

WORKPLANS

Date: 10-1713

Rice Environmental Consulting & Safety

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

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October 17th, 2013

Mr. Edward Hansen New Mexico Energy, Minerals, & Natural Resources Oil Conservation Division, Environmental Bureau

1220 S. St. Francis Drive Santa Fe, New Mexico 87505

> RE: Corrective Action Plan (CAP) Rice Operating Company – BD SWD System BD F-29 (1R426-16) BD F-29-1 (1R426-15) UL/F sec. 29 T21S R37E

Mr. Hansen:

RICE Operating Company (ROC) has retained Rice Environmental Consulting and Safety (RECS) to address potential environmental concerns at the above-referenced sites in the BD Salt Water Disposal (SWD) system. ROC is the service provider (agent) for the BD 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.

Background and Previous Work

The BD F-29 site is located 25 ft south from the BD F-29-1 site. As such, the two sites were delineated together. The two sites are located approximately 1.5 miles northwest of Eunice, New Mexico at UL/F sec. 29 T21S R37E as shown on the Site Location Map and Geographical Location Map (Figure 1 and 2). Soil bore installation at the sites show groundwater to be located at 100 +/- feet.

BD F-29 Backhoe Delineation

In 2003, ROC initiated work on the former BD F-29 junction box. The site was delineated using a backhoe to form a 25 ft x 10 ft x 14 ft deep excavation and soil samples were screened at regular intervals for both hydrocarbons and chlorides. From the excavation, the four-wall composite and the bottom composite were taken to a commercial laboratory for analysis. Laboratory tests of the four-wall composite showed a chloride reading of 1,260 mg/kg, a gasoline range organics (GRO) readings of non-detect and a diesel range organics (DRO) reading of 43.2 mg/kg. The bottom composite showed a chloride laboratory reading of 4,080 mg/kg, a GRO reading of non-detect and a DRO reading of 48.5 mg/kg. BTEX readings for both samples were non-detect. The site

was backfilled, the area was contoured to the surrounding landscape, and an identification plate was placed on the surface of the site to mark its location for future environmental considerations. NMOCD was notified of potential groundwater impact on March 26th, 2003 and a junction box disclosure report was submitted to NMOCD with all the 2003 junction box closures and disclosures.

BD F-29-1 Backhoe Delineation

In 2003, ROC initiated work on the former BD F-29-1 junction. The site was delineated using a backhoe to form a 20 ft x 10 ft x 6 ft deep excavation and soil samples were screened at regular intervals for both hydrocarbons and chlorides. From the excavation, the bottom composite was taken to a commercial laboratory for analysis. Laboratory testing on the bottom composite showed a chloride laboratory reading of 1,060 mg/kg, a GRO reading of non-detect and a DRO reading of 26.6 mg/kg. BTEX readings returned a result of non-detect. The site was backfilled, the area was contoured to the surrounding landscape, and an identification plate was placed on the surface of the site to mark its location for future environmental considerations. NMOCD was notified of potential groundwater impact on March 26th, 2003 and a junction box closure report was submitted to NMOCD with all the 2003 junction box closures and disclosures.

Investigation and Characterization Plan (ICP)

An ICP was submitted for each site on July 2nd, 2013 and approved the same day. A total of 18 soil bores were installed at the two sites (Figure 3). As the bores were advanced, soil samples were taken at regular intervals and field tested for chlorides and hydrocarbons. Representative samples from each bore were taken to a commercial laboratory for analysis (Appendix A). The interior bores (SB 1-9, 11 and 14-16) located close to the former boxes, showed evidence of elevated chlorides throughout each bore. Although the laboratory chloride readings decrease with depth in each bore, the bottom samples at 95 ft bgs are still above 250 mg/kg. The most outer bores (SB 12, 13, 17 and 18) at the two sites showed laboratory chloride readings that decrease to below 250 mg/kg before reaching the capillary fringe. SB-12 returned a laboratory chloride reading of 160 mg/kg at 35 ft bgs. SB-13 returned a laboratory chloride reading of 128 mg/kg at 35 ft bgs and SB-18 returned a laboratory chloride reading of 160 mg/kg at 35 ft bgs and SB-18 returned a laboratory chloride reading of 160 mg/kg at 35 ft bgs and SB-18 returned a laboratory chloride reading of 160 mg/kg at 35 ft bgs. GRO and DRO readings were non-detect in all bores at all depths.

On September 30th, 2013, an ICP Report was submitted for each site with maps showing the locations of each soil bore and its representative data.

Corrective Action Plan

Based on the soil bore installation data, RECS recommends that ROC install a 20-mil reinforced poly liner measuring 247 ft x 106 ft at a depth of approximately 4-5 ft bgs (Figure 3). The liner will extend 5 ft beyond the furthest soil bores, and will provide a barrier that will inhibit the downward migration of chlorides to groundwater. The soils

placed above the liner will have a laboratory chloride reading no greater than 500 mg/kg and a field PID reading below 100 ppm. Excavated soil will be evaluated for use as backfill and any soils requiring disposal will be properly disposed of at a NMOCD approved facility. Upon completion of backfilling, the site will be seeded with a native vegetative mix and soil amendments will be added as necessary. Vegetation provides an infiltration barrier for the site, since plants capture water through their roots thereby reducing the amount of water traveling through the vadose zone to groundwater.

In order to determine what affect the residual chlorides may have had on the groundwater quality below the site, RECS recommends that ROC install a near-source monitor well (MW-1) located just outside the liner. To determine if there is an up-gradient source of contaminates coming onto the site, MW-2 will be installed approximately 130 ft up-gradient of the two sites. The monitor wells will be installed after the liner installation is completed. The monitor wells will be sampled quarterly. Once the monitor wells at the site have been analyzed for chloride and TPH readings, ROC will either submit a groundwater remedy to NMOCD to address groundwater quality at the site or submit a 'remediation termination' request for site closure.

RECS 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.

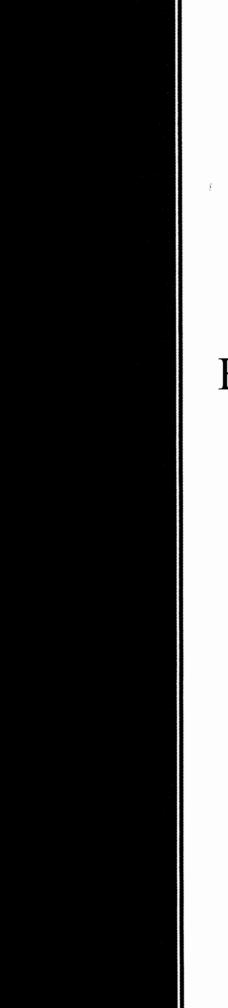
Sincerely,

ACW

Lara Weinheimer Project Scientist RECS (575) 441-0431

Attachments:

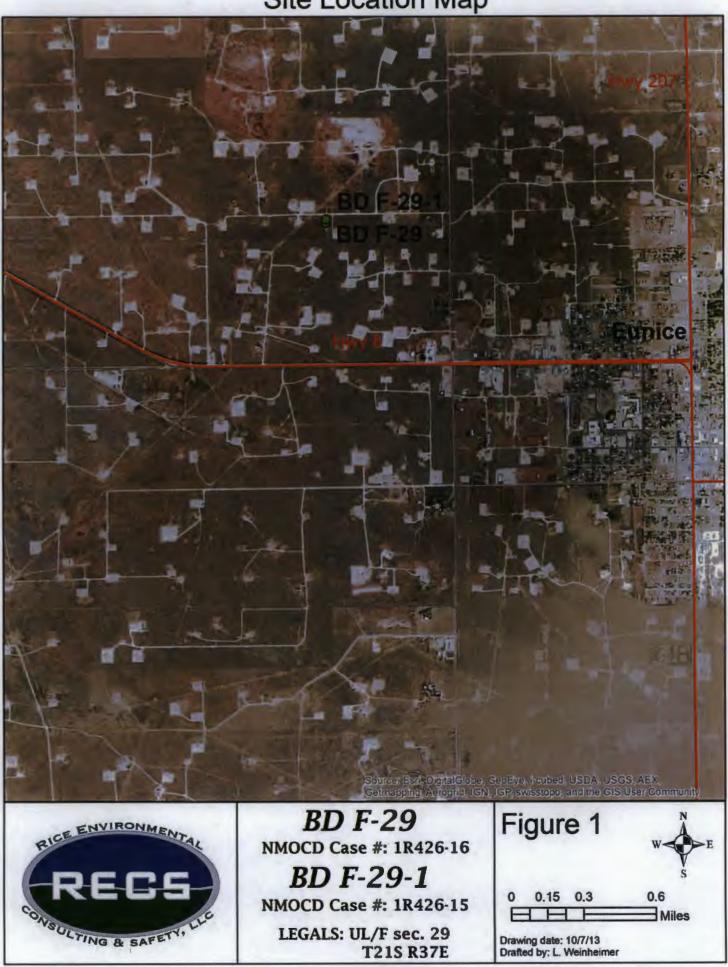
Figure 1 – Site Location Map Figure 2 – Geographical Location Map Figure 3 – Soil Bore Installation, Proposed Liner and Proposed MW Locations Appendix A – Soil Bore Installation Documentation



Figures

RICE Environmental Consulting and Safety (RECS) P.O. Box 2948, Hobbs, NM 88241 Phone 575.393.2967

