1R - 428-64

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

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

RE: **Hobbs SWD System Junction L-30 Site: T-18-S, R-38-E, Section 30, Unit L**
NMOCD CASE #: 1R428-64
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 Junction L-30 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 Junction L-30 is located west of the city of Hobbs at T-18-S, R-38-E, Section 30, in Unit L, and chloride concentrations above background levels were found in soil at the site during junction box abandonment excavations conducted on November 20, 2002. The NMOCD-approved Investigation Characterization Plan (ICP), dated April 4, 2008, is provided as Attachment A to this letter. The ICP includes background information and a site vicinity map for this and six other nearby ROC sites.

Field Program
The results of initial assessment indicate that the highest chloride concentration (1,289 mg/kg by field titration) was present at thirteen feet below the surface at the south wall of the original excavation. Elevated chloride concentrations up to 542 mg/kg were also identified in the center, east wall and west wall of the excavation. Hydrocarbon odors were described as "slight" from the field investigation notes but no laboratory samples were recovered to verify the hydrocarbon or field titration results during the initial assessment.

Hicks Consultants supervised a deep soil sampling program to complete the assessment of hydrocarbon- and chloride-impacted soil. On October 22, 2008, soil boring No. 1 (SB-1) was drilled adjacent to the south wall of the original excavation in order to delineate the vertical extent of the release in the area of greatest apparent impact. Soil samples were collected and field screened by ROC for hydrocarbons and chloride concentrations. Plate 1 shows the location of the soil boring relative to the original excavation and all the field screening and laboratory verification results.

No PID readings greater than 0 ppm were measured from the soil boring samples; therefore, we conclude that regulated hydrocarbons are not present in the soil at concentrations that represent a threat to fresh water, human health, or the environment. The highest chloride concentration from the soil boring was identified at 25 feet below the surface (1,046 mg/kg) and the concentrations decreased to less than 250 mg/kg at the total depth of the 50-foot boring. The horizontal extent of the chloride-impacted soil is approximately 900 ft^2.

Attachment B provides a soil lithology log including the field hydrocarbon and chloride screening data. Attachment C provides the laboratory report and chain of custody for verification of the October 22, 2008 field data.

Results
Titration results from SB-1 and the south wall of the original excavation indicate that the chloride concentrations in the soil greater that 250 mg/kg are present from near the surface to a depth of 45 feet. Concentrations greater than 1,000 mg/kg are present within a caliche and silt formation at 13 and 25 feet below ground surface (bgs). Chloride concentrations in the unconsolidated sand from 26-50 feet bgs were less than half of those observed in the caliche layer.

Simulation Modeling
We used the AMIGO tool (HYDRUS-1D model) to simulate the potential future impact to ground water due to non-saturated chloride transport through the vadose zone. The input to the model employed field data from the site, nearby locations, and conservative input data for parameters that were not measured at or near the site. The results of the simulation indicate that the ground water below the site will not exceed chloride concentrations of 121 mg/L (below WQCC standards) if no further corrective actions are taken. Attachment D provides a list of the specific parameters used in the simulation at the L-30 site.

Re-Vegetation
Attachment E presents documentation of seeding the site with native plant seeds. On April 28, 2009, ROC prepared the surface and seeded the site with 1.25 lbs. of Lea county Mix, 1.0 lbs. Blue Grama and 5.0 lbs. Heavy Recleaned Race Horse Oats.

Recommendations
Based on the soil boring information, we conclude that this site is in compliance with the mandates of Part 29 such that the remaining chloride-impacted soil does not endanger public health or the environment. 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.

