

AP - 75

**STAGE 1 & 2
WORKPLANS**

DATE:

12-5-2005

December 5, 2005

Stage 1 and 2 Abatement Plan



**BD J-26 Junction Box Site
T21S, R37E, Section 26, Unit J
Lea County, New Mexico**

R.T. HICKS CONSULTANTS, LTD.

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December 5, 2005

Wayne Price

NMOCD Environmental Bureau

1220 South St. Francis Drive

Santa Fe, New Mexico 87505

Via E-mail

RE: BD J-26 Junction Box Site, T21S, R37E, Section 26, Unit J; NMOCD Case # 1R0426-40

Dear Mr. Price,

On behalf of Rice Operating Company, R.T. Hicks Consultants, Ltd. is pleased to submit the Stage 1 & 2 Abatement Plan for the above-referenced site. -Text for Rice Operating Company's proposed public notice is attached to this letter. CD copies of this email follow via FedEx. If you have any questions or concerns, please do not hesitate to contact us.

Sincerely,

R.T. Hicks Consultants, Ltd.



Katie Lee
Staff Scientist

Copy: Hobbs NMOCD office; Rice Operating Company;
R.T. Hicks Consultants Midland office

NOTICE OF PUBLICATION

**State of New Mexico
Energy, Minerals and Natural Resources Department
Oil Conservation Division**

Notice is hereby given that pursuant to New Mexico Oil Conservation Division Regulations, the following Stage 1 and 2 Abatement Plan has been submitted to the Director of the Oil Conservation Division, 1220 S. St. Francis Dr., Santa Fe, New Mexico 87504, Telephone (505) 476-3440:

Rice Operating Company, Carolyn Doran Haynes, Engineering Manager, Telephone (505) 393-9174, 122 West Taylor, Hobbs, New Mexico 88240, has submitted a Stage 1 and 2 Abatement Plan for the J-26 Junction Box site, Blinebry Drinkard Salt Water Disposal System, located 1 mile north-northwest of the intersection of NM State Highway 18 and County Highway 176 near Eunice, NM in the NWE 1/4, SE 1/4 of Section 26, Township 21 South, Range 37 East, Lea County, New Mexico. Rice Operating Company operates a saltwater disposal system at the site. Chlorides and total dissolved solids have been observed in the ground water and remedial efforts have been ongoing since discovery. The Stage 1 and 2 Abatement Plan addresses further proposed actions for site closure.

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The Stage 1 and 2 Abatement Plan Proposal may be viewed at the above address or at the Oil Conservation Division District Office, 1625 N. French Drive, Hobbs, New Mexico 88240, Telephone (505) 393-6161 between 8:00 a.m. and 4:00 p.m., Monday through Friday. Prior to ruling on any proposed Abatement Plan, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which written comments may be submitted to him.

STAGE 1 AND 2 ABATEMENT PLAN

BD J-26 JUNCTION BOX SITE

T21S, R37E, SECTION 26, UNIT LETTER J
LEA COUNTY, NEW MEXICO

Prepared for:

RICE Operating Company
122 West Taylor
Hobbs, New Mexico 88240

PREPARED BY:



GILBERT J. VAN DEVENTER
PROJECT MANAGER

DATE:

DECEMBER 5, 2005

REVIEWED BY:



RANDALL T. HICKS
PRINCIPAL

DATE:

DECEMBER 5, 2005

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1.0 EXECUTIVE SUMMARY

The J-26 Junction Box site is located in township 21 south, range 37 east, section 26, unit letter J approximately 1 mile north-northwest of the intersection of NM State Highway 18 and County Highway 176 near Eunice, NM as shown in Plate 1.

This work plan incorporates the required elements for both Stage 1 and 2 Abatement Plans. Identification of soil and ground water impacts occurred during junction box replacement being performed as part of the approved Junction Box Upgrade Program in April 2002. This Stage 1 and 2 Abatement Plan incorporates the preliminary findings from previous investigations and contents of the Investigation and Characterization Plan (ICP) submitted on January 28, 2005, which satisfy the required elements of a Stage 1 Abatement Plan in accordance with New Mexico Oil Conservation Division (NMOCD) Rule 19. Section 7.0 of this report describes the abatement options that were evaluated and proposed to further satisfy the Stage 1 and 2 elements. Quality assurance protocols and the proposed schedule of activities are included in sections 8.0 and 9.0, respectively.

Based on the evaluation of soil and ground water sampling data and communication with the New Mexico Oil Conservation Division (NMOCD), as described herein, the following corrective actions are proposed:

- Continue regional ground water monitoring to confirm that remediation of the constituents of concern is taking place, note any changes in the local and regional ground water flow directions, and confirm the ambient ground water chemistry
- Input data into a fate and transport model such as WinTran (Version 1.3) or a comparable model to forecast the movement and attenuation of the chloride/TDS plume by dispersion and abatement by the water supply wells.
- Submit an annual ground water monitoring report to the NMOCD which describes the sampling procedures, analytical results, and modeling results. The report will also provide recommendations for further abatement or closure actions.

When implementing any proposed remedy or investigative work, ROC will confirm that there is a reasonable relationship between the benefits created by the proposed remedy or assessment and the economic and social costs.

ROC is the service provider (operator) for the EME SWD System and has no ownership of any portion of the pipeline, well, or facility. The System is owned by a consortium of oil producers, (System Partners) who provide all operating capital on a percentage ownership/usage basis. Environmental projects of this magnitude require System Partner authorization for expenditure (AFE) approval and work begins as funds are received. In general, project funding is not forthcoming until NMOCD approves the work plan.

2.0 CHRONOLOGY OF EVENTS

- April 23, 2002 Initial soil sampling activities were conducted to delineate the extent of chloride and hydrocarbon-impacted soils near the J-26 junction box.
- September 2002 Excavation of chloride and TPH-impacted soil was completed to a depth of 42 feet bgs. Imported backfill was placed in the deep excavation from 42 feet to 27 feet bgs. A 12-inch compacted clay liner was then installed prior to backfilling with the remediated soil in 3-foot lifts. A second 12-inch compacted liner was installed at 5 feet bgs. The remaining remediated soil was placed above the clay liner and contoured to drain rainwater away from the area above the liner. A new replacement junction box was installed about 60 feet north of the former location. The surface was then reseeded and monitored for growth.
- October 10, 2002 One monitoring well (MW-1) was installed immediately adjacent to the southeast corner of the excavated area to further assess if ground water was impacted with chlorides. Subsequent sampling of MW-1 confirmed that ground water was impacted with chloride and TDS levels above WQCC standards, however there was no hydrocarbon impact based on BTEX concentrations below laboratory detection limit of 0.001 mg/L.
- October 29, 2002 The disclosure report detailing all of the above-referenced work was completed and forwarded to the NMOCD in early 2003 along with the disclosure reports for other sites.
- June 20, 2003 A work plan addressing further actions was submitted by Trident Environmental to Wayne Price at the NMOCD office in Santa Fe.
- June 27, 2003 The work plan was approved by Wayne Price of the NMOCD office in Santa Fe.
- August 19, 2003 Monitoring wells MW-2 and MW-3 were installed approximately 220 feet down gradient (south-southeast) and approximately 150 feet upgradient (northwest) of MW-1, respectively. Subsequent sampling results indicated MW-2 and MW-3 delineated the downgradient and upgradient extent of chloride and TDS impact to ground water.
- December 16, 2004 Trident Environmental submitted a request to Wayne Price of the NMOCD office in Santa Fe for further actions regarding the chloride and TDS-impacted ground water at the BD J-26 junction box site.

R. T. Hicks Consultants, Ltd.

January 28, 2005

Trident Environmental submitted an Investigation and Characterization Plan (ICP) to address potential environmental concerns at the above-referenced site.

May 5, 2005

Mr. Daniel Sanchez of the NMOCD requested that ROC submit an abatement plan to the NMOCD pursuant to Rule 19.

3.0 BACKGROUND

3.1 SITE LOCATION AND LAND USE

The J-26 Junction Box site is located in township 21 south, range 37 east, section 26, unit letter J approximately 1 mile north-northwest of the intersection of NM State Highway 18 and County Highway 176 near Eunice, NM as shown in Plate 1. Land in the site area is primarily utilized for oil and gas production and cattle ranching. Oil and gas production wells located within one-half mile from the J-26 Junction Box site are listed in the table below. The surface landowner is Delrose Scott. Plate 2 is an aerial photograph of the area showing this land use.

Table 1: Oil, Gas, and Injection Wells Within ½ mile of the Site

OPERATOR	WELL NAME	Sec	UL	WELL TYPE
Acoma Oil Corp.	S J Sarkeys A #001	26	A	Oil
Acoma Oil Corp.	S J Sarkeys B #001	26	B	Gas
Acoma Oil Corp.	S J Sarkeys B #002	26	B	Oil
Chevron USA Inc.	S J Sarkeys 26 #003	26	C	Oil
Chevron USA Inc.	S J Sarkeys 26 #005	26	C	Oil
Chevron USA Inc.	S J Sarkeys 26 #002	26	D	Oil
Chevron USA Inc.	S J Sarkeys 26 #007	26	D	Oil
Chevron USA Inc.	S J Sarkeys 26 #001	26	E	Oil
Chevron USA Inc.	S J Sarkeys 26 #004	26	F	Gas
Chevron USA Inc.	S J Sarkeys 26 #006	26	F	Oil
John H. Hendrix Corp.	Sarkey A #001	26	G	Oil
John H. Hendrix Corp.	Sarkey A #002	26	H	Oil
John H. Hendrix Corp.	S E Cone #002	26	I	Oil
John H. Hendrix Corp.	S E Cone #004	26	I	Oil
John H. Hendrix Corp.	S E Cone #001	26	J	Oil
John H. Hendrix Corp.	S E Cone #005	26	J	Oil
John H. Hendrix Corp.	Chevron S E Cone #001	26	K	Oil
John H. Hendrix Corp.	J R Cone A #002	26	L	Oil
John H. Hendrix Corp.	J R Cone AB #001	26	M	Oil
John H. Hendrix Corp.	J R Cone B #004	26	N	Oil
John H. Hendrix Corp.	J R Cone Gas COM #001	26	N	Oil
Pecos Production Inc.	New Mexico G State #034	26	N	Oil
John H. Hendrix Corp.	J R Cone B #002	26	O	Oil
John H. Hendrix Corp.	J R Cone B #003	26	O	Oil
John H. Hendrix Corp.	Elmer C Hill #001	26	P	Oil
John H. Hendrix Corp.	Elmer C Hill #002	26	P	Oil
Chevron USA Inc.	S J Sarkeys #001	25	D	Oil
John H. Hendrix Corp.	Sarkeys #002	25	D	Oil
Chevron USA Inc.	S J Sarkeys #002	25	E	Oil
John H. Hendrix Corp.	Sarkeys #001	25	E	Oil
Mayne and Mertz Inc.	Eva Owens #001	25	L	Oil
John H. Hendrix Corp.	Eva Owens A #002	25	L	Oil
Mayne and Mertz Inc.	Eva Owens #002	25	M	
John H. Hendrix Corp.	Eva Owens A #001	25	M	Oil
ConocoPhillips Co.	Lockhart B 35 #004	35	A	Oil
ConocoPhillips Co.	Lockhart B 35 #002	35	B	Oil
ConocoPhillips Co.	Lockhart A 35 #003	35	C	Oil
ConocoPhillips Co.	Lockhart A 35 #001	35	D	Oil

3.2 NATURE OF RELEASE AND SUMMARY OF PREVIOUS WORK

Initial soil sampling activities for delineation of the J-26 junction box area began on May 2, 2002, as part of ROC's junction box upgrade program. Results of these sampling activities were included in the Junction Box Final Report (Disclosure Report) which was submitted to the NMOCD office in Santa Fe in early 2003. The depth to ground water is at about 41 feet below ground surface (bgs).

