1R - 427-318

REPORTS

DATE:

8-28-13

ARCADIS
Infrastructure, environment, buildings

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2013 AUG 30 P 2:32

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 4330

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:

Corrective Action Plan (CAP) Report and Termination Request
EME Jct. F-29-2
Unit F, SEC. 29, T19S, R37E, Monument, Lea County, New Mexico
NMOCD CASE # 1R427-318

Date:
August 28, 2013

Contact:
Jeffrey Kindley

Phone:
432.687.5400

Email:
Jeffrey.Kindley@arcadis-us.com

Our ref:
MT001104.0001

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

On behalf of ROC, ARCADIS respectfully submits this Corrective Action Plan (CAP) Report and Termination Request for the above-referenced site.

SITE HISTORY AND BACKGROUND

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.

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.

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 (SB-1). Soil samples were collected every foot 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.

A disclosure report was submitted to NMOCD in the 2009 junction box closures and disclosures. ROC submitted an ICP to NMOCD on May 30, 2012 and was approved by NMOCD on June 7, 2012.

ICP INVESTIGATION RESULTS

Seven soil borings (SB-2 through SB-8) were drilled at the site. Soil boring (SB-2) was advanced at the former junction box location and the other six soil borings were advanced 20 feet S/SW (SB-3), 25 feet E/SE (SB-4), 28 feet N/NE (SB-5), 23 feet W/NW (SB-6), 32 feet SE (SB-7) and 30 feet NW (SB-8) of the former junction box location.

Five soil borings (SB-2 through SB-6) were drilled July 11 and 12, 2012, and two soil borings (SB-7 and SB-8) were drilled on August 9, 2012. The soil borings were drilled to depths of 6 to 21 feet bgs. Soil samples were collected every three feet and analyzed in the field for chlorides using field-adapted Method 4500-Cl-B and screened in the field using a PID. Two samples from each boring were submitted to Cardinal Laboratories and analyzed for chlorides, GRO and DRO.

SB-2 laboratory analysis resulted in a decrease in chloride concentration from 160 mg/kg at 15 feet bgs to 144 mg/kg at 21 feet bgs. Chloride concentrations in SB-3 were low throughout, all below 128 mg/kg. Chloride concentrations in SB-4 decreased from 528 mg/kg at 9 feet bgs to 192 mg/kg at 15 feet bgs. Chloride concentrations in SB-5 and SB-6 were also low, all below 80 mg/kg. Chloride concentrations in SB-7 decreased from 336 mg/kg at 3 feet bgs to 304 mg/kg at 9 feet bgs. Chloride concentrations in SB-8 remained the same with 304 mg/kg at 6 and 9 feet bgs.

GRO was non-detect throughout all borings. SB-2 laboratory analysis resulted in a DRO concentration of 333 mg/kg at 15 feet bgs and 367 mg/kg at 21 feet bgs. DRO concentration in SB-3 decreased from 60.8 mg/kg at surface to <50 mg/kg at 6 feet bgs. DRO concentrations in SB-4 were 16.4 mg/kg at 9 feet bgs and 92.5 mg/kg at 15 feet bgs. DRO concentration in SB-5 decreased from 16.9 mg/kg at surface to <10 mg/kg at 6 feet bgs. DRO concentration in SB-6 decreased from 701 mg/kg at surface to 446 mg/kg at 6 feet bgs. DRO concentration in SB-7 decreased from 11.6 mg/kg at 3 feet bgs to <10 mg/kg at 9 feet bgs. DRO concentration in SB-8 decreased from 398 mg/kg at 6 feet bgs to 215 mg/kg at 9 feet bgs.

In addition to chloride, GRO and DRO, the sample at SB-2 (15 feet bgs) was submitted for benzene, toluene, ethylbenzene and xylenes (BTEX). BTEX was not detected in the sample (see attached figure).

