1R - 427-287

WORKPLANS

Date:

5-22-12

Rice Environmental Consulting & Safety
P.O. Box 5630 Hobbs, NM 88241
Phone 575.393.4411 Fax 575.393.0293

CERTIFIED MAIL
RETURN RECEIPT NO. 7007 2560 0000 4569 9422

May 22nd, 2012

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

RE: **Investigation and Characterization Plan (ICP)**
Rice Operating Company – EME SWD System
EME Jct. P-24 (1R427-287): UL/P sec. 24 T19S R36E

Mr. Hansen:

RICE Operating Company (ROC) has retained Rice Environmental Consulting and Safety (RECS) to address potential environmental concerns at the above-referenced site in the EME Salt Water Disposal (SWD) system. 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 Parties, who provide all operating capital on a percentage ownership/usage basis.

For all such environmental projects, ROC will choose the path forward that:

- Protects public health,
- Provides the greatest net environmental benefit,
- Complies with NMOCD Rules, and
- Is supported by good science.

Each site shall generally have three submissions:

1. This Investigation and Characterization Plan (ICP) is proposed for gathering data and site characterization and assessment.

2. Upon evaluating the data and results from the ICP, a recommended remedy will be submitted in a Corrective Action Plan (CAP) if warranted.

3. Finally, after implementing the remedy, a Termination Request with final documentation will be submitted.

Background and Previous Work

The site is located approximately 2.5 miles northwest of Monument, New Mexico at UL/P sec. 24 T19S R36E as shown on the Site Location Map (Figure 1). NM OSE records indicate that groundwater will likely be encountered at a depth of approximately 57 +/- feet.

In 2005, ROC initiated work on the former EME P-24 junction box. The site was delineated using a backhoe to form a 40 ft x 50 ft x 12 ft deep excavation and soil samples were screened at regular intervals for both hydrocarbons and chlorides. From the excavation, the four-wall composite, the bottom composite and the backfill were taken to a commercial laboratory for analysis. Laboratory tests of the four-wall composite showed a chloride reading of 428 mg/kg, a gasoline range organics (GRO) reading of 56 mg/kg and a diesel range organics (DRO) reading of 546 mg/kg. The bottom composite showed a chloride laboratory reading of 528 mg/kg, a GRO reading of 197 mg/kg and a DRO reading of 549 mg/kg. Laboratory results for BTEX resulted in a benzene concentration of J[0.0167] mg/kg, a toluene concentration of 0.314 mg/kg, an ethyl benzene concentration of 0.361 mg/kg, and a total xylenes concentration of 0.809 mg/kg. The excavated soil was blended on site and returned to the excavation. Laboratory analysis of the blended backfill retuned a chloride reading of 305 mg/kg, a GRO reading of 12.1 mg/kg and a DRO reading of 403 mg/kg.

The area was contoured to the surrounding landscape, seeded, and an identification plate was placed on the surface of the site to mark its location for future environmental considerations. NMOCD was notified of potential groundwater impact on August 11th, 2008 and a junction box disclosure report (Appendix A) was submitted to NMOCD with all the 2008 junction box closures and disclosures.

RECS proposes additional investigative work at the site to determine if there is potential for groundwater degradation from residual chlorides and hydrocarbons at the site.

Proposed Work Elements

1. Conduct vertical and lateral delineation of residual soil hydrocarbons and chlorides from samples taken using a drill rig, hand auger, and/or backhoe (see Appendix B for Quality Procedures).
    a. Vertical sampling will be conducted until the following criteria are met in the field.
        i. Three samples in which the chloride concentration decreases and the third sample has a chloride concentration of $\leq$ 250 ppm; and,
        ii. Three samples in which PID readings decrease and the third sample has a PID reading of $\leq$ 100 ppm; or,
        iii. The sampling reaches the capillary fringe.
    b. Lateral sampling will be conducted until the following criteria are met in the field.

i. A decrease is observed in chloride concentrations between lateral bores at similar depths; and,
ii. A chloride concentration of ≤ 250 ppm is observed in a lateral surface sample; or,
iii. Safety concerns impede further lateral delineation.

2. If warranted, install a monitor well to provide direct measurement of the potential groundwater impact at the site. (All monitor wells will be installed by EPA, NMOCD, and industry standards.)
3. Evaluate the risk of groundwater impact based on the information obtained.

If the evaluation of the site shows no threat to groundwater from residual chlorides or hydrocarbons, then only a vadose zone remedy will be undertaken. However, if groundwater shows impact from residual chlorides or hydrocarbons, a CAP will be developed to address these concerns.

RECS appreciates the opportunity to work with you on this project. Please call Hack Conder at (575) 393-9174 or me if you have any questions or wish to discuss the site.

Sincerely,

Lara Weinheimer
Project Scientist
RECS
(575) 441-0431

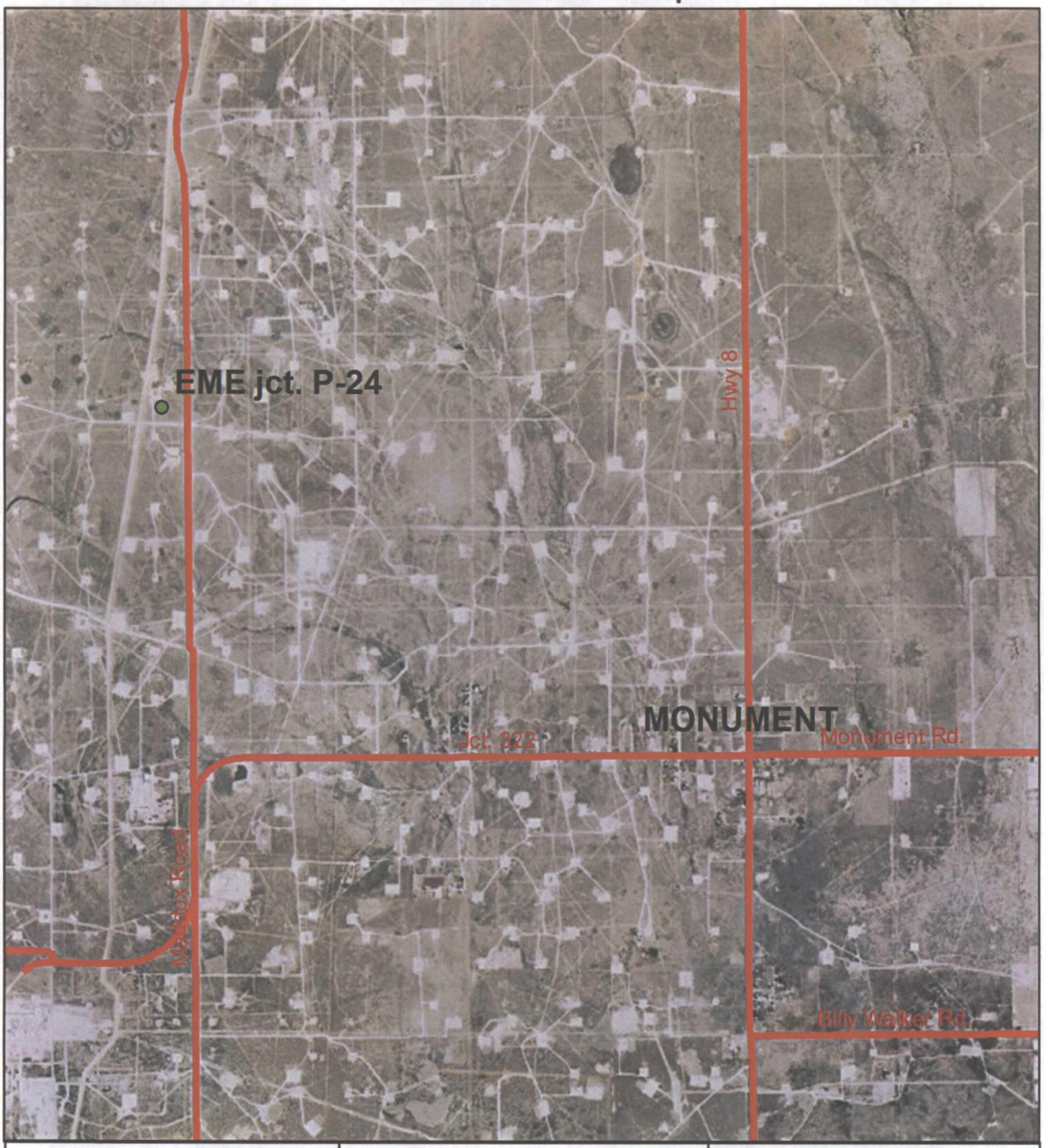
Attachments:

Figure 1 – Site Location Map
Appendix A – Junction Box Disclosure Report
Appendix B – Quality Procedures

Figures

RICE Environmental Consulting and Safety (RECS)
P.O. Box 5630 Hobbs, NM 88241
Phone 575.393.4411 Fax 575.393.0293

Site Location Map



RICE ENVIRONMENTAL CONSULTING & SAFETY, LLC
RECS

EME jct. P-24

Legals: UL/P sec. 24
T-19-S R-36-E
LEA COUNTY, NM

Case #: 1R427-287

Figure 1

N
W E
S

0 0.2 0.4 0.8
Miles

Drawing date: 5-1-12
Drafted by: L. Weinheimer

Appendix A

Junction Box Disclosure Report

RICE Environmental Consulting and Safety (RECS)
P.O. Box 5630 Hobbs, NM 88241
Phone 575.393.4411 Fax 575.393.0293

RICE OPERATING COMPANY
JUNCTION BOX DISCLOSURE* REPORT

BOX LOCATION

SWD SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE	COUNTY	BOX DIMENSIONS - FEET		
							Length	Width	Depth
Eunice Monument Eumont (EME)	Jct. P-24	P	24	19S	36E	Lea	eliminated		

LAND TYPE: BLM ___ STATE ___ FEE LANDOWNER Jimmie T. Cooper OTHER ___

Depth to Groundwater 57 feet NMOCD SITE ASSESSMENT RANKING SCORE: 40*

Date Started 11/22/2005 Date Completed 2/8/2006 OCD Witness no

Soil Excavated 889 cubic yards Excavation Length 40 Width 50 Depth 12 feet

Soil Disposed 0 cubic yards Offsite Facility n/a Location n/a

FINAL ANALYTICAL RESULTS: Sample Date 12/7/2005 Sample Depth 12 ft

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

Sample Location	Benzene mg/kg	Toluene mg/kg	Ethyl Benzene mg/kg	Total Xylenes mg/kg	GRO mg/kg	DRO mg/kg	Chlorides mg/kg
4-WALL COMP.	PID = 12.8 (field)				56.0	546.0	428
BOTTOM COMP.	J[0.0167]	0.314	0.361	0.809	197.0	549.0	528
BACKFILL	PID = 83.7 (field)				12.1	403.0	305

General Description of Remedial Action: This junction was eliminated as part of the pipeline replacement/upgrade program. After the former box was removed, an investigation was conducted using a backhoe to collect soil samples at regular intervals, producing a 40x50x12-ft-deep hole. Chloride field tests were performed on each sample. Organic vapors were measured using a PID, which yielded elevated levels. Representative composite samples were collected from the excavation bottom, walls, and excavated soil for commercial laboratory analysis of chloride, TPH, and BTEX. The excavated soil was blended on-site and returned to the excavation to ground surface and contoured to the surrounding area. On 2/13/2006, the site was seeded with a blend of native vegetation and is expected to return to a productive capacity at a normal rate. An identification plate was placed on the surface of the backfilled site to mark the location of the former junction for future environmental consideration. NMOCD was notified of potential groundwater impact on 8/11/2008.

Jimmie Cooper water station 687 ft west.

ADDITIONAL EVALUATION IS HIGH PRIORITY

enclosures: photos, lab results, PID screenings, BTEX comparison table, chloride curve

CHLORIDE FIELD TESTS

LOCATION	DEPTH	mg/kg
4-wall comp.	n/a	579
bottom comp.	12'	698
backfill comp.	n/a	484
vertical delineation trench 20 ft west of the former junction (source)	1'	188
	2'	121
	3'	150
	4'	144
	5'	176
	6'	169
	7'	324
	8'	391
	9'	409
	10'	417
	11'	519
	12'	590

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

SITE SUPERVISOR Kevin Collins SIGNATURE not available COMPANY RICE OPERATING COMPANY

REPORT ASSEMBLED BY Katie Jones INITIAL KJ

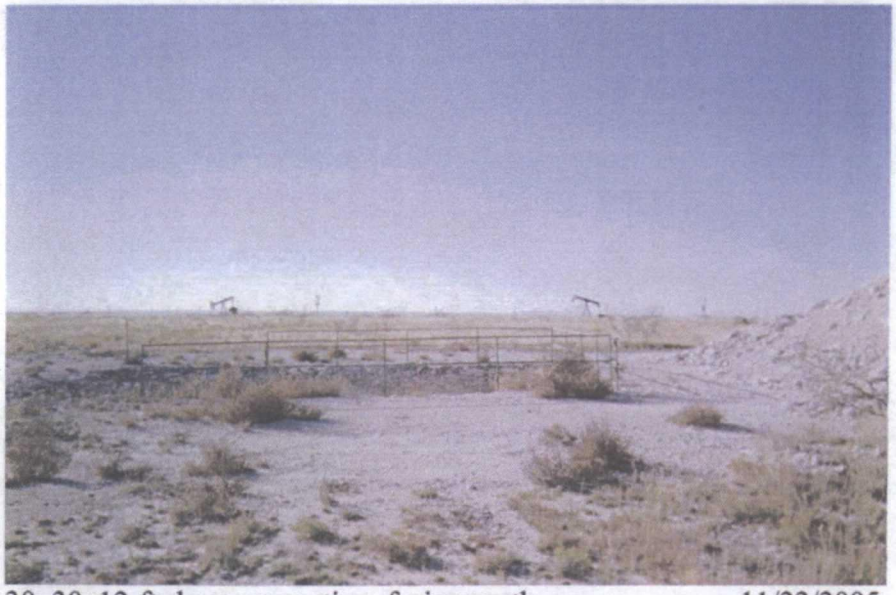
PROJECT LEADER Larry Bruce Baker Jr. SIGNATURE Larry Bruce Baker Jr. DATE 8-11-08

*This site is a "DISCLOSURE." It will be placed on a prioritized list of similar sites for further consideration.