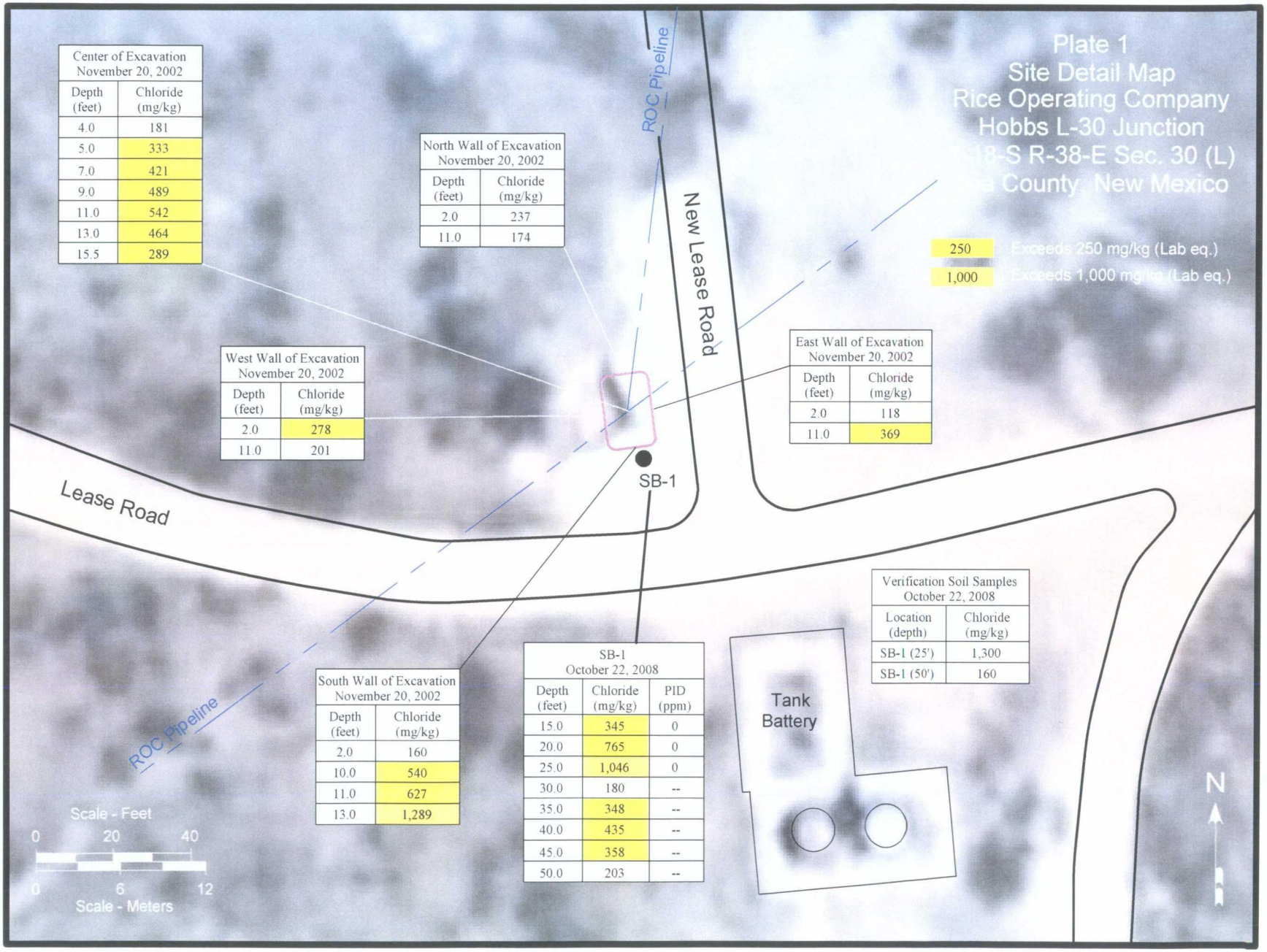
Please contact Hack Conder of ROC at 575-393-9174 if you have any questions concerning this submission. Thank you for your time and consideration.

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



Center of Excavation November 20, 2002	
Depth (feet)	Chloride (mg/kg)
4.0	181
5.0	333
7.0	421
9.0	489
11.0	542
13.0	464
15.5	289

North Wall of Excavation November 20, 2002	
Depth (feet)	Chloride (mg/kg)
2.0	237
11.0	174

West Wall of Excavation November 20, 2002	
Depth (feet)	Chloride (mg/kg)
2.0	278
11.0	201

East Wall of Excavation November 20, 2002	
Depth (feet)	Chloride (mg/kg)
2.0	118
11.0	369