In September 2002, excavation of TPH impacted soil was completed to a depth of 42 feet bgs. The excavated soil was land farmed on site, with the exception of 480 cubic yards of TPH impacted soil, which was transported to the Sundance facility in Eunice, NM. Imported backfill was placed in the deep excavation from 42 feet to 27 feet bgs. A 12-inch compacted clay liner was then installed prior to backfilling with the remediated soil in 3-foot lifts. A second 12-inch compacted liner was installed at 5 feet bgs. The remaining remediated soil was placed above the clay liner and contoured to drain rainwater away from the area above the liner. A new replacement junction box was installed about 60 feet north of the former location. The surface was then reseeded and monitored for growth.

On October 10, 2002, a monitoring well (MW-1) was installed immediately adjacent to the southeast corner of the excavated area, which is the presumed down gradient direction. Subsequent sampling of MW-1 confirmed that ground water was impacted with chloride and TDS levels above WQCC standards, however there was no hydrocarbon impact based on BTEX concentrations below laboratory detection limit of 0.001 mg/L. The disclosure report detailing all of the above-referenced work was completed on October 29, 2002 and forwarded to the NMOCD in early 2003 along with the disclosure reports for other sites.

A work plan addressing further actions was submitted by Trident Environmental on June 20, 2003 and was approved by the NMOCD on June 27, 2003. In accordance with the work plan, monitoring wells MW-2 and MW-3 were installed approximately 220 feet down gradient (south-southeast) and approximately 150 feet upgradient (northwest) of MW-1, respectively, on August 19, 2003. Subsequent sampling results indicated MW-2 and MW-3 delineated the downgradient and upgradient extent of chloride and TDS impact to ground water. Quarterly monitoring of the ground water has been conducted since the installation of MW-1.

On December 16, 2004, Trident Environmental submitted an Investigation and Characterization Plan (ICP) to address the potential environmental concerns at the above-referenced site.

4.0 GEOLOGY AND HYDROGEOLOGY

4.1 REGIONAL AND LOCAL GEOLOGY

According to published information (Nicholson and Clebsch, 1961, Barnes, 1976, and Anderson, Jones, and Green, 1997) the site is underlain by Quaternary eolian and piedmont deposits composed of sand, silt, and gravel deposited by slopewash, and talus from the Ogallala Formation. The eolian and piedmont deposits are often calichified (indurated with cemented calcium carbonate) with caliche layers from 1 to 20 feet thick. The lithology of the eolian and piedmont deposits is very similar to that of the Ogallala since the Ogallala is the source of these re-deposited colluvial sediments. The nearest outcropping of the Ogallala Formation occurs approximately one mile north of Monument along what is known as the Llano Estacado (caprock). The thickness of the colluvium deposits and Ogallala Formation is approximately 45 to 50 feet, however it varies locally as a result of significant paleo-topography at the top of the underlying Triassic Dockum Group. Since Cretaceous Age rocks in the region have been removed by pre-Tertiary erosion, the colluvial deposits and Ogallala Formation rest unconformably on the Triassic Dockum Group. The uppermost unit of the Dockum Group is the Chinle Formation, which primarily consists of micaceous red clay and shale but also contains thin interbeds of fine-grained sandstone and siltstone. The red clays and shale of the Chinle Formation act as an aquitard beneath the water bearing colluvial deposits and therefore limit the amount of recharge to the underlying Dockum Group. The thickness of the Dockum Group is estimated at approximately 300 feet in the site area although its thickness in southern Lea County varies from 0 to 1,270 feet thick (Nicholson and Clebsch, 1961). Plate 3 shows the surface geology of the site.

Based on the lithologic log descriptions provided by Trident Environmental the subsurface soils are composed of caliche with varying amounts of very fine to fine-grained sand in matrix (0-40 ft), calcareous fine to medium-grained sand (40-50 ft), and fine to medium-grained sand (50-60 ft). More detailed descriptions of the subsurface lithology are provided on the lithologic logs in Appendix A.

4.2 REGIONAL AND LOCAL HYDROGEOLOGY

Potable ground water used in southern Lea County is derived primarily from the Ogallala Formation (including the colluvial deposits) and the Quaternary alluvium. Lower yields have also been provided by water bearing zones within the Triassic Dockum Group in a few scattered areas within southern Lea County. No potable water is known to be derived below the Triassic Dockum Group. Water from the Ogallala and alluvium aquifers in southern Lea County is used for irrigation, stock, domestic, industrial, and public supply purposes.

Recharge to the Ogallala aquifer occurs primarily by infiltration of precipitation at a slow rate (typically one quarter to one half inch of water per year) is due to the

characteristically arid climate of southern Lea County (Nicholson and Clebsch, 1961). In the Monument Area, the colluvium is recharged by both precipitation and by flow from the Ogallala Aquifer into the colluvium. Monument Springs is a surface expression of the connection between the two saturated units.

Hydraulic conductivity values are estimated between 200 and 400 gallons per day per foot² (gpd/ft²) and specific yields of 0.23 for the Ogallala aquifer near the site area based on limited published information (Hart & McAda, 1985). Based on the total depths of water wells in the area (85 feet) and the depth to ground water (average of 40 feet bgs), the saturated thickness of the Ogallala Formation in the site area is estimated at approximately 45 feet. There are no surface water bodies located within a mile of the site.

Nicholsen and Clebsch (1961) found that the regional gradient of the Ogallala and interconnected colluvial aquifer in the site area generally flows toward the southeast and the hydraulic gradient varies from approximately 0.001 to 0.01 feet/foot.

Depth to ground water beneath the site area is approximately 35 feet below ground surface. Based on the recent depth to ground water data from accessible wells located within a mile from the J-26 junction box site the magnitude of the regional ground water gradient is 0.004 feet/foot and the direction of flow is to the southeast (Plate 4). However, the local ground water gradient in the more immediate area of the site has a magnitude of 0.005 feet/foot and the direction of flow is to the south-southwest (Plate 5). The difference between the localized and regional gradient is attributed to the effect of the continual ground water withdrawal from several nearby water supply wells that provide water for the Eunice North Gas Plant located 2 miles west of the site in section 28. Based on records from the New Mexico Office of the State Engineer (NMSEO) these wells have been pumping at a combined rate of approximately 100 gallons per minute between July 6, 2005 and September 30, 2005. The ground water withdrawal induces ground water to flow from the site towards the water supply wells, which are located south (WW-5, WW-8, and WW12) and west (WW-1) of the site, as evidenced by a local ground water gradient trending to the south-southwest (Plate 5) which differs from the regional gradient to the southeast (Plate 4).

A list of water wells obtained from the US Geological Survey and NMSEO on line databases located within the surrounding sections of the site is included in Appendix C. A water well survey map showing wells identified from various state (NMSEO, NMOCD, NMED) and federal (USGS) databases is depicted in Plate 6. In addition, a summary of the point of diversion allocations for the water supply wells operated by Eunice Gas Plant is included in Appendix C.

5.0 VADOSE ZONE CHARACTERISTICS

Soil sampling was conducted within upper vadose zone during excavation activities between April 23, 2002 and September 18, 2002. Soil samples were analyzed in the field for chlorides using field-adapted Method 9253 (QP-03). A map depicting the soil sample results during the excavation activities is shown in Plate 7. Sidewall and bottom samples were sent to the laboratory for analysis of benzene, toluene, ethylbenzene, total xylenes (BTEX) using EPA Method 8021B, gas and diesel range organics (GRO/DRO) using EPA Method 8015M, and chlorides to confirm the completion of excavation activities. Results of the excavation sampling are listed in the Table 2.

Table 2: Soil Sample Results After Excavation

Sample Location	BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	Chloride (mg/kg)
Sidewalls (4-point composite)	<0.005	<10	<10	336
Bottom (5-point composite at 42 ft bgs)	<0.005	<10	<10	304
Remediated Soil (4-point composite)	<0.005	<10	<10	480

Hydrocarbon-impacted soil was excavated to a depth of 42 feet below ground surface and landfarmed on site. Approximately 480 cubic yards of hydrocarbon-impacted soil was transported to the Sundance/Parabo facility east of Eunice. Imported backfill was placed in the deep excavation from 42 feet to 27 feet bgs. A 12-inch compacted clay liner was then installed prior to backfilling with the remediated soil in 3-foot lifts. A second 12-inch compacted liner was installed at 5 feet bgs. The approximate boundaries of the clay liners are depicted in Plate 7. The remaining remediated soil was placed above the clay liner and contoured to drain rainwater away from the area above the liner. A new replacement junction box was installed about 60 feet north of the former location. The surface was then reseeded and monitored for growth.

The junction box disclosure report detailing all of the above-referenced work was completed and forwarded to the NMOCD in early 2003 along with the junction box reports for other sites.

6.0 GROUND WATER QUALITY

6.1 MONITORING PROGRAM

Monitoring well MW-1 was installed immediately adjacent to the southeast corner of the excavated area. Subsequent sampling of MW-1 confirmed that ground water was impacted with chloride and TDS levels above WQCC standards, however there was no hydrocarbon impact based on BTEX concentrations below laboratory detection limit of 0.001 mg/L. As depicted in Plate 5, monitoring wells MW-2 and MW-3 were installed approximately 220 feet down gradient (south-southeast) and approximately 150 feet upgradient (northwest) of MW-1, respectively, to delineate the downgradient and upgradient extent of chloride and TDS impact to ground water. Copies of the lithologic logs and well completion diagrams are included in Appendix A. The on site monitoring wells have been sampled on a quarterly basis for major ions, TDS, and BTEX. A summary of historical analytical results and ground water elevations is listed in Table 3. A site map showing the analytical results for the most recent sampling event conducted on August 13, 2005, is depicted in Plate 5. Graphs depicting the chloride and TDS concentrations for each monitoring well over time are shown in Figures 1 and 2. A copy of the laboratory analytical report and chain of custody form for the most recent ground water sampling event is included in Appendix B.

6.2 HYDROCARBONS IN GROUND WATER

BTEX concentrations in monitoring wells MW-1, MW-2, and MW-3 have been below the laboratory detection limit of 0.001 mg/L for each constituent and for every sampling event taken place.

6.3 OTHER CONSTITUENTS OF CONCERN

- Chloride concentrations in monitoring well MW-1 have decreased from 4,520 mg/L on October 29, 2002 to 230 mg/L on July 8, 2004, which is below the WQCC standard of 250 mg/L. Chloride concentrations have remained below the WQCC standard since July 2004.
- TDS concentrations in monitoring well MW-1 have decreased from 9,020 mg/L on October 29, 2002 to its lowest level of 1,000 mg/L on August 13, 2005, which is at the WQCC standard.
- Up gradient monitoring well MW-3 has shown chloride concentrations ranging from 125 mg/L to 168 mg/L since August 2003. TDS concentrations in this well have ranged from 842 mg/L during the August 2005 sampling event to 1,160 mg/L during the November 2004 event.

- The chloride concentrations in down gradient monitoring well MW-2 have ranged from 204 mg/L in May 2004 to 294 mg/L in February 2005. TDS concentrations in this well have ranged from 1,120 mg/L in August 2004 to 1,240 mg/L in October 2003.

