1R-427-318

WORKPLANS

Date:

5-30-12

ARCADIS
Infrastructure, environment, buildings

RECEIVED
JUN - 1 2012

ARCADIS U.S., Inc.
1004 North Big Spring Street
Suite 300
Midland
Texas 79701
Tel 432.687.5400
Fax 432.687.5401
www.arcadis-us.com

Sent Certified Mail
Return Receipt No. 7002 2410 0001 5813 3968

Oil Conservation Division
1220 S. St. Francis Drive
Santa Fe, NM 87505

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

Environmental

Subject:

INVESTIGATION & CHARACTERIZATION PLAN (ICP)
EME Jct. F-29-2
Unit F, SEC. 29, T19S, R37E, Monument, Lea County, New Mexico
NMOCD CASE # 1R427-318

Date:
May 30, 2012

Contact:
Sharon Hall

Phone:
432.687.5400

Email:
sharon.hall@arcadis-us.cor

Our ref:
MT001085.0001

ARCADIS U.S., Inc.
TX Engineering License # F-533

Mr. Hansen:

RICE Operating Company (ROC) has retained ARCADIS U.S., Inc. (ARCADIS) to address potential environmental concerns at the above-referenced site.

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. Environmental projects of this nature require System Party AFE approval prior to work commencing at the site. In general, project funding is not forthcoming until NMOCD approves the work plan. Therefore, your timely review of this submission is greatly appreciated.

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 one mile northwest of Monument, New Mexico as shown on the Site Location Map. Groundwater at the site will likely be encountered at a depth of 23 feet below ground surface (bgs). The junction box was eliminated and initial delineation was conducted from November 17th, 2008 through January 2nd, 2009. Initial delineation was completed with the drilling of a soil boring on November 3rd, 2009.

A backhoe was used to excavate soils from an excavation measuring 30 feet by 30 feet by 12 feet deep around the former junction box. Soil samples were collected at regular intervals and analyzed in the field for chlorides using field-adapted Standard Method 4500-Cl⁻B and screened in the field using a photoionization detector (PID).

A five-point wall composite sample was collected from each of the four walls and combined to make a representative four-wall composite sample, and a five-point composite sample was collected from the bottom of the excavation and submitted to Cardinal Laboratories for gasoline range organics (GRO), diesel range organics (DRO) and chloride analysis. DRO was detected at a concentration of 219 milligrams per kilogram (mg/kg) in the four-wall composite sample and 324 mg/kg in the five-point bottom composite sample. Chlorides were detected at a concentration of 272 mg/kg in the four-wall composite sample and 352 mg/kg in the five-point composite bottom sample. GRO was not detected in either of the samples.

Based on the results of the soil sampling analytical results, elevated hydrocarbon concentrations are present at the subject site.

Excavated soils were blended on site with clean imported back soil and backfilled into the excavation to ground surface. The area was contoured to the surrounding landscape.

A sample of the blended backfill material was submitted to Cardinal Laboratories for GRO, DRO and chloride analysis. DRO was detected at a concentration of 474 mg/kg. Chlorides were detected at a concentration of 144 mg/kg. GRO was not detected.

ROC disclosed potential groundwater impact at the site to New Mexico Oil Conservation Division (NMOCD) via e-mail on May 7th, 2009. A disclosure report was submitted to NMOCD in the 2009 junction box closures and disclosures (Appendix A).

To further investigate the depth of hydrocarbon impact at the site, a soil boring was advanced 13 feet south of the former junction box location. Soil samples were collected every three feet and analyzed in the field for chlorides using field-adapted Standard Method 4500-Cl⁻B and screened in the field using a photoionization detector (PID). Two samples were submitted to Cardinal Laboratories for laboratory analysis. The 15 foot sample was submitted for GRO, DRO and chloride analysis. Chlorides were detected at a concentration of 400 mg/kg. GRO and DRO were not detected. The 19-21 foot sample was submitted for GRO, DRO, benzene, toluene, ethylbenzene, xylenes and chloride analysis. GRO was detected at a concentration of 139 mg/kg and DRO was detected at a concentration of 1,180 mg/kg. Chlorides were detected at a concentration of 352 mg/kg. Benzene was not detected. Toluene, ethylbenzene and xylenes were detected at concentrations of 0.136, 0.310 and 2.52 mg/kg, respectively.

