PO Box 2948 | Hobbs, NM 88241 | Phone 575.393.2967

April 27th, 2015

Dr. Tomas Oberding
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 C-2 boot (1R427-12): UL/C sec. 2 T20S R36E

Dr. Oberding:

RICE Operating Company (ROC) has retained Basin Environmental Service Technologies (Basin) 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 3.8 miles southwest of Monument, New Mexico at UL/C sec. 2 T20S R36E as shown on the Geographical Location Map (Figure 1) and Area Map (Figure 2). An updated study of NM OSE records indicate that groundwater will likely be encountered at a depth of approximately 49 feet.

In 2003, ROC initiated work on the former EME C-2 boot junction box. The site was delineated using a backhoe to collect soil samples at regular intervals to varying depths between 8-16 ft bgs, creating a 20x25 excavation. Each sample was field titrated for chlorides. Representative samples were collected from the excavation sidewalls and bottom and sent to a commercial laboratory for analysis. The sidewalls sample resulted in a chloride concentration of 1,420 mg/kg, a gasoline range organics (GRO) concentration below detectable limits and a diesel range organics (DRO) concentration of 101 mg/kg. The bottom composite sample resulted in a chloride concentration of 2,320 mg/kg, a GRO concentration below detectable limits and a DRO concentration of 43 mg/kg. Both samples were also analyzed for BTEX, resulting in concentrations below detectable limits throughout, except for the bottom composite total xylenes concentration, which resulted in 0.029 mg/kg. The excavation was backfilled to 4 ft bgs. A sample of the backfill was collected and sent to a commercial laboratory for analysis, resulting in a chloride concentration of 1,770 mg/kg, a GRO concentration below detectable limits and a DRO concentration of 1,140 mg/kg. The sample was also analyzed for BTEX, resulting in a toluene concentration of 0.027 mg/kg, a total xylenes concentration of 0.049 mg/kg and concentrations of benzene and ethyl benzene below detectable limits. At 4 ft bgs, a 1 ft thick, compacted clay layer was installed and will provide a barrier that will inhibit the downward migration of chlorides to groundwater.

The remaining excavated soil was blended on site and a sample was collected and taken to a commercial laboratory for analysis, resulting in a chloride concentration of 496 mg/kg, a GRO concentration below detectable limits and a DRO concentration of 322 mg/kg. The sample was also analyzed for BTEX, resulting in a total xylenes concentration of 0.035 mg/kg and concentrations of benzene, toluene and ethyl benzene below detectable limits. The remainder of the excavation was backfilled with the blended backfill to ground surface and contoured to the surrounding area. An identification plate was placed on the surface at the former junction site to mark the presence of clay below. The site was seeded with a blend of native vegetation. A Junction Box Closure Report was submitted to NMOCD with all the 2003 junction box closures and disclosures (Appendix A).

Based on the composite samples collected during the initial junction box investigation, ROC proposes additional investigative work at the site to determine if there is potential for groundwater degradation from residual chlorides at the site.

Proposed Work Elements

1. Conduct vertical and lateral delineation of residual chlorides and hydrocarbons from samples taken using a hand auger, backhoe and/or drill rig (see Appendix B for Quality Procedures).
    a. Vertical sampling will be conducted until of 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 ≤ 250 ppm; and,
        ii. Three samples in which PID readings decrease and the third sample has a PID reading of ≤ 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. Additional monitoring wells may be required to fully delineate 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, then only a vadose zone remedy will be undertaken. However, if groundwater shows impact from residual chlorides, a CAP will be developed to address these concerns.

Basin appreciates the opportunity to work with you on this project. Please call Hack Conder at (575) 393-2967 or me if you have any questions or wish to discuss the site.

