PHONE: (505) 393-9174 FAX: (505) 397-1471

VOC FIELD TEST REPORT FORM

MINI RAE PLUS CLASSIC PHOTOIONIZATION GAS DETECTOR

MODEL-NO: PGM 761S

SERIAL NO: 104412

CALIBRATION GAS

GAS COMPOSITION: ISOBUTYLENE

JUNCTION

100 PPM

AIR LOT NO: <u>02-2230</u> BALANCE FILL DATE: 5-20-0

EXP. DATE: 11-20-04

FILL DATE: 5-20-03 ACCURACY: 100 APM +- 2%

METER READING

SYSTEM

ACCURACY: 100.5

SECTION TOWNSHIP RANGE

MODUS I	7 1 4	/- //	100
SAMPLE	PID RESULT	SAMPLE	PID RESULT
1	1, 1		0.9
2	1.6	2 .	1,2
3	1.1	3	1.2
4	2.1	Ų	1.7
5	1.6	5	1.3
N. WALL W.		N. WALL E. YZ	
11- 40-	1		

UNIT

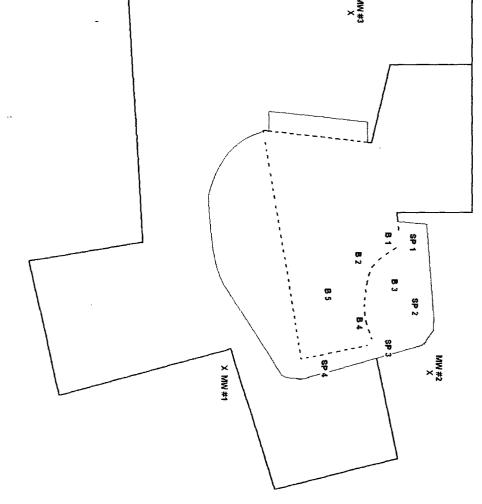
5	1.6	5	1.3
N. WALL W.		N. WALL E. YZ 5 PT Comp.	
1/2 5PT		5 PT Comp.	
N. WAIL W. 1/2 5PT Comp			

I certify that I have calibrated the above instrument in accordance to the manufacture operation manual.

Rey R. RASCON Envilon, Project Leader 11-20-0
Signature The Date

COPY

11/21/03 Lab #H8202 #1 - #2 Base sample points @ approx 32' and 4 pt comp @ GW 36'





RICE OPERATING COMPANY

122 W. Taylor Hobbs. New Mexico 88240 Tel: (505)393-9174 Fax: (505)397-1471

Date July 7, 2004 File Location Drawing/ROC

Complier S. Hicks

Project Manager R. Rascon

Area Manager

Rice Operating Company
Junction I-9 State 2 Remediation
Sampling Points

C. Haynes
Checked
R. Rascon
Figure 2G





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

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

Receiving Date: 11/21/03 Reporting Date: 11/24/03 Project Number: NOT GIVEN Project Name: HOBBS JCT I-9 Project Location: NOT GIVEN



Sampling Date: 11/21/03 Sample Type: SOIL

Sample Condition: COOL & INTACT

Sample Received By: GP Analyzed By: BC/AH

		GRO DRO	
		(C_6-C_{10}) $(>C_{10}-C_{28})$	CI*
LAB NO.	SAMPLE ID	(mg/Kg) (mg/Kg)	(mg/Kg)

ANALYSIS DATE	11/21/03	11/21/03	11/24/03
H8202-1 4 PT COMP. @ WATER TABLE 36'	<10.0	<10.0	112
H8202-2 5 PT BASE COMP. @ 30'	<10.0	<10.0	144
Quality Control	777	837	1000
True Value QC	800	800	1000
% Recovery	97.2	105	100
Relative Percent Difference	7.3	6.1	2.0

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; Cl: Std. Methods 4500-Cl'B *Analyses performed on 1:4 w:v aqueous extracts.

Burjels of Cashi Chemist

11/24/03

_ .

COPY

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

ARDINAL LABORATORIES, INC.
2111 Beechwood, Abilene, TX 79603 101 East Marland, Hobbs, NM 88240
(915) 673-7001 Fax (915) 673-7020 (505) 393-2326 Fax (505) 393-2476

	915) 673-7001 Fax (915) 673-7020 (5	05) 393-2326 Fax (505) 393-2476	(505) 39	13-2476	2			Page	of
Company Name:	OF KILE OPER, CO.			7718	0		ANAL YSIS	YSIS REQUEST	
Project Manager:	OFF. ROY R. RASCON		P.O. #:						
Address: 122	A W. TAY LOR		Company	,					
CHy: 140 bbs	65 State: /U// Zlp:	68240	Attn:						
Phone #: 393-9174	Fax#: 397-1	471	Address						
Project #: 140 £	Project #: Hobbs JCT I-9 Project Owner:		Clty:						
Project Name:			State:	Zip:					
Project Location:	::		Phone #:			U			
Sampler Name:	Hay R. CASCON		Fax #:						
FOR LAB USE CALY		MATRIX	PRESERV	L	SAMPLING	5/			
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† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476.

CHECKED BY: (Initials)

Sample Condition
Cool Intact
XYes Yes

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

122 WEST TAYLOR HOBBS, NEW MEXICO 88240

PHONE: (505) 393-9174 FAX: (505) 397-1471

VOC FIELD TEST REPORT FORM

MINI RAE PLUS CLASSIC PHOTOIONIZATION GAS DETECTOR

MODEL NO: PGM 761S

SERIAL NO: 104412

CALIBRATION GAS

GAS COMPOSITION: ISOBUTYLENE

100 PPM

LOT NO: 02 - 2230

BALANCE

EXP. DATE: 11- 20-04

FILL DATE: 5-20-03

ACCURACY: 100 PPM + - 28

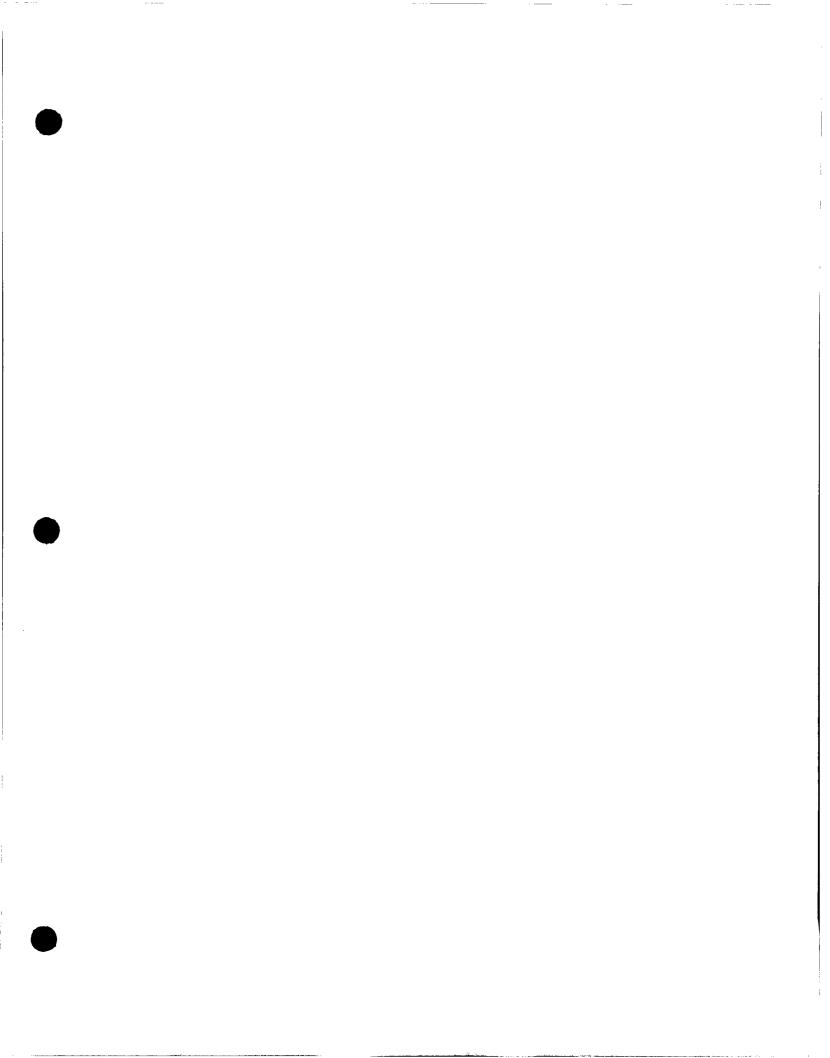
METER READING ACCURACY: 100.1

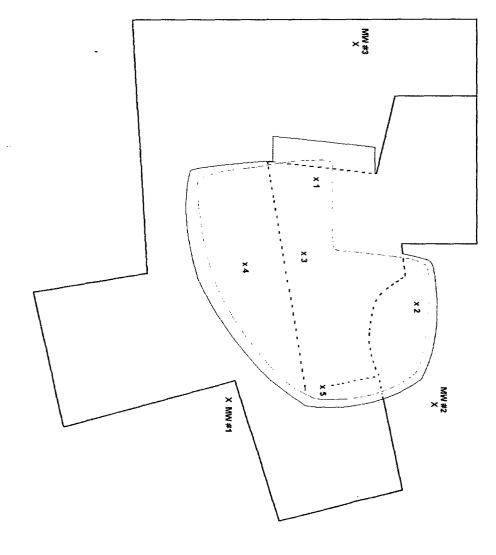
SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE
Holobs	I 9	I	9	195	38 <i>E</i>

SAMPLE	PID RESULT	SAMPLE	PID RESULT
5 Pt. BASE Comp.	1.8		
@ .30'			
4 PT Comp Com	+8 RER		
4 PT. Comp. 6 16.	1.7		
			•
			1

I certify that I have calibrated the above instrument in accordance to the manufacture operation manual.









	Date	File Location	Complier	Project Manager	Area Manager
RICE OPERATING COMPANY	July 7, 2004	Drawing/ROC	S. Hicks	R. Rascon	C. Haynes
THOE OPERATING COMPANT		Rice Opera	iting Company		Checked
122 W. Taylor Hobbs, New Mexico 88240 Tel: (505)393-9174 Fax: (505)397-1471	}	Junction I-9 Sta	ate 2 Remediation	1	R. Rascon
	l .	Samnli	na Points		Figure 2H



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: ROY R. RASCON 122 W. TAYLOR HOBBS, NM 88240

FAX TO: (505) 397-1471

Receiving Date: 12/02/03 Reporting Date: 12/04/03

Project Owner: RICE

Project Name: HOBBS JCT I-9
Project Location: NOT GIVEN

Sampling Date: 12/02/03 Sample Type: SOIL

Sample Condition: COOL & INTACT

Sample Received By: BC Analyzed By: BC/AH

. GRO DRO . $(C_6\text{-}C_{10}) \quad (>C_{10}\text{-}C_{28}) \quad Cl^* \\ \text{LAB NUMBER SAMPLE ID} \qquad (mg/Kg) \quad (mg/Kg) \quad (mg/Kg)$

ANALYSIS E	DATE	12/04/03	12/04/03	12/03/03
H8214-1	5 PT COMP. 3rd LINER	<10.0	<10.0	160
	1st 5' LEFT			
· · · · · · · · · · · · · · · · · · ·				
Quality Cont	rol	764	779	1010
True Value C	QC .	800	800	1000
% Recovery		95.5	97.4	101
Relative Per	cent Difference	0.8	0.5	1.0

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; CI: Std. Methods 4500-CIB *Analysis performed on a 1:4 w.v aqueous extract.

12/4/03 Date

COPY

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

ARDINAL LABORATORIES, INC. 2111 Beechwood, Abilene, TX 79603 101 East Marland, Hobbs, NM 88240 (915) 673-7001 Fax (915) 673-7020 (505) 393-2326 Fax (505) 393-2476

	(915) 673-7001 Fax (915) 673-7020	{	S	(505) 393-2326 Fax (505) 393-2476	3.2	26	Fa	Ĝ	5	393	-24	76										Page.	Ī	2	1	-				
Company Name:	KILE O										11/1	12 70					➤	ANAL YSIS	ž		ñ	REQUEST	ST	Ï					ł	
Project Manager: Roy	R. Rusce							ō.	P.O. #:			Þ				_	_	\Box		ㅓ	凵	}	ᅱ		\neg		1	\dashv	1	
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city: Abbs	Ì	Zlp:	Ħ	バ	9	i	i l	Attn:	ä																					
Phone # 393 -	9/74 =	14	1471	`				À	Address:	5																				
Project #: Hobbs JC7	I-9 Project	i i	Rico	O,				Clty:	×									····												
Project Name:		t l						State:	8			Zip:																		
Project Location:						. !		3	Phone #:	*																				
Sampler Name: 🎖 🗸	By R. RASCON					ĺ	- 1	7	Fax #:	1				n																
FOR LAB USE ONLY			\dashv	┦ ┃	3	MATRIX	∀ ~	1	꿆	PRESERV	骂	SAMPLING	6	5-/																
Lab I.D.	Sample I.D.	AB OR (C)OMP	NTAINERS	OUNDWATER STEWATER		IDE OIL	DGE	ER:)/BASE:	COOL	ER:			PH 801.	<u>C/</u>															
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Par K. KASCO	<i>></i>		ĺ										REMARKS:			- 1	- 1		ļ	1		Ì	}	ļ	Į	}	Ì	- 1	1	
Relinquished By	Date:	Received By: (Lab Staff)		N D	is	17 E	S	17 13	1(\	1 1	} \				_	\bigcirc			701		\ll	7								
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Sampler - UPS - Bus - Other:	Bus - Other:				No No	5 4	⊼.2 7⊮.) (4)									•													

[†] Cardinal cannot accept yerbal changes, Please fax written changes to 505-393-2478.

122 WEST TAYLOR HOBBS, NEW MEXICO 88240

PHONE: (505) 393-9174 FAX: (505) 397-1471

VOC FIELD TEST REPORT FORM

MINI RAE PLUS CLASSIC PHOTOIONIZATION GAS DETECTOR

MODEL NO: PGM 761S **CALIBRATION GAS**

GAS COMPOSITION: ISOBUTYLENE

AIR

LOT NO: 02-2230

EXP. DATE: 11-20-04

METER READING ACCURACY: 99.7 SERIAL NO: 104412 RER 104490

100 PPM **BALANCE**

FILL DATE: 5-20-63

ACCURACY: 100 PPM + - 2 %

SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE
Hobbs	I 9.	9	I	195	38E

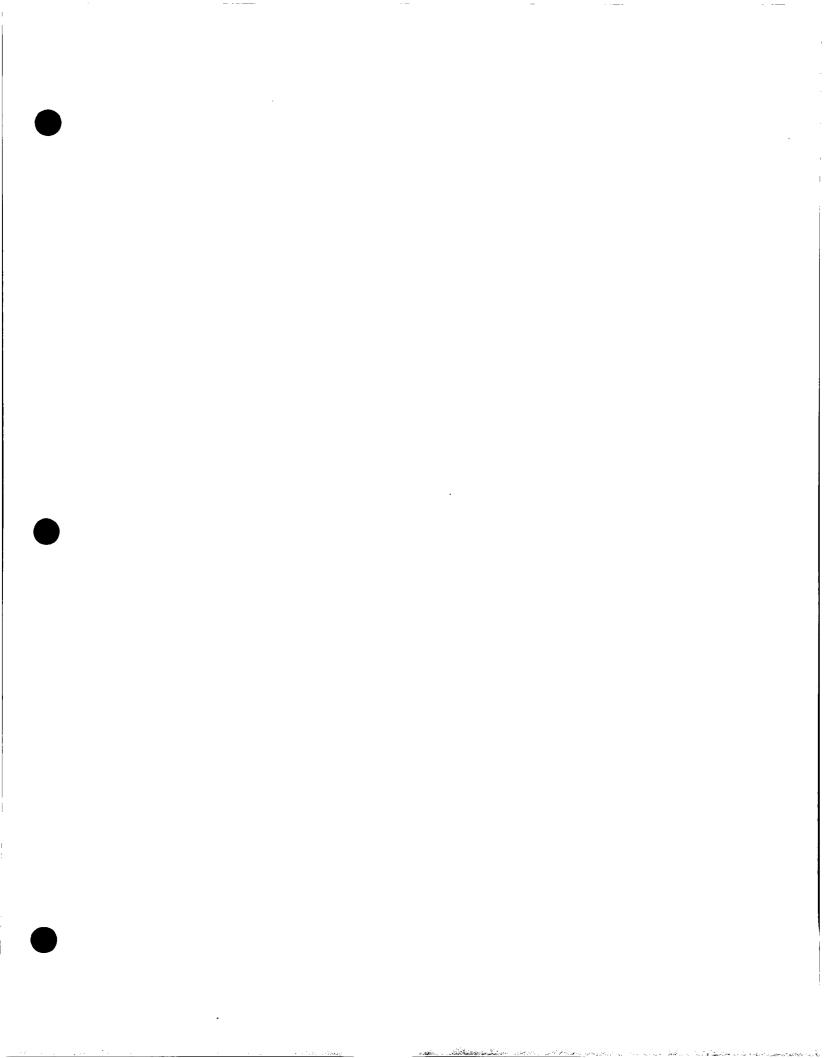
SAMPLE	PID RESULT	SAMPLE	PID RESULT
1st 5'Lift Comp. 3 Rd Clay Liner	34.5		
Comp. 3 Rd			
Clay Liner			
			<u> </u>
			<u> </u>
			
