1R - 428-47

REPORTS

DATE:

June 23, 2009

R. T. HICKS CONSULTANTS, LTD.

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

June 23, 2009

RECEIVED

JUN 24 2009

Environmental Bureau
Oil Conservation Division

Mr. Brad Jones
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

RE: **Hobbs SWD System F-25 EOL Site: T-18-S, R-37-E, Section 25, Unit F**
NMOCD CASE #: 1R428-47
Termination Request

Dear Mr. Jones:

On behalf of Rice Operating Company (ROC), R.T. Hicks Consultants, Ltd. is submitting this termination request for the Hobbs F-25 EOL regulatory file. The investigation demonstrated that neither chloride nor hydrocarbons are present in the vadose zone in quantities that represent a threat to ground water quality.

Background
The Hobbs SWD F-25 EOL site is located west of the city of Hobbs at T-18-S, R-37-E, Section 25, in Unit F. The original junction box and equipment was believed to have been removed during system abandonment prior to 2002 but not specifically documented. The Investigation Characterization Plan (ICP), dated February 19, 2009 and approved by the NMOCD on April 22, 2009, is provided as Attachment A to this letter. The ICP includes background information and a site vicinity map for this and five other nearby ROC sites.

Field Program
On May 21, 2009, ROC installed a single 10-foot deep sampling trench at the location of the original junction box. The trench encountered fine-grain sand and caliche from the surface to a depth of five feet. A hard caliche zone was present from five feet to the total depth of the trench. Soil samples were recovered at 2-foot intervals and field screened for chlorides by titration and hydrocarbons using a photoionic detector (PID).

The field screening results indicate that the greatest chloride concentration (122 mg/kg) was present at eight feet below the surface and the greatest hydrocarbon concentration (2.3 ppm) was present at ten feet below the surface. Based on the guidelines included with the ICP, no additional trenches or soil borings were required for delineation. Confirmation laboratory analysis for chloride was performed on the 8- and 10-foot samples, both showed chloride concentrations below detection limits (<16 mg/kg). The laboratory results and chain-of-custody documentation are provided in Attachment B. Plate 1 shows the location of the trench relative to the original excavation and all the field screening and laboratory verification results.

Re-Vegetation
Attachment C presents documentation of seeding the site with native plant seeds. On May 22, 2009, ROC prepared the surface and seeded the site with 0.5 lbs. of Lea county Mix, 0.5 lbs. Blue Grama and 1.0 lb. Heavy Re-cleaned Race Horse Oats. The area surrounding the site is well vegetated, as shown in Attachment C.

Recommendations
Based on the trench sampling information, we conclude that this site is in compliance with the mandates of Part 29 such that soil at the site does not and will not endanger public health or the environment. Observed chloride concentrations in soil at the site are consistent with background levels for the area. We recommend termination of the 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.

