AP - 45

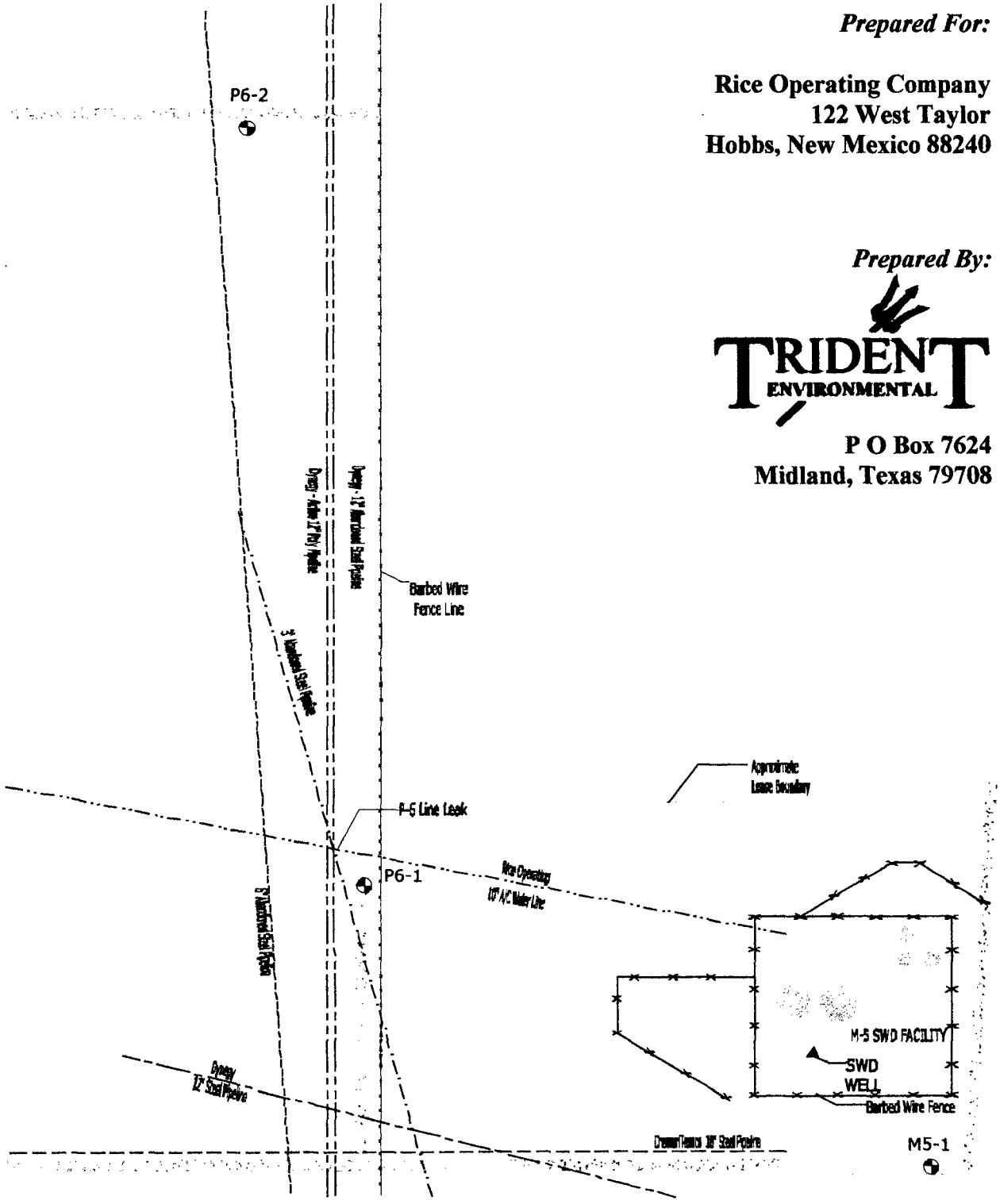
STAGE 1 & 2 WORKPLANS

DATE:

Sept. 20, 2004

Corrective Action Plan for EME P-6 Line Leak Site
T20S, R37E, Section 6, Unit Letter P
Lea County, New Mexico

SEPTEMBER 20, 2004



Prepared For:

Rice Operating Company
122 West Taylor
Hobbs, New Mexico 88240

Prepared By:

TRIDENT ENVIRONMENTAL

P O Box 7624
Midland, Texas 79708

TRIDENT ENVIRONMENTAL

September 20, 2004

Mr. Wayne Price
Environmental Bureau - New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

RE: Corrective Action Plan for the EME P-6 Line Leak Site
T20S, R37E, SEC 6, Unit Letter P
Lea County, New Mexico

Dear Mr. Price:

Trident Environmental has been retained by Rice Operating Company (ROC) to develop this Corrective Action Plan (CAP) for remedy actions regarding the hydrocarbon-impacted soil and chloride and total dissolved solids (TDS) -impacted groundwater at the EME P-6 line leak site. The proposed actions recommended in this CAP are developed as a result of data evaluation at this site, additional groundwater monitoring data provided by newly installed monitoring wells, and the obvious improvement of surface vegetation on the area affected by the original line leak.

Installation of Groundwater Monitoring Wells

In accordance with the previously NMOCD-approved work plan, ROC installed one additional monitoring well (P6-2) approximately 650 feet upgradient (north-northwest) of the P-6 line leak on February 17, 2004. On December 10, 2003, two nested (one shallow and one deep) monitoring wells (M5-1) were installed by R. T. Hicks Consultants Ltd at the neighboring M-5 SWD site, which is located approximately 250 feet down gradient (southeast) of the P-6 line leak. R. T. Hicks is preparing the work plan for the M-5 SWD site in a separate report; however groundwater analytical results for the shallow monitoring well (M5-1) at the M-5 site is included with this work plan due to its close proximity and association to the P-6 line leak site. During the latter part of 2003 ROC began upgrading the M-5 SWD facility by removing the redwood tanks and installing a new tank system approximately 500 feet west in section 6 unit letter P. The upgrade was completed on February 11, 2004.

The P-6 and M-5 site monitoring well locations are depicted in Figure 1 (Appendix A). During drilling operations, soil samples were collected periodically (five feet intervals) and field-tested for chloride using the titration method. A lithologic log and well completion diagram of the subsurface soils encountered, conditions observed, chloride field tests, and construction details for monitoring well P6-2 are included in Appendix B. The well was completed with 5 feet of the well screen above the surface of the water table and approximately 30 feet below the water table where the Triassic Dockum redbed (lower confining unit) was encountered 67 feet below ground surface. A registered surveyor (Basin Surveys of Hobbs, NM) determined the elevation of the top of casing, ground surface elevation, and the New Mexico State Plane coordinates of each monitoring well.

Monitoring Well Sampling Procedures

Prior to sampling, each monitoring well was gauged for depth to groundwater using a Solinst Model 101 electronic water level indicator. The monitoring wells were then purged of a minimum of three well casing volumes of water using new, clean, decontaminated disposable bailers with the exception of monitoring well P6-2 which was purged using a clean, decontaminated two-stage submersible pump. Conductivity, pH, and temperature parameters were measured at regular intervals during purging using a calibrated Hanna Model 98130 meter. Immediately after purging, groundwater samples were collected with the dedicated bailers used for purging and transferred into appropriately preserved containers for analysis of major ions (chloride, sulfate, bicarbonate, carbonate, calcium, magnesium, sodium, potassium), TDS, and benzene, toluene, ethylbenzene, and xylenes (BTEX). Chain-of-custody (COC) forms documenting sample identification numbers, collection times, and delivery times to the laboratories were completed for each set of samples. The water samples were placed in an ice-filled cooler immediately after collection and transported to Environmental Lab of Texas in Odessa, Texas, or other approved laboratory, for analysis of the aforementioned constituents. The laboratory reports and COC documentation are included in Appendix C. Approximately 40 gallons of water was purged from the three monitoring wells during each of the last three sampling events and discharged into the ROC saltwater disposal station at the M-9 SWD and new P-6 facilities. Monitoring well sample data forms for the most recent sampling event (August 10, 2004) are included in Appendix B.

Groundwater Elevations, Flow Direction and Hydraulic Gradient

Depth to water measurements were obtained on August 10, 2004. Updated groundwater elevation maps depicting the water table elevations and direction of groundwater flow for each of the last three sampling events is presented in Figures 1A, 1B, and 1C (Appendix A). Groundwater elevation data for the current and all previous monitoring events is summarized in Table 1 (Appendix A). Depth to groundwater beneath the site area varies from approximately 32 feet to 35 feet below ground surface. After steadily decreasing since February 2003 the groundwater elevation has quickly risen since February 2004 as depicted in Figure 2 (Appendix A). The recent increase in groundwater elevation is attributed to a corresponding increase in recharge from rainfall over the last six months. Interestingly, the *localized* groundwater gradient direction is in a south-southwesterly direction, however, the *regional* groundwater gradient is in the more characteristic southeasterly direction. The overall hydraulic gradient is only 0.001 feet/foot making it relatively flat and susceptible to varying gradient directions. The localized difference in gradient direction at the site may also be attributed to the heterogeneity of the subsurface soils and the effects of the redbed confining layer at the base of the aquifer, which characteristically varies in depth because its surface represents an erosional unconformity with the overlying alluvium. The depth to the Dockum redbed unit varies from approximately 55 feet below ground surface at M5-1 to 67 feet at P6-2.

Chloride, Sulfate, and TDS Concentrations in Groundwater

Each monitoring well (P6-1, P6-2, and M5-1) has been sampled on a quarterly basis for major ions, TDS, and BTEX. A summary of pertinent analytical results and groundwater elevations is listed

in Table 1. Analytical results are also depicted on the site maps in Figures 1A, 1B, and 1C and in graphical format in Figures 2, 3, and 4 in Appendix A.

- BTEX concentrations in monitoring wells P6-1, P6-2, and M5-1 have been below the laboratory detection limit of 0.001 mg/L for each constituent and for every sampling event taken place.

- Chloride concentrations in monitoring wells P6-1 (9,040 mg/L), P6-2 (8,240 mg/L), and M5-1 (6,910 mg/L) exceed the WQCC standard of 250 mg/L.

- Only monitoring wells P6-1 (889 mg/L), P6-2 (1,220 mg/L) exceed the WQCC standard of 600 mg/L for sulfate, whereas M5-1 (470 mg/L) has been below the standard since it was first sampled in December 2003.

- TDS concentrations in monitoring wells P6-1 (17,200 mg/L), P6-2 (15,400 mg/L), and M5-1 (17,300 mg/L) exceed the WQCC standard of 1,000 mg/L.

Chloride and TDS concentrations in monitoring wells P6-1, P6-2, and M5-1 have remained relatively stable although some minor fluctuations have occurred. No correlations between chloride/TDS concentrations and changes in groundwater levels are evident at this time.

Conclusions

The most apparent observation is that there is an offsite source for the chloride and TDS impacted groundwater up gradient (northwest) from the P-6 line leak and M-5 SWD sites as indicated by the similarity of chloride, sulfate, and TDS concentrations in upgradient monitoring well P6-2 with downgradient wells P6-1 and M5-1. Therefore, the former line leak at P-6 and potential for a leak at the former redwood tanks at M-5 do not appear to be the cause of impact at these sites. This reasoning is further supported by the fact that field tests from soil samples collected from numerous borings at the two sites consistently had chloride values near **background levels.**

Proposed Remedies

Continued monitoring of groundwater quality (major ions and TDS) is recommended at a reduced frequency (semi-annually). Analysis for BTEX concentrations should be suspended, as there has been no indication of dissolved hydrocarbons since the groundwater monitoring program began in January 2002 (11 consecutive quarters).

The surface vegetation on the small area (< 1,000 sq ft) around the original line leak has shown excellent recovery. Photographs taken at various angles this summer (07/14/04, 08/10/04, and 09/09/04) document this fact (Appendix D). The predominant native species include perennials and woody shrubs (shinnery oak, sand sagebrush, rabbitbrush, groundsel, and penstemon), some native grasses (mostly bluestem and sand dropseed), and numerous annual plants. It is recommended that several native species be transplanted within the area of the former line leak. A good source for obtaining these native plants, shrubs, and grasses at the site for transplanting are a few topsoil piles leftover nearby from the clearing of the tank pad area. Since it is clear that the surface soil and groundwater have not been impacted from the former P-6 line leak, excavation is not warranted, as it would only worsen any environmental impact at the site.

ROC is prepared to proceed with the proposed corrective actions specified in this work plan upon approval from the OCD. We appreciate the opportunity to work with you on this project. Please feel free to call me at 432-682-0808, or Carolyn Haynes or Kristin Farris Pope at 505-393-9174, if you have any questions.

