1R - 428-54

REPORTS

DATE:

6-30-11

R. T. HICKS CONSULTANTS, LTD.

901 Rio Grande Blvd NW ▲ Suite F-142 ▲ Albuquerque, NM 87104 ▲ 505.266.5004 ▲ Fax: 505.266-0745

June 30, 2011

Mr. Edward J. Hansen
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
Via E-mail

RE: Termination Request
NMOCD Case #: 1R428-54
Hobbs C-30, Vent Site, T18S, R38E, Section 30

Mr. Hansen,

R.T. Hicks Consultants, Ltd. is submitting this Termination Request on behalf of Rice Operating Company (ROC) for the above-referenced site. The investigation demonstrated that neither chloride nor hydrocarbons are present in the vadose zone in quantities that represent a threat to fresh water or the environment and recommended re-vegetation. Surface restoration activities and re-vegetation efforts have been completed at the site.

Background
The Hobbs C-30 Vent site is located northwest of the city of Hobbs, NM at Township 18S, Range 38E, Section 30, Unit C. An Investigation & Characterization Plan (ICP) was submitted on February 18, 2010 and approved by the NMOCD on February 23, 2010. The ICP includes background information and a site vicinity, and ground water gradient map for this and other nearby ROC sites.

As part of the approved ICP, ROC implemented the following actions:

- Five 9- to 12-foot deep trenches were installed within five feet of the former pipeline vent in order to characterize the release, and
- four soil borings were advanced to a maximum depth of 60 feet to determine the extent of chloride- and hydrocarbon-impacted soil

Our December 3, 2010 Corrective Action Plan (CAP), and Addendum dated March 3, 2011, described the results of that field program and presented recommended actions. The CAP and Addendum was approved by the NMOCD on March 3, 2011. The CAP, Addendum, (without appendices) and NMOCD approval are included in Attachment A. The recommended corrective action for the site was the installation of a 750 square foot synthetic liner, 4-feet below ground surface over the former site, placement of soil over the liner and re-seeding of the ground surface.

Documentation of Field Programs
Attachment B includes field analyses, laboratory analyses, re-vegetation data, photos documenting that surface restoration and re-vegetation efforts at the site conform to the approved CAP. Attachment B demonstrates:

- The site was excavated and backfilled to grade from June 16 to 22, 2011. A total of 180 yards of soil was transported to Sundance Disposal and 168 yards of soil was imported.
- The liner was installed at 4-feet below existing grade on June 17, 2011
- Seeding of the area occurred on June 22 and 23, 2011
- Installation of silt net fencing completed on June 22, 2011
- Imported soil met the concentration requirements of the CAP
    - Imported Soil: Cl^- 80 mg/kg and PID 0.9 ppm

Recommendations
Previous investigations demonstrate that after implementation of the CAP residual chloride and hydrocarbons in the vadose zone will not with reasonable probability contaminate ground water or surface water in excess of the standards in Subsections B and C of 19.15.30.9 NMAC through leaching, percolation or other transport mechanisms, or as the water table fluctuates. Installation of the liner and re-vegetation of the site meets the mandate of NMOCD Rules for protection of surface water and the environment. ROC's documented actions will foster re-vegetation at the site. Installation of the liner and re-vegetation of the ground surface will limit infiltration of precipitation and the subsequent migration of constituents of concern to ground water. We recommend termination of the regulatory file. There are no monitoring wells at this site.

ROC is the service provider (agent) for the Hobbs Saltwater Disposal System and has no ownership of any portion of pipeline, well, or facility. A consortium of oil producers that own the Hobbs System (System Parties) provides all operating capital on a percentage ownership/usage basis. The Hobbs SWD system is in abandonment.

Please contact Hack Conder of ROC at 575-393-9174 if you have any questions concerning this submission. Thank you for your time and consideration.

Sincerely,
R.T. Hicks Consultants, Ltd.