The borehole was plugged with bentonite from surface to total depth.

ROC proposes additional investigative work at the site to determine if there is a potential for hydrocarbon impacts to groundwater.

Proposed Work Elements

1) Conduct vertical and lateral delineation of residual soil chlorides and hydrocarbons from samples taken using a drilling rig, hand auger, and/or backhoe.

    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 mg/kg; 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 reading of $\leq$ 250 mg/kg 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 information obtained.

If the evaluation of the site shows no potential impact to groundwater from residual chlorides and TPH, 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.

Thank you for your consideration concerning this proposed ICP. If you have any questions, do not hesitate to contact Hack Conder or me.

Sincerely,

ARCADIS U.S., Inc.

Sharon E. Hall

Sharon E. Hall
Associate Vice President

Copies:
Hack Conder, ROC

Attachments:

Site Location Map
Appendix A- Junction Box Disclosure Report

Site Location Map

RICE ENVIRONMENTAL RECS CONSULTING & SAFETY, LLC

EME jct. F-29-2

Legals: UL/F sec. 29
T-19-S R-37-E
LEA COUNTY, NM

Case #: 1R427-318

N
W E
S

0 0.125 0.25 0.5
Miles

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

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. F-29-2 extra box	F	29	19S	37E	Lea	eliminated		

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

Depth to Groundwater 23 feet NMOCD SITE ASSESSMENT RANKING SCORE: *40

Date Startec 11/17/2008 Date Completed 11/3/2009 OCD Witness no

Soil Excavatec 400.0 cubic yards Excavation Length 30 Width 30 Depth 12 feet

Soil Disposec 72 cubic yards Offsite Facility C and C Landfarm Location Monument, NM

FINAL ANALYTICAL RESULTS: **Sample Date** 12/31/2008, 1/21/2009, 11/3/2009 **Sample Depth** 12 ft, 15 ft, 19 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	Chloride mg/kg
4-WALL COMP.	PID = 7.3 (field)				<10.0	219	272
BOTTOM COMP.	PID = 11.2 (field)				<10.0	324	352
BLENDED BACKFILL	PID = 7.4 (field)				<10.0	474	144
SB #1 @ 15'	PID = 1.0 (field)				<10.0	<10.0	400
SB #1 @ 19'-21'	<.050	0.136	0.310	2.52	139	1,180	352

CHLORIDE FIELD TESTS

LOCATION	DEPTH	mg/kg
4-wall comp.	n/a	330
bottom comp.	12'	300
blended backfill	n/a	150
background	6"	170
SOIL BORING at 13 ft south of the junction (11/3/2009)	13'	451
	14'	481
	15'	494
	16'	417
	17'	411
	19'	300

General Description of Remedial Action: This junction was eliminated during the pipeline replacement/upgrade program. After the former junction box was removed, an investigation was conducted using a backhoe to collect soil samples at regular intervals producing a 30x30x12-ft-deep excavation. Chloride field tests performed on each sample yielded generally low concentrations. Organic vapors, measured using a PID, also yielded generally low concentrations. The excavated soil was blended on site with clean, imported soil. Representative composite samples were collected from the excavation walls, bottom of the excavation, and the blended backfill. The representative samples were sent to a commercial laboratory for analysis of chloride and TPH which confirmed low concentrations of chloride and GRO, but slightly elevated concentrations of DRO. The blended backfill was returned to the excavation to ground surface and contoured to the surrounding area. NMOCD was notified of potential groundwater impact on 5/7/2009. To further investigate depth of TPH presence, a soil boring was initiated on 11/3/2009 at 13 ft south of the former junction box. Soil samples were collected and field tested for chlorides and organic vapors. The 15 and 19 ft samples were sent to a commercial laboratory for analysis of chloride and TPH, and BTEX for the 19 ft sample. Lab analysis of confirmed elevated concentrations of TPH in the 19 ft sample. The entire borehole was plugged with bentonite to the ground surface.

A windmill is located 933 ft south of the site.