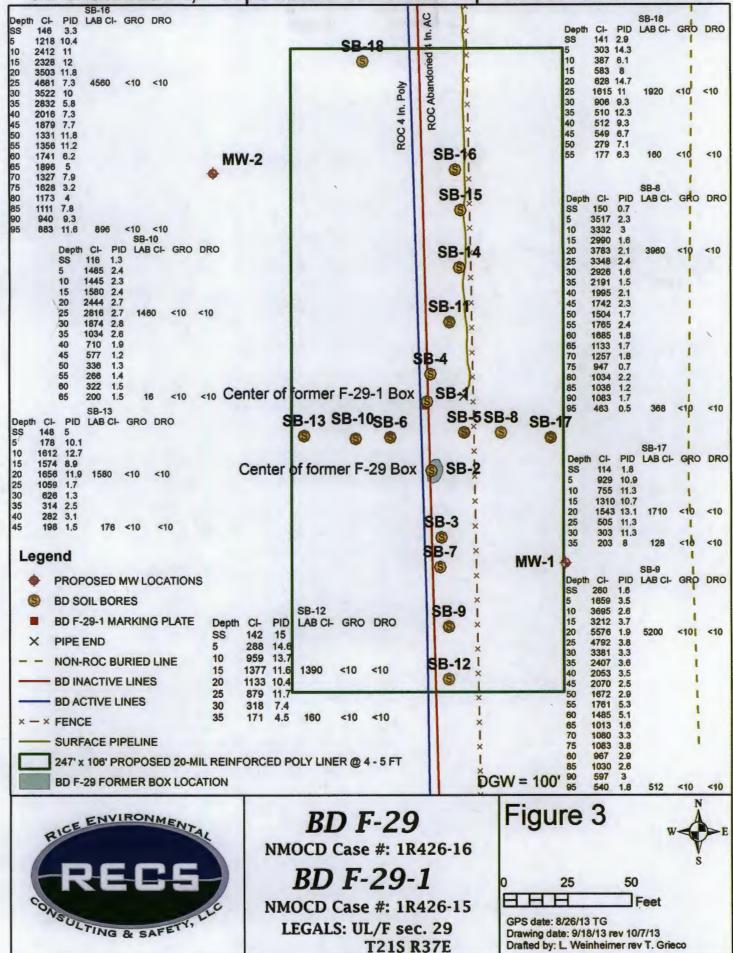
Site Location Map



Geographical Location Map



SB Installation, Proposed Liner and Proposed MW Locations



Appendix A Soil Bore Installation Documentation

RICE Environmental Consulting and Safety (RECS) P.O. Box 2948 Hobbs, NM 88241 Phone 575.393.2967

Logger: Driller:	Harrison & Cooper, Inc.		Center of former F-29-1 Box SB1			RE	CS.	į		
Drilling N	rilling Method: Air Rotary				Center of former F-29 Box	Project Name: Well ID:				
			22/201		ŚBJ		BD F-29 &			SB-1
		22/201	- alien	\$871	Pro	ject Consu	Itant	: RECS	0.0475	
	junct	tion box = 95 ft	k site.	All sa	source of the former F-29-1 mples were from cuttings. : L. Weinheimer GW = 100 ft	Lat	cation: UL/F : 32 °27'2.24 າg: 103 °11'	2"N		County: Lea State: NM
Depth (feet)	Chlori field te		AB	PID	Description		Lithology	-	Well C	Construction
SS					REGOLITH					
5 ft 10 ft	952			20.7	RED SAND					
15 ft	1121			19.5	RED SAND WITH SOME CALICHE					
20 ft	1581			7.2						
25 ft	2159) 3 G	CI- 3120 GRO <10 DRO	14.2	TAN SAND					
30 ft	1662	-	<10	8.4						
35 ft	1496	3		6.5		-				

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
40 ft	1463		34.7			
45 ft	1637		14.7			bentonite
50 ft	1407		57.6	TAN SAND		seal
55 ft	1480		41			
60 ft	1311		88.4			
65 ft	1059		39.8			
70 ft	1269		6.9	TAN SAND WITH SANDSTONE		
75 ft	1175		39.3			
80 ft	1328		4.9			

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
85 ft	1311		8.4	TAN SAND		
90 ft	1500		2.8			
95 ft	471	CI- 416 GRO <10	6.5	TAN SAND		
La constante		DRO <10				

Logger: Driller:	Driller: Harrison & Cooper, In			Center of former F-29-1 Box		RECS				
Drilling M Start Dat End Date	te:		Air Rotary 7/22/2013 7/22/2013		Center of former F-29 Box		Project Name: Well ID: BD F-29 & F-29-1 SB-2			
	ents: Si jun	B-2 is ction t	located	at the s	source of the former F-29 mples were from cuttings. : L. Weinheimer GW = 100 ft	Lo	oject Consulta cation: UL/F s : 32°27'1.981' ng: 103°11'6.	sec. 29	9 T21S R37E County: Lea	
TD = 95 ft Depth (feet) Chloride field tests					Description		Lithology	1	Vell Construction	
SS					REGOLITH					
5 ft					REGOLITH					
10 ft										
15 ft	26			3.1	RED SAND WITH CLAY					
20 ft	168	52	CI-	4.2						
25 ft	297	70	1660 GRO <10 DRO <10	4.4	TAN SAND WITH SANDSTONE					
30 ft	259	96		4.3						
35 ft	195	51		5.5						

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
40 ft	1937		4.9	TAN SAND WITH SANDSTONE		
-0 11			1.0			
45 ft	1801		6.8			bentonite seal
50 ft	1888		3.4	TAN SAND		
55 ft	1800		4.0			
60 ft	1685		1.6			
65 ft	1250		1.4			
70 ft	866		2.6			
75 ft	831		3.2	TAN SAND WITH SANDSTONE		
80 ft	1104		2.0			
85 ft	851		2.0			
90 ft	797		1.8			

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
		Cl-				
95 ft	670	800 GRO <10	2.2	TAN SAND WITH SANDSTONE		
		DRO <10				

Logger: Driller:			ward Ces		Center of former F-29-1 Box		R		Le
Drilling N	Method:		Air Rotar	у	Center of former F-29 Box	Pr	oject Name:	Well ID:	
Start Date	e:		7/22/201	3	583		SB-3		
End Date			7/22/201	3	SB7 1	Pr	BD F-29 & F- oject Consulta		
Comments: SB-3 is located 26 ft s junction box site. All s DRAFTED B					outh of the former F-29 imples were from cuttings. /: L. Weinheimer GW = 100 ft	Lo La	cation: UL/F s t: 32°27'1.728"	ec. 29 T2 'N	
TD = 95 ftDepthChloride field testsLABPID					Description				Construction
SS	18	3		2.5					
			4		RED SAND WITH SOME CALICHE				
5 ft	21	3		3.5					
10 ft	45	6		4.5					
				4.0					
15 ft	51	9		2.2					
20 ft	142	21		3.3					
					TAN SAND				
25 ft	239	94		2.7					
00.0		10	CI-	0.1	TOWN				
30 ft	291	13	1920 GRO <10	3.1					
			DRO <10						
35 ft	230	00		4.3					

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
40 ft	1988		4			
45 ft	2067		4.4			bentonite seal
50 ft	1593		4	TAN SAND		
55 ft	1817		3.2			
60 ft	1758		3.7			
65 ft	1928		2.2			
70 ft	1606		5.5			
75 ft	1354		5	TAN SAND WITH SANDSTONE		
80 ft	1366		0.8			
85 ft	1311		1.3			
90 ft	1363		1.4			

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
95 ft	1004	CI- 1120	1.5	TAN SAND WITH SANDSTONE		
<u>95 II</u>	1004	GRO <10 DRO <10	1.5			

Logger: Driller:			ison & Cooper, Inc.		EBS	ue de				
Drilling M Start Dat End Date	e:		Air Rotai 7/23/201 7/23/201	3	Center of former F-29 Box	Project Name: BD F-29 & F-29-1 Project Consultant: RE			Well ID: SB-4	
Comme	jun	ction b	DOX SITE	. All sa	orth of the former F-29-1 mples were from cuttings. : L. Weinheimer	Location: UL/F sec. 29 T Lat: 32°27'2.35"N			21S R37E County: Lea	
TD = 95 ft Depth Chloride field tests LAB PID				PID	GW = 100 ft Description	Lithology Wel			State: NM	
SS	22	6		2.9	RED SAND WITH CLAY					
5 ft	86	4		3.2						
10 ft	90	0		3.3	TAN SAND					
15 ft	100)3		10.7						
20 ft	170	06		9.2						
25 ft	320	06		22.2	TAN SAND WITH SANDSTONE					
30 ft	338	39	CI- 3440 GRO <10 DRO	8.5						
35 ft	241	19	<10	6.4						

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
40 ft	2097		8.0			
45 ft	1958		3.7			bentonite seal
50 ft	1188		2.1			
55 ft	1864		5.0	TAN SAND WITH SANDSTONE		
60 ft	1854		3.1			
65 ft	1219		4.2			
70 ft	1354		2.6	-		
75 ft	1196		7.7			
80 ft	1239		4.2	RED SAND		
85 ft	1217		6.3			
90 ft	888		4.3			