Dale Littlejohn PG
Geologist

Dale T. Littlejohn

Copy: Hack Conder, Rice Operating Company

Attachment A

Corrective Action Plan and Addendum

R.T. Hicks Consultants, Ltd.
901 Rio Grande Blvd. NW, Suite F-142
Albuquerque, NM 87104

From:	Hansen, Edward J., EMNRD
To:	Hack Conder
Cc:	Leking, Geoffrey R, EMNRD; Katie Jones; Katie Lee
Subject:	Corrective Action Plan (1R428-54) Approval - ROC Hobbs SWD C-30 Vent Site
Date:	Thursday, March 03, 2011 4:51:10 PM

RE: Corrective Action Plan for the Rice Operating Company's
Hobbs SWD C-30 Vent Site
Unit Letter C, Section 30, T18S, R38E, NMPM, Lea County, New Mexico
Corrective Action Plan (1R428-54) Approval

Dear Mr. Conder:

The New Mexico Oil Conservation Division (OCD) has received the Corrective Action Plan for the Hobbs SWD C-30 Vent Site, dated December 5, 2010 (and addendum, dated March 3, 2011) and has conducted a review of the Plan. The Plan indicates that Rice Operating Company (ROC) has met the requirements of 19.15.29 NMAC (Part 29; formerly, Rule 116) for a remediation plan. Therefore, the OCD hereby conditionally approves the Corrective Action Plan as proposed for above-referenced site in accordance with 19.15.29 NMAC:

ROC must use synthetic liner of a 20-mil string-reinforced LLDPE or other material approved by the OCD.

ROC must submit to the OCD a final report of the corrective actions within 120 days.

Please be advised that OCD approval of this Plan does not relieve the owner/operator of responsibility should operations pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the owner/operator of responsibility for compliance with any OCD, federal, state, or local laws and/or regulations.

If you have any questions regarding this matter, please contact me at 505-476-3489.

Edward J. Hansen
Hydrologist
Environmental Bureau

From: Katie Jones
To: Hansen, Edward J., EMNRD
Cc: Hack Conder; Katie Lee
Subject: Hobbs C-30 vent (1R428-54) CAP Addendum
Date: Thursday, March 03, 2011 4:04:00 PM
Attachments: Hobbs C-30 vent Proposed liner.pdf

Mr. Hansen,

This email is an Addendum to the Hobbs C-30 vent site (1R428-54) Corrective Action Plan, submitted to the NMOCD on December 3, 2010. Page 4, section: Recommendation, paragraph 2: text in blue lettering, below, will be added to the paragraph. Red lettering marked with a strike-through will be deleted. The new Plate 2 showing the proposed liner location is attached. If you need any further information, please let me or Hack know.

"Our recommended corrective action for the site is the installation of a 750 square foot synthetic liner approximately 4 feet below ground surface over the former site and re-vegetation of the ground surface. This proposed remedy will limit infiltration of precipitation and the subsequent migration of constituents of concern to ground water. As part of this effort, ROC plans to:

- ~~Scrape and remove large rocks and caliche,~~
- ~~Backfill the site with soil blended with amendments~~
- Install a synthetic liner approximately 4 feet below ground surface. This liner will be positioned over the locations of SB-1, SB-3 and SB-4 (See Plate 2). The liner will be 15 feet wide and 50 feet long.
- Evaluate excavated soil for use as backfill. Any soils requiring disposal will be properly disposed of at a NMOCD approved facility.
- Backfill the area over the liner with soil containing a chloride concentration of less than 500 mg/kg and a PID (field) reading of less than 100 ppm.
- Make sure the area is free of large rocks and caliche, and amend and grade soil at the site to match surrounding area grading.
- Broadcast seed by hand,
- Set up silt net fencing to protect new vegetation and inhibit erosion.

A synthetic liner installed below the root zone as proposed will inhibit the downward migration of water through the subsurface, slowing movement of chloride or soluble hydrocarbons toward ground water. Plants capture water through their roots, thereby reducing the volume of water infiltrating below the root zone. This natural "infiltration barrier" also helps protect ground water. Upon documentation of installation of the liner and re-seeding with an appropriate mix of native grasses we will submit a Termination Request for this site's regulatory file."

Thank you,

Katie Jones
Environmental Project Coordinator
RICE *Operating Company*

Proposed liner

SB-4

Depth	Cl-	PID	LAB Cl-	GRO	DRO	B	T	E	X
5	175	2.8							
10	178	6.5							
15	199	201							
20	175	164							
25	178	282	128	142	1290	<0.05	0.206	0.246	1.94
30	209	275							
35	206	221							
40	174	251	144	334	2800	<0.05	0.273	0.367	3.78

SB-3

Depth	Cl-	PID	LAB Cl-	GRO	DRO	B	T	E	X
5	207	1.3							
10	207	204	96	250	2200	<0.05	0.184	0.315	1.92
15	143	193							
20	141	221	176	55.9	849	<0.05	<0.05	0.155	1.53

