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## STAGE 1 & 2 REPORTS

DATE: - 10 - 10



Sent Certified Mail Return Receipt No. 7002 2410 0001 5813 3708

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

## Subject:

REMEDIATION TERMINATION REQUEST Jct. A-20, EME SWD SYSTEM UNIT 'A', SEC. 20, T20S, R37E NMOCD CASE # AP-43 (formerly 1R0427-89)

Mr. Hansen:

On behalf of Rice Operating Company (ROC), ARCADIS U.S., Inc. (ARCADIS) respectfully submits this Termination Request for the above-referenced site.

NMOCD approved ROC's Stage 2 Abatement Plan on May 12, 2009. The plan called for excavation of soils, placement of a clay liner and revegetation of the site. An excavation (and liner placement) summary report was included in the 2009 Monitor Well Report/Sampling Summary and Excavation Summary, submitted to NMOCD on April 12, 2010. The site has been revegetated, and site photos are attached.

The Stage 2 Abatement Plan included an estimation of the chloride mass that has contaminated the groundwater at the former junction box location and a plan for the removal of that chloride mass. The approved chloride mass estimation and plan for removal is as follows:

ROC proposed, and NMOCD approved, the installation of a groundwater recovery system at the former A-20 junction box location to recover an estimated 2,021.82 kilograms (kg) of chloride mass. A solar-driven pump was placed in well RW-1, a 4-inch recovery well. The pump generally operated 8-10 hours per day and the groundwater recovered from the well was pumped into a tank.

ARCADIS U.S. 1004 North Big Spring Street Suite 300 Midland Texas 79701 Tel 432 687 5400 Fax 432 687 5401 www.arcadis-us.com

Environmental

RECEIVED OCD

2010 AUG 13 A 11: 17

Date: August 10, 2010

Contact: Sharon E. Hall

Phone: 432 687-5400

Email: sharon.hall@arcadis-us.com

Our ref: MT000857.0001

## Ed Hansen August 10, 2010

As of July 9, 2010, a total of 171,402 gallons of groundwater has been recovered from the recovery well, RW-1. This equates to a total recovered chloride mass of 2,238.45 kilograms. The following graph depicts the cumulative chloride mass removed at the site since recovery began in April 2010. The chloride mass removal estimate is based on a chloride concentration of 3,450 milligrams per liter (see attached laboratory report.)



Monitoring and Recovery Wells

Upon discontinuation of the groundwater recovery system, the system will be dismantled and monitoring wells MW-1, MW-2, MW-3, MW-4 and recovery well RW-1 will be plugged using a cement grout with 1 to 3% bentonite. Up-gradient MW-5 will continue to be periodically sampled to monitor regional groundwater impacts.

The Stage 2 Abatement Plan proposed continued monitoring of MW-1 until BTEX concentrations were below New Mexico Water Quality Commission (WQCC) standards for four quarters. Although benzene concentrations are above the WQCC standard of 0.01 milligrams per liter (mg/L), concentrations remain low. Since November of 2005, benzene concentrations have ranged from <0.001 to 0.068 mg/L. Benzene is not detected in any of the other monitor wells at the site. Groundwater analytical results for MW-1 are summarized in the attached table. Based on the fact that groundwater in the area has been reported since as early as 1952 as regionally impacted with chlorides and unusable, and that no water wells were identified in Section 20, Township 20S, Section 37E, we request approval to plug MW-1.

## Ed Hansen August 10, 2010

ROC has met all remediation requirements in accordance with 19.15.30 NMAC, and respectfully requests termination of the regulatory file for this site.

ROC is the service provider (agent) for the EME Salt Water Disposal System and has no ownership of any portion of pipeline, well or facility. The EME SWD System is owned by a consortium of oil producers, System Parties, who provide all operating capital on a percentage ownership/usage basis.

Thank you for your consideration concerning this request for termination at this site. If you have any questions please contact Hack Conder at (575) 393-9174.

Sincerely,

ARCADIS

Shaw E. Hall

Sharon E. Hall Associate Vice President

Copies: Hack Conder, ROC

Attachments: Site Photographs Laboratory Report MW-1 Analytical Results Table EME Jct. A-20 (AP-43) Unit A, Section 20, T20S, R37E