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
95 ft	752	CI- 800 GRO <10 DRO <10	3.0	RED SAND		

Logger: Driller:		Edward Cesareo Harrison & Cooper, Inc.			Center of former F-29-1 Box SB6		R		ie ie	
Drilling M	Method:	Air Rotary		у	Center of former F-29 Box		oject Name:		Well ID:	
Start Dat	te:		7/23/201	3	SB3	-	BD F-29 & F-		SB-5	
End Date	e:		7/23/2013		SB7 1	Pro	oject Consulta			
Comme	juno	ction b	DOX SITE	. All sa	ortheast of the former F-29 mples were from cuttings. : L. Weinhelmer	Lo	cation: UL/F s t: 32°27'2.124"	ec. 29 T2 N	1S R37E County: Lea	
Depth	Chlo) = 95 ride	ft LAB	PID	GW = 100 ft	Lo	ng: 103°11'6.		State: NM Construction	
(feet)	field t	ests	LAB	PID	Description		Lithology	weit	Construction	
					RED SAND					
SS	14	4		5.0		-				
					RED SAND WITH CLAY					
5 ft	91	1		6.2						
-	-									
10 ft	182	23		3.0	TAN SAND					
15 ft	123	12		4.6						
	120	-				1				
					RED SAND				-	
20 ft	288	36		1.7						
25 ft	285	59		1.2						
					TAN SAND WITH SANDSTONE					
30 ft	282	22		1.0						
			CI-							
35 ft	291	3	2960	1.3						

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
		GRO <10 DRO <10				
40 ft	2249		1.0	TAN SAND WITH SANDSTONE		
45 ft	1877		1.5			bentonite seal
50 ft	1836		3.9			
55 ft	1728		2.2			
60 ft	1841		2.4			
65 ft	1847		4.4			
70 ft	1428		3.4	RED SAND		
75 ft	1384		2.5			
80 ft	1231		2.5			
85 ft	723		2.2			
90 ft	871	CI- 960	2.1			

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
		GRO <10				
		DRO <10				
95 ft	679	679 2.0	2.0	RED SAND		
				1		

Drilling Method: Start Date:		Edward Cesareo Harrison & Cooper, Inc. Air Rotary 7/23/2013			Center of former F-29-1 Box		RECS			
				3	Center of former F-29 Box		bject Name: BD F-29 & F-	29-1	Well ID: SB-6	
End Date Comme	ents: SE junc	3-6 is	DOX SITE	20 ft n All sa	orthwest of the former F-29 mples were from cuttings. ': L. Weinheimer	Lo	cation: UL/F s t: 32°27'2.11"N	ec. 29 T2 1	1S R37E County: Lea	
Depth (feet)	Chlor field to		ft LAB	PID	GW = 100 ft Description	Lo	Lithology Well		State: NM Construction	
		-			RED SAND					
SS	309	9	Cl- 3920	1.5						
			GRO <10 DRO		RED SAND WITH CLAY					
5 ft	624	4	<10	3.1						
10 ft	113	5		3.4						
15 ft	120	15		2.3						
20 ft	164	1		3.1	RED SAND					
25 ft	182	8		2.5						
30 ft	224	3		3.7						
35 ft	208	81	Cl- 1960	2.8						

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
		GRO <10				
		DRO				
		<10				
40 ft	2046		1.3			
						bentonite
45 ft	1830		3.4			seal
-						
50 ft	1805		2.6			
-						
55 ft	1853	-	1.4			
-						
60 ft	1915	-	1.2			
				RED SAND		
65 ft	1717		1.7			
-						
70 ft	1682		1.7			
70 11	1002		1.7			
	1					
75 ft	1616		1.8			
80 ft	1272		2.9			
					1	
85 ft	1290		1.5			
90 ft	1299	-	3.0			

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
95 ft	726	CI- 880 GRO <10	2.4	RED SAND		
		DRO <10				

Logger: Driller:		Edward Cesareo Harrison & Cooper, Inc.			Center of former F-29-1 Box SB1	RECS Source Environment			
Drilling M	e:		Air Rotary 7/23/2013		Center of former F-29 Box	Project Name: BD F-29 & F-	Well ID: 29-1 SB-7		
End Date	ents: SE junc	3-7 is	DOX SITE	37 ft so . All sa	outh of the former F-29 mples were from cuttings. : L. Weinheimer GW = 100 ft	Lat: 32°27'1.622"	ec. 29 T21S R37E 'N County: Lea		
Depth (feet)	Chlor field te	ide	LAB	PID	Description	Long: 103 °11'6.	State: NM Well Construction		
SS	144	4		1.0					
5 ft	816	5		0.8	RED SAND WITH SANDSTONE				
10 ft	836	5	1	1.8					
15 ft	906	3		1.3	RED SAND				
20 ft	627	7		2.0					
25 ft	129	4		1.2					
30 ft	332	9		1.0	TAN SAND				
35 ft	2104	4	Ci- 2720	1.2					

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
		GRO <10 DRO <10				
40 ft	2079		1.3			
45 ft	1847		1.4			
50 ft	1829		0.8	TAN SAND		bentonite seal
55 ft	1658		1.6			
60 ft	1835		1.0			
65 ft	1273		1.7			
70 ft	627		1.6	RED SAND		
75 ft	813		1.5			
80 ft	957		1.0			

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
85 ft	783		1.4			
90 ft	852		1.6	RED SAND		
95 ft	468	CI- 624 GRO <10	0.9			
		DRO <10				

Logger: Driller:	. н	Edward Cesareo Harrison & Cooper, Inc.		Center of former F-29-1 Box		RECS			
Drilling M Start Dat		Air Rot		Center of former F-29 Box	Project Name				
End Date	1	8/19/20			BD F-29 &				
				SSE of the former F-29-1	Project Consu	Iltant: RECS			
	junct	ion box sit	e. All sa	amples were from cuttings. Y: L. Weinheimer GW = 100 ft	Location: UL/F sec. 29 T21S R37E Lat: 32 º27'2.116"N County: Lea Long: 103 °11'6.23"W State: NM				
Depth (feet)	Chlorid field te		PID	Description	Lithology	Well Construction			
				Brown Sand					
SS	150		0.7						
5 ft	3517	,	2.3	Red Sand					
10 ft	3332	2	3						
15 ft	2990)	1.6						
20 ft	3783	Cl- 3960	2.1						
		GRO <10 DRO							
25 ft	3348	<10	2.4	Tan Sand					
30 ft	2926	3	1.6						
35 ft	2191		1.5						

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
40 ft	1995		2.1			
45 ft	1742		2.3			bentonite seal
50 ft	1504		1.7			
55 ft	1765		2.4			
60 ft	1685		1.8			
65 ft	1133		1.7	Tan Sand		
70 ft	1257		1.8			
75 ft	947		0.7			
80 ft	1034		2.2			
85 ft	1036		1.2			
90 ft	1083		1.7			

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
95 ft	463	Cl- 368 0.5		Tan Sand		
		GRO <10				
		DRO <10				

Logger: Driller: Drilling Method: Start Date:		Edward Cesareo Harrison & Cooper, Inc. Air Rotary			Center of former F-29 Box	Project Name: Well ID:		
				у				
		8/19/2013			38.s	BD F-29 & F-29-1 SB-9		
End Date: 8/19/2013						Project Consultant: RECS Location: UL/F sec. 29 T21S R37E		
Comme	junc		OX SITE.	. All sar	outh of the former F-29-1 mples were from cuttings. L. Weinheimer GW = 100 ft	Location: UL/F Lat: 32 27'1.39 Long: 103 11'0	1"N County: Lea	
Depth (feet)	Chlor field te		LAB	PID	Description	Lithology	Well Construction	
		-			Brown Sand			
SS	260)		1.6	Biown Cand			
5 ft	165	9		3.5				
10 ft	369	5		2.6	Red Sand			
15 ft	321	2		3.7				
			CI-					
20 ft	557	6	5200 GRO <10	1.9				
			DRO <10					
25 ft	479	2		3.8	Tan Sand			
30 ft	338	1		3.3				
35 ft	240	7		3.6				

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
40 ft	2053		3.5			
45 ft	2070		2.5			bentonite
50 ft	1672		2.9			
55 ft	1761		5.3			
60 ft	1485		5.1	Tag Cand		
65 ft	1013		1.6	Tan Sand		
70 ft	1080		3.3			
75 ft	1083		3.8			
80 ft	967		2.9			
85 ft	1030		2.6			
90 ft	597		3.0			

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
95 ft	540	CI- 512 GRO <10	1.8	Tan Sand		
		DRO <10				

Drilling Method: Air Rotary Start Date: 8/19/2013 End Date: 8/19/2013 Comments: SB-10 is located 31 ft S junction box site. All sar DRAFTED BY:			on & Coop Air Rotar 8/19/201 8/19/201 s locate Dox site DRAI	per, Inc. y 3 d 31 ft . All sa	Center of former F-29-1 Box Center of former F-29 Box SW of the former F-29-1 amples were from cuttings. Y: L. Weinheimer	Project Name: Well ID: BD F-29 & F-29-1 SB-10 Project Consultant: RECS Location: UL/F sec. 29 T21S R37E Lat: 32°27'2.105"N County: Let				
Depth (feet)	Chlor field t	() () () () () () () () () () () () () (ft LAB	PID	GW = 100 ft Description	Long: 103 °11'6.	882"W State: NM Well Construction			
SS	11	6		1.3	Brown Sand					
5 ft	148	35		2.4	Red Sand					
10 ft	144	15		2.3	neu Sanu					
15 ft	158	80		2.4						
20 ft	244	14		2.7						
25 ft	281	6	CI- 1460 GRO <10 DRO	2.7	Tan Sand					
30 ft	187	74	<10	2.8			bentonite seal			
35 ft	103	34		2.6						

