AP - 45

AMENDED

STAGE 2 WORKPLANS

DATE:

6-10-08

June 10, 2008

AMENDED STAGE 2 ABATEMENT PLAN

EME P-6 RELEASE SITE (AP-45)

T20S, R37E, SECTION 6, UNIT LETTER P
LEA COUNTY, NEW MEXICO

Prepared by:

TRIDENT ENVIRONMENTAL

P. O. Box 7624
Midland, Texas 79708

Prepared for:

RICE *Operating Company*

122 West Taylor

Hobbs, New Mexico 88240

TRIDENT ENVIRONMENTAL

CERTIFIED MAIL
RETURN RECIEPT NO. 7099 3400 0017 1737 2015

June 13, 2008

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

RE: Amended Stage 2 Abatement Plan (AP-45)
EME P-6 Release Site
T20S-R37E-Section 6, Unit Letter P
Lea County, New Mexico

Dear Mr. Hansen

On behalf of Rice Operating Company (ROC), enclosed is the *Amended Stage 2 Abatement Plan* for the above-referenced site in response to your February 13, 2008 email recommendations.

If you have any questions please call me at 432-638-8740, or Haskell Conder or Marvin Burrows at 505-393-9174.

Sincerely,

Gilbert Van Deventer, REM, PG
Trident Environmental

cc: HC, MB, JSC

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FIGURES

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APPENDICES

1.0 EXECUTIVE SUMMARY

This Amended Stage 2 Abatement Plan for the EME P-6 Release Site (AP-45) presents the results of the characterization and corrective actions performed by Rice Operating Company (ROC) at the EME P-6 release site in accordance with the NMOCD-approved Stage 1 and 2 Abatement Plan, NMOCD conditions to the minor amendment, and email communications with the NMOCD (Appendix A).

The following corrective actions taken at the EME P-6 Release site have eliminated past and minimized any future threats to vadose zone or groundwater degradation:

- Replacement of former 10-inch A/C line with poly line
- Excavation and removal of 168 yd^3 of hydrocarbon-impacted soil
- Excavation, remediation, and blending of approximately 400 yd^3 of lesser impacted soil to 64 ppm chloride, a total petroleum hydrocarbon (TPH) level of 115 mg/kg, and benzene, toluene, ethylbenzene, and xylenes (BTEX) concentrations below 0.005 mg/kg.
- Installation of a clay layer to minimize infiltration through the vadose zone.
- Placement of clean topsoil and application of a native seed mixture to encourage re-vegetation which is being monitored for continued healthy growth.

Vadose zone delineation activities from 13 trenched sample locations within the impacted area during earlier investigations have shown that the chloride concentration averaged only 340 mg/kg. Based on those findings it is evident that the chloride load in the vadose zone is at a level too low to suggest any significant contribution to the chloride concentrations observed in the groundwater at the site.

Furthermore, groundwater analytical results from the recently-installed onsite monitoring wells and a review of data from other sites in the area have provided additional evidence that the elevated chloride and total dissolved solids (TDS) concentrations in the groundwater at the site are the result of upgradient sources and are consistent with the regionally-impaired groundwater quality.

However, at the request of the NMOCD via email communication on February 13, 2008 (Appendix A), a groundwater recovery system will be installed to remove an estimated chloride mass of 2,460 kilograms (kg) presumably introduced into the groundwater due to the accidental release at the site. In addition, ROC will continue quarterly groundwater sampling at each of the four monitoring wells and vegetation will be monitored for growth and amendments added if necessary

At the completion of corrective actions as described herein, a final report will be submitted to the NMOCD with a request for closure of the Rule 19 regulatory file associated with this site.

CHRONOLOGY OF EVENTS

November 29, 2000	Initial release discovered. C-141 form submitted to NMOCD. The 10-inch pipe was replaced.
November 14, 2001	Soil boring sampling conducted. Samples were field-tested for chloride.
November 29, 2001	Additional soil sampling with backhoe. Field-tested for chloride and TPH.
January 9, 2002	Monitoring well P6-1 was installed at the release site.
January 18, 2002	ROC submitted Notification of Groundwater Impact to Roger Anderson, NMOCD office in Santa Fe, NM.
April 29, 2003	Hand augered boring sampling conducted. Samples were field-tested for chloride and TPH. Samples also submitted to lab for BTEX (8021B), GRO/DRO (8015M), and TPH fractions (TX1006).
July 31, 2003	Work plan submitted to NMOCD office in Santa Fe, NM, which included results from all subsurface soil investigations conducted to date and recommendation for additional monitoring wells (P6-2 and M5-1).
August 26, 2003	Work plan approved by Wayne Price, NMOCD office in Santa Fe, NM.
November 16, 2003	Monitoring well M5-1 was installed on adjacent downgradient site (approximately 500 ft southeast of P-6 Release site) during a separate investigation.
February 17, 2004	Monitoring well P6-2 installed upgradient from the release.
September 20, 2004	Corrective Action Plan (CAP) submitted to Wayne Price, NMOCD office in Santa Fe, NM
December 10, 2004	CAP denied by Wayne Price, NMOCD office in Santa Fe, NM
January 21, 2005	Additional soil sampling was conducted with a backhoe for further delineation of vertical and horizontal extent of hydrocarbon- and chloride-impacted soil. Soil samples were field-tested for chloride (QP-01) and organic vapor headspace. Samples were also submitted to the laboratory for BTEX (8260) and GRO/DRO (8015M) analysis.
March 16, 2005	A revised Corrective Action Plan submitted to Wayne Price, NMOCD office in Santa Fe, NM

May 5, 2005	Daniel Sanchez, NMOCD office in Santa Fe, NM, requested an Abatement Plan to be submitted by July 15, 2005.
July 12, 2005	Stage 1 and 2 Abatement Plan was submitted to the NMOCD.
July 12, 2006	Stage 1 and 2 Abatement Plan and minor modification was approved by the NMOCD.
July 19, 2006	Monitoring wells P6-3 and P6-4 were installed approximately 120 ft northwest and 230 ft south of P6-1, respectively. Approved access by the landowner was not granted for the installation of an offsite, cross-gradient monitoring well (P6-5) located approximately 200 feet east of monitoring well P6-1.
December 26, 2006	Excavation activities were completed.
January 11, 2007	NMOCD approves request for backfilling.
January 18, 2007	ROC completed backfilling of excavation which included the installation of a clay barrier and native topsoil cover supportive of re-establishing vegetation.
April 10, 2007	ROC re-seeded the site with a blend of native grass seed using a seed drill.
September 24, 2007	ROC submitted a Stage 2 Final Report to the NMOCD.
February 13, 2008	NMOCD requested ROC to submit an Amended Stage 2 Abatement Plan to include an estimate of chloride mass in groundwater and a plan for the removal of that chloride mass from the groundwater.
February 21, 2008	Teleconference between NMOCD, ROC, and Trident in which agreement was reached regarding the conceptual path forward for the amended abatement plan herein.

3.0 BACKGROUND

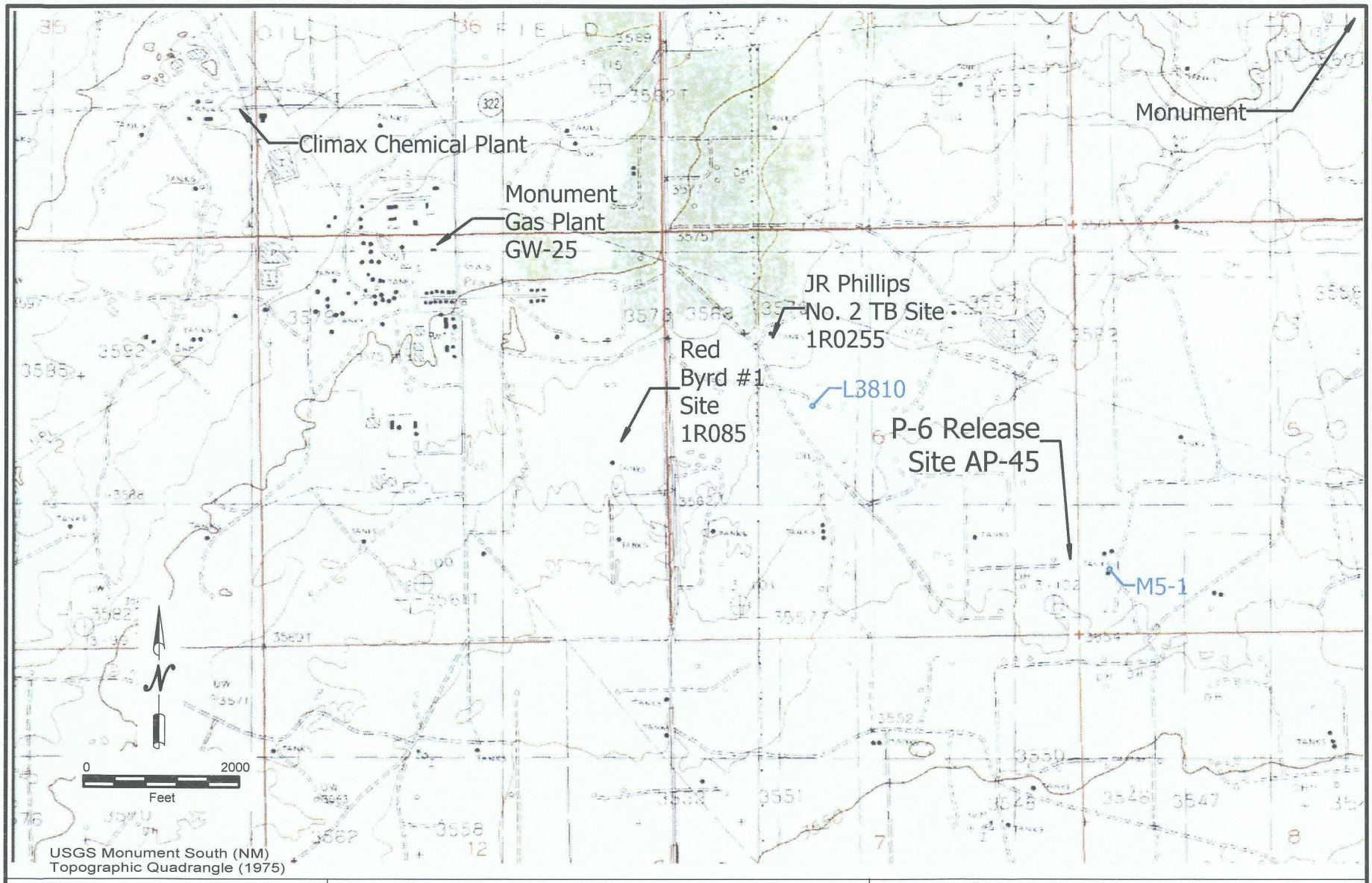
3.1 SITE LOCATION AND LAND USE

The EME P-6 Release site is located on land owned by Chevron in township 20 south, range 37 east, section 6, unit letter P approximately 4 miles west-southwest of Monument, NM as shown on the topographic map (Figure 1, next page) and aerial photographic map (Figure 2, below).

ROC is the service provider (agent) 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.

An abundance of oil and gas production facilities are located within and around the EME P-6 Release site as shown in Figure 2 below.

Figure 2: Aerial Photograph (July 2005)



TRIDENT ENVIRONMENTAL

EME P-6 Release Site

T20S - R37E - Section 6 - Unit P

RICE *Operating Company*

FIGURE 1

TOPOGRAPHIC MAP

3.2 NATURE OF RELEASE AND SUMMARY OF PREVIOUS WORK

This project has been ongoing since an accidental release of produced water was discovered on November 29, 2000. So far work has included extensive upgrades to the near-area SWD system, multiple site assessment sampling events, installation and sampling of four groundwater monitoring wells (P6-1, P6-2, P6-3, and P6-4), sampling of an offsite, upgradient well (L-3810) and downgradient well (M5-1) as shown in Figure 1. The NMOCD was notified of all significant events related to the project (work plans, C-141 forms, Notification of Groundwater Impact, Disclosure Reports, Stage 1 and 2 Abatement Plan, minor modifications, backfill request, etc). Previous investigations and reports are briefly identified in Section 2.0.

4.0 GEOLOGY AND HYDROGEOLOGY

4.1 REGIONAL AND LOCAL GEOLOGY

The site is underlain by Quaternary colluvium deposits composed of sand, silt, and gravel deposited by slopewash, and talus which were re-deposited from the underlying Ogallala Formation. These deposits are often calichified (indurated with cemented calcium carbonate) with caliche layers from 1 to 20 feet thick. The thickness of the colluvium deposits and Ogallala Formation at the site is estimated at 60 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 first few feet beneath ground surface are dominated by fine to medium-grained dune sand. Based on the descriptions provided in lithologic logs the subsurface soils are composed of silty fine-grained sand and caliche. Well-indurated sand and calcite/caliche veins were also observed and clay was present in small amounts. The red clay of the Dockum Group is present at a depth of approximately 60 feet below ground surface at the site. The lithologic logs and well construction diagrams for the four monitoring wells associated with the site are included in Appendix C.

4.2 REGIONAL AND LOCAL HYDROGEOLOGY

Potable groundwater used in southern Lea County is derived primarily from the Ogallala Formation and the Quaternary alluvium. Water from the Ogallala and alluvium aquifers in southern Lea County is used for irrigation, stock, domestic, industrial, and public supply purposes.

Depth to groundwater beneath the site area is approximately 30 feet below ground surface. The direction of groundwater flow is to the south-southeast with a relatively flat hydraulic gradient of approximately 0.0015 feet/foot. Except for being relatively flat, the groundwater gradient at the P-6 Release site is consistent with those of several other groundwater monitoring sites in the Monument area (0.003 ft/ft) and the regional gradient as cited in published reports (Nicholsen and Clebsch, 1961).

Based on the water well inventory described in the Stage 1 and 2 Abatement Plan and several field reconnaissance efforts there are no known potential water supply receptors (domestic, livestock, irrigation, or industrial wells) within 1,000 feet of the P-6 Release site.

There are no surface water bodies located within a mile of the site.

5.0 SUBSURFACE SOIL EXCAVATION

Excavation, remediation, and backfilling, activities at the EME P-6 Release Site (AP-45) were completed on January 18, 2007 in accordance with the Stage 1 & 2 Abatement Plan, NMOCD conditions to the minor amendment, and email communications with the NMOCD (Appendix A).

Excavation activities were conducted between December 20 and 26, 2006. The final size of the excavation was approximately 26 ft wide by 26 ft long by 16 ft deep which resulted in a total of approximately 400 cubic yards of soil. Of that total, 168 cubic yards of the more highly TPH-impacted excavated soil was transported to the South Monument Surface Waste Facility (Manifests are included in Appendix D). The remaining excavated soil was blended with clean topsoil (dune sand) imported from the South Monument Surface Waste Facility. The wall and floor samples were collected consistent with the compositing protocol used by ROC for typical junction box closure sites. Laboratory analytical results are summarized in Table 1 below. Copies of the laboratory analytical reports and chains of custody are included in Appendix E.

Table 1
Summary of Excavation Closure Sampling Results
(Dimensions of excavation: 26 ft wide by 26 ft long by 16 ft deep)

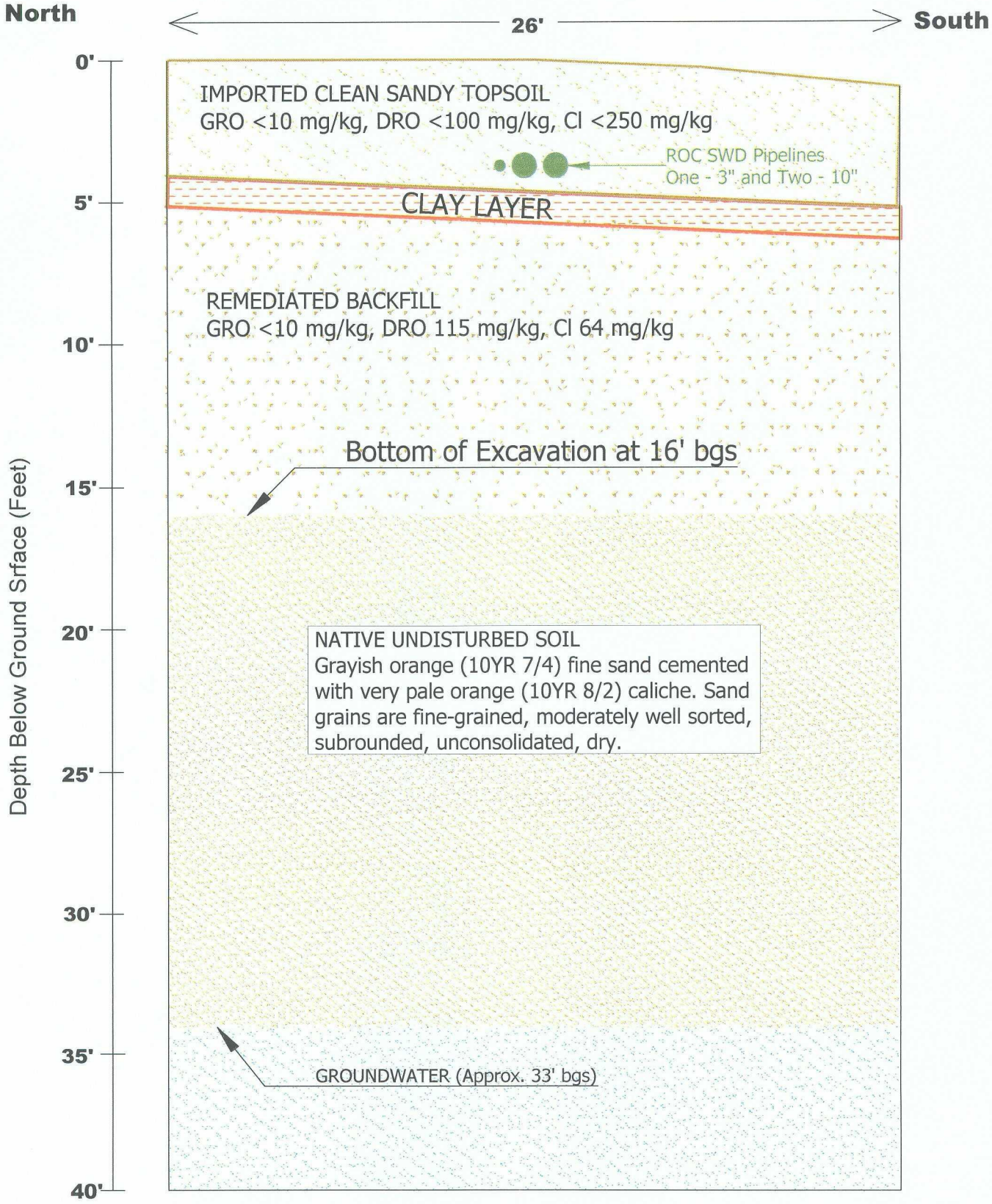
Sample Identification	Sample Date	Amount (yd^3)	OVM (ppm)	Chloride (ppm)	GRO (mg/kg)	DRO (mg/kg)	B (mg/kg)	T (mg/kg)	E (mg/kg)	X (mg/kg)
Floor	12/27/06	N/A	141	656	213	1209	0.016	0.034	0.117	0.363
Four Walls	12/27/06	N/A	45	432	15	514	<0.005	<0.005	0.017	0.006
Remediated Backfill	12/29/06	400	10	64	<10	115	<0.005	<0.005	<0.005	<0.015

On January 11, 2007, the NMOCD approved ROC's request to backfill the excavation based on the actions and findings described above. Figure 3 depicts the North-South cross-sectional profile of the excavation after backfilling with clean blended soil, a clay layer, and fresh topsoil, which was completed on January 18, 2007.