SB-2

Depth	Cl-	PID	LAB Cl-	GRO	DRO
5	257	2.2	160	<10	<10
10	241	0.7			
15	149	2			
20	144	1	32	<10	<10

SB-1

Depth	Cl-	PID	LAB Cl-	GRO	DRO	B	T	E	X
15	217	59.8							
20	198	205							
25	229	300							
30	338	494							
35	338	614	304	536	3020	<0.05	0.543	0.924	6.35
40	308	294							
45	206	58							
50	205	38.8							
55	173	22.6							
60	180	23.6	48	<10	120	<0.05	0.07	0.081	0.474

RICE ENVIRONMENTAL CONSULTING & SAFETY, LLC

RECS

Hobbs C-30 vent

Legals: UL/C sec. 30
T18S R38E

Case #: 1R428-54

Plate 2

N W E S

0 5 10 20
Feet

Drawing date:1-14-10
Drafted by: L. Weinheimer

R. T. HICKS CONSULTANTS, LTD.

901 Rio Grande Blvd NW ▲ Suite F-142 ▲ Albuquerque, NM 87104 ▲ 505.266.5004 ▲ Fax: 505.266.0745

December 3, 2010

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

RE: **Rice Operating Company, Hobbs SWD System C-30 Vent Site: T-18-S, R-38-E, Section 30, Unit C, Lea County, New Mexico, (NMOCD CASE #1R428-54), Corrective Action Plan**

Mr. Hansen:

On behalf of Rice Operating Company (ROC), R.T. Hicks Consultants, Ltd. is submitting this Corrective Active Plan for the Hobbs C-30 Vent site. The investigation demonstrates that residual chloride and hydrocarbons in the vadose zone will not with reasonable probability contaminate ground water or surface water in excess of the standards in Subsections B and C of 19.15.30.9 NMAC through leaching, percolation or other transport mechanisms, or as the water table elevation fluctuates. Revegetation of the site, our recommended corrective action, meets the mandate of NMOCD Rules for protection of surface water and the environment.

Background

The Hobbs C-30 Vent is located northwest of the city of Hobbs, New Mexico at T-18-S, R-38-E, Section 30, in Unit C. The NMOCD-approved Investigation Characterization Plan (ICP), dated February 18, 2010 (Attachment A) includes background information, a site vicinity map, and a regional ground water gradient map for the site.

Field Programs

As a part of the approved ICP, ROC installed and sampled five 9- to 12-foot deep backhoe trenches on April 8 and 9, 2010 in an attempt to delineate the vertical and horizontal extent of hydrocarbons and chloride in the soil. See Plate 1A for a summary map that includes results of the field chloride analyses and hydrocarbon screening data as well as laboratory results for the soil samples used to verify the ROC field data.

Hicks Consultants supervised a deep soil sampling program to further delineate the extent and magnitude of media impact. On May 12, 2010, four 20- to 60-foot deep soil borings were drilled adjacent to the vent location and to the north and east of the previous trench excavations. ROC conducted field analysis of soil samples for chloride and volatile hydrocarbon vapors for the boring program. Plate 1B is a summary map that includes results of the field chloride analyses and hydrocarbon screening data as well as a laboratory results for the

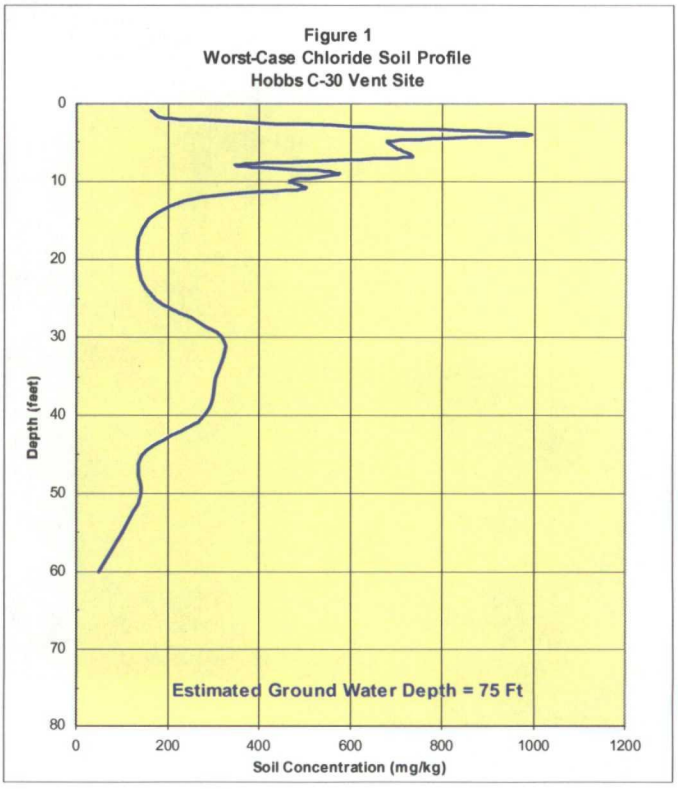
soil samples used to verify the ROC field data. Attachment B provides soil lithology logs which include the field chloride and hydrocarbon screening data and laboratory results. Attachment C provides the laboratory reports and chain of custody documents for all of the soil verification samples.