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
40 ft	710		1.9			
45 ft	577		1.2			
50 ft	336		1.3	Tan Sand		
55 ft	266		1.4			
60 ft	322		1.5			
65 ft	200	CI- 16 GRO <10	1.5			
	12.91.2	DRO <10)

Drilling Method:Air RotaryStart Date:8/19/2013End Date:8/19/2013Comments:SB-11 is located 32 ft f		per, Inc. y 3 3 cd 32 ft	Center of former F-29 Box	Project Name: Well ID: BD F-29 & F-29-1 SB-11 Project Consultant: RECS Location: UL/F sec. 29 T21S R37E			
) = 95	DRA		GW = 100 ft	Lat: 32 º27'2.549' Long: 103 º11'6.	••••····
Depth (feet)	Chlor field to		LAB	PID	Description	Lithology	Well Construction
SS	150	0		0.7	Brown Sand		
5 ft	111	0		2.3			
10 ft	112	.7		1.4	Red Sand		
15 ft	317	7		1.2			
20 ft	289	3		2.4			
25 ft	351	9	CI- 4080 GRO <10 DRO	2.2	Tan Sand		
30 ft	317	0	<10	1.9			
35 ft	267	3		1.5			

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
40 ft	2404		2.1			
45 ft	2177		2.3			bentonite
50 ft	1628		1.2			seal
55 ft	1505		2.1			
60 ft	1875		2.3			
65 ft	1704		0.8	Tan Sand		
70 ft	1188		2.5			
75 ft	1187		2.3			
80 ft	1183		2.2			
85 ft	1529		2.6			
90 ft	1341		2.3			

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
95 ft	662	Cl- 640	2.2	Tan Sand	State -	
		GRO <10				
		DRO <10				

Logger: Driller:	Driller: Harrison & Cooper, In		per, Inc.	Center of former F-29 Box 58-2 58-3 88-7	RECS CONSULTANG & SAFETYI CC				
Drilling Method: Air rotary Start Date: 8/26/2013 End Date: 8/26/2013				3	SB-9	Project Name: BD F-29 and Project Consult			
Comme			of the DRA	former F-	ttings. SB-12 located 81 ft 29 junction box site. . Weinheimer GW = 100 ft		sec. 29 T21S R37E		
Depth (feet)	Chlo field t	and the second second	LAB	PID	Description	Lithology	Well Construction		
	-	-			BROWN SAND				
SS	14	2		15					
F. 44				110	RED SAND				
5 ft	28	8		14.6					
10 ft	95	9		13.7					
15 ft	137	77	CI- 1390 GRO <10	11.6			bentonite		
			DRO <10				seal		
20 ft	113	33		10.4	TAN SAND				
25 ft	87	9		11.7					
30 ft	31	8		7.4					
35 ft	17	1	CI- 160 GRO	4.5					
		-	<10 DRO <10						

Logger: Edward Cesareo Driller: Harrison & Cooper, Inc			Conner of former 1 -20-1 Dox	RECS				
Drilling M Start Dat End Date Comme	e: ents: All s W	SW of the DRA	13 13 re from former	Center of former F-29 Box SB-2 Cuttings. SB-13 located 50 ft F-29-1 junction box site. f: L. Weinheimer	Project Name:Well ID:BD F-29 and F-291SB-13Project Consultant:RECSLocation:UL/F sec. 29 T21S R37ELat:32°27'2.117"NCounty:Let			
Depth (feet)	Chlorid field tes	IIAH	PID	GW = 100 ft Description	Long: 103°11'7.	126"W State: NM Well Construction		
SS	148		5.0	BROWN SAND				
5 ft	178		10.1	RED SAND				
10 ft 15 ft	1612 1574		12.7 8.9					
20 ft	1656	Cl- 1580 GRO <10 DRO <10	11.9	TAN SAND		bentonite		
25 ft	1059		1.7			sear		
30 ft	626		1.3					
35 ft	314		2.5					

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
40 ft	282		3.1			
45 ft	198	CI- 176 GRO <10 DRO	1.5	TAN SAND		
-		<10				

Logger: Edward Cesareo Driller: Harrison & Cooper, Inc.					8 SB-15 (9) SB-14	RECS.				
Start Dat	Drilling Method: Air rotary Start Date: 8/26/2013 End Date: 8/26/2013			3	SB-1 SB-4 Center of former F-29-1 Box SB-2	Project Name: Well ID: BD F-29 and F-291 SB-14				
	ents: All	samp	of the fo	e from	Lo	oject Consulta cation: UL/F s t: 32°27'2.749' ng: 103°11'6.	ec. 29 T2 N	21S R37E County: Lea State: NM		
Depth (feet)	Chlor field to	ide	LAB	PID	GW = 100 ft Description		Lithology		Construction	
					BROWN SAND					
SS	14()		0.2						
					RED SAND					
5 ft	942	2		0.8						
10 ft	141	1		0.8						
15 ft	301	9		0.6						
20 ft	322	2	Cl- 3240	0.9						
-			GRO <10 DRO <10		TAN SAND WITH SOME CALICHE					
25 ft	302	9		1.9						
30 ft	198	8		2.1						
35 ft	178	2		0.6						

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
40 ft 45 ft	1498 1464		0.7			bentonite
50 ft	1307		5.6			seal
55 ft	1524		5.7			
60 ft	1437		3.5	TAN SAND WITH SOME CALICHE		
65 ft	1342		1.9			
70 ft	1007		3.2			
75 ft	1010		2.4			
80 ft	1118		2.2			
85 ft	864		2.5			

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
90 ft	717		1.4			
95 ft	803	Cl- 735 GRO	0.5	TAN SAND WITH SOME CALICHE		
		<10 DRO <10				

Logger:Edward CesareoDriller:Harrison & Cooper, Inc.Drilling Method:Air rotaryStart Date:8/26/2013End Date:8/26/2013					SB-14	RECS				
			8/26/201	3	Center of former F-29-1 Box	Project Name: Well ID: BD F-29 and F-291 SB-1 Project Consultant: RECS				
Comme			of the fo	ormer F	cuttings. SB-15 located 75 ft -29-1 junction box site. : L. Weinheimer GW = 100 ft	Lo	cation: UL/F s t: 32°27'2.968' ng: 103°11'6.4	ec. 29 T2 'N		
Depth (feet)	Chlo field t		LAB	PID	Description				Construction	
					BROWN SAND					
SS	14	6		1.0						
					RED SAND					
5 ft	119	96		10.2						
10 ft	19	56		14.9						
15 ft	24:	36		15.5						
20 ft	358	86		13.2	TAN SAND WITH SOME CALICHE					
25 ft	38	12	CI- 3600 GRO	13.6						
			<10 DRO <10							
30 ft	28	14		13.3						
35 ft	230	08		12.9						

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
40 ft	2013		16.2			
45 ft	1247		16.6			bentonite
50 ft	1118		15.3			seal
55 ft	1003		15.0			
60 ft	1579		10.7	TAN SAND WITH SOME CALICHE		
65 ft	651		13.6			
70 ft	660		15.6			
75 ft	658		14.0			
80 ft	686		13.6			
85 ft	752		16.0			

Depth (feet)	Chloride field tests	LAB	PIŅ	Description	Lithology	Well Construction
90 ft	681		13.0			
				TAN SAND WITH SOME CALICHE		
95 ft 6	633	633 CI- 608 13.4	13.4			
		GRO <10				
		DRO <10				

Logger:Edward CesareoDriller:Harrison & Cooper, Inc.Drilling Method:Air rotaryStart Date:8/27/2013End Date:8/27/2013		* 38-16 SB-16 SB-16	R	ECS			
		Center of former F-29-1, Box	Project Name: Well ID: BD F-29 and F-291 SB-16 Project Consultant: RECS				
Comme	1		DRAF	sample	NE of the former F-29-1 junction s were from cuttings. L. Weinheimer GW = 100 ft	Location: UL/F s Lat: 32°27'3.125" Long: 103°11'6.4	ec. 29 T21S R37E 'N County : Lea
Depth (feet)	Chlori field te		AB	PID	Description	Lithology	Well Construction
		-			RED SAND		
SS	146			3.3			
					RED SAND AND SOME CLAY		
5 ft	1218	3		10.4			
10 ft	2412	2		11.0	TAN SAND		
15 ft	2328	3		12.0			
20 ft	3503	3		11.8			
25 ft	4681	1 4	CI- 4560 GRO <10	7.3	BROWN SAND		
	3522	-	DRO <10	10			
30 ft	3022	-					
35 ft	2832	2	-	5.8			

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
40 ft	2016		7.3			
45 ft	1879		7.7			> bentonite
50 ft	1331		11.8			seal
55 ft	1356		11.2			
60 ft	1741		6.2	BROWN SAND		
65 ft	1896		5			
70 ft	1327		7.9			
75 ft	1628 [.]		3.2			
80 ft	1173		4			
85 ft	1111		7.8			