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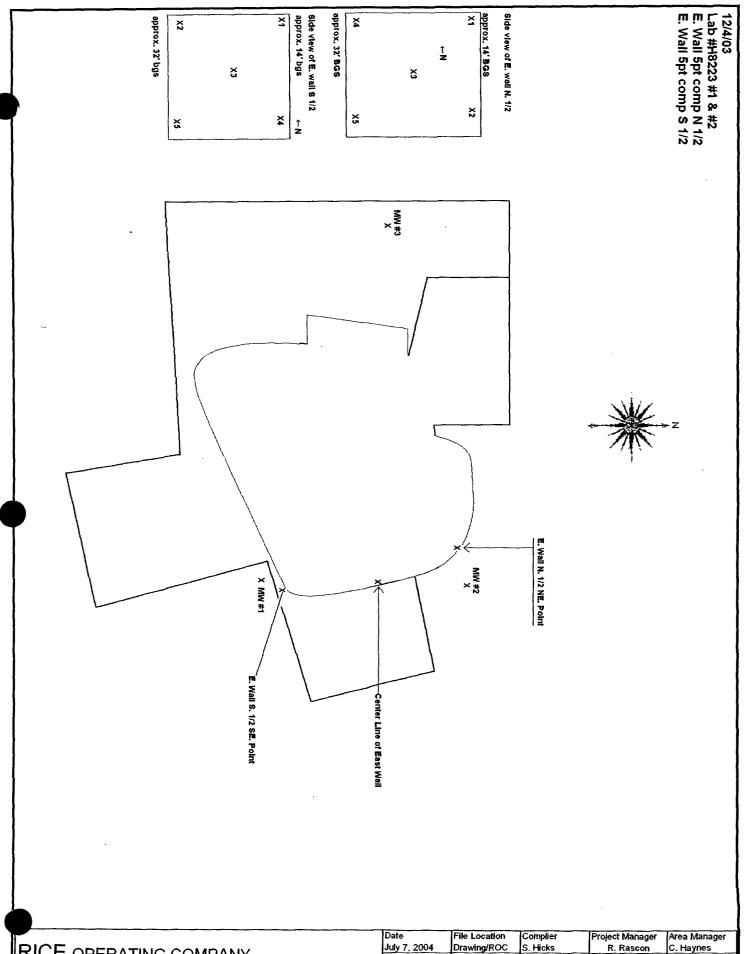
I certify that I have calibrated the above instrument in accordance to the manufacture operation manual.

Ray R. Rascon Environ. Project Leader 12-2-03
Signature Title Date

COPY







Date July 7, 2004 File Location Drawing/ROC Complier S. Hicks RICE OPERATING COMPANY 122 W. Taylor Hobbs, New Mexico 88240 Tel: (505)393-9174 Fax: (505)397-1471

Rice Operating Company Junction I-9 State 2 Remediation Sampling Points

Area Manager C. Haynes Checked

R. Rascon Figure 2L





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

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

Receiving Date: 12/04/03 Reporting Date: 12/05/03

Project Owner: RICE

Project Name: HOBBS JCT I-9 Project Location: NOT GIVEN Sampling Date: 12/04/03 Sample Type: SOIL

Sample Condition: COOL & INTACT

Sample Received By: BC Analyzed By: BC/AH

 $\begin{array}{cccc} & & & & & & & & & \\ & & & & & & & \\ & & & & & & \\ & & & & & \\ & & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & \\ & & & \\ &$

ANALYSIS [DATE	12/04/03	12/04/03	12/04/03
H8223-1	E. WALL 5 PT COMP N 1/2	<10.0	<10.0	80
H8223-2	E. WALL 5 PT COMP S 1/2	<10.0	<10.0	112
Quality Cont	ml	764	779	1010
True Value (800	800	1000
% Recovery		95.5	97.4	101
Relative Per	cent Difference	0.8	0.5	1.0

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; Cl⁻: Std. Methods 4500-Cl⁻B *Analysis performed on a 1:4 w.v aqueous extract.

Swight Clock

<u>ਾਂ ^/ੂ ਹ</u> Date

COPY

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Delivered By: (Circle One) Sampley - UPS - Bus - Other:	Relinguished By:	Pay P. Rosson	effects of expensions white out of or related to the performance (Sarmoles Relinguished):	PLEASE NOTE: Cabiny and Damages, Cardina's liabiny and sent embyses. All claims including those for negligence and any other cau							12	48223-1 E.WAI		Lab I.D.	FOR LAB USE ONLY	Sampler Name: Kou	Project Location:	Project Name:	Project #: 140665	Phone # 393 - 9/74	city: Hobbs, .	Address: /A R W.	Project Manager: 204	1	(915)	2111 Be
le One) · Other:		جَ إِسَ	in received or consequence distinguis, recurring wherein greates, customs to lated to the performance of whother the foreign provides of whother Darto: Roccalvast Buri-	PLEASE NOTE: Custoy at Changes. Cardon's bibling and elec's accusave sensory for any claim shang whether based in contend or too, used be included to the exposed paid by the claim for the sensor paid on the completion of the exposed processor for the completion of the exposed processor for the completion of the exposed processor for the completion of the exposed processor for the completion of the exposed processor for the completion of the exposed processor for the exposed process							" \$ 1/2	SPT COMP N		Sample I.D.		R. Pascer			JCT 1-9 Project Owner:	74 Fax #: 397-	State: N · M Zip:	TAYLOR	R. Russian	CLOS OPER Co.	(915) 673-7001 Fax (915) 673-7020	2111 Beechwood, Abilene, TX 79603
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	(ased upon any	or, shall be lin									OTHER ACID/BA	SE:	PRE	Fax #	Phone #:	State:	City:	Address:	Attn:	Company:	P.O. #		x (505)	Hobbs.
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Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476.

122 WEST TAYLOR **HOBBS, NEW MEXICO 88240**

PHONE: (505) 393-9174 FAX: (505) 397-1471

VOC FIELD TEST REPORT FORM

MINI RAE PLUS CLASSIC PHOTOIONIZATION GAS DETECTOR

MODEL NO: PGM 761S

SERIAL NO: 104412

CALIBRATION GAS

GAS COMPOSITION: ISOBUTYLENE

100 PPM

LOT NO: 02 - 2230

BALANCE

EXP. DATE: 11-20-04

FILL DATE: 5-20-03 ACCURACY: 100 PPM +- 20/6

METER READING

ACCURACY: 99.8

SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE
Hobbs	I-9	I	9	19	38

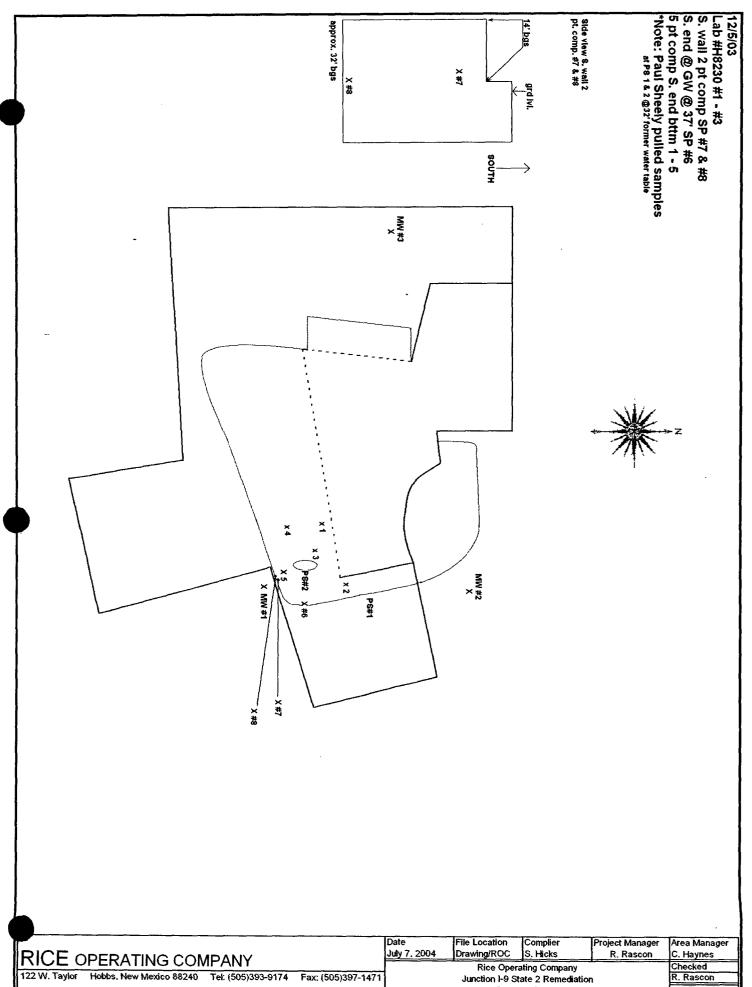
SAMPLE	PID RESULT	SAMPLE	PID RESULT
		_[110 100001
EAST WALLS 1/2 5Pt Comp		EAST WALL NY2	
5P+ Comp		5 PT Comp.	
1	4.4	1	1.1
2	0.5	2	0.5
3	1.1	3	0.4
4	0.5	4	0.6
5	1.3	5	1.3
	·		

I certify that I have calibrated the above instrument in accordance to the manufacture operation manual.

Envrion. Project Leader 12-4-03

Title Date

at Birth



Sampling Points

Checked R. Rascon



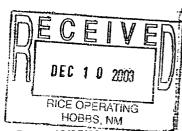
• CARDINAL LABORATORIES

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

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

Receiving Date: 12/05/03 Reporting Date: 12/08/03 Project Owner: RICE

Project Name: HOBBS JCT I-9
Project Location: NOT GIVEN



Sampling Date: 12/05/03 Sample Type: SOIL

Sample Condition: COOL & INTACT

Sample Received By: BC Analyzed By: BC/AH

	GRO	DRO	
	(C_6-C_{10})	(>C ₁₀ -C ₂₈)	Ci*
LAB NUMBER SAMPLE ID	(mg/Kg)	(mg/Kg)	(mg/Kg)

ANALYSIS	DATE	12/05/03	12/05/03	12/08/03
H8230-1	S. WALL 2 PT COMP.	<10.0	<10.0	144
H8230-2	S. END @ G.W. @ 36'	<10.0	<10.0	80
H8230-3	5 PT COMP. S. END BTTM.	<10.0	<10.0	96
Quality Con	itrol	738	752	940
True Value		800	800	1000
% Recovery	1	92.2	94.0	94.0
Relative Pe	rcent Difference	1.8	6.0	7.4

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; Cl⁻: Std. Methods 4500-Cl⁻B *Analyses performed on 1:4 w:v aqueous extracts.

emily Lack

2/9/03 Date

COPY

H8230.XLS

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Company Name: K Project Manager: K Address: /AA C City: Hobbs Phone #: 393 - 9	ARDINAL LABORATORIES, INC. 2111 Beechwood, Abilene, TX 79603 101 E (915) 673-7001 Fax (915) 673-7020 (505) James: R. O. D. DER O. 1838: Roy R. BASCON 1838: N.M. Zip: 8. 1833-9174 Fax #: 397-1471 Hobbs: TCT I-9 Project Owner: 2.CL	101 Ea 101 Ea (505) 3 (7) 47/ 2,CE	## 101 East Marland, Hobbs, NM 88240 101 East Marland, Hobbs, NM 88240 (505) 393-2476 ### P.O. ★ Company: Address: City: Hobbs, NI × (505) 393 × (505) 393 × (505) 393 × (505) 393 × (505) 393 P.O. ★ P.O. ★ Company:	8, NM 393-:	M 88240 3-2476 6//// TO					TANA		Page of	Page				
Project Location:				Phone #:	*	7.10		7									
Sampler Name: Roy	4 R. RASCON			Fax #:	3			N									
7	ŀ	1	MATRIX	P P	PRESERV	SAMPING	2	<u>ح</u>					_				-
Lab I.D.	Sample I.D.	OR (C)OMP.	NDWATER EWATER E OIL	₹:	00L R:			H 801	/								
118230-15. WALL	2PT COMP		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	d		الآد الرد- الر	1030	1	4	+	+		4	+	+	\dagger	<u> </u>
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Sample) - UPS - Bus - Other:		(Sample Condition Cool Intact Syes Syes	on ton	CHEC	CHECKED BY: (Initials)					<u> </u>		C				

122 WEST TAYLOR **HOBBS, NEW MEXICO 88240**

PHONE: (505) 393-9174 FAX: (505) 397-1471

VOC FIELD TEST REPORT FORM

MINI RAE PLUS CLASSIC PHOTOIONIZATION GAS DETECTOR

MODEL NO: PGM 761S

SERIAL NO: 104412

CALIBRATION GAS

GAS COMPOSITION: ISOBUTYLENE

100 PPM

AIR

BALANCE -

LOT NO: 02 - 22 30

FILL DATE: 5-20-03

EXP. DATE: //- 20-04

METER READING

ACCURACY: 100.0

ACCURACY: 100 PPM +-2%

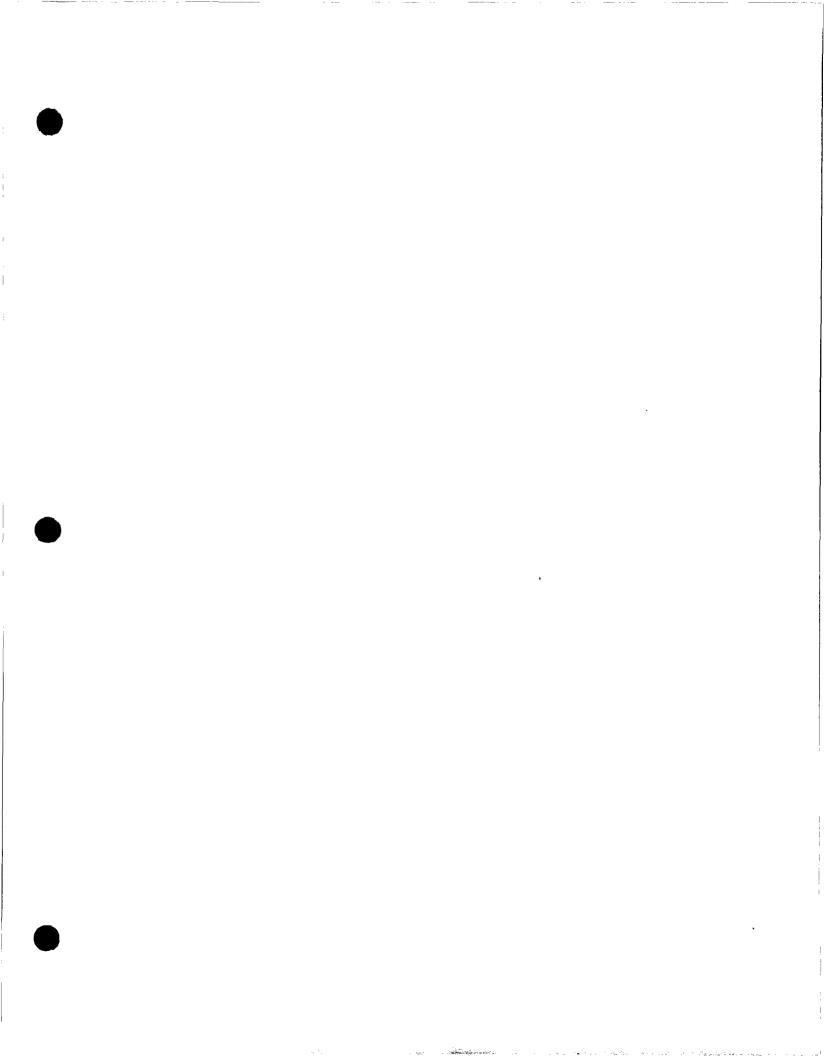
SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE
Hobbs	I-9	I	9	19	38

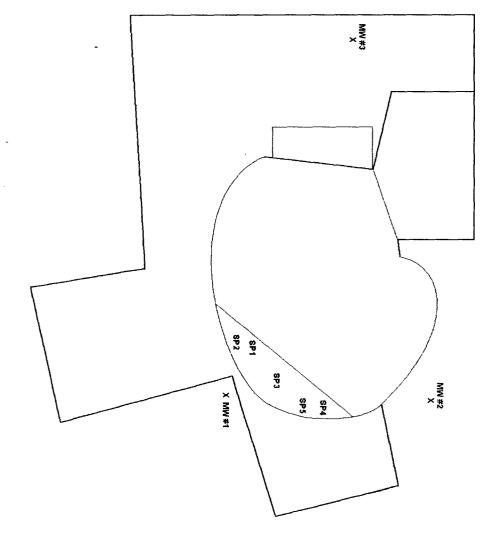
SAMPLE	PID RESULT	SAMPLE	PID RESULT
#1	20.8		
#2	3,7		
* 3	16.6		
#4	6.5		
<i>#5</i>	31.7		
#6	5:9		
# 7	2.2		
#8	2.0		
			<u> </u>
			

I certify that I have calibrated the above instrument in accordance to the manufacture operation manual.

