1R - 323

REPORTS

DATE:

2001

RICE Operating Company
122 West Taylor • Hobbs, New Mexico 88240
Phone: (505)393-9174 • Fax: (505) 397-1471

CERTIFIED MAIL
RETURN RECEIPT NO. 7099 3220 0002 3946 8035

March 1, 2001

Mr. Wayne Price
NM Energy, Minerals, and Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 S. St. Francis Drive
Santa Fe, NM 87504

RE: REDWOOD TANK AND EMERGENCY OVERFLOW PIT CLOSURE PLAN
BD SWD SITE A-22
Unit Letter A, Sec. 22, T22S, R37E NMPM
Lea County, NM

Dear Mr. Price:

Rice Operating Company (ROC) takes this opportunity to submit the closure plan for the emergency overflow pit and redwood tank area at the Blinebry Drinkard (BD) Salt Water Disposal Well A-22, located in Unit A, Sec. 22, T22S, R37E, Lea County, NM. This facility is located on Fee Land owned by Mr. J. D. Martin.

ROC is the service provider (operator) for the BD Salt Water Disposal System and has no ownership of any portion of pipeline, well or facility. The BD System is owned by a consortium of oil producers, System Partners, who provide all operating capital on a percentage ownership/usage basis. Replacement/closure projects of this magnitude require System Partner AFE approval and work begins as funds are received.

The Project AFE for the SWD A-22 Facility has been approved by the System Partners and work is ready to begin now.

The BD SWD Well A-22 facility is included in the ROC generic closure plan for emergency pits and below-grade redwood tanks (the redwoods at A-22 were above-ground) and is the seventh ROC-operated facility to apply under the generic plan. The BD SWD System replaced the above-ground redwood tanks with an above-ground, 500-barrel fiberglass tank in 1994. In January, 2001, a 500-barrel fiberglass emergency overflow tank was set. The emergency

overflow pit at this facility has not been used for many years and will be closed pursuant to NMOCD guidelines and the ROC generic work plan for emergency overflow pits. ROC expects to delineate the previous redwood tank area for any residual environmental impact pursuant to NMOCD guidelines. The enclosed C-103 form addresses this intention and defines the site-specific assessment for OCD guidelines. Supporting documentation is also enclosed.

A temporary tank system will not be necessary at this site, as all of the disposal fluid has been diverted to an alternate disposal facility.

ROC will schedule all major events with a 48-hour advance notice to the NMOCD. Whole Earth Environmental will be the on-site manager of the excavation project. The Final Closure Report will follow at the end of the project.

Thank you for your consideration of this redwood tank and emergency overflow pit closure plan.

RICE OPERATING COMPANY

Carolyn Doran Haynes

Carolyn Doran Haynes
Operations Engineer

Enclosures
cc: LBG, file,

Mr. Chris Williams
NMOCD, District I Office
1625 N. French Drive
Hobbs, NM 88240

Mike Griffin
Whole Earth Environmental, Inc.
19606 San Gabriel
Houston, TX 77084

RICE *Operating Company*
122 West Taylor · Hobbs, NM 88240
Phone: (505) 393-9174 · Fax: (505) 397-1471

SITE PROFILE

Location
The Blinebry Drinkard (BD) SWD Facility A-22 is situated approximately 3 ½ miles south of Eunice, NM. A map of the area is included in this report.

Site History
The site is used as a flow-through collection and injection facility for salt-water disposal of the BD Salt Water Disposal System. The facility used two 12' diameter 250 barrel above-ground redwood tanks as flow-through collection vessels that were replaced with an above ground 500 barrel fiberglass tank in 1994. There is an emergency overflow pit to be closed at this site. A 21.5' diameter fiberglass overflow tank has been set to provide for overflow containment.

The SWD Well A-22 is located at this site. This facility is a "stand-by" disposal facility and is not regularly used because of the added operating cost of a triplex pump. This facility is activated several times throughout the year when either one of the main disposal well facilities may be inoperative, such as for well service, tank cleaning, etc.

A map of the facility is included in this report. This upgrade is scheduled to start March 2001 and be completed by May 2001.

Land Use
This facility is located on Fee Land. The 2.5-acre disposal facility site has been in use since 1976 and the lease agreement with current landowner J. D. Martin has been in effect since 1996. There is a copy of the renewed lease agreement included in this report.

The primary use of this land is oil and gas production. The Environmental Plus, Inc. reclamation facility is located just ½ mile to the north. The topography is unremarkable.

Distance to Surface and Ground Water
There are no domestic water wells within 200' of the facility. There are no windmills, water pumps or surface waters within 1000' of the facility. The vertical distance to groundwater at this site is estimated to be 65-185' BGS, according to the NMSEO database.

Submit 4 Copies
to Appropriate
District Office

DISTRICT I
P.O. Box 1980, Hobbs, NM 88241-1980

DISTRICT II
P.O. Drawer DD, Artesia, NM 88211-0719

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

Form C-134
Aug. 1, 1989

Permit No. H-47
(For Division Use Only)

APPLICATION FOR EXCEPTION TO DIVISION ORDER R-8952
FOR PROTECTION OF MIGRATORY BIRDS Rule 8(b), Rule 105(b), Rule 312(h), Rule 313, or Rule711(I)

Operator Name: AGUA

Operator Address: PO BOX 1978 HOBBS, NM 88240

Lease or Facility Name BLINEBRY-DRINKARD SWD WELL#A-22 Location A - 22 - 22S - 37E
Ut. Ltr. Sec. Twp. Rge

Size of pit or tank: 94' X 61' X 9' OR 9191 BBLS.

Operator requests exception from the requirement to screen, net or cover the pit or tank at the above-described facility.

X The pit or tank is not hazardous to migratory waterfowl. Describe completely the reason pit is non-hazardous.

PIT IS USED ONLY IN EMERGENCIES (IE: POWER FAILURES, MAJOR PUMP REPAIRS, MAJOR WELL REMEDIAL WORK, ETC.)

1) If any oil or hydrocarbons should reach this facility give method and time required for removal:

METHOD: VACUUM TRUCK

TIME: WITHIN 48 HOURS OF DISCOVERY

2) If any oil or hydrocarbons reach the above-described facility the operator is required to notify the appropriate District Office of the OCD with 24 hours.

____ Operator proposes the following alternate protective measures:

CERTIFICATION BY OPERATOR: I hereby certify that the information given above is true and complete to the best of my knowledge and belief.

Signature R.W. Abbott Title MANAGER Date SEPTEMBER 15, 1989

Printed Name R.W. ABBOTT Telephone No. 505 393-6188

FOR OIL CONSERVATION DIVISION USE

Date Facility Inspected 9-25-89

Inspected by Eddie W. Seay
Oil & Gas Inspector

Approved by Eddie W. Seay
Oil & Gas Inspector

Title

Date OCT 2 1989

Submit 3 Copies To Appropriate District Office
District I
1625 N. French Dr., Hobbs, NM 87240
District II
811 South First, Artesia, NM 87210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

Form C-103
Revised March 25, 1999

WELL API NO.
30-025-25211

5. Indicate Type of Lease
STATE ☐ FEE ■

6. State Oil & Gas Lease No.

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

1. Type of Well:
Oil Well ☐ Gas Well ☐ Other SWD Well

7. Lease Name or Unit Agreement Name:
BLINEBRY-DRINKARD

2. Name of Operator
RICE OPERATING COMPANY

8. Well No.
A-22

3. Address of Operator
122 W. TAYLOR, HOBBS, NM 88240

9. Pool name or Wildcat
SAN ANDRES

4. Well Location
Unit Letter A : 817 feet from the NORTH line and 965 feet from the EAST line

Section 22 Township 22S Range 37E NMPM LEA County

10. Elevation *(Show whether DR, RKB, RT, GR, etc.)*
3352' GL

11. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
PERFORM REMEDIAL WORK	☐	PLUG AND ABANDON	☐	REMEDIAL WORK	☐	ALTERING CASING	☐
TEMPORARILY ABANDON	☐	CHANGE PLANS	☐	COMMENCE DRILLING OPNS.	☐	PLUG AND ABANDONMENT	☐
PULL OR ALTER CASING	☐	MULTIPLE COMPLETION	☐	CASING TEST / CEMENT JOB	☐		
OTHER: Close Emergency Overflow Pit	■			OTHER:			☐

12. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompilation.

Proposed work according to NMOCD approved generic closure plan for below-grade redwood tanks and emergency overflow pits:

Above ground redwood tanks were removed and replaced with an above ground fiberglass tank in 1994. Delineate pit and previous tank site for contamination, remove and properly dispose of highly impacted soils, sample and evaluate pursuant to NMOCD guidelines. All major events including boring, sampling events, etc. will be coordinated to allow 48 hours notice to NMOCD.

Information from the NMSEO groundwater database estimated depth to ground water is 65-185' BGS. Closest water well is indicated to be in Section 15 T22S R37E, which is >1000' from A-22 facility. A site review indicated no water sources within 1000' of A-22.

Depth to GroundWater: 65-185' = 10; Water Source within 1000' = 0; No surface water body within 1000' = 0

Site Assessment = 10

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Carolyn Doran Haynes TITLE: OPERATIONS ENGINEER DATE: 02/27/01

Type or print name CAROLYN DORAN HAYNES Telephone No. 505-393-9174

(This space for State use)

APPPROVED BY _____ TITLE _____ DATE _____

Conditions of approval, if any:

RICE Operating Company
122 West Taylor • Hobbs, New Mexico 88240
Phone: (505)393-9174 • Fax: (505) 397-1471

CERTIFIED MAIL
RETURN RECEIPT NO. Z 577 009 529

February 23, 2000

Mr. Wayne Price
NM Energy, Minerals and Natural Resources Department
Oil Conservation Division, Environmental Bureau
2040 S. Pacheco
Santa Fe, NM 87505

Re: Revision: Generic Closure Plan for Existing Pits and Below-Grade Redwood Tanks

Mr. Price:

As discussed in our telephone conversation February 22, Rice Operating Company (ROC) is submitting a further revision of the generic work plan for closing redwood tanks and emergency overflow pits that are presently inventoried in the ROC-operated SWD systems in Lea County. (ROC has no ownership of pipelines, wells, or facilities. Each system is owned by a consortium of oil producers, System Partners, who provide operating capital based on percent ownership or usage. Closure projects require AFE approval and work begins as funds are received.)