Sincerely,

Gilbert J. Van Deventer, REM, PG, NMCS
Project Manager

cc: Carolyn Haynes, ROC (Hobbs, NM)

APPENDICES

APPENDIX A

FIGURE 1A
Site Map (February 20, 2004)

FIGURE 1B
Site Map (May 6, 2004)

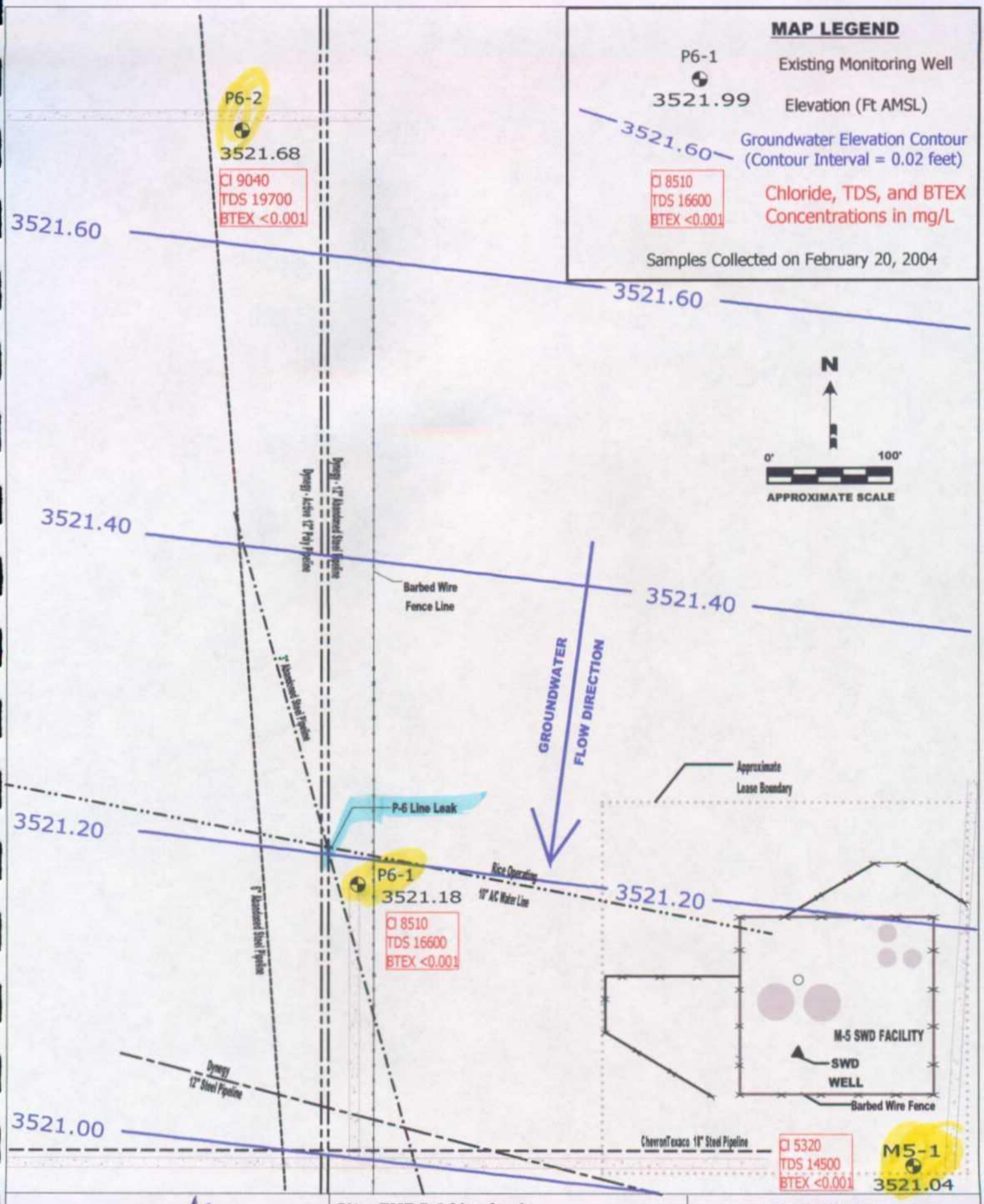
FIGURE 1C
Site Map (August 10, 2004)

TABLE 1
Summary of Groundwater Sampling Results

FIGURE 2
Chloride, Sulfate, TDS, and Groundwater Elevation Values Versus Time (P6-1)

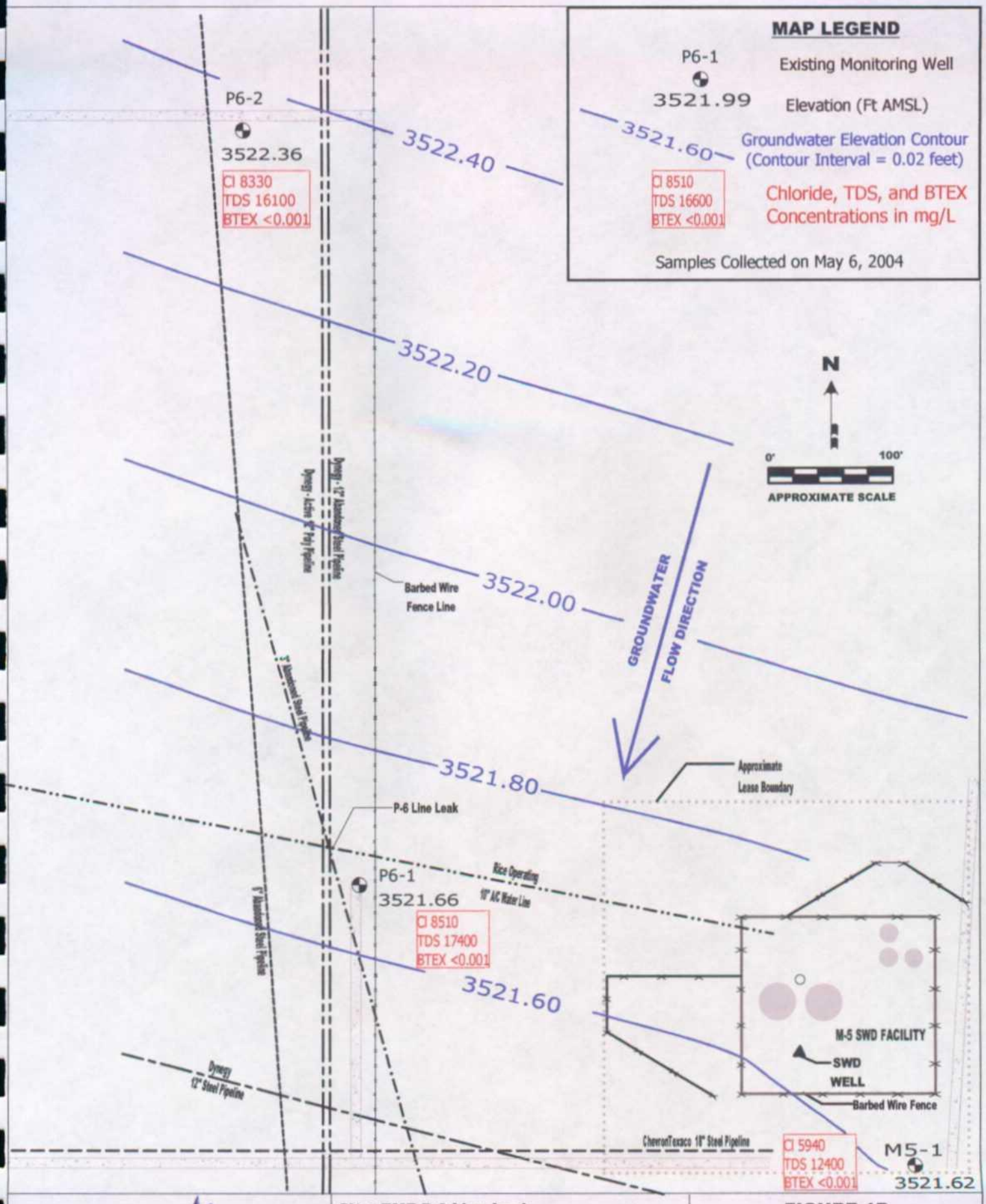
FIGURE 3
Chloride, Sulfate, TDS, and Groundwater Elevation Values Versus Time (P6-2)

FIGURE 4
Chloride, Sulfate, TDS, and Groundwater Elevation Values Versus Time (M5-1)



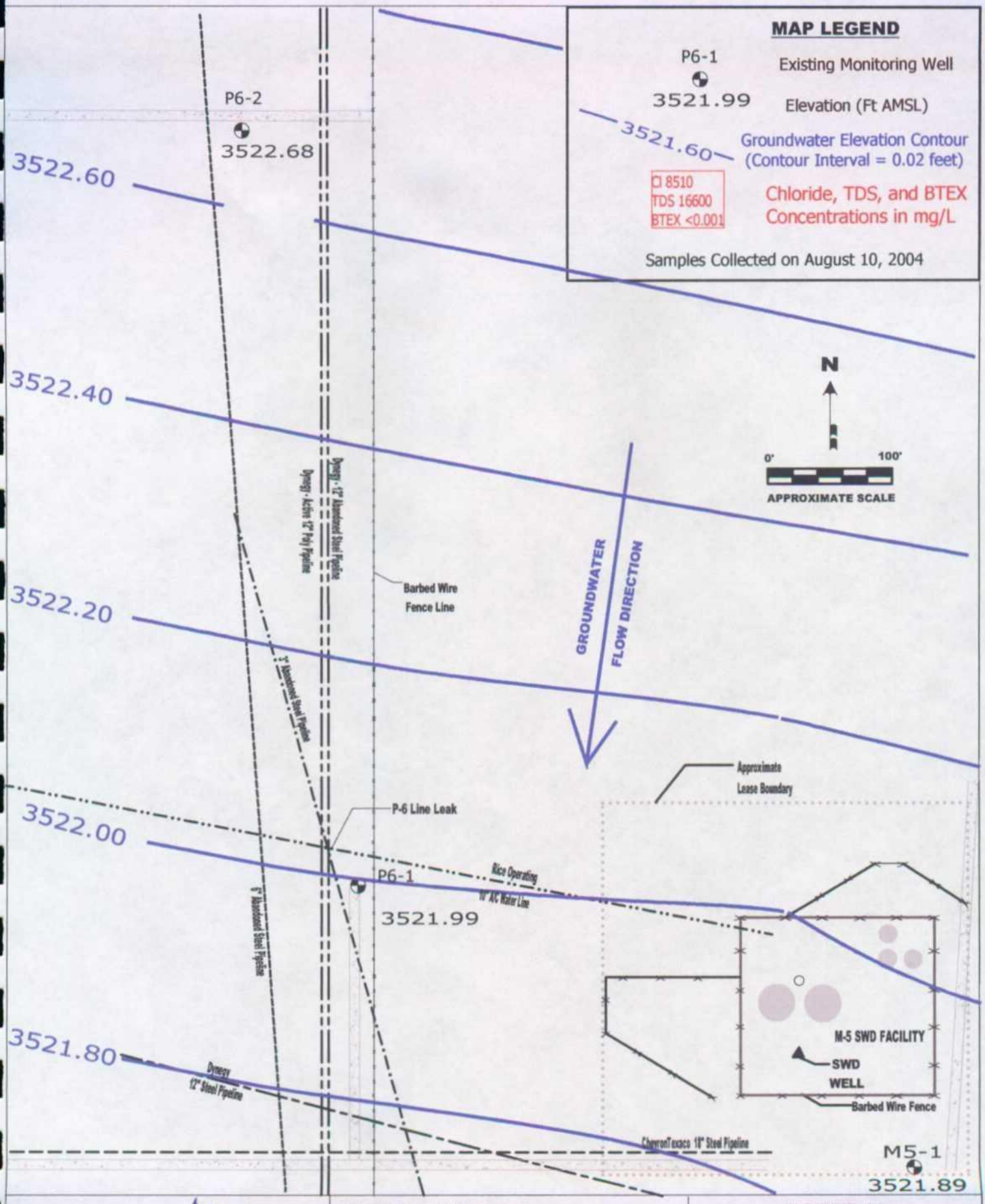
TRIDENT ENVIRONMENTAL

Site: EME P-6 Line Leak	FIGURE 1A
Date: February 20, 2004	EME SYSTEM
Author: GJV	P-6 LINE LEAK & M-5 SWD
File: Projects/Rice/EME/P6/P6SiteMap	SITE MAP



TRIDENT ENVIRONMENTAL

Site: EME P-6 Line Leak	FIGURE 1B EME SYSTEM P-6 LINE LEAK & M-5 SWD SITE MAP
Date: May 6, 2004	
Author: GJV	
File: Projects/Rice/EME/P6/P6SiteMap	



TRIDENT ENVIRONMENTAL

Site: EME P-6 Line Leak	FIGURE 1C EME SYSTEM P-6 LINE LEAK & M-5 SWD SITE MAP
Date: August 10, 2004	
Author: GJV	
File: Projects/Rice/EME/P6/P6SiteMap	

Table 1
Summary of Groundwater Sampling Results
EME P-6 Line Leak Site

Monitoring Well	Sample Date	Chloride (mg/L)	Sulfate (mg/L)	TDS (mg/L)	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylene (mg/L)	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet AMSL)
P6-1	01/10/02	**10700**	**999**	**20248**	< 0.002	< 0.002	< 0.002	< 0.006	36.70	3522.32
	05/14/02	**8060**	**852**	**18200**	< 0.001	< 0.001	< 0.001	< 0.001	36.73	3522.29
	08/15/02	**9570**	**646**	**16900**	< 0.001	< 0.001	< 0.001	< 0.001	36.95	3522.07
	11/06/02	**9040**	**952**	**17400**	< 0.001	< 0.001	< 0.001	< 0.001	37.15	3521.87
	02/27/03	**8860**	**741**	**15000**	< 0.001	< 0.001	< 0.001	< 0.001	37.12	3521.90
	05/29/03	**8680**	**858**	**20000**	< 0.001	< 0.001	< 0.001	< 0.001	37.19	3521.83
	08/21/03	**8860**	**683**	**17800**	< 0.001	< 0.001	< 0.001	< 0.001	37.43	3521.59
	11/19/03	**8690**	**619**	**18500**	< 0.001	< 0.001	< 0.001	< 0.001	37.64	3521.38
	02/20/04	**8510**	**830**	**16600**	< 0.001	< 0.001	< 0.001	< 0.001	37.84	3521.18
	05/06/04	**8510**	**756**	**17400**	< 0.001	< 0.001	< 0.001	< 0.001	37.36	3521.66
	08/10/04	**9040**	**889**	**17200**	< 0.001	< 0.001	< 0.001	< 0.001	37.03	3521.99
P6-2	02/20/04	**9040**	**1260**	**19700**	< 0.001	< 0.001	< 0.001	< 0.001	37.97	3521.68
	05/06/04	**8330**	**1340**	**16100**	< 0.001	< 0.001	< 0.001	< 0.001	37.29	3522.36
	08/10/04	**8240**	**1220**	**15400**	< 0.001	< 0.001	< 0.001	< 0.001	36.97	3522.68
M5-1s	12/11/03	**6198**	99.8	**10784**	< 0.002	< 0.002	< 0.002	< 0.006	33.28	3521.13
	02/20/04	**5320**	454	**14500**	< 0.002	< 0.002	< 0.002	< 0.006	33.37	3521.04
	05/06/04	**5940**	420	**12400**	< 0.002	< 0.002	< 0.002	< 0.006	32.79	3521.62
	08/10/04	**6910**	470	**17300**	< 0.001	< 0.001	< 0.001	< 0.001	32.52	3521.89
PZNW	02/20/04	---	---	---	---	---	---	---	35.64	3521.07
	05/06/04	---	---	---	---	---	---	---	35.05	3521.66
	08/10/04	---	---	---	---	---	---	---	34.78	3521.93
PZSW	02/20/04	---	---	---	---	---	---	---	37.47	3521.11
WQCC Standards		250	600	1000	0.01	0.75	0.75	0.62		

Total Dissolved Soilds (TDS), chloride, sulfate, and BTEX concentrations listed in milligrams per liter (mg/L)
Analyses performed by Environmental Lab of Texas, Odessa, TX.
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.