ADDITIONAL EVALUATION IS HIGH PRIORITY

enclosures: photos, boring log, lab results, PID (field) screenings, chloride curve

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

SITE SUPERVISOR Eric Garrison 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 3-5-10

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

EME Jct. F-29-2 extra box

Unit F, Section 29, T19S, R37E

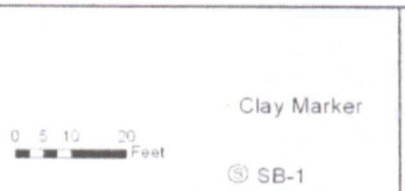
site prior to excavation, facing east 11/17/2008

collecting a soil sample, facing east 11/17/2008

final 30x30x12-ft excavation, facing north 1/2/2009

drilling SB #1, 13 ft south of former jct box 11/3/2009

Logger:	Lara Weinheimer
Driller:	Harrison & Cooper, Inc. Drilling
Consultant:	N/A - ROC junction box upgrade plan
Drilling Method:	Air rotary
Start Date:	11/3/2009
End Date:	11/3/2009



RICE OPERATING COMPANY ROC SINCE 1955

Project Name: EME jct. F-29-2 Ex Box **Well ID:** SB #1

Location: UL/F sec. 29 T19S R37E
Lat: 32°38'4.461"N **County:** Lea
Long: 103°16'31.933" W **State:** NM

Comments: Split spoon sampling from 13 - 17 ft. All other were from air rotary cuttings. Located 13 ft south of the former jct. box.

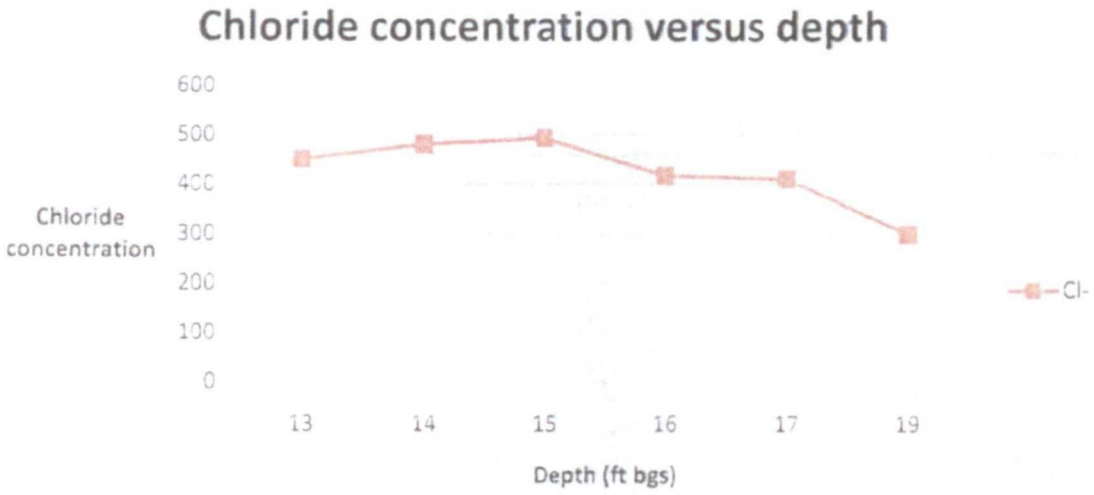
Drafted by: Lara Weinheimer

TD = 21 ft GW = 23 ft

Depth (feet)	chloride field tests	LAB	PID	Description
				10 - 13 ft
				VERY FINE TO FINE SAND; CALICHE & CHERT
13	451		0.7	tan, dry, moderate hydrocarbon odor
				13 - 15 ft
				VERY FINE TO FINE SAND WITH CHERT
14	481		1.3	light brown, dry, slight hydrocarbon odor
15	494	CL- 400	1	
		GRO <1.0		15 - 17 ft
		DRO <15.0		VERY FINE TO FINE SAND WITH CHERT
16	417		0.7	tan, dry, hydrocarbon odor
17	411		205	
				17 - 19 ft
19	300		709	VERY FINE TO FINE SAND
				light brown, slightly moist, strong hydrocarbon odor

Lithology

Well Construction: bentonite seal


Chloride concentration versus depth
600
500
400
300
200
100
0
Chloride concentration
13
14
15
16
17
19
Depth (ft bgs)
Cl-

CARDINAL LABORATORIES

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

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

Receiving Date: 11/03/09
Reporting Date: 11/09/09
Project Owner: NOT GIVEN
Project Name: EME JCT F-29-2 EXTRA BOX
Project Location: EME JCT F-29-2 EXTRA BOX