The revisions ROC proposes involve the on-site disposal of non-impacted concrete when practical and the use of a compacted clay layer rather than poly-liner for lining excavations. Also proposed is a revision to the closure procedure, adding an OCD verbal approval step in order for ROC to timely continue with installation of new surface facilities.

Closure reports for two locations, F-29 (two-year sampling of groundwater) and H-35 (closed), have been processed with the OCD. The P-25 location closure report has been submitted. Locations C-2 and L-21 are in remediation activity right now and Donna Williams has visited both sites. The C-2 site excavation will be managed with RE Environmental and the L-21 site will be managed with Whole Earth. ROC expects to be able to schedule final sampling for early March at both sites. The AFE has been approved for two additional sites in the Eunice-Monument-Eumont area with work start-up planned for early summer.

Thank you for your consideration of these revisions. If you have any questions, please call.

Carolyn Doran Haynes

Carolyn Doran Haynes
Operations Engineer

Cc KH; file; Ms. Donna Williams, OCD District I, Hobbs, NM

REVISED
4-23-99
2-23-00

Closure Plan for Below Grade Redwood Tank

1. Submit C-103 form to NMOCD along with the site-specific location, site assessment, work plan, time schedule, sampling and testing plan, etc., all pursuant to NMOCD guidelines.

2. Procure soil samples from 3' below bottom of tanks (9-11' below grade) at tank sides.
   A. If soil samples are < 100ppm TPH and < 250ppm Chlorides, proceed to Step 4.
   B. If soil samples are > 100ppm THP or > 250ppm Chlorides, proceed to Step 3.

3. Delineate any portion of tank site that is > 100ppm TPH or > 250ppm Chlorides with a backhoe or soil boring machine, obtaining samples for field and lab analysis at 5' intervals.
   A. When field analysis of bored-sample determines < 100ppm TPH and < 250ppm Cl, boring will be suspended pending laboratory analysis confirmation. Proceed to Step 4.
   B. If these parameter levels are not identified, then boring and sampling will continue to ground water. Upon reaching groundwater, the borehole will be cased and developed. Ground water samples will be procured and tested for major cations and anions, TDS and BETX levels. If ground water is found to exceed the WQCC standards, NMOCD will be notified immediately and the closure plan will move into Rule 19 procedures.

4. Write AFE to System Partners as directed by results of delineation of redwood tank site and of emergency pit (if both are at facility). Await approval and funding for site closing.

5. Move onto SWD facility site with temporary tank system. Re-route fluid flow from below grade redwood tanks into the temporary tank system. Plumb to SWD well.

6. Empty and clean redwood tanks, properly disposing of any BS & W. Excavate sides of redwood tanks to allow for working space to manipulate tank support banding. Remove redwood tanks reserving boards for proper disposal.

7. Excavate ramp into redwood tank hole. Remove and properly dispose of concrete base if impacted. If concrete is not impacted, use as fill (below plow depth) in excavation area.

8. Remove impacted soil (as practical) to eliminate hot spots; dispose per NMOCD guidelines.

9. Procure random 5-point composite bottom sample from 3'below tank bottom and random 4-point composite side sample for lab TPH, Benzene, and BTEX testing.
   A. If <100ppm TPH; BTEX, Benzene <10ppm; <250ppm Chlorides; proceed to Step 11.
   B. If >100ppm TPH; BTEX, Benzene >10ppm; >250ppm Chlorides; in the vadose zone but not reaching groundwater, proceed to Step 10.

10. Evaluate site for risk assessment: delineate to assess depth and horizontal extent of impact corresponding to NMOCD guidelines for site assessment value; excavate bottom and sides as practical to minimize risk; install compacted clay liner to meet or exceed 95% of a Proctor Test ASTM-D-698 with permeability (hydraulic conductivity) equal or less than $1x10^{-7}$ cm/sec for containment/isolation of impact.

11. Discuss results/risk assessment with NMOCD for verbal approval to proceed with backfill/installation of new tanks and plumbing within engineered secondary containment system.

12. Apply to NMOCD for closure of redwood tank site per NMOCD guidelines and site results.

REVISED
4-23-99
2-23-00

Closure Plan for Permitted Emergency Pits

1. Submit C-103 form to NMOCD along with the site-specific location, site assessment, work plan, time schedule, sampling and testing plan, etc., all pursuant to NMOCD guidelines.

2. Remove and properly dispose of visibly contaminated soil pursuant to NMOCD guidelines.

3. Procure soil samples from surface and 3' below excavation bottom and excavation sides.
   A. If soil samples are < 100ppm TPH and < 250ppm Chlorides, proceed to Step 6.
   B. If soil samples are > 100ppm THP or > 250ppm Chlorides, proceed to Step 4.

4. Delineate any portion of excavation that is > 100ppm TPH or > 250ppm Chlorides with a backhoe or soil boring machine, obtaining samples for field and lab analysis at 5' intervals.
   A. When field analysis of bored-sample determines < 100ppm TPH and < 250ppm Cl, boring will be suspended pending laboratory analysis confirmation. Proceed to Step 5.
   B. If these parameter levels are not identified, then boring and sampling will continue to ground water. Upon reaching groundwater, the borehole will be cased and developed. Ground water samples will be procured and tested for major cations and anions, TDS and BETX levels. If ground water is found to exceed the WQCC standards, NMOCD will be notified immediately and the closure plan will move into Rule 19 procedures.

5. Write AFE to System Partners as directed by results of delineation of redwood tank site and of emergency pit (if both are at facility). Await approval and funding for site closing

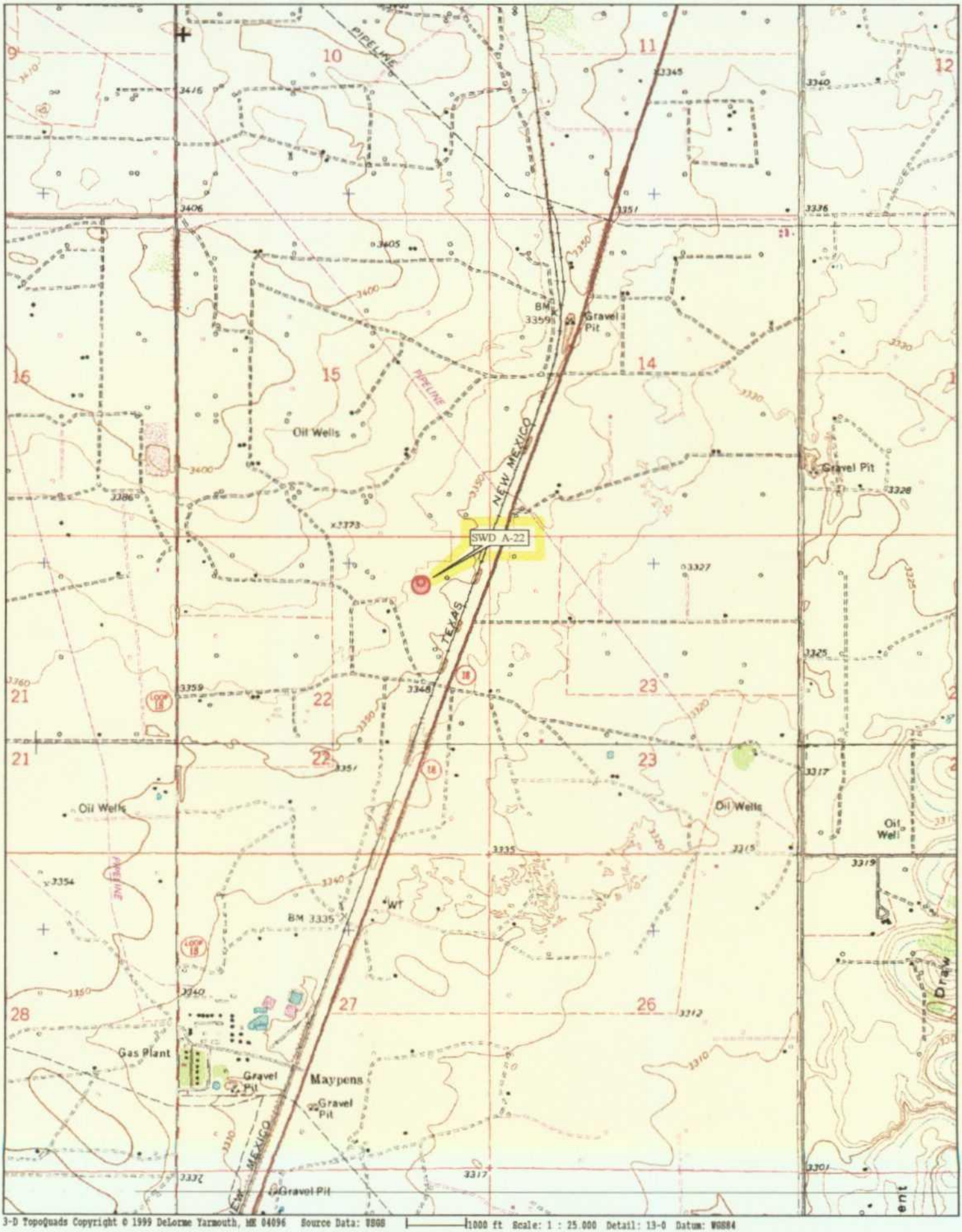
6. Remove impacted soil (as practical) to eliminate hot spots; dispose per NMOCD guidelines.

7. Procure random 5-point composite bottom sample and random 4-point composite side sample for laboratory TPH, Benzene, and BTEX testing.
   A. If <100ppm TPH; BTEX, Benzene <10ppm; <250ppm Chlorides; proceed to Step 9.
   B. If >100ppm TPH; BTEX, Benzene >10ppm; >250ppm Chlorides; in the vadose zone but not reaching groundwater, proceed to Step 8.