EME Jct. P-24

Unit P, Section 24, T19S, R36E

undisturbed junction box, facing north 3/29/2004



30x30x12-ft-deep excavation, facing south 11/22/2005

excavation of 20 ft south vertical to 12 ft BGS 11/28/2005

excavation of 25 ft west vertical to 12 ft BGS 11/30/2005

spreading top soil, facing west 2/8/2006

seeding backfill site 2/13/2006

site marker, facing east 2/20/2006

ENVIRONMENTAL LAB OF

12600 West I-20 East - Odessa, Texas 79765

Analytical Report

Prepared for:

Roy Rascon

Rice Operating Co.

122 W. Taylor

Hobbs, NM 88240

COPY

Project: EME Jct. P-24

Project Number: None Given

Location: None Given

Lab Order Number: 5L08002

Report Date: 12/15/05

Rice Operating Co.	Project: EME Jct. P-24	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	Reported:
Hobbs NM, 88240	Project Manager: Roy Rascon	12/15/05 16:30

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Backfill	5L08002-01	Soil	12/07/05 13:00	12/08/05 08:00
Bottom 1-5 Lab Comp.@ 12ft	5L08002-02	Soil	12/07/05 13:25	12/08/05 08:00
4 Wall Comp.	5L08002-03	Soil	12/07/05 13:35	12/08/05 08:00
Bottom Field Comp. 12ft	5L08002-04	Soil	12/07/05 13:40	12/08/05 08:00

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

Rice Operating Co.	Project: EME Jct. P-24	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	Reported:
Hobbs NM, 88240	Project Manager: Roy Rascon	12/15/05 16:30

Organics by GC

Environmental Lab of Texas

COPY

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Backfill (5L08002-01) Soil									
Gasoline Range Organics C6-C12	12.1	10.0	mg/kg dry	1	EL50804	12/08/05	12/08/05	EPA 8015M	
Diesel Range Organics >C12-C35	403	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	415	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*93.8 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*106 %*	*70-130*		"	"	"	"	
Bottom 1-5 Lab Comp.@ 12ft (5L08002-02) Soil									
Benzene	0.0276	0.0250	mg/kg dry	25	EL51207	12/09/05	12/09/05	EPA 8021B	
Toluene	0.559	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.614	0.0250	"	"	"	"	"	"	
Xylene (p/m)	1.99	0.0250	"	"	"	"	"	"	
Xylene (o)	0.345	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*101 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*75.6 %*	*80-120*		"	"	"	"	S-04
4 Wall Comp. (5L08002-03) Soil									
Gasoline Range Organics C6-C12	56.0	10.0	mg/kg dry	1	EL50804	12/08/05	12/08/05	EPA 8015M	
Diesel Range Organics >C12-C35	546	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	602	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*96.8 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*109 %*	*70-130*		"	"	"	"	
Bottom Field Comp. 12ft (5L08002-04) Soil									
Benzene	J [0.0167]	0.0250	mg/kg dry	25	EL51207	12/09/05	12/09/05	EPA 8021B	J
Toluene	0.314	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.361	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.600	0.0250	"	"	"	"	"	"	
Xylene (o)	0.209	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*74.3 %*	*80-120*		"	"	"	"	S-04
Surrogate: 4-Bromofluorobenzene		*55.6 %*	*80-120*		"	"	"	"	S-04
Gasoline Range Organics C6-C12	197	10.0	mg/kg dry	1	EL50804	12/08/05	12/08/05	EPA 8015M	
Diesel Range Organics >C12-C35	549	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	746	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*103 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*109 %*	*70-130*		"	"	"	"	

12600 West I-20 East - Odessa, Texas 79765 - (432) 563-1800 - Fax (432) 563-1713

Rice Operating Co.	Project: EME Jct. P-24	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Roy Rascon	12/15/05 16:30

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

COPY

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Backfill (5L08002-01) Soil									
Chloride	**305**	10.0	mg/kg	20	EL50919	12/09/05	12/09/05	EPA 300.0	
% Moisture	**5.8**	0.1	%	1	EL50903	12/08/05	12/09/05	% calculation	
Bottom 1-5 Lab Comp.@ 12ft (5L08002-02) Soil									
% Moisture	**14.8**	0.1	%	1	EL50903	12/08/05	12/09/05	% calculation	
4 Wall Comp. (5L08002-03) Soil									
Chloride	**428**	10.0	mg/kg	20	EL50919	12/09/05	12/09/05	EPA 300.0	
% Moisture	**7.0**	0.1	%	1	EL50903	12/08/05	12/09/05	% calculation	
Bottom Field Comp. 12ft (5L08002-04) Soil									
Chloride	**528**	10.0	mg/kg	20	EL50919	12/09/05	12/09/05	EPA 300.0	
% Moisture	**15.4**	0.1	%	1	EL50903	12/08/05	12/09/05	% calculation	

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

Rice Operating Co.	Project: EME Jct. P-24	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	Reported:
Hobbs NM, 88240	Project Manager: Roy Rascon	12/15/05 16:30

Organics by GC - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EL50804 - Solvent Extraction (GC)										
Blank (EL50804-BLK1)				Prepared & Analyzed: 12/08/05						
Gasoline Range Organics C6-C12	ND	10.0	mg/kg wet							
Diesel Range Organics >C12-C35	ND	10.0	"							
Total Hydrocarbon C6-C35	ND	10.0	"							
Surrogate: 1-Chlorooctane	*49.5*		*mg/kg*	*50.0*		*99.0*	*70-130*			
Surrogate: 1-Chlorooctadecane	*48.7*		"	*50.0*		*97.4*	*70-130*			
LCS (EL50804-BS1)				Prepared & Analyzed: 12/08/05						
Gasoline Range Organics C6-C12	401	10.0	mg/kg wet	500		80.2	75-125			
Diesel Range Organics >C12-C35	498	10.0	"	500		99.6	75-125			
Total Hydrocarbon C6-C35	899	10.0	"	1000		89.9	75-125			
Surrogate: 1-Chlorooctane	*53.3*		*mg/kg*	*50.0*		*107*	*70-130*			
Surrogate: 1-Chlorooctadecane	*50.3*		"	*50.0*		*101*	*70-130*			
Calibration Check (EL50804-CCV1)				Prepared & Analyzed: 12/08/05						
Gasoline Range Organics C6-C12	431		mg/kg	500		86.2	80-120			
Diesel Range Organics >C12-C35	545		"	500		109	80-120			
Total Hydrocarbon C6-C35	976		"	1000		97.6	80-120			
Surrogate: 1-Chlorooctane	*57.8*		"	*50.0*		*116*	*70-130*			
Surrogate: 1-Chlorooctadecane	*54.9*		"	*50.0*		*110*	*70-130*			
Matrix Spike (EL50804-MS1)	Source: SL08001-01			Prepared & Analyzed: 12/08/05						
Gasoline Range Organics C6-C12	429	10.0	mg/kg dry	564	ND	76.1	75-125			
Diesel Range Organics >C12-C35	560	10.0	"	564	20.7	95.6	75-125			
Total Hydrocarbon C6-C35	989	10.0	"	1130	20.7	85.7	75-125			
Surrogate: 1-Chlorooctane	*45.8*		*mg/kg*	*50.0*		*91.6*	*70-130*			
Surrogate: 1-Chlorooctadecane	*48.7*		"	*50.0*		*97.4*	*70-130*			
Matrix Spike Dup (EL50804-MSD1)	Source: SL08001-01			Prepared & Analyzed: 12/08/05						
Gasoline Range Organics C6-C12	431	10.0	mg/kg dry	564	ND	76.4	75-125	0.465	20	
Diesel Range Organics >C12-C35	557	10.0	"	564	20.7	95.1	75-125	0.537	20	
Total Hydrocarbon C6-C35	988	10.0	"	1130	20.7	85.6	75-125	0.101	20	
Surrogate: 1-Chlorooctane	*45.3*		*mg/kg*	*50.0*		*90.6*	*70-130*			
Surrogate: 1-Chlorooctadecane	*48.8*		"	*50.0*		*97.6*	*70-130*			