South Wall of Excavation November 20, 2002	
Depth (feet)	Chloride (mg/kg)
2.0	160
10.0	540
11.0	627
13.0	1,289

SB-1 October 22, 2008		
Depth (feet)	Chloride (mg/kg)	PID (ppm)
15.0	345	0
20.0	765	0
25.0	1,046	0
30.0	180	--
35.0	348	--
40.0	435	--
45.0	358	--
50.0	203	--

Verification Soil Samples October 22, 2008	
Location (depth)	Chloride (mg/kg)
SB-1 (25')	1,300
SB-1 (50')	160

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

April 4, 2008

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

RE: Investigation & Characterization Plan
Hobbs Salt Water Disposal System: A-6 Vent, E-29 Vent, Jct. E-33-2, Jct L-30, K-29 EOL, Jct. O-29-1 Vent, P-29 Vent
T18S, R38E, Sections 29, 30, 33 and T19S, R38E Section 6

Dear Mr. Hansen:

On behalf of Rice Operating Company (ROC), R.T. Hicks Consultants, Ltd. is pleased to submit this Investigation & Characterization Plan (ICP) for the seven 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 to characterize these sites sufficiently to develop and appropriate corrective action plan are presented below.

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 employed for delineation 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 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 <100ppm 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 25 feet down gradient from the source 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.

The last criteria employed when evaluating any proposed remedy or investigative work is confirming that there is a reasonable relationship between the benefits created by the proposed remedy or assessment and the economic and social costs.

Each site shall have three submissions or a combination of:

1. This Investigation and Characterization Plan (ICP), which is a proposal for data gathering, and site characterization and assessment (this submission).
2. Upon evaluation of the data and results from the ICP, a recommended remedy will be submitted in a Corrective Action Plan (CAP).
3. Finally, after implementing the remedy, a closure report with final documentation will be submitted.

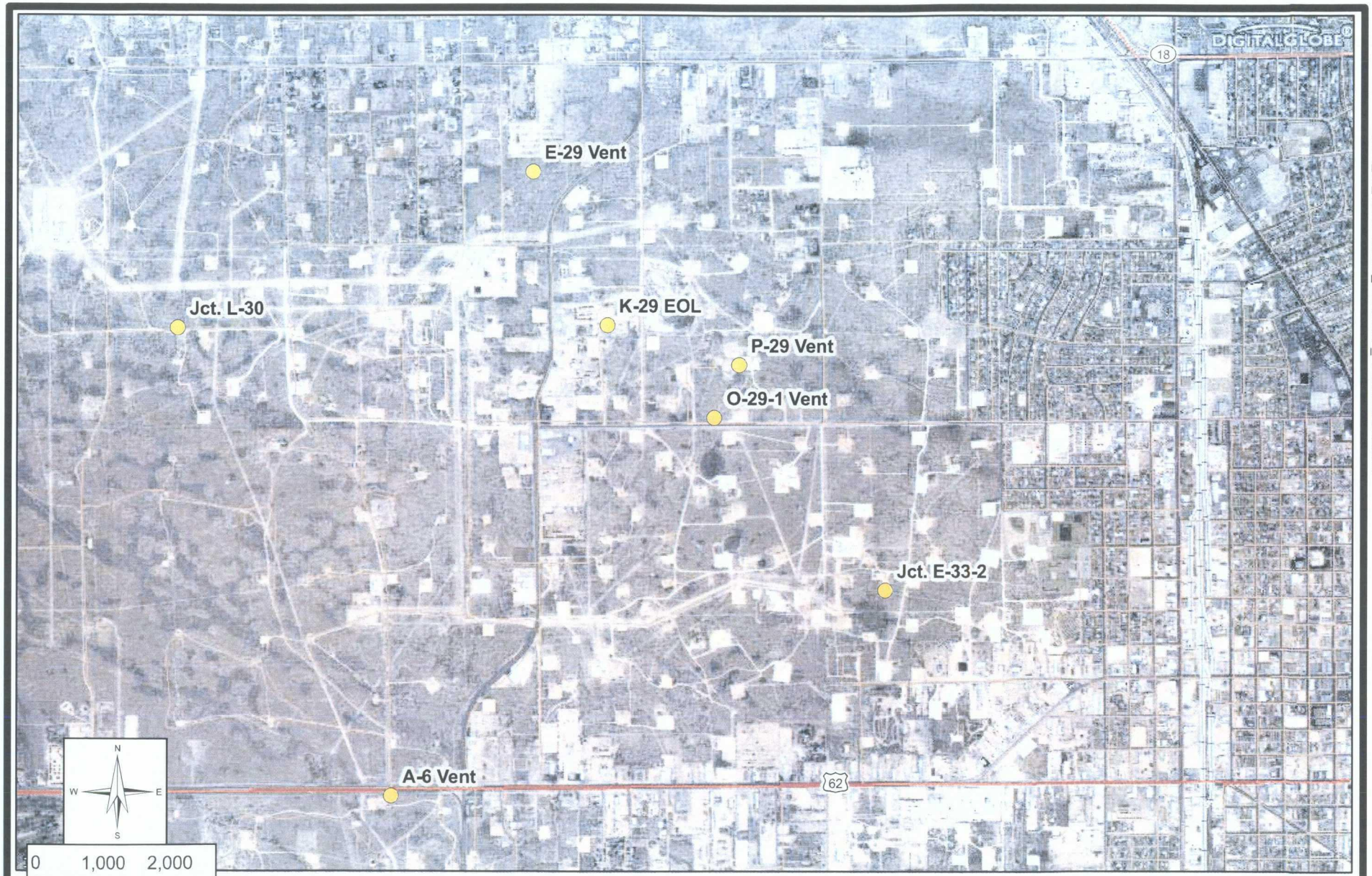
Following the site characterization described above, a Corrective Action Plan with the data and analysis supportive of a procedure for site closure will be submitted. Quality Procedures for characterization work are provided in Appendix A.