On April 10, 2007, ROC re-seeded a 9,000 ft^2 area at the site with a blend of native grass seed using a seed drill. A list of the seed blends and amounts used is included in Appendix F.

On April 11, 2007, and May 7, 2007, the seeded area was watered and the site is being monitored for growth. Several photographs of the activities referenced above are included in Appendix B.

NORTH-SOUTH CROSS-SECTIONAL PROFILE



TRIDENT ENVIRONMENTAL	EME P-6 Release Site (AP-45) T20S - R37E - Section 6 - Unit P RICE Operating Company	FIGURE 3 BACKFILL DIAGRAM

6.0 GROUNDWATER QUALITY

6.1 MONITORING PROGRAM

On July 18 and 19, 2006, two additional monitoring wells (P6-3 and P6-4) were installed in accordance with the Stage 1 and 2 Abatement Plan and NMOCD conditions to the minor amendment. Approval for access was not granted by the landowner to install an offsite, cross-gradient monitoring well (P6-5) located approximately 200 feet east of monitoring well P6-1; however it is not needed since sufficient evidence has been provided to support the conclusion that the elevated chloride and TDS concentrations in the groundwater at the site are the result of regional upgradient sources. A site map showing monitoring wells associated with the P-6 Release site is depicted in Figure 4. The site map also includes an offsite, downgradient well located approximately 500 feet southeast of monitoring well P6-1 at a neighboring site being monitored by ROC (EME M-5 SWD). Various photos of the well installations are included in Appendix B.

Monitoring wells P6-1, P6-2, P6-3, P6-4, and M5-1 have been sampled on a quarterly basis for major ions, TDS, and BTEX. NMOCD approved ROC's request to suspend BTEX analysis for P6-1 and P6-2 due to non-detectable readings for over well over 8 consecutive quarters.

A summary of historical analytical results and groundwater elevations is listed in Table 2. The water table elevations, direction of groundwater flow, and analytical results for the most recent monitoring event conducted on November 8, 2007, are also depicted in Figure 4. A copy of the laboratory analytical report and chain of custody form for the most recent ground water sampling event is included in Appendix E.

6.2 HYDROCARBONS IN GROUNDWATER

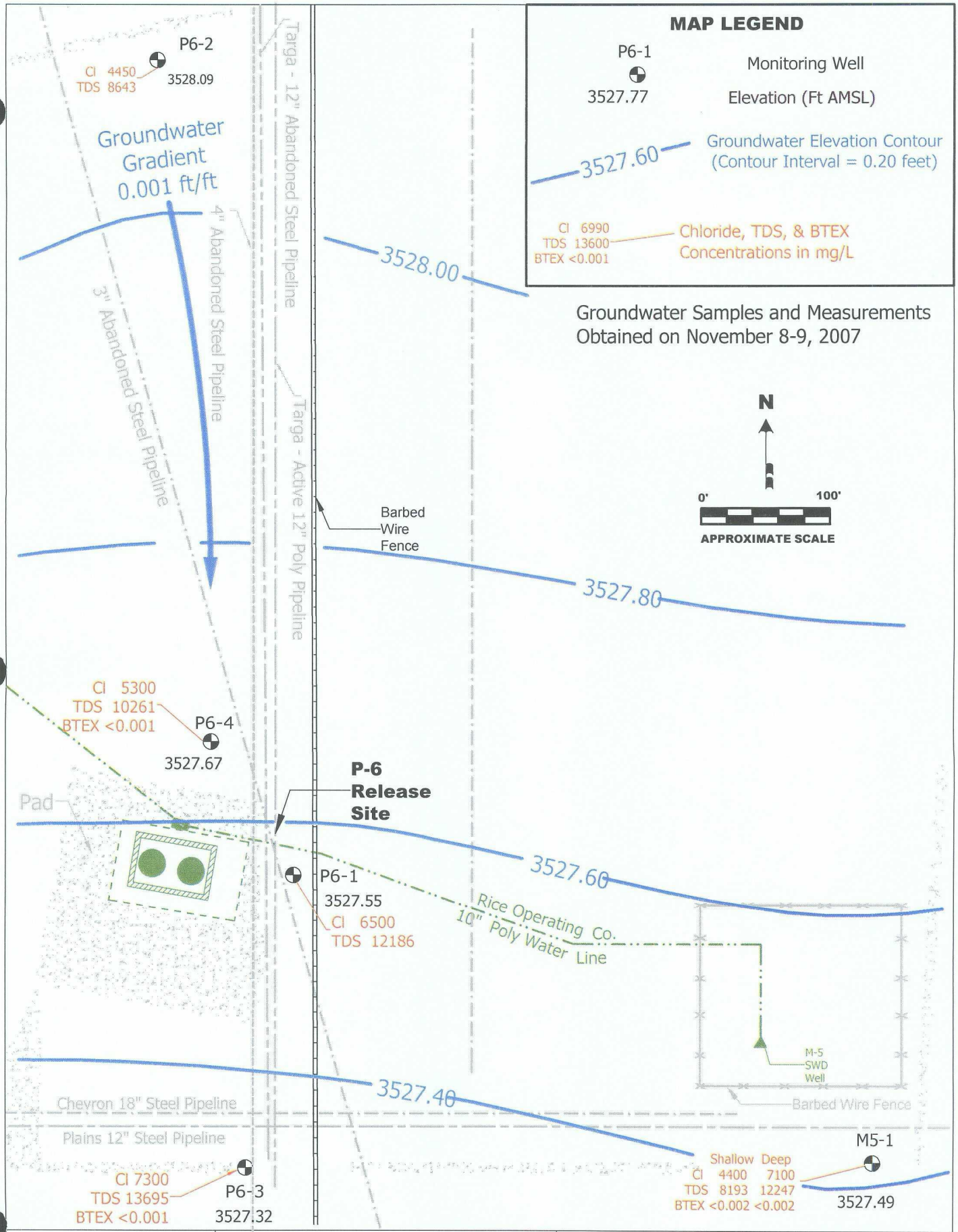
BTEX concentrations in monitoring wells P6-1, P6-2, and M5-1 have been below the New Mexico Water Control Commission (WQCC) standards for each constituent and for every sampling event. After 3 quarterly sampling events for recently installed monitoring wells P6-3 and P6-4, the BTEX concentrations have also been below WQCC standards for each constituent, with the exception of P6-3 during the November 9, 2006 sampling event; however, BTEX concentrations in P6-3 have since returned to levels below WQCC standards.

6.3 OTHER CONSTITUENTS OF CONCERN

Chloride and TDS concentrations at the EME P-6 Release Site exceed WQCC standards; however they are at lower levels as compared to the regionally impacted groundwater in this area of Monument NM. A water well (NMSEO File No. L-3810) which is out of service (no submersible pump or windmill) is being used as a groundwater monitoring point for the J. R. Phillips No. 2 Tank Battery Site (NMOCD File No. 1R0255). This well is located

approximately ¾ mile northwest, upgradient from the EME P-6 Release Site. Based on laboratory analyses of groundwater samples obtained on June 6, 2007 (Appendix E), the chloride (10,100 mg/L) and TDS (23,000 mg/L) concentrations in this well are representative of the regionally-impaired groundwater and far exceed those observed at the EME P-6 Release Site.

Although there have been some minor fluctuations, chloride and TDS concentrations in all on site monitoring wells exhibit a decreasing trend since monitoring began in 2002.



TRIDENT ENVIRONMENTAL

EME P-6 Release Site (AP-45)
T20S - R37E - Section 6 - Unit P
RICE Operating Company

FIGURE 4
GROUNDWATER GRADIENT AND
CHLORIDE, TDS, & BTEX
CONCENTRATION MAP

Table 2: Summary of Groundwater Monitoring Results

Monitoring Well	Sample Date	Chloride (mg/L)	TDS (mg/L)	Benzene (mg/L)	Toluene (mg/L)	Ethyl-benzene (mg/L)	Xylenes (mg/L)	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet AMSL)
P6-1	01/10/02	**10,700**	**20,248**	< 0.002	< 0.002	< 0.002	< 0.006	36.70	3522.39
	05/14/02	**8,060**	**18,200**	< 0.001	< 0.001	< 0.001	< 0.001	36.73	3522.36
	08/15/02	**9,570**	**16,900**	< 0.001	< 0.001	< 0.001	< 0.001	36.95	3522.14
	11/06/02	**9,040**	**17,400**	< 0.001	< 0.001	< 0.001	< 0.001	37.15	3521.94
	02/27/03	**8,860**	**15,000**	< 0.001	< 0.001	< 0.001	< 0.001	37.12	3521.97
	05/29/03	**8,680**	**20,000**	< 0.001	< 0.001	< 0.001	< 0.001	37.19	3521.90
	08/21/03	**8,860**	**17,800**	< 0.001	< 0.001	< 0.001	< 0.001	37.43	3521.66
	11/19/03	**8,690**	**18,500**	< 0.001	< 0.001	< 0.001	< 0.001	37.64	3521.45
	02/20/04	**8,510**	**16,600**	< 0.001	< 0.001	< 0.001	< 0.001	37.84	3521.25
	05/06/04	**8,510**	**17,400**	< 0.001	< 0.001	< 0.001	< 0.001	37.36	3521.73
	08/10/04	**9,040**	**17,200**	< 0.001	< 0.001	< 0.001	< 0.001	37.03	3522.06
	11/09/04	**9,130**	**17,600**	< 0.001	< 0.001	< 0.001	< 0.001	36.28	3522.81
	02/07/05	**8,210**	**17,800**	< 0.001	< 0.001	< 0.001	< 0.001	33.54	3525.55
	05/03/05	**7,090**	**19,300**	< 0.001	< 0.001	< 0.001	< 0.001	32.76	3526.33
	08/11/05	**9,210**	**16,600**	< 0.001	< 0.001	< 0.001	< 0.001	32.81	3526.28
	11/28/05	**7,580**	**14,700**	< 0.001	< 0.001	< 0.001	< 0.001	32.81	3526.28
	02/20/06	**7,510**	**15,500**	< 0.001	< 0.001	< 0.001	< 0.001	32.43	3526.66
	05/16/06	**8,160**	**15,600**	< 0.001	< 0.001	< 0.001	< 0.001	32.44	3526.65
	08/23/06	**7,370**	**12,900**	< 0.001	< 0.001	< 0.001	< 0.001	32.96	3526.13
	11/09/06	**6,700**	**13,200**	---	---	---	---	31.98	3527.11
	02/28/07	**6,930**	**14,900**	---	---	---	---	31.32	3527.77
	06/06/07	**6,720**	**15,200**	---	---	---	---	31.31	3527.78
	08/23/07	**6,448**	**15,826**	---	---	---	---	31.56	3527.53
	11/08/07	**6,500**	**12,186**	---	---	---	---	31.54	3527.55
P6-2	02/20/04	**9,040**	**19,700**	< 0.001	< 0.001	< 0.001	< 0.001	37.97	3521.73
	05/06/04	**8,330**	**16,100**	< 0.001	< 0.001	< 0.001	< 0.001	37.29	3522.41
	08/10/04	**8,240**	**15,400**	< 0.001	< 0.001	< 0.001	< 0.001	36.97	3522.73
	11/09/04	**7,670**	**15,700**	< 0.001	< 0.001	< 0.001	< 0.001	35.83	3523.87
	02/07/05	**7,030**	**15,300**	< 0.001	< 0.001	< 0.001	< 0.001	32.76	3526.94
	05/03/05	**6,050**	**14,100**	< 0.001	< 0.001	< 0.001	< 0.001	32.29	3527.41
	08/11/05	**7,540**	**14,300**	< 0.001	< 0.001	< 0.001	< 0.001	32.62	3527.08
	11/28/05	**7,660**	**9,170**	< 0.001	< 0.001	< 0.001	< 0.001	32.62	3527.08
	02/20/06	**5,620**	**12,600**	< 0.001	< 0.001	< 0.001	< 0.001	32.42	3527.28
	05/16/06	**6,290**	**11,400**	< 0.001	< 0.001	< 0.001	< 0.001	32.50	3527.20
	08/23/06	**5,490**	**9,850**	< 0.001	< 0.001	< 0.001	< 0.001	33.03	3526.67
	11/09/06	**4,860**	**9,850**	---	---	---	---	31.79	3527.91
	02/28/07	**4,890**	**9,390**	---	---	---	---	31.17	3528.53
	06/06/07	**4,860**	**10,800**	---	---	---	---	31.16	3528.54
	08/23/07	**4,649**	**11,613**	---	---	---	---	31.58	3528.12
	11/08/07	**4,450**	**8,643**	---	---	---	---	31.61	3528.09
P6-3	08/23/06	**8,300**	**13,100**	< 0.001	< 0.001	< 0.001	< 0.001	34.19	3525.89
	11/09/06	**7,520**	**14,100**	0.013	0.001	0.003	< 0.001	33.32	3526.76
	02/28/07	**7,690**	**13,500**	< 0.001	< 0.001	< 0.001	< 0.001	32.62	3527.46
	06/06/07	**7,720**	**18,100**	< 0.001	0.002	< 0.001	0.001	32.61	3527.47
	08/23/07	**7,448**	**17,464**	< 0.002	< 0.002	< 0.002	< 0.006	32.84	3527.24
	11/08/07	**7,300**	**13,695**	< 0.001	< 0.001	< 0.001	< 0.003	32.76	3527.32

Table 2: Summary of Groundwater Monitoring Results (Continued)