CORRECTIVE ACTION PLAN ACTIVITIES

As proposed in the CAP dated January 31, 2013, which was approved by the NMOCD on March 6, 2013, the site was excavated to dimensions of approximately 52' x 26' x 5 feet deep. The spoil pile (a total of 252 cubic yards) was transported to Sundance Services for disposal. The bottom of the excavation was padded with six inches of blow sand, and a 20 mil, reinforced polyethylene liner was installed at a depth of 4.5 ft bgs. The liner was then padded with an additional 6 inches of blow sand. Upon completion of the liner installation, the excavation was backfilled with 1.5 feet of excavated soil. A composite sample of the excavated soil was analyzed by a commercial laboratory (8 point backfill composite: chloride 144 mg/kg, PID 10.4 ppm). Approximately 228 cubic yards of soil was imported and used to backfill the excavation to ground surface and to contour the site to the surrounding area. A composite sample of the imported soil was analyzed by a commercial laboratory (imported topsoil: chloride <16 mg/kg, PID 5.6 ppm). The site was then seeded with 15 pounds of blue grama, 15 pounds of black grama, 20 pounds of Sudan seed, 20 bags of BioNhance, 2 bags of potting soil, and 1 bag of manure. Vegetation above the backfilled site is recovering, which can be seen in the attached photograph. Photographs of the CAP activities, laboratory data, PID sheet, and revegetation form are attached.

ROC acknowledges they have met the requirements of 19.15.29 NMAC, and respectfully requests termination of the regulatory file.

If you have any questions, do not hesitate to contact myself or Hack Conder.

Sincerely,

ARCADIS U.S., Inc.

Jeffrey W. Kindley
Senior Project Manager/Geologist

Copies:
Hack Conder, ROC

Attachments:
Site Location Map
CAP Activities Photodocumentation
Laboratory Data
PID Sheet
Revegetation Form

Site Location Map

RICE ENVIRONMENTAL CONSULTING & SAFETY, LLC
RECS

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

EME Jct. F-29-2 (1R427-318)
Unit F, Section 29, T19S, R37E

Site prior, facing south 2/7/2013

Excavating, facing north 6/3/2013

Exporting excavated soil, facing southeast 6/5/2013

Site excavated to a depth of 5 ft bgs, facing northeast 6/10/2013

The bottom of the excavation padded with 6 inches of blow sand, facing southeast 6/10/2013

20-mil reinforced liner installed, facing southwest 6/11/2013

EME Jct. F-29-2 (1R427-318)
Unit F, Section 29, T19S, R37E

Padding liner with blowsand, facing east 6/11/2013

Backfilling, Facing south 6/12/2013

Contouring the site with blow sand, facing south 6/13/2013

Spreading amendments, facing north 6/26/2013

Spreading seed, facing north 6/26/2013

Site complete, facing east 8/6/2013

CARDINAL Laboratories

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

June 11, 2013

Bruce Baker

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: EME JCT F-29-2

Enclosed are the results of analyses for samples received by the laboratory on 06/10/13 12:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Rice Operating Company
Bruce Baker
112 W. Taylor
Hobbs NM, 88240
Fax To: (575) 397-1471

Received:	06/10/2013	Sampling Date:	06/10/2013
Reported:	06/11/2013	Sampling Type:	Soil
Project Name:	EME JCT F-29-2	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: 8 PT. BACKFILL COMP (H301328-01)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**144**	16.0	06/11/2013	ND	400	100	400	3.92	

Sample ID: IMPORTED SOIL (H301328-02)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/11/2013	ND	400	100	400	3.92	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

Rush

CARDINAL LABORATORIES

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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	BILL TO	
Project Manager:	Bruce Baker	P.O. #:	
Address:		Company:	
City:	State: Zip:	Attn:	
Phone #:	Fax #:	Address:	
Project #:	Project Owner:	City:	
Project Name:		State: Zip:	
Project Location:	EME JCT F-29-2	Phone #:	
Sampler Name:	Rod Williams	Fax #:	

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST										
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	Chlorides	TPH 8015 M	BTEX	Texas TPH	Complete Cations/Anions	TDS					
H30139																								
1	Bpt. Back Fill comp.	C	1			✓					✓		6/10/13	11:15	✓										
2	Impacted soil	C	1			✓					✓		6/10/13	11:20	✓										