Table 3: Summary of Ground Water Monitoring Results

Monitoring Well	Sample Date	Depth to Ground water (feet BTOC)	Ground water Elevation (feet AMSL)	Chloride (mg/L)	TDS (mg/L)	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylene (mg/L)
MW-1	10/29/02	43.02	3332.82	4520	9020	< 0.001	< 0.001	< 0.001	< 0.001
	02/28/03	42.33	3333.51	3470	6870	< 0.001	< 0.001	< 0.001	< 0.001
	06/05/03	43.00	3332.84	1460	3280	< 0.001	< 0.001	< 0.001	< 0.001
	08/22/03	43.72	3332.12	957	2620	< 0.001	< 0.001	< 0.001	< 0.001
	10/30/03	43.91	3331.93	620	2040	< 0.001	< 0.001	< 0.001	< 0.001
	02/18/04	43.70	3332.14	478	1630	< 0.001	< 0.001	< 0.001	< 0.001
	05/05/04	40.80	3335.04	390	1440	< 0.001	< 0.001	< 0.001	< 0.001
	07/08/04	40.80	3335.04	230	1140	< 0.001	< 0.001	< 0.001	< 0.001
	08/10/04	37.02	3338.82	195	1080	< 0.001	< 0.001	< 0.001	< 0.001
	11/09/04	36.61	3339.23	177	1100	< 0.001	< 0.001	< 0.001	< 0.001
	02/09/05	36.62	3339.22	179	1090	< 0.001	< 0.001	< 0.001	< 0.001
	05/05/05	37.00	3338.84	179	1060	< 0.001	< 0.001	< 0.001	< 0.001
	08/13/05	37.49	3338.35	193	1000	< 0.001	< 0.001	< 0.001	< 0.001
MW-2	08/22/03	43.99	3331.33	239	1180	< 0.001	< 0.001	< 0.001	< 0.001
	10/30/03	44.17	3331.15	239	1240	< 0.001	< 0.001	< 0.001	< 0.001
	02/18/04	43.91	3331.41	221	1150	< 0.001	0.001	< 0.001	< 0.001
	05/05/04	40.98	3334.34	204	1060	< 0.001	0.001	< 0.001	< 0.001
	08/10/04	37.14	3338.18	230	1120	< 0.001	< 0.001	< 0.001	< 0.001
	11/09/04	36.99	3338.33	230	1120	< 0.001	< 0.001	< 0.001	< 0.001
	02/09/05	37.03	3338.29	294	1220	< 0.001	< 0.001	< 0.001	< 0.001
	05/06/05	37.46	3337.86	257	1210	< 0.001	< 0.001	< 0.001	< 0.001
	08/13/05	37.45	3337.87	237	1180	< 0.001	< 0.001	< 0.001	< 0.001
MW-3	08/22/03	43.06	3332.79	160	904	< 0.001	< 0.001	< 0.001	< 0.001
	10/30/03	43.28	3332.57	168	1070	< 0.001	< 0.001	< 0.001	< 0.001
	02/18/04	43.03	3332.82	160	862	< 0.001	< 0.001	< 0.001	< 0.001
	05/05/04	40.04	3335.81	160	891	< 0.001	< 0.001	< 0.001	< 0.001
	08/10/04	36.55	3339.30	164	941	< 0.001	< 0.001	< 0.001	< 0.001
	11/09/04	36.22	3339.63	142	1160	< 0.001	< 0.001	< 0.001	< 0.001
	02/09/05	36.17	3339.68	138	1010	< 0.001	< 0.001	< 0.001	< 0.001
	05/06/05	36.56	3339.29	141	870	< 0.001	< 0.001	< 0.001	< 0.001
	08/13/05	37.06	3338.80	125	842	< 0.001	< 0.001	< 0.001	< 0.001
WQCC Standards				250	1000	0.01	0.75	0.75	0.62

Total Dissolved Solids (TDS), chloride, and BTEX concentrations listed in milligrams per liter (mg/L)
 Analyses performed by Cardinal Labs, Hobbs, NM (1995-1998) and Environmental Lab of Texas, Odessa, TX (1999-2003).
 Values in boldface type indicate concentrations exceed New Mexico Water Quality Commission (WQCC) standards.
 AMSL - Above Mean Sea Level; BTOC - Below Top of Casing
 Elevations and state plane coordinates surveyed by Basin Surveys, Hobbs, NM.
 --- Indicates not sampled, analyzed, or measured for this parameter.

Figure 1
Chloride Concentrations Versus Time Graph

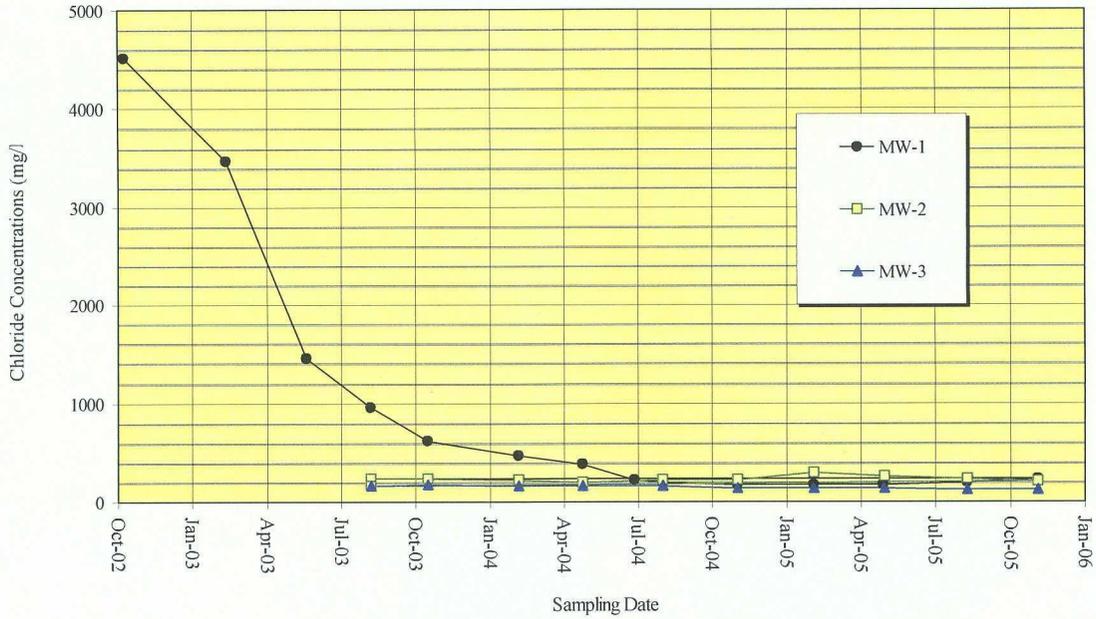
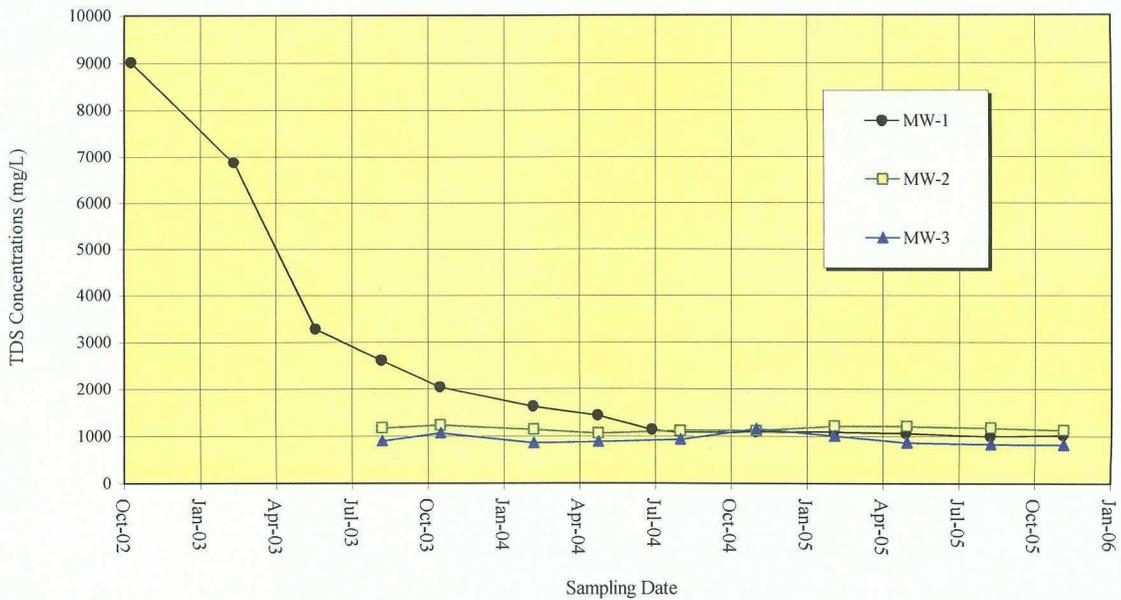


Figure 2
Total Dissolved Solids Concentrations Versus Time Graph



The highest chloride (4,520 mg/L) and TDS (9,020 mg/L) concentrations in MW-1 were observed during the first sampling event on October 29, 2002. Interestingly, chloride and TDS levels in MW-1 have decreased at a much higher rate than natural plume movement via regional ground water velocity and dispersion could explain (Figures 1 and 2). The decreased chloride and TDS concentrations observed in MW-1 appear to be attributed to the effect of ground water withdrawal from the water supply wells operated by the Eunice Gas Plant. The ground water withdrawal induces ground water to flow from the site towards the water supply wells, which are located south (WW-5, WW-8, and WW12) and west (WW-1) of the site. Fortuitously, the ground water withdrawal by the Eunice gas plant water supply wells is removing the elevated chlorides and TDS.

Since July 2004 the chloride and TDS levels in MW-1 have remained at background levels.

There is no longer a threat of compounded impact from the vadose zone at this site because of the excavation, lining and backfilling of the former source area near MW-1. Furthermore, the withdrawal of ground water by the Eunice Gas Plant from nearby water wells to supply makeup water for their Eunice gas plant has assisted in the removal of any remnant TDS/chloride mass from the area of the J-26 junction box site by acting as a pump and treat remediation mechanism.

7.0 STAGE 1 AND 2 ABATEMENT PLAN

Abatement has already been implemented at this site by the following mechanisms:

- Removal by excavation of the hydrocarbon and chloride-impacted vadose zone soils to a depth of 42 feet bgs. TPH impacted soil (480 cubic yards) was disposed at an NMOCD-approved landfill (Sundance Services, Inc.) located east of Eunice, NM. The remaining hydrocarbon-impacted soil was remediated on site.
- Imported backfill was placed in the deep excavation from 42 feet to 27 feet bgs.
- A 12-inch compacted clay liner was then installed at 27 feet bgs.
- The remaining excavation was backfilled with the remediated soil in 3-foot lifts to 5 feet bgs.
- A second 12-inch compacted liner was installed at 5 feet bgs.
- The remaining remediated soil was placed above the clay liner and contoured to drain rainwater away from the area above the liner.
- Withdrawal of ground water by Eunice Gas Plant from nearby water wells has enhanced and accelerated natural restoration of the aquifer by removing remnant chlorides and TDS concentrations from the area of the J-26 junction box site.

7.1 CONTINUE GROUND WATER MONITORING ACTIVITIES

Continuing ground water monitoring activities is recommended to document the natural decline of chloride and TDS concentrations. The following ground water monitoring activities are proposed if well access is granted:

- Collect depth to water measurements and ground water samples for chloride and TDS analysis from the on site monitoring wells (MW-1, MW-2, MW-3) and area water wells (WW-1, WW-5, WW-8, WW-12, WW-19, WM #138, WM #220, and Wallach #914) on a quarterly frequency.
- Obtain ground water withdrawal rates from area water wells (WW-1, WW-5, WW-8, and WW-12), which are currently supplying the gas plant.

7.2 FATE AND TRANSPORT MODELING

It is recommended that the data obtained from the on site monitoring wells and area water supply wells be input into a fate and transport model such as WinTran (Version 1.3) or a comparable model to forecast the movement and attenuation of the chloride/TDS plume by dispersion and abatement by the water supply wells.

7.3 REPORTING RECOMMENDATIONS

An annual ground water monitoring report describing the sampling procedures, and analytical results, will be submitted to the NMOCD. The following elements will be included in the annual report:

- Ground water elevation data and chloride and TDS concentrations for each monitoring event will be summarized in tabular format.
- Ground water elevation map depicting the water table elevations and direction of ground water flow for each sampling event.
- Chloride and TDS concentration maps for each sampling event.
- Recommended further actions.