Figure 2
Chloride, Sulfate, TDS, and Groundwater Elevation Values Versus Time Graph (P6-1)

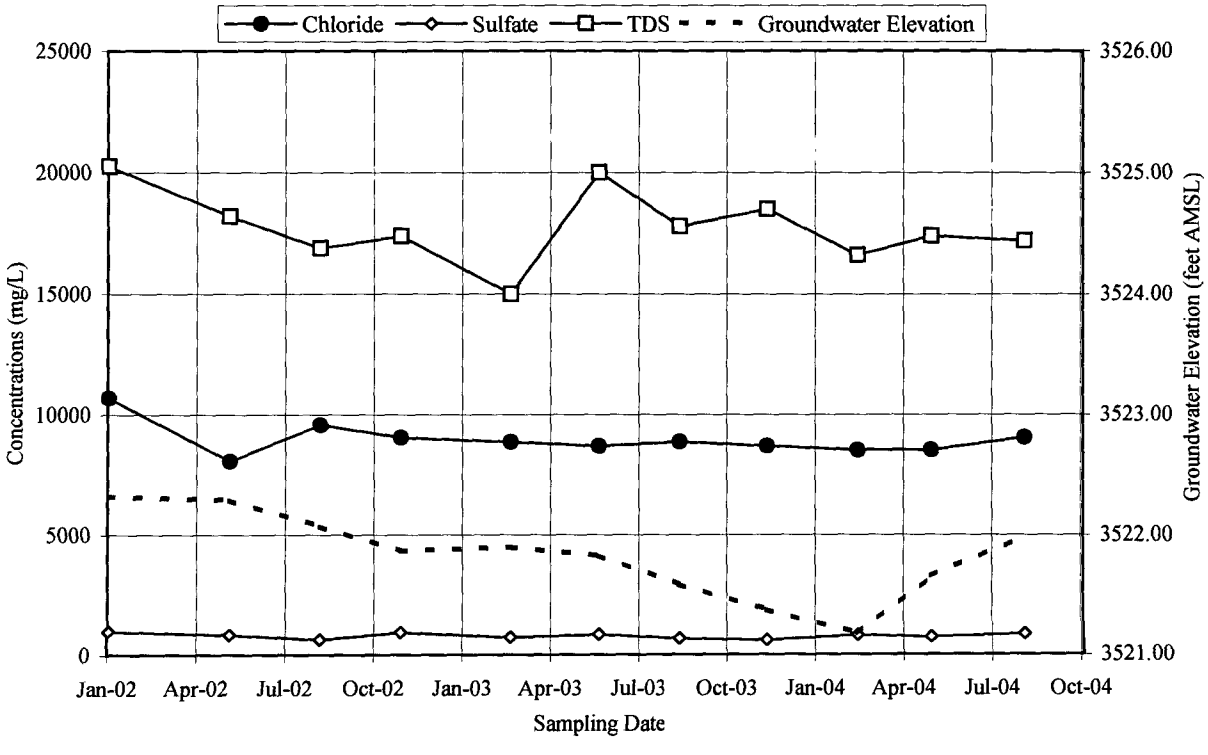


Figure 3
Chloride, Sulfate, TDS, and Groundwater Elevation Values Versus Time Graph (P6-2)

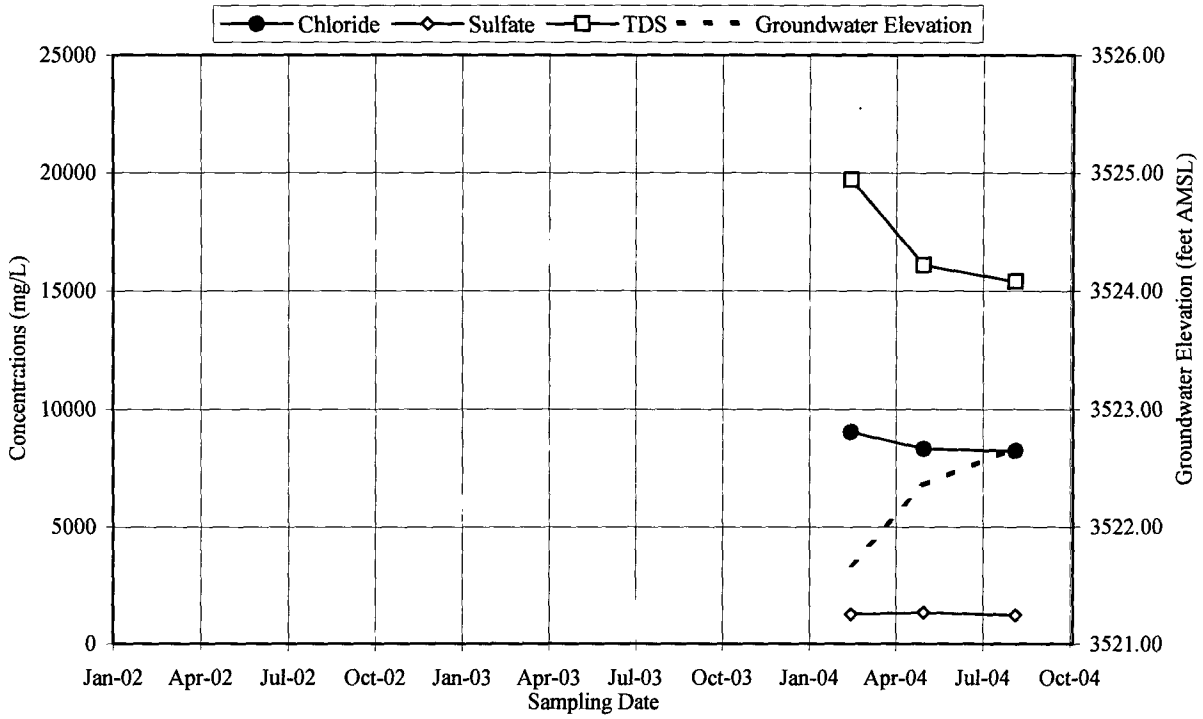
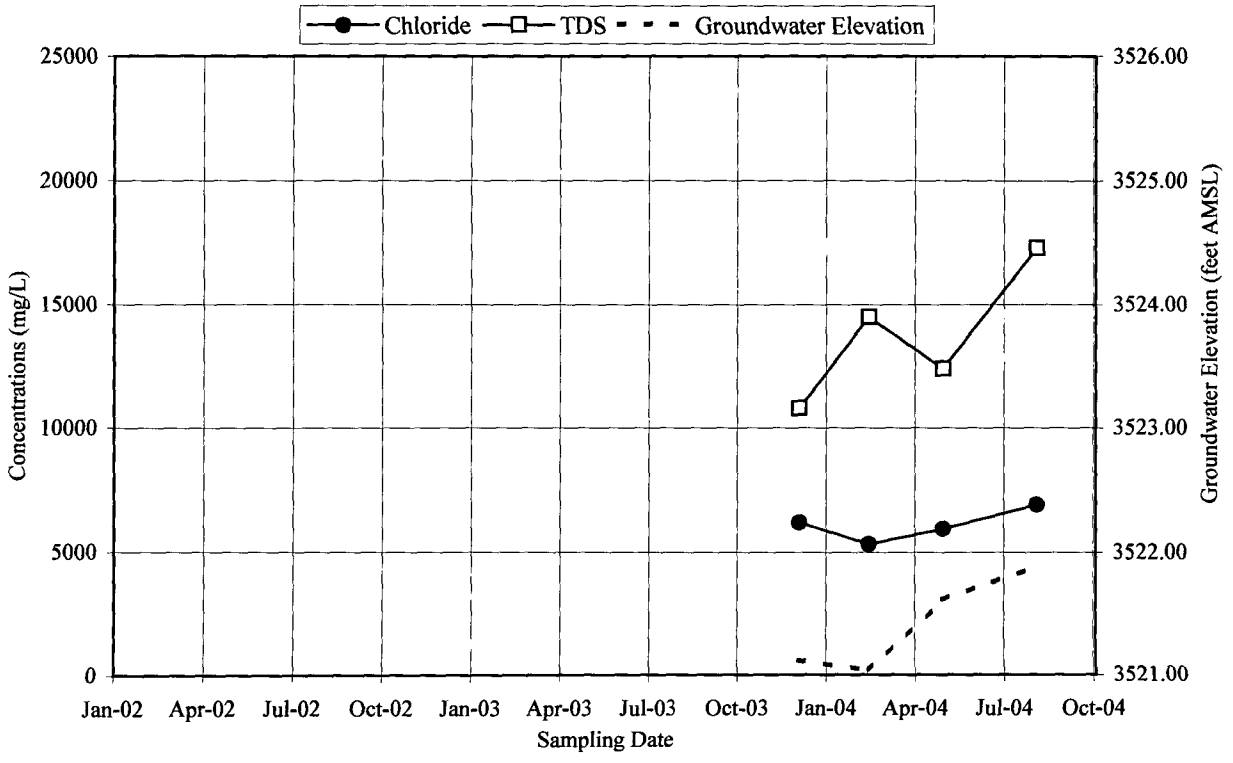


Figure 4
Chloride, Sulfate, TDS, and Groundwater Elevation Values Versus Time Graph (M5-1)



APPENDIX B

LITHOLOGIC LOG (P6-2)

MONITORING WELL CONSTRUCTION DIAGRAM (P6-2)

MONITORING WELL SAMPLE DATA FORMS

TRIDENT ENVIRONMENTAL

PO BOX 7624
MIDLAND, TEXAS 79708

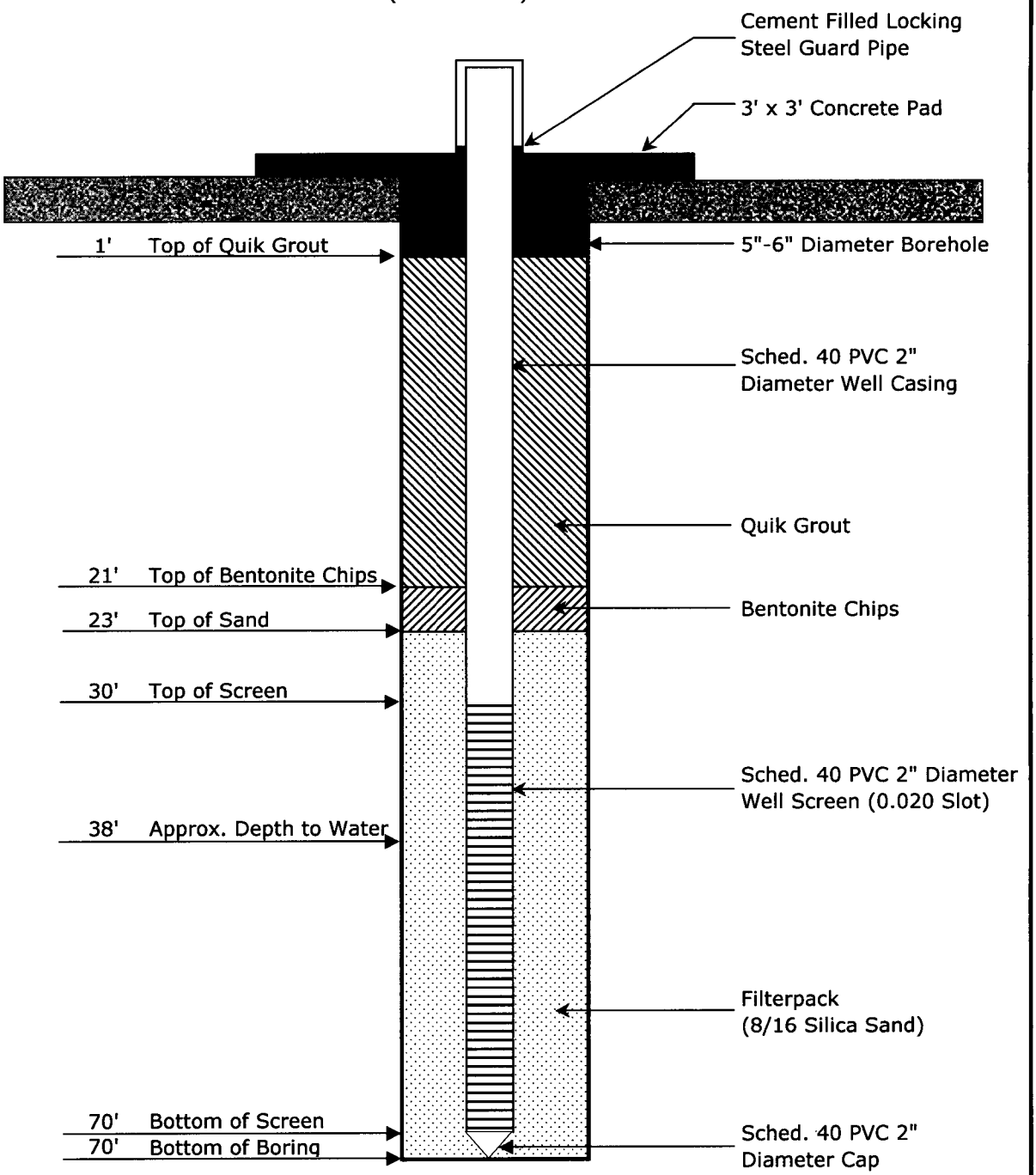
MONITOR WELL NO.:	P6-2	TOTAL DEPTH:	70 Feet
SITE ID:	EME P-6	CLIENT:	Rice Operating Company
SURFACE ELEVATION:	3557.0	COUNTY:	Lea
CONTRACTOR:	Atkins Engineering Associates Inc.	STATE:	New Mexico
DRILLING METHOD:	Hollow Stem Auger	LOCATION:	T20S-R37E-Sec 6-Unit P
START DATE:	02/17/04	FIELD REP.:	G. Van Deventer
COMPLETION DATE:	02/17/04	FILE NAME:	Projects/Rice/EME/P6/Logs_P6
COMMENTS:	Located 637 ft north-northwest of P6-1.		