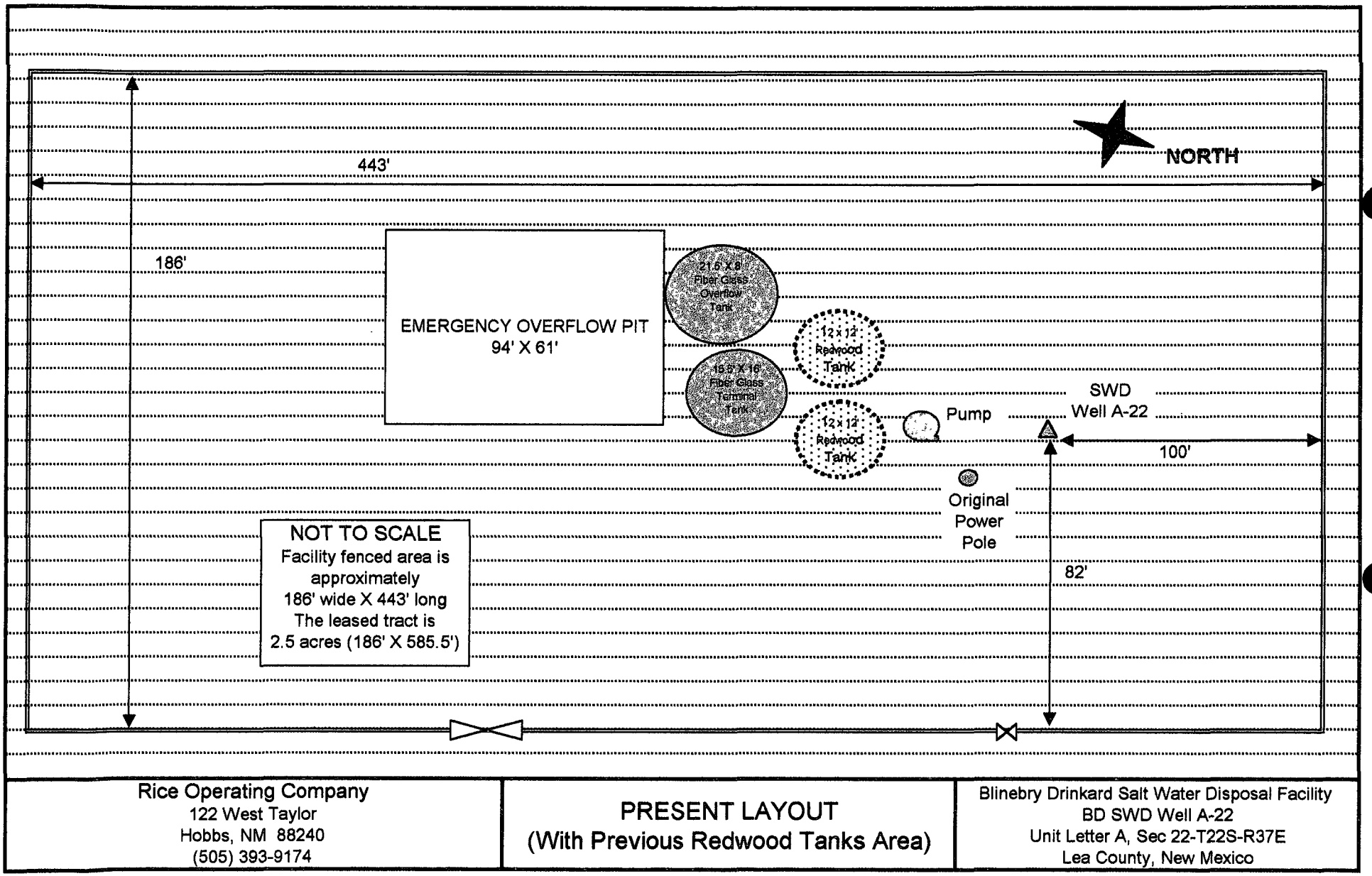
8. Evaluate site for risk assessment: delineate to assess depth and horizontal extent of impact corresponding to NMOCD guidelines for site assessment value; excavate bottom and sides as practical to minimize risk; install compacted clay liner to meet or exceed 95% of a Proctor Test ASTM-D-698 with permeability (hydraulic conductivity) equal or less than $1x10^{-7}$ cm/sec for containment/isolation of impact.

9. Discuss results/risk assessment with NMOCD for verbal approval to proceed with backfill.

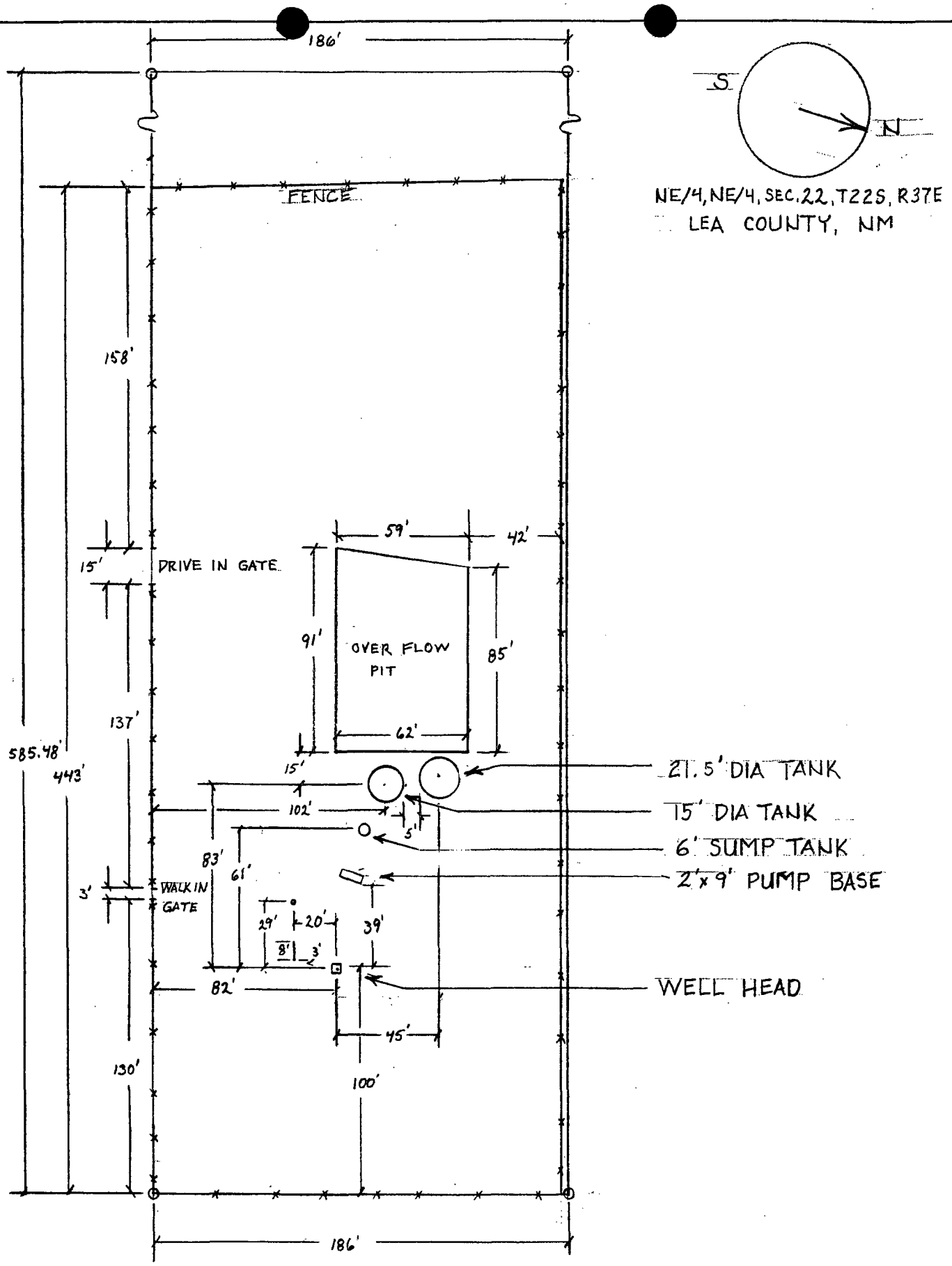
10. Apply to NMOCD for closure of permitted emergency pit site per NMOCD guidelines and site results.



 Source Data: USGS 1000 ft Scale: 1 : 25,000 Detail: 13-0 Datum: WGS84



Rice Operating Company 122 West Taylor Hobbs, NM 88240 (505) 393-9174	PRESENT LAYOUT (With Previous Redwood Tanks Area)	Blinebry Drinkard Salt Water Disposal Facility BD SWD Well A-22 Unit Letter A, Sec 22-T22S-R37E Lea County, New Mexico



DWN	SRT	3-1-01	BLINEBRY DRINKARD SWD SYSTEM SWD WELL A-22	SCALE 1"=60'
			Rice Engineering & Operating, Inc. Hobbs, New Mexico	DWG NO.

10/4

00128

FLUID DISPOSAL LEASE

FOR

BLINEBRY-DRINKARD SALT WATER DISPOSAL SYSTEM WELL A-22

This lease (hereinafter referred to as the "Lease") is made and entered into this date Dec. 20th, 2000 by and between J. D. Martin (hereafter referred to as "Lessors") and **Rice Operating Company**, a Delaware corporation, (hereinafter referred to as "Lessee"), **WITNESSETH**:

That in consideration of the mutual agreements herein contained, the parties hereby covenant to and with each other as follows:

1.

Lessors lease to Lessee the following described real property (hereinafter referred to as the "Lease Premises") situated in Lea County, New Mexico to wit:

> A tract of land located in the northeast quarter of Section 22, Township 22 South, Range 37 East, N.M.P.M., Lea County, New Mexico and more particularly described as follows:
>
> Beginning at a point from which the northeast corner of said Section 22 bears N 50°59' E a distance of 1114 feet; thence S 85°34' W a distance of 585.48 feet to a point; thence S 4°26' E a distance of 186.0 feet to a point; thence N 85°34' E a distance of 585.48 feet to a point; thence N 4°26' W a distance of 186.0 feet to the point of beginning, containing 2.50 acres, more or less
>
> EXCEPTING all of the oil, gas and other minerals and mineral substances therein and thereunder,

Together with the right of ingress and egress over existing roads to and from the Leased premises for the term and for the uses hereinafter set forth.

2.

The initial term of this lease shall be one (1) year. Lessee shall have the option to renew or extend this initial term for a year at a time for a maximum period of five (5) years upon written notice of Lessee's election to renew and extend the initial term or any subsequent extension, which notice shall be mailed

by Lessee to Lessor thirty (30) days in advance of the termination of the initial lease term or of any renewal or extension thereof.

3.

Lessee shall pay Lessors rent for the Leased Premises as follows:

(a) Lessee shall pay Lessor, as rent for the Leased Premises, the sum of $8,040.00 annually, to be paid in quarterly installments of $2,010.00 with said payments being made during January, April, July and October.