Environ Project Leader 12-5-03
Title Date









	Date	File Location	Complier	Project Manager	Area Manager
RICE OPERATING COMPANY	July 7, 2004	Drawing/ROC	S. Hicks	R. Rascon	C. Haynes
THOE OF ENATING COMPANT		Rice Opera	iting Company		Checked
122 W. Taylor Hobbs. New Mexico 88240 Tel: (505)393-9174 Fax: (505)397-1471	7	•	ate 2 Remediation	n	R. Rascon
	1	Sampli	ing Points		Flours 2M





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

ANALYTICAL RESULTS FOR RICE OPERATING CO. ATTN: ROY R. RASCON 122 W. TAYLOR

HOBBS, NM 88240 FAX TO: (505) 397-1471

Receiving Date: 12/11/03 Reporting Date: 12/15/03 Project Owner: RICE

Project Name: HOBBS JCT I-9
Project Location: NOT GIVEN

Sampling Date: 12/11/03 Sample Type: SOIL

Sample Condition: COOL & INTACT

RICE OPERATING

HOBBS, NM

Sample Received By: GP Analyzed By: BC/AH

ANALYSIS DATE	12/11/03	12/11/03	12/12/03
H8246-1 S. 1st 5' LIFT 4th CLAY	<10.0	<10.0	128
LINER			
Quality Control	795	833	940
True Value QC	800	800	1000
% Recovery	99.4	104	94.0
Relative Percent Difference	10.7	9.5	7.4

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; Cl⁻: Std. Methods 4500-Cl⁻B *Analysis performed on a 1:4 w.v aqueous extract.

Buyeth La Cook

Date

COPY

H8246.XLS

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

ARDINAL LABORATORIES,	_	$\vec{\Omega}$	•											į,		- [:		- 19							1		8	ļŗ	-	•
2111 Beechwood, Abilene, TX 79603 (915) 673-7001 Fax (915) 673-7020		101 East Mariand, Hobbs, NM 882 (505) 393-2326 Fax (505) 393-2476	39 39	3,5€	33 E	တ္ဆ	脲절	×Ξ	5 S	Ÿ ģ	39	ኞ≨	22 8	101 East Marland, Hobbs, NM 88240 (505) 393-2326 Fax (505) 393-2476										Page	5	읔		İ		
Company Name: Ruce OPER, Co.	1	Į	- [- 1	- 1	- 1	ı			᠁.			3	971 778		ı		-		Z	ANALYSIS	SS	2	2	REQUEST	-H		- [1	1	
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State: N M	Zlp:	4688	2	ic.	0				Attn:	=																				
-9174 Fax # 397	- /1	14.	7			: 1	. 1		Address:	a	8		. 1																	
bs JCTI-9 Project	RICE	Ĉ	a						City:	.																				
						. 1		CO	State:	9	l I	()		Zip:																
Project Location:							()		Phone #:	Ž	*	1 1	1 1			,														
Sampler Name: Roy R. RAS COTA								=	Fax#:	*		l				n														
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·	(G)RAB OR (C)OMP. # CONTAINERS		GROUNDWATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE		OTHER:	ACID/BASE:	ICE / COOL	OTHER:	OTHER:	DATE	TI M M	TPH 801.	C/													
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NEASE NOTE: Libbly and Damages. Cardinals lability and clearts exclusive remedy for any claim entering whother based in contract or tort, shall be limited to the amount paid by the clear for the remedy made in writing and received by Cardinal within 30 days after computered the applicable period. In convert shall be and Cardinal within 30 days after computered the applicable period. In convert shall be able to receive the convention of the applicable period. In convert shall be able to receive the convention of the applicable.	ad wake				2 1 3	3 4	5 d d	2 1 3	9	3 5 8	0	1 1 6	2 2 3	emousé paid by the D days efter complet curred by client, its s	dard for the on of the applicabl ubaldedou,	•					Terms 30 day	pad 0	8 R 8	rate of	Terns and Conditions: latered will be thurged on all ecosons more San. 30 days part due at he rate of 24% per arrum from the original data of he and all costs of collections, including attemp/s fees.	errun (3 3	ğ ş	ē į	of hydr
Sampler Relinquished: Date: 2-//-03	R Q	뒿	흵	*		l	I	Į.			t		1		Phone Result: Fax Result: REMARKS:	i i i	2 D	- 7	= = = = = = = = = = = = = = = = = = =	118	Add'l Phone #: Add'l Fax #:	X A			111					
Relinguished By: Date: Date: By: Date: By: Date: By: Date: By: Da	Received By: (Lab Staff)	4	X A	12 3	2/2		12 8			12	!()			\				(())			70)									
(Circle One)		····	~ w	Sample Condition Cool Intact		ntact	2 2	<u> </u>			2		물꽃	(Initials)																
Sampler OPS - Bus - Other:		<u> </u>	1	No I No	8	36		0 2	<u>L</u>	1	į	1	i			l													I	

[†] Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476.

122 WEST TAYLOR HORRS NEW MEXICO 88240

PHONE: (505) 393-9174 FAX: (505) 397-1471

VOC FIELD TEST REPORT FORM

MINI RAE PLUS CLASSIC PHOTOIONIZATION GAS DETECTOR

MODEL NO: PGM 761S

SERIAL NO: 104412

CALIBRATION GAS

GAS COMPOSITION: ISOBUTYLENE

AIR

100 PPM

BALANCE

LOT NO: 02-2230

FILL DATE: 5-20-03

METER READING

EXP. DATE: //-20-04

ACCURACY: 100 PPM + - 2%

ACCURACY: 99.9

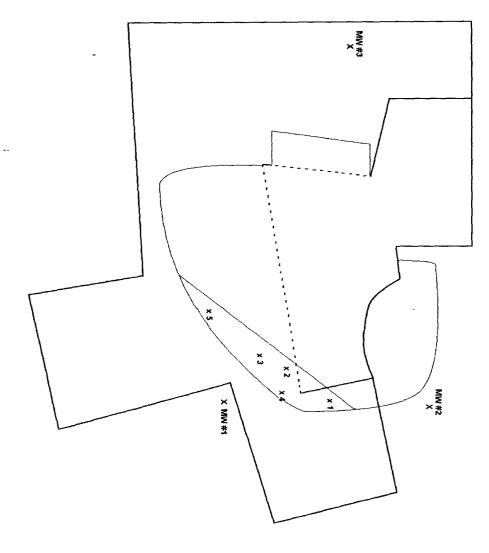
SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE
Hobbs	I-9	I	9	- 19	38

SAMPLE	PID RESULT	SAMPLE	PID RESULT
1	3.2		
2	3.2		
3	3.8		-
4	3.7		
5	1.9		

Environ. Project Leader 12-11-03

Title Date I certify that I have calibrated the above instruction operation manual.

ļ





	Date	File Location	Complier	Project Manager	Area Manager
RICE OPERATING COMPANY	July 7, 2004	Drawing/ROC	S. Hicks	R. Rascon	C. Haynes
NOL OPERATING COMPANY		Rice Opera	ating Company		Checked
122 W. Taylor Hobbs. New Mexico 88240 Tel: (505)393-9174 Fax: (505)397-1471	1	Junction I-9 St	ate 2 Remediation	1	R. Rascon
	í	Sampl	ina Points		Figure 2I



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: ROY R. RASCON 122 W. TAYLOR HOBBS, NM 88240 FAX TO: (505) 397-1471

Receiving Date: 12/17/03
Reporting Date: 12/19/03
Project Number: NOT GIVEN
Project Name: HOBBS JCT I-9
Project Location: NOT GIVEN



Sample Type: SOIL

Sample Condition: COOL & INTACT

Sample Received By: GP Analyzed By: BC/AH

•	GRO	DRO	
	(C_6-C_{10})	(>C ₁₀ -C ₂₈)	CI*
LAB NUMBER SAMPLE ID	(mg/Kg)	(mg/Kg)	(mg/Kg)

ANALYSIS DATE	12/18/03	12/18/03	12/18/03
H8265-1 S. 2nd 5' LIFT BY MW #1	<10.0	34.2	96
Quality Control	744	810	040
True Value QC	800	800	940 1000
% Recovery	93.0	101	94.0
Relative Percent Difference	6.7	1.2	7.4

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; Cl⁻: Std. Methods 4500-Cl⁻B *Analysis performed on a 1:4 w.v aqueous extract.

Buy suffa Coh

12/19/03

Date



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

2111 Beechwood, Abilene, TX 79603 (915) 873-7001 Fax (915) 873-7020 sme: RILE OPER. Co. ager: Roy R. RASCON A J. W TAYLOR bbs JCT I-9 Froject Owner: stion: tion: TSPAE) JUAREZ	393-2326 Fax 393-2326 Fax 122 40	(505) 393-2476 (505) 393-2476 (F.O. #: P.O. #: Company: Attn: Address: City: State: Zip: Phone #: Presery Sampling		Pageof
ISPAE		eepv		
	TER R			
mple I.D.	(G)RAB OR (C) # CONTAINEF GROUNDWA* WASTEWATE SOIL CRUDE OIL SLUDGE OTHER:	ACID/BASE: ICE / COOL OTHER :	80151 (1)	
48265-1 S. 2nds: 129 by mw#1 C	(x /	V 12-17-03	3:50 / /	
PLEASE NOTE: Usbally and Darrages, Cardenia's falsally and elect's cashade remody for any stain unthing whether based in contract or loci, usab is finished to the annount paid by the clear for the emphyses, All clears including those for regigence and any other cases witnesseed what he desented whether these made in writing and received by Cardinal within 30 days either completion of the applicable scales. In the cent and Cardinal be labely for helderical or consequented damages, including without institute, bushness fractupions, peer of these of the property of the determination of the contraction n arting whether based in correct or tool, is described when made in writing and received of interface, been of less interface, been of less in receives of which we can do fain in best of less in the contraction of the co	had be knowed to the amount paid by the di- by Cauthin within 30 days after completion by Cauthin within 30 days after completion by Cauthin within 120 days after completion by Cauthin 120 days after completion and particular upon any of the deboyer strict or maximum as on		Terms and Constitions: like out will be charged up all coperts may then 30 days past due at the role of 24% per errum from the original date of breaks and all code of collections, Including attempts free.	
Sampler Relinquished: Date: Received By:	Received By:		Phone Result: U 766 U No AddT Phone #: Fax Result:	none d: x d:
Relinquished By: Date: 12/1/2003 Delivered By: (Circle One) Sampler JUPS - Bus - Other:	Received By: (Lab Staff) Sample Condition Cool Intact Cool Intact No. In No.	CHECKED BY:	COPY	

[†] Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476.

122 WEST TAYLOR

HOBBS, NEW MEXICO 88240

PHONE: (505) 393-9174 FAX: (505) 397-1471

VOC FIELD TEST REPORT FORM

MINI RAE PLUS CLASSIC PHOTOIONIZATION GAS DETECTOR

104490

MODEL NO: PGM 761S **CALIBRATION GAS**

GAS COMPOSITION: ISOBUTYLENE

AIR

LOT NO: <u>02-2230</u>

EXP. DATE: 11/28/04

METER READING

ACCURACY: 100.1

SERIAL NO: 104412 ROR

100 PPM

BALANCE

FILL DATE: 5-20-03

ACCURACY: 100 PPM # 2%

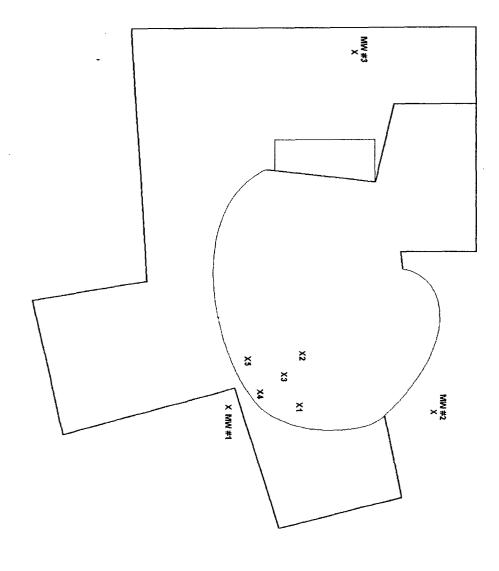
SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE
Hobbs	I-9	I.	9	19	38

S. 2 Nd L ft 5 By nw#1 PID RESULT SAMPLE SAMPLE PID RESULT 4.8 5,2 #3 conter 30.0

I certify that I have calibrated the above instrument in accordance to the manufacture operation manual.

Roj R. RASCON Signature







	Date	File Location	Complier	Project Manager	Area Manager
RICE OPERATING COMPANY	July 7, 2004	Drawing/ROC	S. Hicks	R. Rascon	C. Haynes
THOL OF EKATING COMPANY		Rice Opera	ating Company		Checked
122 W. Taylor Hobbs, New Mexico 88240 Tel: (505)393-9174 Fax: (505)397-147		Junction I-9 St	ate 2 Remediation	7	R. Rascon
		Sampl	ina Points		Figure 2N



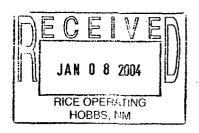


PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR RICE OPERATING CO. ATTN: KRISTIN FARRIS 122 W. TAYLOR HORRS NM 88240

HOBBS, NM 88240 FAX TO: (505) 397-1471

Receiving Date: 12/23/03 Reporting Date: 01/06/04 Project Number: NOT GIVEN Project Name: HOBBS JCT I-9 Project Location: NOT GIVEN



Sampling Date: 12/23/03 Sample Type: SOIL

Sample Condition: COOL & INTACT

Sample Received By: AH Analyzed By: BC/HM

	GRO	DRO	
	(C_6-C_{10})	(>C ₁₀ -C ₂₈)	CI*
LAB NUMBER SAMPLE ID	(mg/Kg)	(mg/Kg)	(mg/Kg)

ANALYSIS DATE	01/06/04	01/06/04	12/24/03
H8289-1 S. 3rd 5' LIFT BY MW-1	<10.0	<10.0	80
Quality Control	712	742	940
True Value QC	800	800	1000
% Recovery	89.0	92.8	94.0
Relative Percent Difference	3.4	2.3	7.4

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; Cl⁻: Std. Methods 4500-Cl⁻B *Analysis performed on a 1:4 w.v aqueous extract.