LITH.	USCS	Sample Depth	Sample Time	Sample Type	Chloride (ppm)	LITHOLOGIC DESCRIPTION: LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOLIDATION, DISTINGUISHING FEATURES
			1130	Surface		
	SM/CL	5	1135	Split Spoon (4'-6')	108	Silty and very fine grained loamy sand, with caliche in matrix. Sand is moderate brown (5 YR 4/4), moderately well sorted with subrounded grains. Caliche is very pale orange (10YR 8/2), soft to slightly hard, and fills voids and small fractures within sand matrix. 80% sand, 20%
		10	1140	Split Spoon (9'-10')	177	Silty fine grained sand, with caliche in matrix. Sand is moderate brown (5 YR 4/4), moderately well sorted with subrounded grains. Caliche is very pale orange (10YR 8/2), soft to slightly hard, and fills voids and small fractures within sand matrix. 60% sand, 40% caliche
		15	1148	Split Spoon (14'-16')	580	Same as above
	CAL					Hard caliche layer at 17 ft
	SM/CL	20	1153	Split Spoon (19'-21')	174	Silty fine grained sand, with caliche in matrix. Sand is light brown (5 YR 6/4), moderately well sorted with subrounded grains. Caliche is moderate pale orange (5YR 8/4), soft to slightly hard, and fills voids and small fractures within sand matrix. 50% sand, 50% caliche
		25	1200	Split Spoon (19'-21')	393	Fine grained sand, with some clay and caliche in matrix. Sand is moderate brown (5 YR 4/4), moderately well sorted with subrounded grains. 80% sand, 10% clay, and 10% caliche
	CAL/SM	30	1212	Split Spoon (29'-31')	954	Caliche and sand. Sand is fine-grained, light brown (5 YR 6/4), moderately well sorted with subrounded grains. Caliche is moderate pale orange (5YR 8/4), soft. 90% caliche, 10% sand.
		35 ▼	1223	Split Spoon (34'-36')	757	Caliche and clayey sand. Sand is fine-grained, light brown (5 YR 6/4), moderately well sorted with subrounded grains. Caliche is moderate pale orange (5YR 8/4), moderately hard. 70% caliche, 15% sand, and Groundwater encountered at approximately 37 ft below ground Hard gravelly sand at groundwater interface.
	SM/CL	40	1228	Cuttings		Fine grained sand with clay and caliche in matrix. Sand is moderate brown (5 YR 4/4), moderately well sorted with subrounded grains. 50% sand, 30% caliche, and 20% clay
		45	1236	Cuttings		Same as above
		50	1241	Cuttings		Same as above
		55	1246	Cuttings		Same as above
		60	1252	Cuttings		Same as above
	CL	65	1300	Cuttings		Sandy clay. Clay is pale yellowish brown (10YR 6/2) with high plasticity. 70% clay, 30% sand
	CH	70	1319	Cuttings		Clay, moderately brown (5YR 4/4) with high plasticity. "Triassic redbed"

Bottom of boring at 70 ft below ground surface.

MONITORING WELL CONSTRUCTION DIAGRAM

(Not to Scale)



TRIDENT ENVIRONMENTAL	Client:	Rice Operating Company
	Site Name:	EME P-6 Line Leak Site
	Completion Date:	February 17, 2004
	On Site Geologist:	Gil Van Deventer

P6-2
Monitoring Well Construction Diagram

TRIDENT ENVIRONMENTAL

WELL SAMPLING DATA FORM

CLIENT: Rice Operating Company
WELL ID: P6-1
SYSTEM: EME System
DATE: 08/10/04
SITE LOCATION: P-6
SAMPLER: G. Van Deventer

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☑ Alconox ☑ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 47.95 Feet
DEPTH TO WATER: 37.03 Feet
HEIGHT OF WATER COLUMN: 10.92 Feet — 5.3 Minimum gallons to purge 3 well volumes
WELL DIAMETER: 2.0 Inch — 6 Actual Gallons purged

TIME	VOLUME PURGED (GAL)	TEMP. °C	COND. mS/cm	pH			PHYSICAL APPEARANCE AND REMARKS
14:47	0						
14:52	2	21.7	> 20	6.49			Conductivity values exceeded range of instrument
14:57	4	20.3	> 20	6.48			
15:01	6	20.3	> 20	6.52			
						15:02	Collected sample
							BTEX (2-40 ml VOA)
							Major ions/TDS (1-1000 ml plastic)
0:14	:Total Time (hr:min)		**6**	:Total Vol (gal)		**0.43**	:Average Flow Rate (gal/min)

COMMENTS: Delivered samples to Environmental Lab of Texas for BTEX, Major Ion and TDS analyses.

Hanna Model 98130 used to obtain pH, conductivity, and temperature measurements.

TRIDENT ENVIRONMENTAL

WELL SAMPLING DATA FORM

CLIENT: Rice Operating Company
WELL ID: P6-2
SYSTEM: EME System
DATE: 08/10/04
SITE LOCATION: P-6
SAMPLER: G. Van Deventer

PURGING METHOD: ☐ Hand Bailed ☑ Pump If Pump, Type: SuperPurger 2" Submersible Pump
SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other:
DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:
☑ Gloves ☑ Alconox ☑ Distilled Water Rinse ☐ Other:

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 72.45 Feet
DEPTH TO WATER: 36.97 Feet
HEIGHT OF WATER COLUMN: 35.48 Feet
WELL DIAMETER: 2.0 Inch

17 Minimum gallons to purge 3 well volumes
28 Actual Gallons purged

TIME	VOLUME PURGED (GAL)	TEMP. °C	COND. mS/cm	pH	FLOW RATE		PHYSICAL APPEARANCE AND REMARKS
13:17	0						
13:24	4	22.5	19.20	6.68	0.57		
13:29	8	21.3	19.20	6.58	0.80		
13:34	12	21.0	19.15	6.55	0.80		
13:40	16	21.2	19.28	6.52	0.67		
13:46	20	21.1	19.24	6.53	0.67		
13:55	24	21.6	19.45	6.52	0.44		
14:01	28	21.9	19.55	6.53	0.53		
						14:02	Collected sample
							BTEX (2-40 ml VOA)
							Major ions/TDS (1-1000 ml plastic)
0:44	:Total Time (hr:min)		**28**	:Total Vol (gal)		**0.64**	:Average Flow Rate (gal/min)

COMMENTS: Delivered samples to Environmental Lab of Texas for BTEX, Major Ion and TDS analyses.
Hanna Model 98130 used to obtain pH, conductivity, and temperature measurements.

TRIDENT ENVIRONMENTAL

WELL SAMPLING DATA FORM

CLIENT: Rice Operating Company
WELL ID: M5-1 (Shallow well)
SYSTEM: EME System
DATE: 08/11/04
SITE LOCATION: M-5
SAMPLER: G. Van Deventer

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☑ Alconox ☑ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 39.85 Feet
DEPTH TO WATER: 32.52 Feet
HEIGHT OF WATER COLUMN: 7.33 Feet
WELL DIAMETER: 2.0 Inch

3.6 Minimum gallons to purge 3 well volumes
0 Actual Gallons purged

TIME	VOLUME PURGED (GAL)	TEMP. °C	COND. mS/cm	pH	FLOW RATE		PHYSICAL APPEARANCE AND REMARKS
9:25	0						
9:29	2	19.0	15.04	6.71	0.50		
9:36	4	18.6	14.86	6.67	0.29		
9:40	6	18.3	14.86	6.62	0.50		
						9:41	Collected sample
							BTEX (2-40 ml VOA)
							Major ions/TDS (1-1000 ml plastic)
0:15	:Total Time (hr:min)		**6**	:Total Vol (gal)		**0.40**	:Average Flow Rate (gal/min)

COMMENTS: Delivered samples to Environmental Lab of Texas for BTEX, Major Ion and TDS analyses.

Hanna Model 98130 used to obtain pH, conductivity, and temperature measurements.

APPENDIX C

LABORARORY ANALYTICAL REPORTS

CHAIN-OF-CUSTODY DOCUMENTATION

Rice Operating Co.	Project: EME System P-6 Line Leak Site	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Kristin Farris	08/19/04 14:47

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
P6-1 (4H12015-01) Water									
Carbonate Alkalinity	ND	0.100	mg/L	1	EH41610	08/13/04	08/13/04	EPA 310.2M	I-02
Bicarbonate Alkalinity	**232**	2.00	"	"	"	"	"	"	I-02
Hydroxide Alkalinity	ND	0.100	"	"	"	"	"	"	I-02
Chloride	**9040**	5.00	"	"	EH41702	08/16/04	08/16/04	EPA 325.3M	
Total Dissolved Solids	**17200**	5.00	"	"	EH41711	08/15/04	08/17/04	EPA 160.1	
Sulfate	**889**	0.500	"	"	EH41701	08/16/04	08/16/04	EPA 375.4	
P6-2 (4H12015-02) Water									
Carbonate Alkalinity	ND	0.100	mg/L	1	EH41610	08/13/04	08/13/04	EPA 310.2M	I-02
Bicarbonate Alkalinity	**246**	2.00	"	"	"	"	"	"	I-02
Hydroxide Alkalinity	ND	0.100	"	"	"	"	"	"	I-02
Chloride	**8240**	5.00	"	"	EH41702	08/16/04	08/16/04	EPA 325.3M	
Total Dissolved Solids	**15400**	5.00	"	"	EH41711	08/15/04	08/17/04	EPA 160.1	
Sulfate	**1220**	0.500	"	"	EH41701	08/16/04	08/16/04	EPA 375.4	

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

ENVIRONMENTAL LAB OF

12600 West I-20 East - Odessa, Texas 79765

Analytical Report

Prepared for:

Gilbert Vandeventer

Trident Environmental

P.O. Box 7624

Midland, TX 79708

Project: Rice Operating Company

Project Number: V-117

Location: EME P-6 Line Leak Site

Lab Order Number: 4B20002

Report Date: 02/24/04

Trident Environmental	Project: Rice Operating Company	Fax: 682-0727
P.O. Box 7624	Project Number: V-117	**Reported:**
Midland TX, 79708	Project Manager: Gilbert Vandeventer	02/24/04 15:02

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
P6-1	4B20002-01	Water	02/19/04 09:20	02/19/04 16:35
P6-2	4B20002-02	Water	02/19/04 10:10	02/19/04 16:35
M5-1 (S)	4B20002-03	Water	02/19/04 12:50	02/19/04 16:35

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Trident Environmental	Project: Rice Operating Company	Fax: 682-0727
P.O. Box 7624	Project Number: V-117	Reported:
Midland TX, 79708	Project Manager: Gilbert Vandeventer	02/24/04 15:02

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
P6-1 (4B20002-01)									
Benzene	ND	0.00100	mg/L	1	EB42310	02/23/04	02/23/04	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*102 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*91.5 %*	*80-120*		"	"	"	"	
P6-2 (4B20002-02)									
Benzene	ND	0.00100	mg/L	1	EB42310	02/23/04	02/23/04	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*118 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*108 %*	*80-120*		"	"	"	"	
M5-1 (S) (4B20002-03)									
Benzene	ND	0.00100	mg/L	1	EB42310	02/23/04	02/23/04	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*97.0 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*81.0 %*	*80-120*		"	"	"	"	

Post-it® Fax Note	7671	Date 05/13/04	# of pages ▶ 3
To Kristin Farris		From Gil VanDeventer	
Co./Dept. Rice		Co. Trident	
Phone # 505 393 9174		Phone # 432 682 0808	
Fax # 505 397 1471		Fax # 432 682 0727	

Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory.. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

Quality Assurance Review

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Trident Environmental	Project: Rice Operating Company	Fax: 682-0727
P.O. Box 7624	Project Number: V-117	**Reported:**
Midland TX, 79708	Project Manager: Gilbert Vandeventer	02/24/04 15:02

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
P6-1 (4B20002-01)									
Carbonate Alkalinity	ND	0.100	mg/L	1	EB42104	02/20/04	02/20/04	EPA 310.2M	
Bicarbonate Alkalinity	**194**	2.00	"	"	"	"	"	"	
Hydroxide Alkalinity	ND	0.100	"	"	"	"	"	"	
Chloride	**8510**	5.00	"	"	EB42102	02/21/04	02/21/04	EPA 325.3	
Total Dissolved Solids	**16600**	5.00	"	"	EB42404	02/24/04	02/24/04	EPA 160.1	
Sulfate	**830**	6.25	"	12.5	EB42103	02/21/04	02/21/04	EPA 375.4	
P6-2 (4B20002-02)									
Carbonate Alkalinity	ND	0.100	mg/L	1	EB42104	02/20/04	02/20/04	EPA 310.2M	
Bicarbonate Alkalinity	**227**	2.00	"	"	"	"	"	"	
Hydroxide Alkalinity	ND	0.100	"	"	"	"	"	"	
Chloride	**9040**	5.00	"	"	EB42102	02/21/04	02/21/04	EPA 325.3	
Total Dissolved Solids	**19700**	5.00	"	"	EB42404	02/24/04	02/24/04	EPA 160.1	
Sulfate	**1260**	12.5	"	25	EB42103	02/21/04	02/21/04	EPA 375.4	
M5-1 (S) (4B20002-03)									
Carbonate Alkalinity	ND	0.100	mg/L	1	EB42104	02/20/04	02/20/04	EPA 310.2M	
Bicarbonate Alkalinity	**186**	2.00	"	"	"	"	"	"	
Hydroxide Alkalinity	ND	0.100	"	"	"	"	"	"	
Chloride	**5320**	5.00	"	"	EB42102	02/21/04	02/21/04	EPA 325.3	
Total Dissolved Solids	**14500**	5.00	"	"	EB42404	02/24/04	02/24/04	EPA 160.1	
Sulfate	**454**	6.25	"	12.5	EB42103	02/21/04	02/21/04	EPA 375.4	

Environmental Lab of Texas

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Quality Assurance Review

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Trident Environmental	Project: Rice Operating Company	Fax: 682-0727
P.O. Box 7624	Project Number: V-117	**Reported:**
Midland TX, 79708	Project Manager: Gilbert Vandeventer	02/24/04 15:02