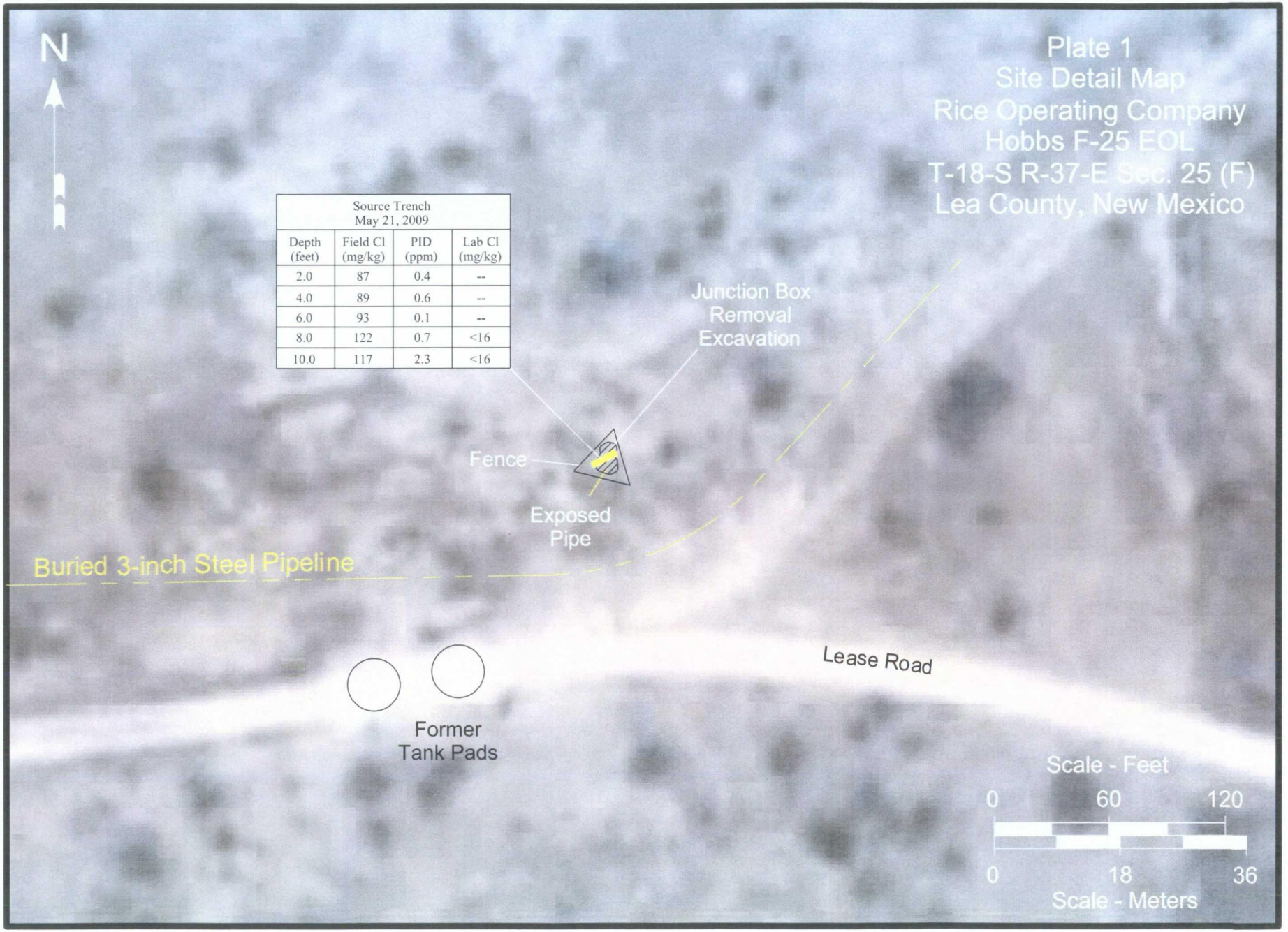
Please contact Hack Conder of ROC at 575-393-9174 if you have any questions concerning this submission. Thank you for your time and consideration.

Sincerely,
R.T Hicks Consultants, Ltd.

Dale T. Littlejohn

Dale T Littlejohn
Geologist

Copy: Hack Conder, ROC
NMOCD Hobbs
Edward J. Hansen, NMOCD Santa Fe


N
Plate 1
Site Detail Map
Rice Operating Company
Hobbs F-25 EOL
T-18-S R-37-E Sec. 25 (F)
Lea County, New Mexico
Source Trench
May 21, 2009
Depth (feet) | Field Cl (mg/kg) | PID (ppm) | Lab Cl (mg/kg)
2.0 | 87 | 0.4 | --
4.0 | 89 | 0.6 | --
6.0 | 93 | 0.1 | --
8.0 | 122 | 0.7 | <16
10.0 | 117 | 2.3 | <16
Junction Box
Removal
Excavation
Fence
Exposed
Pipe
Buried 3-inch Steel Pipeline
Lease Road
Former
Tank Pads
Scale - Feet
0
60
120
0
18
36
Scale - Meters

ATTACHMENT A
Investigation Characterization Plan

R. T. HICKS CONSULTANTS, LTD.

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

February 19, 2009

Mr. Brad Jones
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

RE: Investigation & Characterization Plan
Hobbs Salt Water Disposal System:
Jct. A-6, F-24-3 Vent, F-25 EOL, G-9 Vent, Jct. A-25, Jct. F-24-1
T18S, R37E, Sections 24 & 25, and T19S, R38E Sections 6 & 9

Dear Mr. Jones:

On behalf of Rice Operating Company (ROC), R.T. Hicks Consultants, Ltd. is pleased to submit this Investigation & Characterization Plan (ICP) for the six (6) junction box and vent sites within the Hobbs Salt Water Disposal System referenced above. Plate 1 is a map showing the sites relative to major roads in the area. Plate 2 shows the sites, nearby USGS monitoring wells, and a regional potentiometric surface map.