If you have any questions or comments regarding this ICP, please contact Kristin Pope of Rice Operating Company as she has reviewed and approved this submission.

Sincerely,
R.T. Hicks Consultants, Ltd.

Randall T. Hicks
Principal

Copy: Rice Operating Company



Explanation

ICP Site (Hobbs System)

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

Site Environs Relative to Hobbs, NM

Plate 1

Rice Operating Company: Hobbs System
Investigation & Characterization Plan

April 2008

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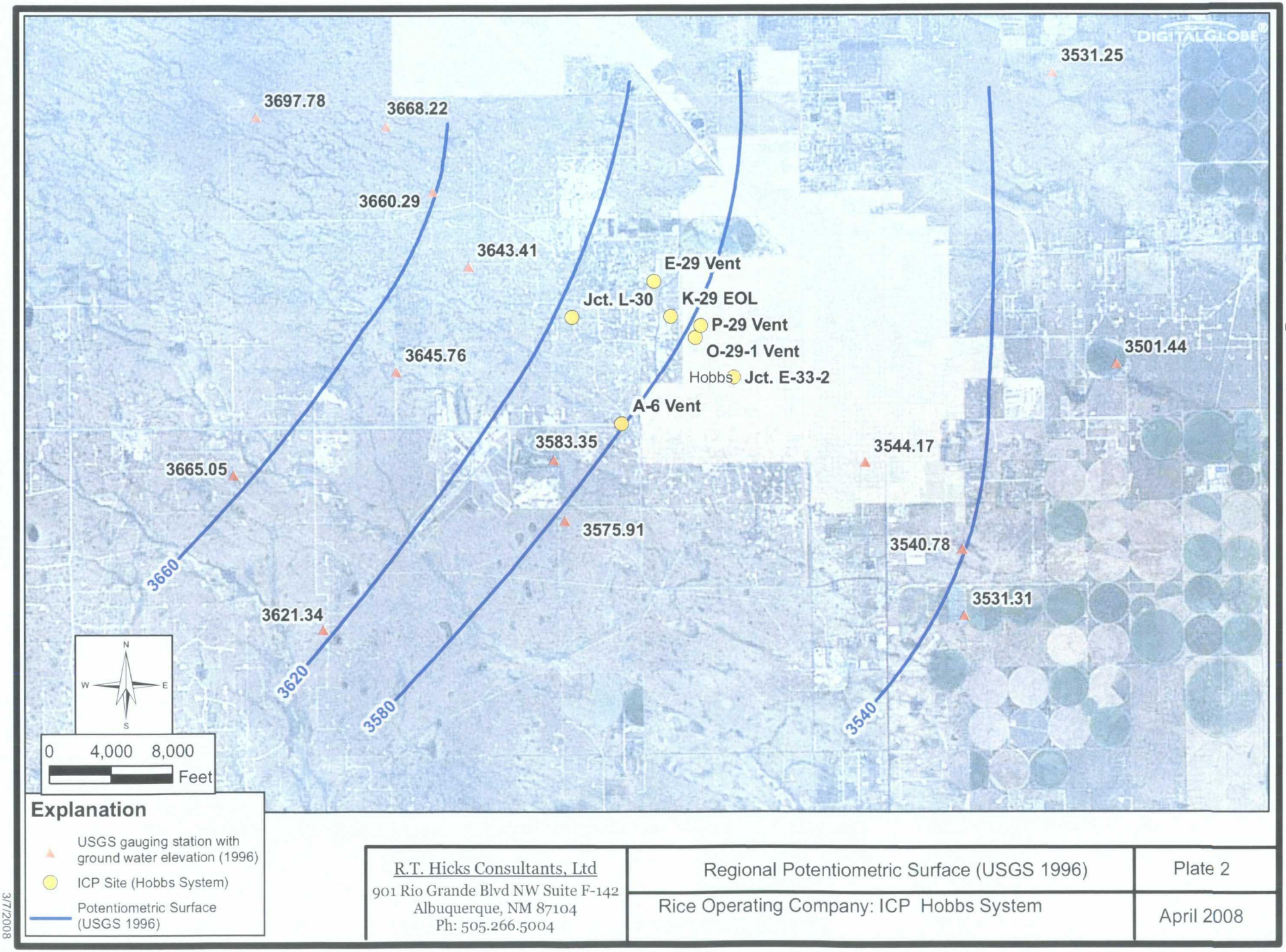
3/7/2008



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

Regional Potentiometric Surface (USGS 1996)

Rice Operating Company: ICP Hobbs System

Plate 2

April 2008

S:/PROJECTS/ROC/ICPS_03_2008/PLATE2_POTENTIO_HOBBS.MXD 802//3