Swyst Alaske Chemist Alaske

Date

COPY

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ARDINAL LABORATORIES, INC.	INC.		
(915) 673-7001 Fax (915) 673-7020	(505) 393-2326 Fax (505) 393-2476	505) 393-2476	Pageof
company Name: RICE Operation		0.111.0	4
roject Manager: Kristin Fackis		P.O. #:	
ddress: 122 M Taylor	0	Company: RICE	
State: NM	V ONESS :diz	Attn:	
-9174 Fax # 397.		Address:	
		City:	
ume: Hobbs Jet T-	Ø	State: Zip:	
	70	Phone #:	
impler Name: ISMA Tuers 2	71	Fax #:	
-	MATRIX	PRESERV. SAMPLING	
	RS TER		
_ab I.D. Sample I.D.	(G)RAB OR ((# CONTAINE! GROUNDWA WASTEWATE SOIL CRUDE OIL SLUDGE OTHER:	ACID/BASE: ICE / COOL OTHER:	TPH
1 1 286-1 5 3 x 2 x 15 x 1 1 28 8 8 H	C 6 N	12.03.03	1 5 K:EJ
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	Date: /ユーンターの子 Time:		Phone Result: Dives DNo Add'l Phone #: Fax Result: 5(Yes DNo Add'l Fax #: REMARKS:
Daily 10303	Received By: (Lab Star)		Fax to RICE
livered By: (Circle One)	Sample Condition Cool intact	n CHECKED BY:	
Tipley - UPS - Bus - Other:	DAS DAS		

T Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476.

122 WEST TAYLOR

HOBBS, NEW MEXICO 88240

PHONE: (505) 393-9174 FAX: (505) 397-1471

VOC FIELD TEST REPORT FORM

MINI RAE PLUS CLASSIC PHOTOIONIZATION GAS DETECTOR

MODEL NO: PGM 761S

SERIAL NO: 104412

CALIBRATION GAS

GAS COMPOSITION: ISOBUTYLENE

100 PPM

AIR LOT NO: 02-2230

BALANCE

EXP. DATE: 11-20-04

FILL DATE: 5-20-03

METER READING

ACCURACY: 100. 4

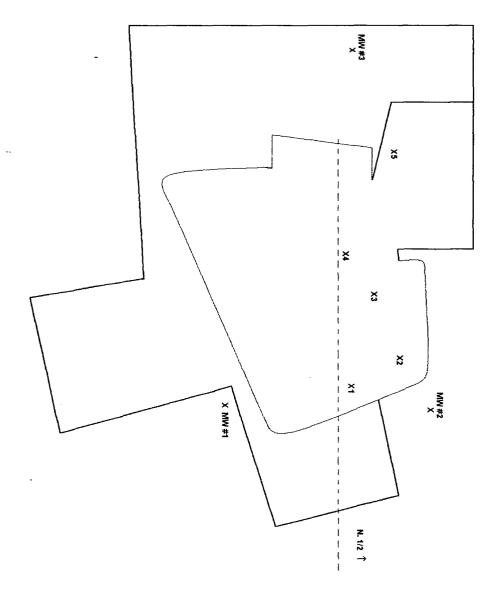
ACCURACY: 12%

SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE
Hobbs	I-9	I.	9	19	38

SAMPLE	PID RESULT	SAMPLE	PID RESULT
NE NW at Conter SE SW	3.3		
NW	3.4		
at Center	10.9		
SE	3.6		
5W	37.2		
	-		
			
			
			
			
			<u> </u>

I certify that I have calibrated the above instrument in accordance to the manufacture operation manual.







	Date	File Location	Complier	Project Manager	Area Manager
RICE OPERATING COMPANY	July 7, 2004	Drawing/ROC	S. Hicks	R. Rascon	C. Haynes
NICE OPERATING COMPANY		Rice Opera	ating Company		Checked
122 W. Taylor Hobbs, New Mexico 88240 Tel: (505)393-9174 Fax: (505)397-1471	1	Junction I-9 St	ate 2 Remediation	n	R. Rascon
	1	Sampl	ina Points		Figure 2S





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

ANALYTICAL RESULTS FOR RICE OPERATING CO. ATTN: ROY R. RASCON 122 W. TAYLOR HOBBS, NM 88240 FAX TO: (505) 397-1471 DECEIVED

JAN 0 7 2004

PIGE OPERATING
HOBBS, NM

Receiving Date: 12/30/03 Reporting Date: 01/05/04 Project Number: NOT GIVEN Project Name: HOBBS JCT I-9 Project Location: NOT GIVEN Sampling Date: 12/30/03 Sample Type: SOIL

Sample Condition: COOL & INTACT

Sample Received By: AH Analyzed By: BC/HM

	GRO	DRO	
	(C ₆ -C ₁₀)	(>C ₁₀ -C ₂₈)	CI*
LAB NUMBER SAMPLE ID	(mg/Kg)	(mg/Kg)	(mg/Kg)

ANALYSIS DATE	01/02/04	01/02/04	12/31/03
H8307-1 N. 3rd 5' COMP	<10.0	<10.0	80
Quality Control	759	799	940
True Value QC	800	800	1000
% Recovery	94.8	99.8	94.0
Relative Percent Difference	3.1	7.7	1.4

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; CI: Std. Methods 4500-CIB *Analyses performed on 1:4 w.v aqueous extracts.

Chemist) Colu

Date

COPY

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

ARDINAL LABORATORIES, INC.	יייייייייייייייייייייייייייייייייייייי	THE CLOSE OF THE CHARLES OF THE WORLD
915) 673-7001 Fax (915) 673-7020	(505) 393-2326 Fax (505) 393-2476	Page of
RICE Operating		ANALYSIS REQUEST
Toject Manager Kristin Farths RRR Koy R. KASCON	P.O. #	
K	Company: RICE	
ty: Hobbs state: NM zip: 88240	Attn:	
-9/74 Fax # 397	Address:	
roject #: Hobbs JCT I-9 Project Owner:	City:	
,	State: Zip:	
oject Location:	*	PH
implor Name: Roy R. RAS COM	Fax #:	
	PRESERV SAMPLING	
C)OMP. RS TER ER		5 M
(G)RAB OR (G)RAB	SLUDGE OTHER: ACID/BASE: ICE / COOL OTHER: DATE	80/ C1
H8307-1 N. 3 Rd S' COMP CG	V 12-30-03	330 / / 066
E NOTE: LIAMS and Demagas. Cardenio labelly and about a casely for any other orders whether based in contract or lock, shall be linked to the execute publish doed for the st. Ad don't in history break to replace or any other cause whitebower shall be deemed whited when much is writing and reservoiry Cardinal within 30 days after completion of the equ	or hort, simile be limited to the eracual paid by the checkwid by Cardinal within 30 days after completion	Temps and Conditioner interest with a charged on all accounts reason han a few parts and a country reason han a few parts and
In no event shall Cerdinal be hable for incidental or consequental duranges, Installing without inhaltes, business intemptions, loss of use, or best of profits installed by client, its subsidiaries, a or successions sciently god of or related to the performance of services have under the Cerdinal, regardless of whether such chain is based upon any of the above stated researce or otherwise.	e of use, or loss of profits incurred by offest, its suf is based upon any of the above stated ressons or o	
		Fax Result: UYes UNo Add'! Phone #:
nquished By: CASCOY THE PARTY Received By: (Lab State)		Fax to RICE
Time: I mus the		
Sample Cpol	illion CHECKED BY:	((((((((((((((((((((
ipler UPS Bus - Other:		

[†] Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476.

122 WEST TAYLOR

HOBBS, NEW MEXICO 88240

PHONE: (505) 393-9174 FAX: (505) 397-1471

VOC FIELD TEST REPORT FORM

MINI RAE PLUS CLASSIC PHOTOIONIZATION GAS DETECTOR

MODEL	NO: PGM 761S
CALIDD	ATTONICAC

SERIAL NO: 104412

GAS COMPOSITION: ISOBUTYLENE

100 PPM **BALANCE**

AIR LOT NO: <u>02-7230</u> EXP. DATE: <u>11-20-69</u>

FILL DATE: 5-20-03

METER READING

ACCURACY: 99,7

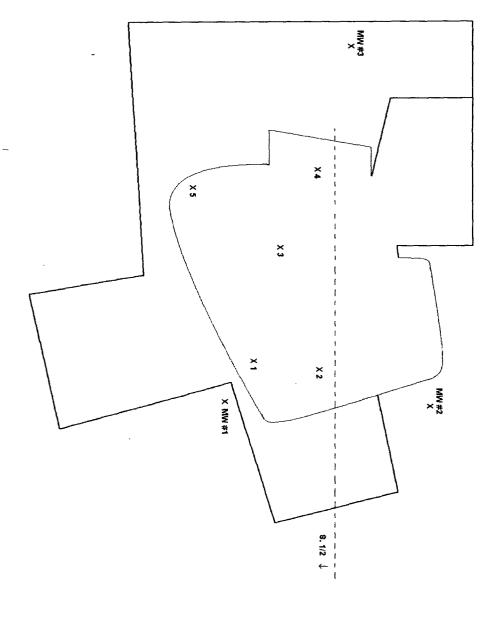
ACCURACY: 100 PPM +- 2%

SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE
Hoobs	I-9	I	9	19	38

N. 3 Rd 5-1	Lift Comp		
SAMPLE	PID RESULT	SAMPLE	PID RESULT
1	5,3		
2	5.8		
3	10.3 15.0 3.3		
4	15.0		
5	3.3		
	<i>a</i>		

I certify that I have calibrated the above instrument in accordance to the manufacture operation manual.

Environ Project Leader 12-30-03
Title Date





	Date	File Location	Complier	Project Manager	Area Manager
RICE OPERATING COMPANY	July 7, 2004	Drawing/ROC	S. Hicks	R. Rascon	C. Haynes
THOE OPERATING COMPANY		Rice Opera	ating Company		Checked
122 W. Taylor Hobbs, New Mexico 88240 Tel: (505)393-9174 Fax: (505)397-1471		Junction I-9 Sta	ate 2 Remediation	١	R. Rascon
		Sampli	ing Points		Figure 2R



PHONE (325) 673-7001 · 2111 BEECHWOOD · ABILENE, TX 79603

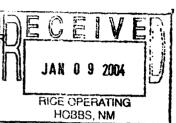
PHONE (505) 393-2326 - 101 E. MARLAND - HOBBS, NM 88240

ANALYTICAL RESULTS FO RICE OPERATING CO. ATTN: ROY R. RASCON 122 W. TAYLOR **HOBBS, NM 88240**

FAX TO: (505) 397-1471

Receiving Date: 01/06/04 Reporting Date: 01/07/04 Project Owner: RICE

Project Name: HOBBS JCT 1-9 Project Location: NOT GIVEN



Sampling Date: 01/06/03 Sample Type: SOIL

Sample Condition: COOL & INTACT

Sample Received By: GP Analyzed By: BC/AH

	GRO	DRO	
	(C_6-C_{10})	(>C ₁₀ -C ₂₈)	Ci*
LAB NUMBER SAMPLE ID	(mg/Kg)	(mg/Kg)	(mg/Kg)

ANALYSIS DATE	01/06/04	01/06/04	01/07/04
H8331-1 4th 5' LIFT S.1/2	<10.0	<10.0	96
Quality Control	712	742	1010
True Value QC	800	800	1000
% Recovery	89.0	92.8	101
Relative Percent Difference	3.4	2.3	7.0

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; Cl⁻: Std. Methods 4500-Cl⁻B *Analysis performed on a 1:4 w.v aqueous extract.

H8337.XL5

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

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(04 K) 673 7004 Ea	11 Beechwood, A	RDINAL I	
273	BChW	AL	
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IBORATORIES, INC. d, Abilene, TX 79603 101 East Marland, Hobbs, NN 88240 l Fax (915) 673-7020 (505) 393-2326 Fax (505) 393-2476

(915) 673-7001 Fax (915) 673-7020	(505) 393-2326 Fax (505) 393-2476	(505) 393-2476	!	Page of
Company Name: RICE Operating Comp				ANALYSIS REQUEST
Project Manager: Kritchin Force Xby	R. RASCON	P.O. #:		
Address: 122 W. Taylor		Company: RICE		
	State: NM Zip: 89240			
9174	(L)	Address:		
77-9	RICE	City:		
		State: Zip:	4	
Project Location:		*	PI	
Sampler Name: Roy R. RANCO		Fay #:		
704 //	WATRIX	ESFRY		
		LACOCATA OVALLENO		
. Sample I.D.	(G)RAB OR (C)OI # CONTAINERS GROUNDWATER WASTEWATER SOIL CRUDE OIL SLUDGE	OTHER: ACID/BASE: ICE / COOL OTHER:	8015 M	
48331-1 4th 51/14 S. 12		1-6-04	230 K K	
,				
EXECUTE: Uselly and Danagon, Cardina's Salisty and denergy contains country for any claim artisty whether beauth contract or too, and be instead to the annual guidely list disrel for the	in a list with based in carbact or to	ort, what he deplaced to the account part by the o	and for the	Forms and Considerate interest will be stranged on all accounts may bee
ajes, Al dairs (nizh) bas fo regigent and any sine ease visiboses this to describ which should nivide and residently (Logish with 30 days also computes of the application vice. The avert shell cardwid to fathe to higher to todested or personantial dampee, historial frincise, besteen themption, best on the of the of the branch of best his wholested, a unbeliable. But so recovers a winty sid of or related to the performance of services through the Cardwid, regardings of wholested the based types may also about stake a warmer.	ct wakes unione tracks in writing and rock ut drakation, business hasmuptions, boss o ust, regardisess of whatiner such claims is by	aived by Catellinal within 30 days safet complete. Y uso, of loss of pretts incurred by client, its ex asset upon zery of the abour staled resears or	npleden of the applicable), its subsidiation, ans or otherwise.	No down pand dass at the rates of 2018, per extran them the original date of Involce and all costs of collections, including attentive to bee.
Pascon Time:	Received By:	1	NOSURE: CYPES NAS: CYPES	D No Add'! Phone #: D No Add'! Fax #:
Date:	Received By: (Lab Staff)		TLOHSE	
Delivered By: (Circle One)	Sample Condition Cool Intact Dives Dives	on CHECKED BY: (initials)		

[†] Cardinal cannot accept verbal changes. Please fax written changes to 605-393-2476.

122 WEST TAYLOR

HOBBS, NEW MEXICO 88240

PHONE: (505) 393-9174 FAX: (505) 397-1471

VOC FIELD TEST REPORT FORM

MINI RAE PLUS CLASSIC PHOTOIONIZATION GAS DETECTOR

MODEL NO: PGM 761S

SERIAL NO: 104412

CALIBRATION GAS

GAS COMPOSITION: ISOBUTYLENE

100 PPM

AIR

BALANCE

LOT NO: # 02-2230

FILL DATE: 5-20-03

EXP. DATE: 11-20-04

ACCURACY: 100± 2%

METER READING

ACCURACY: 99.7

SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE
Hobbs	T-9	T	q	19	38

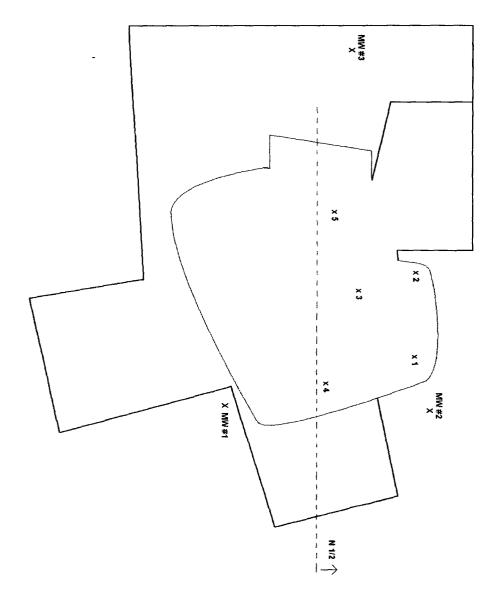
			T
SAMPLE	PID RESULT	SAMPLE	PID RESULT
5P#1	13.8		
SP#2	1.4		
SP#3	4.5		
SP#4	3.5		
SP#5	9.3		·
PID READINGS			
for 4th 5' Lift			
for 4th 5'2ff on 5. Side of			
hole			
			7

I certify that I have calibrated the above instrument in accordance to the manufacture operation manual.