12600 West I-20 East - Odessa, Texas 79765 - (432) 563-1800 - Fax (432) 563-1713

Rice Operating Co, 122 W. Taylor Hobbs NM, 88240	Project: EME Jct. P-24 Project Number: None Given Project Manager: Roy Rascon	Fax: (505) 397-1471 **Reported:** 12/15/05 16:30

Organics by GC - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EL51207 - EPA 5030C (GC)										
Blank (EL51207-BLK1)				Prepared & Analyzed: 12/09/05						
Benzene	ND	0.0250	mg/kg wet							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
Xylene (p/m)	ND	0.0250	"							
Xylene (o)	ND	0.0250	"							
Surrogate: a,a,a-Trifluorotoluene	*44.0*		*ug/kg*	*40.0*		*110*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*39.9*		"	*40.0*		*99.8*	*80-120*			
LCS (EL51207-BS1)				Prepared & Analyzed: 12/09/05						
Benzene	0.0570	0.00100	mg/kg wet	0.0500		114	80-120			
Toluene	0.0596	0.00100	"	0.0500		119	80-120			
Ethylbenzene	0.0587	0.00100	"	0.0500		117	80-120			
Xylene (p/m)	0.115	0.00100	"	0.100		115	80-120			
Xylene (o)	0.0596	0.00100	"	0.0500		119	80-120			
Surrogate: a,a,a-Trifluorotoluene	*45.0*		*ug/kg*	*40.0*		*112*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*42.6*		"	*40.0*		*106*	*80-120*			
LCS Dup (EL51207-BSD1)				Prepared & Analyzed: 12/09/05						
Benzene	0.0477	0.00100	mg/kg wet	0.0500		95.4	80-120	17.8	20	
Toluene	0.0529	0.00100	"	0.0500		106	80-120	11.6	20	
Ethylbenzene	0.0536	0.00100	"	0.0500		107	80-120	8.93	20	
Xylene (p/m)	0.102	0.00100	"	0.100		102	80-120	12.0	20	
Xylene (o)	0.0540	0.00100	"	0.0500		108	80-120	9.69	20	
Surrogate: a,a,a-Trifluorotoluene	*47.7*		*ug/kg*	*40.0*		*119*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*46.3*		"	*40.0*		*116*	*80-120*			
Calibration Check (EL51207-CCV1)				Prepared & Analyzed: 12/09/05						
Benzene	41.1		ug/kg	50.0		82.2	80-120			
Toluene	45.9		"	50.0		91.8	80-120			
Ethylbenzene	45.4		"	50.0		90.8	80-120			
Xylene (p/m)	88.4		"	100		88.4	80-120			
Xylene (o)	45.9		"	50.0		91.8	80-120			
Surrogate: a,a,a-Trifluorotoluene	*46.6*		"	*40.0*		*116*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*47.7*		"	*40.0*		*119*	*80-120*			

12600 West I-20 East - Odessa, Texas 79765 - (432) 563-1800 - Fax (432) 563-1713

Rice Operating Co.	Project: EME Jct. P-24	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	Reported:
Hobbs NM, 88240	Project Manager: Roy Rascon	12/15/05 16:30

Organics by GC - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EL51207 - EPA 5030C (GC)										
Matrix Spike (EL51207-MS1)	**Source: 5L08002-04**		Prepared & Analyzed: 12/09/05							
Benzene	1.41	0.0250	mg/kg dry	1.48	0.0167	94.1	80-120			
Toluene	1.98	0.0250	"	1.48	0.314	113	80-120			
Ethylbenzene	2.04	0.0250	"	1.48	0.361	113	80-120			
Xylene (p/m)	4.05	0.0250	"	2.96	0.600	117	80-120			
Xylene (o)	1.87	0.0250	"	1.48	0.209	112	80-120			
Surrogate: a,a,a-Trifluorotoluene	*78.4*		*ug/kg*	*40.0*		*196*	*80-120*			*S-04*
Surrogate: 4-Bromofluorobenzene	*67.2*		*"*	*40.0*		*168*	*80-120*			*S-04*

12600 West I-20 East - Odessa, Texas 79765 - (432) 563-1800 - Fax (432) 563-1713

Rice Operating Co.	Project: EME Jct. P-24	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	Reported:
Hobbs NM, 88240	Project Manager: Roy Rascon	12/15/05 16:30

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EL50903 - General Preparation (Prep)										
Blank (EL50903-BLK1)				Prepared: 12/08/05 Analyzed: 12/09/05						
% Solids	100		%							
Duplicate (EL50903-DUP1)		Source: 5L08001-01		Prepared: 12/08/05 Analyzed: 12/09/05						
% Solids	87.6		%		88.6			1.14	20	
Batch EL50919 - Water Extraction										
Blank (EL50919-BLK1)				Prepared & Analyzed: 12/09/05						
Chloride	ND	0.500	mg/kg							
LCS (EL50919-BS1)				Prepared & Analyzed: 12/09/05						
Chloride	9.17		mg/L	10.0		91.7	80-120			
Calibration Check (EL50919-CCV1)				Prepared & Analyzed: 12/09/05						
Chloride	8.57		mg/L	10.0		85.7	80-120			
Duplicate (EL50919-DUP1)		Source: 5L08001-01		Prepared & Analyzed: 12/09/05						
Chloride	108	5.00	mg/kg		107			0.930	20	

12600 West I-20 East - Odessa, Texas 79765 - (432) 563-1800 - Fax (432) 563-1713

Rice Operating Co.	Project: EME Jct. P-24	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	Reported:
Hobbs NM, 88240	Project Manager: Roy Rascon	12/15/05 16:30

Notes and Definitions

S-04

J

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not ReportedDetected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Control Spike
MS	Matrix Spike
Dup	Duplicate

Report Approved By: Celey D. Keene Date: 12/15/2005

Raland K. Tuttle, Lab Manager
Celey D. Keene, Lab Director, Org. Tech Director
Peggy Allen, QA Officer
Jeanne Mc Murrey, Inorg. Tech Director
La Tasha Cornish, Chemist
Sandra Sanchez, Lab Tech.