The work elements proposed below will allow us to characterize these sites and develop an appropriate corrective action plan.

1. ROC will identify and document the location of all current and historic equipment and pipelines associated with each site.
2. ROC will use a backhoe with a 12-foot vertical reach to install a series of sampling trenches in order to recover soil samples and delineate the lateral extent (and potentially the vertical extent) of impacted soil.
3. If characterization by the backhoe is insufficient to define the extent and magnitude of past releases, ROC and Hicks Consultants will use a drilling rig to install one soil boring at the center of the source area to delineate the vertical extent of chloride in the soil.
4. Soil samples obtained by the backhoe or drilling rig will be obtained from regular intervals below ground surface.
5. Representative soil samples will be sent to a laboratory to allow for verification of the field chloride and PID results.
6. General soil texture descriptions will be provided for each sample trench or boring.
7. The criteria to delineate the extent of impact during trenching as well as in a soil boring is 5 point chloride decline vs. depth, or:
   a. After three consecutive samples demonstrate <250 ppm chloride using field analyses and <100 ppm total hydrocarbon vapors using the headspace method (see attached ROC Quality Procedure in Appendix A), or
   b. After five consecutive samples show a decreasing trend of chloride and hydrocarbons and the last sample shows chloride < 250 ppm and total hydrocarbon vapors <100 ppm (Appendix A).
   c. Soil boring to capillary fringe should neither (a) or (b) apply

8. If the boring penetrates the capillary fringe, a monitoring well will be completed with a 2 or 4" diameter casing 25 feet down gradient from confirmed impact for use during possible corrective actions. Plate 2 presents a potentiometric surface map for the site area.
9. If field analysis of hydrocarbon vapors and observations of staining show that hydrocarbon impact is unlikely at the site or below 20-feet, collection of samples from cuttings may be substituted for split spoon sampling (chloride only).

The ROC trench characterization will be employed to identify the lateral extent of chloride at each site, if possible. If trenching does not fully characterize the lateral extent of chloride at each site, boreholes will be advanced 20 feet beyond the furthest trenches where the soil data has an average chloride concentration greater than 1,000 mg/kg. The total depth of borings installed to characterize lateral extent shall be 20 feet below ground surface with soil samples for delineation taken at 5 foot intervals.

Rice Operating Company (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 who own the Hobbs System (System Partners) provide all operating capital on a percentage ownership/usage basis. Major projects require System Partner authorization for expenditures (AFE) approval and work begins as funds are received. We will implement the work outlined herein after NMOCD approval and subsequent authorization from the System Partners. The Hobbs SWD system is in abandonment.

For all environmental projects, ROC will choose a path forward that:

1. Protects public health.
2. Provides the greatest net environmental benefit.
3. Complies with NMOCD Rules.
4. Is supported by good science.

Following the site characterization described above, a Corrective Action Plan with the data and analysis supportive of a procedure for site file termination, or a termination request will be submitted, depending on characterization findings. Quality Procedures for characterization work are provided in Appendix A.