4.

Lessee shall have the exclusive right to use the Leased Premises upon which said Salt Water Disposal well is located for the purpose of injection and disposal of oil field brine and waste water into subsurface strata through said well bore as may be authorized by the New Mexico Oil Conservation Division and any other regulatory agency having jurisdiction thereof, and Lessee shall be entitled to place improvements upon the Leased Premises, such as water storage tanks, structures, appliances, engines and machinery used in connection with the well to save, treat, process, store, transport and inject such water. Notwithstanding the foregoing, Lessee shall not use said premises for the purpose of reclamation or treatment of oil waste for reclaiming oil, except that the present use of existing gathering tanks and oil storage tanks may continue during the initial lease term or any extension or renewal thereof.

5.

Lessee, in operating the well, shall not inject oil field brine and waste water into fresh water bearing sands or oil and gas bearing strata. Lessee, in operating the well, shall test on a reasonable basis, but not less than annually, to insure Lessee is not injecting oil field brine and waste water into fresh water bearing sands or oil and gas bearing strata. Lessee shall provide Lessors with a copy of the annual test Lessee conducts in accordance with the rules and regulation of the appropriate regulatory agencies by mailing a copy of same with the next quarterly rental

payment to Lessors. In addition, Lessee agrees to give Lessors, or their representative, access, upon request, to review and copy daily pressure records of LESSEE. Prior to any such tests, Lessee shall notify Lessors so that Lessors' representative may be present at such test.

6.

Commencing January 16, 2001, Lessee shall pay Lessors, their heirs, legal representatives and assigns, reasonable sums for any and all damages which may arise to crops, soil grass, vegetation, pasturage, livestock, improvements and water, whether above ground or below ground, arising out of its operations or otherwise arising out of incident to the exercise of any rights granted by this Lease. It is the intention of the parties hereto that Lessors, their heirs, legal representatives and assigns, shall be compensated and made whole by Lessee for any and all damages which may arise out to Lessees' operations, including the right of Lessors, their heirs, legal representatives and assigns, to be compensated by payment for any and all repeated damages for each occasion on which such damage occurs. Lessee expressly agrees to pay such damages within thirty (30) days after same have occurred.

7.

Lessee shall have the right at any time during the term of this Lease, or within one-hundred twenty (120) days after the expiration of this Lease, to remove from the Leased Promises all personal property and fixtures, materials and equipment place thereon by Lessee or in the said well and shall have the right to draw and remove all casing. Lessee shall, at its expense, cause said well to be plugged and abandoned in conformity with the rules, regulations and laws of the State of New Mexico upon expiration of this lease. Within one-hundred twenty (120) days after the expiration this Lease, Lessee shall remove all debris and shall clean up the leased premises and return same as nearly as reasonable to its former condition as ranch land suitable for grazing. Further Lessee agrees to remove all

personal property and fixtures from the surface, with the exception of the well marker, one-hundred twenty (120) days after the expiration of this Lease.

8.

Lessee agrees to conduct all of its operations hereunder in accordance with the rules and regulations of the appropriate regulatory agencies and specifically in connection with the injection of oil field brine and waste water into the subsurface strata through the well bore of the aforesaid well. Lessee agrees to do so only in accordance with the provisions or any permit or authority granted by the New Mexico Oil Conservation Division and all rules and regulations of said Division as same may be amended from time to time in accordance with the terms and provisions of this Lease.

9.

Notwithstanding anything herein contained to the contrary, Lessee accepts the well in "as is" condition and further Lessee covenants and agrees to save, indemnify and hold Lessors harmless from and all claims for damages to persons or property occasioned by any act, or omission to act, on the part of Lessee, its servants, agents and employees, resulting from or arising by reason of Lessee's operations.

10.

Nothing contained herein shall authorize or permit any other water disposal well to be converted or developed by Lessee on the Leased Premises.

11.

The terms of this Lease shall extend to and be binding upon the Parties hereto, their respective heirs, legal representatives, successors and assigns. Lessee may assign the right herein granted, in whole or in part, only after first obtaining written consent of the Lessors. However, any such assignment of same imposes upon the assignee the assumption of all obligations, responsibilities and duties required by the terms of this Lease, unless such assignment specifically provides that it do so.

EXECUTED as 20th day of December, 2000, to be effective commencing January 16, 2001.

J. D. Martin

Rice Operating Company
A Delaware Corporation

By: Trenedy S. Grovey
Trenedy S. Grovey, General Manager
Rice Operating Company

STATE OF NEW MEXICO)
: SS
COUNTY OF LEA)

The foregoing instrument was acknowledged before me this 20th day of December 2000, by J. D. Martin.

MY COMMISSION EXPIRES:

Feb. 16, 2002

JO ANN NORRELL NOTARY PUBLIC STATE OF NEW MEXICO

NOTARY PUBLIC

STATE OF NEW MEXICO)
: SS
COUNTY OF LEA)

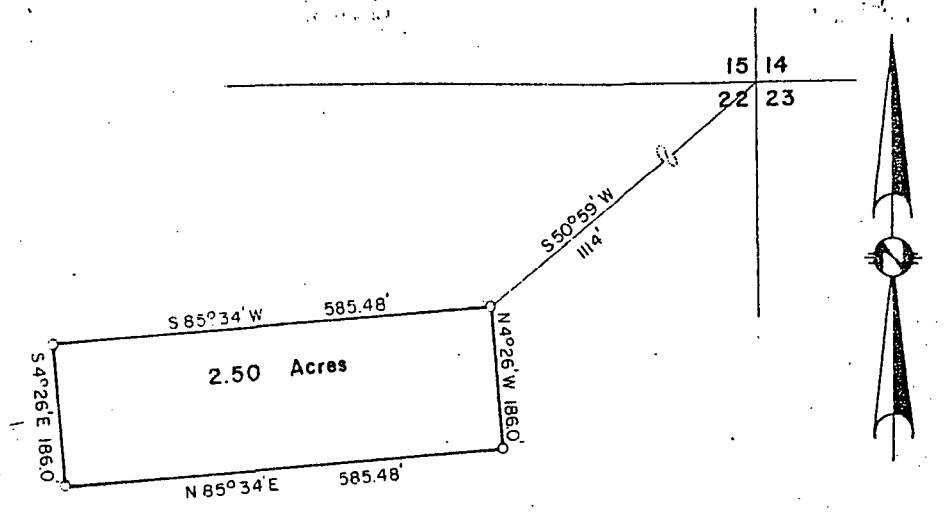
The foregoing instrument was acknowledged before me this 20th day of December 2000, by Trenedy S. Grovey, General Manager of Rice Operating Company, a Delaware corporation, on behalf of the corporation.

MY COMMISSION EXPIRES:

Feb. 16 2002

JO ANN NORRELL NOTARY PUBLIC STATE OF NEW MEXICO

NOTARY PUBLIC



DESCRIPTION

A tract of land located in the northeast quarter of Section 22, Township 22 South, Range 37 East, N.M.P.M., Lea County, New Mexico and more particularly described as follows:

Beginning at a point from which the northeast corner of said Section22 bears N 50°59' E a distance of 1114 feet; thence S 85°34' W a distance of 585.48 feet to a point; thence S 4°26' E a distance of 186.0 feet to a point; thence N 85°34' E a distance of 585.48 feet to a point; thence N 4°26' W a distance of 186.0 feet to the point of beginning, containing 2.50 acres, more or less.

EXHIBIT "A"

I HEREBY CERTIFY THAT THIS PLAT WAS MADE FROM NOTES TAKEN IN THE FIELD IN A BONA FIDE SURVEY MADE UNDER MY SUPERVISION, AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

STATE OF NEW MEXICO — REG. PROFESSIONAL ENGINEER AND LAND SURVEYOR — JOHN W. WEST

676

JOHN W. WEST N.M. P.E. & L.S. NO.676
TEXAS R.P.S. NO. 1138

AGUA, INCORPORATED

A tract of land located in the northeast quarter of Section 22, Township 22 South, Range 37 East, N.M.P.M., Lea County, New Mexico.

JOHN W WEST ENGINEERING COMPANY
CONSULTING ENGINEERS HOBBS, NEW MEXICO

Scale 1"=200'	Drawn by Beverly
Date October 20, 1975	Sheet 1 of 1 Sheets

RICE *Operating Company*

122 West Taylor • Hobbs, New Mexico 88240
Phone: (505)393-9174 • Fax: (505) 397-1471

March 1, 2001

J. D. Martin
P. O. Box 416
Eunice, NM 88231

RE: BD SWD Facility A-22 Upgrade
NE/4 NE/4, Section 22-T22S-R37E
Lea County, NM

Dear Mr. Martin:

Rice Operating Company (ROC) appreciates opportunities to work with landowners such as you in order to optimize and improve our operation. It is our goal to keep you informed of situations that arise during routine operations concerning the land that we lease for our facility sites.

This letter is regarding the 2.5-acre leased area located at NE/4 NE/4, Section 22-T22S-R37E, Lea County, NM, where ROC operates the A-22 Disposal Facility for the Blinebry Drinkard (BD) Salt Water Disposal System. The Lease on this land is current.

ROC will complete the upgrade at the A-22 Facility in March of 2001 by closing the emergency overflow pit. In 1994, the original above-ground redwood tanks were replaced with a new 500-barrel fiberglass tank. Earlier this year, ROC installed a 21.5' fiberglass emergency overflow tank, relieving the need for the overflow pit. The area surrounding the original tank site as well as the pit area will be evaluated for environmental impact and will be remediated to levels designated and/or approved by the New Mexico Oil Conservation Division (NMOCD). The firm of Whole Earth Environmental, Inc. has been retained to conduct the on-site closure activities.

At the completion of this upgrade, a copy of the NMOCD Closure Report will be forwarded to you. If you have any questions, comments or concerns pertaining to this upgrade, please don't hesitate to call Rice Operating Company at the above phone number.

Sincerely,

Rice Operating Company

Carolyn Doran Haynes

Carolyn Doran Haynes
Operations Engineer

cc LBG, file, Whole Earth Env. Inc.