Total Metals by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
P6-1 (4B20002-01)									
Calcium	**1800**	10.0	mg/L	1000	EB42311	02/23/04	02/23/04	EPA 6010B	
Magnesium	**482**	0.100	"	100	"	"	02/23/04	"	
Potassium	**65.3**	0.500	"	10	"	"	02/23/04	"	
Sodium	**3720**	10.0	"	1000	"	"	02/23/04	"	
P6-2 (4B20002-02)									
Calcium	**1590**	10.0	mg/L	1000	EB42311	02/23/04	02/23/04	EPA 6010B	
Magnesium	**451**	0.100	"	100	"	"	02/23/04	"	
Potassium	**75.9**	0.500	"	10	"	"	02/23/04	"	
Sodium	**3900**	10.0	"	1000	"	"	02/23/04	"	
M5-1 (S) (4B20002-03)									
Calcium	**1630**	10.0	mg/L	1000	EB42311	02/23/04	02/23/04	EPA 6010B	
Magnesium	**352**	0.100	"	100	"	"	02/23/04	"	
Potassium	**48.4**	0.500	"	10	"	"	02/23/04	"	
Sodium	**1970**	10.0	"	1000	"	"	02/23/04	"	

Quality Assurance Review

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Trident Environmental	Project: Rice Operating Company	Fax: 682-0727
P.O. Box 7624	Project Number: V-117	**Reported:**
Midland TX, 79708	Project Manager: Gilbert Vandeventer	02/24/04 15:02

Organics by GC - Quality Control
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB42310 - EPA 5030C (GC)										
Blank (EB42310-BLK1)				Prepared & Analyzed: 02/23/04						
Benzene	ND	0.00100	mg/L							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00100	"							
Xylene (o)	ND	0.00100	"							
Surrogate: a,a,a-Trifluorotoluene	*23.5*		*ug/l*	*20.0*		*118*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*16.8*		"	*20.0*		*84.0*	*80-120*			
LCS (EB42310-BS1)				Prepared & Analyzed: 02/23/04						
Benzene	97.9		ug/l	100		97.9	80-120			
Toluene	100		"	100		100	80-120			
Ethylbenzene	100		"	100		100	80-120			
Xylene (p/m)	216		"	200		108	80-120			
Xylene (o)	112		"	100		112	80-120			
Surrogate: a,a,a-Trifluorotoluene	*21.8*		"	*20.0*		*109*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*22.7*		"	*20.0*		*114*	*80-120*			
Calibration Check (EB42310-CCV1)				Prepared & Analyzed: 02/23/04						
Benzene	89.1		ug/l	100		89.1	80-120			
Toluene	92.0		"	100		92.0	80-120			
Ethylbenzene	93.8		"	100		93.8	80-120			
Xylene (p/m)	197		"	200		98.5	80-120			
Xylene (o)	102		"	100		102	80-120			
Surrogate: a,a,a-Trifluorotoluene	*18.9*		"	*20.0*		*94.5*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*23.9*		"	*20.0*		*120*	*80-120*			
Duplicate (EB42310-DUP1)		**Source: 4B20004-02**		Prepared & Analyzed: 02/23/04						
Benzene	0.0163	0.00100	mg/L		0.0142			13.8	20	
Toluene	0.00542	0.00100	"		0.00457			17.0	20	
Ethylbenzene	0.00483	0.00100	"		0.00422			13.5	20	
Xylene (p/m)	0.00235	0.00100	"		0.00201			15.6	20	
Xylene (o)	0.00108	0.00100	"		0.000961			11.7	20	
Surrogate: a,a,a-Trifluorotoluene	*29.9*		*ug/l*	*20.0*		*150*	*80-120*			*S-04*
Surrogate: 4-Bromofluorobenzene	*28.9*		"	*20.0*		*144*	*80-120*			*S-04*

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Roland K Tuttle

Quality Assurance Review

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Trident Environmental	Project: Rice Operating Company	Fax: 682-0727
P.O. Box 7624	Project Number: V-117	Reported:
Midland TX, 79708	Project Manager: Gilbert Vandeventer	02/24/04 15:02

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB42102 - General Preparation (WetChem)										
Blank (EB42102-BLK1)				Prepared & Analyzed: 02/21/04						
Chloride	ND	5.00	mg/L							
Blank (EB42102-BLK2)				Prepared & Analyzed: 02/21/04						
Chloride	ND	5.00	mg/L							
Calibration Check (EB42102-CCV1)				Prepared & Analyzed: 02/21/04						
Chloride	4960		mg/L	5000		99.2	80-120			
Calibration Check (EB42102-CCV2)				Prepared & Analyzed: 02/21/04						
Chloride	4960		mg/L	5000		99.2	80-120			
Matrix Spike (EB42102-MS1)		Source: 4B18015-01		Prepared & Analyzed: 02/21/04						
Chloride	134	5.00	mg/L	100	35.4	98.6	80-120			
Matrix Spike (EB42102-MS2)		Source: 4B20014-01		Prepared & Analyzed: 02/21/04						
Chloride	833	5.00	mg/L	500	337	99.2	80-120			
Matrix Spike Dup (EB42102-MSD1)		Source: 4B18015-01		Prepared & Analyzed: 02/21/04						
Chloride	133	5.00	mg/L	100	35.4	97.6	80-120	0.749	20	
Matrix Spike Dup (EB42102-MSD2)		Source: 4B20014-01		Prepared & Analyzed: 02/21/04						
Chloride	842	5.00	mg/L	500	337	101	80-120	1.07	20	
Batch EB42103 - General Preparation (WetChem)										
Blank (EB42103-BLK1)				Prepared & Analyzed: 02/21/04						
Sulfate	ND	0.500	mg/L							

Quality Assurance Review

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Trident Environmental	Project: Rice Operating Company	Fax: 682-0727
P.O. Box 7624	Project Number: V-117	**Reported:**
Midland TX, 79708	Project Manager: Gilbert Vandeventer	02/24/04 15:02

General Chemistry Parameters by EPA / Standard Methods - Quality Control
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB42103 - General Preparation (WetChem)										
Blank (EB42103-BLK2)				Prepared & Analyzed: 02/21/04						
Sulfate	ND	0.500	mg/L							
Calibration Check (EB42103-CCV1)				Prepared & Analyzed: 02/21/04						
Sulfate	49.2		mg/L	50.0		98.4	80-120			
Calibration Check (EB42103-CCV2)				Prepared & Analyzed: 02/21/04						
Sulfate	48.5		mg/L	50.0		97.0	80-120			
Duplicate (EB42103-DUP1)		Source: 4B18015-01		Prepared & Analyzed: 02/21/04						
Sulfate	195	0.500	mg/L		195			0.00	20	
Duplicate (EB42103-DUP2)		Source: 4B20014-01		Prepared & Analyzed: 02/21/04						
Sulfate	476	0.500	mg/L		468			1.69	20	
Batch EB42104 - General Preparation (WetChem)										
Blank (EB42104-BLK1)				Prepared & Analyzed: 02/20/04						
Carbonate Alkalinity	ND	0.100	mg/L							
Bicarbonate Alkalinity	ND	2.00	"							
Hydroxide Alkalinity	ND	0.100	"							
Calibration Check (EB42104-CCV1)				Prepared & Analyzed: 02/20/04						
Carbonate Alkalinity	0.0496		mg/L	0.0500		99.2	80-120			
Duplicate (EB42104-DUP1)		Source: 4B20001-01		Prepared & Analyzed: 02/20/04						
Carbonate Alkalinity	6.00	0.100	mg/L		6.00			0.00	20	
Bicarbonate Alkalinity	284	2.00	"		280			1.42	20	
Hydroxide Alkalinity	0.00	0.100	"		0.00				20	

Quality Assurance Review

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Trident Environmental	Project: Rice Operating Company	Fax: 682-0727
P.O. Box 7624	Project Number: V-117	**Reported:**
Midland TX, 79708	Project Manager: Gilbert Vandeventer	02/24/04 15:02

General Chemistry Parameters by EPA / Standard Methods - Quality Control
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB42404 - General Preparation (WetChem)										
Blank (EB42404-BLK1)				Prepared & Analyzed: 02/24/04						
Total Dissolved Solids	ND	5.00	mg/L							
Duplicate (EB42404-DUP1)		Source: 4B20001-01		Prepared & Analyzed: 02/24/04						
Total Dissolved Solids	1680	5.00	mg/L		1630			3.02	20	

Roland K Tuttle

Quality Assurance Review

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Trident Environmental	Project: Rice Operating Company	Fax: 682-0727
P.O. Box 7624	Project Number: V-117	Reported:
Midland TX, 79708	Project Manager: Gilbert Vandeventer	02/24/04 15:02

Total Metals by EPA / Standard Methods - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB42311 - General Preparation (Metals)										
Blank (EB42311-BLK1)				Prepared & Analyzed: 02/23/04						
Calcium	ND	0.0100	mg/L							
Magnesium	ND	0.00100	"							
Potassium	ND	0.0500	"							
Sodium	ND	0.0100	"							
Calibration Check (EB42311-CCV1)				Prepared & Analyzed: 02/23/04						
Calcium	2.10		mg/L	2.00		105	85-115			
Magnesium	2.00		"	2.00		100	85-115			
Potassium	1.74		"	2.00		87.0	85-115			
Sodium	1.89		"	2.00		94.5	85-115			
Duplicate (EB42311-DUP1)	**Source: 4B20001-01**			Prepared & Analyzed: 02/23/04						
Calcium	23.3	0.100	mg/L		23.5			0.855	20	
Magnesium	4.58	0.00100	"		4.60			0.436	20	
Potassium	16.3	0.500	"		15.8			3.12	20	
Sodium	451	1.00	"		450			0.222	20	

Quality Assurance Review

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Trident Environmental	Project: Rice Operating Company	Fax: 682-0727
P.O. Box 7624	Project Number: V-117	**Reported:**
Midland TX, 79708	Project Manager: Gilbert Vandeventer	02/24/04 15:02

Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Quality Assurance Review

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

TRIDENT ENVIRONMENTAL

Trident Environmental
P.O. Box 7624
Midland, Texas 79708
(915) 682-0808
(915) 682-0727 (Fax)
& (505) 397-1471 (Fax)

4B20002

V-117-0104-2

Chain of Custody

Date 02-19-04 Page 1 of 1

Lab Name: Environmental Lab of Texas
Address: 12600 W I-20 East
Odessa, Texas 79765
Telephone: (915) 563-1800

Samplers (SIGNATURES): Gil Van Deventer

Sample Identification	Matrix	Date	Time	Sample Type: G - Grab, C - Composite	BTEX (EPA 8021B)	MTBE (EPA 8021B)	SVOC (EPA 8270)	PAH (EPA 8270)	VOC (EPA 8260)	TPH (EPA 418.1)	TPH (TX-1005)	TPH (TX-1006)	GRO (EPA 8015G)	DRO (EPA 8015D)	TDS (EPA 160.1)	Anions: SO_4, Cl & HCO_3	Cations: Ca, Mg, K & Na	TDS	Number of Containers
1 P6-1	Water	02-19-04	0920	G	✓											✓	✓	✓	3
2 P6-2	Water	02-19-04	1010	G	✓											✓	✓	✓	3
3 MS-1 (S)	Water	02-19-04	1250	G	✓											✓	✓	✓	3

Analysis Request

Project Information		Sample Receipt	
Project Name:	Rice Operating Company	Total Containers:	
Project Location:	EME P-6 Line Leak Site	COC Seals:	
Project Manager:	Gil Van Deventer	Rec'd Good Cond/Cold:	
Cost Center No.:	V-117	Conforms to Records:	
Shipping ID No.:	Hand delivered	Lab No.:	
Bill to (see below):	Rice Operating Co.		
Special Instructions:	Attn: Carolyn Haynes 122 W. Taylor, Hobbs NM 88240 (Fax: 505-397-1471)		

Relinquished By:	Relinquished By:	Relinquished By:
(1) (Company) Trident Environmental	(2) (Company) ELOT	(3) (Company)
(Printed Name) Gil Van Deventer	(Printed Name) PAM ANDERSON	(Printed Name)
(Signature) Gil Van Deventer	(Signature) Pam Anderson	(Signature)
(Date) 02-19-04 (Time) 5:35p	(Date) 2-19-04 (Time) 1635	(Date) (Time)
Received By:	**Received By:**	**Received By:**
(1) (Company)	(2) (Company)	(3) (Company)
(Printed Name)	(Printed Name)	(Printed Name)
(Signature)	(Signature)	(Signature)
(Date) (Time)	(Date) (Time)	(Date) (Time)

Copy signed original form for Trident Environmental records

4.5°C 40mL Vial (6)
1LHDPE (3)

Feb 25 04 01:41p

P.26

ENVIRONMENTAL LAB OF

12600 West I-20 East - Odessa, Texas 79765

Analytical Report

Prepared for:

Kristin Farris

Rice Operating Co.