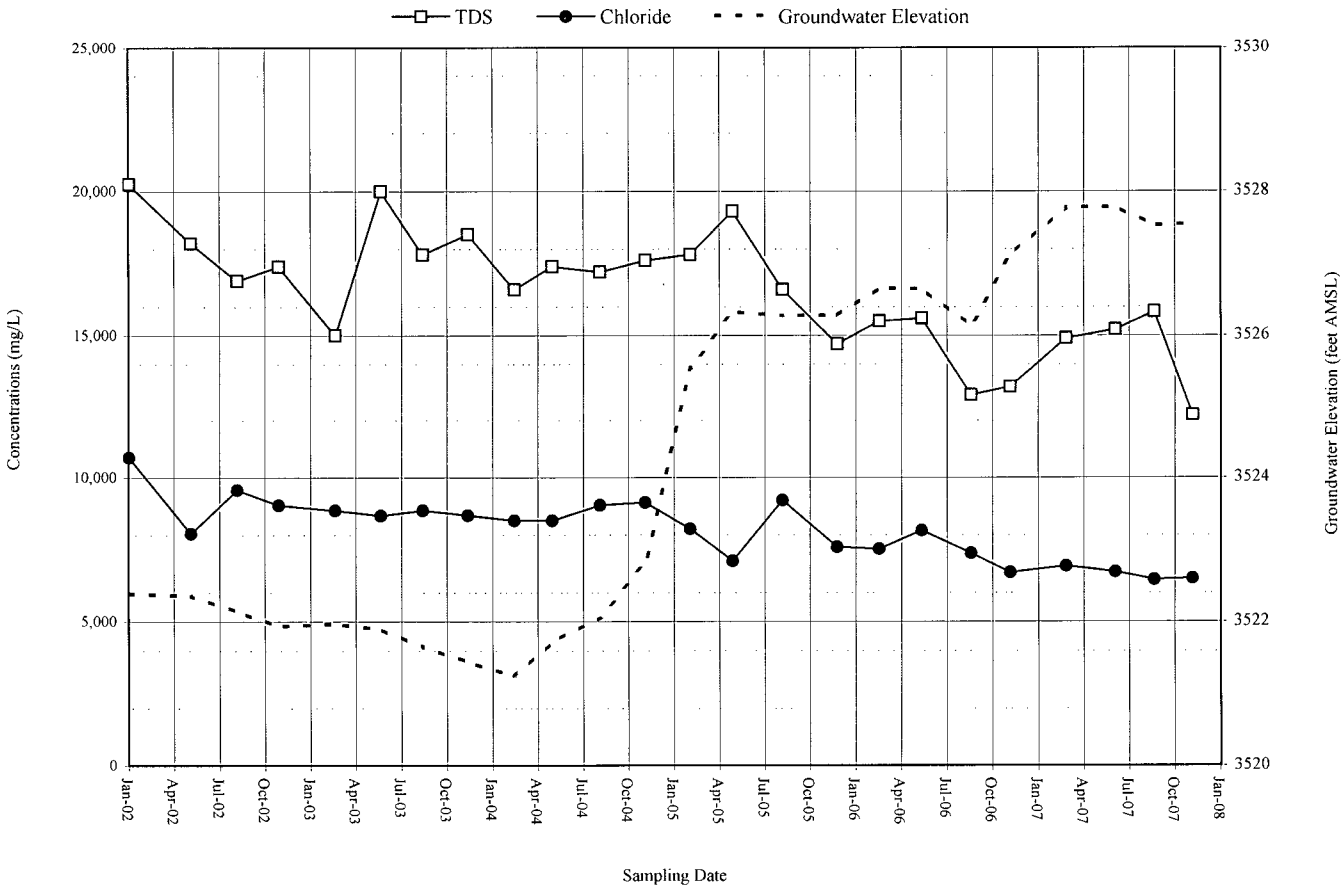
Monitoring Well	Sample Date	Chloride (mg/L)	TDS (mg/L)	Benzene (mg/L)	Toluene (mg/L)	Ethyl-benzene (mg/L)	Xylenes (mg/L)	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet AMSL)
P6-4	08/23/06	**6,750**	**13,400**	< 0.001	< 0.001	< 0.001	< 0.001	33.29	3526.21
	11/09/06	**6,070**	**11,900**	< 0.001	< 0.001	< 0.001	< 0.001	32.23	3527.27
	02/28/07	**6,080**	**12,100**	< 0.001	< 0.001	< 0.001	< 0.001	31.57	3527.93
	06/06/07	**5,760**	**13,200**	< 0.001	< 0.001	< 0.001	< 0.001	31.56	3527.94
	08/23/07	**5,498**	**13,746**	< 0.002	< 0.002	< 0.002	< 0.006	31.86	3527.64
	11/08/07	**5,300**	**10,261**	< 0.001	< 0.001	< 0.001	< 0.003	31.83	3527.67
M5-1 (shallow)	12/11/03	**6,198**	**10,784**	< 0.002	< 0.002	< 0.002	< 0.006	33.28	---
	02/20/04	**5,320**	**14,500**	< 0.002	< 0.002	< 0.002	< 0.006	33.37	3521.04
	05/06/04	**5,940**	**12,400**	< 0.002	< 0.002	< 0.002	< 0.006	32.79	3521.62
	08/10/04	**6,910**	**17,300**	< 0.001	< 0.001	< 0.001	< 0.001	32.52	3521.89
	11/09/04	**7,090**	**14,000**	< 0.001	< 0.001	< 0.001	< 0.001	31.63	3522.78
	02/07/05	**6,710**	**13,200**	< 0.001	< 0.001	< 0.001	< 0.001	28.85	3525.56
	05/03/05	**6,560**	**16,500**	< 0.001	< 0.001	< 0.001	< 0.001	28.10	3526.31
	08/13/05	**6,070**	**13,800**	< 0.001	< 0.001	< 0.001	< 0.001	28.24	3526.17
	11/28/05	**4,500**	**12,300**	< 0.001	< 0.001	< 0.001	< 0.001	28.24	3526.17
	02/20/06	**5,660**	**12,400**	< 0.001	< 0.001	< 0.001	< 0.001	27.25	3527.16
	05/16/06	**7,870**	**14,300**	< 0.001	< 0.001	< 0.001	< 0.001	27.81	3526.60
	08/23/06	**6,160**	**11,800**	< 0.001	< 0.001	< 0.001	< 0.001	28.34	3526.07
	11/10/06	**5,840**	**10,500**	< 0.001	< 0.001	< 0.001	< 0.001	27.39	3527.02
	02/28/07	**5,000**	**10,000**	< 0.001	< 0.001	< 0.001	< 0.001	27.39	3527.02
	06/07/07	**4,960**	**11,700**	< 0.001	< 0.001	< 0.001	< 0.001	26.53	3527.88
	08/27/07	**4,499**	**10,095**	< 0.002	< 0.002	< 0.002	< 0.006	27.02	3527.39
	11/09/07	**4,400**	**8,193**	< 0.002	< 0.002	< 0.002	< 0.006	26.92	3527.49
M5-1 (deep)	12/11/03	**6,198**	**11,736**	< 0.002	< 0.002	< 0.002	< 0.006	33.40	3521.11
	11/28/05	**5,590**	**11,400**	< 0.001	< 0.001	< 0.001	< 0.001	28.10	3526.41
	02/20/06	**6,830**	**14,400**	< 0.001	< 0.001	< 0.001	< 0.001	27.87	3526.64
	05/16/06	**7,000**	**13,100**	< 0.001	< 0.001	< 0.001	< 0.001	27.81	3526.70
	08/23/06	**7,100**	**14,100**	< 0.001	< 0.001	< 0.001	< 0.001	28.44	3526.07
	11/10/06	**5,840**	**12,000**	< 0.001	< 0.001	< 0.001	< 0.001	27.49	3527.02
	02/28/07	**6,000**	**12,000**	< 0.001	< 0.001	< 0.001	< 0.001	27.49	3527.02
	06/07/07	**6,110**	**16,600**	< 0.001	< 0.001	< 0.001	< 0.001	27.14	3527.83
	08/27/07	**6,898**	**14,776**	< 0.002	< 0.002	< 0.002	< 0.006	27.14	3527.37
	11/09/07	**7,100**	**12,247**	< 0.002	< 0.002	< 0.002	< 0.006	27.07	3527.44
L-3810	06/06/07	**10,100**	**23,000**	---	---	---	---	29.41	3533.13
WQCC Standards		250	1,000	0.01	0.75	0.75	0.62		

Total Dissolved Soilds (TDS), chloride, and BTEX concentrations listed in milligrams per liter (mg/L)

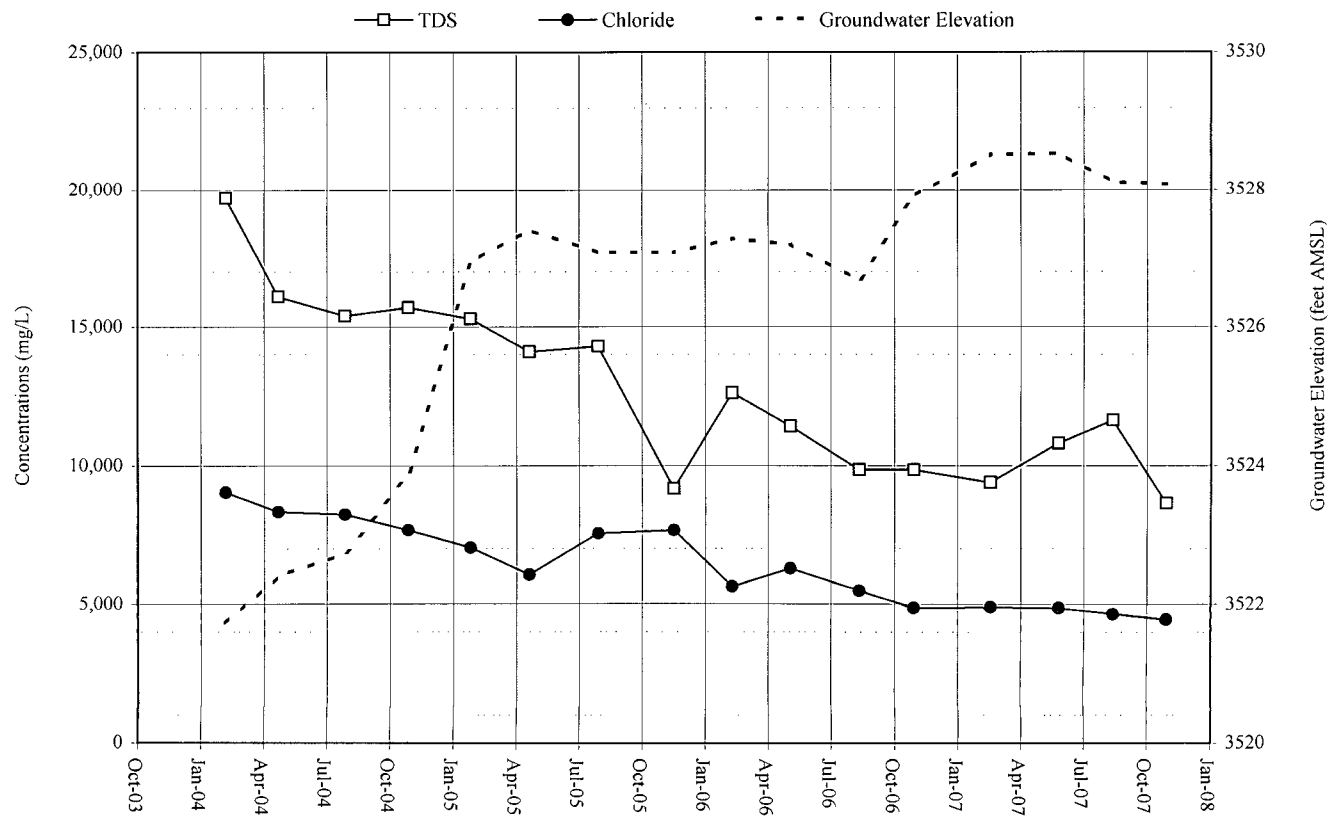
Values in boldface type indicate concentrations exceed New Mexico Water Quality Commission (WQCC) standards.

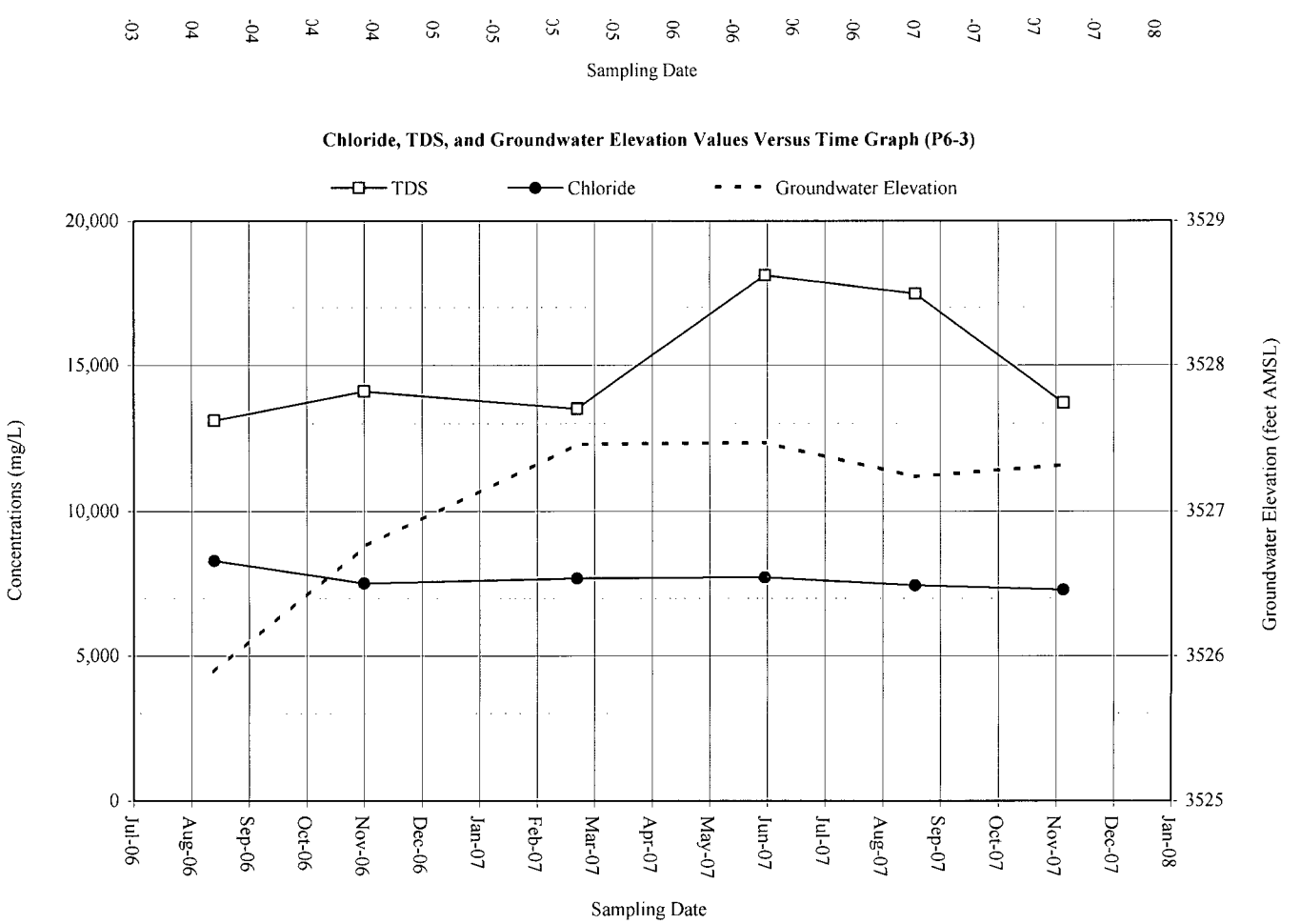
--- Indicates monitoring well not analyzed for this constituent.

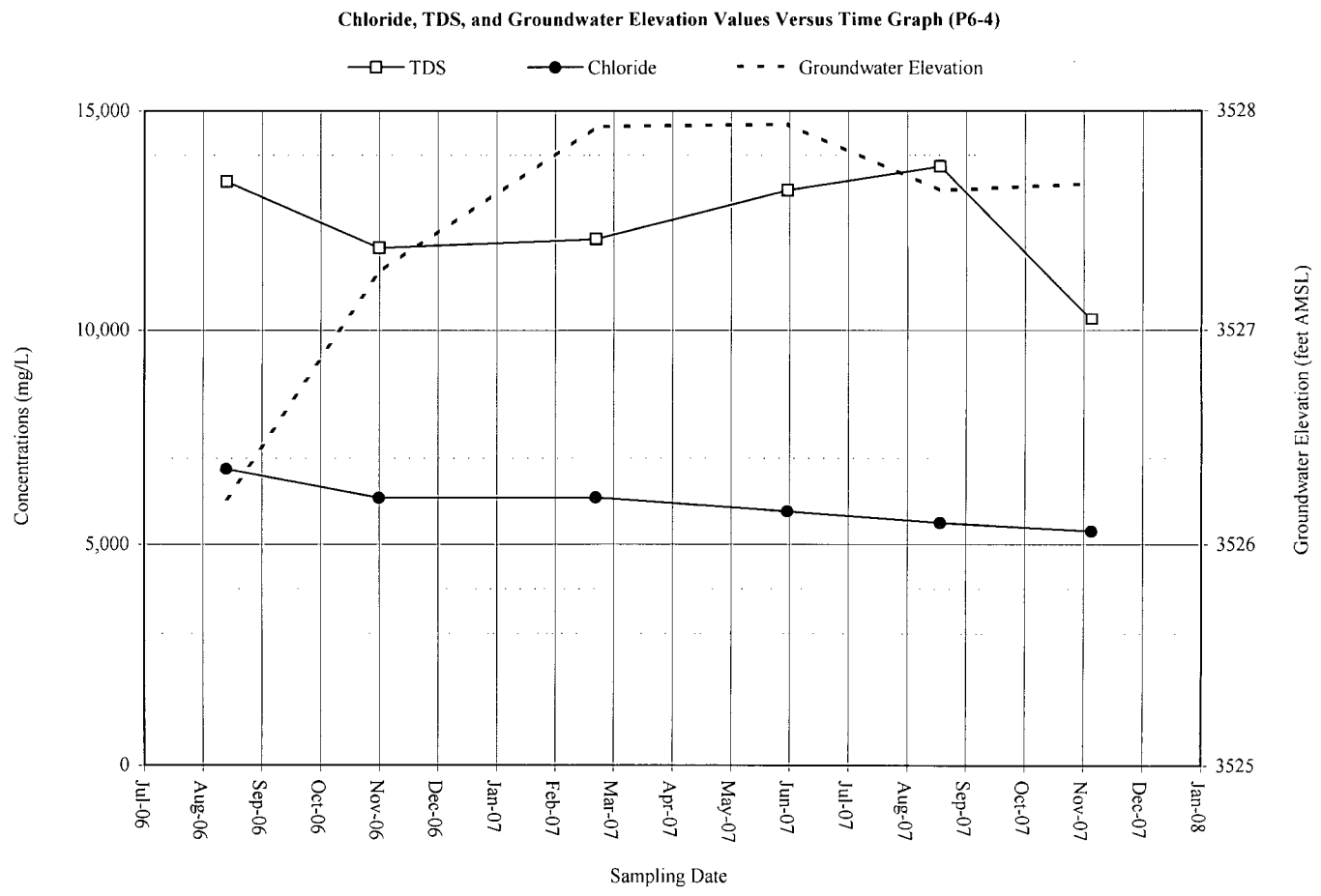
Chloride, TDS, and Groundwater Elevation Values Versus Time Graph (P6-1)



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




Chloride, TDS, and Groundwater Elevation Values Versus Time Graph (P6-3)
TDS
Chloride
Groundwater Elevation
20,000
15,000
10,000
5,000
0
3529
3528
3527
3526
3525
Concentrations (mg/L)
Groundwater Elevation (feet AMSL)
Jul-06
Aug-06
Sep-06
Oct-06
Nov-06
Dec-06
Jan-07
Feb-07
Mar-07
Apr-07
May-07
Jun-07
Jul-07
Aug-07
Sep-07
Oct-07
Nov-07
Dec-07
Jan-08
Sampling Date


Chloride, TDS, and Groundwater Elevation Values Versus Time Graph (P6-4)
TDS
Chloride
Groundwater Elevation
15,000
10,000
5,000
0
3528
3527
3526
3525
Concentrations (mg/L)
Groundwater Elevation (feet AMSL)
Jul-06
Aug-06
Sep-06
Oct-06
Nov-06
Dec-06
Jan-07
Feb-07
Mar-07
Apr-07
May-07
Jun-07
Jul-07
Aug-07
Sep-07
Oct-07
Nov-07
Dec-07
Jan-08
Sampling Date

7.0 AMENDED STAGE 2 ABATEMENT PLAN

7.1 CORRECTIVE ACTION TO THE VADOSE ZONE

The following corrective actions taken at the EME P-6 Release site have provided for protection of the vadose zone and groundwater environment:

- Replacement of former 10-inch A/C line with poly line
- Excavation and removal of 168 yd^3 of hydrocarbon-impacted soil
- Excavation, remediation, and blending of approximately 400 yd^3 of lesser impacted soil was used as backfill and had a chloride concentration of only 64 mg/kg, a TPH level of 115 mg/kg, and BTEX concentrations below 0.005 mg/kg.
- Installation of a clay layer to minimize infiltration through the vadose zone.
- Placement of clean topsoil and application of native seed to encourage re-vegetation.

Vadose zone delineation activities from 13 trenched sample locations within the impacted area during earlier investigations have shown that the chloride concentration averaged only 340 mg/kg. Based on those findings it is evident that the chloride load in the vadose zone is at a level too low to suggest any significant contribution to the chloride concentrations observed in the groundwater at the site.