3/7/2008

R. T. HICKS CONSULTANTS, LTD.
901 Rio Grande Blvd NW ▲ Suite F-142 ▲ Albuquerque, NM 87104 ▲ 505.266.5004 ▲ Fax: 505.266-0745

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. Ifnecessary, prepare a composite san1ple 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:

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

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.

Appendix A
ICP- A-6 Vent, E-29 Vent, Jct. E-33-2, Jct L-30, K-29 EOL, Jct. O-29-1 Vent, P-29 Vent

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

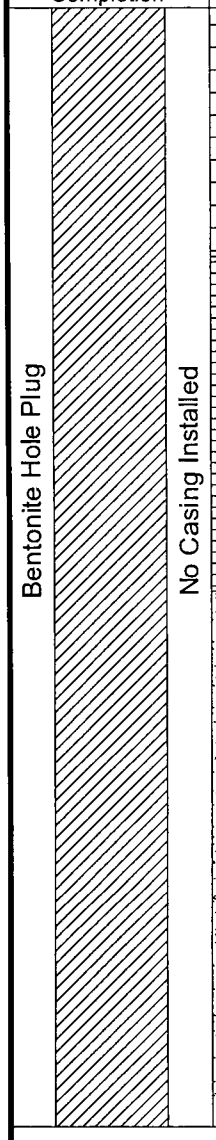
Lithology Log from Soil Boring (Vertical Delineation)
Conducted by ROC and RTH in October 2008

RT Hicks Consultants Ltd
P O Box 7624
Midland, Texas 79708
(432) 528-3878
(432) 689-4578 (fax)

LITHOLOGIC LOG (Soil Boring)