Sampling Date: 11/03/09
Sample Type: SOIL
Sample Condition: INTACT
Sample Received By: CK
Analyzed By: AB/HM

LAB NUMBER	SAMPLE ID	GRO (C_6-C_{10}) (mg/kg)	DRO (>C_{10}-C_{28}) (mg/kg)	Cl* (mg/kg)
ANALYSIS DATE		11/06/09	11/06/09	11/05/09
H18640-1	SB#1 @ 15'	<10.0	<10.0	400
H18640-2	SB#1 @ 19'-21'	139	1,180	352
Quality Control		590	591	500
True Value QC		500	500	500
% Recovery		118	118	100
Relative Percent Difference		11.3	15.0	2.0

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; Cl: Std. Methods 4500-Cl B
*Analyses performed on 1:4 w:v aqueous extracts. Reported on wet weight.
Not accredited for GRO/DRO and Chloride.

Chemist

11/10/09
Date

H18640 TCL RICE

CARDINAL LABORATORIES

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

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

Receiving Date: 11/03/09
Reporting Date: 11/05/09
Project Owner: NOT GIVEN
Project Name: EME JCT F-29-2 EXTRA BOX
Project Location: EME JCT F-29-2 EXTRA BOX

Sampling Date: 11/03/09
Sample Type: SOIL
Sample Condition: INTACT
Sample Received By: CK
Analyzed By: ZL

LAB NO.	SAMPLE ID	BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYL BENZENE (mg/kg)	TOTAL XYLENES (mg/kg)
ANALYSIS DATE:		11/04/09	11/04/09	11/04/09	11/04/09
H18640-2	SB #1 @ 19'-21'	<0.050	0.136	0.310	2.52
Quality Control		0.043	0.043	0.045	0.145
True Value QC		0.050	0.050	0.050	0.150
% Recovery		86.0	86.0	90.0	96.7
Relative Percent Difference		1.5	4.4	1.0	1.0

METHODS: BTEX - SW-846 8021B

TEXAS NELAP ACCREDITATION T104704398-08-TX FOR BENZENE, TOLUENE, ETHYL BENZENE, AND TOTAL XYLENES. Reported on wet weight.

Lab Director

11/10/09
Date

H18640 B RICE

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

CARDINAL LABORATORIES

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

(505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325)673-7020

Company Name:	Rice Operating Company
Project Manager:	Hack Conder
Address:	122 West Taylor
City: Hobbs	State: NM Zip: 88240
Phone #: 393-9174	Fax #: 397-1471
Project #:	Project Owner:
Project Name:	BME jct 252 Extra Box
Project Location:	BME jct 252 Extra Box
Sampler Name:	Lara Weinheimer

BILL TO

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

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	G=GRAB OR C=COMP	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV: ACID/BASE	ICE / COOL	OTHER:	SAMPLING: DATE	TIME	Chlorides	TPH 8015 M	BTEX	Texas TPH
H18646-1	SB #1 @ 15'	G	1			X					X		11-3-09	1:15	X	X		
2	SB #1 @ 19'-21'	G	1			X					X		11-3-09	2:05	X	X	X	

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

Relinquished By: L. Weinheimer	Date: / Time:	Received By:	Phone Result: ☐ Yes ☑ No Add'l Phone #: Fax Result: ☐ Yes ☑ No Add'l Fax #: REMARKS: email results
Relinquished By:	Date: 11/3/09 Time: 1:15	Received By:	Hconder@riceswd.com; jpurvis@riceswd.com; Lweinheimer@riceswd.com
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Sample Condition Cool: ☐ Yes ☑ No Intact: ☐ Yes ☐ No	CHECKED BY: (Initials)

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

NEED SAMPLES BACK, PLEASE

X [illegible] early process begins

RICE OPERATING COMPANY

122 West Taylor ~ Hobbs, NM 88240
PHONE: (575) 393-9174 FAX: (575) 397-1471

PID METER CALIBRATION & FIELD REPORT FORM

CK	✓	MODEL: PGM 7300	SERIAL NO: 590-000183
MODEL		MODEL: PGM 7300	SERIAL NO: 590-000504
NO.		MODEL: PGM 7600	SERIAL NO: 110-12383
		MODEL: PGM 7600	SERIAL NO: 110-02920