Signature

Date Date

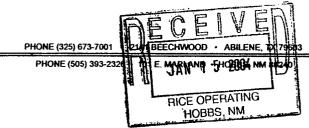
- -----





	Date	File Location	Complier	Project Manager	Area Manager
RICE OPERATING COMPANY	July 7, 2004	Drawing/ROC	S. Hicks	R. Rascon	C. Haynes
THOL OF ERATING COMPANT		Rice Opera	ating Company		Checked
122 W. Taylor Hobbs, New Mexico 88240 Tel: (505)393-9174 Fax: (505)397-1471	}	Junction 1-9 St	ate 2 Remediation	n	R. Rascon
		Sampli	ina Points		Figure 2T





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

Receiving Date: 01/12/03 Reporting Date: 01/13/03

Project Owner: RICE

Project Name: HOBBS JCT I-9 Project Location: NOT GIVEN Sampling Date: 01/12/04 Sample Type: SOIL

Sample Condition: COOL & INTACT

Sample Received By: BC Analyzed By: BC/AH

 $\begin{array}{ccc} & & \text{GRO} & \text{DRO} \\ & (C_6\text{-}C_{10}) & (>\!C_{10}\text{-}C_{28}) & \text{Cl*} \\ \text{LAB NUMBER SAMPLE ID} & (mg/Kg) & (mg/Kg) & (mg/Kg) \\ \end{array}$

ANALYSIS DATE	01/12/04	01/12/04	01/12/04
H8347-1 N. 1/2 4th 5' LIFT	<10.0	<10.0	128
Quality Control	772	780	980
True Value QC	800	800	1000
% Recovery	96.5	97.5	98.0
Relative Percent Difference	0.5	2.6	3.0

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; Cl⁻: Std. Methods 4500-Cl⁻B *Analyses performed on 1:4 w.v aqueous extracts.

Burton Ja Coope

_/*/ | 5 /* Date

COPY

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

	P.O. *	たのからろと	roject Manager: P.O.#:
			company Name: RICE Operating
	(505) 393-2476	(505) 393-2326 Fax	(915) 673-7001 Fax (915) 673-7020 (505) 393-2326 Fax (505) 393-2476
	Hobbs, NM 88240	101 East Marland, I	2111 Beechwood, Abilene, TX 79603 101 East Marland, Hobbs, NM 88240
		INC.	Ķ
CHAIN-O			C

roject Manager: Kristin Faction Roy R. RASCON			ANALYSIS REQUEST
	a 0 *		
	Company: RICE		
ity: Hobbs State: NN zip: 88240	Attn:		
hone # 393-9 74 Fax # 397 147	Address:		
7 I-9	City:		
olect Name:	State: Zip:		
oject Location:	Phone #:		
impler Name: 75 RHE / Jua REZ			
7 24 70 ()		<i><u>H</u></i>	
OR LAB LESS CHAY	PRESERV. SAMPLING	7.P.	
Sample I.D. Sampl	HER: D/BASE: /COOL HER:)/5 <i>m</i>	
9 /	<	\ \ \	
E ACTE. Liberty and Changes, customer habity and dearf succlear (emply for my form mining whether based in contract of cut, which is trained to the second policy the dearf for the st. All claims including those for registerate and my other cases, which be desired which the whole made in white precision for the contract to the complete of the applicable. Into overal twice Contract to take the texture and a contract of the contract to the cont	ton', what he findled to the entoted paid by the client for the serious paid by the client for the spoksable of the applicable of the applicable of the control of the applicable of the forest the publishment.	•	Terms and Contributes late set will be sharped on all accounts trees than 30 days pand due at the raise of 24% per ground tent the original date of treeton and all costs of collections. In the second of the second or the cost of the second or the second of the second or the second or the second of the second or the secon
o or excession withing out of or related to the performance of services have made by Cardhell, regardless of inhetier such claim is to perform the Received By:	(regardess of whater such claim is based upon my of its above stated masons or otherwise.	170	
Time:	Fax Result: REMARKS:	St. ce.	Add'l Fax #:
nquished By: (Lab Staff)	in and a second	Fax to RIO	RICE
livered By: (Circle One)	ndillon CHECKED BY:		
ipler - UPS - Bus - Other: Toler	(initials)		

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476.



122 WEST TAYLOR

HOBBS, NEW MEXICO 88240

PHONE: (505) 393-9174 FAX: (505) 397-1471

VOC FIELD TEST REPORT FORM

MINI RAE PLUS CLASSIC PHOTOIONIZATION GAS DETECTOR

MODEL-NO:	PGM 761S
CLAY TEN A FORCE	

SERIAL NO: 104412

CALIBRATION GAS

GAS COMPOSITION: ISOBUTYLENE

100 PPM

AIR

BALANCE

LOT NO: <u>02-2230</u> EXP. DATE: <u>//-28-04</u>

FILL DATE: 5-20-03 ACCURACY: 100 PPM +- 2%

METER READING

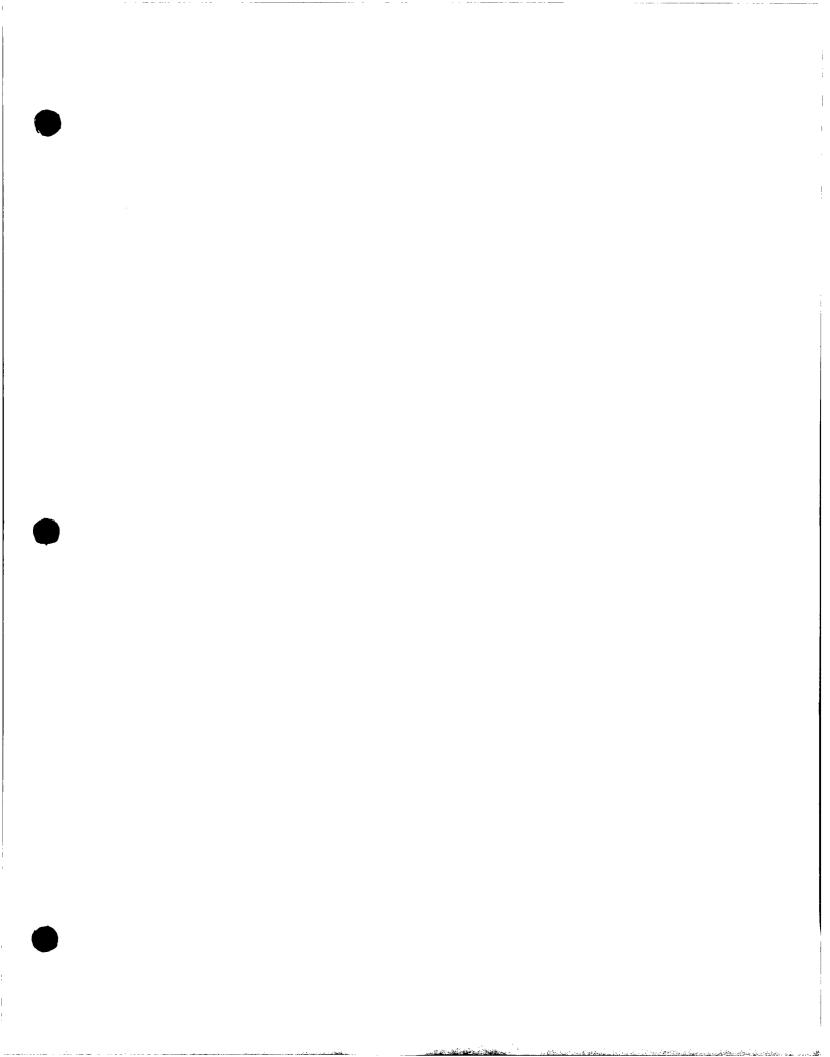
ACCURACY: 99. 7

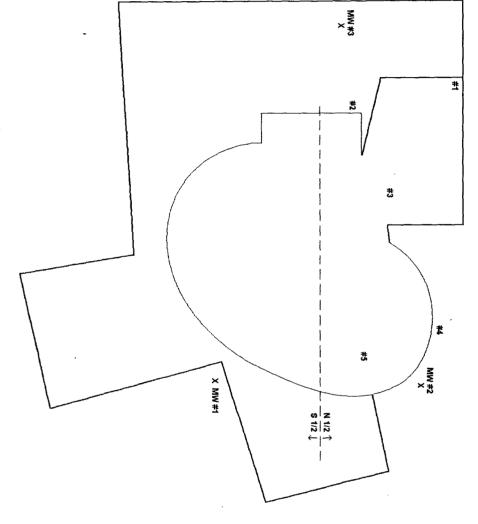
SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE
Hobbs	I-9	I	9.	19	38

N1/2 4th 5	· Lift		
SAMPLE	PID RESULT	SAMPLE	PID RESULT
INE	3.3		
2 111	6.9		
3 Center 4 SE 5 S.W	3.6		
4 SE	4.8		
5 5.W	2.0		
			(D) (V

I certify that I have calibrated the above instrument in accordance to the manufacture operation manual.

Ray R. LASCON	Environ Project Leady	1-12-04
Signature	Title	Date

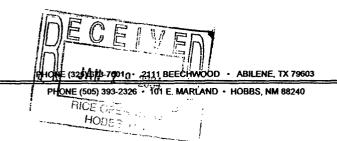






	Date	File Location	Complier	Project Manager	Area Manager
RICE OPERATING COMPANY	July 7, 2004	Drawing/ROC	S. Hicks	R. Rascon	C. Haynes
TICE OPERATING COMPANT		Rice Opera	ating Company		Checked
22 W. Taylor Hobbs, New Mexico 88240 Tel: (505)393-9174 Fax: (505)397-1471]	•	ate 2 Remediation	n	R. Rascon
	1	Sampl	ing Points		Figure 20





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

Receiving Date: 01/27/04 Reporting Date: 01/28/04 Project Number: NOT GIVEN

Project Name: HOBBS JCT I-9 Project Location: NOT GIVEN

Sampling Date: 01/27/04 Sample Type: SOIL

Sample Condition: COOL & INTACT

Sample Received By: AH Analyzed By: BC/AH

GRO DRO CI* (C_6-C_{10}) (>C₁₀-C₂₈) LAB NUMBER SAMPLE ID (mg/Kg) (mg/Kg) (mg/Kg)

ANALYSIS	DATE	01/27/04	01/27/04	01/27/04
H8407-1	1st 5' AFTER CLAY LINER	<10.0	<10.0	176
	8 BGS N 1/2			
Quality Cor	ntrol	733	774	1000
True Value	QC	800	800	1000
% Recover	у	91.7	96.8	100
Relative Pe	ercent Difference	1.3	2.5	1.0

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; CI: Std. Methods 4500-CI'B *Analysis performed on a 1:4 w.v aqueous extract.

H8407.XLS

PLEASE NOTE: Llability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses.

All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries.

RDINAL LABORATOR 11 Beechwood, Abilene, TX 71 (915) 673-7001 Fax (915) 673- RICE Opicating Kristin Farths M Taylor State: NI 9174 Fax # 3 hbs Jett-9 Project On	ATORIES, INC. 16) 673-7020 (505) 393-2326 Fax (505) 393-2476 15) 673-7020 (505) 393-2326 Fax (505) 393-2476 16) 673-7020 (505) 393-2326 Fax (505) 393-2476 17) P.O. * State: NM Zip: \$8240 Attn: 18] Address: 19] City: 19: State: Zip:	Hobbs, NM 88240 (505) 393-2476 P.O. #: Company: RICE Address: City: State: Zip:		ANALYSIS	YSIS REQUEST	
roject Location:		34	'H			
100 P. S	MATRIX	PRESERV! SAMPLING				
	GRAB OR (C)OMP. CONTAINERS GROUNDWATER WASTEWATER SOIL CRUDE OIL SLUDGE		8015 M T			
18407-1 18+5'A Que day Linee 2865 N Y2	<i>G</i>	1-26-04	300P V V			
Cardwal's liability and about adjustment and any other cau- in for haddenful or surresque stated to the performance of	birn after whother beach is contend at a sub- med whole of these much in writing and re- rud firstation, business treamptions, toos o that, regardness of whether such claim is to	ort, and he indeed to the arround positive to short by Cardinal which 100 days after company of tars, or less of prints incurred by chart, he short typen my of the shown extend reasons or	1 L	-	Terms and Conditions: literate will be shaped as all acceptate tone item. 50 days past due at the rate of 25% per errum from the original date of trades and all codes of caleschare, including attorney's free.	cearth more from arighed date of husica,
Real Relinquished: (Date: Date: Received By:		Phone Result: 12 Yes Fax Result: 52 Yes REMARKS:	1010	hone \$: ax \$:		
nquis/fed By: Date: 61/26/200/ Time: 3+3P	Received By: (Lab Staff)	1(fax to	t RICE	COPY	
ilvered By: (Circle One)	Sample Condition Cool Intact Eyes Xyes	on CHECKED BY:				

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476.

RICE OPERATING COMPANY

122 WEST TAYLOR

HOBBS, NEW MEXICO 88240

PHONE: (505) 393-9174 FAX: (505) 397-1471

VOC FIELD TEST REPORT FORM

MINI RAE PLUS CLASSIC PHOTOIONIZATION GAS DETECTOR

MOI	DEL	NO:	PG	M	761	S
OAT	m	A 1707 /	33 T	<u> </u>		

CALIBRATION GAS

GAS COMPOSITION: ISOBUTYLENE AIR

LOT NO: $\frac{402-2230}{2000}$ EXP. DATE: (1-20-04)

METER READING

ACCURACY: 100.0

SERIAL NO: 104412

104490

100 PPM BALANCE

FILL DATE: <u>6-20-03</u>

ACCURACY: 100±2%

SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE
Hobbs	I-9	I	9		

SAMPLE PID RESULT SAMPLE PID RESULT

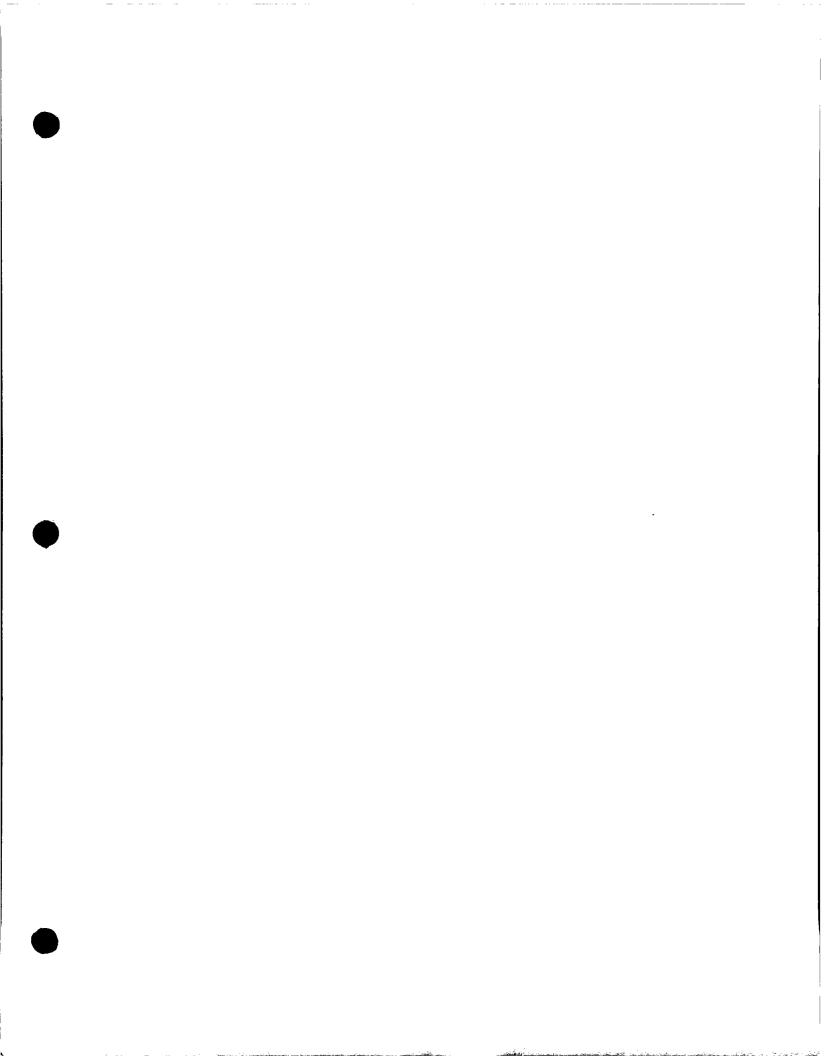
SAMPLE	PID RESULT	SAMPLE	PID RESULT
#2	2.9		
#3	2.7		
#4	2.2		
#5	2.3		
C(- Field	Fest Composer	183 MPM	

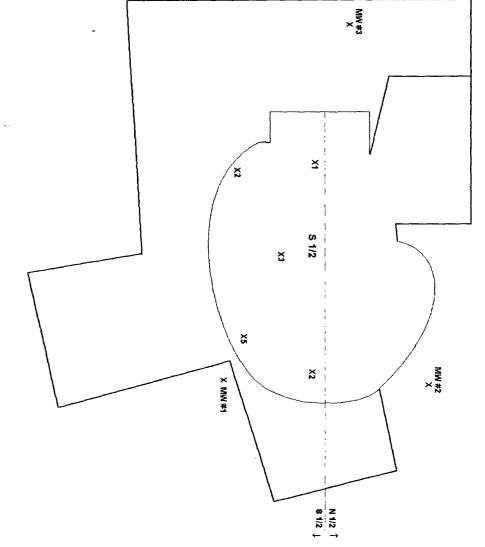
I certify that I have calibrated the above instrument in accordance to the manufacture operation manual.