Sincerely,

L Flores

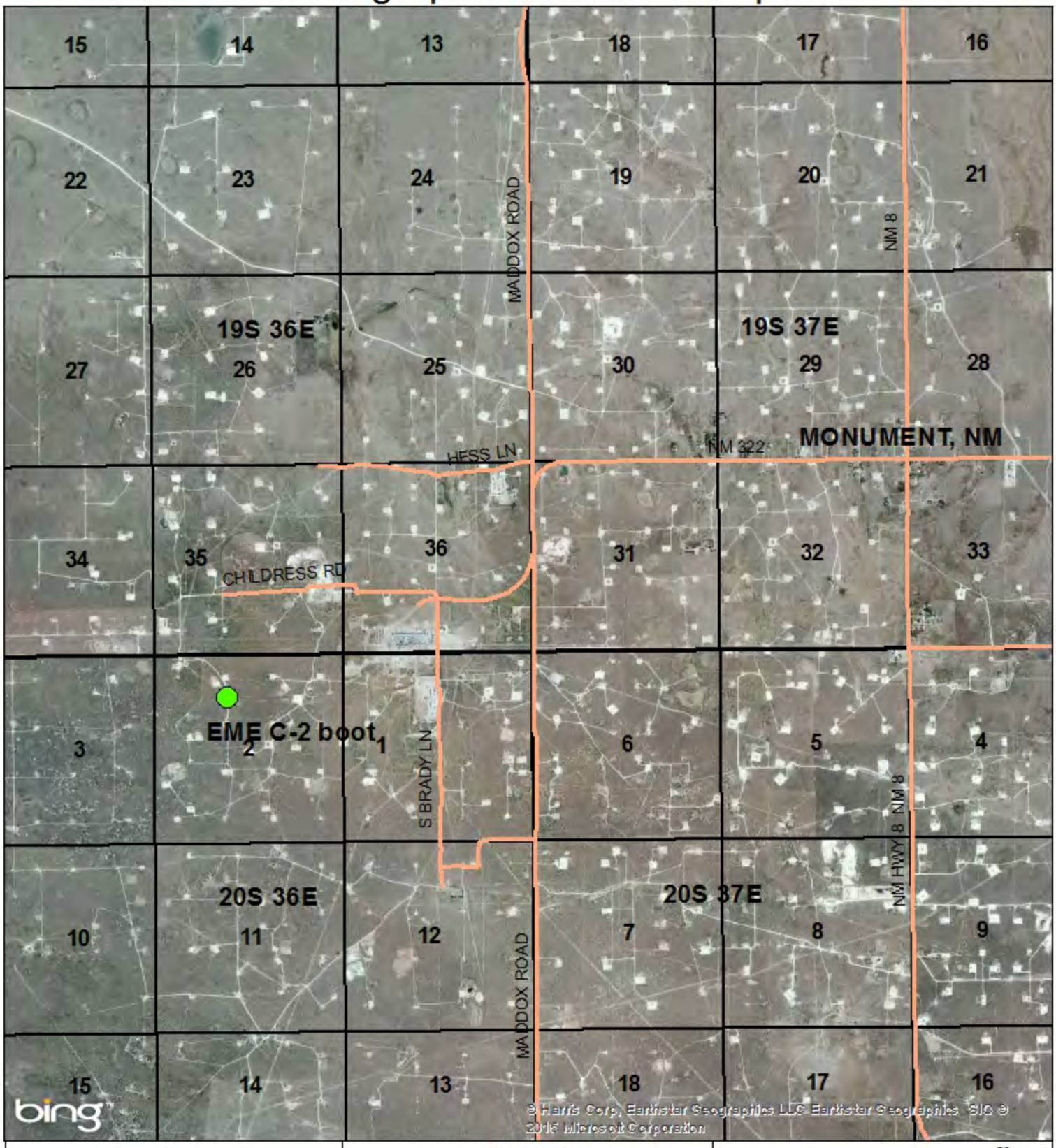
Laura Flores
Environmental Project Manager
Basin Environmental Service Technologies

Attachments:
Figure 1 – Geographical Location Map
Figure 2 – Area Map
Appendix A – Junction Box Report
Appendix B – Quality Procedures

Figures

Basin Environmental
P.O. Box 2948, Hobbs, NM 88241
Phone 575.393.2967

Geographical Location Map



Basin Environmental Service Technologies
Effective Solutions

EME C-2 boot

UL/C SECTION 2
T-20-S R-36-E
LEA COUNTY, NM

NMOCD Case #: 1R427-12

Figure 1

N
W E
S

0 0.4 0.8
Miles

Drawing date: 4/14/15
Drafted by: L. Flores

Area Map

Basin Environmental Service Technologies
Effective Solutions

EME C-2 boot

UL/C SECTION 2
T-20-S R-36-E
LEA COUNTY, NM

NMOCD Case #: 1R427-12

Figure 2

N
W E
S

0 0.03 0.06
Miles

Drawing date: 4/15/15
Drafted by: L. Flores

Appendix A

Junction Box Report

Basin Environmental
P.O. Box 2948, Hobbs, NM 88241
Phone 575.393.2967

RICE OPERATING COMPANY
JUNCTION BOX CLOSURE REPORT

BOX LOCATION

SWD SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE	COUNTY	BOX DIMENSIONS - FEET		
							Length	Width	Depth
EME	C-2 Boot	C	2	20S	36E	Lea	Moved 90 ft west		

LAND TYPE: BLM _____ STATE X FEE LANDOWNER _____ OTHER _____

Depth to Groundwater 50 feet NMOCD SITE ASSESSMENT RANKING SCORE: 10

Date Started 6/17/2003 Date Completed 6/24/2003 OCD Witness No

Soil Excavated 250 cubic yards Excavation Length 20 Width 25 Depth 16 feet

Soil Disposed 60 cubic yards Offsite Facility South Monument Location Monument, NM