Results: Chloride

The initial ROC assessment showed that each of the five trenches encountered chloride concentrations above 250 mg/kg. These levels were limited to the soil from 3 to 7 feet below the surface in the center, west, and south trenches. The highest chloride concentration (885 mg/kg) was encountered at four feet below the surface at the trench located five feet east of the original vent. Both the north and east trenches indicated decreasing chloride concentrations with depth while remaining above 250 mg/kg, therefore soil borings were installed to delineate the chloride-impacted soil in these directions.

The first soil boring (SB-1) was drilled to a depth of 60 feet just east of the original vent location. Chloride concentrations slightly above 250 mg/kg were encountered from 30 to 40 feet below the surface. SB-2 was installed 20 feet east of SB-1 to a depth of 20 feet. It encountered chloride concentrations slightly above 250 mg/kg only at the five foot depth. SB-3 was installed 20 feet north of the original vent location, extended 20 feet in depth, and did not encounter chloride concentrations above 250 mg/kg. SB-4 was installed 40 feet north of the original vent location, extended 40 feet in depth, and did not encounter chloride concentrations above 250 mg/kg.

Figure 1
Worst-Case Chloride Soil Profile
Hobbs C-30 Vent Site



The trenching and soil borings show that the extent of the chloride-impacted soil is less than 1,600 ft^2, at depths of approximately 3 to 12 feet below the surface. Figure 1 is a worst-case composite profile of the chloride-impacted soil at the site. Field chloride results were calibrated based on the laboratory data.

Results: Hydrocarbons

Field screening of hydrocarbon vapors in the soil from the trenches identified concentrations greater than 100 ppm only in the center and north excavations (788 ppm maximum). Laboratory analysis of BTEX from these samples indicate maximum concentrations of benzene (<0.05 mg/kg), toluene (<0.05

mg/kg), ethylbenzene (0.359 mg/kg), and total xylenes (1.1 mg/kg) at 9 to 12 feet below the surface. Soil borings were installed to delineate the extent of hydrocarbon-impacted soil at the original vent location and to the north of the vent location.

Field screening of hydrocarbon vapors in the soil borings were measured from drill cutting samples because the soil was too hard to recover material with a split spoon sampler. The highest vapor reading was encountered near the original vent location (SB-1) at 35 feet below the surface (614 ppm). Laboratory analyses from this sample indicate concentrations of benzene (<0.05 mg/kg), toluene (0.543 mg/kg), ethylbenzene (0.924 mg/kg), and total xylenes (6.35 mg/kg). In addition, the sample contained gas and diesel range organics which are essentially non-soluble with respect to leaching. Hydrocarbons were also present at lower concentrations in SB-3 and SB-4 to the north. A summary of the laboratory results from all of the soil sampling events are provided on Table 1 below.