122 W. Taylor

Hobbs, NM 88240

Project: EME System P-6 Line Leak Site

Project Number: None Given

Location: T20S, R37E, Sec 6, Unit Letter P

Lab Order Number: 4E07003

Report Date: 05/13/04

Rice Operating Co.	Project: EME System P-6 Line Leak Site	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Kristin Farris	05/13/04 09:25

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
P6-1	4E07003-01	Water	05/06/04 12:10	05/07/04 08:05
P6-2	4E07003-02	Water	05/06/04 11:15	05/07/04 08:05

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Rice Operating Co.	Project: EME System P-6 Line Leak Site	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Kristin Farris	05/13/04 09:25

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
P6-1 (4E07003-01) Water									
Benzene	ND	0.00100	mg/L	1	EE41103	05/07/04	05/07/04	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*117 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*93.0 %*	*80-120*		"	"	"	"	
P6-2 (4E07003-02) Water									
Benzene	ND	0.00100	mg/L	1	EE41103	05/07/04	05/07/04	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*113 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*90.0 %*	*80-120*		"	"	"	"	

Environmental Lab of Texas

Quality Assurance Review

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Rice Operating Co.	Project: EME System P-6 Line Leak Site	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Kristin Farris	05/13/04 09:25

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
P6-1 (4E07003-01) Water									
Carbonate Alkalinity	ND	0.100	mg/L	1	EE40710	05/07/04	05/07/04	EPA 310.2M	
Bicarbonate Alkalinity	**224**	2.00	"	"	"	"	"	"	
Hydroxide Alkalinity	ND	0.100	"	"	"	"	"	"	
Chloride	**8510**	5.00	"	"	EE40709	05/07/04	05/07/04	EPA 325.3M	
Total Dissolved Solids	**17400**	5.00	"	"	EE41102	05/07/04	05/11/04	EPA 160.1	
Sulfate	**756**	5.00	"	10	EE41114	05/11/04	05/11/04	EPA 375.4	
P6-2 (4E07003-02) Water									
Carbonate Alkalinity	ND	0.100	mg/L	1	EE40710	05/07/04	05/07/04	EPA 310.2M	
Bicarbonate Alkalinity	**240**	2.00	"	"	"	"	"	"	
Hydroxide Alkalinity	ND	0.100	"	"	"	"	"	"	
Chloride	**8330**	5.00	"	"	EE40709	05/07/04	05/07/04	EPA 325.3M	
Total Dissolved Solids	**16100**	5.00	"	"	EE41102	05/07/04	05/11/04	EPA 160.1	
Sulfate	**1340**	12.5	"	25	EE41114	05/11/04	05/11/04	EPA 375.4	

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Quality Assurance Review

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Rice Operating Co.	Project: EME System P-6 Line Leak Site	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Kristin Farris	05/13/04 09:25

Total Metals by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
P6-1 (4E07003-01) Water									
Calcium	**1820**	10.0	mg/L	1000	EE41104	05/10/04	05/11/04	EPA 6010B	
Magnesium	**626**	0.100	"	100	"	"	"	"	
Potassium	**80.1**	0.500	"	10	"	"	"	"	
Sodium	**4280**	10.0	"	1000	"	"	"	"	
P6-2 (4E07003-02) Water									
Calcium	**1760**	10.0	mg/L	1000	EE41104	05/10/04	05/11/04	EPA 6010B	
Magnesium	**651**	0.100	"	100	"	"	"	"	
Potassium	**89.4**	0.500	"	10	"	"	"	"	
Sodium	**5000**	10.0	"	1000	"	"	"	"	

Rice Operating Co.	Project: EME System P-6 Line Leak Site	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Kristin Farris	05/13/04 09:25

Organics by GC - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EE41103 - EPA 5030C (GC)										
Blank (EE41103-BLK1)				Prepared & Analyzed: 05/07/04						
Benzene	ND	0.00100	mg/L							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00100	"							
Xylene (o)	ND	0.00100	"							
Surrogate: a,a,a-Trifluorotoluene	*23.2*		*ug/l*	*20.0*		*116*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*19.7*		*"*	*20.0*		*98.5*	*80-120*			
LCS (EE41103-BS1)				Prepared & Analyzed: 05/07/04						
Benzene	91.9		ug/l	100		91.9	80-120			
Toluene	101		"	100		101	80-120			
Ethylbenzene	102		"	100		102	80-120			
Xylene (p/m)	210		"	200		105	80-120			
Xylene (o)	106		"	100		106	80-120			
Surrogate: a,a,a-Trifluorotoluene	*20.6*		*"*	*20.0*		*103*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*23.5*		*"*	*20.0*		*118*	*80-120*			
Calibration Check (EE41103-CCV1)				Prepared & Analyzed: 05/07/04						
Benzene	85.5		ug/l	100		85.5	80-120			
Toluene	95.5		"	100		95.5	80-120			
Ethylbenzene	91.2		"	100		91.2	80-120			
Xylene (p/m)	194		"	200		97.0	80-120			
Xylene (o)	96.5		"	100		96.5	80-120			
Surrogate: a,a,a-Trifluorotoluene	*17.3*		*"*	*20.0*		*86.5*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*23.7*		*"*	*20.0*		*118*	*80-120*			
Duplicate (EE41103-DUP1)	**Source: 4E07001-01**			Prepared & Analyzed: 05/07/04						
Benzene	ND	0.00100	mg/L		ND				20	
Toluene	ND	0.00100	"		ND				20	
Ethylbenzene	ND	0.00100	"		ND				20	
Xylene (p/m)	ND	0.00100	"		ND				20	
Xylene (o)	ND	0.00100	"		ND				20	
Surrogate: a,a,a-Trifluorotoluene	*23.5*		*ug/l*	*20.0*		*118*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*21.4*		*"*	*20.0*		*107*	*80-120*			

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Rice Operating Co.	Project: EME System P-6 Line Leak Site	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Kristin Farris	05/13/04 09:25

Organics by GC - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EE41103 - EPA 5030C (GC)										
Matrix Spike (EE41103-MS1)	**Source: 4E07001-02**			Prepared & Analyzed: 05/07/04						
Benzene	86.2		ug/l	100	ND	86.2	80-120			
Toluene	96.9		"	100	ND	96.9	80-120			
Ethylbenzene	92.9		"	100	ND	92.9	80-120			
Xylene (p/m)	196		"	200	ND	98.0	80-120			
Xylene (o)	96.7		"	100	ND	96.7	80-120			
Surrogate: a,a,a-Trifluorotoluene	*20.8*		"	*20.0*		*104*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*23.3*		"	*20.0*		*116*	*80-120*			

Rice Operating Co.	Project: EME System P-6 Line Leak Site	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Kristin Farris	05/13/04 09:25

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EE40709 - General Preparation (WetChem)										
Blank (EE40709-BLK1)				Prepared & Analyzed: 05/07/04						
Chloride	ND	5.00	mg/L							
Matrix Spike (EE40709-MS1)	**Source: 4E06007-02**			Prepared & Analyzed: 05/07/04						
Chloride	514	5.00	mg/L	250	270	97.6	80-120			
Matrix Spike Dup (EE40709-MSD1)	**Source: 4E06007-02**			Prepared & Analyzed: 05/07/04						
Chloride	514	5.00	mg/L	250	270	97.6	80-120	0.00	20	
Reference (EE40709-SRM1)				Prepared & Analyzed: 05/07/04						
Chloride	4780		mg/L	5000		95.6	80-120			
Batch EE40710 - General Preparation (WetChem)										
Blank (EE40710-BLK1)				Prepared & Analyzed: 05/07/04						
Carbonate Alkalinity	ND	0.100	mg/L							
Bicarbonate Alkalinity	ND	2.00	"							
Hydroxide Alkalinity	ND	0.100	"							
Calibration Check (EE40710-CCV1)				Prepared & Analyzed: 05/07/04						
Carbonate Alkalinity	0.0454		mg/L	0.0500		90.8	80-120			
Duplicate (EE40710-DUP1)	**Source: 4E06007-02**			Prepared & Analyzed: 05/07/04						
Carbonate Alkalinity	0.00	0.100	mg/L		0.00				20	
Bicarbonate Alkalinity	174	2.00	"		173			0.576	20	
Hydroxide Alkalinity	0.00	0.100	"		0.00				20	

Rice Operating Co.	Project: EME System P-6 Line Leak Site	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Kristin Farris	05/13/04 09:25

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EE41102 - General Preparation (WetChem)										
Blank (EE41102-BLK1)				Prepared: 05/07/04 Analyzed: 05/11/04						
Total Dissolved Solids	ND	5.00	mg/L							
Duplicate (EE41102-DUP1)	**Source: 4E07001-01**			Prepared: 05/07/04 Analyzed: 05/11/04						
Total Dissolved Solids	1450	5.00	mg/L		1440			0.692	20	
Batch EE41114 - General Preparation (WetChem)										
Blank (EE41114-BLK1)				Prepared & Analyzed: 05/11/04						
Sulfate	ND	0.500	mg/L							
Calibration Check (EE41114-CCV1)				Prepared & Analyzed: 05/11/04						
Sulfate	50.9		mg/L	50.0		102	80-120			
Duplicate (EE41114-DUP1)	**Source: 4E06007-02**			Prepared & Analyzed: 05/11/04						
Sulfate	270	2.50	mg/L		274			1.47	20	

Rice Operating Co.	Project: EME System P-6 Line Leak Site	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Kristin Farris	05/13/04 09:25

Total Metals by EPA / Standard Methods - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EE41104 - General Preparation (Metals)										
Blank (EE41104-BLK1)				Prepared: 05/10/04 Analyzed: 05/11/04						
Calcium	ND	0.0100	mg/L							
Magnesium	ND	0.00100	"							
Potassium	ND	0.0500	"							
Sodium	ND	0.0100	"							
Calibration Check (EE41104-CCV1)				Prepared: 05/10/04 Analyzed: 05/11/04						
Calcium	1.98		mg/L	2.00		99.0	85-115			
Magnesium	2.12		"	2.00		106	85-115			
Potassium	1.83		"	2.00		91.5	85-115			
Sodium	1.72		"	2.00		86.0	85-115			
Duplicate (EE41104-DUP1)	**Source: 4E07001-01**			Prepared: 05/10/04 Analyzed: 05/11/04						
Calcium	24.4	0.100	mg/L		24.5			0.409	20	
Magnesium	4.18	0.00100	"		4.18			0.00	20	
Potassium	18.7	0.500	"		18.4			1.62	20	
Sodium	557	1.00	"		557			0.00	20	

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

ENVIRONMENTAL LAB OF

12600 West I-20 East - Odessa, Texas 79765

Analytical Report

Prepared for:

Kristin Farris

Rice Operating Co.

122 W. Taylor

Hobbs, NM 88240

Project: EME System M-5 SWD Site

Project Number: None Given

Location: T20S, R37E, Sec 5, Unit Letter M

Lab Order Number: 4E07004

Report Date: 05/13/04

Rice Operating Co.	Project: EME System M-5 SWD Site	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Kristin Farris	05/13/04 09:26

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
M5-1	4E07004-01	Water	05/06/04 13:20	05/07/04 08:05

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Rice Operating Co.	Project: EME System M-5 SWD Site	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Kristin Farris	05/13/04 09:26

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
M5-1 (4E07004-01) Water									
Benzene	ND	0.00100	mg/L	1	EE41103	05/07/04	05/07/04	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*110 %*		*80-120*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*90.0 %*		*80-120*	"	"	"	"	

Rice Operating Co.	Project: EME System M-5 SWD Site	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Kristin Farris	05/13/04 09:26

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
M5-1 (4E07004-01) Water									
Carbonate Alkalinity	ND	0.100	mg/L	1	EE40710	05/07/04	05/07/04	EPA 310.2M	
Bicarbonate Alkalinity	**210**	2.00	"	"	"	"	"	"	
Hydroxide Alkalinity	ND	0.100	"	"	"	"	"	"	
Chloride	**5940**	5.00	"	"	EE40709	05/07/04	05/07/04	EPA 325.3M	
Total Dissolved Solids	**12400**	5.00	"	"	EE41102	05/07/04	05/11/04	EPA 160.1	
Sulfate	**420**	5.00	"	10	EE41114	05/11/04	05/11/04	EPA 375.4	

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Quality Assurance Review

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Rice Operating Co.	Project: EME System M-5 SWD Site	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Kristin Farris	05/13/04 09:26

Total Metals by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
M5-1 (4E07004-01) Water									
Calcium	**2110**	10.0	mg/L	1000	EE41104	05/10/04	05/11/04	EPA 6010B	
Magnesium	**565**	0.100	"	100	"	"	"	"	
Potassium	**56.0**	0.500	"	10	"	"	"	"	
Sodium	**2520**	10.0	"	1000	"	"	"	"	

Organics by GC - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EE41103 - EPA 5030C (GC)										
Blank (EE41103-BLK1)				Prepared & Analyzed: 05/07/04						
Benzene	ND	0.00100	mg/L							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00100	"							
Xylene (o)	ND	0.00100	"							
Surrogate: a,a,a-Trifluorotoluene	*23.2*		*ug/l*	*20.0*		*116*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*19.7*		*"*	*20.0*		*98.5*	*80-120*			
LCS (EE41103-BS1)				Prepared & Analyzed: 05/07/04						
Benzene	91.9		ug/l	100		91.9	80-120			
Toluene	101		"	100		101	80-120			
Ethylbenzene	102		"	100		102	80-120			
Xylene (p/m)	210		"	200		105	80-120			
Xylene (o)	106		"	100		106	80-120			
Surrogate: a,a,a-Trifluorotoluene	*20.6*		*"*	*20.0*		*103*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*23.5*		*"*	*20.0*		*118*	*80-120*			
Calibration Check (EE41103-CCV1)				Prepared & Analyzed: 05/07/04						
Benzene	85.5		ug/l	100		85.5	80-120			
Toluene	95.5		"	100		95.5	80-120			
Ethylbenzene	91.2		"	100		91.2	80-120			
Xylene (p/m)	194		"	200		97.0	80-120			
Xylene (o)	96.5		"	100		96.5	80-120			
Surrogate: a,a,a-Trifluorotoluene	*17.3*		*"*	*20.0*		*86.5*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*23.7*		*"*	*20.0*		*118*	*80-120*			
Duplicate (EE41103-DUP1)	**Source: 4E07001-01**			Prepared & Analyzed: 05/07/04						
Benzene	ND	0.00100	mg/L		ND				20	
Toluene	ND	0.00100	"		ND				20	
Ethylbenzene	ND	0.00100	"		ND				20	
Xylene (p/m)	ND	0.00100	"		ND				20	
Xylene (o)	ND	0.00100	"		ND				20	
Surrogate: a,a,a-Trifluorotoluene	*23.5*		*ug/l*	*20.0*		*118*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*21.4*		*"*	*20.0*		*107*	*80-120*			

Rice Operating Co.	Project: EME System M-5 SWD Site	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Kristin Farris	05/13/04 09:26

Organics by GC - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EE41103 - EPA 5030C (GC)										
Matrix Spike (EE41103-MS1)	**Source: 4E07001-02**			Prepared & Analyzed: 05/07/04						
Benzene	86.2		ug/l	100	ND	86.2	80-120			
Toluene	96.9		"	100	ND	96.9	80-120			
Ethylbenzene	92.9		"	100	ND	92.9	80-120			
Xylene (p/m)	196		"	200	ND	98.0	80-120			
Xylene (o)	96.7		"	100	ND	96.7	80-120			
Surrogate: a,a,a-Trifluorotoluene	*20.8*		"	*20.0*		*104*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*23.3*		"	*20.0*		*116*	*80-120*			

Environmental Lab of Texas

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Quality Assurance Review

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Rice Operating Co.	Project: EME System M-5 SWD Site	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Kristin Farris	05/13/04 09:26