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
90 ft	940		9.3			
95 ft	883	CI- 896	11.6	BROWN SAND		
		GRO <10				
		DRO <10				J

Driller: Hamson & Cooper, Inc.		F-29-1 Box 58-1/1		RECS						
Drilling M Start Dat End Date	te: e:		Air rotary 8/27/2013 8/27/2013		Project Name: Well ID: BD F-29 and F-291 SB-17 Project Consultant: RECS					
Comme			k. All si DRAI	amples	ENE of the former F-29 junction were from cuttings. /: L. Weinheimer GW = 100 ft	Location: UL/F sec. 29 T21S R37E Lat: 32°27'2.097"N County: Le Long: 103°11'6.001"W State: NM				
Depth (feet)	Chlori field te	ide	LAB	PID	Description		Lithology	1	Construction	
		_			BROWN SAND					
SS	114			1.8						
5 ft	929	,		10.9	RED SAND AND SOME CLAY					
10 ft	755	;		11.3						
15 ft	1310	0		10.7	RED SAND AND SOME CALICHE				bentonite	
20 ft	1543	3	Cl- 1710 GRO	13.1	BROWN SAND AND SOME ROCK				seal	
			<10 DRO <10							
25 ft	505			11.3						
30 ft	303	303 11.3	11.3	TAN SAND						
		-	CI- 128 GRO							
35 ft	203		<10 DRO <10	8						

Logger: Edward Cesareo Driller: Harrison & Cooper, Inc.		Harrison & Cooper, Inc.		RECS					
Start Dat	Orilling Method: Air rotary Start Date: 8/27/2013 End Date: 8/27/2013		13	BB-15	Project Name: Well ID: BD F-29 and F-291 SB-18 Project Consultant: RECS				
Comme	juncti	on box site	e. All sa	t NNW of the former F-29-1 amples were from cuttings. /: L. Weinheimer GW = 100 ft	Location: UL/F : Lat: 32°27'3.536 Long: 103°11'6.	••••·····			
Depth (feet)	Chlorid field tes		PID	Description	Lithology	Well Construction			
			BROWN SAND						
SS	141		2.9						
5 ft	303		14.3	RED SAND WITH SOME CLAY					
10 ft	387		6.1	RED SAND WITH SOME CALICHE					
15 ft	583		8						
20 ft	628		14.7	RED SAND					
25 ft 1615 CI- 1920 11 GRO <10				bentonite					
20.4	000	DRO <10		TAN SAND WITH SOME PEA STONE		seal			
30 ft 90			9.3	OTONE					
35 ft	510		12.3						

Depth (feet)	Chloride field tests			Description	Lithology	Well Construction		
40 ft	512		9.3					
45 ft	549		6.7					
50 ft	279		7.1	TAN SAND WITH SOME PEA STONE				
55 ft	177	CI- 160 GRO <10 DRO <10	6.3					



July 29, 2013

Hack Conder Rice Operating Company 112 W. Taylor Hobbs, NM 88240

RE: BD F-29-1, F-29

Enclosed are the results of analyses for samples received by the laboratory on 07/23/13 8:25.

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 accredited 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,

Celeg D. Keine

Celey D. Keene Lab Director/Quality Manager



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

Received:	07/23/2013	Sampling Date:	07/22/2013
Reported:	07/29/2013	Sampling Type:	Soil
Project Name:	BD F-29-1, F-29	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB #1 25' (H301715-01)

mg/kg		Analyzed By: AP						
Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
3120	16.0	07/23/2013	ND	416	104	400	0.00	
mg/kg		Analyzed By: MS						
Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<10.0	10.0	07/23/2013	ND	173	86.3	200	2.47	
<10.0	10.0	07/23/2013	ND	184	92.0	200	3.52	
77.9	% 65.2-14	0						
97.6	% 63.6-15	4						
	Result 3120 mg/ Result <10.0 <10.0 77.9	Result Reporting Limit 3120 16.0 mg/kg mg/kg Result Reporting Limit <10.0	Result Reporting Limit Analyzed 3120 16.0 07/23/2013 mg/kg Analyzed Result Reporting Limit Analyzed <10.0	Result Reporting Limit Analyzed Method Blank 3120 16.0 07/23/2013 ND mg/kg Analyzed By: MS Method Blank Result Reporting Limit Analyzed By: MS 10.0 10.0 07/23/2013 ND <10.0	Result Reporting Limit Analyzed Method Blank BS 3120 16.0 07/23/2013 ND 416 mg/kg Analyzed By: MS Method Blank BS Result Reporting Limit Analyzed By: MS BS <10.0	Result Reporting Limit Analyzed Method Blank BS % Recovery 3120 16.0 07/23/2013 ND 416 104 mg/kg Analyzed By: MS Method Blank BS % Recovery Result Reporting Limit Analyzed By: MS Method Blank BS % Recovery <10.0	Result Reporting Limit Analyzed Method Blank BS % Recovery True Value QC 3120 16.0 07/23/2013 ND 416 104 400 mg/kg Analyzed By: MS Method Blank BS % Recovery True Value QC Analyzed By: MS Method Blank BS % Recovery True Value QC <10.0	Result Reporting Limit Analyzed Method Blank BS % Recovery True Value QC RPD 3120 16.0 07/23/2013 ND 416 104 400 0.00 mg/kg Analyzed By: MS Method Blank BS % Recovery True Value QC RPD Result Reporting Limit Analyzed By: MS </td

Sample ID: SB #1 95' (H301715-02)

Chloride, SM4500CI-B	mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	416	16.0	07/23/2013	ND	416	104	400	0.00	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/23/2013	ND	173	86.3	200	2.47	
DRO >C10-C28	<10.0	10.0	07/23/2013	ND	184	92.0	200	3.52	
Surrogate: 1-Chlorooctane	71.4	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	92.5	% 63.6-15	4						

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Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager



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

Received:	07/23/2013	Sampling Date:	07/22/2013
Reported:	07/29/2013	Sampling Type:	Soil
Project Name:	BD F-29-1, F-29	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB #2 25' (H301715-03)

Chloride, SM4500Cl-B	mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1660	16.0	07/23/2013	ND	416	104	400	0.00	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/24/2013	ND	173	86.7	200	1.54	
DRO >C10-C28	<10.0	10.0	07/24/2013	ND	174	86.9	200	0.263	
Surrogate: 1-Chlorooctane	83.6	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	103	63.6-15	4						

Sample ID: SB #2 95' (H301715-04)

Chloride, SM4500CI-B	mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	800	16.0	07/23/2013	ND	416	104	400	0.00	
TPH 8015M	mg/kg		Analyzed By: MS				_	_	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/24/2013	ND	173	86.7	200	1.54	
DRO >C10-C28	<10.0	10.0	07/24/2013	ND	174	86.9	200	0.263	
Surrogate: 1-Chlorooctane	85.5	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	106	% 63.6-15	4						

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Celez D. Kune

Celey D. Keene, Lab Director/Quality Manager



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

Received:	07/23/2013	Sampling Date:	07/22/2013
Reported:	07/29/2013	Sampling Type:	Soil
Project Name:	BD F-29-1, F-29	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB #3 30' (H301715-05)

	mg/kg		Analyzed By: AP					
Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
1920	16.0	07/23/2013	ND	416	104	400	0.00	
mg/kg		Analyzed By: MS						
Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<10.0	10.0	07/24/2013	ND	173	86.7	200	1.54	
<10.0	10.0	07/24/2013	ND	174	86.9	200	0.263	
81.1	% 65.2-14	0						
99.5	% 63.6-15	4						
-	1920 mg/ Result <10.0 <10.0 81.1	1920 16.0 mg/kg Result Reporting Limit <10.0	1920 16.0 07/23/2013 mg/kg Analyzed Result Reporting Limit Analyzed <10.0	1920 16.0 07/23/2013 ND mg/kg Analyzed By: MS Result Reporting Limit Analyzed Method Blank <10.0	1920 16.0 07/23/2013 ND 416 mg/kg Analyzed By: MS MS MS Result Reporting Limit Analyzed Method Blank BS <10.0	1920 16.0 07/23/2013 ND 416 104 mg/kg Analyzed By: MS Model MS Method Blank BS % Recovery <10.0	1920 16.0 07/23/2013 ND 416 104 400 mg/kg Analyzed By: MS Method Blank BS % Recovery True Value QC <10.0	1920 16.0 07/23/2013 ND 416 104 400 0.00 mg/kg Analyzed By: MS MS 416 104 400 0.00 Result Reporting Limit Analyzed Method Blank BS % Recovery True Value QC RPD <10.0

Sample ID: SB #3 95' (H301715-06)

Chloride, SM4500Cl-B	mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1120	16.0	07/23/2013	ND	432	108	400	3.77	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/24/2013	ND	173	86.7	200	1.54	
DRO >C10-C28	<10.0	10.0	07/24/2013	ND	174	86.9	200	0.263	
Surrogate: 1-Chlorooctane	85.7	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	105	% 63.6-15	4						

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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager



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 SM4500CI-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

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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 6 of 6