vegetation, facing south toward the groundwater recovery system, MW-3, and RW-1



vegetation, facing west toward MW-1

	County to Matan	Total Douth	141-11 11-11-11-			ī				741-1 D	Total V. Janaa	0.1621.0
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	(reet)	(reet)	(gallons)	(gallons)		(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
-	24.70	38.40	2.2	6.7	3/5/2002	2279	5044	<0.002	0.003	0.006	0.014	1087
Ł	25.62	38.22	2	9	5/13/2002	2100	4840	XXX	XX	XXX	XXX	793 -
1	26.00	38.25	1.96	9	8/22/2002	2130	4890	XXX	XXX	XXX	XXX	822
1	24.97	38.25	2.125	6.5	11/12/2002	2130	5070	XXX	XXX	XXX	XXX	780
4	26.20	38.00	0.28	0.8	3/14/2003	1120	5020	XXX	XXX	XXX	XXX	673
1	23.20	26.00	0.448	1.3	6/5/2003	2130	4500	XXX	XXX	XXX	XXX	875
1	23.42	26.00	0.4	1.2	9/3/2003	2130	5240	XXX	XXX	XXX	XXX	679
۲-	23.20	26.00	0.448	1.3	12/10/2003	2390	4870	XXX	XXX	XXX	XXX	731
-	25.64	26.50	0.86	2.5	2/26/2004	2300	4900	XXX	XXX	XXX	XXX	588
4	23.02	26.00	0.448	1.3	5/27/2004	1910	4480	XXX	XXX	XXX	XXX	588
1	XXX	XXX	XXX	XXX	9/16/2004	2360	5340	XXX	XXX	XXX	XXX	273
-	24.53	38.36	2.21	6.6	11/24/2004	1930	5110	XXX	XXX	XXX	XXX	422
1	22.39	XXX	XXX	XXX	3/22/2005	2330	4290	XXX	XXX	XXX	XXX	125
1	23.40	32.00	XXX	4.32	6/28/2005	2430	5060	XXX	XXX	XXX	XXX ·	481
-	23.45	32.00	XXX	4.18	9/6/2005	2460	5100	XXX	XXX	XXX	XXX	486
1	23.43	38.36	2.4	8	11/2/2005	2330	5310	0.00643	0.0125	0.0635	0.1558	484
-	23.22	38.36	2.4	8	2/1/2006	2750	5100	0.0139	0.0435	0.145	0.3009	434
1	23.20	38.36	2.4	8	4/26/2006	2700	5430	j[0.00433]	0.00849	0.0694	0.1248	482
1	23.84	38.36	2.3	8	7/24/2006	2180	4010	0.0341	<0.0200	0.0823	0.0866	96.8
1	23.60	38.36	2.4	8	10/17/2006	1830	4050	0.0409	0.0187	0.124	0.1489	44.7
•	23.82	38.26	2.3	8	1/30/2007	2960	4870	<0.001	<0.001	<0.001	<0.001	504
4	23.67	38.26	2.3	8	4/12/2007	2870	6360	0.0288	0.0472	0.177	0.194	493
	24.06	38.26	2.3	8	7/16/2007	2090	4220	<0.001	<0.001	<0.001	<0.002	70.4
	24.48	38.26	2.2	8	9/4/2007	1999	4612	<0.002	0.031	0.24	0.246	115
-	24.14	38.26	2.3	8	10/11/2007	2100	4416	0.068	0.012	0.17	0.138	111
-	24.00	38.26	2.3	8	1/16/2008	2320	5501	0.028	<0.02	0.139	0.132	305
-	23.88	38.26	2.3	8	4/11/2008	2440	5560	0.027	0.006	0.102	0.068	457
-	24.41	38.26	· 2.2	8	7/22/2008	3200	6560	<0.002	<0.002	<0.002	<0.006	670
-	24.22	38.26	2.2	8	10/17/2008	3100	6990	0.001	<0.001	0.002	<0.003	744
	23.90	38.28	2.3	8	2/4/2009	6570	3200	0.003	<0.001	0.003	<0.003	691
	23.83	38.28	2.3	. 8	5/8/2009	2400	5120	0.03	0.004	0.05	0.024	201
-	24.76	38.28	2.2	8	8/28/2009	3300	6910	<0.001	<0.001	<0.001	<0.003	631
-	24.77	38.28	2.2	8	10/30/2009	3150	7540	0.056	0.073	0.32	1.69	610
÷	24.46	38.28	2.2	æ	2/16/2010	2500	5230	0.042	0.006	0.055	0.055	248
-	24.20	38.28	2.3	8	5/18/2010	2100	4890	0.012	0.002	0.016	0.014	53.8

mg/L=milligrams per liter XXX- not analayzed ,

ROC EME Jct. A-20



July 13, 2010

Hack Conder Rice Operating Company 112 West Taylor Hobbs, NM 88240

Re: EME A-20

Enclosed are the results of analyses for sample number H20279, received by the laboratory on 07/07/10 at 8:15 am.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021 Method SW-846 8260 Method TX 1005 Benzene, Toluene, Ethyl Benzene, and Total Xylenes Benzene, Toluene, Ethyl Benzene, and Total Xylenes Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accredited though the State of Colorado Department of Public Health and Environment for:

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

Accreditation applies to public drinking water matrices.

Total Number of Pages of Report: 3 (includes Chain of Custody)

Sincerely. Celev D. Keene

Laboratory Director

This report conforms with NELAP requirements.



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

ANALYTICAL RESULTS FOR RICE OPERATING COMPANY ATTN: HACK CONDER 112 WEST TAYLOR HOBBS, NM 88240 FAX TO: (575) 397-1471

Receiving Date: 07/07/10 Reporting Date: 07/07/10 Project Owner: NOT GIVEN Project Name: EME A-20 Project Location: EME A-20 Analysis Date: 07/07/10 Sampling Date: 07/06/10 Sample Type: GROUNDWATER Sample Condition: INTACT Sample Received By: JH Analyzed By: HM

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LAB NO.	SAMPLE ID	(mg/L)
H20279-1	WATER FROM RW-1	3,450
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<ul> <li>Biological restance interference in the second restance interference in the second restance interference in the second restance in the second resta</li></ul>	2. S. A. C. H. C. & Martin, K. M. C. S.	andalitera Provensi and an index of the second s
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True Value Q	C	500
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METHOD: Stan	dard Methods	4500-CI'B

Not accredited for Chloride.

Chemist

H20279 Rice

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 client for analyse: All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within linity (30) days after completion of the applicabl 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 subsidiarier atfiliates 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. Result relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

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Project Manag	er: Hack Conder		P.O. #:		-						
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<b>City:</b> Hobbs		State: NM Zip: 88240	Attn:					uo			
Phone #: 393-	9174	Fax #: 397-1471	Address:					iu			
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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

ARDINAL LABOR

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