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EE40709 - General Preparation (WetChem)										
Blank (EE40709-BLK1)				Prepared & Analyzed: 05/07/04						
Chloride	ND	5.00	mg/L							
Matrix Spike (EE40709-MS1)	**Source: 4E06007-02**			Prepared & Analyzed: 05/07/04						
Chloride	514	5.00	mg/L	250	270	97.6	80-120			
Matrix Spike Dup (EE40709-MSD1)	**Source: 4E06007-02**			Prepared & Analyzed: 05/07/04						
Chloride	514	5.00	mg/L	250	270	97.6	80-120	0.00	20	
Reference (EE40709-SRM1)				Prepared & Analyzed: 05/07/04						
Chloride	4780		mg/L	5000		95.6	80-120			
Batch EE40710 - General Preparation (WetChem)										
Blank (EE40710-BLK1)				Prepared & Analyzed: 05/07/04						
Carbonate Alkalinity	ND	0.100	mg/L							
Bicarbonate Alkalinity	ND	2.00	"							
Hydroxide Alkalinity	ND	0.100	"							
Calibration Check (EE40710-CCV1)				Prepared & Analyzed: 05/07/04						
Carbonate Alkalinity	0.0454		mg/L	0.0500		90.8	80-120			
Duplicate (EE40710-DUP1)	**Source: 4E06007-02**			Prepared & Analyzed: 05/07/04						
Carbonate Alkalinity	0.00	0.100	mg/L		0.00				20	
Bicarbonate Alkalinity	174	2.00	"		173			0.576	20	
Hydroxide Alkalinity	0.00	0.100	"		0.00				20	

Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory.. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

Quality Assurance Review

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Rice Operating Co.	Project: EME System M-5 SWD Site	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Kristin Farris	05/13/04 09:26

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EE41102 - General Preparation (WetChem)										
Blank (EE41102-BLK1)				Prepared: 05/07/04 Analyzed: 05/11/04						
Total Dissolved Solids	ND	5.00	mg/L							
Duplicate (EE41102-DUP1)	**Source: 4E07001-01**			Prepared: 05/07/04 Analyzed: 05/11/04						
Total Dissolved Solids	1450	5.00	mg/L		1440			0.692	20	
Batch EE41114 - General Preparation (WetChem)										
Blank (EE41114-BLK1)				Prepared & Analyzed: 05/11/04						
Sulfate	ND	0.500	mg/L							
Calibration Check (EE41114-CCV1)				Prepared & Analyzed: 05/11/04						
Sulfate	50.9		mg/L	50.0		102	80-120			
Duplicate (EE41114-DUP1)	**Source: 4E06007-02**			Prepared & Analyzed: 05/11/04						
Sulfate	270	2.50	mg/L		274			1.47	20	

Rice Operating Co.	Project: EME System M-5 SWD Site	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Kristin Farris	05/13/04 09:26

Total Metals by EPA / Standard Methods - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EE41104 - General Preparation (Metals)										
Blank (EE41104-BLK1)				Prepared: 05/10/04 Analyzed: 05/11/04						
Calcium	ND	0.0100	mg/L							
Magnesium	ND	0.00100	"							
Potassium	ND	0.0500	"							
Sodium	ND	0.0100	"							
Calibration Check (EE41104-CCV1)				Prepared: 05/10/04 Analyzed: 05/11/04						
Calcium	1.98		mg/L	2.00		99.0	85-115			
Magnesium	2.12		"	2.00		106	85-115			
Potassium	1.83		"	2.00		91.5	85-115			
Sodium	1.72		"	2.00		86.0	85-115			
Duplicate (EE41104-DUP1)	**Source: 4E07001-01**			Prepared: 05/10/04 Analyzed: 05/11/04						
Calcium	24.4	0.100	mg/L		24.5			0.409	20	
Magnesium	4.18	0.00100	"		4.18			0.00	20	
Potassium	18.7	0.500	"		18.4			1.62	20	
Sodium	557	1.00	"		557			0.00	20	

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

ENVIRONMENTAL LAB OF

12600 West I-20 East - Odessa, Texas 79765

Analytical Report

Prepared for:

Kristin Farris

Rice Operating Co.

122 W. Taylor

Hobbs, NM 88240

Project: EME System P-6 Line Leak Site

Project Number: None Given

Location: T20S, R37E, Sec 6, Unit Letter P

Lab Order Number: 4H12015

Report Date: 08/19/04

Rice Operating Co.	Project: EME System P-6 Line Leak Site	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Kristin Farris	08/19/04 14:47

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
P6-1	4H12015-01	Water	08/10/04 15:02	08/12/04 16:45
P6-2	4H12015-02	Water	08/10/04 14:02	08/12/04 16:45

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Rice Operating Co.	Project: EME System P-6 Line Leak Site	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Kristin Farris	08/19/04 14:47

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
P6-1 (4H12015-01) Water									
Benzene	ND	0.00100	mg/L	1	EH41804	08/17/04	08/17/04	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*110 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*89.0 %*	*80-120*		"	"	"	"	
P6-2 (4H12015-02) Water									
Benzene	ND	0.00100	mg/L	1	EH41804	08/17/04	08/17/04	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*110 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*89.0 %*	*80-120*		"	"	"	"	

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Rice Operating Co.	Project: EME System P-6 Line Leak Site	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Kristin Farris	08/19/04 14:47

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
P6-1 (4H12015-01) Water									
Carbonate Alkalinity	ND	0.100	mg/L	1	EH41610	08/13/04	08/13/04	EPA 310.2M	I-02
Bicarbonate Alkalinity	**232**	2.00	"	"	"	"	"	"	I-02
Hydroxide Alkalinity	ND	0.100	"	"	"	"	"	"	I-02
Chloride	**9040**	5.00	"	"	EH41702	08/16/04	08/16/04	EPA 325.3M	
Total Dissolved Solids	**17200**	5.00	"	"	EH41711	08/15/04	08/17/04	EPA 160.1	
Sulfate	**889**	0.500	"	"	EH41701	08/16/04	08/16/04	EPA 375.4	
P6-2 (4H12015-02) Water									
Carbonate Alkalinity	ND	0.100	mg/L	1	EH41610	08/13/04	08/13/04	EPA 310.2M	I-02
Bicarbonate Alkalinity	**246**	2.00	"	"	"	"	"	"	I-02
Hydroxide Alkalinity	ND	0.100	"	"	"	"	"	"	I-02
Chloride	**8240**	5.00	"	"	EH41702	08/16/04	08/16/04	EPA 325.3M	
Total Dissolved Solids	**15400**	5.00	"	"	EH41711	08/15/04	08/17/04	EPA 160.1	
Sulfate	**1220**	0.500	"	"	EH41701	08/16/04	08/16/04	EPA 375.4	

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Rice Operating Co.	Project: EME System P-6 Line Leak Site	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Kristin Farris	08/19/04 14:47

Total Metals by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
P6-1 (4H12015-01) Water									
Calcium	**2240**	10.0	mg/L	1000	EH41719	08/17/04	08/17/04	EPA 6010B	
Magnesium	**652**	0.100	"	100	"	"	"	"	
Potassium	**73.8**	0.500	"	10	"	"	"	"	
Sodium	**5070**	10.0	"	1000	"	"	"	"	
P6-2 (4H12015-02) Water									
Calcium	**1790**	10.0	mg/L	1000	EH41719	08/17/04	08/17/04	EPA 6010B	
Magnesium	**580**	0.100	"	100	"	"	"	"	
Potassium	**74.0**	0.500	"	10	"	"	"	"	
Sodium	**4690**	10.0	"	1000	"	"	"	"	

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Rice Operating Co.	Project: EME System P-6 Line Leak Site	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Kristin Farris	08/19/04 14:47

Organics by GC - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EH41804 - EPA 5030C (GC)										
Blank (EH41804-BLK1)				Prepared & Analyzed: 08/14/04						
Benzene	ND	0.00100	mg/L							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00100	"							
Xylene (o)	ND	0.00100	"							
Surrogate: a,a,a-Trifluorotoluene	*22.7*		*ug/l*	*20.0*		*114*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*20.2*		*"*	*20.0*		*101*	*80-120*			
LCS (EH41804-BS1)				Prepared & Analyzed: 08/14/04						
Benzene	89.5		ug/l	100		89.5	80-120			
Toluene	102		"	100		102	80-120			
Ethylbenzene	98.1		"	100		98.1	80-120			
Xylene (p/m)	205		"	200		102	80-120			
Xylene (o)	101		"	100		101	80-120			
Surrogate: a,a,a-Trifluorotoluene	*22.5*		*"*	*20.0*		*112*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*22.5*		*"*	*20.0*		*112*	*80-120*			
Calibration Check (EH41804-CCV1)				Prepared & Analyzed: 08/14/04						
Benzene	83.5		ug/l	100		83.5	80-120			
Toluene	91.4		"	100		91.4	80-120			
Ethylbenzene	90.5		"	100		90.5	80-120			
Xylene (p/m)	195		"	200		97.5	80-120			
Xylene (o)	91.8		"	100		91.8	80-120			
Surrogate: a,a,a-Trifluorotoluene	*18.5*		*"*	*20.0*		*92.5*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*20.6*		*"*	*20.0*		*103*	*80-120*			
Matrix Spike (EH41804-MS1)	**Source: 4H13013-02**			Prepared & Analyzed: 08/14/04						
Benzene	82.2		ug/l	100	ND	82.2	80-120			
Toluene	93.1		"	100	ND	93.1	80-120			
Ethylbenzene	89.4		"	100	ND	89.4	80-120			
Xylene (p/m)	188		"	200	ND	94.0	80-120			
Xylene (o)	94.5		"	100	ND	94.5	80-120			
Surrogate: a,a,a-Trifluorotoluene	*18.5*		*"*	*20.0*		*92.5*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*19.9*		*"*	*20.0*		*99.5*	*80-120*			

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Rice Operating Co.	Project: EME System P-6 Line Leak Site	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Kristin Farris	08/19/04 14:47

Organics by GC - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EH41804 - EPA 5030C (GC)										
Matrix Spike Dup (EH41804-MSD1)	**Source: 4H13013-02**			Prepared & Analyzed: 08/14/04						
Benzene	81.3		ug/l	100	ND	81.3	80-120	1.10	20	
Toluene	95.0		"	100	ND	95.0	80-120	2.02	20	
Ethylbenzene	90.3		"	100	ND	90.3	80-120	1.00	20	
Xylene (p/m)	189		"	200	ND	94.5	80-120	0.531	20	
Xylene (o)	89.4		"	100	ND	89.4	80-120	5.55	20	
Surrogate: a,a,a-Trifluorotoluene	*19.9*		"	*20.0*		*99.5*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*20.0*		"	*20.0*		*100*	*80-120*			

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Rice Operating Co.	Project: EME System P-6 Line Leak Site	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Kristin Farris	08/19/04 14:47

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EH41610 - General Preparation (WetChem)										
Blank (EH41610-BLK1)				Prepared & Analyzed: 08/13/04						
Carbonate Alkalinity	ND	0.100	mg/L							
Bicarbonate Alkalinity	ND	2.00	"							
Hydroxide Alkalinity	ND	0.100	"							
Duplicate (EH41610-DUP1)		**Source: 4H12015-01**		Prepared & Analyzed: 08/13/04						
Carbonate Alkalinity	0.00	0.100	mg/L		0.00				20	
Bicarbonate Alkalinity	232	2.00	"		232			0.00	20	
Hydroxide Alkalinity	0.00	0.100	"		0.00				20	
Reference (EH41610-SRM1)				Prepared & Analyzed: 08/13/04						
Carbonate Alkalinity	0.0530		mg/L	0.0500		106	80-120			
Batch EH41701 - General Preparation (WetChem)										
Blank (EH41701-BLK1)				Prepared & Analyzed: 08/16/04						
Sulfate	ND	0.500	mg/L							
Calibration Check (EH41701-CCV1)				Prepared & Analyzed: 08/16/04						
Sulfate	51.0		mg/L	50.0		102	80-120			
Duplicate (EH41701-DUP1)		**Source: 4H12014-01**		Prepared & Analyzed: 08/16/04						
Sulfate	358	0.500	mg/L		322			10.6	20	
Batch EH41702 - General Preparation (WetChem)										
Blank (EH41702-BLK1)				Prepared & Analyzed: 08/16/04						
Chloride	ND	5.00	mg/L							

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Rice Operating Co.	Project: EME System P-6 Line Leak Site	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Kristin Farris	08/19/04 14:47

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EH41702 - General Preparation (WetChem)										
Matrix Spike (EH41702-MS1)	**Source: 4H12012-21**			Prepared & Analyzed: 08/16/04						
Chloride	160	5.00	mg/L	100	65.6	94.4	80-120			
Matrix Spike Dup (EH41702-MSD1)	**Source: 4H12012-21**			Prepared & Analyzed: 08/16/04						
Chloride	160	5.00	mg/L	100	65.6	94.4	80-120	0.00	20	
Reference (EH41702-SRM1)				Prepared & Analyzed: 08/16/04						
Chloride	4960		mg/L	5000		99.2	80-120			
Batch EH41711 - Filtration Preparation										
Blank (EH41711-BLK1)				Prepared: 08/15/04 Analyzed: 08/17/04						
Total Dissolved Solids	ND	5.00	mg/L							
Duplicate (EH41711-DUP1)	**Source: 4H12012-01**			Prepared: 08/15/04 Analyzed: 08/17/04						
Total Dissolved Solids	539	5.00	mg/L		492			9.12	20	

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Rice Operating Co.	Project: EME System P-6 Line Leak Site	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Kristin Farris	08/19/04 14:47

Total Metals by EPA / Standard Methods - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EH41719 - 6010B/No Digestion										
Blank (EH41719-BLK1)				Prepared & Analyzed: 08/17/04						
Calcium	ND	0.0100	mg/L							
Magnesium	ND	0.00100	"							
Potassium	ND	0.0500	"							
Sodium	ND	0.0100	"							
Calibration Check (EH41719-CCV1)				Prepared & Analyzed: 08/17/04						
Calcium	2.02		mg/L	2.00		101	85-115			
Magnesium	2.12		"	2.00		106	85-115			
Potassium	1.79		"	2.00		89.5	85-115			
Sodium	1.89		"	2.00		94.5	85-115			
Duplicate (EH41719-DUP1)	**Source: 4H13013-04**			Prepared & Analyzed: 08/17/04						
Calcium	36.1	0.100	mg/L		35.2			2.52	20	
Magnesium	11.3	0.0100	"		10.9			3.60	20	
Potassium	34.3	0.500	"		33.2			3.26	20	
Sodium	405	1.00	"		415			2.44	20	

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Rice Operating Co.	Project: EME System P-6 Line Leak Site	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Kristin Farris	08/19/04 14:47

Notes and Definitions

I-02	This result was analyzed outside of the EPA recommended holding time.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Control Spike
MS	Matrix Spike
Dup	Duplicate

Report Approved By: Raland K Tuttle Date: 8/19/04

Raland K. Tuttle, QA Officer
Celey D. Keene, Lab Director, Org. Tech Director
Jeanne Mc Murrey, Inorg. Tech Director
James L. Hawkins, Chemist/Geologist
Sara Molina, Chemist
Sandra Biezugbe, Lab Tech.