7.2 CORRECTIVE ACTION TO THE GROUNDWATER

Groundwater in this area of Monument, New Mexico, has been reported as regionally impacted with chlorides and unusable as early as 1952 (Nicholson and Clebsch, Groundwater Report 6). Evidence of potential upgradient offsite sources, onsite groundwater monitoring, and vadose zone characterization support the conclusion that the elevated chloride and TDS concentrations in the groundwater at the site are the result of off-site sources and/or historical regional groundwater impairment. The amount of chloride impairment caused by the accidental release at the P-6 Release site did not significantly contribute to the regional impairment. The existing clay layer, infiltration barrier, and re-vegetation as described above has mitigated the potential for residual constituents of concern from further infiltration, leaching, or percolation from the vadose zone into groundwater.

However, at the request of the NMOCD via email communication on February 13, 2008 (Appendix A), a groundwater recovery system will be installed to remove chloride-impacted groundwater. Water from the recovery well will be stored on site for use in pipeline maintenance operations. It is being assumed the observed increase (and subsequent decreases) in chloride concentrations in monitoring well P6-1 (adjacent to the release point) was directly the result of the November 29, 2000 release of chloride to the groundwater table. With that assumption in mind,

the following estimate of chloride mass was calculated based on simple mass balance equations which are explained as follows:

First, the size of the impacted area is conservatively assumed to be the maximum width (26-ft) times the length (26-ft) of the excavation which is then multiplied by a factor of 10 (estimated horizontal dispersivity factor). This total area is then multiplied by the thickness of the aquifer (25-ft) and its porosity (0.25) resulting in a total saturated pore space volume.

Second, the ambient chloride concentration at the site as reflected by upgradient monitoring well P6-2 (6,500 mg/L on 11/08/07) was subtracted from the concentration observed the source point well P6-1 (4,450 mg/L on 11/08/07) which results in a net difference in chloride concentration of 2,050 mg/L This net difference between the two concentrations above *conservatively* reflects the net impact to groundwater from the release. That concentration multiplied by the total saturated pore space volume (1.20E+06 liters) results in the estimated chloride mass of 2,460 kg. These calculations are shown in the following table in the same order as described above.

Estimate of chloride mass:

Parameter Type	Value	Parameter Validation (description of equations used)
Release area	676 ft^2	Area of Concern (physical measurement of junction box excavation)
Longitudinal Dispersivity	10	Professional estimate for factoring the plume length
Aquifer Thickness	25 ft	Known lithology of monitoring well MW-4.
Porosity	0.25	Professional estimate for water saturated pore volume
Volume of impacted ground water below former excavation.	42,250 ft^3	Simple multiplication of each parameter listed above
Volume of Impacted Groundwater below former excavation.	1.20E+06 L	Unit conversion of previous value to liters.
Chloride concentration	2,050 mg/L	Difference between concentrations in P6-1 and P6-2 (November 8, 2007))
Total chloride mass	**2, 460 kg**	Simple multiplication of two parameters listed above

A groundwater recovery system employed at the P-6 Release site extracting water with chloride concentrations consistent with those in P6-1 or downgradient well P6-3 (~7,000 mg/L) could extract 38.2 kg per day by (continuously) pumping at a rate of 1 gallon per minute (gpm). At that rate it would take approximately 65 days and the equivalent of 2,200 barrels (bbls) to remove 2,460 kg of chloride mass.

Installation of a groundwater recovery system is contingent on successful application with the New Mexico Office of the State Engineer and landowner agreement in accordance with NMSA 1978 Article 72-12-3(B). It will likely be necessary to install a 4-inch diameter recovery well between P6-1 and P6-3 completed to the base of the aquifer (about 55-ft bgs). The conceptual design and specifications of the groundwater recovery system include a submersible or positive displacement pump capable of discharging at a minimum rate of 1 gpm. Due to the remoteness of the site the necessary power supply for the system will likely

be provided by a solar powered battery. Flow rate, total volume, and chloride content of the recovered groundwater will be measured prior to use for pipeline maintenance operations.

7.3 CLOSURE AND PROPOSED SCHEDULE OF ACTIVITIES

ROC will continue quarterly groundwater sampling at each of the four monitoring wells and vegetation will be monitored for growth and amendments added if necessary.

Upon approval of the Amended Stage 2 Abatement Plan ROC will schedule a drilling rig to install the recovery well and subsequently implement the ground water remedy at the P-6 Release site using the same system after its completion at the EME Jct. D-1 site (AP-67).

At the completion of corrective actions as described herein, a final report will be submitted to the NMOCD with a request for closure of the Rule 19 regulatory file associated with this site.

APPENDIX A

NMOCD
CORRESPONDENCE

Gil Van Deventer

From: "Gil Van Deventer" <gilbertvandeventer@suddenlink.net>
To: "Hansen, Edward J., EMNRD" <edwardj.hansen@state.nm.us>
Cc: "Chris Williams" <chris.williams@state.nm.us>; "Wayne Price" <wayne.price@state.nm.us>; "Haskell Conder" <hconder@riceswd.com>; "Marvin Burrows" <mburrows@riceswd.com>
Sent: Thursday, June 12, 2008 9:06 PM
Attach: P6_Amended_S2AP_AppABCF.pdf
Subject: Amended Stage 2 Abatement Plan - EME P-6 Release Site (AP-45)

Subject: Amended Stage 2 Abatement Plan

Site Name: EME P-6 Release Site (AP-45)

Site Location: T20S - R37E - Section 6, Unit Letter P

Site Agent: RICE Operating Company

Hello Edward:

Trident Environmental is pleased to submit the attached *Amended Stage 2 Abatement Plan* (AP-45) for the above-referenced site. The attached version is abbreviated to include mostly text and figures to keep the file size small enough for transmission by email (excludes Appendix D: Waste Manifests and Appendix E: Lab Reports).

One complete hard copy and one complete copy on compact disk is also being sent via USPS Certified Mail (#7099 3400 0017 1737 2015). A copy will be hand delivered to the NMOCD District 1 office in Hobbs next week.

Upon your approval of the recently submitted abatement plans we are ready to schedule the installation of groundwater recovery wells at the following sites as soon as possible and begin the chloride mass removal program:

- EME Jct. D-1 Site (AP-67)
- EME Jct. K-6 Site (AP-46)
- EME P-6 Release Site (AP-45)

If you have any questions, please contact me at 432-638-8740, or Hack Conder or Marvin Burrows at Rice Operating Company (505-393-9174).

Thanks -Gil

Gilbert J. Van Deventer, PG, REM
Trident Environmental
P. O. Box 7624, Midland TX 79708
Work/Mobile: 432-638-8740
Fax: 413-403-9968
Home: 432-682-0727

Gil Van Deventer

From: "Hansen, Edward J., EMNRD" <edwardj.hansen@state.nm.us>
To: "Kristin Pope" <kpope@riceswd.com>
Cc: "Price, Wayne, EMNRD" <wayne.price@state.nm.us>; "Gil Van Deventer" <gilbertvandeventer@suddenlink.net>
Sent: Wednesday, February 13, 2008 12:33 PM
Subject: Stage 2 Final Report for AP-45 (Rice EME P-6 Release Site)

Dear Ms. Pope:

The NMOCD has reviewed the submitted Stage 2 Final Report (AP-45), dated September 24, 2007, for the above referenced site. The NMOCD cannot approve of the Report at this time. To expedite the approval process, please submit an amended Stage 2 Abatement Plan to include the following additional items:

1. The Corrective Action to the Groundwater must include an estimation of the chloride mass that has contaminated the groundwater by the release at the Rice EME P-6 Release Site and a plan for the removal of that chloride mass from the groundwater. An existing groundwater monitoring well may be used for this purpose. Also, please propose a treatment and / or disposal method for that chloride mass.

If you have questions regarding this matter, please contact me at 505-476-3489.

Edward J. Hansen
Hydrologist
Environmental Bureau

P.S.: Please use the referenced OCD case # on future correspondence regarding the site listed above.

From: "Hansen, Edward J., EMNRD" <edwardj.hansen@state.nm.us>
To: "Gilbert Van Deventer" <gilbertvandeventer@cox.net>; "Kristin Pope" <kpope@riceswd.com>
Cc: "Carolyn Haynes" <chaynes@riceswd.com>; "Price, Wayne, EMNRD" <wayne.price@state.nm.us>
Subject: RE: EME P-6 (AP-45)
Date: Thursday, January 11, 2007 4:14 PM

Dear Mr. Van Deventer and Ms. Pope:

The NMOCD has reviewed the submitted data for the above referenced site. The NMOCD hereby approves proceeding with the proposed backfilling activities as reference below.

Also, please be advised that NMOCD approval of these activities does not relieve the owner/operator of responsibility should operations pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD approval does not relieve the owner/operator of responsibility for compliance with any OCD, federal, state, or local laws and/or regulations.

If you have questions regarding this matter, please contact me at 505-476-3489.

Edward J. Hansen
Hydrologist
Environmental Bureau

From: Gilbert Van Deventer [mailto:gilbertvandeventer@cox.net]
Sent: Tuesday, January 09, 2007 2:56 PM
To: Price, Wayne, EMNRD
Cc: Hansen, Edward J., EMNRD; Kristin Pope; Carolyn Haynes
Subject: Re: EME P-6 (AP-45)

Wayne

We have completed the excavation activities at the EME P-6 Line Leak Site (AP-45) in accordance with the Stage 1&2 Abatement plan and your conditions to the minor amendment as copied below. The final size of the excavation is approximately 26 ft wide by 26 ft long by 16 ft deep which resulted in a total of approximately 400 cubic yards of soil. Of that total, 156 cubic yards of the more highly impacted excavated soil was transported to Cell C-1 at the South Monument Landfarm. The remaining excavated soil was spread out on site and was later blended with clean topsoil (dune sand) imported from the South Monument Landfarm. I was told by Kena Kay Cooper that her topsoil is the same soil that was used for the new racetrack (Zia Park) in Hobbs. The sampling procedures for the wall and floor samples were conducted in a manner consistent with the compositing protocol used by Rice Operating for typical junction box closure sites. Laboratory analytical results are summarized in the table below.

Sample Identification	Sample Date	Amount (yd3)	OVM (ppm)	Chloride (ppm)	GRO (mg/kg)	DRO (mg/kg)	B (mg/kg)	T (mg/kg)	E (mg/kg)	X (mg/kg)
Floor	12/27/06	N/A	141	656	213	1209	0.016	0.034	0.117	0.363
Four Wall	12/27/06	N/A	45	432	15	514	<0.005	<0.005	0.017	0.006
Excavated Soil	12/22/06	168	874	336	1401	4134	<0.020	1.66	4.2	15.64
Remediated Soil	12/29/06	400	10	64	<10	115	<0.005	<0.005	<0.005	<0.015

A diagram showing the North-South cross-sectional profile of the proposed backfill procedure is attached for your review. Various photos of the activities and lab reports are attached as well. We now seek your approval to begin backfilling with the remediated soil and overlay it with a clay layer and topsoil.

Thanks - Gil

Gilbert J. Van Deventer, PG, REM
Trident Environmental
www.trident-environmental.com <http://www.trident-environmental.com/>
Work/Mobile: 432-638-8740
Fax: 413-403-9968
Home: 432-682-0727

From: "Price, Wayne, EMNRD" <wayne.price@state.nm.us>
To: "Gilbert Van Deventer" <gilbertvandeventer@cox.net>
Cc: "Carolyn Haynes" <chaynes@riceswd.com>; "Kristin Pope" <kpope@riceswd.com>
Subject: RE: EME P-6 (AP-45)
Date: Wednesday, July 12, 2006 4:46 PM

Approved!

From: Gilbert Van Deventer [mailto:gilbertvandeventer@cox.net]
Sent: Wednesday, July 12, 2006 3:11 PM
To: Price, Wayne, EMNRD
Cc: Carolyn Haynes; Kristin Pope
Subject: Re: EME P-6 (AP-45)

Wayne

Since it is on Jimmy Cooper property that additional monitoring well (P6-5 200 ft east) will require negotiation for access. To date Rice has had much trouble reaching agreement with Cooper and his attorneys for access on several sites. That area is also hard accessing due to deep sand. Per our conversation today we will proceed on a forward path and install the 2 MWs (P6-3 and P6-4) as proposed and we will update you as to the status of acquiring access for the subject well (P6-5) east of the site.

Proof of public notice was submitted on 01/30/06 and is attached.

Thank you,
Gil

Gilbert J. Van Deventer, PG, REM, NMCS
R. T. Hicks Consultanyts, Ltd.
Work/Mobile: 432-638-8740
Fax: 413-403-9968
Home: 432-682-0727

----- Original Message -----
From: Price, Wayne, EMNRD <mailto:wayne.price@state.nm.us>
To: Price, Wayne, EMNRD <mailto:wayne.price@state.nm.us> ; Gilbert Van Deventer <mailto:gilbertvandeventer@cox.net> ; Kristin Farris Pope <mailto:kpriceswd@valornet.com> ; Carolyn Doran Haynes <mailto:cdhriceswd@valornet.com>
Cc: Johnson, Larry, EMNRD <mailto:larry.johnson@state.nm.us>
Sent: Wednesday, July 12, 2006 2:32 PM
Subject: RE: EME P-6 (AP-45)

Please note, OCD Santa Fe does not have a copy of the Public Notice for the P-6 Leak site. Please forward ASAP for out files.

----- Original Message -----
From: Price, Wayne, EMNRD <mailto:wayne.price@state.nm.us>
To: Gilbert Van Deventer <mailto:gilbertvandeventer@cox.net>
Cc: Johnson, Larry, EMNRD <mailto:larry.johnson@state.nm.us>
Sent: Wednesday, July 12, 2006 12:22 PM
Subject: RE: EME P-6 (AP-45)

OCD hereby approves of the Stage 1 & 2 plans with the following additional conditions:

1. One additional monitoring well named P6-5 shall be installed 200 feet due east of P-6-1.
2. Monitor wells P-1,2,3,4,5 and M5-1 shall be sampled and analyzed for BTEX and general chemistry. If BTEX is non-detect then OCD will considered eliminating this parameter in the future if no free oil is present.
3. All saturated or grossly contaminated soils and soils greater than 10,000 mg/kg shall be disposed of off-site at an OCD approved facility.
4. All soils remediated on site shall be in a maximum of 8 inch lifts, watered, properly tilled, amendments added if needed (fertilizer) and managed to prevent contamination run-off. Blending of soils will not be allowed until remedied soils demonstrate that the GRO component is essentially zero.
5. All remediated soils, remediated area soils, backfill soils, bottom hole and side wall soils shall be sampled and analyzed for TPH, BTEX and chlorides using approved EPA methods.
6. OCD shall review all analytical results and issue approval before excavated area is backfilled.
7. All soils used to backfill on top of the ET cap shall be clean native soils to support re-vegetation.
7. ROC shall submit an interim closure report to include the following:

    a. All groundwater and soil results, photos, plot

plan with sample points indicated, groundwater gradient map, and any other pertinent information.

b. Permission to backfill.

c. A re-vegetation, groundwater monitoring and active restoration plan for OCD approval.

Please be advised that NMOCD approval of this plan does not relieve the owner/operator of responsibility should operations fail to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD approval does not relieve the owner/operator of responsibility for compliance with any OCD, federal, state, or local laws and/or regulations.

From: Gilbert Van Deventer [mailto:gilbertvandeventer@cox.net]
Sent: Monday, July 10, 2006 2:26 PM
To: Price, Wayne, EMNRD
Subject: Fw: EME P-6 (AP-45)

We are scheduled to do some drilling at the N-5 and K-6 sites starting next week. Was hoping to hear your response and approval for the P-6 site as requested on June 27th so that we could use the same drillers to install 2 MWs at P-6. Otherwise it's real hard to schedule them until a much later date.

Thanks,

Gil

Gilbert J. Van Deventer, PG, REM, NMCS
R. T, Hicks Consulting, Ltd.
Work/Mobile: 432-638-8740
Fax: 413-403-9968
Home: 432-682-0727

----- Original Message -----
From: Gilbert Van Deventer <mailto:gilbertvandeventer@cox.net>
To: Price, Wayne, EMNRD <mailto:wayne.price@state.nm.us>
Sent: Tuesday, June 27, 2006 10:19 AM
Subject: Re: EME P-6 (AP-45)

Hello Wayne. Per your request and comments in your email on May 26, 2006, ROC proposes the following minor modifications to the P-6 Stage 1 Abatement Plan:

Stage 1 (investigation). ROC proposes to install additional monitoring wells at the P-6 Line Leak Site as follows:

* one upgradient (~165 ft NE of P6-1 monitoring well), and

* one downgradient (~220 ft south of P6-1 monitoring well)

Since there already is a monitoring well cluster at the M-5 SWD site located approximately 500 ft downgradient (southeast) of the P6-1 monitoring well we see no need for another downgradient well in that direction. Access for a drill rig in any other areas near this site is extremely difficult due to the presence of dunes and would be detrimental to the existing vegetation and landscape if an attempt were to be made. ROC has had bad experience moving heavy equipment in this area and has even had dozers get stuck in the sand. A site map is attached showing the proposed locations of the 2 monitoring wells. The additional wells as proposed, and the installation of monitoring wells for two nearby sites (K-6 and N-5) that are in the Stage 1 Abatement Plan process will provide the necessary data for full characterization.

Stage 2 (abatement). With regard to soil excavation, remediation, backfilling and disposal, ROC proposes the following:

Excavated soil with total TPH (GRO+DRO) greater than 10,000 mg/kg will be transported to an NMOCD-approved facility for disposal. Excavated soil with TPH above 1,000 mg/kg but less than 10,000 mg/kg) will be remediated on site by spreading on the surface no deeper than 18-inches thick to allow aeration and then blending them with native soil prior to use as backfill. After excavating the impacted area to a depth of 12 feet, soils with a total TPH (GRO + DRO) of less than 1,000 mg/kg and chloride concentrations less than 750 mg/kg will be used as backfill to a depth of no more than 5 feet below ground surface. Current field sampling results indicate chloride concentrations no greater than 750 mg/kg at 12 ft below ground surface. A 10-12 inch thick uncompacted clay layer, will be installed five feet below ground surface. An uncompacted clay layer is preferred over a compacted layer so as to promote a more efficient evapotransporation barrier. Above the clay layer, remediated soil with total TPH and chloride concentrations less than 1,000 mg/kg will be used as backfill and contoured to match the surrounding terrain.