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:	Date: 6/10/13	Received By:	Phone Result: ☐ Yes ☑ No Add'l Phone #:
	Time: 12:00	Jodi Henson	Fax Result: ☐ Yes ☑ No Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS: email results Zconder@rice-ecs.com; Bbaker@rice-ecs.com; hconder@rice-ecs.com; Lweinheimer@rice-ecs.com; JKAMPLAIN@RICE-ECS.COM
	Time:		
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Sample Condition Cool: ☐ Yes ☐ No Intact: ☑ Yes ☐ No	CHECKED BY: (Initials)

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

#54

RICE ENVIRONMENTAL CONSULTING & SAFETY

122 West Taylor Hobbs, NM 88240
PHONE: (575) 393-9174 FAX: (575) 397-1471
PID METER CALIBRATION & FIELD REPORT FORM

CK. MODEL NO.		
		MODEL: PGM 7300 SERIAL NO: 590-000508
		MODEL: PGM 7300 SERIAL NO: 590-000504
		MODEL: PGM 7320 SERIAL NO: 592-903318
	x	MODEL: PGM 7300 SERIAL NO: 590-000183

GAS COMPOSITION: ISOBUTYLENE 100PPM / AIR: BALANCE

LOT NO : HAL-000-248-1	EXPIRATION DATE:7-1-15
METER READING ACCURACY: 99.9 ppm	

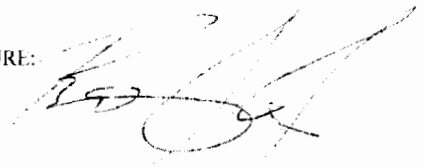
ACCURACY : +/- 2%

COMPANY
RICE OPERATING CO

SYSTEM	JUNCTION	UNIT	SECTION	TOWN SHIP	RANGE
EME	jct. F-29-2	F	29	T-19-S	R-37-E

SAMPLE ID	PID	SAMPLE ID	PID
8 point backfill composite	10.4	IMPORTED TOP SOIL	5.6

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

SIGNATURE: 

DATE: 6-10-13

PO Box 5630
Hobbs, NM 88241
Phone: (575) 393-4411
Fax: (575) 393-0293

REVEGETATION FORM

1. General Information

Site name: EME F-29-2						
U/L	Section	Township	Range	County	Latitude	Longitude
F	29	T-19-S	R-37-E	Lea	N32*38.087	W103*16.527
Contact Name: Hack Conder						
Email: hconder@rice-ecs.com						
Site size: 70 x 75	square feet: 6,000	Map detail of site attached ☒				
Additional information:						

2. Soils **Do not rip caliche subsoils; caliche rocks brought to the surface by ripping shall be removed.*

Salvaged from site ☒	Bioremediated ☐	Imported ☒	Blended ☐	Depth (in):
Texture: Sandy	Describe soil & subsoil: Top Soil and Caliche			
Soil prep methods:	Rip ☐ Depth(in):	Disc ☒ Depth (in): 3"	Rollerpack ☐	
Date completed: 6/14/2013				

3. Bioremediation

Fertilizer ☒	Hay ☐	Other ☒ 20 bags of BioNhance, 2 bags of Potting Soil, 1 bag of Manure.
Type:		
Lbs/acre:		

4. Seeding **Attach seed bag tags to this form. Seed bag tags shall contain the site name and S-T-R.*

Custom seed mix ☒	Prescribed mix ☐	Seed mix name: 20 lbs Sudan Grass. 15 lbs Blue Grama. 15lbs Black Grama	Seeding date: 6/26/2013
Broadcast ☒ Method: Mechanical Seeder			
Soil conditions during seeding: Dry ☒ Damp ☐ Wet ☐			
Photos attached ☒ Number of photos:	Observations: The Seed Was Tilled into the Soil		

5. Certification I hereby certify that the information in this form and attachments is true and complete to the best of my knowledge and belief.

Name: Eduardo Garcia	Title: Environmental Tech	Date:6/26/2013
Signature:		