FINAL ANALYTICAL RESULTS: **Sample Date** 6/24/2003 **Sample Depth** 8-16 ft *(see diagram)*

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

Sample Location	Benzene mg/kg	Toluene mg/kg	Ethyl Benzene mg/kg	Total Xylenes mg/kg	GRO mg/kg	DRO mg/kg	Chlorides mg/kg
SIDEWALLS	<0.025	<0.025	<0.025	<0.025	<10.0	101	1420
BOTTOM	<0.025	<0.025	<0.025	0.029	<10.0	43	2320
BACKFILL	<0.025	0.027	<0.025	0.049	<50.0	1140	1770
REMEDIATED	<0.025	<0.025	<0.025	0.035	<10.0	322	496

General Description of Remedial Action: This was the site of a junction box with a boot. Chloride concentrations exhibited a decline with depth that illustrates the presence of non-saturated conditions in the vadose zone. A 20 x 25 ft area was excavated to varying depth of 8-16 ft bgs (see diagram). The excavated soil was landfarmed and backfilled into the hole up to 4 ft below surface. At 4 ft, a 1 ft clay barrier was installed and was compacted as standard operating practice. The remaining soil was blended with imported clean soil and then backfilled on top of the clay up to the surface (labeled "remediated" for lab purposes) . The remaining TPH under the clay will naturally attenuate. The site has been re-seeded with native vegetation and is expected to return to productive capacity at a normal rate.

cc: lab results, photos, diagrams, disposal tickets, chloride curve

CHLORIDE FIELD TESTS

LOCATION	DEPTH (ft)	ppm
Vertical	4	5100
	6	2600
	10	1500
	12	950
	16	950
Wall Comp.	n/a	1150
Bottom Comp.	8-16	1850
Backfill	n/a	1600
Remed. Comp.	n/a	500

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

DATE 12/12/2003 PRINTED NAME Kristin Farris

SIGNATURE Kristin Farris TITLE Project Scientist

EME C-2 Boot

C-2 Boot Location Before Excavation

Excavation—June 2003

Excavation Backfilled to 4 ft With Remediated Backfill

Clay Barrier At 4 ft

EME C-2 Boot

Backfilled—6/24/2003

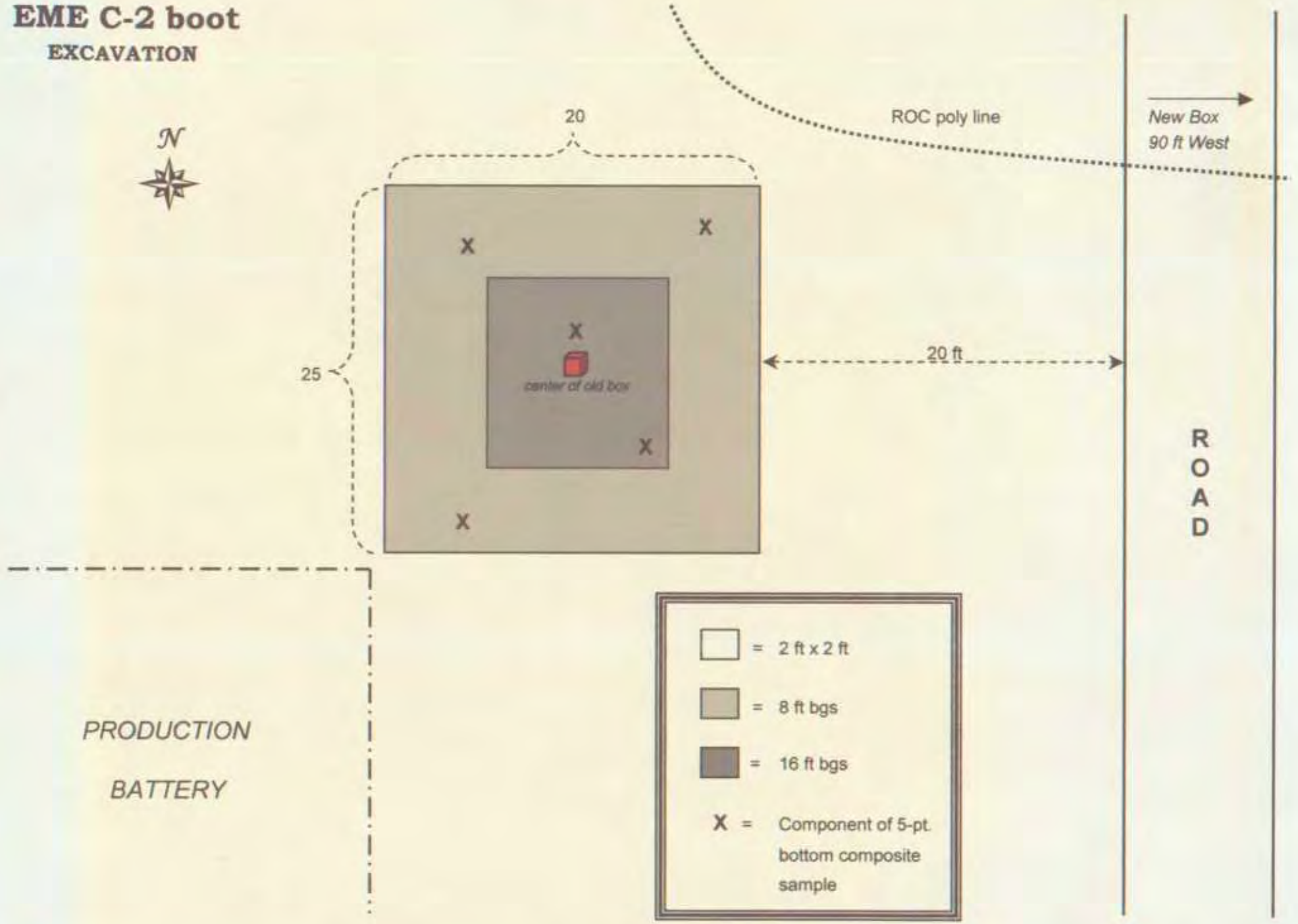
ID Plate Marking Clay Liner At Backfilled Site