GAS COMPOSITION: ISOBUTYLENE 100PPM / AIR: BALANCE

LOT NO:	424908	EXPIRATION DATE:	7-29-2012
FILL DATE:	7-30-09	METER READING ACCURACY:	100.0

ACCURACY: +/- 2%

SYSTEM	SITE	UNIT	SECTION	TOWNSHIP	RANGE
EMF	jct F-29-2 Extra Box	F	29	19S	37E

SAMPLE ID: SB #1

DEPTH	PID
13'	0.7
14'	1.3
15'	1.0
15'-17'	0.7
17'	205

DEPTH	PID

DEPTH	PID

DEPTH	PID

DEPTH	PID
15'-21'	709

DEPTH	PID

DEPTH	PID

DEPTH	PID

I verify that I have calibrated the above instrument in accordance to the manufacture's operation manual.

Signature _____ Date 11-3-09

SITE MAP

N ↑

CARDINAL LABORATORIES

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

ANALYTICAL RESULTS FOR
RICE OPERATING COMPANY
ATTN: ERIC GARRISON
122 W. TAYLOR
HOBBS, NM 88240

Receiving Date: 12/31/08
Reporting Date: 01/05/09
Project Number: NOT GIVEN
Project Name: EME JCT F-29-2 X BOX
Project Location: EME JCT F-29-2 X BOX

Sampling Date: 12/31/08
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: ML
Analyzed By: CK/HM

LAB NUMBER	SAMPLE ID	GRO (C_6-C_{10}) (mg/kg)	DRO (>C_{10}-C_{28}) (mg/kg)
ANALYSIS DATE		01/02/09	01/02/09
H16602-1	5PT BTTM COMP @ 12'	<10.0	324
H16602-2	4 WALL COMP @ 30'x30'	<10.0	219
Quality Control		454	453
True Value QC		500	500
% Recovery		90.8	90.6
Relative Percent Difference		7.3	11.4

METHODS: TPH GRO & DRO: EPA SW-846 8015 M

Lab Director

01/05/09
Date

H16602 T P CE

CARDINAL LABORATORIES

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

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

Receiving Date: 12/31/08
Reporting Date: 01/02/09
Project Number: NOT GIVEN
Project Name: EME JCT F-29-2 X BOX
Project Location: EME JCT F-29-2 X BOX

Analysis Date: 01/02/09
Sampling Date: 12/31/08
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: ML
Analyzed By: TR

LAB NO.	SAMPLE ID	Cl^- (mg/kg)
H16602-1	5 PT BTTM @ 12'	352
H16602-2	4 WALL COMP @ 30' X 30'	272
Quality Control		500
True Value QC		500
% Recovery		100
Relative Percent Difference		<0.1

METHOD: Standard Methods 4500-Cl B
Note: Analyses performed on 1:4 w:v aqueous extracts

Chemist

Date

H16602 RICE

[illegible] LABORATORIES

[illegible] East [illegible], Hobbs, NM 88240

[illegible] Fax (575) 393-2476

Page ___ of ___

	BILL TO
[illegible]	P.O. #:
[illegible]	Company:
[illegible]	Attn:
State: [illegible]	Address:
Fax #: [illegible]	City:
Project Owner:	State: Zip:
[illegible]	Phone #:
[illegible]	Fax #:

ANALYSIS REQUEST

COPY

Lab I.D.	Sample I.D.	MATRIX	PRESERV	SAMPLING DATE	SAMPLING TIME
H16602-1	[illegible]			[illegible]	[illegible]
-2	[illegible]			[illegible]	[illegible]

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

Relinquished By: Date: 12-31-08 Time: 4:45 Received By: [signature]

Date: Time: Received By:

Sample Condition: Cool [x] Yes Intact [ ] Yes [ ] No [ ] No

CHECKED BY: (Initials) WKB

Phone Result: [ ] No Add'l Phone #:

Fax Result: [ ] No Add'l Fax #:

REMARKS: [illegible]

[illegible] verbal changes. Please fax written changes to 575-393-2476

RICE OPERATING COMPANY

122 West Taylor Hobbs, NM 88240
PHONE (505) 393-9174 FAX (505) 393-1471
PID METER CALIBRATION & FIELD REPORT FORM

MODEL PGM 506 SERIAL NO. 596-008183
MODEL PGM 7600 SERIAL NO. 116013744
MODEL PGM 600 SERIAL NO. 116012383
MODEL PGM 7600 SERIAL NO. 116023920