12600 West I-20 East - Odessa, Texas 79765 - (432) 563-1800 - Fax (432) 563-1713

Environmental Lab of Texas, Inc.

12600 West I-20 East
Odessa, Texas 79763
Phone: 915-563-1800
Fax: 915-563-1713

COPY

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Roy Rascon
Company Name: Rice Operating
Company Address: 122 W Taylor
City/State/Zip: Hobbs N.M. 88240
Telephone No: ____ Fax No: ____
Sampler Signature: L. Clark

Project Name: EME JLTP-24
Project #: ____
Project Loc: ____
PO #: ____

LAB # (lab use only)	FIELD CODE	Date Sampled	Time Sampled	No. of Containers	Preservative: Ice	HNO3	HCl	NaOH	H2SO4	None	Other (Specify)	Matrix: Water	Sludge	Soil	Other (specify)	Analyze For: TCLP: TDS (CL, SAR / EC	TPH 418.1	TPH TX 1005/1006	TOTAL: TPH 8015M GRO/DRO	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030	RUSH TAT (Pre-Scheduled)
C-1	Back Fill	12/7/05	1:00	1	✓									✓		✓			✓					
	Bottom #1 12'	12/7/05	1:10																					
	Bottom #2	12/7/05	1:15																					
C-2	Bottom #3	12/7/05	1:20																					
	Bottom #4	12/7/05	1:25																					
	Bottom #5	12/7/05	1:30																					
C-3	4 Wall Comp	12/7/05	1:35													✓			✓					
C-4-12'	Bottom Field Comp #'	12/7/05	1:40													✓			✓				✓	

Special Instructions:
Please composite #1-5 in lab and report results as "bottom lab comp. @ 12ft"

Relinquished by:	Date	Time	Received by:	Date	Time
L. Clark	12-7-05	5:00			
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
	12/8	7:15		12/8	8:00

Sample Containers Intact? Y N
Temperature Upon Receipt: 4°C
Laboratory Comments:

Environmental Lab of Texas
Variance / Corrective Action Report – Sample Log-In

Client: Rice Op.

Date/Time: 12/8/05 8:00

Order #: SL0800 2

Initials: CK

COPY

Sample Receipt Checklist

Temperature of container/cooler?	Yes	No	2.0 C
Shipping container/cooler in good condition?	Yes	No	
Custody Seals intact on shipping container/cooler?	Yes	No	Not present
Custody Seals intact on sample bottles?	Yes	No	Not present
Chain of custody present?	Yes	No	
Sample Instructions complete on Chain of Custody?	Yes	No	
Chain of Custody signed when relinquished and received?	Yes	No	
Chain of custody agrees with sample label(s)	Yes	No	
Container labels legible and intact?	Yes	No	
Sample Matrix and properties same as on chain of custody?	Yes	No	
Samples in proper container/bottle?	Yes	No	
Samples properly preserved?	Yes	No	
Sample bottles intact?	Yes	No	
Preservations documented on Chain of Custody?	Yes	No	
Containers documented on Chain of Custody?	Yes	No	
Sufficient sample amount for indicated test?	Yes	No	
All samples received within sufficient hold time?	Yes	No	
VOC samples have zero headspace?	Yes	No	Not Applicable

Other observations:

Variance Documentation:

Contact Person: _____ Date/Time: _____ Contacted by: _____

Regarding:

Corrective Action Taken:

122 WEST TAYLOR
HOBBS, NEW MEXICO 88240
PHONE: (505) 393-9174 FAX: (505) 397-1471

VOC FIELD TEST REPORT FORM

MINI RAE PLUS CLASSIC PHOTOIONIZATION GAS DETECTOR

MODEL NO: PGM 761S
SERIAL NO: ~~104112~~ 104490
CALIBRATION GAS
GAS COMPOSITION: ISOBUTYLENE 100 PPM
AIR BALANCE
LOT NO: 05-2859 FILL DATE: 1-19-05
EXP. DATE: 1-19-07 ACCURACY: ± 2%
METER READING
ACCURACY: 99.8

SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE
EME	P-24	P	24	19S	36E

Betex Stnd,

SAMPLE	PID RESULT	SAMPLE	PID RESULT
Bott 1 at 12'	24.4		
Bott 2 at 12'	5.3		
Bott 3 at 12'	43.7		
Bott 4 at 12'	42.3		
Bott 5 at 12'	14.3		
4 Wall Comp	12.8		
Bott. Comp 12'	43.5		
Backfill	82.7		
Samples sent to Lab and Archived			

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

Ken Dahl
Signature

12-07-05
Date

2008 BTEX Study

Revised Junction Box Upgrade Plan (2003)

System: EME
Site: Jct. P-24
Date: 12/7/2005
Sampler: Kevin Collins
Laboratory: Environmental Lab of Texas

Location	Component	PID reading (ppm)	FIELD COMPOSITE (mg/kg)			
			Benzene	Toluene	Ethyl Benzene	Total Xylenes
bottom composite at 12 ft BGS	1	24.4	J[0.0167]	0.314	0.361	0.809
	2	5.3				
	3	43.7				
	4	42.3				
	5	14.3				
			LAB COMPOSITE (mg/kg)			
			0.0276	0.559	0.614	2.335

Field PID tests <100 ppm are considered final for BTEX. If PID is >100 ppm, the components of the BTEX composite sample will be collected individually and will be composited under laboratory conditions to prevent excessive volatilization. A 15-box, 30-sample study will be made to compare field-compositing with lab-compositing BTEX samples. Composite components are collected in a skewed 'W' pattern.