New Plumbing At New Jct. 90 ft West

Looking East From New Box (backfilled site in background)

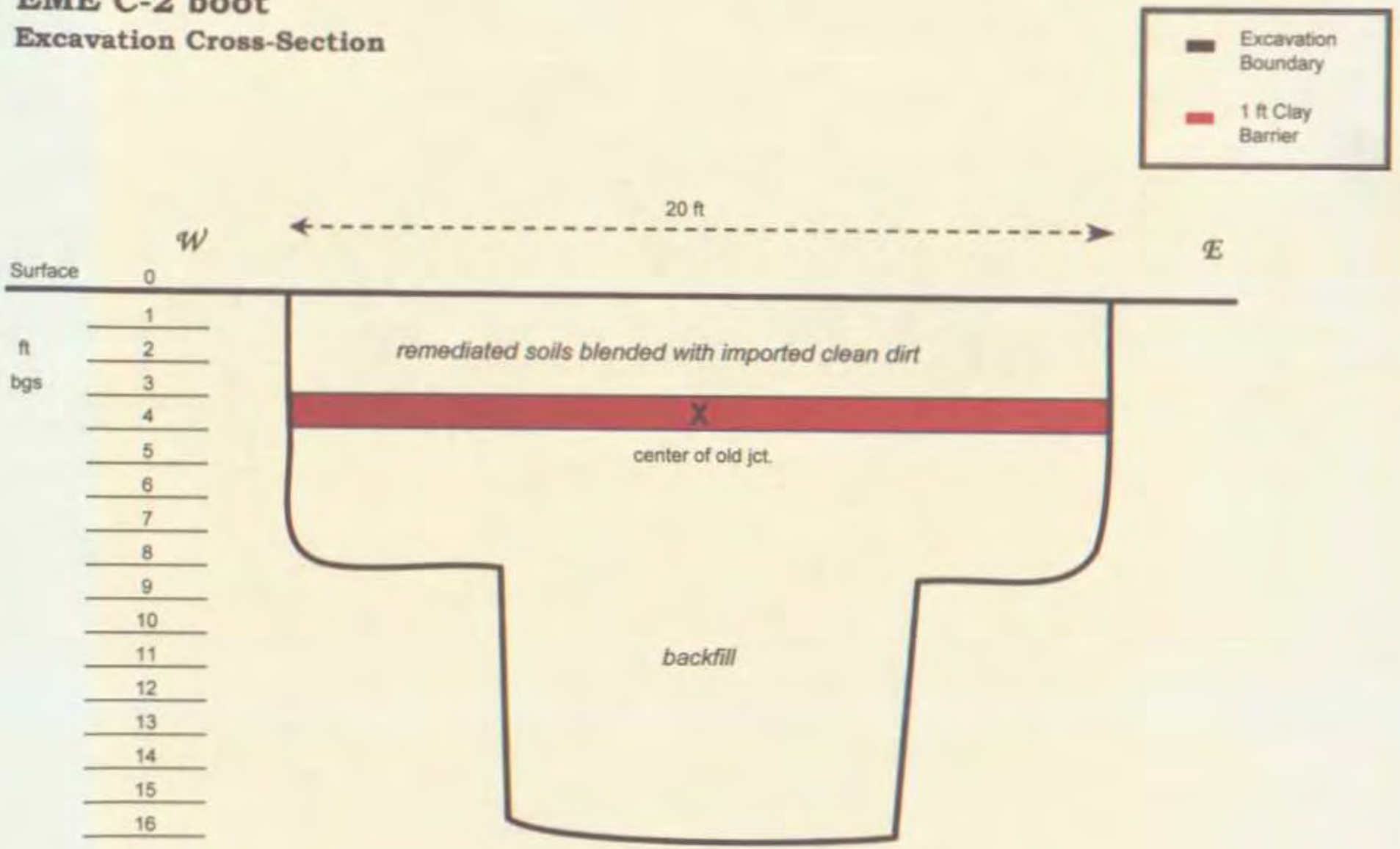
EME C-2 boot

EXCAVATION



EME C-2 boot

Excavation Cross-Section

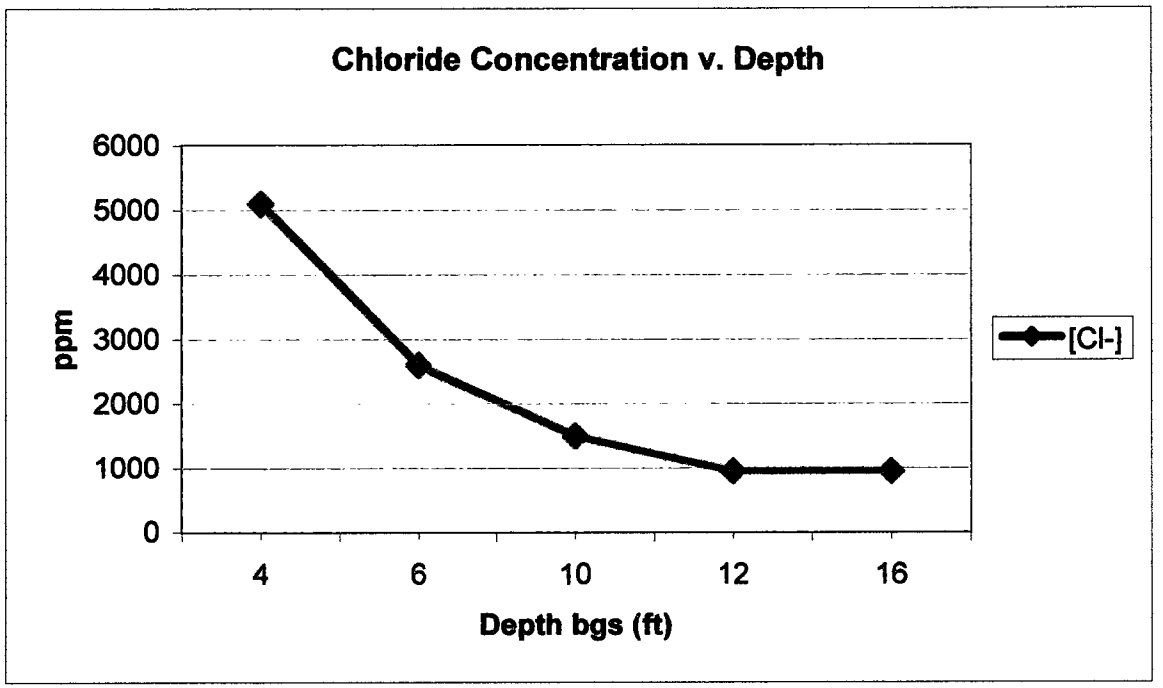


EME C-2 boot

T20S, R36E

Depth bgs (ft)	[Cl-] ppm
4	5100
6	2600
10	1500
12	950
16	950

Groundwater = 50 ft



ANALYTICAL REPORT

Prepared for:

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

Project:	EME
PO#:	
Order#:	G0306823
Report Date:	06/30/2003

Certificates
US EPA Laboratory Code TX00158

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

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

Order#: G0306823
Project:
Project Name: EME
Location: C-2

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

Lab ID:	Sample :	Matrix:	Date / Time Collected	Date / Time Received	Container	Preservative
0306823-01	5 pt. Bottom Comp @ 16'	SOIL	6/24/03 15:00	6/25/03 8:00	4 oz glass	Ice
	Lab Testing: 8015M, 8021B/5030 BTEX, Chloride	Rejected: No		Temp: 2.0 C		
0306823-02	Wall Comp.	SOIL	6/24/03 15:00	6/25/03 8:00	4 oz glass	Ice
	Lab Testing: 8015M, 8021B/5030 BTEX, Chloride	Rejected: No		Temp: 2.0 C		
0306823-03	Backfill Comp.	SOIL	6/24/03 15:00	6/25/03 8:00	4 oz glass	Ice
	Lab Testing: 8015M, 8021B/5030 BTEX, Chloride	Rejected: No		Temp: 2.0 C		
0306823-04	Remediated Pile Comp.	SOIL	6/24/03 15:00	6/25/03 8:00	4 oz glass	Ice
	Lab Testing: 8015M, 8021B/5030 BTEX, Chloride	Rejected: No		Temp: 2.0 C		

