1R - 427-172

REPORTS

DATE:

11-4-08

ARCADIS
Infrastructure, buildings, environment, communications

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

Mr. Edward J. Hansen
New Mexico Oil Conservation Division
1220 So. Saint Francis Drive
Santa Fe, New Mexico 87505

Certified Mail Receipt No. 7002 2410 0001 5812 9961

Subject:
Additional Site Investigation Results
NMOCD Case # 1R427-172
Eunice Monument Eumont (EME) SWD Gaither Boot
T19S, R36E, Section 34, Unit I, Eunice, Lea County, New Mexico

Date:
4 November 2008

Contact:
Sharon Hall

Phone:
432 687-5400

Email:
shall@arcadis-us.com

Dear Mr. Hansen,

As requested in your September 4, 2008 email approval of the Additional Site Investigation Work Plan dated August 20, 2008 I am respectfully submitting the additional investigation results on behalf of Rice Operating Company (ROC).

An upgradient monitor well was drilled on October 6, 2008 approximately 30 feet northwest of the former junction box location. The purpose of drilling this well was to identify if upgradient chloride impacts are present. Elevated chloride concentrations have been reported in this area since the 1950's.

Groundwater samples were collected from the upgradient well (MW-2) and the well located at the former junction box location (MW-1) on October 20, 2008. Analytical results are attached. The water quality of upgradient well and the site well are similar. Chloride concentrations are 3,500 milligrams per liter (mg/L) in groundwater samples collected from MW-1 and 2,000 mg/L in groundwater samples collected from MW-2. Total Dissolved Solids are 6,890 mg/L in groundwater samples collected from MW-1 and 4,440 mg/L in groundwater samples collected from MW-2.

As approved by NMOCD, if the background quality of the upgradient monitor well is similar to the downgradient well analytical results, a chloride mass removal work plan will be submitted to NMOCD. As this is the case, ROC will submit a work plan that includes an estimation of chloride mass that may have impacted this site and a plan for the removal of the estimated chloride mass. The method of treatment or disposal will be included in the work plan.

ROC is the service provider (agent) for the EME Salt Water Disposal System and has no ownership of any portion of the pipelines, wells or facilities. The EME System is owned by a consortium of oil producers, System Partners, who provide all operating capital on a percentage ownership/usage basis. Environmental remediation projects of this magnitude require System Partner AFE approval and work begins as funds are received.

If you have any questions or concerns regarding this please do not hesitate to contact Hack Conder or me.

Best Regards,

ARCADIS U.S, Inc.

Sharon E. Hall

Sharon E. Hall
Associate Vice President

Copies: Hack Conder- Rice Operating Company

CARDINAL LABORATORIES

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

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

Receiving Date: 10/21/08
Reporting Date: 10/24/08
Project Number: NOT GIVEN
Project Name: EME GAITHER BOOT
Project Location: T19S-R36E-SEC34 I ~ LEA CO., NM

Sampling Date: 10/20/08
Sample Type: WATER
Sample Condition: COOL & INTACT
Sample Received By: ML
Analyzed By: TR

LAB NUMBE SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (uS/cm)	T-Alkalinity ($mgCaCO_3/L$)
ANALYSIS DATE:	10/23/08	10/23/08	10/23/08	10/23/08	10/22/08	10/22/08
H16150-1 MONITOR WELL #1	1,620	521	136	15.8	9,500	164
H16150-2 MONITOR WELL #2	629	465	156	13.5	5,990	156
Quality Control	NR	48.1	48.6	2.92	1,414	NR
True Value QC	NR	50.0	50.0	3.00	1,413	NR
% Recovery	NR	96.2	97.2	97.3	100	NR
Relative Percent Difference	NR	<0.1	4.8	<0.1	0.1	NR
METHODS:		SM3500-Ca-D	3500-Mg E	8049	120.1	310.1