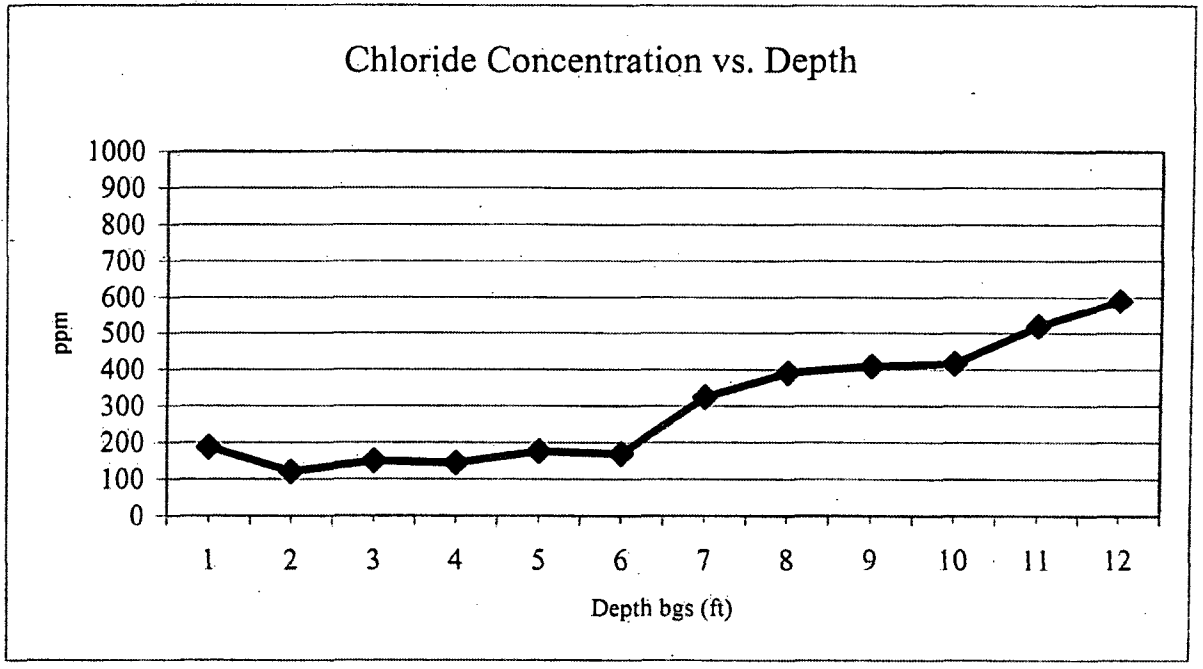
Revised Junction Box Upgrade Work Plan (July 16, 2003)

EME Jct. P-24

unit 'P', Sec. 24, T19S, R36E

Backhoe samples at 20 ft west of junction (source)

Depth bgs (ft)	[Cl⁻] ppm
1	188
2	121
3	150
4	144
5	176
6	169
7	324
8	391
9	409
10	417
11	519
12	590



Groundwater = 57 ft

Appendix B

Quality Procedures

RICE Environmental Consulting and Safety (RECS)
P.O. Box 5630 Hobbs, NM 88241
Phone 575.393.4411 Fax 575.393.0293

Rice Environmental Consulting and Safety

Quality Procedures

Table of Contents

Rice Environmental Consulting and Safety

Quality Procedure
Soil Samples for Transportation to a Laboratory

1.0 Purpose

This procedure outlines the methods to be employed when obtaining soil samples to be taken to a laboratory for analysis.

2.0 Scope

This procedure is to be used when collecting soil samples intended for ultimate transfer to a testing laboratory.

3.0 Preliminary

3.1 Obtain sterile sampling containers from the testing laboratory designated to conduct analyses of the soil.

3.2 If collecting TPH, BTEX, RCRA 8 metals, cation /anions or O&G, the sample jar may be a clear 4 oz. container with Teflon lid. If collecting PAH's, use an amber 4 oz. container.

4.0 Chain of Custody

4.1 Prepare a Sample Plan. The plan will list the number, location and designation of each planned sample and the individual tests to be performed on the sample. The sampler will check the list against the available inventory of appropriate sample collection bottles to insure against shortage.

4.2 Transfer the data to the Laboratory Chain of Custody Form. Complete all sections of the form except those that relate to the time of delivery of the samples to the laboratory.

4.3 Pre-label the sample collection jars. Include all requested information except time of collection. (Use a fine point Sharpie to insure that the ink remains on the label.) Affix the labels to the jars.

5.0 Sampling Procedure

5.1 Do not touch the soil with your bare hands. Use new nitrile gloves to help minimize any contamination.

5.2 Go to the sampling point with the sample container. If not analyzing for ions or metals, use a trowel to obtain the soil.

5.3 Pack the soil tightly into the container leaving the top slightly domed. Screw the lid down tightly. Enter the time of collection onto the sample collection jar label.

5.4 Place the sample directly on ice for transport to the laboratory if required.

5.5 Complete the Chain of Custody form to include the collection times for each sample. Deliver all samples to the laboratory.

6.0 Documentation

6.1 The testing laboratory shall provide the following minimum information:

a. Project and sample name.
b. Signed copy of the original Chain of Custody Form including the time the sample was received by the lab.
c. Results of the requested analyses
d. Test Methods employed
e. Quality Control methods and results

Rice Environmental Consulting and Safety

QUALITY PROCEDURE
Chloride Titration Using
0.282 Normal Silver Nitrate Solution

1.0 Purpose

This procedure is to be used to determine the concentration of chloride in soil.

2.0 Scope

This procedure is to be used as the standard field measurement for soil chloride concentrations.

3.0 Sample Collection and Preparation

3.1 Collect at least 80 grams of soil from the sample collection point. Take care to insure that the sample is representative of the general background to include visible concentrations of hydrocarbons and soil types. If necessary, prepare a composite sample for soils obtained at several points in the sample area. Take care to insure that no loose vegetation, rocks or liquids are included in the sample(s).

3.2 The soil sample(s) shall be immediately inserted into a one-quart or larger polyethylene freezer bag. Care should be taken to insure that no cross-contamination occurs between the soil sample and the collection tools or sample processing equipment.

3.3 The sealed sample bag should be massaged to break up any clods.

4.0 Sample Preparation

4.1 Tare a clean glass vial having a minimum 40 ml capacity. Add at least 10 grams of the soil sample and record the weight.

4.2 Add at least 20 grams of reverse osmosis water to the soil sample and shake well.

4.3 Allow the sample to set for a period of 5 minutes or until the separation of soil and water.

5.0 Titration Procedure

5.1 Using a graduated pipette, remove 10 ml extract and dispense into a clean plastic cup.

5.2 Add 2-3 drops potassium chromate (K_2CrO_4) to mixture if necessary.

5.3 Using a 1 ml pipette, carefully add .282 normal silver nitrate (one drop at a time) to the sample while constantly agitating it. Stop adding silver nitrate when the solution begins to change from yellow to red. Be consistent with endpoint recognition.

5.4 Record the ml of silver nitrate used.

6.0 Calculation

To obtain the chloride concentration, insert measured data into the following formula:

$$\frac{.282 \times 35{,}450 \times \text{ml } AgNO_3}{\text{ml water extract}} \times \frac{\text{grams of water in mixture}}{\text{grams of soil in mixture}}$$

Using Step 5.0, determine the chloride concentration of the RO water used to mix with the soil sample. Record this concentration and subtract it from the formula results to find the net chloride in the soil sample.

Record all results on the delineation form.

Rice Environmental Consulting and Safety

Quality Procedure
Development of Cased Water-Monitoring Wells

1.0 Purpose

This procedure outlines the methods to be employed to develop cased monitoring wells.

2.0 Scope

This procedure shall be used for developed, cased water monitoring wells. It is not to be used for standing water samples such as ponds or streams.

3.0 Sample Collection and Preparation

3.1 Prior to development, the static water level and height of the water column within the well casing will be measured with the use of an electric D.C. probe.

3.2 All measurements will be recorded within a field log notebook.

3.3 All equipment used to measure the static water level will be decontaminated after each use by means of Liquinox, a phosphate free laboratory detergent, and water to reduce the possibility of cross-contamination. The volume of water in each well casing will be calculated.