On June 7th, ROC received approval from the BLM for site access and monitoring well installations at the nearby K-6 and N-5 sites so it would be convenient to include the P-6 investigation at the same time a drill rig is scheduled for all 3 sites (week of July 17th). With your concurrence of the actions proposed above ROC is ready to proceed. Please contact Kristin Pope at 505-393-9174 or myself at 432-638-8740, if you have any questions regarding this minor modification.

Sincerely,

Gilbert J. Van Deventer, PG, REM
R. T. Hicks Consultants Ltd.
Work/Mobile: 432-638-8740
Fax: 413-403-9968
Home: 432-682-0727

----- Original Message -----
From: Price, Wayne, EMNRD
<mailto:wayne.price@state.nm.us>
To: Kristin Pope <mailto:kpope@riceswd.com>
Cc: gil@rthicksconsult.com ; Carolyn Haynes
<mailto:cdhriceswd@valornet.com> ; Johnson, Larry, EMNRD
<mailto:larry.johnson@state.nm.us>
Sent: Friday, May 26, 2006 4:04 PM
Subject: RE: EME P-6 (AP-45)

The Rice Operating Company (ROC) stage 1 & 2 plan dated July 12, 2005 for the EME P-6 line leak site is deficient in the following areas:

Stage 1 (investigation). There is only one on-site monitor well. Please submit a plan to have at least three more monitor wells installed that are closer to the site. One of the wells shall be located approximately 100 feet up-gradient of the original spill site. The previous information submitted shows a large variance in the area groundwater gradient. This may be due to the fact the wells proposed are to far apart. There were no local iso-concentration maps provided to identify the chloride(TDS) plume.

Stage 2 (abatement). The excavation plan section 7.1 page 9 does not provide definitive information on excavation and disposal. The last sentence reads 'Soil with GRO or DRO levels above 1000 mg/kg shall be hauled to an NMOCD-approved facility or remediated on site."

ROC did not provide a detail explanation of what soils will be disposed of off-site and what soils will be remediated. There is no explanation on how the soils will be remediated. On Page 10 one sentence reads " The backfill (above and below the clay liner) will be composed of blended or remediated soil that will support vegetation". ROC did not provide any documentation of what levels of constituents will be present in the soils above and below the liner.

Please submit a modified plan within 30 days and proof of public notice.

From: Kristin Pope [mailto:kpope@riceswd.com]
Sent: Wednesday, May 24, 2006 10:08 AM
To: Price, Wayne, EMNRD
Cc: gil@rthicksconsult.com; Carolyn Haynes
Subject: EME P-6 (AP-45)

Wayne,

At our last meeting on March 30 in Hobbs, you reviewed the Stage 1&2 Abatement Plan for the EME P-6 Release Site (AP-45) submitted by Gil Van Deventer. At that meeting, you said that you'd like to review the submission in depth and also involve the District 1 office. Can you give us any feedback yet? Thanks.

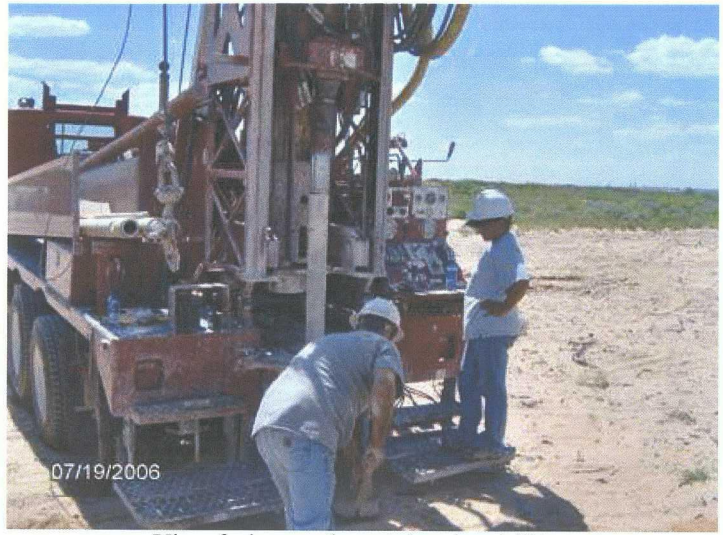
Kristin Farris Pope
Project Scientist
RICE Operating Company
Hobbs, New Mexico
(505) 393-9174

APPENDIX B

PHOTO-DOCUMENTATION

EME P-6 Line Leak Site (AP-45)

View facing north showing recently completed installation of downgradient monitoring well P6-3.

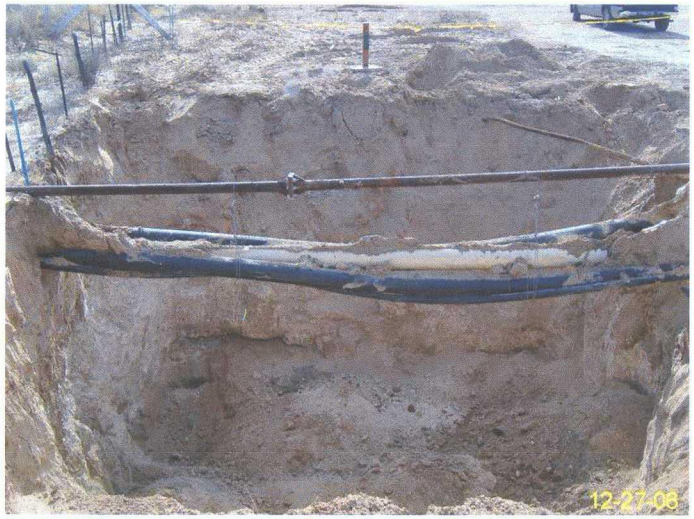


View facing northwest showing drilling activities for upgradient monitoring well P6-4.

View of west wall of excavation.

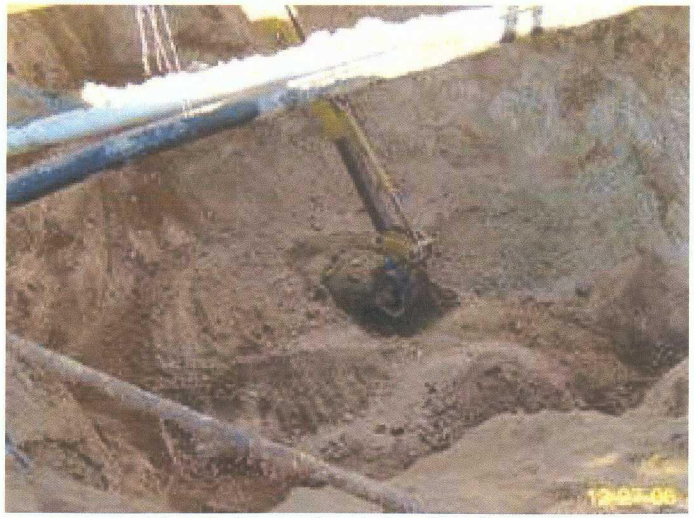
View of east wall of excavation.

EME P-6 Line Leak Site (AP-45)



View of south wall of excavation.

View of north wall of excavation.

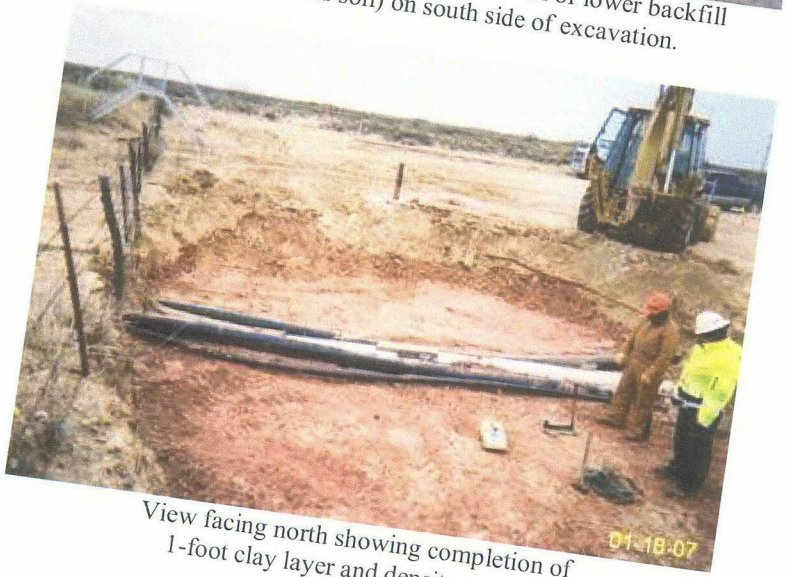

View facing northeast showing floor of excavation (16 feet below ground surface).

View facing south showing backfilling and tamping of blended soil on south side of excavation.

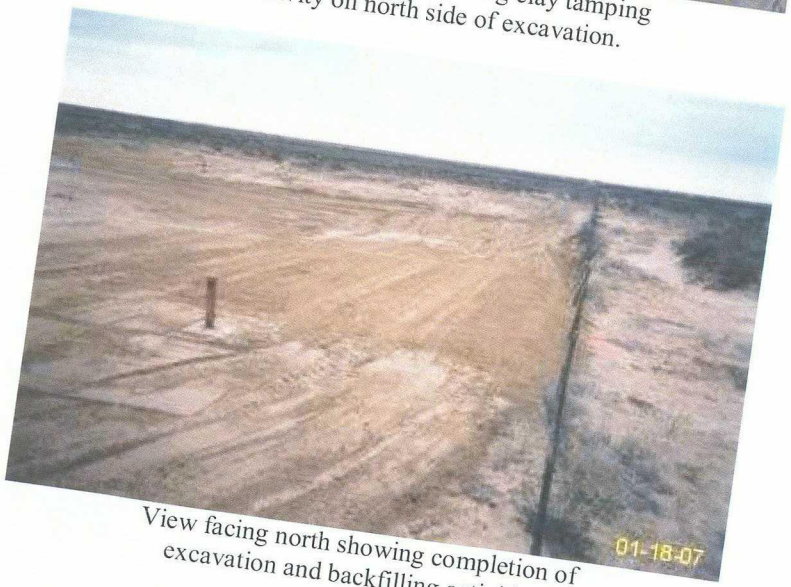
EME P-6 Line Leak Site (AP-45)

View facing south showing completion of lower backfill layer (blended soil) on south side of excavation.

View facing north showing clay tamping activity on north side of excavation.



View facing north showing completion of 1-foot clay layer and density testing.



View facing north showing completion of excavation and backfilling activities.

EME P-6 Line Leak Site (AP-45)

View facing south showing seed drilling activities (04/10/2007).

View facing northeast showing watering activity.

Close-up view showing early healthy growth of grass seed mix.

View facing northwest showing early growth of grass seed mix.

APPENDIX C

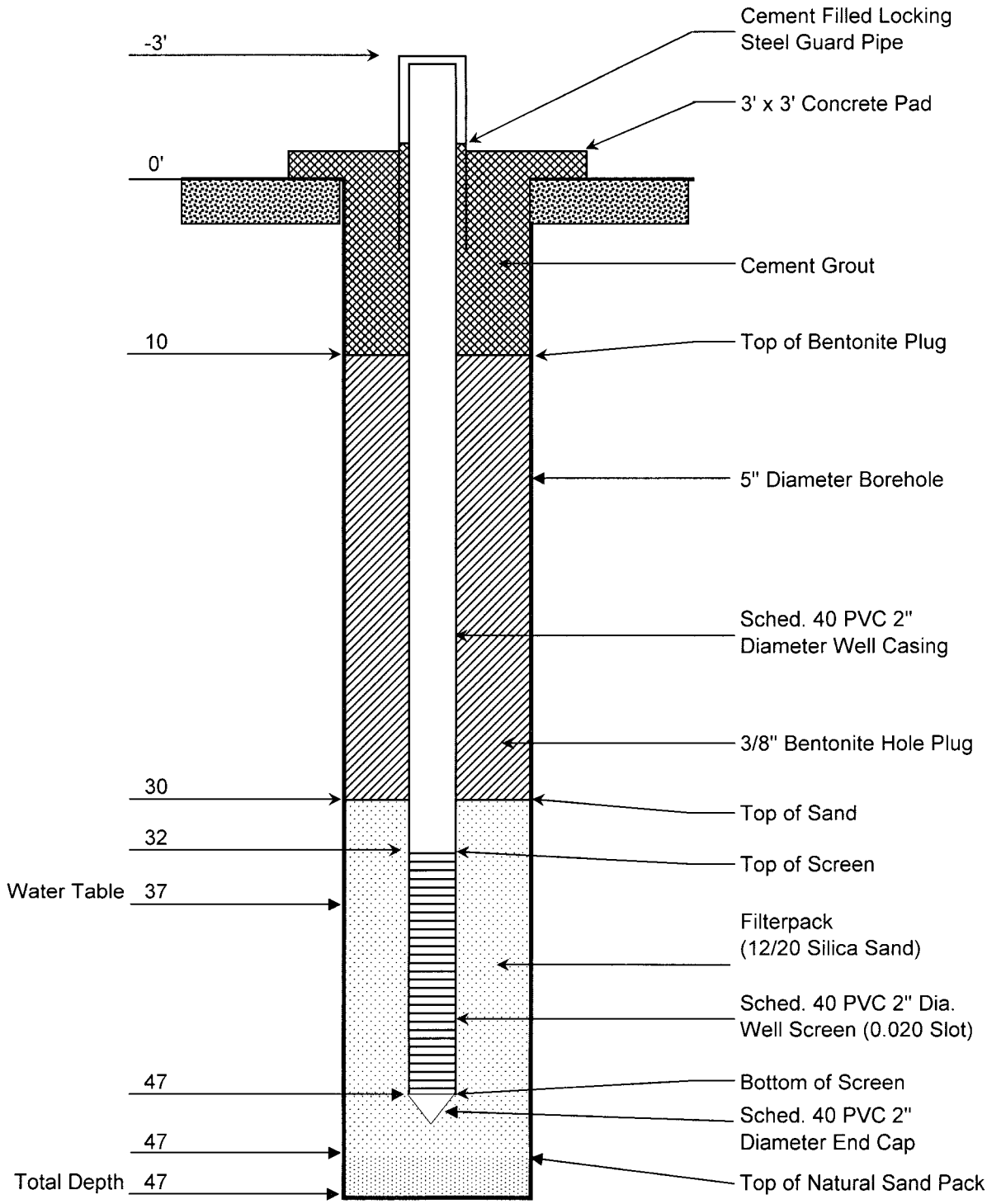
LITHOLOGIC LOGS

AND

MONITORING WELL CONSTRUCTION DIAGRAMS

MONITORING WELL CONSTRUCTION DIAGRAM

No lithologic log is available for this monitoring well (not provided by driller).

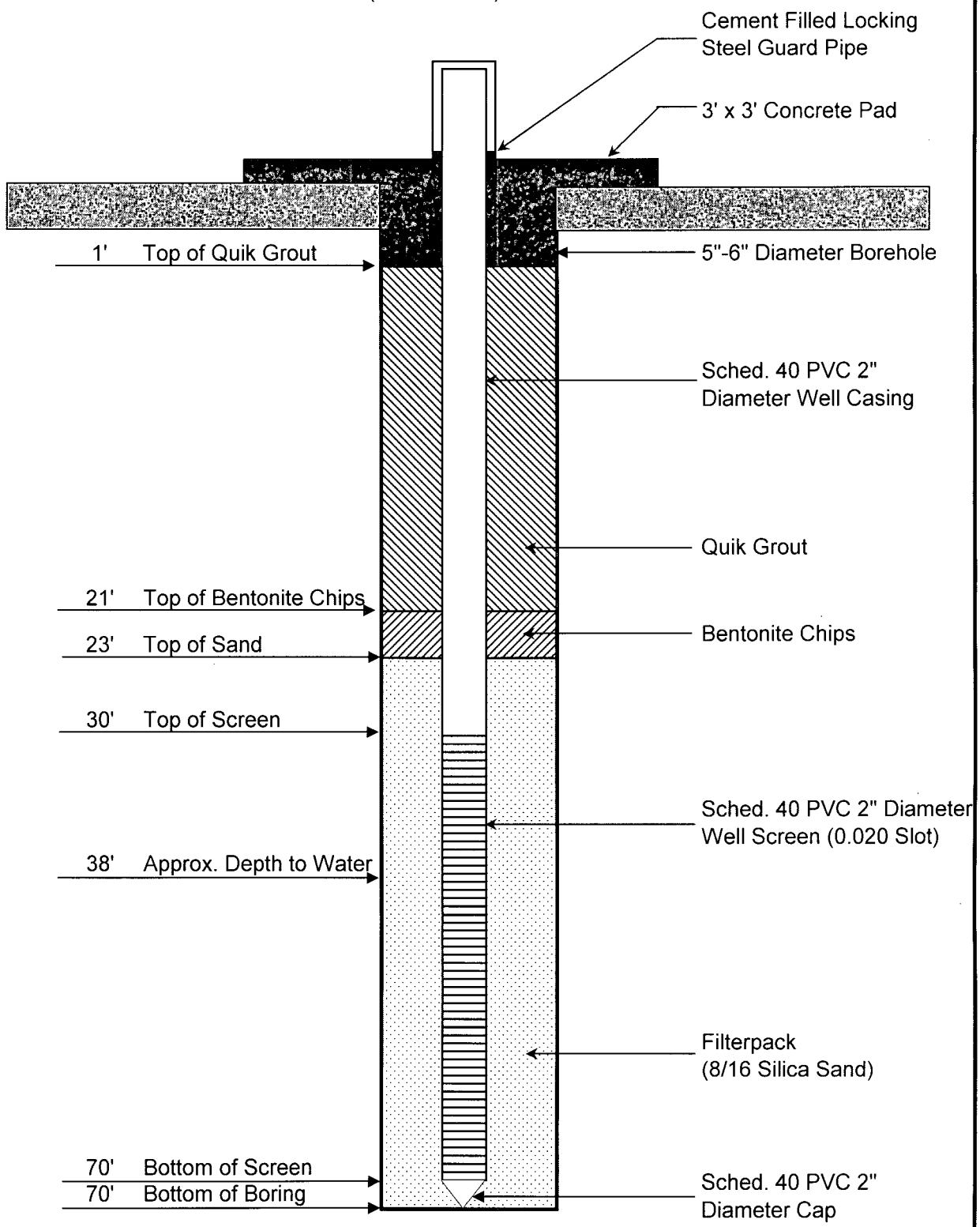


TRIDENT ENVIRONMENTAL	Client:	Rice Operating Company
	Site Name:	EME P-6 Line Leak Site
	Completion Date	January 10, 2002
	Supervisor:	Donnie Anderson

P6-1
Monitoring Well Construction Diagram

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

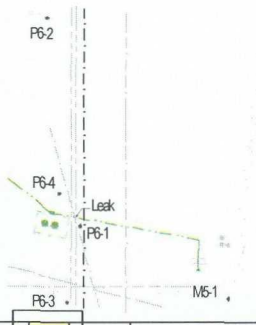
PO BOX 7624
MIDLAND, TEXAS 79708

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		
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
			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"

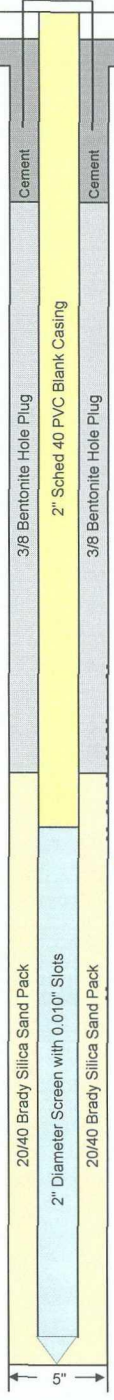
Bottom of boring at 70 ft below ground surface.