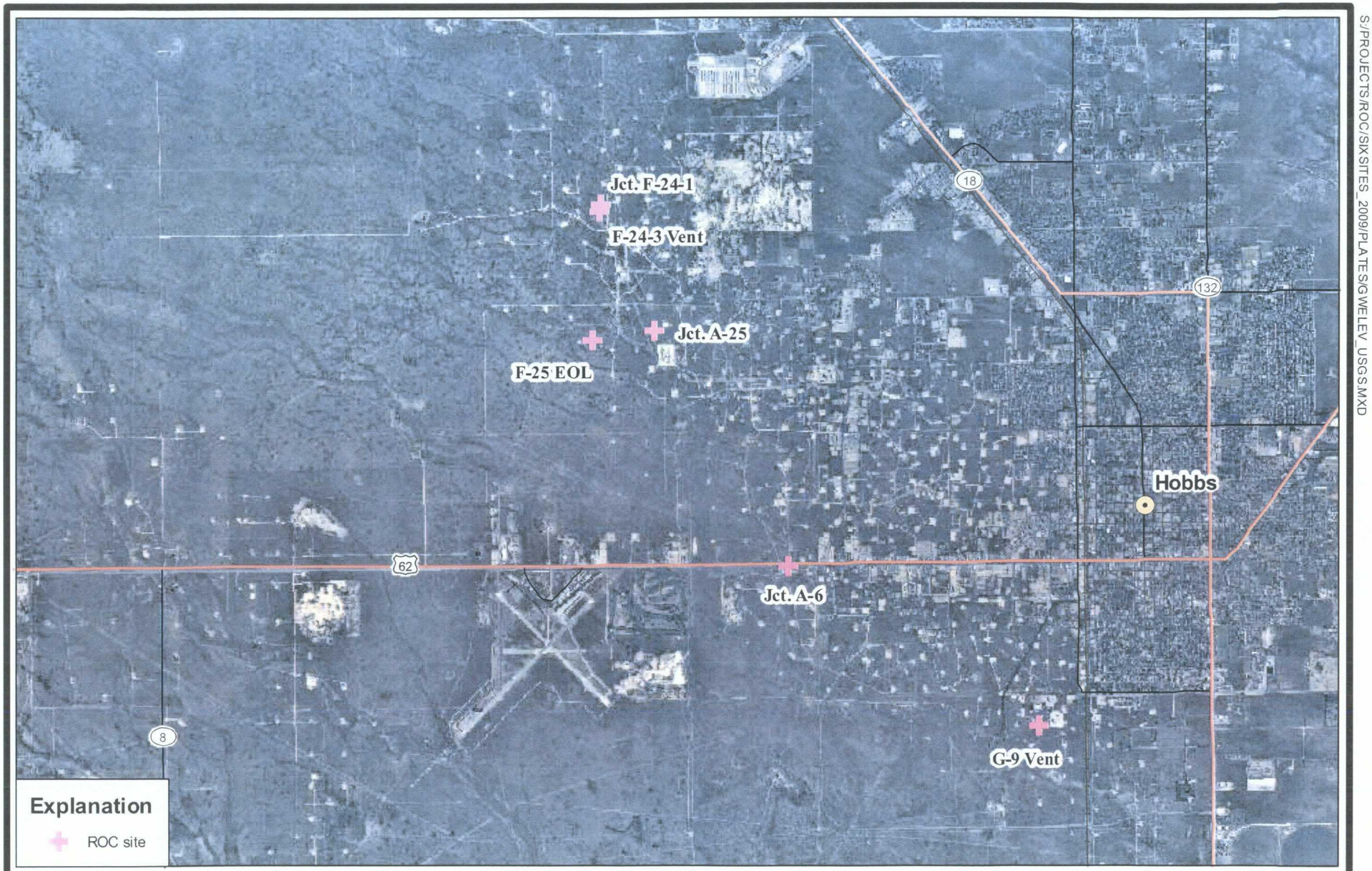
If you have any questions or comments regarding this ICP, please contact me at our Albuquerque office or Hack Conder of Rice Operating Company.

Sincerely,
R.T. Hicks Consultants, Ltd.