4.0 Purging

4.1 Wells will be purged by using a 2" decontaminated submersible pump or dedicated one liter Teflon bailer. Wells should be purged until the pH and conductivity are stabilized and the turbidity has been reduced to the greatest extent possible.

4.2 If a submersible is used the pump will be decontaminated prior to use by scrubbing the outside surface of tubing and wiring with a Liquinox water mixture, pumping a Liquinox-water mixture through the pump, and a final flush with fresh water.

5.0 Water Disposal

5.1 All purge and decontamination water will be temporarily stored within a portable tank to be later disposed of in an appropriate manner.

6.0 Records

6.1 Rice Environmental Consulting and Safety will record the amount of water removed from the well during development procedures. The purge volume will be reported to the appropriate regulatory authority when filing the closure report.

Rice Environmental Consulting and Safety

Quality Procedure
Sampling of Cased Water-Monitoring Well

1.0 Purpose

This procedure outlines the methods to be employed in obtaining water samples from cased monitoring wells.

2.0 Scope

This procedure shall be used for developed, cased water monitoring wells. It is not to be used for standing water samples such as ponds or streams.

3.0 Preliminary

3.1 Obtain sterile sampling containers from the testing laboratory designated to conduct analyses of the water.

3.2 The following table shall be used to select the appropriate sampling container, preservative method and holding times for the various elements and compounds to be analyzed.

Compound to be Analyzed	Sample Container Size	Sample Container Description	Cap Requirements	Preservative	Maximum Hold Time
BTEX	40 ml	VOA Container	Teflon Lined	HCL	14 days
TPH (8015 Extended)	40 ounces	(2) 40ml VOA vials	Teflon Lined	HCL and Ice	14 days
PAH	1 liter	amber glass	Teflon Lined	Ice	7 days
Cation/Anion	1 liter	HD polyethylene	Any Plastic	None	48 Hrs
Metals	1 liter	HD polyethylene	Any Plastic	Ice/HNO_3	28 Days
TDS	300 ml	clear glass or 250 ml HD polyethylene	Any Plastic	Ice	7 Days
Cl-	500 ml	HD polyethylene	Any Plastic	None	28 Days

4.0 Chain of Custody

4.1 Prepare a Sample Plan. The plan will list the well identification and the individual tests to be performed at that location. The sampler will check the list against the available inventory of appropriate sample collection bottles to insure against shortage.

4.2 Transfer the data to the Laboratory Chain of Custody Form. Complete all sections of the form except those that relate to the time of delivery of the samples to the laboratory.

4.3 Pre-label the sample collection jars. Include all requested information except time of collection. (Use a fine point Sharpie to insure that the ink remains on the label). Affix the labels to the jars.

5.0 Bailing Procedure

5.1 Identify the well from the sites schematics. Place pre-labeled jar(s) next to the well. Remove the plastic cap from the well bore by first lifting the metal lever and then unscrewing the entire assembly.

5.2 Using a dedicated one liter Teflon bailer or submersible pump, purge a minimum of three well volumes. Place the water in storage container for transport to a ROC disposal facility.

5.3 If using a bailer, take care to insure that the bailing device and string does not become cross-contaminated. A clean pair of nitrile gloves should be used when handling either the retrieval string or bailer. The retrieval string should not be allowed to come into contact with the ground.

6.0 Sampling Procedure

6.1 Once the well has been bailed in accordance with 5.2 of this procedure, a sample may be decanted into the appropriate sample collection jar directly from the bailer or submersible pump.

6.2 Note the time of collection on the sample jar with a fine Sharpie.

6.3 Place the sample directly on ice for transport to the laboratory. The preceding table shows the maximum hold times between collection and testing for the various analyses.

6.4 Complete the Chain of Custody form to include the collection times for each sample. Deliver all samples to the laboratory.

7.0 Documentation

7.1 The testing laboratory shall provide the following minimum information:

A. Project and sample name.
B. Signed copy of the original Chain of Custody Form including the time the sample was received by the lab.
C. Results of the requested analyses
D. Test Methods employed
E. Quality Control methods and results

Calculation for Determining the Minimum Bailing Volume for Monitor Wells
Formula V= ($\pi r^2 h$)
2" well [V/231=gal] X 3 = Purge Volume

V=Volume
π=pi
r=inside radius of the well bore
h=maximum height of well bore in water table

Example:

π	r^2	h(in)	V(cu.in)	V(gal)	X 3 Volumes	Actual
3.1416	1	180	565.488	2.448	7.34 gal	>10 gal

Rice Environmental Consulting and Safety

Quality Procedure
Composite Sampling of Excavation Sidewalls and Bottoms For TPH and Chloride Analysis

1.0 Purpose

This procedure outlines the methods to be employed when obtaining final composite soil samples for TPH and Chloride analysis.

2.0 Scope

This procedure is to be used in conjunction with ***Quality Procedure – 02: Soil Samples for Transportation to a Laboratory*** and will be inserted at subparagraph 5.2 of Section 5.0: Sampling Procedure.

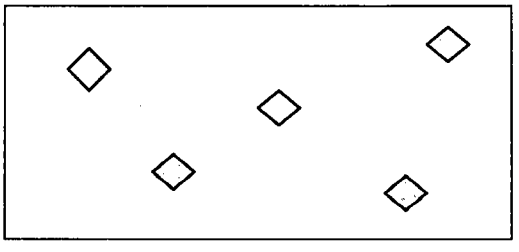
3.0 Sampling Procedure

Follow ***Quality Procedure – 02: Soil Samples for Transportation to a Laboratory*** for all Sections and subparagraphs until subparagraph 5.2 of Section 5.0: Sampling Procedure. Instead of 5.2 instructions, perform the composite sample collection procedure as follows:

3.1 Go to the excavation with a new plastic baggie. If not analyzing for ions or metals, use a trowel to obtain the soil. If the excavation is deeper than 6' BGS, do not enter the pit, but use a backhoe to assist in procurement of the sample. (If a backhoe is used, the backhoe will obtain an amount of soil from each composite point; bring the purchase to the surface staging area where a sample-portion of soil will be extracted from the backhoe purchase. The remainder of the backhoe purchase will be staged on the surface with other staged soils.)

3.2 Sidewall samples

3.2.1 On each sidewall, procure a 5oz sample from each of five distinct points on the sidewall with distinct points resembling the "W" pattern:



3.2.2 Thoroughly blend these five samples in a labeled baggie.
3.2.3 Repeat steps 3.2.1 through 3.2.4 for each remaining sidewall.
3.2.4 From each labeled baggie, procure a 5 oz portion and pour into a baggie labeled "Sidewall Composite". Blend this soil mixture completely.
3.2.5 Obtain proper laboratory sample container for "Sidewall Composite" and continue with subparagraph 5.3 of QP – 01.