RICE Operating Company
122 West Taylor • Hobbs, New Mexico 88240
Phone: (505)393-9174 • Fax: (505) 397-1471

CERTIFIED MAIL
RETURN RECEIPT NO. 7099 3220 0001 9928 4539

March 24, 2001

Mr. Wayne Price
NM Energy, Minerals, and Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 S. St. Francis Drive
Santa Fe, NM 87504

RE: REVISION TO GENERIC CLOSURE PLAN
REDWOOD TANK AND EMERGENCY OVERFLOW PIT CLOSURE PLAN
BD SWD SITE A-22
Unit Letter A, Sec. 22, T22S, R37E NMPM
Lea County, NM

Dear Mr. Price:

Rice Operating Company (ROC) takes this opportunity to submit for approval a revision to the generic closure plan for the redwood tank area at the Blinebry Drinkard (BD) Salt Water Disposal Well A-22, located in Unit A, Sec. 22, T22S, R37E, Lea County, NM. This facility is located on Fee Land owned by Mr. J. D. Martin. The emergency overflow pit has been remediated according to the generic work plan and the Pit Closure Report of it will be submitted when the redwood tank area has been completed.

The BD SWD Well A-22 facility is included in the ROC generic closure plan for emergency pits and below-grade redwood tanks (the redwoods at A-22 were above-ground) and is the seventh ROC-operated facility to apply under the generic plan. The BD SWD System replaced the above-ground redwood tanks with an above-ground, 500-barrel fiberglass tank in 1994. In January, 2001, a 500-barrel fiberglass emergency overflow tank was set. ROC delineated the previous redwood tank area for residual environmental impact pursuant to NMOCD guidelines and found substantial impact. The enclosed revised protocol for remediation of this area addresses this discovery. Supporting documentation is also enclosed.

ROC asks that the NMOCD review this proposal. The principal deviation from the generic plan is on-site encapsulation of soils of higher impact. A clay moisture barrier pursuant to NMOCD

guidelines will be constructed below the encapsulation. Adequate backfill will be placed above the encapsulation. Through delineation boring activities conducted by Eades Drilling and Whole Earth Environmental, it was discovered there is no groundwater above the redbed and contaminant downward migration was interrupted by the redbed. The impact is contained within the boundaries of the leased facility area.

ROC has discussed the proposal with Mr. Martin, the landowner, and has his concurrence to proceed, provided ROC receives NMOCD approval.

ROC will schedule all major events with a 48-hour advance notice to the NMOCD. Whole Earth Environmental will continue to be the on-site manager of the excavation project. The Final Closure Report will follow at the end of the project.

ROC is the service provider (operator) for the BD Salt Water Disposal System and has no ownership of any portion of pipeline, well or facility. The BD System is owned by a consortium of oil producers, System Partners, who provide all operating capital on a percentage ownership/usage basis. Replacement/closure projects of this magnitude require System Partner AFE approval and work begins as funds are received.

Thank you for your consideration of this closure plan revision. Don't hesitate to call if you have any questions or concerns.

RICE OPERATING COMPANY

Carolyn Doran Haynes

Carolyn Doran Haynes
Operations Engineer

Enclosures
cc: LBG, file,

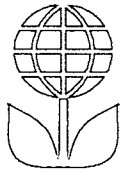
Mr. Chris Williams
NMOCD, District I Office
1625 N. French Drive
Hobbs, NM 88240

Mike Griffin
Whole Earth Environmental, Inc.
19606 San Gabriel
Houston, TX 77084

Mr. J. D. Martin
P. O. Box 416
Eunice, NM 88231

RICE Operating

SWD A-22
Remediation Project



Whole Earth Environmental
19606 San Gabriel
Houston, Tx. 77084
(800) 854-4358
www.wholeearthonline.com

Executive Summary
Rice Operating Company
A-22 Tank Area Remediation Project
Remediation Plan

Location
The Blinebry Drinkard (BD) SWD Facility A-22 is situated approximately 3 ½ miles south of Eunice, New Mexico. The legal description of the site is Unit A, NE/4, NE/4, S22, T22S, R37E. Copies of U.S.G.S. 7.5' maps and driving instructions to the site are enclosed within this submittal as Exhibits 1-3.

Site History
The site is used as a flow-through collection and injection facility for salt-water disposal of the BD Salt Water Disposal System. Initially installed and operated by AGUA, Incorporated in 1976, the facility used two 12' diameter 250 barrel above-ground redwood tanks as flow-through collection vessels. These tanks were replaced with an above-ground 500 barrel fiberglass tank in 1994. An emergency overflow pit associated with the site was excavated and remediated in April 2001.

The SWD Well A-22 is located at this site. This facility is a "stand-by" disposal facility and is not regularly used because of the added operating cost of using a triplex pump. The facility is activated several times throughout the year when either one of the main disposal well facilities may be inoperative, such as for well service, tank cleaning, etc.

The site abuts the past location of a carbon black manufacturing plant. A black seam of carbon underlies the topsoil at various depths and thickness. A plat map of the facility is included within this submittal as Exhibit 4.

Land Use
The facility is located on Fee Land owned by Mr. J.D. Martin. The 2.5-acre site has been in use since 1976 and the current lease agreement has been in effect since 1996.

The primary use of this land is oil and gas production. The Environmental Plus, Inc. reclamation facility is located just ½ mile to the north. The topography is unremarkable.

Distance to Surface and Ground Water
There are no domestic water wells within 200' of the facility. There are no windmills, water pumps or surface waters within 1,000' of the facility. The vertical distance to groundwater at this site is estimated to be 65-185' bgs, according to the NMSEO database. Coring at the site revealed a redbed clay layer beginning at 60' bgs and extending to a minimum depth of 75' bgs.

Pit Closure

On March 1st, 2001, Rice Operating Company submitted a closure plan for this facility. The plan was included within the ROC generic closure plan for emergency pits and below-grade redwood tanks. Work began to close the pit portion of the site on March 19, 2001 and was concluded on April 4th. The pit closure was done in accordance with the ROC generic plan. A closure report for the pit portion of the project will be submitted to the NMOCD at the conclusion of the overall project.

Tank Area Site Investigation

The tank area was initially excavated to a depth of six feet below ground surface (bgs) at seven points. Soil samples were collected and analyzed in the field for the presence and concentrations of hydrocarbons and chlorides at depths of 2' bgs and 6' bgs. The results of these tests are included within the lateral delineation chart provided as Exhibit 5.

The determination of the vertical extent of contamination was initially undertaken by means of excavation. Remnants of the redwood tanks were found to a depth of 12' bgs mixed with pockets of heavy aliphatic hydrocarbons appearing to be tank bottoms (see photograph Exhibit 6). Excavation continued to a depth of 30' bgs with field TPH concentrations exceeding 1,000 ppm.

Eades Drilling cored the site on April 16th. The coring logs of Eades Drilling are enclosed as Exhibit 7. A vertical delineation chart showing soil morphology and criteria contaminant concentrations is provided as Exhibit 8.

Remediation Plan

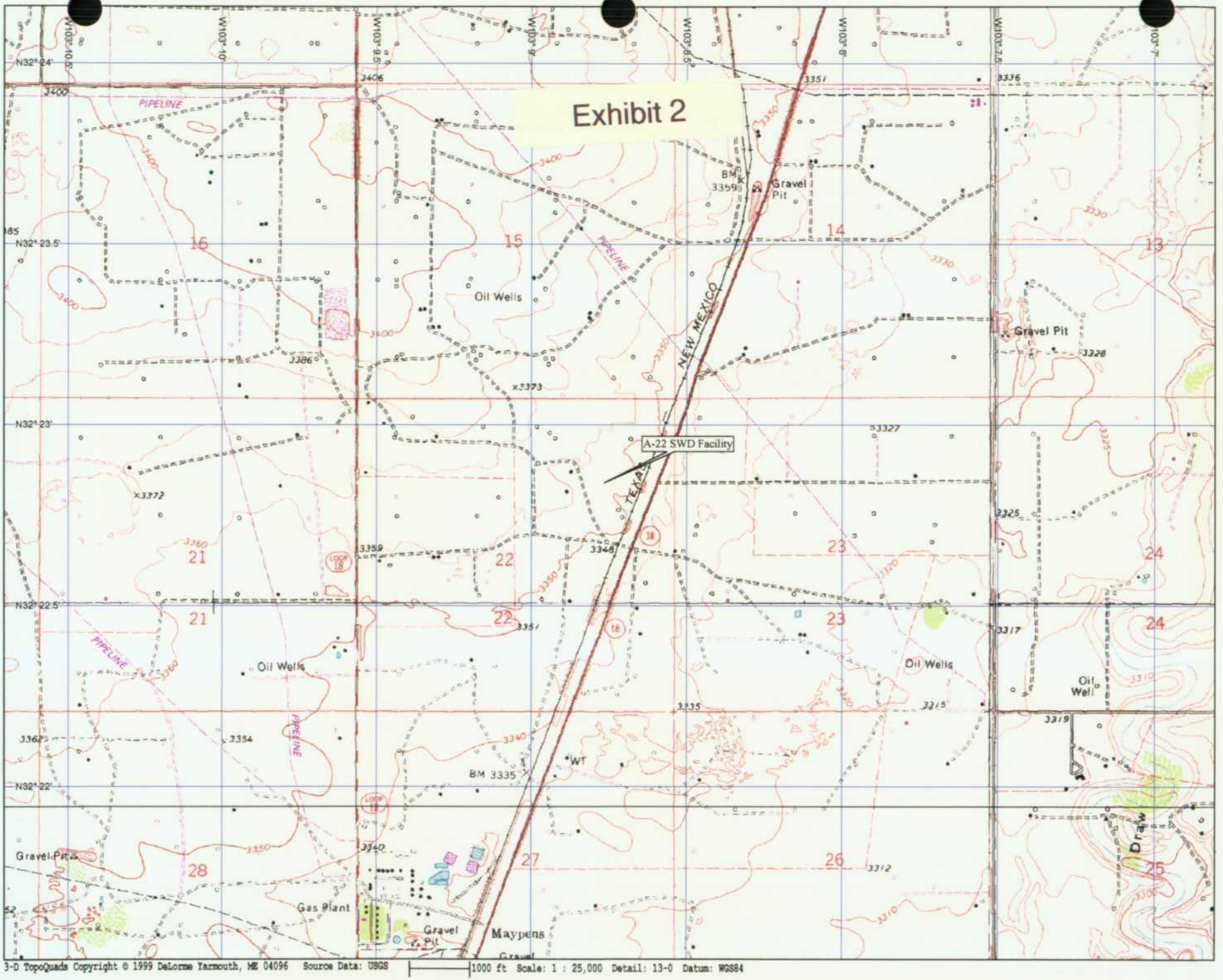
The site appears to be grounded in the redbed and thus posing no immediate threat to groundwater. The enclosed protocol PR-69 calls the excavation and removal of extensively contaminated soils and the thorough encapsulation of remaining concentrations posing no long-term threat to surface or groundwaters.