Signature

1-26-04 Date

COPY







	Date	File Location	Complier	Project Manager	Area Manager
RICE OPERATING COMPANY	July 7. 2004	Drawing/ROC	S. Hicks	R. Rascon	C. Haynes
THOL OPERATING COMPANY	Rice Operating Company			Checked	
122 W. Taylor Hobbs. New Mexico 88240 Tel: (505)393-9174 Fax: (505)397-1471			R. Rascon		
	<u>l</u>	Sampli	ing Points		Figure 2P





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

Receiving Date: 01/29/04 Reporting Date: 01/30/04

Project Number: NOT GIVEN
Project Name: HOBBS JCT. I-9
Project Location: NOT GIVEN

Sampling Date: 01/29/04 Sample Type: SOIL

Sample Condition: COOL & INTACT

Sample Received By: AH Analyzed By: BC/AH

 $\begin{array}{cccc} & & & & & & & & & \\ & & & & & & & \\ & & & & & & \\ & & & & & \\ & & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & \\ & & & \\ & &$

ANALYSIS DATE		01/29/04	01/29/04	01/29/04
H8420-1	FIRST 5' LIFT AFTER CLAY	<10.0	<10.0	112
	LINER @ 8' 5 1/2 PRR			
	2-2-04			
Quality Contr	ol	733	774	1020
True Value Q	С	800	800	1000
% Recovery		91.7	96.8	102
Relative Perc	ent Difference	1.3	2.5	2.0

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; Cl⁻: Std. Methods 4500-Cl⁻B *Analysys performed on a 1:4 w:v aqueous extract.

Buy sus fall gote
Chemist

Date

COPY

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

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RDINAL LABORATORIES, INC.

2111 Beechwood, Abilene, TX 79603 101 East Marland, Hobbs, NM 882 (915) 673-7001 Fax (915) 673-7020 (505) 393-2326 Fax (505) 393-2476	101 East Marland, Hobbs, NM 88240 (505) 393-2326 Fax (505) 393-2476	Page
1	0.117/9	ANALYSIS REQUEST
oject Manager: Kristin Forris	P.O. #:	
idress: 122 Mi Taylor	Company: RICE	
by: Hobbs state: NM zip: 88340	1	
-9/74 Fax #: 397.	Address:	
Projec	City:	
plact Name: Hobbs Jct. I.9	State: Zip:	
	Phone #:	
mpler Name: Escapl Juarez	Fax #:	
7	PRESERV. SAMPLING	5
G)RAB OR (C)OMP. # CONTAINERS GROUNDWATER WASTEWATER SOIL CRUDE OIL SLUDGE	OTHER: ACID/BASE: ICE / COOL OTHER: DATE TIME	TPH 801
1	1 129.04 1:00	
E HOTE: (SARy and Compose Cardinal's Bibley and clearly sectative remort for any claim artistic whether based in contract a tool, shall be instead to the encount peak by the clear for the section of the explication of the	ted, shall be limbed to the execute ped by the clear for the should by Cardinal within 30 days wher completion of the applical of these of mobile trained by clear in a shakeholder.	Yearms and Conditions: like and wife by disapped on all accounts more than 30 days peak day at the raise of AN by an extrain from the original date of braice, and all order of conditions including satisfactory between a local section.
ipler Relinquished: Date: 1.29-0 4 Received By:	seed upon my of the above stated reasons or otherwise. Phone Result: Fax Result:	uit: □Yes □No AddTPhone #: \$XYes □No AddTFax#:
nquished By: Lab Staff) Time: Received By: (Lab Staff)		Fax to RICE GODW
Ilvered By: (Circle One) Sample Condition Sam	ion CHECKED BY: (Initials)	()

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476.

RICE OPERATING COMPANY

122 WEST TAYLOR HOBBS, NEW MEXICO 88240

PHONE: (505) 393-9174 FAX: (505) 397-1471

VOC FIELD TEST REPORT FORM

MINI RAE PLUS CLASSIC PHOTOIONIZATION GAS DETECTOR

MODEL NO: PGM 761S

SERIAL NO: 104412

CALIBRATION GAS

GAS COMPOSITION: ISOBUTYLENE

100 PPM

AIR

BALANCE

LOT NO: 02-2230

EXP. DATE: 11-20-04

5-20-03 FILL DATE:

METER READING

ACCURACY: 99, 7

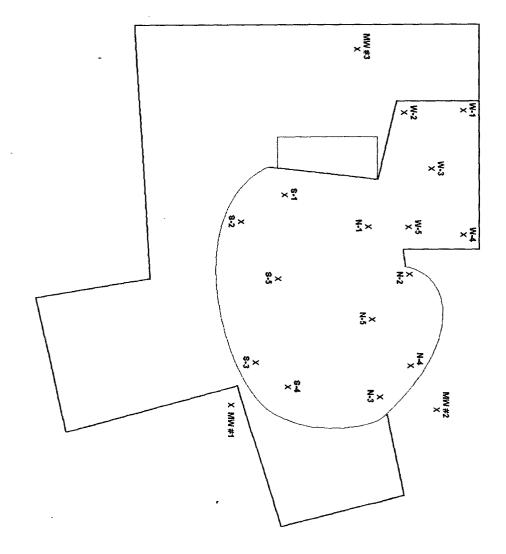
ACCURACY: 100 PPM + - 2%

SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE
Lobbs	I-9	I	9	19	38

SAMPLE	PID RESULT	SAMPLE	PID RESULT
I N.W.	4.0		
2 N.E.	4.8		
3 Center	3.6		
4 S.W. 5 S.E.	6.0		
5 5.E.	5.3		
		·	

I certify that I have calibrated the above instrument is above to the manufacture operation manual.

Environ Project Leader 1-29-04





	Date	File Location	Complier	Project Manager	Area Manager
RICE OPERATING COMPANY	July 7, 2004	Drawing/ROC	S. Hicks	R. Rascon	C. Haynes
NICE OF ERATING COMPANY	Rice Operating Company			Checked	
122 W. Taylor Hobbs, New Mexico 88240 Tel: (505)393-9174 Fax: (505)397-1471				R. Rascon	
	Sampling Points F		Figure 20		

RICE OPERATING COMPANY

122 WEST TAYLOR **HOBBS. NEW MEXICO 88240**

PHONE: (505) 393-9174 FAX: (505) 397-1471

VOC FIELD TEST REPORT FORM

MINI RAE PLUS CLASSIC PHOTOIONIZATION GAS DETECTOR

MODEL-NO: PGM 761S

SERIAL NO: 104412

CALIBRATION GAS

GAS COMPOSITION: ISOBUTYLENE

100 PPM

AIR

BALANCE

LOT NO: <u>02-2230</u> EXP. DATE: <u>//-20-04</u>

FILL DATE: 5-20-03

ACCURACY: 100 PPM +- 2%

METER READING ACCURACY: 100.0

SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE
Hobbs	I-9	I	9 -	19	38

Final Lift.	Sinface Samp PID RESULT	les	
SAMPLÉ	PID RESULT '	SAMPLE	PID RESULT
WEST Comp	3.5 PRB 2.3 PP 3.5 2.3 PP 2.3 4.5 PP 2.3 1.1 PP 4.5	S. Comp	
1	2.3 H 3.5	l	4.6
2	2.3 2.3	2	2.8
3	4.54 2.3	3	3.9
4	+: Ill 4.5	4	1.5
5	1.7	5	2.7
North Comp			
)	3.5 4.5		
2	4.5		
3	3,2		
4	2.1		
5	1.8		880

I certify that I have calibrated the above instrument in accordance to the manufacture operation manual.

Environ Project Sealer 2-5-04
Title Date



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

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

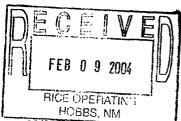
ANALYTICAL RESULTS FOR RICE OPERATING CO. ATTN: KRISTIN FARRIS 122 W. TAYLOR

HOBBS, NM 88240 FAX TO: (505) 397-1471

Receiving Date: 02/05/04 Reporting Date: 02/06/04 Project Number: NOT GIVEN

Project Name: 1-9

Project Location: HOBBS, NM



Sampling Date: 02/05/04

Sample Type: SOIL

Sample Condition: COOL & INTACT

Sample Received By: AH Analyzed By: BC/AH

	GKO	DRO	
	$(C_{6}-C_{10})$	(>C ₁₀ -C ₂₈)	CI*
LAB NUMBER SAMPLE ID	(mg/Kg)	(mg/Kg)	(mg/Kg)

ANALYSIS DATE	02/05/04	02/05/04	02/06/04
H8435-1 SURFACE LIFT COMP.	<10.0	<10.0	144
Quality Control	733	774	1020
True Value QC	800	800	1000
% Recovery	91.7	96.8	102
Relative Percent Difference	1.3	2.5	2.0

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; CI: Std. Methods 4500-CIB *Analysis performed on a 1:4 w.v aqueous extract.

Chemist Haldshe

Date

COPY

H8435.XLS

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

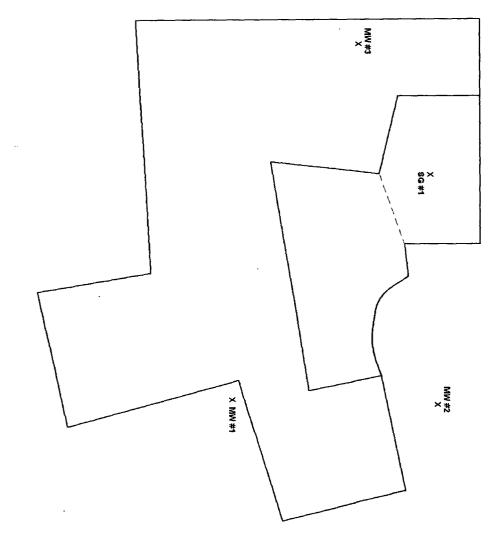
DAN	ARDINAL LABORATORIES, INC.	s, INC.	•					
	(915) 673-7001 Fax (915) 673-7020		101 East Mariand, Hobbs, NM 88240 (505) 393-2326 Fax (505) 393-2476			•	Page of	
Jompany Name:	RICH Operation	- 1	97.1.1			ANAL YSIS	9	
roject Manager:	Kristin Faction		P.O. #:					
ddress: 122	ddress: 122 M Taylor		Company: RICE					
ity: Hobbs	State: NM	ONE 28 3 :412	Attn:					
hone # 393-9174	Fax#: 397	N7)	Address:					
roject #:			City:					
me:	I-9		State: Zip:		n			
oject Location:	: Hobbs		Phone #:		51			
ımpler Name:			Fax #:		07:			
ON LANG BRANCH NO.		MATRIX	PRESERV SAMPLING		_			
	. •	ER R						
.ab I.D.	Sample I.D.	(G)RAB OR (C # CONTAINED GROUNDWA WASTEWATE SOIL CRUDE OIL SLUDGE	OTHER: ACID/BASE: ICE / COOL, OTHER:	Chlor	TPH			
18435-1	Surface Lift Comp	×	Х	1000 X	×			
							. []	
E NOTE: Lakey and Dan	Durages Cardina's lebary and desert sankates remark for any data arting whether	an stary water based in contract of	based in comband or for C, shad be firmed to the expensioned by the	and padd by the cloud for the		Terras and Conch	the standard of the stanged or	all accepts sizes from
. In no every shall Car		oud Britishan, bushiwa biwriptare, loos Brail, regardson of whether such claim b	of use, or beer of profile incurred by client, if besed upon any of the above stained reasons	de vidaldisina, e er estanvise,		and all codes of god	and all costs of collections, brokeling attorney's feas.	
pler Relingu	pjer Relinquished: Date 2/9/04	Date: 2/4/04 Received By:		Phone Result:	EYes UN	No Add' Phone #:		
J. Stad	4			REWARKS:	jo			
nquished By:		Received By: (Lab Staff			tax to t	RICE		
livered By:	Vered By: (Circle One)	Sample Condition	don CHECKED BY: (Initials)					
" things," you	- Cure.							-

- F Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476.

ARCADIS

Appendix C

Proctor and Density Test





	OPERATING COM	
122 W Taylo	or Hobbs New Mexico 88240	Tel: (505)393

Tel: (505)393-9174 Fax: (505)397-1471

Date July 7, 2004 File Location Drawing/ROC Complier S. Hicks

Project Manager R. Rascon

Rice Operating Company Junction I-9 State 2 Remediation Sampling Points

Area Manager C. Haynes Checked R. Rascon Figure 2Y



1110 N. GRIMES HOBBS, NM 88240 (505) 393-9827



DEBRA P. HICKS, P.E./L.S.I. WILLIAM M. HICKS. III, P.E./P.S.

To:

Rice Operating Corporation

Attn: Carolyn Haynes

122 W. Taylor

Hobbs, NM 88240

Test Method:

Material:

ASTM: D 2922

Red Clay

Project:

Hobbs Junction 1-9

Date of Test:

October 2, 2003

Depth:

34' Below Finished Subgrade

Dry Density Test No. Location % Maximum % Moisture Depth

\$G-1

N. Section of Pit - 30' S. & 15' E. of the NW Corner

100.3

18.1

Control Density:

107.2

ASTM: D 698

Optimum Moisture:

18.0%

Required Compaction:

95%

Lab No.:

03 6177

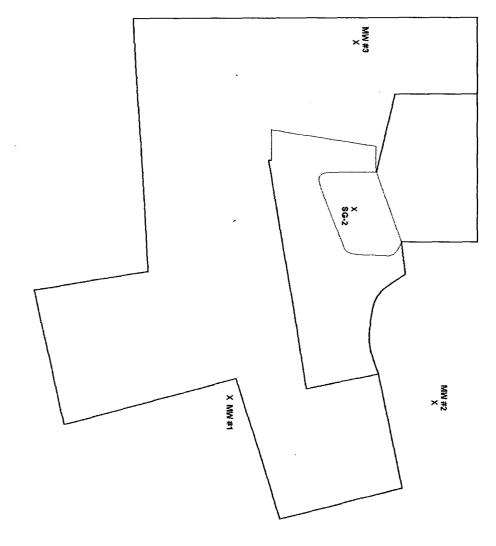
Copies To:

Rice Operating

PETTIGREW and ASSOCIATES



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	Date	File Location	Complier	Project Manager	Area Manager
RICE OPERATING COMPANY	July 7, 2004		S. Hicks	, ,	C. Haynes
	J	Rice Opera	ting Company		Checked
122 W. Taylor Hobbs. New Mexico 88240 Tel: (505)393-9174 Fax: (505)397-1471			R. Rascon		
		Sampli	ing Points		Figure 2X



1110 N. GRIMES HOBBS, NM 88240 (505) 393-9827



DEBRA P. HICKS, P.E./L.S.I. WILLIAM M. HICKS, III, P.E./P.S.

To:

Rice Operating Corporation

Attn: Carolyn Haynes

122 W. Taylor Hobbs, NM 88240 Material:

Red Clay

Test Method:

ASTM: D 2922

Project:

Hobbs Junction I-9

Date of Test:

October 28 2003

Depth:

Finished Subgrade

Dry Density

Test No.