RDINAL 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	" ROC		BILL TO	ANALYSIS REQUEST
Project Manage	Pr: Hack Conder		P.O. #:	
Address:		•	Company:	
City: Hobbs	State: NM	Zip: 88240	Attn:	Ilorides 1 8015 M 3TEX (as TPH Cations/Anions TDS
Phone #:	Fax #:		Address:	
Project #:	Project Own	er:	City:	
Project Name:			State: Zip:	ides TPH S S S
- the second sec	BDF-29-1, F-29		Phone #:	Chlorides PH 8015 I BTEX Exas TPI Exas TPI TDS TDS
Sampler Name:		ESAREN	Fax #:	
FOR LAB USE ONLY		MATRIX	PRESERV. SAMPLING	
Lab I.D. H301715	Sample I.D.	(G)RAB OR (C)OMP # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL	SLUDGE OTHER : ACIDIBASE: ICE / COOL OTHER : BWLL ALVO	Complete
	SB#1 25'	<u>G1</u> 7	7-22-13 11:00	
2	5B#F1 95'	GI	11:15	
	58452 25'			
3	with the second s	<u><u>G</u><u>1</u></u>	2:25	
4	5842 95'	GI /	2:30	
5	58#3 .30'		3:40	
	58#3 95'		3:45	
		 9 ' 		
PLEASE NOTE: Liability a	nd Damages. Cardinal's liability and client's exclusive remedy fo	any claim arising whether based in con	ntract or tort, shall be limited to the smount paid by the client for t	

service. In no event shall Cardinal be Sable for Incidential or consequential damages, including without Smitzbon, business Interruptions, loss of use, or loss of profits incurred by client, its subs sons 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.

Sww (LAW	Time: 25 Coli Henson	Phone Result:
Relinquished By:	Date: Received By: Time:	email results: zconder@rice-ecs.com Knorman@rice-ecs.com; lpena@riceswd.com
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Sample Condition CHECKED BY: Cool Intact (Infinals) Dryes Pres	Kjones@riceswd.com; Bbaker@rice-ecs.com; hconder@rice-ecs.com; Lweinheimer@rice-ecs.com

#54

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



July 26, 2013

KYLE NORMAN Rice Operating Company 112 W. Taylor Hobbs, NM 88240

RE: BD F-29-1, F-29

Enclosed are the results of analyses for samples received by the laboratory on 07/24/13 8:15.

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,

Whe Smale

Mike Snyder Organic Supervisor



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

Received:	07/24/2013	Sampling Date:	07/23/2013
Reported:	07/26/2013	Sampling Type:	Soil
Project Name:	BD F-29-1, F-29	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB 4 @ 30' (H301731-01)

Chloride, SM4500CI-B	mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3440	16.0	07/25/2013	ND	416	104	400	0.00	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/25/2013	ND	168	84.2	200	6.00	
DRO >C10-C28	<10.0	10.0	07/25/2013	ND	173	86.4	200	7.47	
Surrogate: 1-Chloroociane	83.9	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	103 %	63.6-15	4						

Sample ID: SB 4 @ 95' (H301731-02)

Chloride, SM4500CI-B	mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	800	16.0	07/25/2013	ND	416	104	400	0.00	
TPH 8015M mg/kg		/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/25/2013	ND	168	84.2	200	6.00	
DRO >C10-C28	<10.0	10.0	07/25/2013	ND	173	86.4	200	7.47	
Surrogate: 1-Chlorooctane	75.4	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	89.7	% 63.6-15	4						

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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 analyses. All claims, including those for negligence and any other cause whatboever shall be deemed waved unless made in writing and received by Cardinal within thirty (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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This reproduced exception in full with written approval of Cardinal Laboratores.

mile Singh

Mike Snyder, Organic Supervisor



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

Received:	07/24/2013	Sampling Date:	07/23/2013
Reported:	07/26/2013	Sampling Type:	Soil
Project Name:	BD F-29-1, F-29	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB 5 @ 35' (H301731-03)

Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2960	16.0	07/25/2013	ND	416	104	400	0.00	
PH 8015M mg/kg		kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/25/2013	ND	168	84.2	200	6.00	
DRO >C10-C28	<10.0	10.0	07/25/2013	ND	173	86.4	200	7.47	
Surrogate: 1-Chlorooctane	71.7	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	84.8	63.6-15	4						

Sample ID: SB 5 @ 90' (H301731-04)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	960	16.0	07/25/2013	ND	416	104	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/25/2013	ND	168	84.2	200	6.00	
DRO >C10-C28	<10.0	10.0	07/25/2013	ND	173	86.4	200	7.47	
Surrogate: 1-Chlorooctane	75.4	% 65.2-14	0			and a second			
Surrogate: 1-Chlorooctadecane	87.5	% 63.6-15	4						

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mile Singh

Mike Snyder, Organic Supervisor



Analytical Results For:

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

Received:	07/24/2013	Sampling Date:	07/23/2013
Reported:	07/26/2013	Sampling Type:	Soil
Project Name:	BD F-29-1, F-29	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB 6 @ SURFACE (H301731-05)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3920	16.0	07/25/2013	ND	416	104	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/25/2013	ND	168	84.2	200	6.00	
DRO >C10-C28	<10.0	10.0	07/25/2013	ND	173	86.4	200	7.47	
Surrogate: 1-Chlorooctane	76.6	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	89.1	% 63.6-15	4						

Sample ID: SB 6 @ 35' (H301731-06)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1960	16.0	07/25/2013	ND	416	104	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/25/2013	ND	168	84.2	200	6.00	
DRO >C10-C28	<10.0	10.0	07/25/2013	ND	173	86.4	200	7.47	
Surrogate: 1-Chlorooctane	79.2	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	97.7	% 63.6-15	4						

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Mike Snyder, Organic Supervisor



Analytical Results For:

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

Received:	07/24/2013	Sampling Date:	07/23/2013
Reported:	07/26/2013	Sampling Type:	Soil
Project Name:	BD F-29-1, F-29	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB 6 @ 95' (H301731-07)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AP		-			
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	880	16.0	07/25/2013	ND	416	104	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result Reporting Limit		Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/25/2013	ND	186	92.8	200	5.17	
DRO >C10-C28	<10.0	10.0	07/25/2013	ND	195	97.5	200	7.65	
Surrogate: 1-Chlorooctane	65.3	% 65.2-14	0			L _/1///			
Surrogate: 1-Chlorooctadecane	78.5 % 63.6-15		4						

Sample ID: SB 7 @ 35' (H301731-08)

Chloride, SM4500CI-B	mg,	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2720	16.0	07/25/2013	ND	416	104	400	0.00	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/25/2013	ND	186	92.8	200	5.17	
DRO >C10-C28	<10.0	10.0	07/25/2013	ND	195	97.5	200	7.65	
Surrogate: 1-Chlorooctane	90.4	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	109	63.6-15	4						

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Mike Snyder, Organic Supervisor



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

Received:	07/24/2013	Sampling Date:	07/23/2013
Reported:	07/26/2013	Sampling Type:	Soil
Project Name:	BD F-29-1, F-29	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB 7 @ 95' (H301731-09)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	624	16.0	07/25/2013	ND	416	104	400	0.00	
TPH 8015M	mg/kg		Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/25/2013	ND	186	92.8	200	5.17	
DRO >C10-C28	<10.0	10.0	07/25/2013	ND	195	97.5	200	7.65	
Surrogate: 1-Chlorooctane	81.1	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	95.7	% 63.6-15	4						

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mite Sigh

Mike Snyder, Organic Supervisor



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

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Mike Snyder, Organic Supervisor

Page 7 of 8

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 8 of 8

101 East Marland, Hobbs, NM 88240

Company Name	: ROC		1					ANA	LYSIS	RE	QUE	ST			
Project Manage			P.O. #:					T							
Address:	yie to che when		Company:			.									
City:	State:	Zip:	Attn:	•											- I
Phone #:	Fax #:		Address:										1		
Project #:	Project Owner		City:			·									
Project Name:			State: Zip:		¢										
Project Location	n: BD F-29, F-29	- T-21-5 R-37-E	Phone #:												
Sampler Name:	11 61 114	Fax #:					-								
FOR LAB USE ONLY		MATRIX	PRESERV. SAMPLI	NG	1										
		(C)OMP ERS ATER TER												:	
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Lab I.D.	Sample I.D.	B OR UNDW GE	R BAS		1	0	1				·				
11201721		(G)RAB OR (C)ON # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE	OTHER: ACID/BASE: ICE / COOL OTHER : DTHER :	TIME	U	\mathbb{H}			100						
H301731	SB4@ 30'		X 7-23-13	9:50	N	N					- C.N				
Z	SB4 @ 95'	i k	X	9.55	X	2	· · · · · · · · · · · · · · · · · · ·				-				
3	5B 5 @ 35'	I X		11:15	Ŷ	Ŷ									
- 4	SB5 Q. 90'	i X	X /	11:20	Ŷ	X		1							
5	SB6 @ surface		X Z	2:00	X	X					5. 12				
6	SB6 @ 35'	/ X / X	Ý ľ	2:05	X	X									
7	SB6 @ 95'	/ X		2:10	R	X									
	587@ 35'		X)	3:00	Ķ	X					·		-		
9	SB7@ 95'	1 X		3:05	K	X					· · _	-			
PLEASE NOTE: Liabling	and Damages, Cardinal's liability and client's exclusive remedy for s	ny cleim erising whether based in contrac	ct or tort, shall be ämited to the amount pa	d by the client fo	the							i i an			
analyses, All claims, includ	ing these for negligence and any other cause whatsoever shall be	deemed walved unless made in writing so	nd received by Cardinal within 30 days and	er completion of t	the applicat	ble :	ar Ar an ar	1						• .	
Relinguished B	Cardinal be table for incidential or consequential damages, including sing gut of or related to the performance of services hereunder by C V: Date?	Received By;	vis based upon any of the above stated re	Phone Re	se,	D Yes		Add'i	Phone	#.					
KI C	1/04/13		•	Fax Resu REMARK	lt:	C Yes		Add'l							
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Delivered By	Delivered By: (Circle One) Sample Condition CHECKED BY: Ksch			Kschn	aidH	e ri	e-ecs usud.ca) rice ce-ec	5:00	m						
Sampler - UFS	Sampler - UPS - Bus - Other: 3.22 Southers Yes K				es ©	rice	swdi	com		i č					
† Cardina	I cannot accept verbal changes. Pleas	e fax written changes to	15751 393-2526												
		4	1.74												



August 27, 2013

Hack Conder Rice Operating Company 112 W. Taylor Hobbs, NM 88240

RE: BD F-29-1, F-29

Enclosed are the results of analyses for samples received by the laboratory on 08/20/13 8:35.