LITHOLOGIC LOG AND MONITORING WELL CONSTRUCTION DIAGRAM



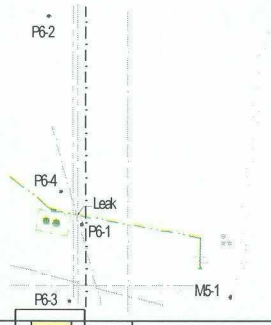
MONITOR WELL NO.: P6-3
SITE ID: EME P-6 Line Leak
CONTRACTOR: Harrison & Cooper, Inc.
DRILLING METHOD: Air Rotary
START DATE: 07/19/06
COMPLETION DATE: 07/19/06
COMMENTS: Monitoring well located approx 240 feet south of P-6 line leak location and 58 ft west of fenceline..

TOTAL DEPTH: 48 Feet
CLIENT: RICE *Operating Company*
COUNTY: Lea
STATE: New Mexico
LOCATION: T20S - R37E - Sec 6 - Unit P
FIELD REP.: G. Van Deventer



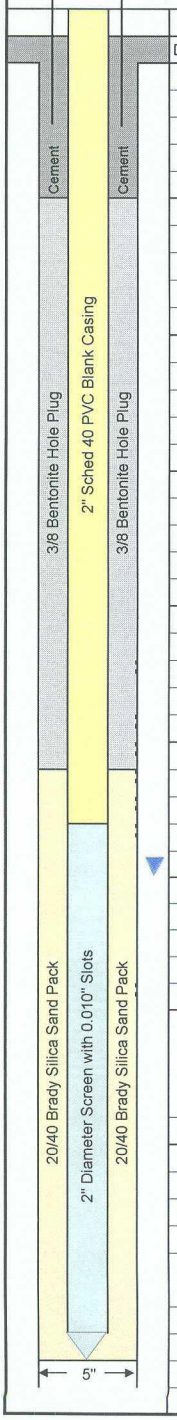
Sample Depth	Sample Time	Sample Type	Chloride (ppm)	PID (ppm)	USCS	LITHOLOGIC DESCRIPTION: LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOLIDATION, DISTINGUISHING FEATURES
		Surface			SW	Dark yellowish orange (10 YR 6/6) sandy loam, dune sand, fine-grained, well-sorted, subrounded grains, unconsolidated, dry
5	1300	Cuttings	86	0	SM	Dark yellowish orange (10 YR 6/6) and grayish orange (10YR 7/4) sand. Sand grains are very fine- to fine-grained, moderately well sorted, subrounded, unconsolidated, dry.
10	1305	Cuttings	115	0		Light brown (5 YR 5/6) and pale yellowish brown (10YR 6/2) sand. Sand grains are very fine- to fine-grained, moderately well sorted, subrounded, unconsolidated, dry.
15	1310	Cuttings	111	0		Light brown (5 YR 5/6) and grayish orange (10YR 7/4) sand. Sand grains are very fine- to fine-grained, moderately well sorted, subrounded, unconsolidated, dry.
20	1315	Cuttings	111	0	SM/CAL	Grayish orange (10YR 7/4) fine sand with very pale orange (10YR 8/2) indurated caliche in matrix. Sand grains are fine-grained, moderately well sorted, subrounded, unconsolidated, dry.
25	1320	Cuttings	272	0	SM	Light brown (5 YR 5/6) sand. Sand grains are very fine- to fine-grained, moderately well sorted, subrounded, unconsolidated, dry.
30	1325	Cuttings	571	0		*Moist at 30 feet (groundwater)*
					SM/CAL	Grayish orange (10YR 7/4) fine sand with very pale orange (10YR 8/2) calcium carbonate in matrix. Sand grains are very fine-grained, moderately well sorted, subrounded, unconsolidated, dry.
35	1330	Cuttings				Grayish orange (10YR 7/4) fine sand with very pale orange (10YR 8/2)calcium carbonate in matrix. Sand grains are very fine-grained, moderately well sorted, subrounded, unconsolidated, dry.
40	1335					Grayish orange (10YR 7/4) fine sand with very pale orange (10YR 8/2)calcium carbonate in matrix. Sand grains are very fine-grained, moderately well sorted, subrounded, unconsolidated, dry.
45	1340					Grayish orange (10YR 7/4) fine sand with very pale orange (10YR 8/2)calcium carbonate in matrix. Sand grains are very fine-grained, moderately well sorted, subrounded, unconsolidated, dry.
	1345					
50						Bottom of boring at 48 ft below ground surface.

LITHOLOGIC LOG AND MONITORING WELL CONSTRUCTION DIAGRAM



MONITOR WELL NO.: P6-4
SITE ID: EME P-6 Line Leak
CONTRACTOR: Harrison & Cooper, Inc.
DRILLING METHOD: Air Rotary
START DATE: 07/19/06
COMPLETION DATE: 07/19/06
COMMENTS: Monitoring well located approx 100 feet north of P-6 line leak location and 90 ft west of fenceline..

TOTAL DEPTH: 48 Feet
CLIENT: RICE *Operating Company*
COUNTY: Lea
STATE: New Mexico
LOCATION: T20S - R37E - Sec 6 - Unit P
FIELD REP.: G. Van Deventer



Sample Depth	Sample Time	Sample Type	Chloride (ppm)	PID (ppm)	USCS	LITHOLOGIC DESCRIPTION: LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOLIDATION, DISTINGUISHING FEATURES
		Surface			SW	Grayish orange (10YR 7/4) sandy loam, dune sand, fine-grained, well-sorted, subrounded grains, unconsolidated, dry
5	1450	Cuttings	87	7	SM	Grayish orange (10YR 7/4) sand. Sand grains are very fine- to fine-grained, moderately well sorted, subrounded, unconsolidated, dry.
10	1452	Cuttings	55	0		Light brown (5 YR 5/6) sand. Sand grains are very fine- to fine-grained, moderately well sorted, subrounded, unconsolidated, dry.
15	1455	Cuttings	55	6	SM/CAL	Grayish orange (10YR 7/4) fine sand with very pale orange (10YR 8/2) calcium carbonate in matrix. Sand grains are fine-grained, moderately well sorted, subrounded, unconsolidated, dry. Calcium carbonate is finely dissemniated, soft to slightly hard.
20	1458	Cuttings	85	0		Grayish orange (10YR 7/4) fine sand cemented with very pale orange (10YR 8/2) indurated caliche in matrix. Sand grains are fine-grained, moderately well sorted, subrounded, unconsolidated, dry.
25	1510	Cuttings	229	0		Grayish orange (10YR 7/4) fine sand cemented with very pale orange (10YR 8/2) indurated caliche in matrix. Sand grains are fine-grained, moderately well sorted, subrounded, unconsolidated, dry.
30	1520	Cuttings	419	0		Grayish orange (10YR 7/4) fine sand cemented with very pale orange (10YR 8/2) indurated caliche in matrix. Sand grains are fine-grained, moderately well sorted, subrounded, unconsolidated, dry. Moist at 30 feet.
35	1525	Cuttings				Grayish orange (10YR 7/4) fine sand with very pale orange (10YR 8/2)calcium carbonate in matrix. Sand grains are very fine-grained, moderately well sorted, subrounded, unconsolidated, dry.
40	1540					Grayish orange (10YR 7/4) fine sand cemented with very pale orange (10YR 8/2) indurated caliche in matrix. Sand grains are fine-grained, moderately well sorted, subrounded, unconsolidated, dry.
45	1545					Grayish orange (10YR 7/4) fine sand cemented with very pale orange (10YR 8/2) indurated caliche in matrix. Sand grains are fine-grained, moderately well sorted, subrounded, unconsolidated, dry.
	1550					
50						Bottom of boring at 48 ft below ground surface.

APPENDIX D

MANIFESTS

Manifest# 12633

SOUTH MONUMENT SURFACE
WASTE FACILITY

LEASE OPERATOR:
RICE OPERATING
122 W. TAYLOR
HOBBS, NM 88240

ORIGINATING LOCATION:
EME – LEAK P-6
UNIT LETTER P
S6T20SR37E

TRANSPORTER NAME & ADDRESS:

DESCRIPTION OF WASTE: *NON-HAZARDOUS HYDRO-CARBONS*

QUANITY: 12 *YDS.*

FACILITY CONTACT:
Kena D. Cooper
SIGNATURE OF CONTACT

12-29-06
DATE

CELL NUMBER MATERIAL PLACED IN: C-1
CELL

SIGNATURE OF TRANSPORTER:
x Alfonso Brito
TRANSPORTER SIGNATURE

12-29-06
DATE

SOUTH MONUMENT SURFACE WASTE FACILITY
P.O. BOX 418
HOBBS, NM 88241-0418

CONTACT:
KENA KAY COOPER
(505) 392-1050 WORK
(505) 390-3665 – CELL

"As a condition of acceptance for disposal, I hereby certify that this waste is an exempt waste as defined by the Environmental Protection Agency (EPA). The waste are: generated from oil and gas exploration and production operations; exempt from Resource Conservation and Recovery Act (RCRA) Subtitle C Regulations; and not mixed with non-exempt waste."

Kena D. Cooper
FACILITY REPRESENTATIVE

12-29-06
DATE

Manifest# 12634

SOUTH MONUMENT SURFACE
WASTE FACILITY

LEASE OPERATOR:
RICE OPERATING
122 W. TAYLOR
HOBBS, NM 88240

ORIGINATING LOCATION:
EME – LEAK P-6
UNIT LETTER P
S6T20SR37E

TRANSPORTER NAME & ADDRESS:

DESCRIPTION OF WASTE: **QUANITY:**

NON-HAZARDOUS HYDRO-CARBONS 1 *YDS.*

FACILITY CONTACT:

Kena K Cooper
SIGNATURE OF CONTACT

12-29-06
DATE

CELL NUMBER MATERIAL PLACED IN: C-1
CELL

SIGNATURE OF TRANSPORTER:

x Alfonso Baeza
TRANSPORTER SIGNATURE

12-29-06
DATE

SOUTH MONUMENT SURFACE WASTE FACILITY
P.O. BOX 418
HOBBS, NM 88241-0418

CONTACT:
KENA KAY COOPER
(505) 392-1050 WORK
(505) 390-3665 – CELL

"As a condition of acceptance for disposal, I hereby certify that this waste is an exempt waste as defined by the Environmental Protection Agency (EPA). The waste are: generated from oil and gas exploration and production operations; exempt from Resource Conservation and Recovery Act (RCRA) Subtitle C Regulations: and not mixed with non-exempt waste."

Kena K Cooper
FACILITY REPRESENTATIVE

12-29-06
DATE

Manifest# 12635

SOUTH MONUMENT SURFACE
WASTE FACILITY

LEASE OPERATOR:
RICE OPERATING
122 W. TAYLOR
HOBBS, NM 88240

ORIGINATING LOCATION:
EME – LEAK P-6
UNIT LETTER P
S6T20SR37E

TRANSPORTER NAME & ADDRESS:

DESCRIPTION OF WASTE: *NON-HAZARDOUS HYDRO-CARBONS*

QUANITY: 12 *YDS.*

FACILITY CONTACT:
x Kena K Cooper
SIGNATURE OF CONTACT

12-29-06
DATE

CELL NUMBER MATERIAL PLACED IN: C-1
CELL

SIGNATURE OF TRANSPORTER:
x Alfonso Baeza
TRANSPORTER SIGNATURE

12-29-06
DATE

SOUTH MONUMENT SURFACE WASTE FACILITY
P.O. BOX 418
HOBBS, NM 88241-0418

CONTACT:
KENA KAY COOPER
(505) 392-1050 WORK
(505) 390-3665 – CELL

"As a condition of acceptance for disposal, I hereby certify that this waste is an exempt waste as defined by the Environmental Protection Agency (EPA). The waste are: generated from oil and gas exploration and production operations; exempt from Resource Conservation and Recovery Act (RCRA) Subtitle C Regulations; and not mixed with non-exempt waste."

Kena K Cooper
FACILITY REPRESENTATIVE

12-29-06
DATE

Manifest # 12636

SOUTH MONUMENT SURFACE
WASTE FACILITY

LEASE OPERATOR:
RICE OPERATING
122 W. TAYLOR
HOBBS, NM 88240

ORIGINATING LOCATION:
EME – LEAK P-6
UNIT LETTER P
S6T20SR37E

TRANSPORTER NAME & ADDRESS:

DESCRIPTION OF WASTE: *NON-HAZARDOUS HYDRO-CARBONS*

QUANITY: 12 *YDS.*

FACILITY CONTACT:
Kena K. Cooper
SIGNATURE OF CONTACT

12-29-06
DATE

CELL NUMBER MATERIAL PLACED IN: C-1
CELL

SIGNATURE OF TRANSPORTER:
x Alfonso Baez
TRANSPORTER SIGNATURE

12-29-06
DATE

SOUTH MONUMENT SURFACE WASTE FACILITY
P.O. BOX 418
HOBBS, NM 88241-0418

CONTACT:
KENA KAY COOPER
(505) 392-1050 WORK
(505) 390-3665 - CELL

"As a condition of acceptance for disposal, I hereby certify that this waste is an exempt waste as defined by the Environmental Protection Agency (EPA). The waste are: generated from oil and gas exploration and production operations; exempt from Resource Conservation and Recovery Act (RCRA) Subtitle C Regulations; and not mixed with non-exempt waste."

Kena K. Cooper
FACILITY REPRESENTATIVE

12-29-06
DATE

Manifest# B 12637

SOUTH MONUMENT SURFACE
WASTE FACILITY

LEASE OPERATOR:
RICE OPERATING
122 W. TAYLOR
HOBBS, NM 88240

ORIGINATING LOCATION:
EME – LEAK P-6
UNIT LETTER P
S6T20SR37E

TRANSPORTER NAME & ADDRESS:

DESCRIPTION OF WASTE: *NON-HAZARDOUS HYDRO-CARBONS*

QUANITY: 12 *YDS.*

FACILITY CONTACT:
Kena K Cooper
SIGNATURE OF CONTACT

12-29-06
DATE

CELL NUMBER MATERIAL PLACED IN: C-1
CELL

SIGNATURE OF TRANSPORTER:
x Alfonso Baeza
TRANSPORTER SIGNATURE

12-29-06
DATE

SOUTH MONUMENT SURFACE WASTE FACILITY
P.O. BOX 418
HOBBS, NM 88241-0418

CONTACT:
KENA KAY COOPER
(505) 392-1050 WORK
(505) 390-3665 – CELL

"As a condition of acceptance for disposal, I hereby certify that this waste is an exempt waste as defined by the Environmental Protection Agency (EPA). The waste are: generated from oil and gas exploration and production operations; exempt from Resource Conservation and Recovery Act (RCRA) Subtitle C Regulations; and not mixed with non-exempt waste."

Kena K Cooper
FACILITY REPRESENTATIVE

12-29-06
DATE

Manifest# 12638

SOUTH MONUMENT SURFACE
WASTE FACILITY

LEASE OPERATOR:
RICE OPERATING
122 W. TAYLOR
HOBBS, NM 88240

ORIGINATING LOCATION:
EME – LEAK P-6
UNIT LETTER P
S6T20SR37E

TRANSPORTER NAME & ADDRESS:

DESCRIPTION OF WASTE:

NON-HAZARDOUS HYDRO-CARBONS

QUANITY:

12 *YDS.*

FACILITY CONTACT:

Kena Cooper
SIGNATURE OF CONTACT

1/2/07
DATE

CELL NUMBER MATERIAL PLACED IN:

C-1
CELL

SIGNATURE OF TRANSPORTER:

x Alfonso Baeza
TRANSPORTER SIGNATURE

1/2/07
DATE

SOUTH MONUMENT SURFACE WASTE FACILITY
P.O. BOX 418
HOBBS, NM 88241-0418

CONTACT:
KENA KAY COOPER
(505) 392-1050 WORK
(505) 390-3665 – CELL

"As a condition of acceptance for disposal, I hereby certify that this waste is an exempt waste as defined by the Environmental Protection Agency (EPA). The waste are: generated from oil and gas exploration and production operations: exempt from Resource Conservation and Recovery Act (RCRA) Subtitle C Regulations: and not mixed with non-exempt waste."

Kena Cooper
FACILITY REPRESENTATIVE

1-2-07
DATE

Manifest# 12639

SOUTH MONUMENT SURFACE
WASTE FACILITY

LEASE OPERATOR:
RICE OPERATING
122 W. TAYLOR
HOBBS, NM 88240

ORIGINATING LOCATION:
EME – LEAK P-6
UNIT LETTER P
S6T20SR37E

TRANSPORTER NAME & ADDRESS:

DESCRIPTION OF WASTE:

NON-HAZARDOUS HYDRO-CARBONS

QUANITY:

12 *YDS.*

FACILITY CONTACT:

SIGNATURE OF CONTACT

1/2/07
DATE

CELL NUMBER MATERIAL PLACED IN:

C-1
CELL

SIGNATURE OF TRANSPORTER:

x Alfonso Baeza
TRANSPORTER SIGNATURE

1/2/07
DATE

SOUTH MONUMENT SURFACE WASTE FACILITY
P.O. BOX 418
HOBBS, NM 88241-0418

CONTACT:
KENA KAY COOPER
(505) 392-1050 WORK
(505) 390-3665 – CELL

"As a condition of acceptance for disposal, I hereby certify that this waste is an exempt waste as defined by the Environmental Protection Agency (EPA). The waste are: generated from oil and gas exploration and production operations; exempt from Resource Conservation and Recovery Act (RCRA) Subtitle C Regulations; and not mixed with non-exempt waste."