7.4 CORRECTIVE ACTION/CLOSURE

As described in this report, several corrective actions have been undertaken over the past three years in a successful effort to restore the ground water quality to its background conditions.

The information gathered from the continued monitoring and proposed fate and transport modeling will be evaluated to determine when site closure will be requested. Generally, site closure is warranted when it can be demonstrated that chloride and TDS concentrations have remained at or below background levels or WQCC standards for a minimum of eight consecutive quarters. Chloride and TDS concentrations at the J-26 junction box site have been very close to or below WQCC standards since July 2004.

8.0 QUALITY ASSURANCE / QUALITY CONTROL

Sampling and analytical procedures shall be performed in accordance with Title 20 NMAC 6.3107.B and Section 103 of the Water Quality Standards for Interstate and Intrastate Streams in New Mexico (20 NMAC 6.1). Specific quality procedures for obtaining ground water samples are included in Appendix D.

In addition, a description of the features, approach, benchmarking, and assumptions of the WinTran (Version 1.10) fate and transport model is included in Appendix D.

9.0 PROPOSED SCHEDULE OF ACTIVITIES

The proposed schedule of activities is listed in Table 4 below.

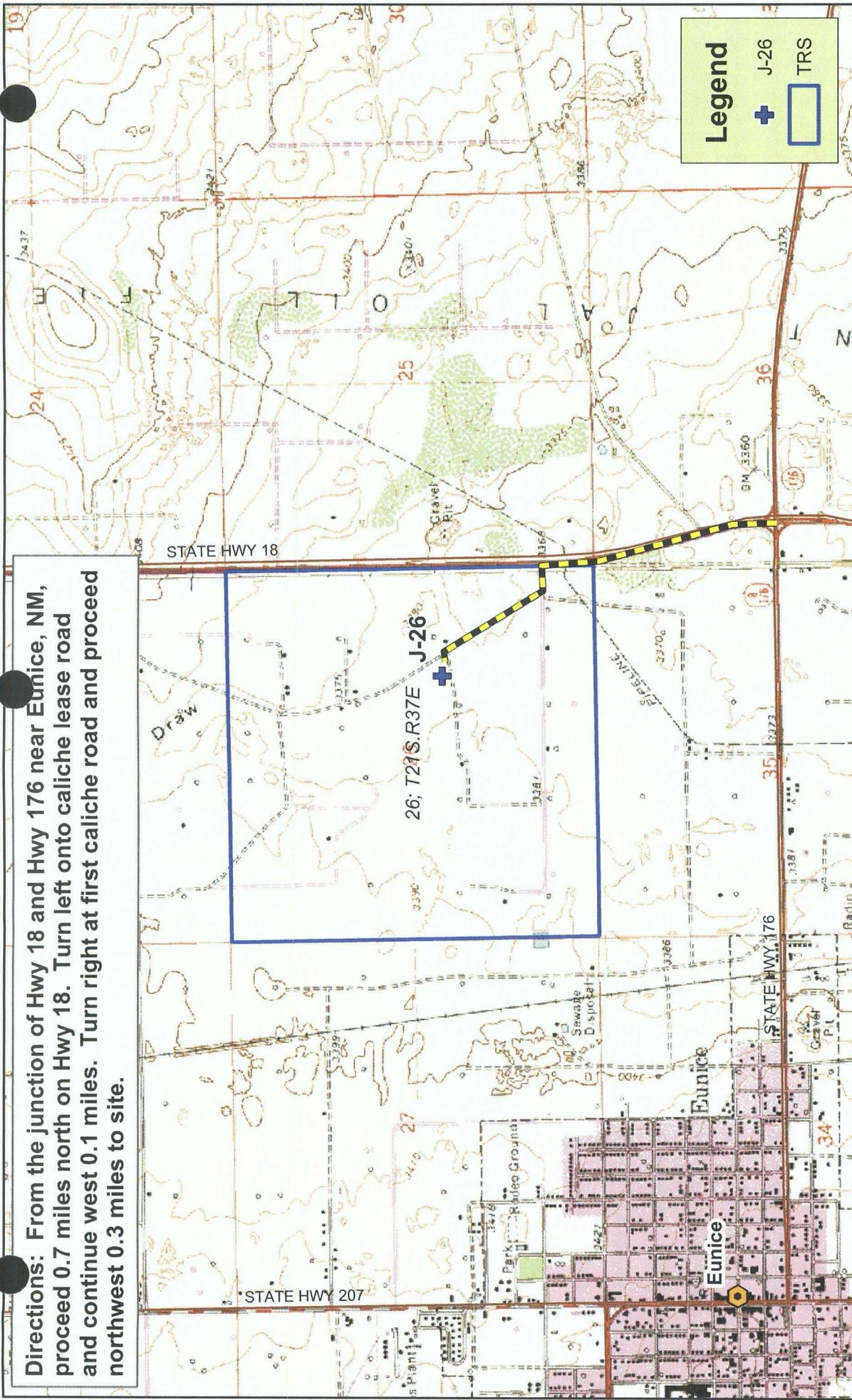
Table 4: Proposed Schedule of Activities

Task	Date of Task Completion
Submission of Progress Reports to NMOCD	Quarterly beginning 30 days hence approval of Stage 1 and 2 Abatement Plan by NMOCD
Ground water monitoring of three on site monitoring wells (MW-1, MW-2, and MW-3)	Continued on a quarterly frequency.
Ground water monitoring of off site water supply wells (WW-1, WW-5, WW-8, WW-12, WW-19, WM-138, WM-220, and Wallach-914).	Within 90 days of approval of Stage 1 and 2 Abatement Plan by NMOCD <i>and</i> access granted by well owners.
Submission of annual ground water monitoring reports to NMOCD	April 1 st of each year until site closure.
Submission of final site remediation report and request for closure to NMOCD	Within 30 days after completion of tasks described in the Stage 1 and 2 Abatement Plan

It may be necessary to extend the completion dates for the tasks outlined above dependent on contractor availability, weather conditions, or other unforeseen considerations.

PLATES

Directions: From the junction of Hwy 18 and Hwy 176 near Eunice, NM, proceed 0.7 miles north on Hwy 18. Turn left onto caliche lease road and continue west 0.1 miles. Turn right at first caliche road and proceed northwest 0.3 miles to site.



R.T. Hicks Consultants, Ltd
 901 Rio Grande Blvd NW Suite F-142
 Albuquerque, NM 87104
 Ph: 505.266.5004

Directions: J-26 Site

Plate 1

ROC: J-26 Stage 2 Abatement Plan

Nov. 2005



Source: <http://rgis.unm.edu> (2004)



R.T. Hicks Consultants, Ltd
 901 Rio Grande Blvd NW Suite F-142
 Albuquerque, NM 87104
 Ph: 505.266.5004

2004 Aerial Photo: J-26 Site

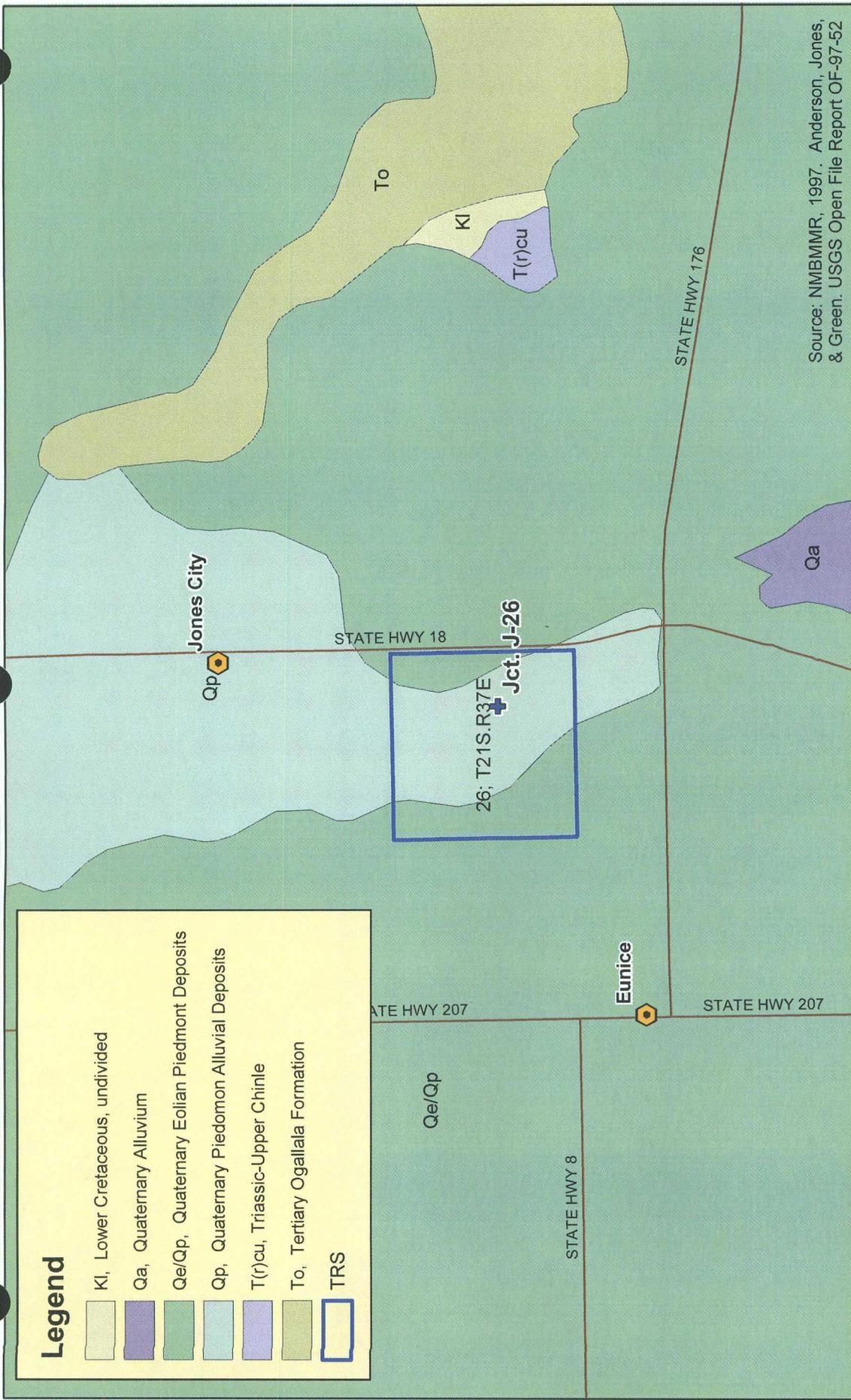
Plate 2

ROC: J-26 Stage 2 Abatement Plan

Nov. 2005

Legend

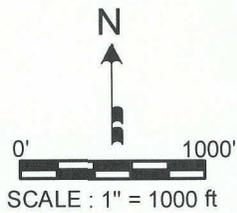
-  KI, Lower Cretaceous, undivided
-  Qa, Quaternary Alluvium
-  Qe/Qp, Quaternary Eolian Piedmont Deposits
-  Qp, Quaternary Piedmont Alluvial Deposits
-  T(r)cu, Triassic-Upper Chinle
-  To, Tertiary Ogallala Formation
-  TRS