ENVIRONMENTAL LAB OF

12600 West I-20 East - Odessa, Texas 79765

Analytical Report

Prepared for:

Kristin Farris

Rice Operating Co.

122 W. Taylor

Hobbs, NM 88240

Project: EME System M-5 SWD Site

Project Number: None Given

Location: T20S, R37E, Sec 5, Unit Letter M

Lab Order Number: 4H13001

Report Date: 08/20/04

Rice Operating Co.	Project: EME System M-5 SWD Site	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Kristin Farris	08/20/04 18:26

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
M 5-1	4H13001-01	Water	08/11/04 10:41	08/12/04 16:45

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Rice Operating Co.	Project: EME System M-5 SWD Site	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Kristin Farris	08/20/04 18:26

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
M 5-1 (4H13001-01) Water									
Benzene	ND	0.00100	mg/L	1	EH41804	08/17/04	08/17/04	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*117 %*		*80-120*		"	"	"	
Surrogate: 4-Bromofluorobenzene		*91.5 %*		*80-120*		"	"	"	

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Rice Operating Co.	Project: EME System M-5 SWD Site	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Kristin Farris	08/20/04 18:26

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
M 5-1 (4H13001-01) Water									
Carbonate Alkalinity	ND	0.100	mg/L	1	EH41610	08/13/04	08/13/04	EPA 310.2M	
Bicarbonate Alkalinity	**222**	2.00	"	"	"	"	"	"	
Hydroxide Alkalinity	ND	0.100	"	"	"	"	"	"	
Chloride	**6910**	5.00	"	"	EH41702	08/16/04	08/16/04	EPA 325.3M	
Total Dissolved Solids	**17300**	5.00	"	"	EH41801	08/17/04	08/18/04	EPA 160.1	
Sulfate	**470**	0.500	"	"	EH41701	08/16/04	08/16/04	EPA 375.4	

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Rice Operating Co.	Project: EME System M-5 SWD Site	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Kristin Farris	08/20/04 18:26

Total Metals by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
M 5-1 (4H13001-01) Water									
Calcium	**2360**	10.0	mg/L	1000	EH41719	08/17/04	08/17/04	EPA 6010B	
Magnesium	**530**	0.100	"	100	"	"	"	"	
Potassium	**44.2**	0.500	"	10	"	"	"	"	
Sodium	**2580**	10.0	"	1000	"	"	"	"	

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Organics by GC - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EH41804 - EPA 5030C (GC)										
Blank (EH41804-BLK1)				Prepared & Analyzed: 08/14/04						
Benzene	ND	0.00100	mg/L							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00100	"							
Xylene (o)	ND	0.00100	"							
Surrogate: a,a,a-Trifluorotoluene	*22.7*		*ug/l*	*20.0*		*114*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*20.2*		*"*	*20.0*		*101*	*80-120*			
LCS (EH41804-BS1)				Prepared & Analyzed: 08/14/04						
Benzene	89.5		ug/l	100		89.5	80-120			
Toluene	102		"	100		102	80-120			
Ethylbenzene	98.1		"	100		98.1	80-120			
Xylene (p/m)	205		"	200		102	80-120			
Xylene (o)	101		"	100		101	80-120			
Surrogate: a,a,a-Trifluorotoluene	*22.5*		*"*	*20.0*		*112*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*22.5*		*"*	*20.0*		*112*	*80-120*			
Calibration Check (EH41804-CCV1)				Prepared & Analyzed: 08/14/04						
Benzene	83.5		ug/l	100		83.5	80-120			
Toluene	91.4		"	100		91.4	80-120			
Ethylbenzene	90.5		"	100		90.5	80-120			
Xylene (p/m)	195		"	200		97.5	80-120			
Xylene (o)	91.8		"	100		91.8	80-120			
Surrogate: a,a,a-Trifluorotoluene	*18.5*		*"*	*20.0*		*92.5*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*20.6*		*"*	*20.0*		*103*	*80-120*			
Matrix Spike (EH41804-MS1)	**Source: 4H13013-02**			Prepared & Analyzed: 08/14/04						
Benzene	82.2		ug/l	100	ND	82.2	80-120			
Toluene	93.1		"	100	ND	93.1	80-120			
Ethylbenzene	89.4		"	100	ND	89.4	80-120			
Xylene (p/m)	188		"	200	ND	94.0	80-120			
Xylene (o)	94.5		"	100	ND	94.5	80-120			
Surrogate: a,a,a-Trifluorotoluene	*18.5*		*"*	*20.0*		*92.5*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*19.9*		*"*	*20.0*		*99.5*	*80-120*			

Rice Operating Co.	Project: EME System M-5 SWD Site	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Kristin Farris	08/20/04 18:26

Organics by GC - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EH41804 - EPA 5030C (GC)										
Matrix Spike Dup (EH41804-MSD1)	**Source: 4H13013-02**			Prepared & Analyzed: 08/14/04						
Benzene	81.3		ug/l	100	ND	81.3	80-120	1.10	20	
Toluene	95.0		"	100	ND	95.0	80-120	2.02	20	
Ethylbenzene	90.3		"	100	ND	90.3	80-120	1.00	20	
Xylene (p/m)	189		"	200	ND	94.5	80-120	0.531	20	
Xylene (o)	89.4		"	100	ND	89.4	80-120	5.55	20	
Surrogate: a,a,a-Trifluorotoluene	*19.9*		*"*	*20.0*		*99.5*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*20.0*		*"*	*20.0*		*100*	*80-120*			

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General Chemistry Parameters by EPA / Standard Methods - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EH41610 - General Preparation (WetChem)										
Blank (EH41610-BLK1)				Prepared & Analyzed: 08/13/04						
Carbonate Alkalinity	ND	0.100	mg/L							
Bicarbonate Alkalinity	ND	2.00	"							
Hydroxide Alkalinity	ND	0.100	"							
Duplicate (EH41610-DUP1)		**Source: 4H12015-01**		Prepared & Analyzed: 08/13/04						
Carbonate Alkalinity	0.00	0.100	mg/L		0.00				20	
Bicarbonate Alkalinity	232	2.00	"		232			0.00	20	
Hydroxide Alkalinity	0.00	0.100	"		0.00				20	
Reference (EH41610-SRM1)				Prepared & Analyzed: 08/13/04						
Carbonate Alkalinity	0.0530		mg/L	0.0500		106	80-120			
Batch EH41701 - General Preparation (WetChem)										
Blank (EH41701-BLK1)				Prepared & Analyzed: 08/16/04						
Sulfate	ND	0.500	mg/L							
Calibration Check (EH41701-CCV1)				Prepared & Analyzed: 08/16/04						
Sulfate	51.0		mg/L	50.0		102	80-120			
Duplicate (EH41701-DUP1)		**Source: 4H12014-01**		Prepared & Analyzed: 08/16/04						
Sulfate	358	0.500	mg/L		322			10.6	20	
Batch EH41702 - General Preparation (WetChem)										
Blank (EH41702-BLK1)				Prepared & Analyzed: 08/16/04						
Chloride	ND	5.00	mg/L							

Rice Operating Co.	Project: EME System M-5 SWD Site	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Kristin Farris	08/20/04 18:26

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EH41702 - General Preparation (WetChem)										
Matrix Spike (EH41702-MS1)		**Source: 4H12012-21**		Prepared & Analyzed: 08/16/04						
Chloride	160	5.00	mg/L	100	65.6	94.4	80-120			
Matrix Spike Dup (EH41702-MSD1)		**Source: 4H12012-21**		Prepared & Analyzed: 08/16/04						
Chloride	160	5.00	mg/L	100	65.6	94.4	80-120	0.00	20	
Reference (EH41702-SRM1)				Prepared & Analyzed: 08/16/04						
Chloride	4960		mg/L	5000		99.2	80-120			
Batch EH41801 - Filtration Preparation										
Blank (EH41801-BLK1)				Prepared: 08/17/04 Analyzed: 08/18/04						
Total Dissolved Solids	ND	5.00	mg/L							
Duplicate (EH41801-DUP1)		**Source: 4H17009-01**		Prepared: 08/17/04 Analyzed: 08/18/04						
Total Dissolved Solids	3900	5.00	mg/L		3910			0.256	20	

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122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Kristin Farris	08/20/04 18:26

Total Metals by EPA / Standard Methods - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EH41719 - 6010B/No Digestion										
Blank (EH41719-BLK1)				Prepared & Analyzed: 08/17/04						
Calcium	ND	0.0100	mg/L							
Magnesium	ND	0.00100	"							
Potassium	ND	0.0500	"							
Sodium	ND	0.0100	"							
Calibration Check (EH41719-CCV1)				Prepared & Analyzed: 08/17/04						
Calcium	2.02		mg/L	2.00		101	85-115			
Magnesium	2.12		"	2.00		106	85-115			
Potassium	1.79		"	2.00		89.5	85-115			
Sodium	1.89		"	2.00		94.5	85-115			
Duplicate (EH41719-DUP1)	**Source: 4H13013-04**			Prepared & Analyzed: 08/17/04						
Calcium	36.1	0.100	mg/L		35.2			2.52	20	
Magnesium	11.3	0.0100	"		10.9			3.60	20	
Potassium	34.3	0.500	"		33.2			3.26	20	
Sodium	405	1.00	"		415			2.44	20	

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Rice Operating Co.	Project: EME System M-5 SWD Site	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Kristin Farris	08/20/04 18:26

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Control Spike
MS	Matrix Spike
Dup	Duplicate

Report Approved By: Raland K Tuttle Date: 8/20/04

Raland K. Tuttle, QA Officer
Celey D. Keene, Lab Director, Org. Tech Director
Jeanne Mc Murrey, Inorg. Tech Director
James L. Hawkins, Chemist/Geologist
Sara Molina, Chemist
Sandra Biezugbe, Lab Tech.

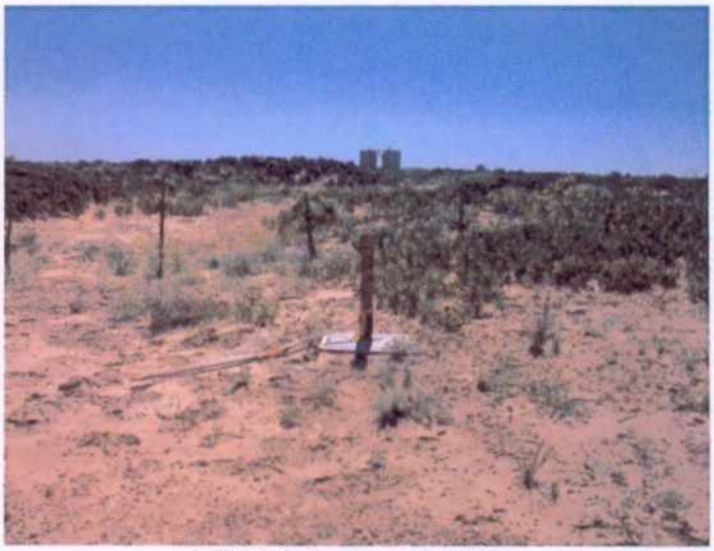
APPENDIX D

PHOTOGRAPHIC DOCUMENTATION

Photos of EME P-6 Line Leak Site (T20S, R37E, Section 6, Unit Letter P)

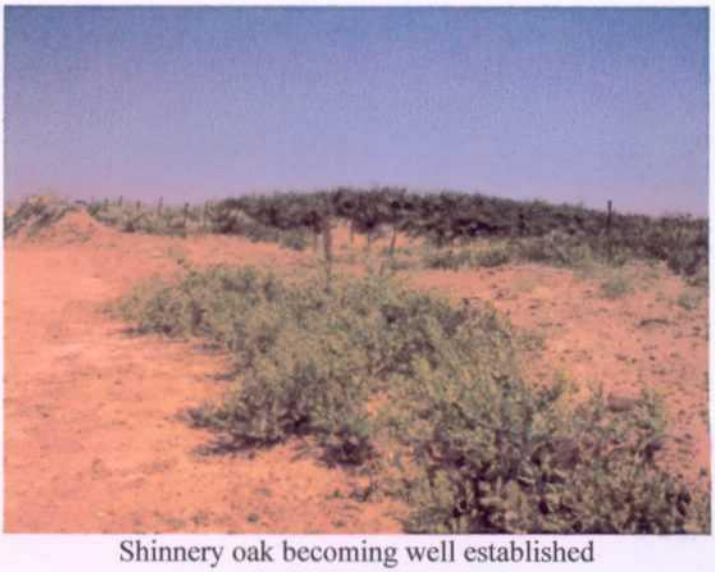
Above: View of MW-1 facing north. The former line leak (excavated area in background) was behind MW-1.
Photo to Right: View facing NW showing excavated area.►

MW-1 facing north (7/14/04)



MW-1 facing east (7/14/04)

View of MW-1 facing north (7/14/04)



Shinnery oak becoming well established south of MW-1 (7/14/04)

Photos of EME P-6 Line Leak Site (T20S, R37E, Section 6, Unit Letter P)

View of MW-1 facing north (08/10/04)

Closer view of MW-1 facing north (08/10/04)

View facing east along ROC pipeline ROW (08/10/04)

View of MW-1 facing north (08/10/04)


View of native plants nearby (09/09/04)

View of native plants nearby (09/09/04)