SOIL BORING NO.: SB-1
SITE ID: Hobbs SWD L-30
SURFACE ELEVATION: 3,653 (USGS)
CONTRACTOR: Harrison Cooper
DRILLING METHOD: Air-Rotary
INSTALLATION DATE: 10/22/08
WELL PLACEMENT: Adj. to south pit wall
BORING LAT /LONG: Lat. 32° 42' 54.6" North, Long. 103° 11' 34.8"

TOTAL DEPTH: 50 Feet
CLIENT: Rice Operating Co.
COUNTY: Lea County
STATE: New Mexico
LOCATION: T-18-S R-38-E 30 (L)
FIELD REP: D. Littlejohn
FILE NAME: \Hobbs SWD\L-30



Lithology	Type	% Rec	Cl (mg/kg)	PID (ppm)	Depth (feet)	Lithologic Description: LITHOLOGY, Color, grain size, sorting, rounding, special features
						SILT Light grayish brown.
	Excav.	--	160	--		
					5	
	Excav.	--	540	--	10	
	Excav.	--	627	--		CALICHE Grayish white, with interbedded silt, no odors.
	Excav.	--	1,289	--		
	Cutting	--	345	0	15	
	Cutting	--	756	0	20	
	Cutting	--	1,046	0	25	
						SAND Light brown, medium grain, well sorted, sub-rounded.
	Cutting	--	180	--	30	
	Cutting	--	348	--	35	
	Cutting	--	435	--	40	
						SAND Light brown, fine grain, medium sorted, angular.
	Cutting	--	358	--	45	SAND Light brown, medium grain, well sorted, rounded.
	Cutting	--	203	--	50	

Laboratory Results (10-22-08)	
Depth (feet)	Chloride (mg/kg)
25	1,300
50	160

TD = 50 Feet

ATTACHMENT C

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: 10/22/08
Reporting Date: 10/23/08
Project Number: NOT GIVEN
Project Name: HOBBS JCT. L-30
Project Location: HOBBS JCT. L-30

Analysis Date: 10/23/08
Sampling Date: 10/22/08
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: ML
Analyzed By: HM

LAB NO.	SAMPLE ID	Cl^- (mg/kg)
H16171-1	SB #1 @ 25'	1,300
H16171-2	SB #1 @ 50'	160
Quality Control		500
True Value QC		500
% Recovery		100
Relative Percent Difference		< 0.1

METHOD: Standard Methods	4500-Cl⁻B

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

Chemist

10-24-08
Date

H16171 RICE

CARDINAL LABORATORIES

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

Page ____ of ____

Company Name:	ROC	**BILL TO**	ANALYSIS REQUEST
Project Manager:		P.O. #:	
Address:	122. W. Taylor	Company:	
City: Hobbs	State: NM Zip: 88240	Attn:	
Phone #:	Fax #:	Address:	
Project #:	Project Owner:	City:	
Project Name: Hobbs gat. L-30		State: Zip:	
Project Location: Hobbs gat L-30		Phone #:	
Sampler Name: Lara Weinheimer		Fax #:	

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV: ACID/BASE	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	Chlorides
H16171-1	SB #1 @ 25'	G	1			✓					✓		10-22-08	2:40	✓
-2	SB #1 @ 50'	G	1			✓					✓		10-22-08	2:57	✓

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.

Terms and Conditions: Interest will be charged on all accounts more than 30 days past due at the rate of 24% per annum from the original date of invoice, and all costs of collections, including attorney's fees.

Sampler Relinquished:	Date: 10-22-08	Received By:	
	Time: 2:50		
Relinquished By:	Date:	Received By:	
	Time:		

Delivered By: (Circle One) Sampler - UPS - Bus - Other:

Temp. | Sample Condition: Cool ☐ Yes ☐ No, Intact ☐ Yes ☐ No | CHECKED BY: (Initials)

Phone Result: ☐ Yes ☒ No Add'l Phone #:
Fax Result: ☐ Yes ☒ No Add'l Fax #:
REMARKS:
email results
Hcowder @ riesud.com
jpurvis @ riesud.com
Lweinheimer @ rice isd.com

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476.