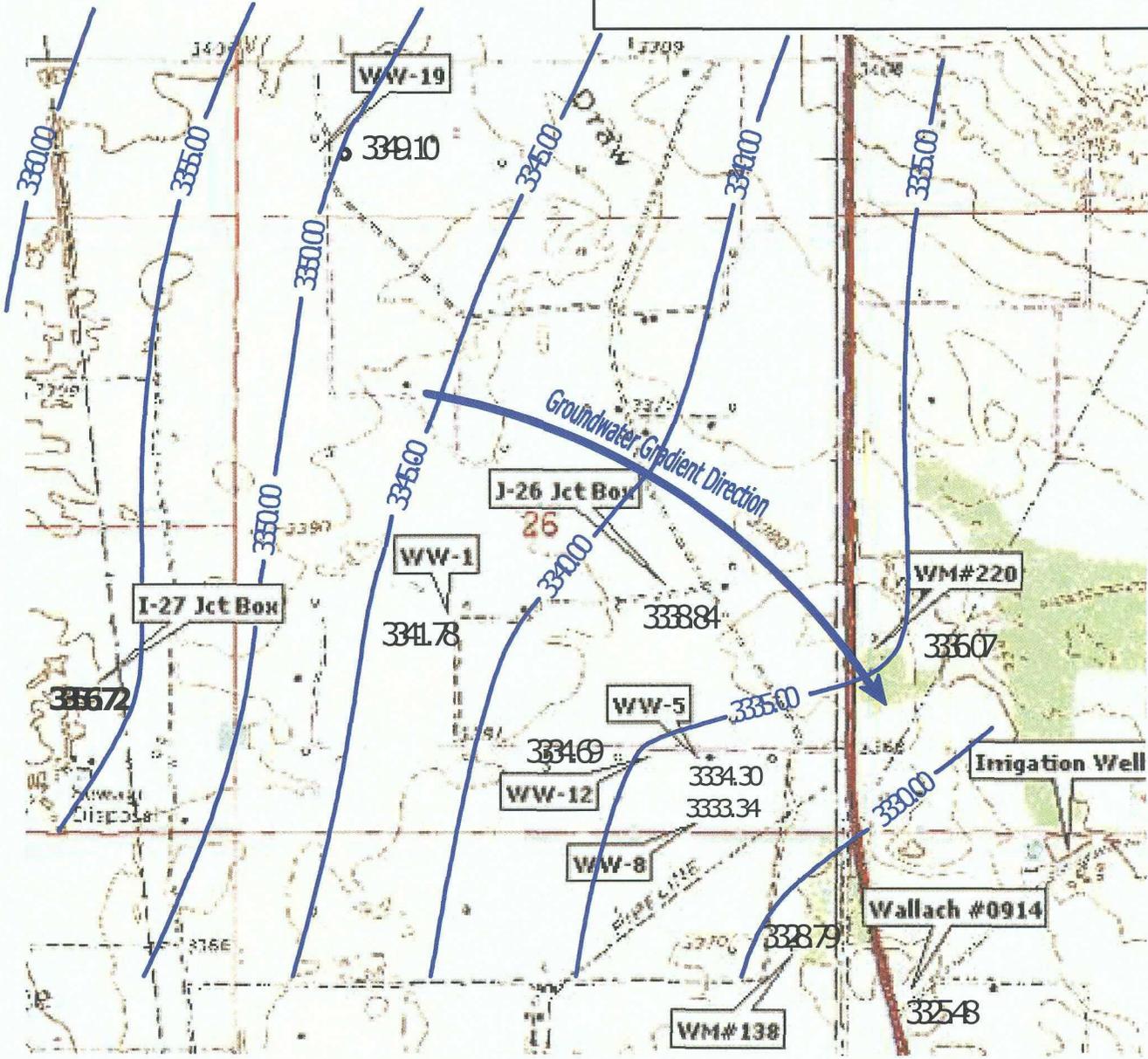
Source: NIMBMMR, 1997. Anderson, Jones, & Green. USGS Open File Report OF-97-52



<p>R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 Ph: 505.266.5004</p>	<p>Geology: J-26 Site Rice Operating Company</p>	<p>Plate 3</p>
		<p>Nov. 2005</p>



MAP LEGEND	
J-26	Monitoring Well (MW-1),
WW-19	Water Supply Well,
WM #220	or Windmill
●	
3332.15	Groundwater Elevation (Ft AMSL)
— 3340 —	Groundwater Elevation Contour (Contour Interval = 5 feet)



R. T. HICKS CONSULTANTS, LTD.

1909 Brunson Ave., Midland TX 79701

Client: Rice Operating Company
Measurement Date: May 5, 2005
Author: GJV
Approximate Scale: 1 inch = 1,000 ft

PLATE 4
 J-26 JUNCTION BOX SITE
 REGIONAL GROUNDWATER
 GRADIENT MAP

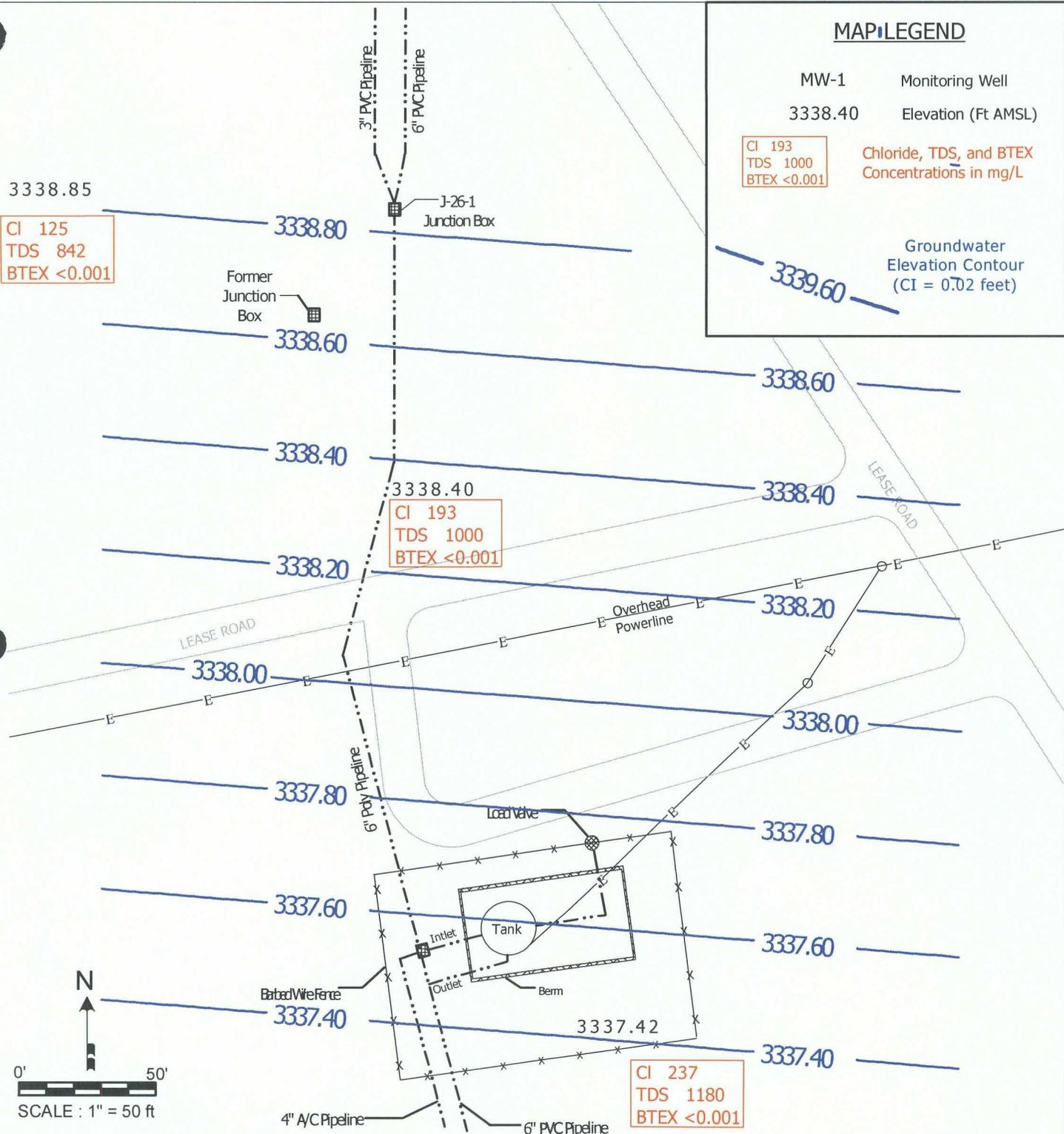
MAP LEGEND

MW-1 Monitoring Well
 3338.40 Elevation (Ft AMSL)

CI 193
 TDS 1000
 BTEX <0.001

Chloride, TDS, and BTEX
 Concentrations in mg/L

Groundwater
 Elevation Contour
 (CI = 0.02 feet)