3.3 Bottom Sample
3.3.1 From bottom of excavation, procure a 5oz sample from each of five distinct points with distinct points resembling the "W" pattern as illustrated above.
3.3.2 Thoroughly blend these five samples in a clean baggie.
3.3.3 Obtain proper laboratory sample container for "Bottom Composite" and continue with subparagraph 5.3 of QP – 01.

Rice Environmental Consulting and Safety

QUALITY PROCEDURE
Sampling and Testing Protocol for VOC in Soil

1.0 Purpose

This procedure is to be used to determine the concentrations of Volatile Organic Compounds in soils.

2.0 Scope

This procedure is to be used as the standard field measurement for soil VOC concentrations. It is not to be used as a substitute for full spectrographic speciation of organic compounds.

3.0 Procedure

3.1 Sample Collection and Preparation

3.1.1 Collect at least 500 g. of soil from the sample collection point. Take care to insure that the sample is representative of the general background to include visible concentrations of hydrocarbons and soil types. If necessary, prepare a composite sample of soils obtained at several points in the sample area. Take care to insure that no loose vegetation, rocks or liquids are included in the sample(s).

3.1.2 The soil sample(s) shall be immediately inserted into a one-quart or larger polyethylene freezer bag and sealed. When sealed, the bag should contain a nearly equal space between the soil sample and trapped air. Record the sample name and the time that the sample was collected on the Field Analytical Report Form.

3.1.3 The sealed samples shall be allowed to set for a minimum of five minutes at a temperature of between 10-15 Celsius, (59-77 ^{0}F). The sample temperatures may be adjusted by cooling the sample in ice, or by heating the sample within a generally controlled environment such as the inside of a vehicle. The samples should not be placed directly on heated surfaces or placed in direct heat sources such as lamps or heater vents.

3.1.4 The sealed sample bag should be massaged to break up any clods, and to provide the soil sample with as much exposed surface area as practically possible.

3.2 Sampling Procedure

3.2.1 The instrument to be used in conducting VOC concentration testing shall be a RAE Systems Photoionization device. (Device will be identified on VOC Field Test Report Form.) Prior to use, the instrument shall be zeroed-out in accordance with the appropriate maintenance and calibration procedure outlined in the instrument operation manual. The PID device will be calibrated each day it's used.

3.2.2 Carefully open one end of the collection bag and insert the probe tip into the bag taking care that the probe tip not touch the soil sample or the sidewalls of the bag.

3.2.3 Set the instrument to retain the highest result reading value. Record the reading onto the Field Test Report Form.

3.2.4 **If the instrument provides a reading exceeding 100 ppm, proceed to QP-7. If the reading is 100 ppm or less, NMOCD BTEX guideline has been met and no further testing for BTEX is necessary. File the Field Test Report Form in the project file.**

4.0 Clean-up

After testing, the soil samples shall be returned to the sampling location, and the bags collected for off-site disposal. **IN NO CASE SHALL THE SAME BAG BE USED TWICE. EACH SAMPLE CONTAINER MUST BE DISCARDED AFTER EACH USE.**

Rice Environmental Consulting and Safety

Quality Procedure
Composite Sampling of Excavation Sidewalls and Bottoms For BTEX

1.0 Purpose

This procedure outlines the methods to be employed when obtaining final composite soil samples for BTEX analysis.

2.0 Scope

This procedure is to be used when collecting soil samples intended for ultimate transfer to a testing laboratory for BTEX analysis. This procedure is to be used only when the PID field-test results for OVM exceeds 100 ppm.

3.0 Preliminary

3.1 Obtain sterile, clear, 2 oz. glass containers with Teflon lid from a laboratory supply company or the testing laboratory designated to conduct analyses of the soil.

4.0 Chain of Custody

4.1 Prepare a Sample Plan. The plan will list the number, location and designation of each planned sample and the individual tests to be performed on the sample. The sampler will check the list against the available inventory of appropriate sample collection bottles to insure against shortage.

4.2 Transfer the data to the Laboratory Chain of Custody Form. Complete all sections of the form except those that relate to the time of delivery of the samples to the laboratory.

4.3 Pre-label the sample collection jars. Include all requested information except time of collection. (Use a fine point Sharpie to insure that the ink remains on the label.) Affix the labels to the jars.

5.0 Sampling Procedure

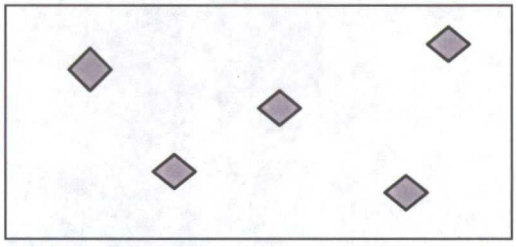
5.1. Do not touch the soil with your bare hands. Use new nitrile gloves to help minimize any cross-contamination.

5.2. If safe and within OSHA regulations, go to the sampling point with the sample container. If not analyzing for ions or metals, use a trowel to

obtain the soil. If the excavation is deeper than 6' BGS, do not enter the pit, but use a backhoe to assist in procurement of the sample. (If a backhoe is used, the backhoe will obtain an amount of soil from each composite point; bring the purchase to the surface staging area where a sample-portion of soil will be extracted from the backhoe purchase. The remainder of the backhoe purchase will be staged on the surface with other staged soils.)

5.3. Sidewall Samples

5.3.1. On each sidewall, procure a 2oz sample from each of five distinct points on the sidewall with distinct points resembling the "W" pattern:



5.4. Pack the soil tightly into the container leaving the top slightly domed. Screw the lid down tightly. Enter the time of collection onto the sample collection jar label. Repeat for each sampling point.

5.5. Place the samples directly on ice for transport to the laboratory if required.

5.6. Complete the Chain of Custody form to include the collection times for each sample. Deliver all samples to the laboratory.

6.0 Documentation

6.1 The testing laboratory shall provide the following minimum information:

a. Project and sample name.
b. Signed copy of the original Chain of Custody Form including the time the sample was received by the lab.
c. Results of the requested analyses
d. Test Methods employed
e. Quality Control methods and results

Rice Environmental Consulting and Safety

Procedure for Plugging & Abandonment of Cased Water Monitoring Wells

1.0 Purpose

This procedure outlines the methods to be employed to plug and abandon cased monitoring wells.

2.0 Scope

This procedure shall be used for developed, cased water monitoring wells located in the State of New Mexico

3.0 Preliminary

3.1 No well may be drilled, modified or plugged without NMOCD approval. Additional approvals may be required if the well is situated in a sensitive area, within municipal jurisdictions or on federal or tribal lands.

4.0 Plugging

4.1 Each bore will be filled with a 1% - 3% bentonite/concrete slurry to three feet bgs. The remaining three feet will be capped with concrete only.

4.2 All wellheads will be removed to below ground surface.

5.0 Records

5.1 The company plugging the well shall prepare a report on their company letter head listing the site name and describing general well construction including total depth of the well, the diameter of casing, material used to plug the well (e.g. bentonite/cement slurry), and date of the plugging operation.

5.2 It is recommended but not required that photographs of the final surface restoration be taken and included within the records.

5.3 Copies of the plugging report shall be submitted to all appropriate agencies and retained by the well operator for a minimum period of ten years.