ATTACHMENT D

AMIGO Vadose Zone Screening Model Site Simulation Results

R. T. HICKS CONSULTANTS, LTD. ATTACHMENT D

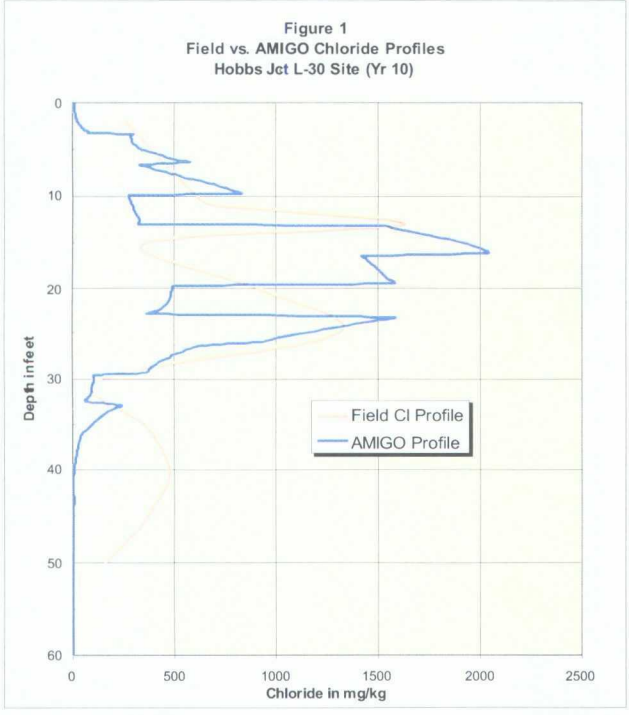
901 Rio Grande Blvd NW ▲ Suite F-142 ▲ Albuquerque, NM 87104 ▲ 505.266.5004 ▲ Fax: 505.266.0745

Input and Results of the AMIGO Simulation Performed at the Rice Operating Company Hobbs L-30 Site

The specific parameters used in the simulation at the L-30 site are presented in the table below.

Table 1 - Parameters Employed in AMIGO tool for L-30

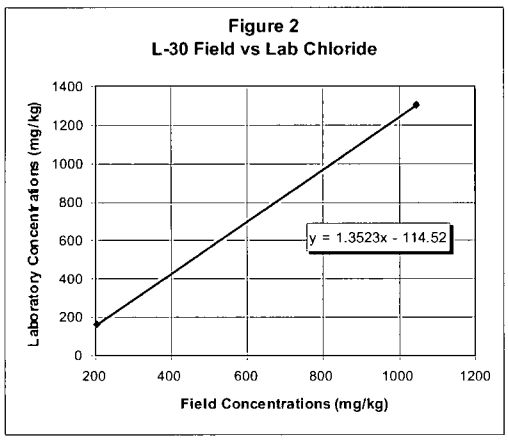
Model Parameter	Value	Source of Value
Climate (non-smoothed)	1946 - 1992	Pearl, NM Station
Input for distant or hypothetical well (ft)	NA	Not Required
Background Chloride in Aquifer (mg/L)	80	NM WAIDS, PTTC
Aquifer Porosity (unitless)	0.25	Sample Description
Groundwater Table Depth (ft)	50	Site Borings, F-29 Site
Aquifer Thickness (ft)	30	Professional Judgment Conservative Assumption
Slope of Water Table	0.0035	2007 ROC Water Table Data Section 29
Hydraulic Conductivity (ft/d)	80	Musharrafieh 1999
Average Chloride Load (kg/m²)	12.0	Calc. from Site Data using Mass-load
Max length of spill in dir. of GW flow (ft)	30	Site Data
Plant Uptake Trigger (%)	1.0	Prof. Judgment Conservative Assumption
Surface Layer	Med. Sand	Site Data (silty sand)
Soil Profile (sandy clay:caliche:sand ratio)	1:1:1	Boring Log



Musharrafieh and Chudnoff (1999) predict that the saturated thickness of the aquifer beneath the site will remain at least 50 feet until the year 2040. Data from similar sites show that, unlike hydrocarbons, chloride that enters the upper portion of an aquifer will become distributed throughout the entire saturated thickness within a relatively short travel distance from the source. The arbitrary selection of a 10-foot thick mixing zone (used as a default value for hydrocarbon sites) is unrealistic where the constituent of concern is chloride. In our opinion, a simulation using the 30-foot thickness of the aquifer is conservative for this site.