R. T. HICKS CONSULTANTS, LTD.

1909 Brunson Ave., Midland TX 79701

Client: Rice Operating Company

Site: J-26 Junction Box

Sampling Date: August 10, 2005

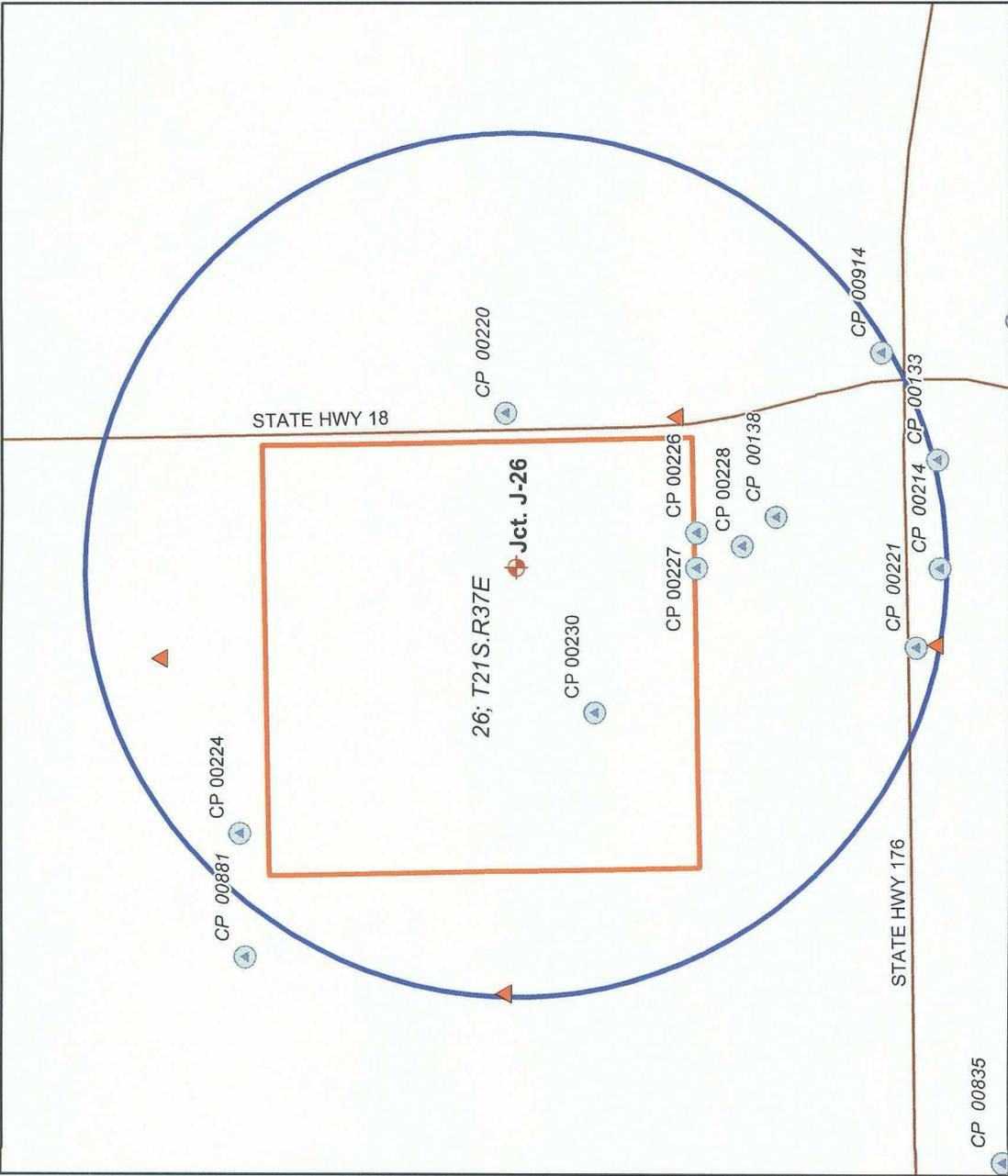
Approximate Scale: 1 inch = 50 ft

PLATE 5

LOCAL GROUNDWATER GRADIENT AND
 CHLORIDE/TDS CONCENTRATION MAP

Legend

- Monitoring Well
- NMOSE
- USGS
- 1 Mile Radius of J-26
- TRS



<p>R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 Ph: 505.266.5004</p>	<p>Water Well Survey: J-26 Site</p> <p>Rice Operating Company</p>	<p>Plate 6</p> <p>Nov. 2005</p>
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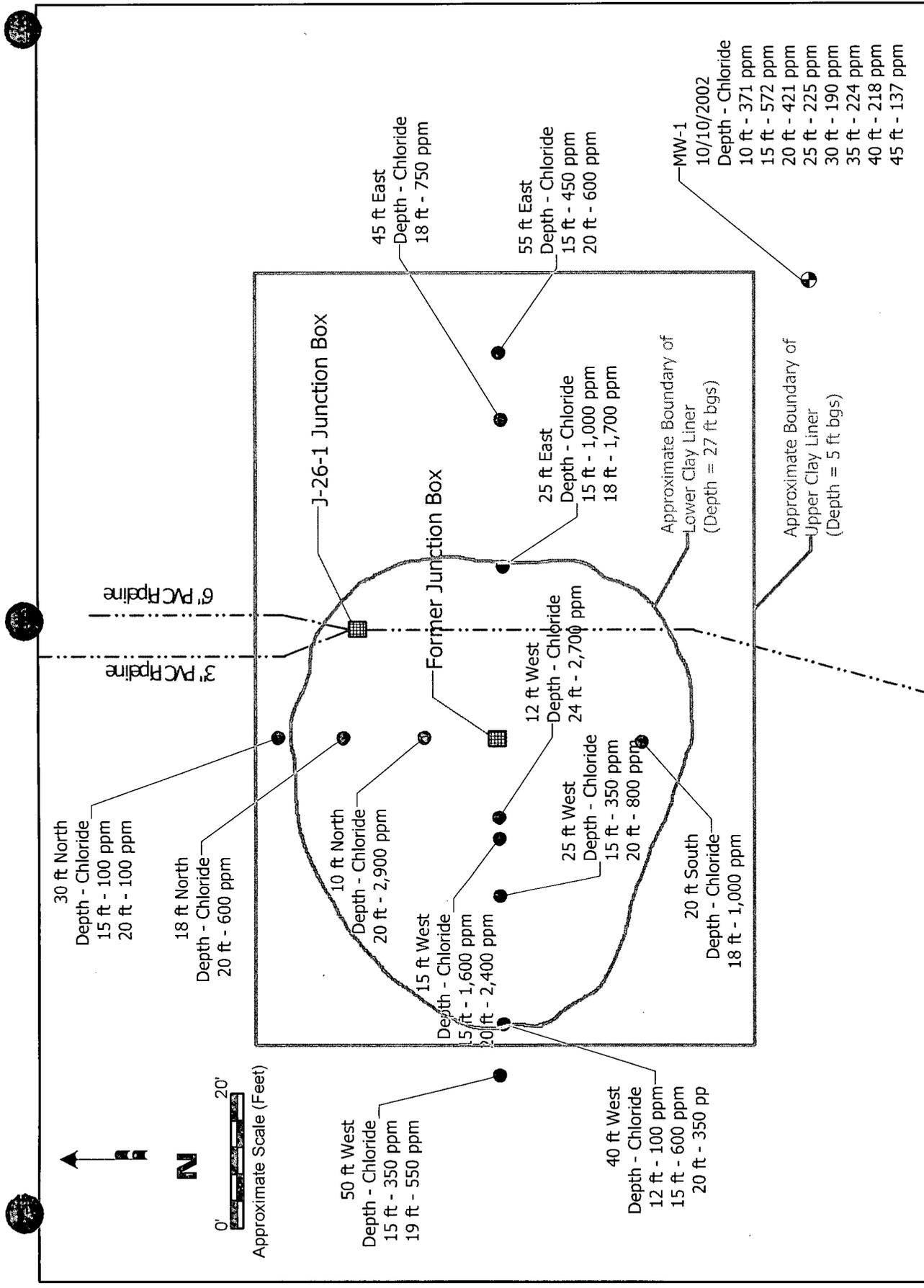


PLATE 7

SOIL SAMPLE RESULTS

Site: EME J-26 Junction Box Site
 Sampling Dates: Sept and Oct 2002
 Sampled By: R. E. Environmental Services
 Approximate Scale: 1 inch = 20 feet

R. T. HICKS CONSULTANTS, LTD.
 1909 Brunson Ave., Midland TX 79701

30 ft North
 Depth - Chloride
 15 ft - 100 ppm
 20 ft - 100 ppm

18 ft North
 Depth - Chloride
 20 ft - 600 ppm

50 ft West
 Depth - Chloride
 15 ft - 350 ppm
 19 ft - 550 ppm

40 ft West
 Depth - Chloride
 12 ft - 100 ppm
 15 ft - 600 ppm
 20 ft - 350 ppm

15 ft West
 Depth - Chloride
 15 ft - 1,600 ppm
 20 ft - 2,400 ppm

12 ft West
 Depth - Chloride
 24 ft - 2,700 ppm

25 ft West
 Depth - Chloride
 15 ft - 350 ppm
 20 ft - 800 ppm

20 ft South
 Depth - Chloride
 18 ft - 1,000 ppm

J-26-1 Junction Box

Former Junction Box

55 ft East
 Depth - Chloride
 15 ft - 450 ppm
 20 ft - 600 ppm

25 ft East
 Depth - Chloride
 15 ft - 1,000 ppm
 18 ft - 1,700 ppm

45 ft East
 Depth - Chloride
 18 ft - 750 ppm

MW-1
 10/10/2002
 Depth - Chloride
 10 ft - 371 ppm
 15 ft - 572 ppm
 20 ft - 421 ppm
 25 ft - 225 ppm
 30 ft - 190 ppm
 35 ft - 224 ppm
 40 ft - 218 ppm
 45 ft - 137 ppm

Approximate Boundary of
 Lower Clay Liner
 (Depth = 27 ft bgs)

Approximate Boundary of
 Upper Clay Liner
 (Depth = 5 ft bgs)

3" PVC Pipeline
 6" PVC Pipeline





APPENDIX A

Lithologic Logs

DRILLING LOG		Site Name/Location		TEST		MW	
RICE Operating Company 122 West Taylor Hobbs, New Mexico 88240 Phone: (505) 393-8174 Fax: (505) 397-1471		Jct. J-26 26-T21S-R37E B0 SWD System Los County, NM		Method: MPT	Info: Other	Tube: E-Steel	Construction:
				Well Depth: 52	Drilling Depth: 52	Well Diameter: 4.5	Sand level
				Casing Length: 52	Screen Diameter: 4.5	Casing Size: 4	Gravel above
				Casing Weight: 10	Drilling Method: Rotary	Drill Bit: 6 1/2	Screen
DEPTH	SUBSURFACE LITHOLOGY	SAMPLE TYPE	(ppm)	REMARKS	Boring		
0	Ground surface		CF				
1	Topsoil						
2							
3				gravel			
4							
5	Caliche						
6							
7							
8							
9							
10		Grab	371				
11							
12							
13							
14							
15	Sandy clay	Grab	572	barrenitic			
16							
17							
18							
19							
20		Grab	421				
21	Sand & sandstone stringers						
22							
23							
24							
25		Grab	225				
26		Grab	190				
27							
28							
29							
30							
31							
32							
33							
34							
35		Grab	224				
36							
37							
38	Sandy clay						
39							
40		Grab	218				
41							
42							
43							
44				water			
45		Grab	137				
46							
47							
48							
49				screen			
50							
51							
52							
53							

LITHOLOGIC LOG AND MONITORING WELL CONSTRUCTION DIAGRAM



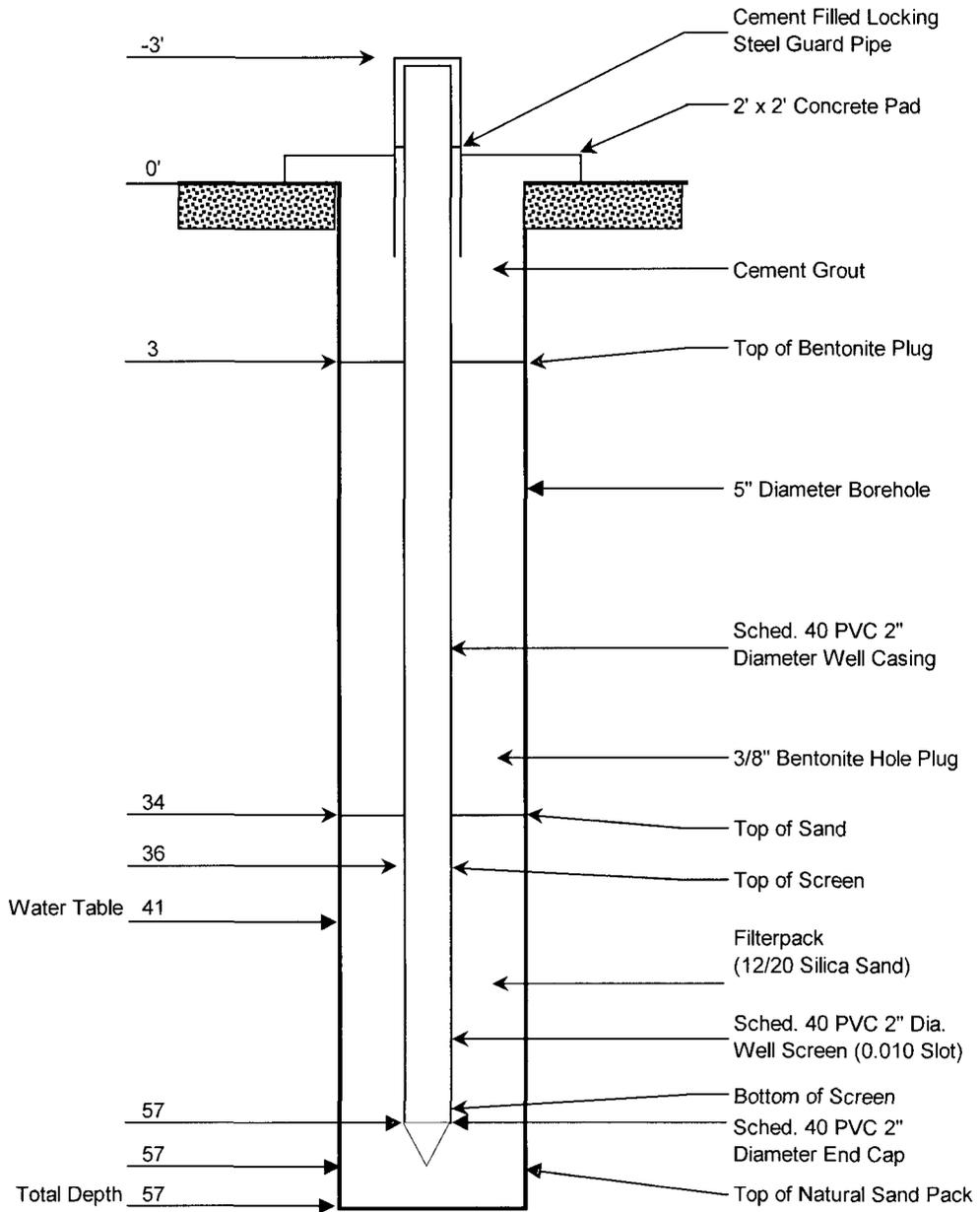
PO BOX 7624
MIDLAND, TEXAS 79708

MONITOR WELL NO.: MW-2
SITE ID: BD J-26
SURFACE ELEVATION: 3372.6
CONTRACTOR: Eades Drilling & Pump Service
DRILLING METHOD: Air Rotary
START DATE: 08/19/03
COMPLETION DATE: 08/19/03
COMMENTS: Located ~220 ft southeast of MW-1 inside southeast corner of fenced pump station.