Location

% Maximum

% Moisture

Depth

SG-2

Pit - Center of Excavation

100.8

20.1

Control Density:

103.9

ASTM: D 698

Optimum Moisture:

21.4%

Required Compaction:

95%

Lab No.:

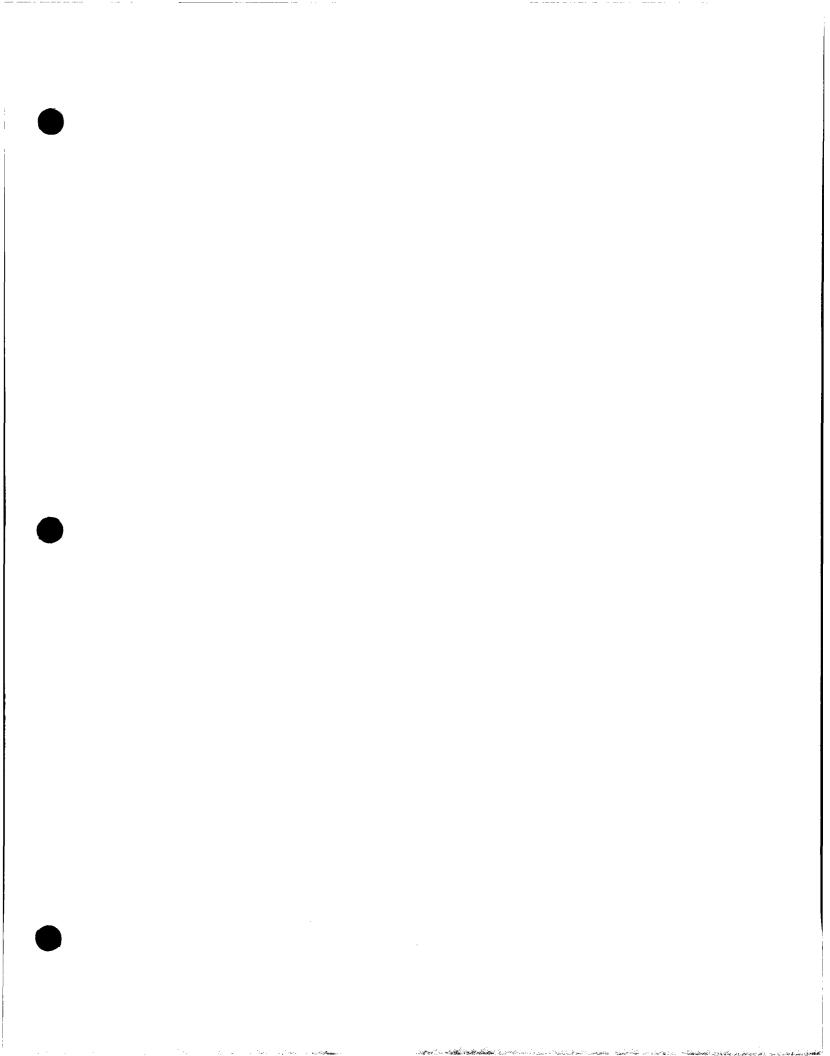
03 6568

Copies To:

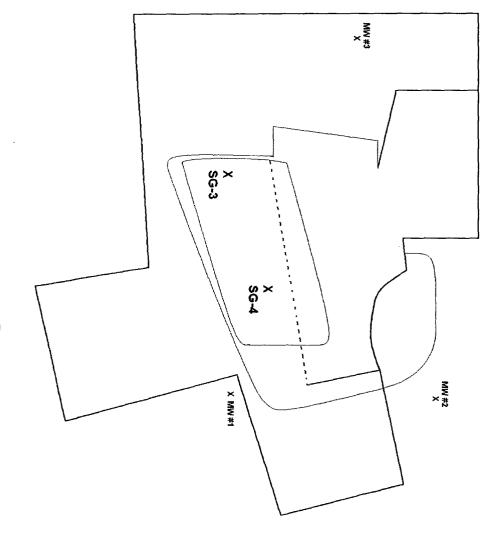
Rice Operating

PETTIGREW and ASSOCIATES

SOPY



12/1/03 Pettigrew & Associates, P. A. Lab #03 7128-7129 3rd clay liner density test @ 30'





INICE OPERATING COMPAN	F	RICE	OPERATING	COMPANY
------------------------	---	------	------------------	---------

122 W. Taylor Hobbs, New Mexico 88240 Tel: (505)393-9174 Fax: (505)397-1471

Date July 7, 2004 File Location Drawing/ROC

Complier S. Hicks

Project Manager R. Rascon

Rice Operating Company Junction I-9 State 2 Remediation Sampling Points

Area Manager C. Haynes Checked R. Rascon Figure 2W



1110 N. GRIMES HOBBS, NM 88240 (505) 393-9827



DEBRA P. HICKS, P.E./L.S.I. WILLIAM M. HICKS, III, P.E./P.S.

To:

Rice Operating Corporation

Attn: Carolyn Haynes

122 W. Taylor

Hobbs, NM 88240

Test Method:

Material:

ASTM: D 2922

Red Clay

Project:

Hobbs Junction I-9

Date of Test:

December 1, 2003

Depth:

13' Below Finished Subgrade

		Dry Density		
Test No.	Location	% Maximum	% Moisture	Depth
\$G-3	Pit - 50' N. & 35' W. of the SE Corner	105.0	16.7	
SG-3	Pit - 45' N. & 25' E. of the SW Corner	102.6	18.5	



Control Density:

104.2

ASTM: D 698

Optimum Moisture:

23.1%

Required Compaction:

95%

Lab No .:

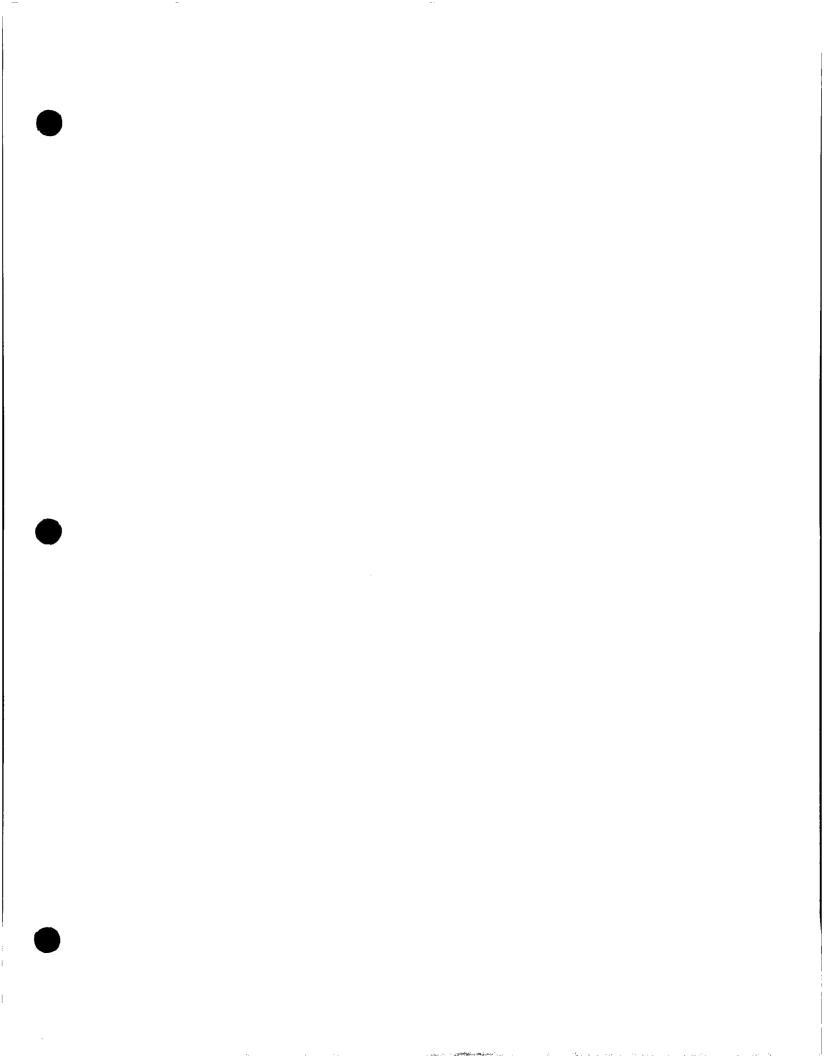
03 7128-7129

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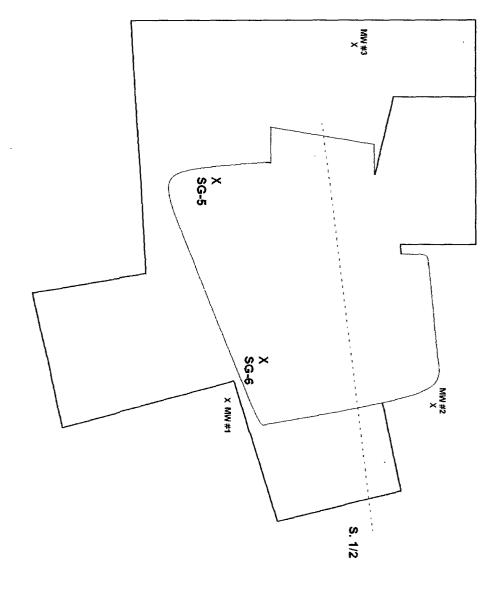
Rice Operating

PETTIGREW and ASSOCIATES





12/10/03 Pettigrew & Associates, P.A. Lab #03 7467-7467A 4th clay liner density test @ 30'





	Date	File Location	Complier	Project Manager	Area Manager
RICE OPERATING COMPANY	July 7, 2004	Drawing/ROC	S. Hicks	R. Rascon	C. Haynes
TICE OF ERATING COMPANY	Rice Operating Company		Checked		
122 W. Taylor Hobbs, New Mexico 88240 Tel: (505)393-9174 Fax: (505)397-1471	}	Junction I-9 Sta	ate 2 Remediation	n	R. Rascon
		Sampli	ing Points		Figure 2V



1110 N. GRIMES HOBBS, NM 88240 (505) 393-9827



DEBRA P. HICKS, P.E./L.S.I. WILLIAM M. HICKS. III, P.E./P.S.

To:

Rice Operating Corporation

Attn: Carolyn Haynes

122 W. Taylor

Material:

Red Clay

Hobbs, NM 88240

Test Method:

ASTM: D 2922

Project:

Hobbs Junction I-9

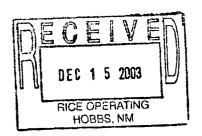
Date of Test:

December 10, 2003

Depth:

29' Below Finished Subgrade

		Dry Density		
Test No.	Location	% Maximum	% Moisture	Depth
SG-5	Pit - 20' N. & 40' W. of the SE Corner	100.8	20.5	
\$G-6	Pit - 10' S. & 15' W. of the NE Corner	101.0	18.6	



Control Density:

104.2

ASTM: D 698

Optimum Moisture:

23.1%

Required Compaction:

95%

Lab No .:

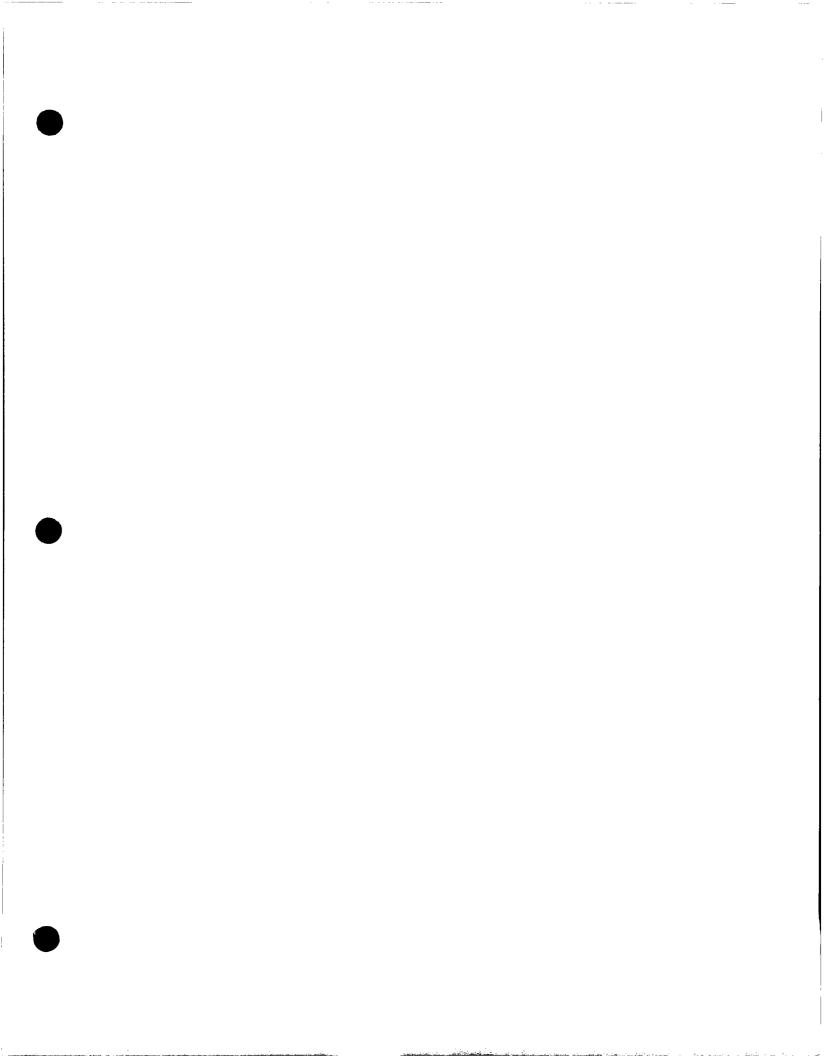
03 7467-7467a

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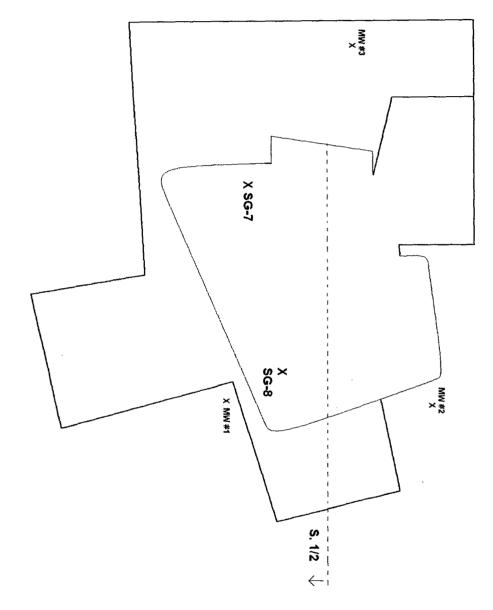
Rice Operating

PETTIGREW and ASSOCIATES





1/3/04 Pettigrew & Associates, P.A. Lab #04 1275-1276 Top clay liner @ approx 6' to 7' bgs





	Date	File Location	Complier	Project Manager	Area Manager
RICE OPERATING COMPANY	July 7, 2004	Drawing/ROC	S. Hicks	R. Rascon	C. Haynes
INICE OPERATING COMPANY	Rice Operating Company Che		Checked		
122 W. Taylor Hobbs, New Mexico 88240 Tel: (505)393-9174 Fax: (505)397-1471]	Junction I-9 St	ate 2 Remediation	n	R. Rascon
		Sampl	ing Points		Figure 2U



PETTIGREW and ASSOCIATES, P.A.

1110 N. GRIMES HOBBS, NM 88240 (505) 393-9827



DEBRA P. HICKS, P.E.Z.,S.I. WILLIAM M. HICKS, HI, P.E.ZE,S.