FACILITY REPRESENTATIVE

1-2-07
DATE

Manifest # 12640

SOUTH MONUMENT SURFACE
WASTE FACILITY

LEASE OPERATOR:
RICE OPERATING
122 W. TAYLOR
HOBBS, NM 88240

ORIGINATING LOCATION:
EME – LEAK P-6
UNIT LETTER P
S6T20SR37E

TRANSPORTER NAME & ADDRESS:

DESCRIPTION OF WASTE:

NON-HAZARDOUS HYDRO-CARBONS

QUANITY:

12 *YDS.*

FACILITY CONTACT:

Kena K. Cooper
SIGNATURE OF CONTACT

1/2/07
DATE

CELL NUMBER MATERIAL PLACED IN:

C-1
CELL

SIGNATURE OF TRANSPORTER:

x Alfonso Reyes
TRANSPORTER SIGNATURE

1/2/07
DATE

SOUTH MONUMENT SURFACE WASTE FACILITY
P.O. BOX 418
HOBBS, NM 88241-0418

CONTACT:
KENA KAY COOPER
(505) 392-1050 WORK
(505) 390-3665 – CELL

"As a condition of acceptance for disposal, I hereby certify that this waste is an exempt waste as defined by the Environmental Protection Agency (EPA). The waste are: generated from oil and gas exploration and production operations: exempt from Resource Conservation and Recovery Act (RCRA) Subtitle C Regulations: and not mixed with non-exempt waste."

Kena K. Cooper
FACILITY REPRESENTATIVE

1-2-07
DATE

Manifest# 12641

SOUTH MONUMENT SURFACE
WASTE FACILITY

LEASE OPERATOR:
RICE OPERATING
122 W. TAYLOR
HOBBS, NM 88240

ORIGINATING LOCATION:
EME – LEAK P-6
UNIT LETTER P
S6T20SR37E

TRANSPORTER NAME & ADDRESS:

DESCRIPTION OF WASTE: *NON-HAZARDOUS HYDRO-CARBONS*

QUANITY: 12 *YDS.*

FACILITY CONTACT:
SIGNATURE OF CONTACT

1/2/07
DATE

CELL NUMBER MATERIAL PLACED IN: C-1
CELL

SIGNATURE OF TRANSPORTER:
x Alfonso Barra
TRANSPORTER SIGNATURE

1/2/07
DATE

SOUTH MONUMENT SURFACE WASTE FACILITY
P.O. BOX 418
HOBBS, NM 88241-0418

CONTACT:
KENA KAY COOPER
(505) 392-1050 WORK
(505) 390-3665 - CELL

"As a condition of acceptance for disposal, I hereby certify that this waste is an exempt waste as defined by the Environmental Protection Agency (EPA). The waste are: generated from oil and gas exploration and production operations; exempt from Resource Conservation and Recovery Act (RCRA) Subtitle C Regulations; and not mixed with non-exempt waste."

FACILITY REPRESENTATIVE

1-2-07
DATE

Manifest # 12642

SOUTH MONUMENT SURFACE
WASTE FACILITY

LEASE OPERATOR:
RICE OPERATING
122 W. TAYLOR
HOBBS, NM 88240

ORIGINATING LOCATION:
EME – LEAK P-6
UNIT LETTER P
S6T20SR37E

TRANSPORTER NAME & ADDRESS:

DESCRIPTION OF WASTE:

NON-HAZARDOUS HYDRO-CARBONS

QUANITY:

12 *YDS.*

FACILITY CONTACT:

x Kena K. Cooper
SIGNATURE OF CONTACT

1/2/07
DATE

CELL NUMBER MATERIAL PLACED IN:

C-1
CELL

SIGNATURE OF TRANSPORTER:

x Alfonso Baeza
TRANSPORTER SIGNATURE

1/2/07
DATE

SOUTH MONUMENT SURFACE WASTE FACILITY
P.O. BOX 418
HOBBS, NM 88241-0418

CONTACT:
KENA KAY COOPER
(505) 392-1050 WORK
(505) 390-3665 – CELL

"As a condition of acceptance for disposal, I hereby certify that this waste is an exempt waste as defined by the Environmental Protection Agency (EPA). The waste are: generated from oil and gas exploration and production operations; exempt from Resource Conservation and Recovery Act (RCRA) Subtitle C Regulations: and not mixed with non-exempt waste."

x Kena K. Cooper
FACILITY REPRESENTATIVE

1-2-07
DATE

Manifest # 12043

SOUTH MONUMENT SURFACE
WASTE FACILITY

LEASE OPERATOR:
RICE OPERATING
122 W. TAYLOR
HOBBS, NM 88240

ORIGINATING LOCATION:
EME – LEAK P-6
UNIT LETTER P
S6T20SR37E

TRANSPORTER NAME & ADDRESS:

DESCRIPTION OF WASTE: **QUANITY:**

NON-HAZARDOUS HYDRO-CARBONS 12 *YDS.*

FACILITY CONTACT:

SIGNATURE OF CONTACT *DATE* 1/2/07

CELL NUMBER MATERIAL PLACED IN: C-1
CELL

SIGNATURE OF TRANSPORTER:

x *TRANSPORTER SIGNATURE* *DATE* 1/2/07

SOUTH MONUMENT SURFACE WASTE FACILITY
P.O. BOX 418
HOBBS, NM 88241-0418

CONTACT:
KENA KAY COOPER
(505) 392-1050 WORK
(505) 390-3665 – CELL

"As a condition of acceptance for disposal, I hereby certify that this waste is an exempt waste as defined by the Environmental Protection Agency (EPA). The waste are: generated from oil and gas exploration and production operations; exempt from Resource Conservation and Recovery Act (RCRA) Subtitle C Regulations; and not mixed with non-exempt waste."

FACILITY REPRESENTATIVE *DATE* 1-2-07

Manifest# 12644

SOUTH MONUMENT SURFACE
WASTE FACILITY

LEASE OPERATOR:
RICE OPERATING
122 W. TAYLOR
HOBBS, NM 88240

ORIGINATING LOCATION:
EME – LEAK P-6
UNIT LETTER P
S6T20SR37E

TRANSPORTER NAME & ADDRESS:

DESCRIPTION OF WASTE: *NON-HAZARDOUS HYDRO-CARBONS*

QUANITY: 12 *YDS.*

FACILITY CONTACT:
Eric A. Cooper
SIGNATURE OF CONTACT

1/7/07
DATE

CELL NUMBER MATERIAL PLACED IN: C-1
CELL

SIGNATURE OF TRANSPORTER:
x
TRANSPORTER SIGNATURE

1/7/07
DATE

SOUTH MONUMENT SURFACE WASTE FACILITY
P.O. BOX 418
HOBBS, NM 88241-0418

CONTACT:
KENA KAY COOPER
(505) 392-1050 WORK
(505) 390-3665 – CELL

"As a condition of acceptance for disposal, I hereby certify that this waste is an exempt waste as defined by the Environmental Protection Agency (EPA). The waste are: generated from oil and gas exploration and production operations; exempt from Resource Conservation and Recovery Act (RCRA) Subtitle C Regulations; and not mixed with non-exempt waste."

Eric A. Cooper
FACILITY REPRESENTATIVE

1-2-07
DATE

Manifest # 12645

SOUTH MONUMENT SURFACE
WASTE FACILITY

LEASE OPERATOR:
RICE OPERATING
122 W. TAYLOR
HOBBS, NM 88240

ORIGINATING LOCATION:
EME – LEAK P-6
UNIT LETTER P
S6T20SR37E

TRANSPORTER NAME & ADDRESS:

DESCRIPTION OF WASTE:

NON-HAZARDOUS HYDRO-CARBONS

QUANITY: 12 *YDS.*

FACILITY CONTACT:

SIGNATURE OF CONTACT

1/2/07 *DATE*

CELL NUMBER MATERIAL PLACED IN: C-1 *CELL*

SIGNATURE OF TRANSPORTER:

x

TRANSPORTER SIGNATURE

1/2/07 *DATE*

SOUTH MONUMENT SURFACE WASTE FACILITY
P.O. BOX 418
HOBBS, NM 88241-0418

CONTACT:
KENA KAY COOPER
(505) 392-1050 WORK
(505) 390-3665 – CELL

"As a condition of acceptance for disposal, I hereby certify that this waste is an exempt waste as defined by the Environmental Protection Agency (EPA). The waste are: generated from oil and gas exploration and production operations; exempt from Resource Conservation and Recovery Act (RCRA) Subtitle C Regulations; and not mixed with non-exempt waste."

FACILITY REPRESENTATIVE

1-2-07 *DATE*

Manifest# 12646

SOUTH MONUMENT SURFACE
WASTE FACILITY

LEASE OPERATOR:
RICE OPERATING
122 W. TAYLOR
HOBBS, NM 88240

ORIGINATING LOCATION:
EME – LEAK P-6
UNIT LETTER P
S6T20SR37E

TRANSPORTER NAME & ADDRESS:

DESCRIPTION OF WASTE:

NON-HAZARDOUS HYDRO-CARBONS

QUANITY:

12 *YDS.*

FACILITY CONTACT:

Kena K Cooper
SIGNATURE OF CONTACT

1/2/07
DATE

CELL NUMBER MATERIAL PLACED IN:

C-1
CELL

SIGNATURE OF TRANSPORTER:

x Antonio Reyes
TRANSPORTER SIGNATURE

1/2/07
DATE

SOUTH MONUMENT SURFACE WASTE FACILITY
P.O. BOX 418
HOBBS, NM 88241-0418

CONTACT:
KENA KAY COOPER
(505) 392-1050 WORK
(505) 390-3665 - CELL

"As a condition of acceptance for disposal, I hereby certify that this waste is an exempt waste as defined by the Environmental Protection Agency (EPA). The waste are: generated from oil and gas exploration and production operations: exempt from Resource Conservation and Recovery Act (RCRA) Subtitle C Regulations: and not mixed with non-exempt waste."

Kena K Cooper
FACILITY REPRESENTATIVE

1-2-07
DATE

SOUTH MONUMENT SURFACE WASTE FACILITY L.L.C.
P. O. BOX 418
1224 E. CIMARRON
HOBBS NM 88241-0418
505-391-8391

— INVOICE —

INVOICE DATE 1/10/07
INVOICE NUMBER 250
DATE SOLD
SOLD BY
KENA KAY COOPER

Customer No: 1845

CUST. P.O. NO.

SOLD TO
RICE OPERATING CORPORATION
122 W. TAYLOR
HOBBS NM 88240

SHIP TO

TERMS NET 30 DAYS
Service charge of 1 1/2% Per Month will be charged on all past due accounts.

Location----------> EME-LEAK P-6 UNIT LETTER P

	DESCRIPTION		AMOUNT
	Ticket # Date Ticket # Date Ticket # Date 7002001 1/02/07		
	DISPOSAL OF 168 YARDS NON-HAZARDOUS HYDROCARBONS PLACED IN CELL C-1 AS PER ATTACHED MANIFESTS AND FURNISH 10 - 12 YARD LOADS BACKFILL DIRT. 12/29/06 MANIFEST #12633 - #12637 60 YARDS 1/02/07 MANIFEST #12638 - #12646 108 YARDS		
168.00	NON-HAZARDOUS HYDROCARBONS	$11.00 /YD	$1848.00
120.00	CLEAN FILL DIRT	$4.00 /YD	$480.00
	Invoice Sub-Total---------->		$2328.00
	Gross Receipts Tax 5.375%---------->		$125.13
	Invoice Total---------->		$2453.13

RECEIVED
JAN 16 2007
RICE OPERATING
HOBBS, NM

COPY

823-9643 = $1947.33
9644 = $505.80

Thank You Kay R. Cooper

APPENDIX E

LABORATORY ANALYTICAL REPORTS

AND

CHAIN OF CUSTODY DOCUMENTATION

CARDINAL LABORATORIES

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

ANALYTICAL RESULTS FOR
RICE OPERATING COMPANY
ATTN: KRISTIN FARRIS-POPE
122 W. TAYLOR STREET
HOBBS, NM 88240
FAX TO: (575) 397-1471

Receiving Date: 11/09/07
Reporting Date: 11/19/07
Project Number: NOT GIVEN
Project Name: EME P-6 LEAK
Project Location: T20S-R37E-SEC6 P~LEA COUNTY, NM

Sampling Date: 11/08/07
Sample Type: WATER
Sample Condition: COOL & INTACT
Sample Received By: SB
Analyzed By: HM/KS

LAB NUMBER	SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (μS/cm)	T-Alkalinity ($mgCaCO_3/L$)
ANALYSIS DATE:		11/16/07	11/16/07	11/16/07	11/15/07	11/14/07	11/14/07
H13680-1	MONITOR WELL P6-1	3,056	998	363	23.0	17,890	256
H13680-2	MONITOR WELL P6-2	2,200	679	226	17.7	13,430	272
H13680-3	MONITOR WELL P6-3	3,052	1,250	444	20.9	20,450	260
H13680-4	MONITOR WELL P6-4	2,504	785	294	19.1	15,640	260
Quality Control		NR	49.2	51.6	2.95	1,415	NR
True Value QC		NR	50.0	50.0	3.00	1,413	NR
% Recovery		NR	98.5	103	98.3	100	NR
Relative Percent Difference		NR	< 0.1	1.5	5.0	0.1	NR
METHODS:			SM3500-Ca-D	3500-Mg E	8049	120.1	310.1

LAB NUMBER	SAMPLE ID	Cl^- (mg/L)	SO_4 (mg/L)	CO_3 (mg/L)	HCO_3 (mg/L)	pH (s.u.)	TDS (mg/L)
ANALYSIS DATE:		11/15/07	11/16/07	11/14/07	11/14/07	11/14/07	11/14/07
H13680-1	MONITOR WELL P6-1	6,500	1,200	0	312	6.78	12,186
H13680-2	MONITOR WELL P6-2	4,450	857	0	332	6.77	8,643
H13680-3	MONITOR WELL P6-3	7,300	1,030	0	317	6.66	13,695
H13680-4	MONITOR WELL P6-4	5,300	879	0	317	6.76	10,261
Quality Control		500	24.3	NR	1000	6.95	NR
True Value QC		500	25.0	NR	1000	7.00	NR
% Recovery		100	97.0	NR	100	99.3	NR
Relative Percent Difference		< 0.1	3.5	NR	< 0.1	0.7	NR
METHODS:		SM4500-Cl-B	375.4	310.1	310.1	150.1	160.1

Kristin Farris-Pope
Chemist

11/19/07
Date

H13680 RICE

CARDINAL LABORATORIES

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

ANALYTICAL RESULTS FOR
RICE OPERATING COMPANY
ATTN: KRISTIN FARRIS-POPE
122 WEST TAYLOR
HOBBS, NM 88240
FAX TO: (575) 397-1471

Receiving Date: 11/09/07
Reporting Date: 11/13/07
Project Number: NOT GIVEN
Project Name: EME P-6 LEAK
Project Location: T20S R37E SEC6 P - LEA COUNTY, NM

Sampling Date: 11/08/07
Sample Type: WATER
Sample Condition: COOL & INTACT
Sample Received By: SB
Analyzed By: AB

LAB NUMBER	SAMPLE ID	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	TOTAL XYLENES (mg/L)
ANALYSIS DATE		11/12/07	11/12/07	11/12/07	11/12/07
H13680-3	MONITOR WELL P6-3	<0.001	<0.001	<0.001	<0.003
H13680-4	MONITOR WELL P6-4	<0.001	<0.001	<0.001	<0.003
Quality Control		0.116	0.108	0.109	0.332
True Value QC		0.100	0.100	0.100	0.300
% Recovery		116	108	109	111
Relative Percent Difference		0.8	1.6	1.5	1.3

METHOD: EPA SW-846 8021B

Chemist

11/19/07
Date

H13680b Rice

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

Cardinal Laboratories, Inc.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # _____

Company Name: RICE Operating Company	BILL TO Company: RICE Operating Company — PO#
Project Manager: Kristin Farris-Pope, Project Scientist	Address: (Street, City, Zip) 122 W Taylor Street ~ Hobbs, New Mexico 88240
Address: (Street, City, Zip) 122 W Taylor Street ~ Hobbs, New Mexico 88240	Phone#: (505) 393-9174 — Fax#: (505)397-1471
Phone #: (505) 393-9174	Fax #: (505) 397-1471
Project #:	Project Name: EME P-6 Leak
Project Location: T20S-R37E-Sec6 P ~ Lea County - New Mexico	Sampler Signature: Rozanne Johnson (505)631-9310 rozanne@valornet.com

LAB # (LAB USE ONLY)	FIELD CODE	(G)rab or (C)omp	# CONTAINERS	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL (2 40ml VOA)	HNO_3	$NaHSO_4$	H_2SO_4	ICE (1-1Liter HDPE)	NONE	SAMPLING: DATE (2007)	TIME
H13680-1	Monitor Well P6-1	G	1	X								1		11-8	8:25
2	Monitor Well P6-2	G	1	X								1		11-8	7:20
3	Monitor Well P6-3	G	3	X				2				1		11-8	9:20
4	Monitor Well P6-4	G	3	X				2				1		11-8	10:10

ANALYSIS REQUEST
(Circle or Specify Method No.)