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

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

Order#: G0306823
Project:
Project Name: EME
Location: C-2

Lab ID: 0306823-01
Sample ID: 5 pt. Bottom Comp @ 16'

8015M

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
		6/25/03	1	1	CK	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	43.0	10.0
TOTAL, C6-C35	43.0	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	102%	70	130
1-Chlorooctadecane	107%	70	130

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0006017-02		6/26/03 12:36	1	25	CK	8021B

Parameter	Result mg/kg	RL
Benzene	<0.025	0.025
Toluene	<0.025	0.025
Ethylbenzene	<0.025	0.025
p/m-Xylene	0.029	0.025
o-Xylene	<0.025	0.025

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	91%	80	120
Bromofluorobenzene	80%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

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

Order#: G0306823
Project:
Project Name: EME
Location: C-2

Lab ID: 0306823-02
Sample ID: Wall Comp.

8015M

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
		6/26/03	1	1	CK	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	101	10.0
TOTAL, C6-C35	101	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	103%	70	130
1-Chlorooctadecane	103%	70	130

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0006017-02		6/26/03 15:44	1	25	CK	8021B

Parameter	Result mg/kg	RL
Benzene	<0.025	0.025
Toluene	<0.025	0.025
Ethylbenzene	<0.025	0.025
p/m-Xylene	<0.025	0.025
o-Xylene	<0.025	0.025

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	95%	80	120
Bromofluorobenzene	80%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

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

Order#: G0306823
Project:
Project Name: EME
Location: C-2

Lab ID: 0306823-03
Sample ID: Backfill Comp.

8015M

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
		6/26/03	1	5	CK	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<50.0	50.0
DRO, >C12-C35	1140	50.0
TOTAL, C6-C35	1140	50.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	19%	70	130
1-Chlorooctadecane	19%	70	130

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0006017-02		6/26/03 13:20	1	25	CK	8021B

Parameter	Result mg/kg	RL
Benzene	<0.025	0.025
Toluene	0.027	0.025
Ethylbenzene	<0.025	0.025
p/m-Xylene	0.049	0.025
o-Xylene	<0.025	0.025

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	91%	80	120
Bromofluorobenzene	80%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

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

Order#: G0306823
Project:
Project Name: EME
Location: C-2

Lab ID: 0306823-04
Sample ID: Remediated Pile Comp.

8015M

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
		6/26/03	1	1	CK	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	322	10.0
TOTAL, C6-C35	322	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	106%	70	130
1-Chlorooctadecane	106%	70	130

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0006017-02		6/26/03 13:42	1	25	CK	8021B

Parameter	Result mg/kg	RL
Benzene	<0.025	0.025
Toluene	<0.025	0.025
Ethylbenzene	<0.025	0.025
p/m-Xylene	0.035	0.025
o-Xylene	<0.025	0.025

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	93%	80	120
Bromofluorobenzene	84%	80	120

Approval: Celey D. Keene 07/01/03
Raland K. Tuttle, Lab Director, QA Officer — Date
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

Kristin Farris		Order#:	G0306823
Rice Operating		Project:	
122 W. Taylor		Project Name:	EME
Hobbs, NM 88240		Location:	C-2

Lab ID: 0306823-01
Sample ID: 5 pt. Bottom Comp @ 16'

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	2320	mg/kg	1	20	9253	6/25/03	SB

Lab ID: 0306823-02
Sample ID: Wall Comp.

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	1420	mg/kg	1	20	9253	6/25/03	SB

Lab ID: 0306823-03
Sample ID: Backfill Comp.

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	1770	mg/kg	1	20	9253	6/25/03	SB

Lab ID: 0306823-04
Sample ID: Remediated Pile Comp.

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	496	mg/kg	1	20	9253	6/25/03	SB

Approval: Celey D. Keene 07/01/03
Date

Raland K. Tuttle, Lab Director, QA Officer
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS I, LTD. 12600 West I-20 East, Odessa, TX 79765 Ph: 915-563-1800

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8015M

Order#: G0306823

BLANK SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg	0005991-02			<10.0		
TOTAL, C6-C35-mg/kg	0005993-02			<10.0		
CONTROL SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg	0005993-03		952	1060	111.3%	
CONTROL DUP SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg	0005993-04		952	1050	110.3%	0.9%
MS SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg	0306763-09	151	952	1080	97.6%	
MSD SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg	0306763-09	151	952	1080	97.6%	0.%
SRM SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg	0005991-05		1000	993	99.3%	
TOTAL, C6-C35-mg/kg	0005993-05		1000	1010	101.%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8021B/5030 BTEX