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 accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab accredited analytes are denoted by www.tceq.texas.gov/field/qa/lab accredited analytes are denoted by www.tceq.texas.gov/field/qa/lab accredited analytes are denoted analytes are denoted by www.tceq.texas.gov/field/qa/lab accredited analytes are denoted analytes are denoted analytes are denoted analytes and www.tceq.texas.gov/field/qa/lab accredited analytes are denoted analytes analytes are denot

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,

Celeg D. Keine

Celey D. Keene Lab Director/Quality Manager



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

Received:	08/20/2013	Sampling Date:	08/19/2013
Reported:	08/27/2013	Sampling Type:	Soil
Project Name:	BD F-29-1, F-29	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB #8 20' (H301978-01)

Chloride, SM4500CI-B Analyte	mg/kg		Analyzed By: AP						
	Result	Reporting Limit	Analyzed	Method Blank	BS	BS % Recovery	True Value QC	RPD	Qualifier
Chloride	3960	16.0	08/21/2013	ND	416	104	400	3.92	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/22/2013	ND	214	107	200	7.90	
DRO >C10-C28	<10.0	10.0	08/22/2013	ND	221	111	200	7.69	
Surrogate: 1-Chlorooctane	93.8	% 65.2-14	0				1. 1. 14 f. f. 1		
Surrogate: 1-Chlorooctadecane	99.2	% 63.6-15	4						

Sample ID: SB #8 95' (H301978-02)

Chloride, SM4500CI-B Analyte	mg/kg		Analyzed By: AP						
	Result	Reporting Limit	Analyzed	Method Blank	BS	BS % Recovery	True Value QC	RPD	Qualifier
Chloride	368	16.0	08/21/2013	ND	416	104	400	3.92	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/22/2013	ND	214	107	200	7.90	
DRO >C10-C28	<10.0	10.0	08/22/2013	ND	221	111	200	7.69	
Surrogate: 1-Chlorooctane	81.3	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	86.9	% 63.6-15	4						

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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager



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

Received:	08/20/2013	Sampling Date:	08/19/2013
Reported:	08/27/2013	Sampling Type:	Soil
Project Name:	BD F-29-1, F-29	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB #9 20' (H301978-03)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5200	16.0	08/21/2013	ND	416	104	400	3.92	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/22/2013	ND	214	107	200	7.90	
DRO >C10-C28	<10.0	10.0	08/22/2013	ND	221	111	200	7.69	
Surrogate: 1-Chlorooctane	72.4	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	73.8	% 63.6-15	4						

Sample ID: SB #9 95' (H301978-04)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	512	16.0	08/21/2013	ND	416	104	400	3.92	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/22/2013	ND	214	107	200	7.90	
DRO >C10-C28	<10.0	10.0	08/22/2013	ND	221	111	200	7.69	
Surrogate: 1-Chlorooctane	82.6	% 65.2-14	0					•	
Surrogate: 1-Chlorooctadecane	87.6	% 63.6-15	4						

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Celez D. Kune

Celey D. Keene, Lab Director/Quality Manager



Analytical Results For:

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

Received:	08/20/2013	Sampling Date:	08/19/2013
Reported:	08/27/2013	Sampling Type:	Soil
Project Name:	BD F-29-1, F-29	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB #10 25' (H301978-05)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1460	16.0	08/21/2013	ND	416	104	400	3.92	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/22/2013	ND	214	107	200	7.90	
DRO >C10-C28	<10.0	10.0	08/22/2013	ND	221	111	200	7.69	
Surrogate: 1-Chlorooctane	84.4	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	91.4	% 63.6-15	4						

Sample ID: SB #10 65' (H301978-06)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	08/21/2013	ND	416	104	400	3.92	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/22/2013	ND	214	107	200	7.90	
DRO >C10-C28	<10.0	10.0	08/22/2013	ND	221	111	200	7.69	
Surrogate: 1-Chlorooctane	81.1	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	85.5	% 63.6-15	4						

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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager



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

Received:	08/20/2013	Sampling Date:	08/19/2013
Reported:	08/27/2013	Sampling Type:	Soil
Project Name:	BD F-29-1, F-29	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB #11 25' (H301978-07)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4080	16.0	08/21/2013	ND	416	104	400	3.92	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/22/2013	ND	214	107	200	7.90	
DRO >C10-C28	<10.0	10.0	08/22/2013	ND	221	111	200	7.69	
Surrogate: 1-Chlorooctane	82.7	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	<i>89.1</i>	% 63.6-15	4						

Sample ID: SB #11 95' (H301978-08)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	640	16.0	08/21/2013	ND	416	104	400	3.92	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GR0 C6-C10	<10.0	10.0	08/22/2013	ND	214	107	200	7.90	
DRO >C10-C28	<10.0	10.0	08/22/2013	ND	221	111	200	7.69	
Surrogate: 1-Chlorooctane	81.5	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	86.9	% 63.6-15	4						

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Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager



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 SM4500CI-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

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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager

Page 6 of 7

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

ARDINAL LABORATORIES

101 East Mariand, 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					1923				A STAR						ANA	LYSI	s re	QUE	ST			
Project Manage	r: Katie Jones					/	?.0 .	#:														1 .	
Address: 112							Company:					ł		S		·							
City: Hobbs	State: NM	Zip	: 88	324	0		Attn:					l I		Ы							l		
Phone #:	Fax #:					A	١dd	ress:							1	Į.							
Project #:	Project Owner	r:		1			City	:					Σ		II	15				1.			
Project Name:						5	State	e:		Zip:		Chlorides	2	×	TPH	l S				·			1
Project Locatio	n: BD F-29 3 F-29-1			-		F	Pho	ne #:				l č	801	BTEX	د ا	li ji	TDS		Ι.				
	Edward Cesareo					F	ax	# :				음	1	B	Texas	Ö		1	1				
FOR LAB USE ONLY			Γ		MATRIX		P	RESE	ERV.	SAMPL	NG	1	Hd	[— ·	6	e	1						
		(C)OMP	ŝ	НЦ	œ											ple							
Lab I.D.	Sample I.D.	AB OR (C	# CONTAINERS	GROUNDWATER	WASTEWATER SOIL OIL	SLUDGE	ER:	ACID/BASE: ICE / COOL	ER :							Complete Cations/Anions			-				
H301978	BD F-29 3 F-29-1	Ю Ю	о ж	<u>GR</u> O	SOIL SOIL	SLU	H C	N N	OTH	DATE	TIME												
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Show Copan	Time: n C	Odi Ser	von	Phone Result: Ves No Add'I Phone #: Fax Result: Yes No Add'I Fax #: REMARKS:		
Relinquished By:	Date: Re	ceived By:		email results hconder@rice-ecs.com; Lweinheimer@rice-ecs.com;		
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Sample Condition Cool Intact Yes Yes No No		kjones@riceswd.com; Lpena@riceswd.com; knorman@rice-ecs.com; ecesareo@rice-ecs.com		
+ Cardinal cannot accent verbal changes. Please fax written changes to 505-3939476						

#54

Page 7 of 7



September 03, 2013

KATIE JONES Rice Operating Company 112 W. Taylor Hobbs, NM 88240

RE: BD SYSTEM F-29 & F-29-1

Enclosed are the results of analyses for samples received by the laboratory on 08/27/13 10:20.