The enclosed VADSAT model (Exhibits 9 & 10), demonstrate that the chloride concentrations within the redbed layer will not migrate in any significant measure into the water table. This fact is further confirmed by the results of a synthetic leachate procedure performed in accordance with EPA Method 1312 on the deepest soil boring sample (enclosed within the Laboratory Analytical Results section of this report).

Exhibit Index

Exhibit 1


W103°-20'
W103°-15'
W103°-10'
W103°-5'
W103°-0'
N32°-35'
N32°-30'
N32°-25'
N32°-20'
N32°-15'
N32°-10'
8
18
175
Oil Center
176
Eunice Municipal Integration Area
Lea County-Eunice
Jones City
207
Eunice
234
A-22 SWD Facility
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096
1 mi Scale: 1 : 200,000 Detail: 10-0 Datum: WGS84



1000 ft Scale: 1 : 25,000 Detail: 13-0 Datum: WGS84

Exhibit 3

System: B-D
Well: A-22
Legals: 22-22S-37E

From the junction of hw176 and Hwy 18. Go south on Hwy 18 for 4.2 miles. Turn right through cattle guard. Take right hand side of fork and go 2/10 mile north. Turn right and go 1/10 mile to location.

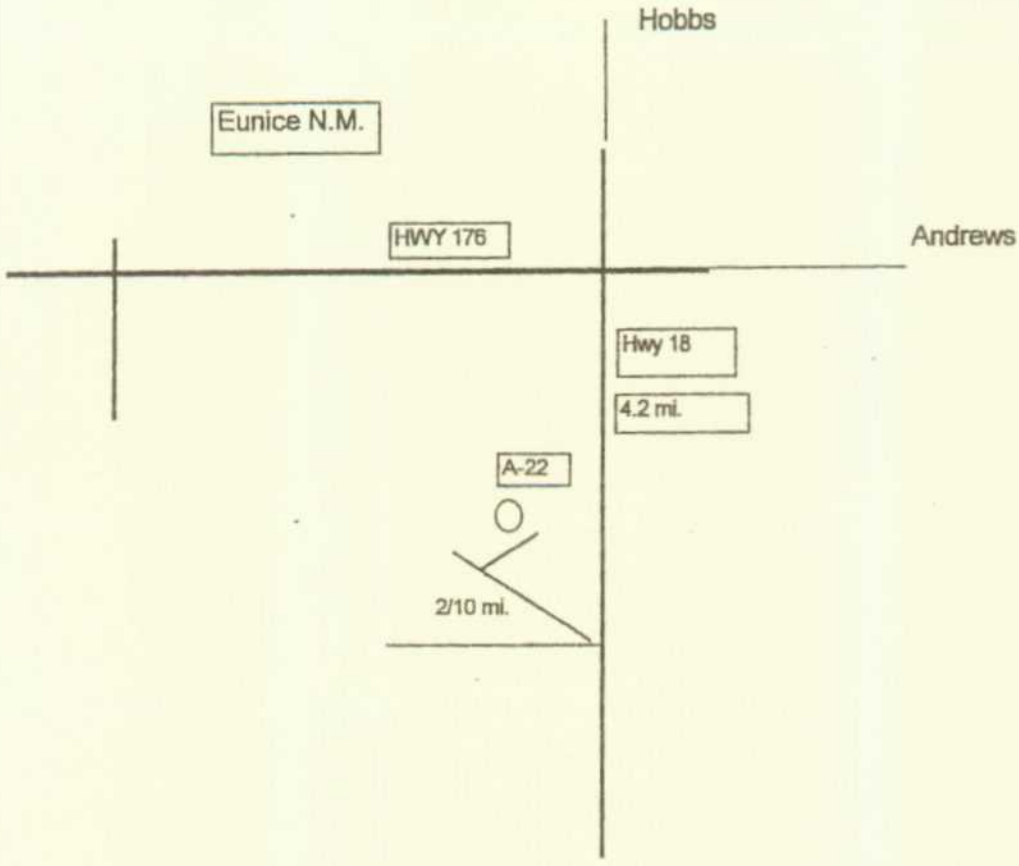
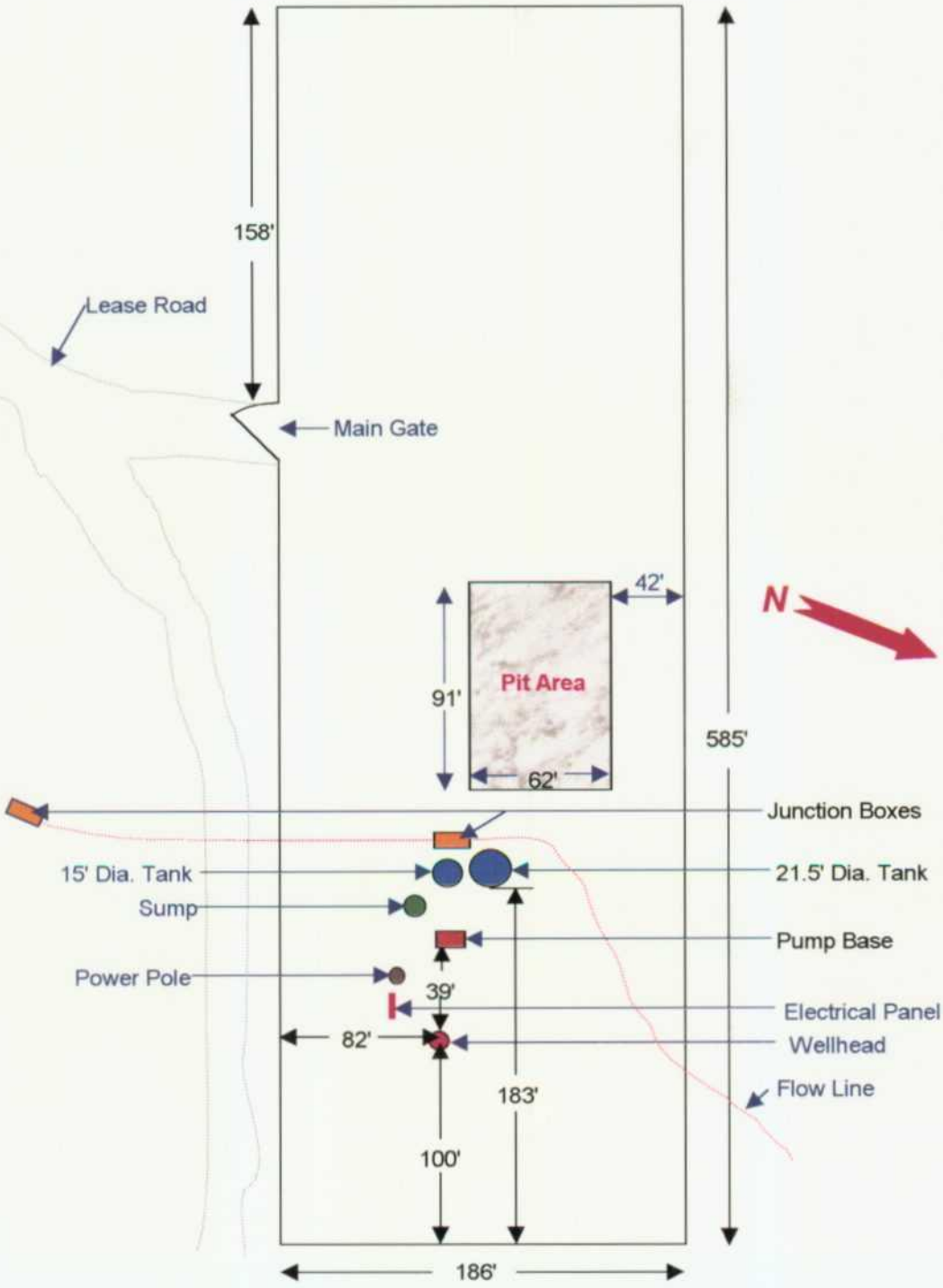


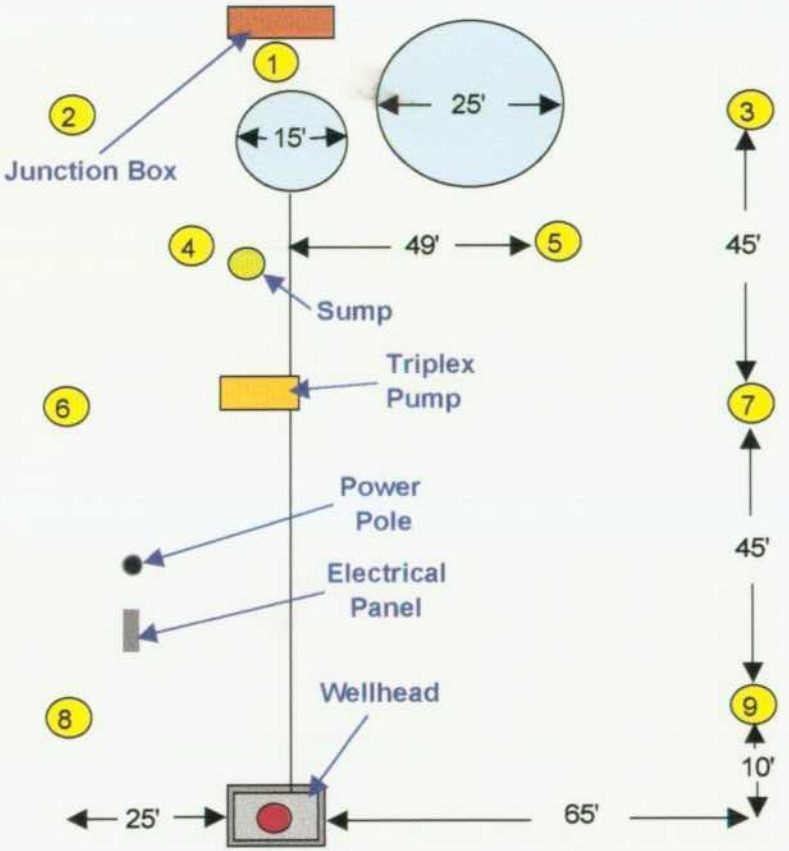
Exhibit 4

Rice Operating Co.
A-22 SWD
Site Schematic
NE/4, NE/4, S22, T22S, R37E



Rice Operating Company
A-22 SWD
Lateral Delineation Chart

Exhibit 5



Sample Point	Depth (ft. bgs)	Field E.C. (mmhos/cm)	Field TPH (ppm)
1	2	8.9	206
1	5	11.3	411
1	10	4.6	253
2	2	4.1	<50
2	6	4.1	<50
3	2	3.36	219
3	6	4.5	<50
4	2	12.6	>10,000
4	6	9.31	>10,000
4	10	7.4	>10,000
4	15	7.1	>10,000
4	20	7.3	9,880
5	2	5.7	1,180
5	6	6.1	3,600
5	12	4.18	947
6	2	3.1	<50
6	6	3.4	<50
7	2	3.85	206
7	6	3.01	<50
8	2	4.5	50
8	6	4.2	159
9	2	3.27	<50
9	6	3.6	<50