Table 1
Rice Operating Hobbs C-30 Vent Site
Laboratory Data - Soil Samples

Sample Location	Depth (feet)	Sample Date	PID (ppm)	Chloride (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)
Source	5	4/8/10	--	384	--	--	--	--	--	<50	368
Excavation	9	4/8/10	341	128	<0.05	<0.05	0.359	<0.3	0.76	191	4,180
	12	4/8/10	320	160	<0.05	<0.05	0.108	<0.3	0.51	109	2,410
5' East	4	4/8/10	--	992	--	--	--	--	--	<10	<10
Excavation	12	4/8/10	--	272	--	--	--	--	--	<50	1,320
5' West	3	4/8/10	--	608	--	--	--	--	--	<50	137
Excavation	10	4/8/10	--	144	--	--	--	--	--	<50	3,050
5' South	4	4/8/10	--	736	--	--	--	--	--	<50	77
Excavation	9	4/8/10	--	160	--	--	--	--	--	<50	1,060
5' North	5	4/8/10	--	576	--	--	--	--	--	<50	209
Excavation	12	4/8/10	--	224	<0.05	<0.05	0.256	1.1	1.46	499	3,370
SB-1	35	5/12/10	614	304	<0.05	0.543	0.924	6.35	7.87	536	3,020
	60	5/12/10	23.6	48	<0.05	0.070	0.081	0.474	0.68	<10	120
SB-2	5	5/12/10	2.2	160	--	--	--	--	--	<10	<10
	20	5/12/10	1.0	32	--	--	--	--	--	<10	<10
SB-3	10	5/12/10	204	96	<0.05	0.184	0.315	1.92	2.47	250	2,200
	20	5/12/10	221	176	<0.05	<0.05	0.155	1.53	1.79	56	849
SB-4	25	5/12/10	282	128	<0.05	0.206	0.246	1.94	2.44	142	1,290
	40	5/12/10	251	144	<0.05	0.273	0.367	3.78	4.47	334	2,800

NMOCD Guideline Remediation Levels	250	10	--	--	--	50	No regulatory standards have been established
2006 NMED Soil Com./Indus. Vapor Exposure Risk		25.8	252	128	82	--	
Screening Guidelines Protect GW (DAF_{20})		0.0201	21.7	20.2	2.06	--	
Site Specific GW Protective Levels (DAF_{351})		0.353	381	355	36.2	--	

The site data that documents the residual mass of chloride in the vadose zone permit a conclusion that it will not contaminate ground water. Elevated concentrations of xylenes in the deep soil require further evaluation to insure the protection of the underlying ground water. The trenching and soil borings shows that the extent of the xylenes-impacted soil is 3,600 ft^2, at depths of approximately 5 to 45 feet below the surface.

Simulation Modeling

We used the VLEACH vadose zone model to determine if the xylenes identified during the site assessment would cause the underlying ground water to exceed the regulatory standard. The input to the model employed field data from the site, nearby locations, and conservative default values for parameters that were not measured at or near the site.

The simulation results indicate that a total of 1,500 years will be required for leaching to move the observed xylenes concentrations in the soil to ground water depth (See Figure 3 in Attachment D). During this time the xylenes mass input to the ground water will not be sufficient to cause concentrations in the ground water below the site to exceed the New Mexico water quality standard for xylenes. The model result shows the highest impact to ground water will occur about 800 years from now, with a concentration of 0.002 mg/L (the standard is 0.6 mg/L) (See Table 2, Attachment D).

VLEACH is conservative of ground water quality because the model does not take into account the natural biological degradation of the hydrocarbons. Attachment D provides an explanation of the data used and results from the simulation at the Hobbs C-30 Vent site. A detailed description of the model and a free windows-based program download is available from the USEPA at http://www.epa.gov/ada/csmos/models/vleach.html.

Recommendations

The site data that documents the residual mass of chloride and hydrocarbons in the vadose zone permit a conclusion that these constituents in the vadose zone will not with reasonable probability contaminate ground water or surface water, in excess of the standards in Subsection B and C of the 19.15.30.9 NMAC, through leaching, percolation or other transport mechanisms, or as the water table elevation fluctuates.

Our recommended corrective action for the site is re-vegetation of the ground surface to limit infiltration of precipitation and the subsequent migration of constituents of concern to ground water. As part of this effort, ROC plans to:

- Scrape and remove large rocks and caliche,
- Backfill the site with soil blended with amendments
- Broadcast seed by hand,
- Set up silt net fencing to protect new vegetation and inhibit erosion

Upon documentation of re-seeding with an appropriate mix of native grasses we will submit a Termination Request for this site's regulatory file.

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

Please contact Hack Conder of ROC at 575-393-9174 if you have any questions concerning this submission. Thank you for your time and consideration.

Sincerely,
R.T Hicks Consultants, Ltd.