Katie Lee

Katie Lee
Project Scientist

Copy: Rice Operating Company
Edward J. Hansen, NMOCD



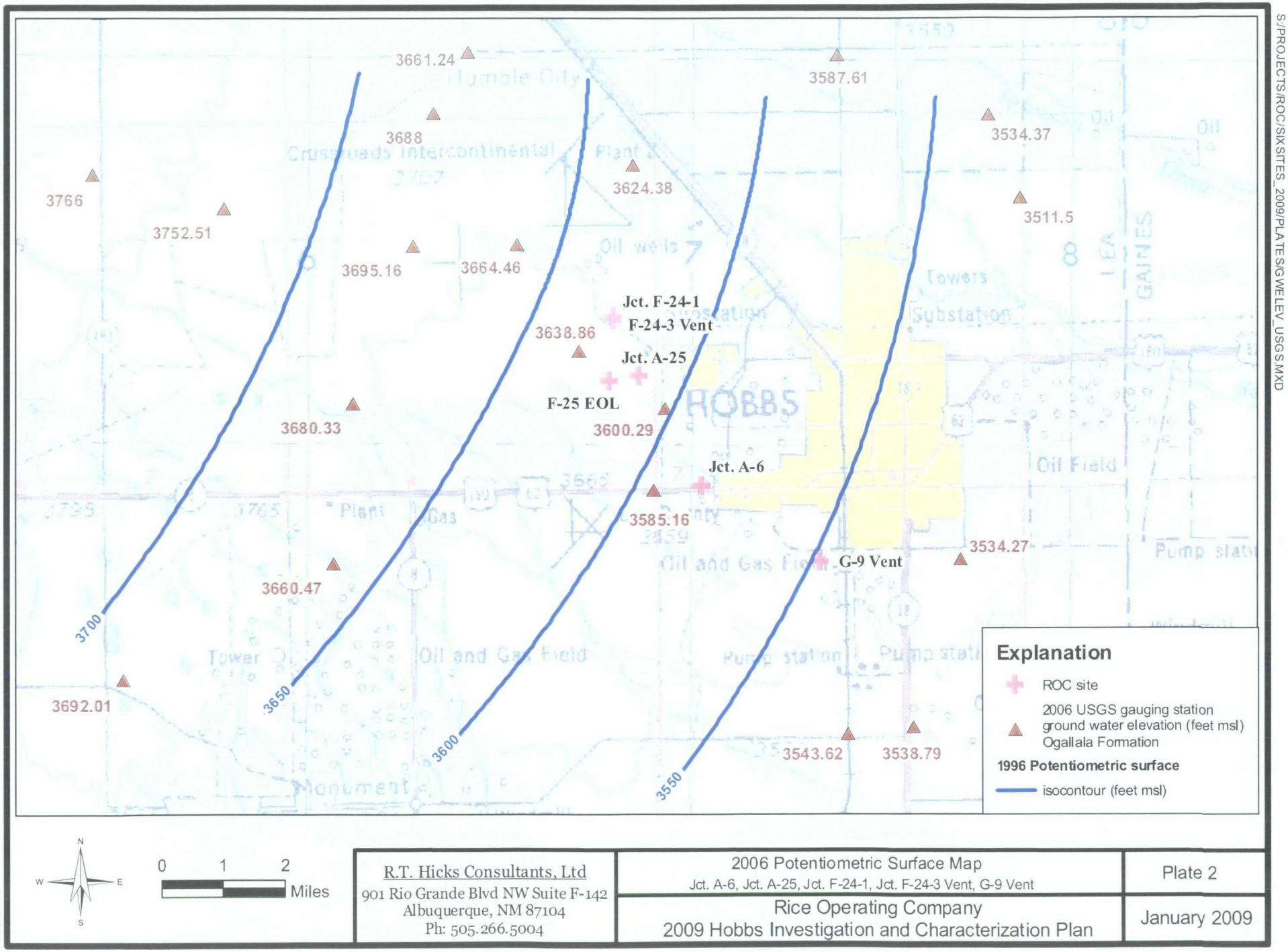
S:/PROJECTS/ROC/SIXSITES_2009/PLATES/GWELEV_USGS.MXD

1/28/2009

R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 Ph: 505.266.5004	Site Map - 2005 Aerial Photo (RGIS) Jct. A-6, Jct. A-25, Jct. F-24-1, Jct. F-24-3 Vent, G-9 Vent
	Rice Operating Company 2009 Hobbs Investigation and Characterization Plan

Plate 1

January 2009



R.T. Hicks Consultants, Ltd
901 Rio Grande Blvd NW Suite F-142
Albuquerque, NM 87104
Ph: 505.266.5004

2006 Potentiometric Surface Map
Jct. A-6, Jct. A-25, Jct. F-24-1, Jct. F-24-3 Vent, G-9 Vent

Plate 2

Rice Operating Company
2009 Hobbs Investigation and Characterization Plan

January 2009

1/28/2009

S:/PROJECTS/ROC/SIXSITES_2009/PLATES/GWELEV_USGS.MXD

Appendix A

Rice Operating Company

QUALITY PROCEDURE - 03
Sampling and Testing Protocol - Chloride Titration Using .282 Normal Silver Nitrate Solution

1.0 Purpose
This procedure is to be used to determine the concentration of chloride in soil.

2.0 Scope
This procedure is to be used as the standard field measurement for soil chloride concentrations.

3.0 Sample Collection and Preparation

3.1 Collect at least 80 grams of soil from the sample collection point. Take care to insure that the sample is representative of the general background to include visible concentrations of hydrocarbons and soil types. If necessary, prepare a composite sanlple for soils obtained at several points in the sample area. Take care to insure that no loose vegetation, rocks or liquids are included in the sample(s).