The AMIGO tool assumes a single surface spill is the initial source of chloride that is observed in the subsurface. In order to ensure an accurate calibration of the model to the historic spill which occurred at the Hobbs L-30 site, we compared each year of the simulated profile with the field data until a conservative match was achieved. A favorable but

conservative match to the field data was achieved using the year 10 simulation and the calculated chloride mass-load for the worst-case area of the release as demonstrated in Figure 1.

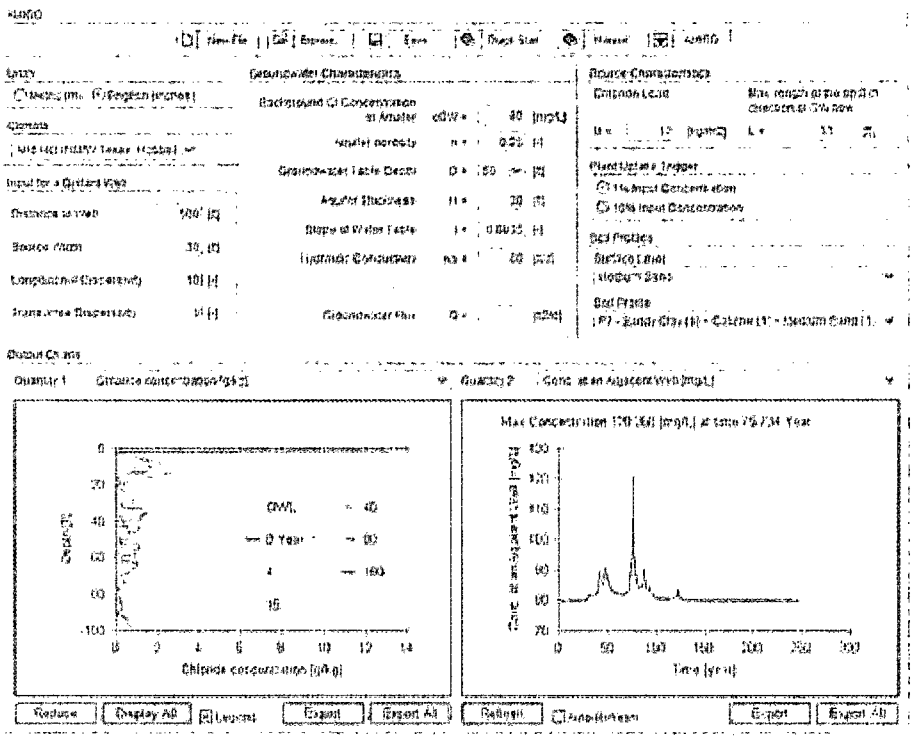


The red curve on Figure 1 is the profile using the maximum field chloride analysis for each depth sampled from the excavation (2 to 13 feet) and SB-1 (below 13 feet). The field (titration) concentrations were then adjusted based on a correction determined by comparing the field chloride concentrations with the duplicate laboratory sample concentrations as shown in Figure 2.

The blue curve in Figure 1 is the predicted chloride profile at year 10 of the simulation using a chloride load of 12.0 kg/m^2 (calculated from site data). Because the AMIGO simulation used the highest chloride area to represent the entire site it is considered a conservative input parameter.

The results of the simulation are shown below on the AMIGO ground water output chart which has been copied directly from the model results screen. It indicates that the ground water below the site will not exceed 121 mg/L (below WQCC standards) if no further corrective actions are taken. We believe the simulated concentration in ground water is a "worst-case" prediction because of the conservative input parameters used in the model.

Figure 3
AMIGO ground water output chart for L-30 Site



ATTACHMENT E

Photo-Documentation of Site Re-Seeding Activities

HOBBS JCT L-30

(1.25 lbs Lea County Mix + 1.0 lbs Blue Grama + 5.0 lbs Oats)

4/28/09: DISKING PRIOR TO SEEDING

4/28/09: SEEDING

HOBBS JCT L-30

4/28/09: TILLING AFTER SEEDING

4/28/09: FINISHED SITE

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