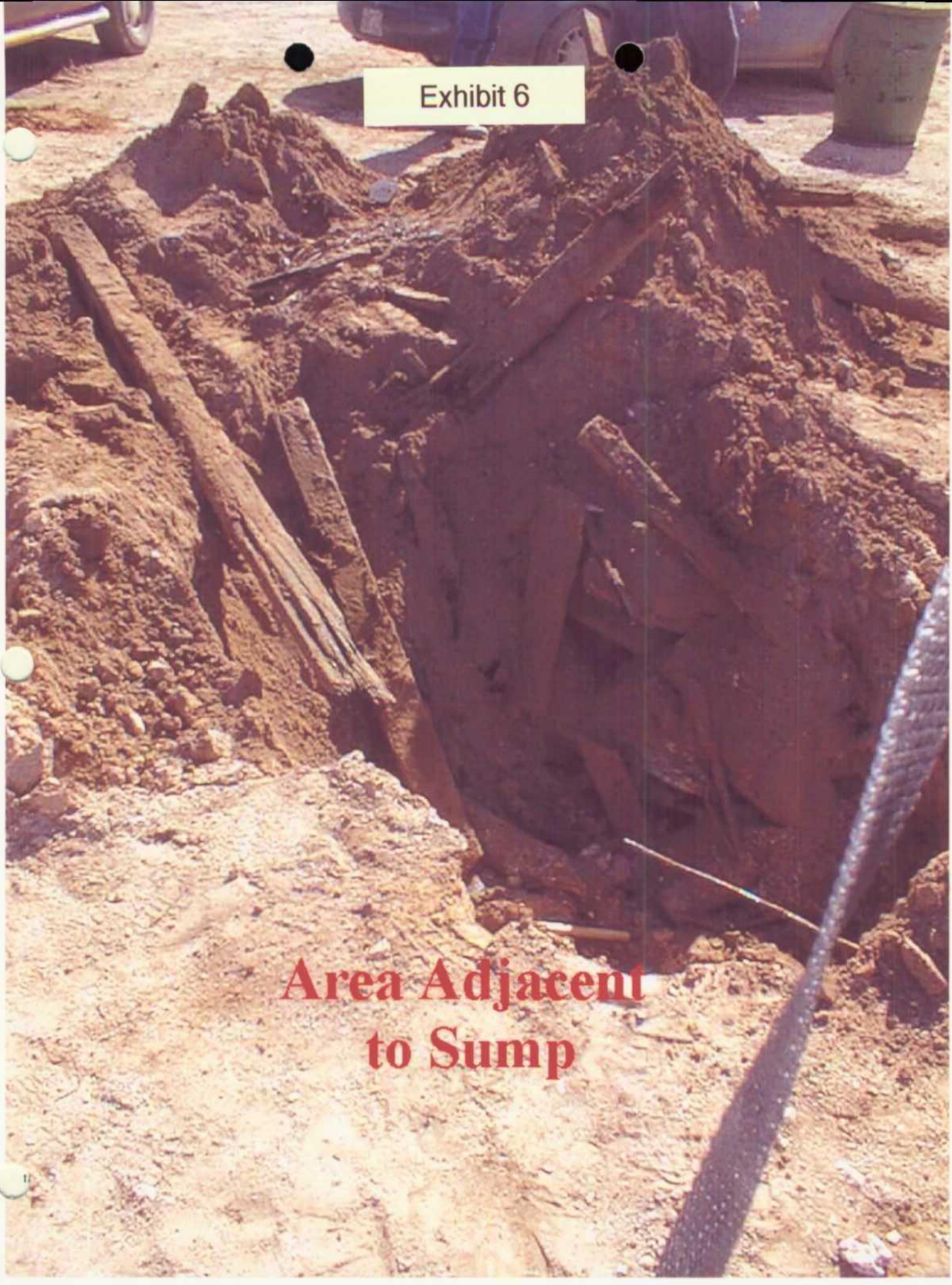


Exhibit 6
Area Adjacent
to Sump

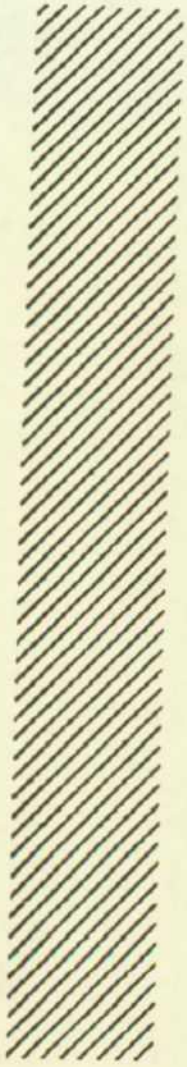
Eades Drilling and Pump Service
1200 East Bender Blvd.
Hobbs, New Mexico 88240

Exhibit 7

Customer: Rice Operating Company
Location: South of Eunice, New Mexico
Well #: Soil Boring Only
Date: April 16, 2001

Description	Feet	Feet
Disturbed Soil	0	10
Caliche	10	30
Indurated Sandstone	30	50
Rock and Clay	50	55
Red Clay	55	65

Samples were collected.
5 feet - Return Sample
10 feet - Return Sample
15 feet - Return Sample
20 feet - Return Sample
25 feet - Split Spoon Sample
30 feet - Return Sample
35 feet - Return Sample
40 feet - Return Sample
45 feet - Split Spoon Sample
50 feet - Split Spoon Sample
55 feet - Split Spoon Sample
60 feet - Split Spoon Sample
65 feet - Split Spoon Sample



(Not to scale)

Steel Well Head Protector - N/A

Well Seal - N/A

Cement Pad - NA

Borehole Diameter - 6.5 inches

Grout - N/A

Plain Casing - N/A

Bentonite Plug (31 sacks) -
From Surface to Total Depth

Gravel Pack - N/A

Screen - N/A

End Cap - N/A

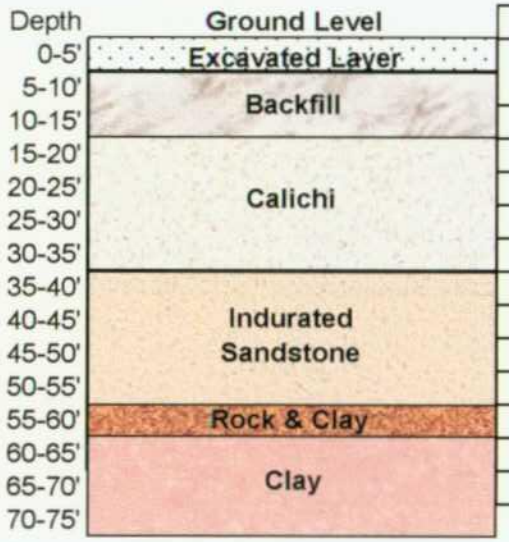
Total Depth - 65 feet

Ground level is considered to be the level on which our rig was set up to drill the boring for the purposes of this diagram. The diagram does not take into consideration the number of feet which had been previously excavated at this location.

(FOR INTERNAL USE ONLY)

Exhibit 8

Rice Operating Company
System B-D Well A-22
Tank Remediation Project
Vertical Delineation Chart



	Field Testing		Laboratory Testing		
	E.C.	TPH	Chlorides	TPH	Ttl. BTEX
0-5' Excavated Layer / 5-10' Backfill					
10-15'	8.2	6,350			
15-20' Calichi	7.3	8,750			
20-25'	8.6	9,300			
25-30'	11.8	9,550	1,613	9,736	<8.444
30-35'	9.5	6,010			
35-40' Indurated Sandstone	9.5	6,560	381	1,836	
40-45'	6.1	2,250			
45-50'	8.3	50	620	<10	
50-55'	7.0	685			
55-60' Rock & Clay	4.8	1,150	248	579	
60-65' Clay	4.6	330			
65-70'	2.5	176	76	240	<.125
70-75'					

Exhibit 9

Modeling Data Entry
Rice Operating Company
B-D System Well A-22
NaCl Migration Model

Control Data	Entry	U / M
Deterministic	Yes	
Monte Carlo	No	
Low Permeability Layer Below Contamination	No	

Source Data		
Non-Glaciated Central Basin		
Waste Zone Thickness	3	meters
Source Area	436	sq. meters
Ratio of Length to Width	00:00.0	
Initial Total Concentration in Waste	248	ppm

Chemical Data	
NaCl	Yes

Unsaturated Zone		
Soil Database	Clay	
Hydrological Database	Sedimentary	
Unsaturated Zone Thickness	17.4	meter
Soil Database	Clay	
van Genuchten n	1.09	(Default)
Residual Water Content	0.068	
Unsaturated Zone Dispersivity	0	Internally

Saturated Zone		
Aquifer Porosity	0.2	(Default)
Longitudinal Dispersivity	0	Internally
Ratio of Long. / Trans. Dispersivities	0.5	
Ratio of Trans. / Vert. Dispersivities	10	
Hydrological Database	Sedimentary	
Aquifer Thickness	40.4	meters
Aquifer Gradient	0.023	
Saturated Hydraulic Conductivity	0.0001	meters / day