3.2 The soil sample(s) shall be immediately inserted into a one-quart or large polyethylene freezer bag. Care should be taken to insure that no cross-contamination occurs between the soil sample and the collection tools or sample processing equipment.

3.3 The sealed sample bag should be massaged to break up any clods.

4.0 Sample Preparation

4.1 Tare a clean glass vial having a minimum 40 ml capacity. Add at least 10 grams of the soil sample and record the weight.

4.2 Add at least 10 grams of reverse osmosis water to the soil sample and shake for 20 seconds.

4.3 Allow the sample to set for a period of 5 minutes or until the separation of soil and water.

4.4 Carefully pour the free liquid extract from the sample through a paper filter into a clean plastic cup if necessary.

5.0 Titration Procedure

5.1 Using a graduated pipette, remove 10 m1 extract and dispense into a clean plastic cup.

5.2 Add 2-3 drops potassium chromate (K_2CrO_4) to mixture.

5.3 If the sample contains any sulfides (hydrogen or iron sulfides are common to oilfield soil samples) add 2-3 drops of hydrogen peroxide (H_2O_2) to mixture.

5.4 Using a 10 ml pipette, carefully add 0.282 normal silver nitrate (one drop at a time) to the sample while constantly agitating it. Stop adding silver nitrate when the solution begins to change from yellow to red. Be consistent with endpoint recognition.

5.5 Record the ml of silver nitrate used.

6.0 Calculation
To obtain the chloride concentration, insert measured data into the following formula:

$$\frac{0.282 \times 35{,}450 \times \text{ml } AgNO_3}{\text{ml water extract}} \times \frac{\text{grams of water in mixture}}{\text{grams of soil in mixture}}$$

Using Step 5.0, determine the chloride concentration of the RO water used to mix with the soil sample. Record this concentration and subtract it from the formula results to find the net chloride in the soil sample.

Record all results on the delineation form.

Rice Operating Company

QUALITY PROCEDURE -07
Sampling and Testing Protocol for VOC in Soil

1.0 Purpose
This procedure is to be used to determine the concentrations of Volatile Organic Compounds in soils.

2.0 Scope
This procedure is to be used as the standard field measurement for soil VOC concentrations. It is not to be used as a substitute for full spectrographic speciation of organic compounds.

3.0 Procedure

3.1 Sample Collection and Preparation

3.1.1 Collect at least 500 g. of soil from the sample collection point. Take care to insure that the sample is representative of the general background to include visible concentrations of hydrocarbons and soil types. If necessary, prepare a composite sample of soils obtained at several points in the sample area. Take care to insure that no loose vegetation, rocks or liquids are included in the sample(s).

3.1.2 The soil sample(s) shall be immediately inserted into a one-quart or larger polyethylene freezer bag and sealed. When sealed, the bag should contain a nearly equal space between the soil sample and trapped air. Record the sample name and the time that the sample was collected on the Field Analytical Report Form.

3.1.3 The sealed samples shall be allowed to set for a minimum of five minutes at a temperature of between 10-15 Celsius, (59-77° F). The sample temperatures may be adjusted by cooling the sample in ice, or by heating the sample within a generally controlled environment such as the inside of a vehicle. The samples should not be placed directly on heated surfaces or placed in direct heat sources such as lamps or heater vents.

3.1.4 The sealed sample bag should be massaged to break up any clods, and to provide the soil sample with as much exposed surface area as practically possible.

3.2 Sampling Procedure

3.2.1 The instrument to be used in conducting VOC concentration testing shall be an Environmental Instruments 13471 OVM / Datalogger or a similar pro-type instrument. (Device will be identified on VOC Field
Test Report Form.) Prior to use, the instrument shall be zeroed-out in accordance with the appropriate maintenance and calibration procedure

outlined in the instrument operation manual. The PID device will be calibrated each day it's used.

3.2.2 Carefully open one end of the collection bag and insert the probe tip into the bag taking care that the probe tip not touch the soil sample or the sidewalls of the bag.