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

Relinquished by: Rozanne Johnson	Date: 11/9/2007	Time: 15:20	Received by:
Relinquished by:	Date:	Time:	Received By: (Laboratory Staff) Sue Barnes 11/9/07 3:20pm

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

REMARKS:

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

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

Sample Condition: Cool: Yes [✓] No [ ] — Intact: Yes [✓] No [ ]

CHECKED BY: (Initials) SB

ARDINAL LABORATORIES

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

ANALYTICAL RESULTS FOR
RICE OPERATING COMPANY
ATTN: KRISTIN FARRIS-POPE
122 WEST TAYLOR
HOBBS, NM 88240
FAX TO: (575) 397-1471

Receiving Date: 11/13/07
Reporting Date: 11/20/07
Project Number: NOT GIVEN
Project Name: EME M-5 SWD
Project Location: T20S R37E SEC5 M - LEA COUNTY, NM

Sampling Date: 11/09/07
Sample Type: WATER
Sample Condition: COOL & INTACT
Sample Received By: CK
Analyzed By: AB

LAB NUMBER	SAMPLE ID	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	TOTAL XYLENES (mg/L)
ANALYSIS DATE		11/14/07	11/14/07	11/14/07	11/14/07
H13698-1	M5-1S	<0.001	<0.001	<0.001	<0.003
H13698-2	M5-1D	<0.001	<0.001	<0.001	<0.003
Quality Control		0.102	0.092	0.095	0.293
True Value QC		0.100	0.100	0.100	0.300
% Recovery		102	92	95	98
Relative Percent Difference		2.4	0.4	1.0	1.5

METHOD: EPA SW-846 8021B

Chemist

11/20/07
Date

H13698b Rice

ARDINAL LABORATORIES

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

ANALYTICAL RESULTS FOR
RICE OPERATING COMPANY
ATTN: KRISTIN FARRIS-POPE
122 W. TAYLOR STREET
HOBBS, NM 88240
FAX TO: (575) 397-1471

Receiving Date: 11/13/07
Reporting Date: 11/19/07
Project Number: NOT GIVEN
Project Name: EME M-5 SWD
Project Location: T20S-R37E-SEC5 M~LEA COUNTY, NM

Sampling Date: 11/09/07
Sample Type: WATER
Sample Condition: COOL & INTACT
Sample Received By: CK
Analyzed By: HM/KS

LAB NUMBER	SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (u S/cm)	T-Alkalinity ($mgCaCO_3/L$)
ANALYSIS DATE:		11/16/07	11/16/07	11/16/07	11/15/07	11/14/07	11/14/07
H13698-1	M5-1s	1,807	872	234	15.9	13,910	240
H13698-2	M5-1d	2,207	1,710	383	13.5	20,310	212
Quality Control		NR	49.2	51.6	2.95	1,415	NR
True Value QC		NR	50.0	50.0	3.00	1,413	NR
% Recovery		NR	98.5	103	98.3	100	NR
Relative Percent Difference		NR	< 0.1	1.5	5.0	0.1	NR
METHODS:			SM3500-Ca-D	3500-Mg E	8049	120.1	310.1

LAB NUMBER	SAMPLE ID	Cl^- (mg/L)	SO_4 (mg/L)	CO_3 (mg/L)	HCO_3 (mg/L)	pH (s.u.)	TDS (mg/L)
ANALYSIS DATE:		11/15/07	11/16/07	11/14/07	11/14/07	11/14/07	11/15/07
H13698-1	M5-1s	4,400	549	0	393	6.76	8,193
H13698-2	M5-1d	7,100	435	0	259	6.59	12,247
Quality Control		500	24.3	NR	988	6.95	NR
True Value QC		500	25.0	NR	1000	7.00	NR
% Recovery		100	97.0	NR	98.8	99.3	NR
Relative Percent Difference		< 0.1	3.5	NR	1.2	0.7	NR
METHODS:		SM4500-Cl-B	375.4	310.1	310.1	150.1	160.1

Chemist

11/19/07
Date

H13698 RICE

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

Cardinal Laboratories, Inc.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # _____

Company Name: RICE Operating Company	BILL TO Company: RICE Operating Company — PO#
Project Manager: Kristin Farris-Pope, Project Scientist	Address: (Street, City, Zip) 122 W Taylor Street ~ Hobbs, New Mexico 88240
Address: (Street, City, Zip) 122 W Taylor Street ~ Hobbs, New Mexico 88240	Phone#: (505) 393-9174 — Fax#: (505)397-1471
Phone #: (505) 393-9174	Fax #: (505)397-1471
Project #:	Project Name: EME M-5 SWD
Project Location: T20S-R37E-Sec5 M ~ Lea County - New Mexico	Sampler Signature: Rozanne Johnson (505)631-9310 rozanne@valornet.com

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	FIELD CODE	(G)rab or (C)omp	# CONTAINERS	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL (2 40ml VOA)	HNO_3	$NaHSO_4$	H_2SO_4	ICE (1-1Liter HDPE)	NONE	SAMPLING: DATE (2007)	TIME	MTBE 8021B/602	BTEX 8021B/602	TPH 418.1/TX1005 / TX1005 Extended (C35)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol. 8260B/624	GC/MS Semi. Vol. 8270C/625	PCB's 8082/608	Pesticides 8081A/608	BOD, TSS, pH	Moisture Content		Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, CO3, HCO3)	Total Dissolved Solids	Chlorides	Turn Around Time ~ 24 Hours
1413698-1	M5-1s	G	3	X				2				1		11-9	13:55		X																X	X	X		
2	M5-1d	G	3	X				2				1		11-9	15:00		X																X	X	X		

Relinquished by: Rozanne Johnson	Date: 11-13-2007	Time: 2:05	Received by:
Relinquished by:	Date:	Time:	Received By: (Laboratory Staff) Date: 11/13/07 Time: 2:05
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Sample Condition: Cool Yes / No; Intact Yes / No		CHECKED BY: (Initials)

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

REMARKS:

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

CARDINAL LABORATORIES

PHONE (325) 673-7001 · 2111 BEECHWOOD · ABILENE, TX 79603
PHONE (505) 393-2326 · 101 E MARLAND · HOBBS, NM 88240

ANALYTICAL RESULTS FOR
RICE OPERATING CO.
ATTN: GILBERT VAN DEVENTER
122 WEST TAYLOR
HOBBS, NM 88240
FAX TO: (505) 397-1471

Receiving Date: 12/26/06
Reporting Date: 12/27/06
Project Number: NOT GIVEN
Project Name: P-6 LINE LEAK
Project Location: T20S-R37E-SECTION 6-UNIT P

Sampling Date: 12/26/06
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: LB
Analyzed By: LB

LAB NO.	SAMPLE ID	GRO (C_6-C_{12}) (mg/Kg)	DRO (>C_{12}-C_{28}) (mg/Kg)	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS DATE:		12/26/06	12/26/06	12/26/06	12/26/06	12/26/06	12/26/06
H11938-1	P-6 WALL COMPOSITE	15	514	<0.005	<0.005	0.017	0.006
H11938-2	P-6 FLOOR COMPOSITE	213	1209	0.016	0.034	0.117	0.363
Quality Control		921	899	0.089	0.092	0.095	0.309
True Value QC		1000	1000	0.100	0.100	0.100	0.300
% Recovery		92.1	89.9	89.9	92.0	95.0	103.0
Relative Percent Difference		9.4	4.9	6.0	4.8	5.7	6.3

METHODS: TPH GRO & DRO - EPA SW-846 8015 M; BTEX - SW-846 8021B.

Larry L. Bailey

12/27/06
Date

H11938A

CARDINAL LABORATORIES

PHONE (325) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
RICE OPERATING CO.
ATTN: GILBERT VAN DEVENTER
122 WEST TAYLOR
HOBBS, NM 88240
FAX TO: (505) 397-1471

Receiving Date: 12/26/06
Reporting Date: 12/27/06
Project Number: NOT GIVEN
Project Name: P-6 LINE LEAK
Project Location: T20S-R37E-SECTION 6-UNIT P

Analysis Date: 12/27/06
Sampling Date: 12/26/06
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: LB
Analyzed By: LB

LAB NO.	SAMPLE ID	Cl^- (mg/Kg)
H11938-1	P-6 WALL COMPOSITE	432
H11938-2	P-6 FLOOR COMPOSITE	656
Quality Control		510
True Value QC		500
% Recovery		102
Relative Percent Difference		7.7

METHOD: Standard Methods	4500-Cl B

NOTE: Analyses performed on 1:4 w:v aqueous extracts.

Chemist

12/27/06
Date

H11938

CARDINAL LABORATORIES, INC.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Trident Environmental	**BILL TO**
Project Manager: Gilbert Van Deventer	P.O. #:
Address:	Company: Rice Operating Co
City: Midland State: TX Zip: 79705	Attn: Kristin Pope
Phone #: 432-686-7940 Fax #:	Address: 122 W Taylor
Project #: Project Owner:	City: Hobbs
Project Name: P-6 Line Leak	State: NM Zip: 88240
Project Location: T20S-R37E-Section 6 Unit P	Phone #: 505-393-9174
Sampler Name: G. I Van Deventer	Fax #: 505 397-1471

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST										
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	ACID/BASE	ICE / COOL	OTHER:	DATE	TIME	8260/DRO (8015)	BTEX (8021B)	Chloride								
H11938-1	P-6 Wall Composite	C	1			✓					✓		12-26-06	1630	✓	✓	✓								
-2	P-6 Floor Composite	C	1			✓					✓		12-26-06	1645	✓	✓	✓								

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

Terms and Conditions: Interest will be charged on all accounts more than 30 days past due at the rate of 24% per annum from the original date of invoice and all costs of collections, including attorney's fees.

Sampler Relinquished:	Date: 12-26-06	Received By:	Phone Result: ☑ Yes ☐ No Add'l Phone #:
	Time: 1722		Fax Result: ☑ Yes ☐ No Add'l Fax #:
Relinquished By:	Date:	Received By: (Lab Staff)	REMARKS: Please email to Kpope@ricesw.com and gilbertvandeventer@cox.net
	Time:		
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Sample Condition Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No	CHECKED BY: (Initials)	

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

CARDINAL LABORATORIES

PHONE (325) 673-7001 · 2111 BEECHWOOD · ABILENE, TX 79603
PHONE (505) 393-2326 · 101 E MARLAND · HOBBS, NM 88240

ANALYTICAL RESULTS FOR
RICE OPERATING CO.
ATTN: GILBERT VAN DEVENTER
122 WEST TAYLOR
HOBBS, NM 88240
FAX TO: (505) 397-1471

Receiving Date: 12/22/06
Reporting Date: 12/27/06
Project Number: P-6 LINE LEAK
Project Name: NOT GIVEN
Project Location: T20S-R37E-SECTION 6-UNIT P

Sampling Date: 12/22/06
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: HM
Analyzed By: LB/AB

LAB NO.	SAMPLE ID	GRO (C_6-C_{12}) (mg/Kg)	DRO (>C_{12}-C_{28}) (mg/Kg)	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS DATE:		12/26/06	12/26/06	12/26/06	12/26/06	12/26/06	12/26/06
H11935-1	EXCAVATED SOIL	1401	4134	<0.020	1.66	4.20	15.64
H11935-2	OVERBURDEN SOIL	221	1832	0.007	0.032	0.093	0.273
Quality Control		921	899	0.089	0.092	0.095	0.309
True Value QC		1000	1000	0.100	0.100	0.100	0.300
% Recovery		92.1	89.9	89.9	92.0	95.0	103.0
Relative Percent Difference		9.4	4.9	6.0	4.8	5.7	6.3

METHODS: TPH GRO & DRO - EPA SW-846 8015 M; BTEX - SW-846 8021B.

Larry L. Bailey

12/27/06
Date

H11935A

ARDINAL LABORATORIES

PHONE (325) 673-7001 · 2111 BEECHWOOD · ABILENE, TX 79603
PHONE (505) 393-2326 · 101 E. MARLAND · HOBBS, NM 88240

ANALYTICAL RESULTS FOR
RICE OPERATING CO.
ATTN: GILBERT VAN DEVENTER
122 WEST TAYLOR
HOBBS, NM 88240
FAX TO: (505) 397-1471

Receiving Date: 12/22/06
Reporting Date: 12/27/06
Project Number: P-6 LINE LEAK
Project Name: NOT GIVEN
Project Location: T20S-R37E-SECTION 6-UNIT P

Analysis Date: 12/26/06
Sampling Date: 12/22/06
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: HM
Analyzed By: AB

LAB NO.	SAMPLE ID	Cl^- (mg/Kg)
H11935-1	EXCAVATED SOIL	336
H11935-2	OVERBURDEN SOIL	416
Quality Control		500
True Value QC		500
% Recovery		100
Relative Percent Difference		0.0

METHOD: Standard Methods 4500-Cl B

NOTE: Analyses performed on 1:4 w:v aqueous extracts.

Chemist

Date

H11935

CARDINAL LABORATORIES, INC.

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 1

Company Name:		
Project Manager:		
Address:		
City:	State:	Zip:
Phone #:	Fax #:	
Project #:	Project Owner:	
Project Name:		
Project Location:		
Sampler Name:		

BILL TO

P.O. #:
Company:
Attn:
Address:
City:
State: Zip:
Phone #:
Fax #:

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER	PRESERV: ACID/BASE	ICE / COOL	OTHER	SAMPLING: DATE	TIME
						✓					✓			
-1						✓					✓			
-2						✓					✓			

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Terms and Conditions: Interest will be charged on all accounts more than 30 days past due at the rate of 24% per annum from the original date of invoice, and all costs of collections, including attorney's fees.

Sampler Relinquished:	Date: / Time:	Received By:
Relinquished By:	Date: / Time:	Received By: (Lab Staff)
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Sample Condition Cool: ☑ Yes ☐ No; Intact: ☐ Yes ☐ No	CHECKED BY: (Initials)

Phone Result: ☑ Yes ☐ No Add'l Phone #:
Fax Result: ☐ Yes ☐ No Add'l Fax #:
REMARKS: Email results to [illegible] & [illegible]

Send report to Rice as per Gilbert 12-27-06 (Hsu)

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

CARDINAL LABORATORIES

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

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

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

Receiving Date: 12/29/06
Reporting Date: 01/02/07
Project Number: P-6 LINE LEAK
Project Name: P-6 LINE LEAK
Project Location: T20S-R37E-SECTION 6-UNIT P

Sampling Date: 12/29/06
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: HM/BC

LAB NO.	SAMPLE ID	Cl^-* (mg/Kg)	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS DATE:		01/02/07	12/29/06	12/29/06	12/29/06	12/29/06
H11956-1	MIXED SOIL	64	<0.005	<0.005	<0.005	<0.015
Quality Control		480	0.105	0.097	0.102	0.310
True Value QC		500	0.100	0.100	0.100	0.300
% Recovery		96.0	105	97.4	102	103
Relative Percent Difference		2.1	5.0	2.6	2.1	3.1

METHODS: Cl^- - Std. Methods 4500-Cl B; BTEX - EPA SW-846-8020
*Analysis performed on a 1:4 w:v aqueous extract

Burgess J. A. Cooke, Ph. D.

Date: 1/2/07

CARDINAL LABORATORIES

PHONE (325) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

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

Receiving Date: 12/29/06
Reporting Date: 01/02/07
Project Number: P-6 LINE LEAK
Project Name: P-6 LINE LEAK
Project Location: T20S-R37E-SECTION 6-UNIT P

Sampling Date: 12/29/06
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: BC

LAB NUMBER	SAMPLE ID	GRO (C_6-C_{10}) (mg/Kg)	DRO (>C_{10}-C_{28}) (mg/Kg)
ANALYSIS DATE:		12/29/06	12/29/06
H11956-1	MIXED SOIL	<10.0	115
Quality Control		760	752
True Value QC		800	800
% Recovery		95.1	94.0
Relative Percent Difference		0.3	2.8

METHOD: SW-846 8015 M

Chemist

1/2/07
Date

H11956A

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

CARDINAL LABORATORIES, INC.

2111 Beechwood, Abilene, TX 79603 101 East Marland, Hobbs, NM 88240

(915) 673-7001 Fax (915) 673-7020 (505) 393-2326 Fax (505) 393-2476

Company Name:	Rice Operating Company
Project Manager:	Kristin Pope
Address:	122 W. Taylor St.
City:	Hobbs State: NM Zip: 88240
Phone #:	505-393-9174 Fax #: 505-397-1471
Project #:	P-6 Line Leak Project Owner:
Project Name:	P-6 Line Leak
Project Location:	T20S-R37E - Section 8 - Unit P
Sampler Name:	C. McLemore

BILL TO

P.O. #:	
Company:	Rice Operating Co.
Attn:	Kristin Pope
Address:	122 W. Taylor St
City:	Hobbs
State:	NM Zip: 88240
Phone #:	505-393-9174
Fax #:	505-397-1471

ANALYSIS REQUEST

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		GRO/DRO (8015)	BTEX (8021B)	Chlorides											
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER	ACID/BASE	ICE / COOL	OTHER	DATE	TIME														
H11756-1	Wind Soil	C	1			✓					✓		12-19-06	1610	✓	✓	✓											

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Terms and Conditions: Interest will be charged on all accounts more than 30 days past due at the rate of 24% per annum from the original date of invoice, and all costs of collections, including attorney's fees.

Sampler Relinquished:	Date: 12-29-06	Received By:	
	Time: 1246		
Relinquished By:	Date:	Received By: (Lab Staff)	
	Time:		
Delivered By: (Circle One)		Sample Condition: Cool ☒ Yes ☐ No; Intact ☒ Yes ☐ No	CHECKED BY: (Initials)
Sampler - UPS - Bus - Other:			

Phone Result:	☒ Yes	☐ No	Add'l Phone #:
Fax Result:	☒ Yes	☐ No	Add'l Fax #:

REMARKS:

email results to: kpope@riceswd.com and gilbertvandeventer@cox.net

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

APPENDIX E

SEED MIX

Operating Company
122 West Taylor • Hobbs, New Mexico 88240
Phone: (505)393-9174 • Fax: (505) 397-1471

Homesteaders Choice

Curtis & Curtis, Inc.

Blue Grama
Hachita
Sideoats Grama
Vaughn
Western Wheatgrass
Arriba
Sand Dropseed
Buffalograss
Texoka

Reclamation Mix

Granite Seed Company

Western Wheatgrass
Indian Ricegrass
Blue Grama
California Poppy
Sideoats Grama
Galleta Grass
White Yarrow
Fourwing Saltbush
Yellow Bluestem
Alkali Sacaton
Rocky Mountain Penstemon
Blanket Flower
Little Bluestem
Lewis Blue Flax
Sand Dropseed

When seeding, ROC uses a 50/50 mixture of both above listed seeds: 1lb per every 1000sqft; unless otherwise requested by the landowner