TOTAL DEPTH: 56 Feet
CLIENT: Rice Operating Company
COUNTY: Lea
STATE: New Mexico
LOCATION: T21S-R37E-Sec 26-Unit J
FIELD REP.: G. Van Deventer
FILE NAME: Projects/Rice/MW_Diagram.xls

Casing / Screen	LITH.	USCS	Sample			Chloride (ppm)	LITHOLOGIC DESCRIPTION: LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOLIDATION, DISTINGUISHING FEATURES
			Depth	Time	Type		
6" Sched 40 PVC Surface Casing in 8" boring		SM		1210	Surface		Very fine grained loamy sand, slightly calcareous, brown (10 YR 5/3)
2" Sched 40 PVC Blank in 5" boring		CAL/ SM	5	1212	Cuttings	218	Caliche with varying amounts of very fine to fine-grained sand in matrix. Caliche is moderately hard and is very pale orange (10 YR 8/2). Sand is pale yellowish brown (10 YR 6/2), moderately well sorted, subangular grains.
2" Sched 40 PVC Blank in 5" boring			10	1213	Cuttings	129	Caliche with varying amounts of very fine to fine-grained sand in matrix. Unconsolidated and very loose from approx. 10 ft to 12 ft. Note: Due to hole-caving conditions (~10 ft to 12 ft) during drilling the boring was reamed with an 8" drill bit to 20 ft and a 20 ft length of 6" surface casing was set from surface to resume drilling with a 5" drill bit and completing the monitoring well.
2" Sched 40 PVC Blank in 5" boring			15	1214	Cuttings	214	Caliche with varying amounts of very fine to fine-grained sand in matrix. Caliche is moderately hard and is very pale orange (10 YR 8/2). Sand is pale yellowish brown (10 YR 6/2), moderately well sorted, subangular grains.
2" Sched 40 PVC Blank in 5" boring			20	1215	Cuttings	280	Caliche with varying amounts of very fine to fine-grained sand in matrix. Caliche is moderately hard and is very pale orange (10 YR 8/2). Sand is pale yellowish brown (10 YR 6/2), moderately well sorted, subangular grains.
2" Sched 40 PVC Blank in 5" boring			25	1221	Cuttings	147	Caliche with varying amounts of very fine to fine-grained sand in matrix. Caliche is moderately hard and is very pale orange (10 YR 8/2). Sand is pale yellowish brown (10 YR 6/2), moderately well sorted, subangular grains.
2" Sched 40 PVC Blank in 5" boring			30	1224	Cuttings	167	Caliche with varying amounts of very fine to fine-grained sand in matrix. Caliche is moderately hard and is very pale orange (10 YR 8/2). Sand is pale yellowish brown (10 YR 6/2), moderately well sorted, subangular grains.
2" Diameter Screen with 0.010" Slots in 5" Boring		SM/ CAL	35	1228	Cuttings	152	Caliche with varying amounts of very fine to fine-grained sand in matrix. Caliche is moderately hard and is very pale orange (10 YR 8/2). Sand is pale yellowish brown (10 YR 6/2), moderately well sorted, subangular grains.
			40	1244	Cuttings		Calcareous fine to medium-grained sand (less caliche with depth), grayish orange pink (5YR 7/2) Groundwater encountered at approximately 42 ft below ground surface.
		SW	45	1545	Cuttings		Calcareous fine to medium-grained sand (less caliche with depth), grayish orange pink (5YR 7/2)
			50	1547	Cuttings		Fine to medium-grained sand, slightly moist, moderately well sorted, subrounded, light brown (5YR 6/4)
			55	1550	Cuttings		Fine to medium-grained sand, slightly moist, moderately well sorted, subrounded, pale reddish brown (10R 5/4) Bottom of boring at 57 ft below ground surface.
			60				

MW-3 MONITORING WELL CONSTRUCTION DIAGRAM



	SITE: BD J-26 JUNCTION BOX		MW-2 Monitoring Well Construction Diagram
	DATE: 08/21/03	REV. NO.: 1	
	AUTHOR: GJV	DRAWN BY: GJV	
	CK'D BY: DTL	FILE: Well Bore Diagram	

LITHOLOGIC LOG AND MONITORING WELL CONSTRUCTION DIAGRAM



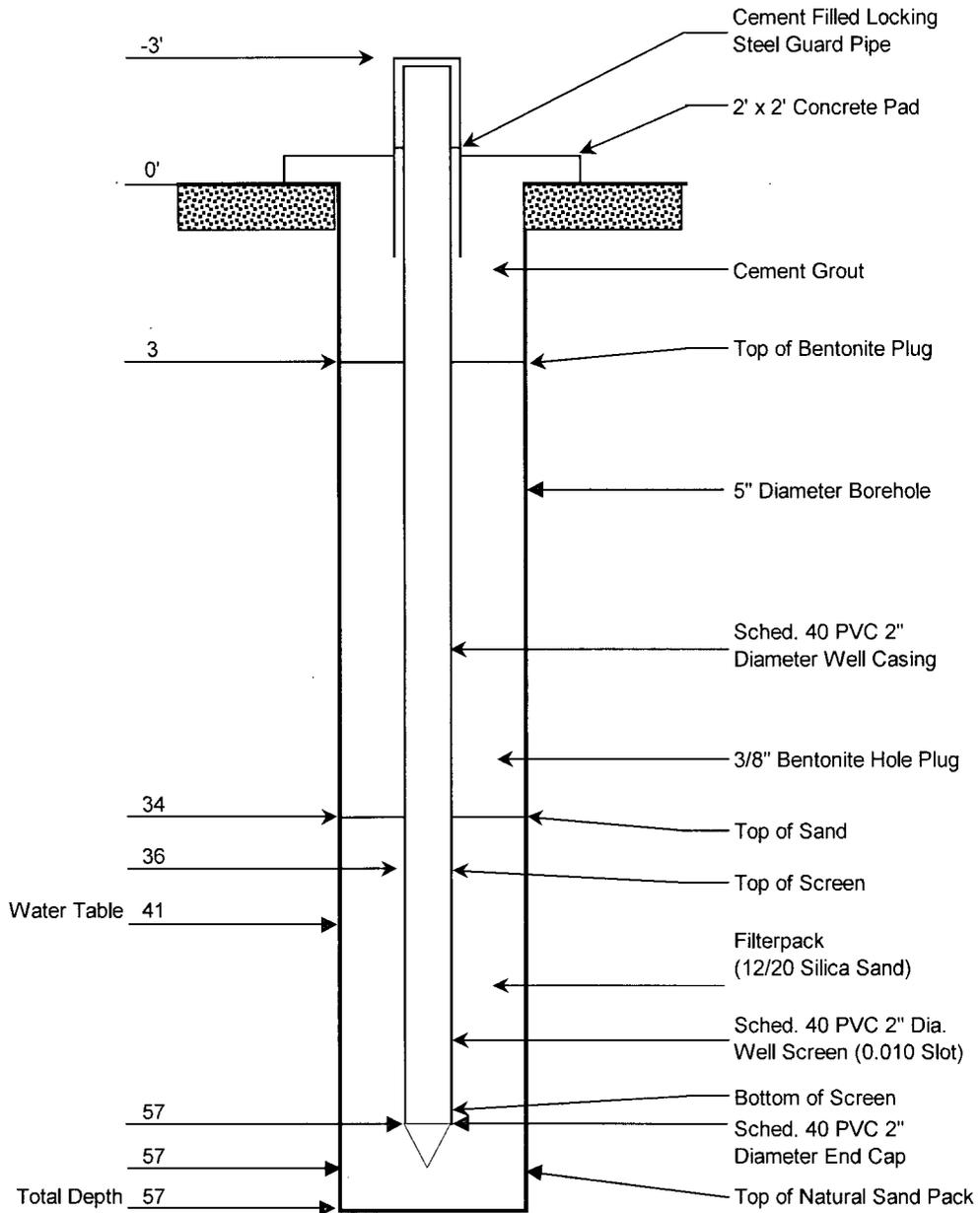
PO BOX 7624
MIDLAND, TEXAS 79708

MONITOR WELL NO.: MW-3
 SITE ID: BD J-26
 SURFACE ELEVATION: 3373.3
 CONTRACTOR: Eades Drilling & Pump Service
 DRILLING METHOD: Air Rotary
 START DATE: 08/19/03
 COMPLETION DATE: 08/19/03
 COMMENTS: Located ~150 ft north-northwest of MW-1.

TOTAL DEPTH: 57 Feet
 CLIENT: Rice Operating Company
 COUNTY: Lea
 STATE: New Mexico
 LOCATION: T21S-R37E-Sec 26-Unit J
 FIELD REP.: G. Van Deventer
 FILE NAME: Projects/Rice/MW_Diagram.xls

LITH.	USCS	Sample			Chloride (ppm)	LITHOLOGIC DESCRIPTION: LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOLIDATION, DISTINGUISHING
		Depth	Time	Type		
Cement	SM		0913	Surface		Very fine grained loamy sand, slightly calcareous, brown (10 YR 5/3)
3/8 Bentonite Hole Plug	CAL/SM	5	0915	Cuttings	234	Sandy caliche, grayish orange pink (5YR 7/2). Caliche is soft to moderately hard. Sand is very fine to fine-grained, moderately well sorted, subrounded grains.
		10	0918	Cuttings	241	Sandy caliche, grayish orange pink (5YR 7/2). Caliche is soft to moderately hard. Sand is very fine to fine-grained, moderately well sorted, subrounded grains.
		15	0922	Cuttings	359	Sandy caliche, grayish orange pink (5YR 7/2). Caliche is soft to moderately hard. Sand is very fine to fine-grained, moderately well sorted, subrounded grains.
		20	0925	Cuttings	156	Sandy caliche, grayish orange pink (5YR 7/2). Caliche is soft to moderately hard. Sand is very fine to fine-grained, moderately well sorted, subrounded grains.
0.010-inch Slotted Screen	CAL/SM	25	0930	Cuttings	165	Highly calcareous sand. Caliche is moderately hard. Sand is very fine-grained, moderately well sorted, subangular grains. Very pale orange (10 YR 8/2).
		30	0933	Cuttings	217	Highly calcareous sand. Caliche is moderately hard. Sand is very fine-grained, moderately well sorted, subangular grains. Very pale orange (10 YR 8/2).
		35	0935	Cuttings	179	Highly calcareous sand. Caliche is moderately hard. Sand is very fine-grained, moderately well sorted, subangular grains. Very pale orange (10 YR 8/2).
		40	0940	Cuttings	125	Groundwater encountered at approximately 40 ft below ground surface. Highly calcareous sand. Caliche is moderately hard. Sand is very fine-grained, moderately well sorted, subangular grains, slightly moist. Very pale orange (10 YR 8/2).
12/20 Silica Sand Pack	SW	45	1005	Cuttings		Fine to medium-grained sand, slightly calcareous, moderately well sorted, subangular, slightly moist, light brown (5YR 6/4)
		50	1010	Cuttings		Fine to medium-grained sand, moderately moist, moderately well sorted, subangular, light brown (5YR 5/6)
		55	1015	Cuttings		Fine to medium-grained sand, moderately moist, moderately well sorted, subangular, light brown (5YR 5/6)
						Bottom of boring at 57 ft below ground surface.
		60				