CALIBRATION: ISOBUTYLENE 100PPM / AIR BALANCE

EXPIRATION DATE 02-02-09
METER READING ACCEPTANCE 100PPM

SYSTEM	JUNCTION	UNIT	SECTION	TOWN SHIP	RANGE
EME	F-9 2" BBV	F	29	19S	37E

SAMPLE ID	PID	SAMPLE ID	PID
SPT BTM COMPS 4'	1.2		
WALL COMPS 32'x50'	2.3		

COPY

I certify that the information for above operations is accordance to the manufacture operation manual.

12-31-08

CARDINAL LABORATORIES

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

ANALYTICAL RESULTS FOR
RICE OPERATING COMPANY
ATTN: ERIC GARRISON
122 W. TAYLOR
HOBBS, NM 88240

Receiving Date: 01/22/09
Reporting Date: 01/27/09
Project Number: NOT GIVEN
Project Name: EME JCT F-29-2 X BOX
Project Location: EME JCT F-29-2 X BOX

Sampling Date: 01/21/09
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: AB
Analyzed By: AB/HM

LAB NUMBER	SAMPLE ID	GRO (C_6-C_{10}) (mg/kg)	DRO (>C_{10}-C_{28}) (mg/kg)	Cl* (mg/kg)
ANALYSIS DATE		01/26/09	01/26/09	01/22/09
H16743-1	BLENDED BACKFILL	<10.0	474	144
Quality Control		450	513	500
True Value QC		500	500	500
% Recovery		90.0	103	100
Relative Percent Difference		4.3	2.4	< 0.1

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; Cl: Std. Methods 4500-Cl B
*Analysis performed on a 1:4 w:v aqueous extract.

Chemist

01/28/09
Date

H16743 TOL RICE

CARDINAL LABORATORIES

[illegible] East Marland, Hobbs, NM 88240

(575) 393-2326 Fax (575) 393-2476

Page ___ of ___

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

State [illegible] Zip [illegible]

Fax #: [illegible]

Project Owner:

ANALYSIS REQUEST

COPY

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE	ICE / COOL	OTHER	DATE	TIME
H16743-1	[illegible]	C	1			1					✓		1-22-09	[illegible]

Date: 01/22/09

Time: 4:40p

Received By: [signature]

Received By:

Sample Condition — Cool: X Yes ☐ No — Intact: X Yes ☐ No

CHECKED BY: (initials) [initials]

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

Fax Result: ☐ Yes ☐ No Add'l Fax #:

REMARKS:

Results [illegible]

[illegible]

[illegible] Please fax written changes to 575-393-2476.

RICE OPERATING COMPANY

122 West Tayor Hobbs, NM 88240
PHONE: (505) 393-9174 FAX: (505) 397-1471

PID METER CALIBRATION & FIELD REPORT FORM

CK		MODEL: PGM 7600	SERIAL NO: 110-013676
MODEL		MODEL: PGM 7600	SERIAL NO: 110-013744
NO		MODEL: PGM 7600	SERIAL NO: 110-12383
		MODEL: PGM 7600	SERIAL NO: 110-012920

GAS COMPOSITION: ISOBUTYLENE 100PPM / AIR: BALANCE

LOT NO: [illegible]	EXPIRATION DATE: 05-22-09
FILL DATE: [illegible]	METER READING ACCURACY: 90%

ACCURACY +/- 2%

SYSTEM	JUNCTION	UNIT	SECTION	TOWN SHIP	RANGE
[illegible]	[illegible]	F	29	19S	37E

SAMPLE ID	PID	SAMPLE ID	PID
[illegible]	7.4		

I certify that I have calibrated the above insrument in accordance to the namufacture operation manual.

SIGNATURE [illegible] DATE: 1-21-09

CHLORIDE CONCENTRATION CURVE

RICE *Operating Company*

EME Jct. F-29-2 extra box

Unit 'F', Sec. 29, T19S, R37E

SOIL BORING samples at 13 ft south of the junction (source)

Depth bgs (ft)	[Cl⁻] ppm
13	451
14	481
15	494
16	417
17	411
19	300

Groundwater = 23 ft