3.2.3 Set the instrument to retain the highest result reading value. Record the reading onto the Field Test Report Form.

3.2.4 If the instrument provides a reading exceeding 100 ppm, proceed to conduct BTEX Speciation in accordance with QP-O2 and QP-O6. If the reading is 100 ppm or less, NMOCD BTEX guideline has been met and no further testing fur BTEX is necessary. File the Field Test Report Form in the project file.

4.0 Clean-up

After testing, the soil samples shall be returned to the sampling location, and the bags collected for off-site disposal, IN NO CASE SHALL THE SAME BAG BE USED TWICE. EACH SAMPLE CONTAINER MUST BE DISCARDED AFTER EACH USE.

ATTACHMENT B

Laboratory Reports and Chain-of-Custody Documentation

CARDINAL LABORATORIES

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

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

Receiving Date: 05/21/09
Reporting Date: 05/21/09
Project Number: NOT GIVEN
Project Name: HOBBS F-25 EOL
Project Location: HOBBS F-25 EOL

Analysis Date: 05/21/09
Sampling Date: 05/21/09
Sample Type: SOIL
Sample Condition: INTACT
Sample Received By: AB
Analyzed By: HM

LAB NO.	SAMPLE ID	Cl^- (mg/kg)
H17471-1	SOURCE TRENCH @ 8'	< 16
H17471-2	SOURCE TRENCH @ 10'	< 16
Quality Control		490
True Value QC		500
% Recovery		98.0
Relative Percent Difference		2.0

METHOD: Standard Methods	4500-ClB

Note: Analyses performed on 1:4 w:v aqueous extracts.

Chemist

05/22/09
Date

H17471 RICE

PLEASE NOTE: **Liability and Damages.** **Cardinal's** liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for 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 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 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 report shall not be reproduced except in full with written approval of Cardinal Laboratories.

CARDINAL LABORATORIES

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603
(505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325)673-7020

Company Name:	Rice Operating Company	**BILL TO**	
Project Manager:	Hack Conder	**P.O. #:**	
Address:	122 West Taylor	**Company:**	
City:	Hobbs	**State:** NM **Zip:** 88240	**Attn:**
Phone #:	393-9174	**Fax #:** 397-1471	**Address:**
Project #:		**Project Owner:**	**City:**
Project Name:	Holly F-25 Eol		**State:** **Zip:**
Project Location:	Holly F-25 Eol		**Phone #:**
Sampler Name:	Lara Weinheimer		**Fax #:**

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST
Lab I.D.	**Sample I.D.**	(G)RAB OR (C)OMP	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	Cl-
H17471-1	source trench @ 8'	G	1			✓					✓		5-21-09	10:42	✓
-2	source trench @ 10'	G	1			✓					✓		5-21-09	10:54	✓

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: L. Weinheimer	**Date:** 5-21-09 **Time:** 12:00	**Received By:**	**Phone Result:** ☐ Yes ☑ No **Add'l Phone #:**
Relinquished By:	**Date:** **Time:**	**Received By:**	**Fax Result:** ☐ Yes ☑ No **Add'l Fax #:**
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	**Sample Condition** Cool: ☐ Yes ☑ No Intact: ☑ Yes ☐ No	**CHECKED BY: (Initials)**	**REMARKS:** email results Hconder@riceswd.com; jpurvis@riceswd.com; Lweinheimer@riceswd.com

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

NEED SAMPLES BACK, PLEASE

ATTACHMENT C

Photo-Documentation of Site Re-Seeding Activities

HOBBS F-25 EOL

BROADCASTING SEED

RAKING IN SEED

Hansen, Edward J., EMNRD

From: Hack Conder [hconder@riceswd.com]
Sent: Monday, September 21, 2009 3:00 PM
To: Hansen, Edward J., EMNRD
Subject: FW: P&A and Soil Bores Backfilled.

Ed,

Our company policy for plugging and abandoning of wells and soil bores for ROC for the past several years is as follows, all monitor wells and soil bores were plugged with bentonite chips and water to the surface.

Thanks

Hack Conder
Enviromental Manager
Rice Operating Company
575-393-9174
fax 575-397-1471

This inbound email has been scanned by the MessageLabs Email Security System.