To:

Rice Operating Corporation

Attn: Carolyn Haynes

122 W. Taylor Hobbs, NM 88240 Material:

Red Clay

Project:

Hobbs Junction I-9

Test Method:

ASTM: D 2922

Date of Test:

January 13, 2004

Depth:

6 1/2' Below Finished Subgrade

Test No.	Location	Ory Density % Maximum	% Moisture	Depth
	Pit - 100' W. & 25' N. of the SE Corner - S. Area	99.0	20.5	
SG-8	Pit - 50' W. & 30' N. of the SE Corner - S. Arca	99.4	20.8	

Control Donsity:

104.2

ASTM: D 698

Optimum Moisture:

21.4%

Required Compaction:

95%

Lab No.:

04 1275-1276

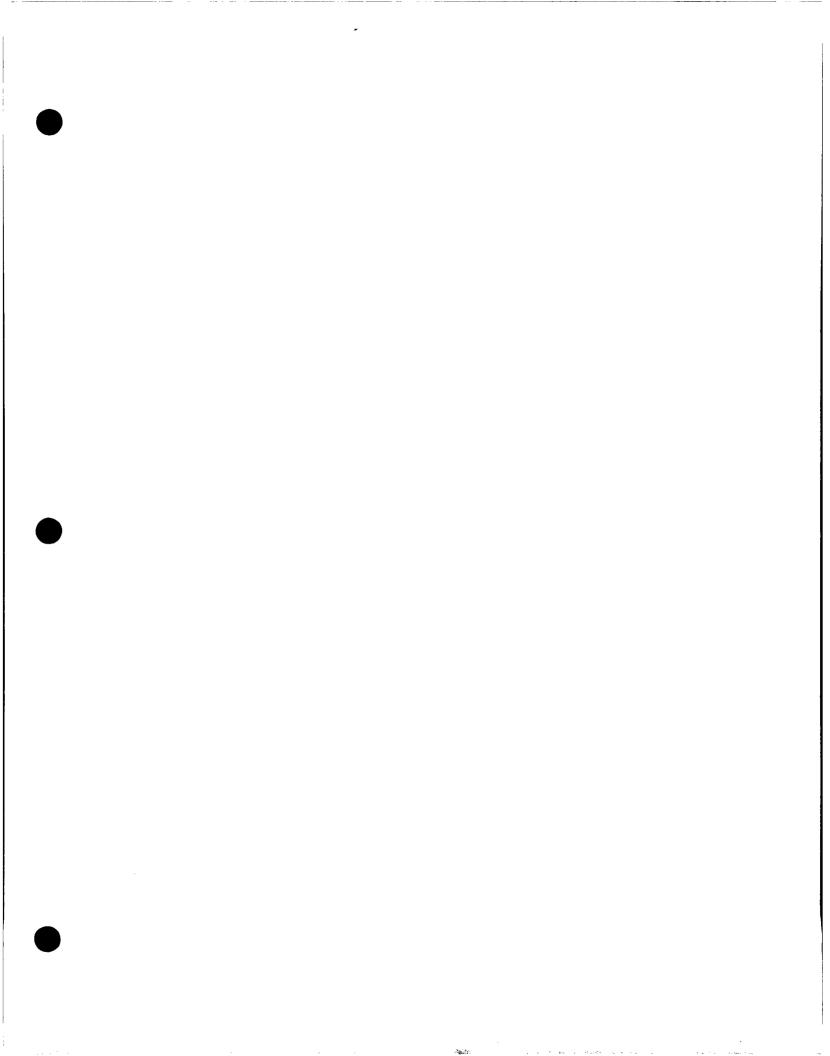
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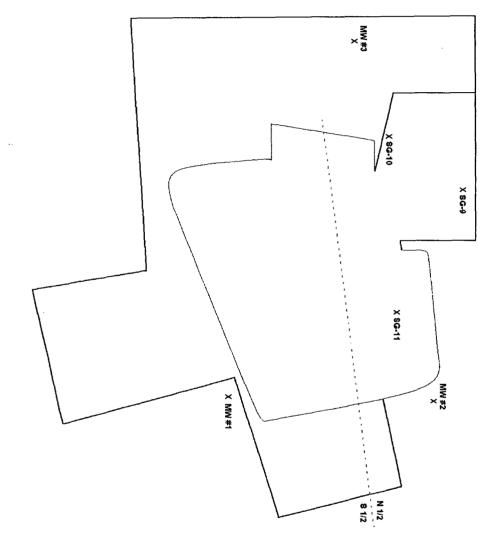
Rice Operating

PETTIGREW and ASSOCIATES

Bricon Records









	Date	File Location	Complier	Project Manager	Area Manager
RICE OPERATING COMPANY	July 7, 2004	Drawing/ROC	S. Hicks	R. Rascon	C. Haynes
INICE OPERATING COMPANY		Rice Opera	ting Company		Checked
122 W. Taylor Hobbs, New Mexico 88240 Tel: (505)393-9174 Fax: (505)397-1471		Junction I-9 Sta	ate 2 Remediation	n	R. Rascon
	Į.	Sample	ina Bointo		Eigura 27



1110 N. GRIMES HOBBS, NM 88240 (505) 393-9827



DEBRAP, HICKS, P.E./L.S.L. WILLIAM M. HICKS, III, P.E./P.S.

To:

Rice Operating Corporation

PETTIGREW

Attn: Carolyn Haynes

122 W. Taylor

Material:

Red Clay

Hobbs, NM 88240

Test Method:

ASTM: D 2922

Project:

Hobbs Junction I-9

Date of Test:

January 20, 2004

Depth:

6' Bolow Finished Subgrado

Test No.	Location	Dry Density % Maximum	% Moisture	Dopth
SG-9	W. Side of N. Half of Pit	95.9	24.4	
SG-10	N.W. Side of N. Half of Pit	99.8	19.4	
SG-11	E. Side of N. Half of Pit	99.5	18.9	

Control Density:

104.2

ASTM: D 698

Optimum Moisture:

21.4%

Roquired Compaction:

95%

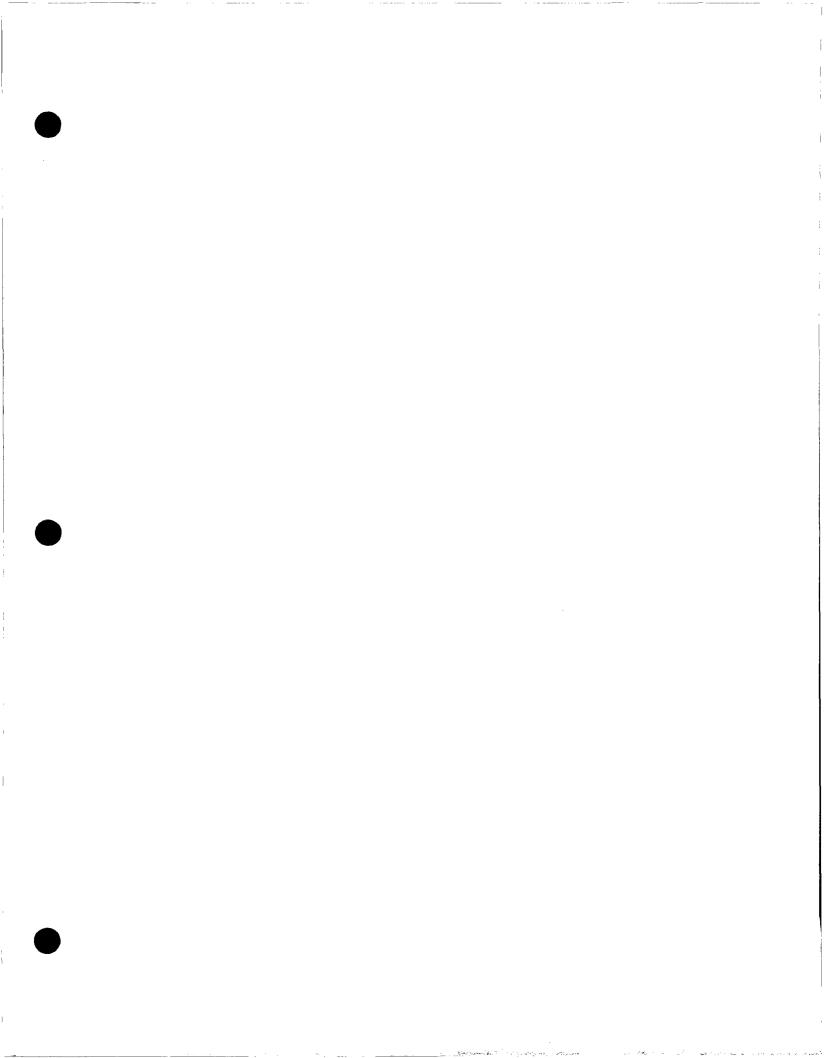
Lab No .:

03 1350-1352

Copies To:

Rico Operating

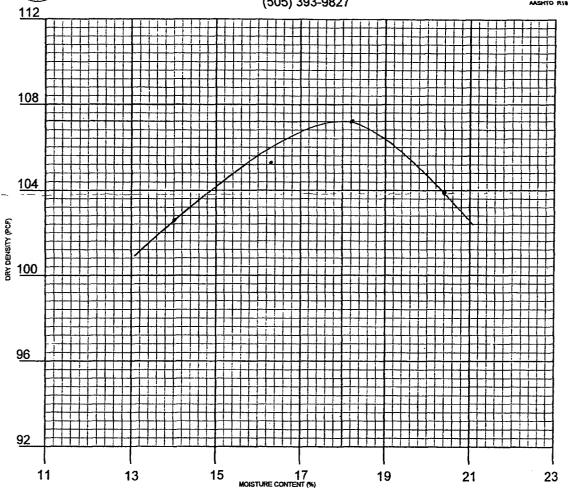
PETTIGREW and ASSOCIATES



PETTIGREW and ASSOCIATES, P.A.

1110 N. GRIMES ST. HOBBS, NM 88240 (505) 393-9827





CLIENT: Rice Operating	PROJECT: General Information
SAMPLE LOCATION: Stockpile	
SOIL DESCRIPTION: Red Clay (Walla	ach)
SOIL CLASSIFICATION: ATTERBERG: LL PI	TEST METHOD: ASTM: D 698 Sampled & Delivered 4/10/03
DATE: 4/11/03	LAB NO. <u>03-2271-227</u> 2
DRY WEIGHT LB/CU. FT. 107.2 SIEVE AN	MOISTURE CONTENT % 18.0 VALYSIS - % PASSING
<u> </u>	· · · · · · · · · · · · · · · · · · ·

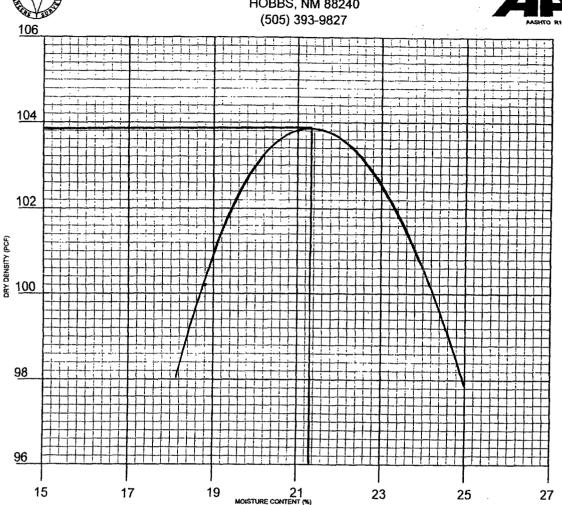
PETTIGREW and ASSOCIATES

COPIES: Rice

BY: Con Recept.



PETTIGREW and ASSOCIATES, P.A. 1110 N. GRIMES ST. HOBBS, NM 88240



CLI	ENT:	Rice O	perating	perating			PROJECT: General Information				
SAMPLE LOCATION:			N: Sto	ockpile at	Wallach	Pit					
SOI	IL DES	CRIPTIO	N: Re	d Clay							
		SSIFICAT		PI		TEST N	METHOD	: ASTM: I		vered 10/2	20/03
		0/21/03	-L	F1		LAB NO). <u>03-64</u>	•	g a Bon	10104 1012	
GO	od fa	be 6	Month	1 S 103 9		MOI	STURF (CONTEN	т %	21.4	
DRY WEIGHT LB/CU. FT. 103.9 MOISTURE CONTENT % SIEVE ANALYSIS - % PASSING											
L		<u> </u>								لـــــــــــــــــــــــــــــــــــــ	

PETTIGREW and ASSOCIATES

Rice Operating COPIES:

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1110 N. GRIMES HOBBS, NM 88240 (505) 393-9827



DEBRA P. HICKS, P.E./L.S.I. WILLIAM M. HICKS, III, P.E./P.S.

To:

Rice Operating Corporation

Attn: Carolyn Haynes

122 W. Taylor

Hobbs, NM 88240

Project:

General Information

November, 2003 Date of Test:

Material:

st Method:

NOV 1 9 2003

RICE OPERATING cation: HOBBS, NM

Wallach Clay

Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall

Permeameter ASTM: D 5084 Method C

Stockpile

Average Permeability

Intial Length of Specimen

Initial Diameter of Specimen

Initial Water Content

Initial Dry Unit Weight

Initial Volume Permeant Liquid

Magnitude of Total Back Pressure

Effective Consolidation Stress

Range of Hydraulic Gradient Used

Final Length of Specimen Final Diameter of Specimen

Final Water Content

Filnal Dry Unit Weight

Finai Volume

Degree of Saturation (Before & After Test)

Specific Gravity used in Calculations of Saturation

ĸ Time Interval cm/sec sec 4.84E-07 61 . 77 4.83E-07 4.85E-07 92 4.84E-07 107 Remolded to 95% of ASTM: D 698 and Optimum Moisture

4.84E-07 cm/sec

7.15 cm

7.15 cm

20.7%

99.3 pcf

17.52 cu. in.

Bottled Water

64.9 psi

5 psi

12.4 to 8.2

7.12 cm

7.14 cm

23.2%

100.0 pcf

17.40 cu. in.

84% and 96%

2.625

ĸ

ft./Yr.

0.50

0.50

0.50

0.50

PETTIGREW and ASSOCIATES

Copies To:

ASTM: D 698 - 103.9 @ 21.4

03 6841-6842 Rice Operating

Lab No.:





1110 N. GRIMES фввs, **NM 88**240 (505) 393-9827



DEBRA P. HICKS, P.E./L.S.I. WILLIAM M. HICKS. III, P.E./P.S.

To:

HOEBS, NM Rice Operating Corporation Attn: Carolyn Haynes

RICE OPERATING

122 W. Taylor Hobbs, NM 88240

Project:

General Information

Date of Test:

November, 2003

Material:

Red Byrd Clay

Test Method:

Measurement of Hydraulic Conductivity of Saturated Porous

Materials Using a Flexible Wall

cm/sec

Permeameter ASTM: D 5084 Method C

Location:

Pit

Average Permeability

Intial Length of Specimen

Initial Diameter of Specimen

Initial Water Content

Initial Dry Unit Weight

Initial Volume

Permeant Liquid

Magnitude of Total Back Pressure

Effective Consolidation Stress

Range of Hydraulic Gradient Used

Final Length of Specimen Final Diameter of Specimen

Final Water Content

Filnal Dry Unit Weight

Final Volume

Degree of Saturation (Before & After Test)

Specific Gravity used in Calculations of Saturation

2.23E-09 235804 2.20E-09 244742 253995 2.23E-09 Remolded to 95% of ASTM: D 698 and Optimum Moisture

Time Interval

sec

164701

ASTM: D 698 - 104.2 @ 23.1

Lab No .:

Copies To:

03 6839-6840

Rice Operating

2.22E-09 7.15 cm

7.15 cm

21.6%

100.3 pcf

17.52 cu. in.

Bottled Water

65.1 psi

5 psi

15.0 to 3.9

7.17 cm

7.22 cm

26.3%

98.0 pcf

17.91 cu. in.

88% and 102%

2.651

Κ

ft./Yr.

0.00 0.00

0.00

0.00

PETTIGREW and ASSOCIATES

Κ

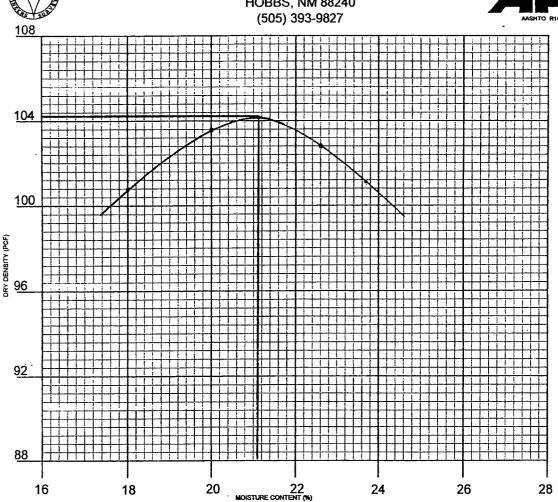
cm/sec

2.21E-09

PETTIGREW and ASSOCIATES, P.A.

1110 N. GRIMES ST. HOBBS, NM 88240 (505) 393-9827





CLIENT: Rice Opera	ting	PROJECT: General Information				
SAMPLE LOCATION:	Stockpile at Byrd Pit	it · · · · · · · · · · · · · · · · · · ·	<u>-</u>			
SOIL DESCRIPTION:	Red Clay					
SOIL CLASSIFICATION ATTERBERG: LL _		TEST METHOD: ASTM: D 698 <u>Delivered 9/25/03</u>				
DATE: <u>9/26/03</u>		LAB NO. <u>03-6040</u>				
DRY WEIGHT LB/CU. F		MOISTURE CONTENT % 23.1 'SIS - % PASSING				

PETTIGREW and ASSOCIATES

COPIES: Rice Operating

COPY