	Cl (mg/L)	SO_4 (mg/L)	CO_3 (mg/L)	HCO_3 (mg/L)	pH (s.u.)	TDS (mg/L)
ANALYSIS DATE:	10/23/08	10/23/08	10/22/08	10/22/08	10/22/08	10/22/08
H16150-1 MONITOR WELL #1	3,500	293	0	200	7.01	6,890
H16150-2 MONITOR WELL #2	2,000	207	0	190	7.12	4,440
Quality Control	500	43.3	NR	988	7.04	NR
True Value QC	500	40.0	NR	1000	7.00	NR
% Recovery	100	108	NR	98.8	101	NR
Relative Percent Difference	2.0	2.5	NR	<0.1	0.3	NR
METHODS:	SM4500-Cl-B	375.4	310.1	310.1	150.1	160.1

Chemist

10-27-08
Date

H16150 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: 10/21/08
Reporting Date: 10/24/08
Project Number: NOT GIVEN
Project Name: EME GAITHER BOOT
Project Location: T19S-R36E-SEC34 I ~ LEA CO., NM

Sampling Date: 10/20/08
Sample Type: WATER
Sample Condition: COOL & INTACT
Sample Received By: ML
Analyzed By: ZL

LAB NUMBER	SAMPLE ID	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	TOTAL XYLENES (mg/L)
ANALYSIS DATE		10/23/08	10/23/08	10/23/08	10/23/08
H16150-1	MONITOR WELL #1	<0.001	<0.001	<0.001	<0.003
H16150-2	MONITOR WELL #2	<0.001	<0.001	<0.001	<0.003
Quality Control		0.052	0.050	0.050	0.159
True Value QC		0.050	0.050	0.050	0.150
% Recovery		104	100	100	106
Relative Percent Difference		9.5	10.3	8.2	6.5

METHOD: EPA SW-846 8021B

TEXAS NELAP CERTIFICATION T104704398-08-TX FOR BENZENE, TOLUENE, ETHYL BENZENE, AND TOTAL XYLENES.

Chemist

10/27/08
Date

H16150WB RICE

101 East Marland - Hobbs, New Mexico 88240
Tel (575) 393-2326
Fax (575) 393-2476

Cardinal Laboratories, Inc.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # _____

Company Name: RICE Operating Company	BILL TO Company: RICE Operating Company PO#
Project Manager: Hack Conder	Address: (Street, City, Zip) 122 W Taylor Street ~ Hobbs, New Mexico 88240
Address: (Street, City, Zip) 122 W Taylor Street ~ Hobbs, New Mexico 88240	Phone#: (575) 393-9174 Fax#: (575)397-1471
Phone #: (575) 393-9174	Fax #: (575)397-1471
Project #:	Project Name: EME Gaither Boot
Project Location: T19S-R36E-Sec34 I ~ Lea County - New Mexico	Sampler Signature: Rozanne Johnson (575)631-9310 rozanne@valornet.com

LAB # (LAB USE ONLY)	FIELD CODE	(G)rab or (C)omp	# CONTAINERS	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL (2 40ml VOA)	HNO_3	$NaHSO_4$	H_2SO_4	ICE (1-1Liter HDPE)	NONE	SAMPLING: DATE (2008)	TIME
H16150-1	Monitor Well #1	G	3	X				2				1		10-20	10:15
-2	Monitor Well #2	G	3	X				2				1		10-20	11:30

ANALYSIS REQUEST
(Circle or Specify Method No.)

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

Relinquished by: Rozanne Johnson	Date: 10/21/2008	Time: 9:35	Received by: [signature]
Relinquished by:	Date:	Time:	Received By: (Laboratory Staff)

Date: 10/21/08 Time: 9:25a

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

REMARKS:

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

Delivered By: (Circle One)	Sample Condition	CHECKED BY:
Sampler - UPS - Bus - Other:	Cool: Yes ☑ No ☐ Intact: Yes ☑ No ☐	(Initials) MCB