Dale T. Littlejohn

Dale T Littlejohn
Geologist

Copy: Hack Conder, ROC

Attachment B

Corrective Actions

R.T. Hicks Consultants, Ltd.
901 Rio Grande Blvd. NW, Suite F-142
Albuquerque, NM 87104

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

VEGETATION FORM

1. General Information

Site name: HOBBS C-30 VENT 18.38						
U/L C	Section 30	Township 18S	Range 38E	County Lea	Latitude N 32*43.336'	Longitude W 103*11.453'
Contact Name: Bruce Baker						
Email: bbaker@rice-ecs.com						
Site size: 9000 square feet			Map detail of site attached ☐			
Additional information:						

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

Salvaged from site ☐	Bioremediated ☐	Imported ☒	Blended ☐	Depth (in): 4 ft.-1ft. , 1ft.- groundsurface blow sand with peanut hay
Texture: Sandy	Describe soil & subsoil: Blow sand and subsoil caliche			
Soil prep methods:	Rip ☐ Depth(in):	Disc ☐ Depth (in):	Rollerpack ☐	
Date completed: 6 /24 /2011				

3. Bioremediation

Fertilizer ☐	Hay ☒	Other ☐
Type:		Describe:
Lbs/acre:		

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

Custom seed mix ☒	Prescribed mix ☐	Seed mix name: Boyd Johnston Mix	Seeding date: 6/24/2011
Broadcast ☒ Method: Portable seeder			
Soil conditions during seeding: Dry ☒ Damp ☐ Wet ☐			
Photos attached ☐ Number of photos:	Observations: 10.5 lbs of Boyd Johnston Mix		

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

Name: Oscar Frayre	Title: Environmental Tech.	Date: 6/24/2011
Signature:		

Hobbs C-30 vent
Unit C, Section 30, T18S, R38E

excavating the site, facing southeast

50x17-ft excavation padded with 6" blow sand, facing south

installing a 20-mil, reinforced liner

hauling off excavated soil, facing northwest

importing clean blow sand, facing east

spreading imported blow sand blended with peanut hay, facing east

seeding the backfilled site, facing southeast

site complete, facing south

CARDINAL Laboratories

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

June 27, 2011

Hack Conder

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: MAJOR PROJECT HOBBS C-30 VENT (18/38)

Enclosed are the results of analyses for samples received by the laboratory on 06/24/11 17:11.

Cardinal Laboratories is accredited through Texas NELAP for:

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

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

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 (V2, V3)

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	06/24/2011	Sampling Date:	06/24/2011
Reported:	06/27/2011	Sampling Type:	Soil
Project Name:	MAJOR PROJECT HOBBS C-30 VENT (18/	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: IMPORTED SOIL (H101316-01)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**80.0**	16.0	06/26/2011	ND	432	108	400	7.14	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

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

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

Company Name: Oscar Trayne	**BILL TO**
Project Manager: Mark Conder	P.O. #:
Address: 1323 W. Taylor	Company:
City: Hobbs State: N.M Zip: 88240	Attn:
Phone #: Fax #:	Address:
Project #: Project Owner:	City:
Project Name:	State: Zip:
Project Location: Major Project Hobbs C-30 unit 18.38	Phone #:
Sampler Name:	Fax #:

FCR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE	ICE / COOL	OTHER	DATE	TIME	CL
H101316 -1	Imported Soil	G	1			X					✓		6-24-11	2:30	X

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

Relinquished By:	Date: 6-24-11	Received By: Jodi Henson	Phone Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 5:11		Fax Result: ☐ Yes ☐ No Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS: H-conder@arce-ecs.com; K-Jones@SWD.com L-Weinheimer@arce-ecs.com
	Time:		

Delivered By: (Circle One)	Sample Condition	CHECKED BY:
Sampler - UPS - Bus - Other: 30°	Cool: ☐ Yes ☐ No Intact: ☑ Yes ☐ No	(Initials)

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

#26

RICE ENVIRONMENTAL CONSULTING & SAFETY

122 West Taylor Hobbs, NM 88240
PHONE: (505) 393-9174 FAX: (505) 397-1471
PID METER CALIBRATION & FIELD REPORT FORM

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

GAS COMPOSITION: ISOBUTYLENE 100PPM / AIR: BALANCE

LOT NO :930132	EXPIRATION DATE:4/28/13
METER READING ACCURACY:100.00	

ACCURACY : +/- 2%

COMPANY
RICE

SYSTEM	JUNCTION	UNIT	SECTION	TOWN SHIP	RANGE
HOBBS	C-30 VENT	C	30	18	38

SAMPLE ID	PID	SAMPLE ID	PID
IMPORTED SOIL	0.9		

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

SIGNATURE:

DATE: 6-24-11