MW-3 MONITORING WELL CONSTRUCTION DIAGRAM



SITE: BD J-26 JUNCTION BOX	
DATE: 08/21/03	REV. NO.: 1
AUTHOR: GJV	DRAWN BY: GJV
CK'D BY: DTL	FILE: Well Bore Diagram

MW-3
Monitoring Well
Construction Diagram

**RICE OPERATING COMPANY
JUNCTION BOX FINAL REPORT**

BOX LOCATION

SWD SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE	COUNTY	BOX DIMENSIONS - FEET		
							Length	Width	Depth
BD	J-26	J	26	21S	37E	LEA			

LAND TYPE: BLM _____ STATE _____ FEE LANDOWNER DELROSE SCOTT OTHER _____

Depth to Groundwater 41' feet NMOCD SITE ASSESSMENT RANKING SCORE: 20

Date Started 04/23/2002 Date Completed 10/01/2002 OCD Witness YES

Soil Excavated 10000 cubic yards Excavation Length 115 Width 75 Depth 40 feet

Soil Disposed 480 cubic yards Offsite Facility Sundance Location Eunice, New Mexico

FINAL ANALYTICAL RESULTS: Sample Date 09/18/2002 Sample Depth 40'

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

Sample Location	Benzene mg/kg	Toluene mg/kg	Ethyl Benzene mg/kg	Total Xylenes mg/kg	GRO mg/kg	DRO mg/kg	Chlorides mg/kg
SIDEWALLS	<0.005	<0.005	<0.005	<0.015	<10	<10	336
BOTTOM	<0.005	<0.005	<0.005	<0.015	<10	<10	304
Remediated Soil	<0.005	<0.005	<0.005	<0.015	<10	<10	480

General Description of Remedial Action: Vertical and lateral delineation found a large

area impacted with TPH and chlorides. TPH impacted soil was excavated to 42' bgs and land farmed on-site. Chlorides were removed to 42' bgs and tested at 304 ppm. Clean backfill was placed in the deep excavation from 42' bgs to 27' bgs. A 12" compacted clay liner was installed at 27' bgs.

The remediated soil was replaced in 3' lifts and packed. A second 12" compacted clay liner was installed at 5' bgs. The results of the compaction tests are included. The remaining remediated soil was placed above the clay liner and contoured to drain rain water away from the area above the liner. These clay liners will ensure no detrimental affect to the groundwater. A monitor well was installed to monitor groundwater constituents. An annual report with the sampling results will be sent to the NMOCD. The site will be seeded in the fall of 2002. A new replacement junction box has been installed north of this site.

TPH/CHLORIDE FIELD TESTS

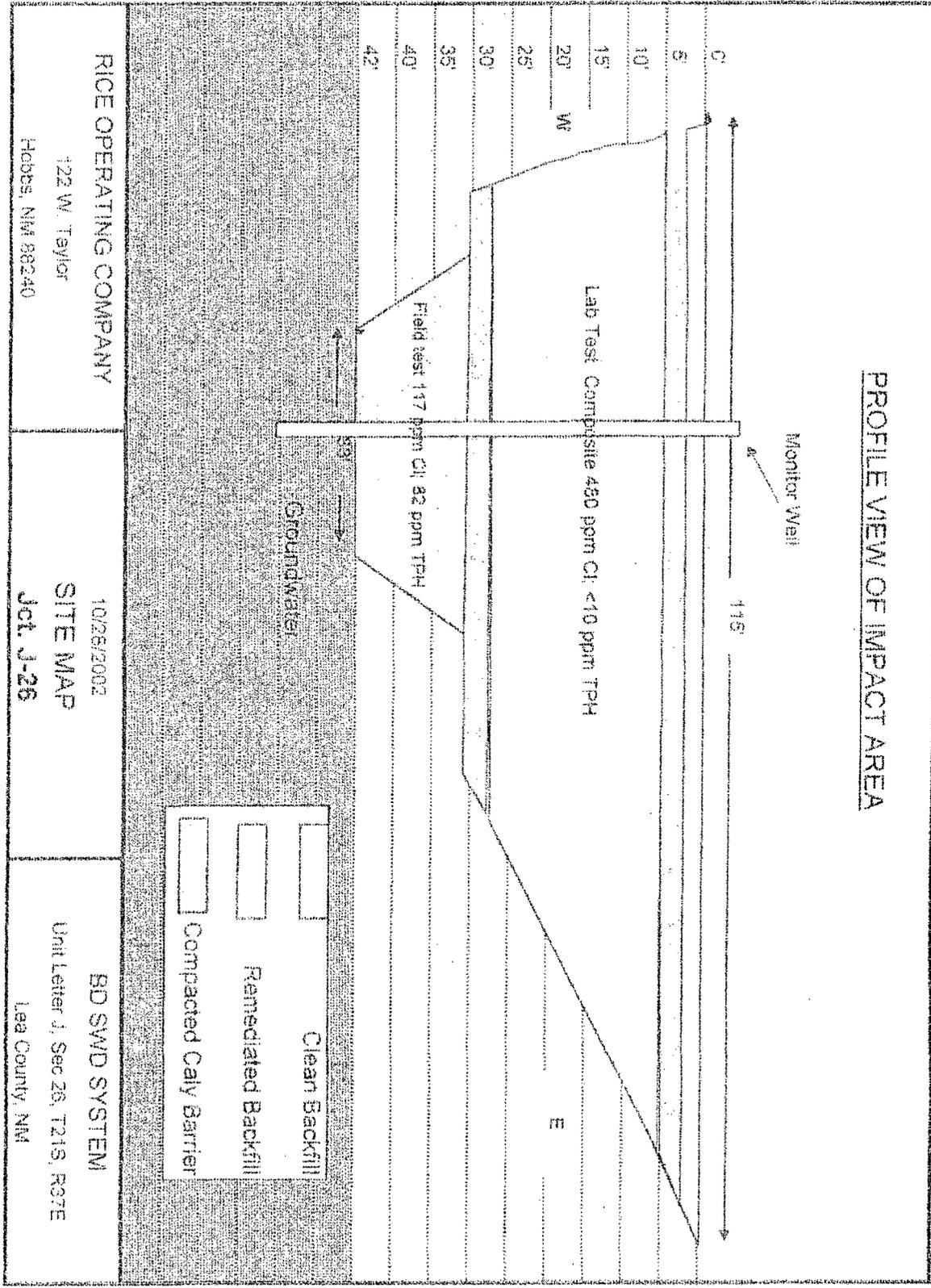
LOCATION	Depth	TPH	mg/kg
SIDEWALLS	20-25'	86	342
BOTTOM	40'	11	275
Remediated Soil	comp	222	500

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

DATE October 29, 2002 PRINTED NAME D. E. Anderson

SIGNATURE *D. E. Anderson* TITLE Project Leader - Environmental

PROFILE VIEW OF IMPACT AREA



RICE OPERATING COMPANY

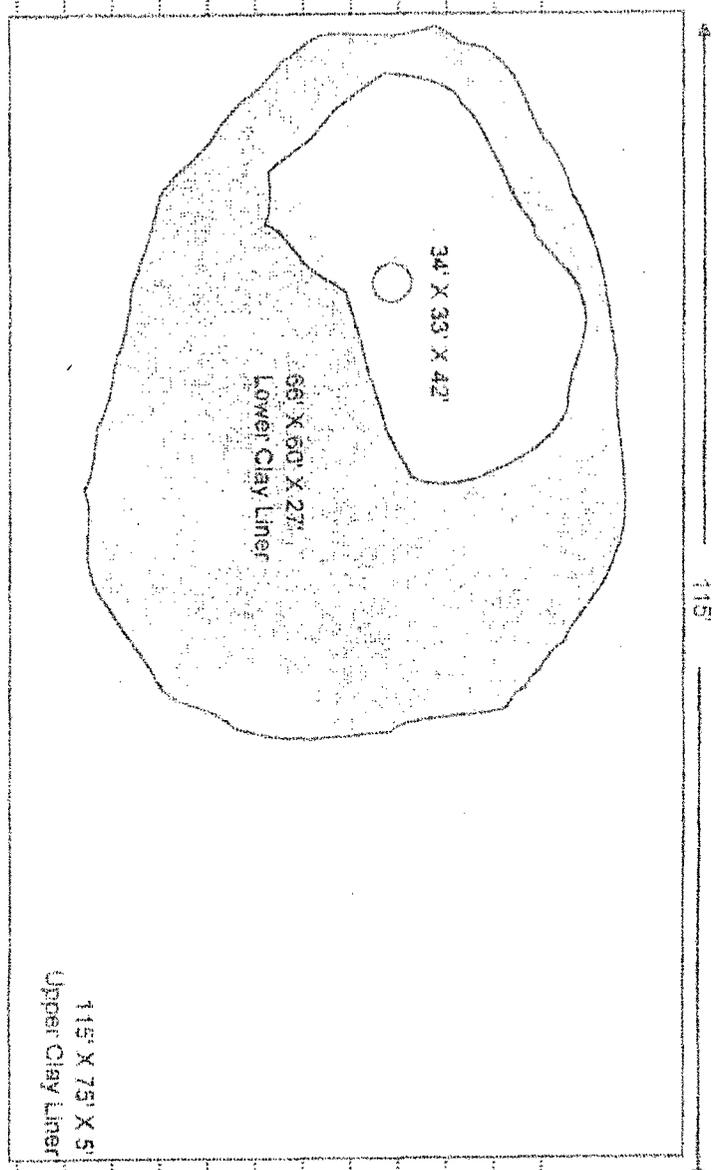
122 W. Taylor
Hobbs, NM 88240

10/25/2002
SITE MAP
Jct. J-26

BD SWD SYSTEM
Unit Letter J, Sec 26, T21S, R37E
Lea County, NM

- Clean Backfill
- Remediated Backfill
- Compacted Clay Barrier

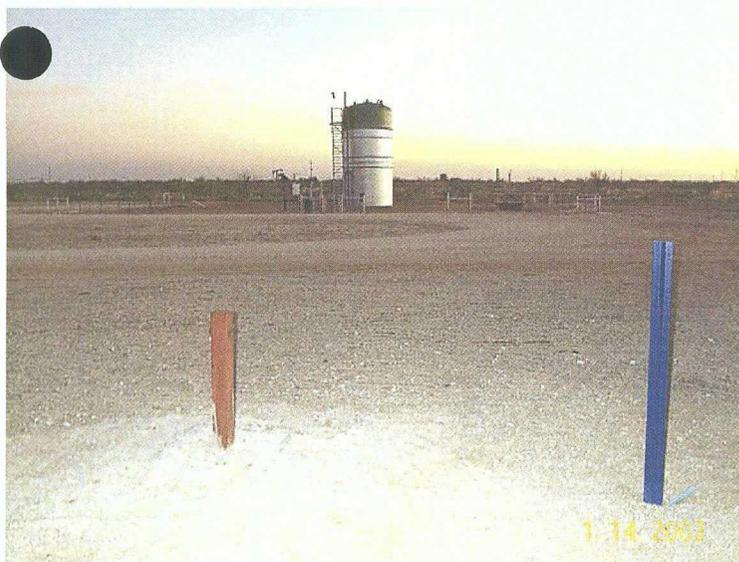
AERIAL VIEW OF IMPACT AREA



○ Monitor Well

RICE OPERATING COMPANY 122 W. Taylor HOBBS, NM 88240	10/28/2002 SITE MAP Jct. J-26	BD SMD SYSTEM Unit Letter J, Sec 26, T21S, R37E Lea County, NM
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BD J-26 Junction Box Site Photographs



View facing south showing MW-1 in foreground and ROC produced water tank in background



View facing south showing newly installed junction box in foreground and ROC produced water tank in background



View facing northwest showing MW-2 drilling and ROC produced water tank in background.



View facing southeast showing MW-3 sampling.



"Owens" Windmill (SEO File No. 0220) located approx. 2,100 feet east-southeast of site (out of service).



View facing north showing Eunice Gas Plant water supply well (WW-5) located ~1,700 feet south-southeast of site

**The rest of the appendices are
available on the CD attached to this
report.**