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/ga/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,

Celez D. Keine

Celey D. Keene Lab Director/Quality Manager



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

Received:	08/27/2013	Sampling Date:	08/26/2013
Reported:	09/03/2013	Sampling Type:	Soil
Project Name:	BD SYSTEM F-29 & F-29-1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB # 12 15' (H302061-01)

Chloride, SM4500CI-B	mg/	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1390	16.0	08/30/2013	ND	400	100	400	3.92	
TPH 8015M	mg	/kg	Analyze	d By: AR/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/30/2013	ND	210	105	200	4.91	
DRO >C10-C28	<10.0	10.0	08/30/2013	ND	205	102	200	5.30	
Surrogate: 1-Chlorooctane	97.0	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	98.4	% 63.6-15	4						

Sample ID: SB # 12 35' (H302061-02)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	08/30/2013	ND	400	100	400	3.92	
TPH 8015M	mg,	/kg	Analyze	d By: AR/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/30/2013	ND	210	105	200	4.91	
DRO >C10-C28	<10.0	10.0	08/30/2013	ND	205	102	200	5.30	
Surrogate: 1-Chlorooctane	91.3	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	92.8	% 63.6-15	4						

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Celey D. Keene, Lab Director/Quality Manager



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

Received:	08/27/2013	Sampling Date:	08/26/2013
Reported:	09/03/2013	Sampling Type:	Soil
Project Name:	BD SYSTEM F-29 & F-29-1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB # 13 20' (H302061-03)

Chloride, SM4500Cl-B	mg/	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1580	16.0	08/30/2013	ND	400	100	400	3.92	
TPH 8015M	mg	/kg	Analyze	d By: AR/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/30/2013	ND	210	105	200	4.91	
DRO >C10-C28	<10.0	10.0	08/30/2013	ND	205	102	200	5.30	
Surrogate: 1-Chlorooctane	89.6	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	92.1	% 63.6-15	4						

Sample ID: SB # 13 45' (H302061-04)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	08/30/2013	ND	400	100	400	3.92	
TPH 8015M	mg	/kg	Analyze	d By: AR/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/30/2013	ND	210	105	200	4.91	
DRO >C10-C28	<10.0	10.0	08/30/2013	ND	205	102	200	5.30	
Surrogate: 1-Chlorooctane	98.7	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	99.9	% 63.6-15	4						

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

Received:	08/27/2013	Sampling Date:	08/26/2013
Reported:	09/03/2013	Sampling Type:	Soil
Project Name:	BD SYSTEM F-29 & F-29-1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB # 14 20' (H302061-05)

Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3240	16.0	08/30/2013	ND	400	100	400	3.92	
TPH 8015M	mg/	/kg	Analyze	d By: AR/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/31/2013	ND	195	97.4	200	0.475	
DRO >C10-C28	<10.0	10.0	08/31/2013	ND	192	96.0	200	0.588	
Surrogate: 1-Chlorooctane	90.9	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	94.4	% 63.6-15	4						

Sample ID: SB # 14 95' (H302061-06)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AP		101			
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	735	16.0	08/30/2013	ND	400	100	400	3.92	
TPH 8015M	mg,	/kg	Analyze	d By: AR/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/31/2013	ND	195	97.4	200	0.475	
DRO >C10-C28	<10.0	10.0	08/31/2013	ND	192	96.0	200	0.588	
Surrogate: 1-Chlorooctane	106	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	109	% 63.6-15	4						

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Celez D. Kune

Celey D. Keene, Lab Director/Quality Manager



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

Received:	08/27/2013	Sampling Date:	08/26/2013
Reported:	09/03/2013	Sampling Type:	Soil
Project Name:	BD SYSTEM F-29 & F-29-1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB # 15 25' (H302061-07)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AP	_				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3600	16.0	08/30/2013	ND	400	100	400	3.92	
TPH 8015M	mg	/kg	Analyze	d By: AR/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/31/2013	ND	195	97.4	200	0.475	
DRO >C10-C28	<10.0	10.0	08/31/2013	ND	192	96.0	200	0.588	
Surrogate: 1-Chlorooctane	103	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	106	% 63.6-15	4						

Sample ID: SB # 15 95' (H302061-08)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	608	16.0	08/30/2013	ND	400	100	400	3.92	
TPH 8015M	mg,	/kg	Analyze	d By: AR/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/31/2013	ND	195	97.4	200	0.475	
DRO >C10-C28	<10.0	10.0	08/31/2013	ND	192	96.0	200	0.588	
Surrogate: 1-Chlorooctane	103	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	106	% 63.6-15	4						

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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
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 SM4500CI-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

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 7 of



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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 Ope	erating						110.00			1	A. C.						ANAL	YSIS	RE	QUE	ST			
Project Manage								P	P.O. #	t:							-						· · ·		
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based in contract or tort, shall be limited to the amount paid by the client for the PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive ramedy for any d and waived unless made in writing and received by Cardinal within 30 days after completion of the applicable analyses. All claims including those for negligence and any other cause whatsoever shall be de service. In no event shell Cardinal be liable for incidental or consequental damages, including without limitation, business interruption loss of use or loss of profits incurred by alent. Its subsi

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om; ecesareo@rice-ecs.com

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



September 03, 2013

KATIE JONES Rice Operating Company 112 W. Taylor Hobbs, NM 88240

RE: BD F-29-1, F-29

Enclosed are the results of analyses for samples received by the laboratory on 08/27/13 16:00.

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 accredited 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,

Celez D. Keine

Celey D. Keene Lab Director/Quality Manager



Analytical Results For:

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

Received:	08/27/2013	Sampling Date:	08/27/2013
Reported:	09/03/2013	Sampling Type:	Soil
Project Name:	BD F-29-1, F-29	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB #16 25' (H302067-01)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4560	16.0	09/03/2013	ND	416	104	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: AR/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/31/2013	ND	195	97.4	200	0.475	
DRO >C10-C28	<10.0	10.0	08/31/2013	ND	192	96.0	200	0.588	
Surrogate: 1-Chlorooctane	92.0	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	95.8	% 63.6-15	4						

Sample ID: SB #16 95' (H302067-02)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	896	16.0	09/03/2013	ND	416	104	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: AR/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/31/2013	ND	195	97.4	200	0.475	
DRO >C10-C28	<10.0	10.0	08/31/2013	ND	192	96.0	200	0.588	
Surrogate: 1-Chlorooctane	102	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	106	% 63.6-15	4						

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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager



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

Received:	08/27/2013	Sampling Date:	08/27/2013
Reported:	09/03/2013	Sampling Type:	Soil
Project Name:	BD F-29-1, F-29	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB #17 20' (H302067-03)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1710	16.0	09/03/2013	ND	416	104	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: AR/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/31/2013	ND	195	97.4	200	0.475	
DRO >C10-C28	<10.0	10.0	08/31/2013	ND	192	96.0	200	0.588	
Surrogate: 1-Chlorooctane	95.5	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	97.1	% 63.6-15	4						

Sample ID: SB #17 35' (H302067-04)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	09/03/2013	ND	416	104	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: AR/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/31/2013	ND	195	97.4	200	0.475	
DRO >C10-C28	<10.0	10.0	08/31/2013	ND	192	96.0	200	0.588	
Surrogate: 1-Chlorooctane	98.4	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	101	% 63.6-15	4						

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Celez D. Kune

Celey D. Keene, Lab Director/Quality Manager



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

Received:	08/27/2013	Sampling Date:	08/27/2013
Reported:	09/03/2013	Sampling Type:	Soil
Project Name:	BD F-29-1, F-29	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB #18 25' (H302067-05)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1920	16.0	09/03/2013	ND	416	104	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: AR/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/31/2013	ND	195	97.4	200	0.475	
DRO >C10-C28	<10.0	10.0	08/31/2013	ND	192	96.0	200	0.588	
Surrogate: 1-Chlorooctane	87.7	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	89.2	% 63.6-15	4						

Sample ID: SB #18 55' (H302067-06)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	09/03/2013	ND	416	104	400	0.00		
TPH 8015M	mg,	/kg	Analyze	d By: AR/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	08/31/2013	ND	195	97.4	200	0.475		
DRO >C10-C28	<10.0	10.0	08/31/2013	ND	1 9 2	96.0	200	0.588		
Surrogate: 1-Chlorooctane	95.6	% 65.2-14	0							
Surrogate: 1-Chlorooctadecane	<i>99.3</i>	% 63.6-15	4							

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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
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 SM4500CI-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

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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									ANALYSIS REQUEST												
Project Manager: Katie Jones					P.O. #:							S									
					Company:																
City: Hobbs	State: NM	Zip:	882	240	Attn:							or									
Phone #:	Fax #:				Address:								An.						1		
Project #:						City:			6	Σ		I	s!				1. J. J.				
Project Name:					State: Zip:				je	15	×	TPH	Cations/Anions		. • •						
Project Location: BD F-293 F-29-1 T-21-5 / R-37-E					Phone #:				Chlorides	801	BTEX	S	ati	TDS							
Sampler Name:	Edward Cesareo				Fax#:				Ц		6	xa		¦.⊢∸.							
FOR LABUSE ONLY	Sample I.D. BD F-293 F-29-1 T-2+5/837-6	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER WASTEWATER SOIL OIL SLUDGE			T	DATE	NG TI M E	Ċ,	HdT	-	Texas	Complete							
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Relinguished By:	Date - 27-12 Repeived By:	Phone Result: I Yes I No Add'I Phone #: Fax Result: I Yes I No Add'I Fax #:
Elun Com	Tig. 00 Oak Henson	REMARKS:
Relinquished By:	Date: Received By:	email results
	Time:	hconder@rice-ecs.com; Lweinheimer@rice-ecs.com;
		kjones@riceswd.com; Lpena@riceswd.com;
Delivered By: (Circle One)	Sample Condition CHECKED BY:	
Sampler - UPS - Bus - Other:	4.8°C Dres (Malals)	knorman@rice-ecs.com; ecesareo@rice-ecs.com

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