Order#: G0306823

BLANK SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/kg	0006017-02			<0.025		
Toluene-mg/kg	0006017-02			<0.025		
Ethylbenzene-mg/kg	0006017-02			<0.025		
p/m-Xylene-mg/kg	0006017-02			<0.025		
o-Xylene-mg/kg	0006017-02			<0.025		
MS SOIL	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Benzene-mg/kg	0306820-13	0	0.1	0.095	95.%	
Toluene-mg/kg	0306820-13	0	0.1	0.097	97.%	
Ethylbenzene-mg/kg	0306820-13	0	0.1	0.093	93.%	
p/m-Xylene-mg/kg	0306820-13	0	0.2	0.189	94.5%	
o-Xylene-mg/kg	0306820-13	0	0.1	0.093	93.%	
MSD SOIL	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Benzene-mg/kg	0306820-13	0	0.1	0.105	105.%	10.%
Toluene-mg/kg	0306820-13	0	0.1	0.107	107.%	9.8%
Ethylbenzene-mg/kg	0306820-13	0	0.1	0.105	105.%	12.1%
p/m-Xylene-mg/kg	0306820-13	0	0.2	0.213	106.5%	11.9%
o-Xylene-mg/kg	0306820-13	0	0.1	0.104	104.%	11.2%
SRM SOIL	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Benzene-mg/kg	0006017-05		0.1	0.114	114.%	
Toluene-mg/kg	0006017-05		0.1	0.114	114.%	
Ethylbenzene-mg/kg	0006017-05		0.1	0.111	111.%	
p/m-Xylene-mg/kg	0006017-05		0.2	0.227	113.5%	
o-Xylene-mg/kg	0006017-05		0.1	0.110	110.%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Test Parameters

Order#: G0306823

BLANK SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/kg	0006014-01			<20.0		
MS SOIL	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Chloride-mg/kg	0306823-01	2320	500	2780	92.%	
MSD SOIL	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Chloride-mg/kg	0306823-01	2320	500	2770	90.%	0.4%
SRM SOIL	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Chloride-mg/kg	0006014-04		5000	4960	99.2%	

CASE NARRATIVE

ENVIRONMENTAL LAB OF TEXAS

Prepared for:

Rice Operating
122 W. Taylor
Hobbs, NM 88240

Order#: G0306823

Project: EME

The following samples were received as indicated below and on the attached Chain of Custody record. All analyses were performed within the holding time and with acceptable quality control results unless otherwise noted.

SAMPLE ID	LAB ID	MATRIX	Date Collected	Date Received
5 pt. Bottom Comp	0306823-01	SOIL	06/24/2003	06/25/2003
Wall Comp.	0306823-02	SOIL	06/24/2003	06/25/2003
Backfill Comp.	0306823-03	SOIL	06/24/2003	06/25/2003
Remediated Pile Co	0306823-04	SOIL	06/24/2003	06/25/2003

Surrogate recoveries on the 8015M TPH are outside of control limits due to dilution. (G0306823-03)

The enclosed results of analyses are representative of the samples as received by the laboratory. Environmental Lab of Texas makes no representations or certifications as to the methods of sample collection, sample identification, or transportation handling procedures used prior to our receipt of samples. To the best of my knowledge, the information contained in this report is accurate and complete.

Approved By: _____ Date: 07/01/03

Environmental Lab of Texas I, Ltd.

Environmental Lab of Texas I, Ltd.

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

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Kristin Farris
Company Name: Rice Operating
Company Address: 122 W Taylor
City/State/Zip: Hobbs, NM 88240
Telephone No: (505) 631-9174 Fax No:
Sampler Signature:

Project Name: EME
Project #:
Project Loc: C-2
PO #:

LAB # (lab use only): 030682 3

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: TPH: 418.1 / 8015M / 1005 / 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, CO3, HCO3)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	TOTAL: BTEX 8021B/5030	RCI	N.O.R.M.	Total Gamma			RUSH TAT (Pre-Schedule)	Standard TAT
01 Sp. Bottom Comp @ 16'	6-24-03	3:00P	1	X									X		X		X					X							
02 Wall Comp	6-24-03	3:00P	1	X									X		X		X					X							
03 Backfill Comp	6-24-03	3:00P	1	X									X		X		X					X							
04 Remediated Pile Comp	6-24 03	3:00P	1	X									X		X		X					X							

Special Instructions: Fax to Rice

Sample Containers Intact? (Y) N
Temperature Upon Receipt: 2.0°C
Laboratory Comments: 4oz glass

Relinquished by:	Date	Time	Received by:	Date	Time
	6-25-03	7:00A	Hope Anderson	6/24/03	0800
Relinquished by:	Date	Time	Received by:	Date	Time

40-yds clean backfill

TRANSPORTERS MANIFEST

MANIFEST # 9404

SHIPPING FACILITY NAME & ADDRESS:

RICER OPERATING COMPANY
122 WEST TAYLOR
HOBBS, NM 88240

LOCATION OF MATERIAL:

SEC. 2 T 20 S R 36 E
SYSTEM EME SWD
JCT. C-2

ALL **This Info must be on Sundance Ticket**

Co. Man Kristin Farris

TRANSPORTER NAME & ADDRESS:

R.E. Environmental Services.
PO Box 13418
Odessa, TX 79768

DESCRIPTION OF WASTE:

OILFIELD CONTAMINATED SOIL
EXEMPT

QUANTITY YARDS 20

FACILITY CONTACT: **DATE:** 6-24-03

KRISTIN FARRIS

PHONE: 631-5075

SIGNATURE OF CONTACT: Kristin Farris

NAME OF TRANSPORTER: (DRIVER) **DATE:** 6-24-03

SIGNATURE OF DRIVER: Angel Soto

DISPOSAL SITE:

South
Monument
Disposal

DATE: 6/24/03

SIGNATURE OF REPRESENTATIVE: Kenny Cogburn

TRANSPORTERS MANIFEST

MANIFEST # 9405

SHIPPING FACILITY NAME & ADDRESS:

RICER OPERATING COMPANY
122 WEST TAYLOR
HOBBS, NM 88240

LOCATION OF MATERIAL:

SEC. 2 T 20 S R 36 E
SYSTEM EME SWD
JCT. C-2

ALL **This Info must be on Sundance Ticket**

Co. Man Kristin Farris

TRANSPORTER NAME & ADDRESS:

R.E. Environmental Services.
PO Box 13418
Odessa, TX 79768

DESCRIPTION OF WASTE:

OILFIELD CONTAMINATED SOIL
EXEMPT

QUANTITY YARDS 20

FACILITY CONTACT: **DATE:** 6-24-03

KRISTIN FARRIS

PHONE: 631-5075

SIGNATURE OF CONTACT:

Kristin Farris

NAME OF TRANSPORTER: (DRIVER) **DATE:** 6-24-03

SIGNATURE OF DRIVER:

Ruben D. Padilla

DISPOSAL SITE:

South Monument Disposal

DATE: 6/24/03

SIGNATURE OF REPRESENTATIVE:

Terry Leegan

TRANSPORTERS MANIFEST

MANIFEST # 9406

SHIPPING FACILITY NAME & ADDRESS:

RICER OPERATING COMPANY
122 WEST TAYLOR
HOBBS, NM 88240

LOCATION OF MATERIAL:

SEC. 2 T 20 S R 36 E
SYSTEM EME SWD
JCT. C-2

ALL This Info must be on Sundance Ticket

Co. Man Kristin Farris

TRANSPORTER NAME & ADDRESS:

R.E. Environmental Services.
PO Box 13418
Odessa, TX 79768

DESCRIPTION OF WASTE:

OILFIELD CONTAMINATED SOIL
EXEMPT

QUANTITY YARDS 20

FACILITY CONTACT: **DATE:** 6-24-03

KRISTIN FARRIS

PHONE: 631-5075

SIGNATURE OF CONTACT:

Kristin Farris

NAME OF TRANSPORTER: (DRIVER) **DATE:** 6-24-03

SIGNATURE OF DRIVER:

Ruben D Padilla

DISPOSAL SITE:

South
Monument
Disposal

DATE:

6/24/03

SIGNATURE OF REPRESENTATIVE:

Lucky Cegon

Appendix B
Quality Procedures

Basin Environmental
P.O. Box 2948, Hobbs, NM 88241
Phone 575.393.2967

Basin Environmental Service Technologies

Table of Contents

Basin Environmental Service Technologies

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

Basin Environmental Service Technologies

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 Take 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.

Basin Environmental Service Technologies

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 Basin 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.

Basin Environmental Service Technologies

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

Basin Environmental Service Technologies

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.

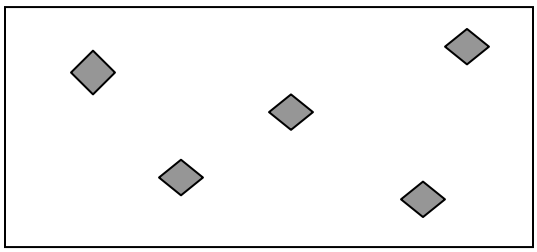
3.0 Sampling Procedure

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.

Basin Environmental Service Technologies

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.**

Basin Environmental Service Technologies

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

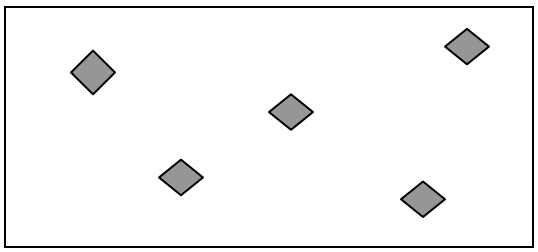
5.1. Do not touch the soil with your bare hands. Use new nitrile gloves to help minimize any cross-contamination.

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

Basin Environmental Service Technologies

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.