Net Infiltration Rate	0.0001	ft. / day

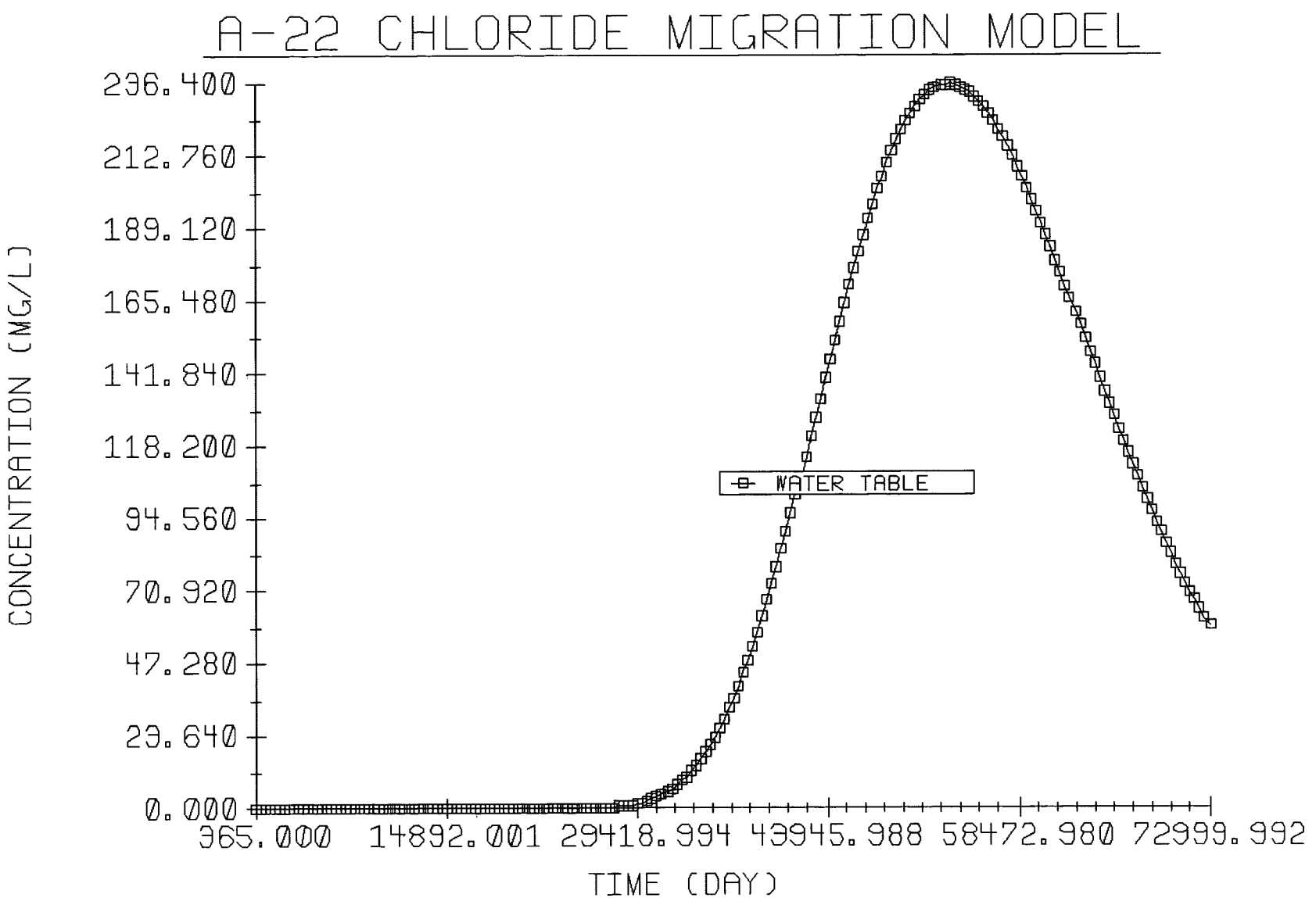
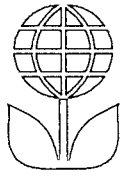

A-22 CHLORIDE MIGRATION MODEL
CONCENTRATION (MG/L)
236.400
212.760
189.120
165.480
141.840
118.200
94.560
70.920
47.280
23.640
0.000
WATER TABLE
365.000
14892.001
29418.994
43945.988
58472.980
72999.992
TIME (DAY)

Exhibit 10



Protocol

This section contains a copy of the remediation protocol we propose to employ on this project.

Spill Remediation Protocol
Rice Operating Co.
A-22 Tank Area

1.0 Purpose

This protocol is to provide a detailed outline of the steps to be employed in the remediation and final closure of a tank area adjacent to Rice Operating Co. SWD A-22.

2.0 Scope

This protocol is site specific.

3.0 Preliminary

Prior to any field operations, Whole Earth Environmental shall conduct the following activities:

3.1 Client Review

3.1.1 Whole Earth shall meet with cognizant personnel within Rice Operating Co. (ROC) to review this protocol and make any requested modifications or alterations prior to submittal to the State of New Mexico Oil Conservation Division.

3.1.2 Changes to this protocol will be documented and submitted for final review by ROC prior to submittal to the Oil Conservation Division.

3.2 Oil Conservation Division Review

3.2.1 Upon client approval, this protocol and associated modeling results will be submitted to the New Mexico Oil Conservation Division for review and comment. Recommended changes will be reviewed by the client prior to implementation.

3.2.2 Any recommended changes effecting costs will require a revised quotation to be issued to the client for approval prior to the commencement of any on-site remediation activity.

4.0 Safety

4.1 Prior to work on the site, Whole Earth shall obtain the location and phone numbers of the nearest emergency medical treatment facility. We will review all safety related issues with the appropriate ROC personnel, sub-contractors and exchange phone numbers.

4.2 A tailgate safety meeting shall be held and documented each day. All sub-contractors must attend and sign the daily log-in sheet.

4.3 Anyone allowed on to location must be wearing sleeved shirts, steel toed boots, and long pants. Each vehicle must be equipped with two way communication capabilities.

4.4 Prior to any excavation, the area shall be surveyed with a line finder. If lines are discovered within the area to be excavated they shall be marked with pin flags on either side of the line at maximum five foot intervals.

5.0 Excavation & Remediation

5.1 The site shall be excavated to a depth necessary to achieve the criteria contaminant concentrations specified within 5.4 of this protocol. All materials will be deposited immediately adjacent to the excavation. Soils containing TPH concentrations exceeding 50,000 ppm will be sent to commercial disposal.

5.2 Each of the four side-walls and bottom will be will be tested on a minimum five point composite basis for the presence and concentrations of TPH, BTEX and chlorides. The Hobbs office of the NMOCD will be alerted a minimum of twenty-four hours in advance of any sampling event. Soil samples will be collected in accordance with WEQP-77 and transported to a lab for analysis.

5.3 The sidewalls of the site shall meet the following criteria contaminant concentrations:

Benzene:	10 ppm
BTEX:	50 ppm
TPH:	2,000 ppm
Chlorides:	500 ppm

5.4 The bottom of the excavation must meet the benzene, BTEX, and TPH requirements specified in 5.3 and have a maximum chloride concentration of 500 ppm.

6.0 Clay Liner

Upon achieving the closure standards specified within 5.4, a clay liner will be installed and compacted to a minimum depth of 12". The liner will meet or exceed 95% of a Proctor Test ASTM D-698 with a permeability (hydraulic conductivity) equal to or less than $1X10^{-7}$ cm/sec for containment / isolation of impact.

7.0 Lower Polyethylene Liner

Upon installation of the clay liner, a 20 mil polyethylene liner will be constructed to cover the contour of the excavation up to surface level. The previously excavated soils will be re-deposited within the liner to a depth no less than 5' BGL.

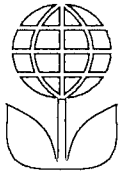
8.0 Upper Liner

A 20 mil high density polyethylene top liner will be installed above the excavated area and overlapped with the lower liner to prevent surface drainage into to the containment area. The surface will be covered with a minimum of 5' of fresh topsoil and contoured to match the surrounding elevations.

9.0 Documentation & Reporting

9.1 At the conclusion of the pit remediation project, Whole Earth will prepare a closure report to include the following information:

- A plat map of the location showing the exact location of the excavation, the dimensions prior to excavation and the actual excavated dimensions.
- Photographs of the site prior to excavation, at the point of maximum excavation, liner installation details, and after final closure
- Design and construction details of the monitoring well.
- Laboratory analytical results of the sidewalls and bottom of the excavation
- MSDS of the polyethylene liners
- Proctor and density tests of the clay liner.



Procedures

This section contains copies of the detailed sample collection and field testing procedures employed on this project.

QP-06 Rev. C

WHOLE EARTH ENVIRONMENTAL
QUALITY PROCEDURE

Procedure for Conducting Field TPH Analysis

Completed By:	Approved By:	Effective Date: 02/15/97

1.0 Purpose

To define the procedure to be used in conducting total percentage hydrocarbon testing in accordance with EPA Method 418.1 (modified) using the "MEGA" TPH Analyzer.

2.0 Scope

This procedure is to be used for field testing and on site remediation information.

3.0 Procedure

3.1 The G.A.C. "MEGA" TPH analyzer is an instrument that measures concentrations of aliphatic hydrocarbons by means of infra-red spectrometry. It is manufactured to our specifications and can accurately measure concentrations from two parts per million through 100,000 parts per million. The unit is factory calibrated however minor calibration adjustments may be made in the field. Quality Procedure 25 defines the field calibration methods to be employed.

3.2 Prior to taking the machine into the field, insert a 500 ppm and 5,000 ppm calibration standard into the sample port of the machine. Zero out the Range dial until the instrument records the exact standard reading.

3.3 Once in the field, insert a large and small cuvette filled with clean Freon 113 into the sample port of the machine. Use the range dial to zero in the reading. If the machine does not zero, do not attempt to adjust the span dial. Immediately implement Quality Procedure 25 .

3.4 Place a 100 g. weight standard on the field scale to insure accuracy. Zero out the scale as necessary.

3.5 Tare a clean 100 ml. sample vial with the Teflon cap removed. Add 10 g. (+/- .01 g), of sample soil into the vial taking care to remove rocks or vegetable matter from the sample to be tested. If the sample is wet, add up to 5 g. silica gel or anhydrous sodium sulfate to the sample after weighing.

3.6 Dispense 10 ml. Freon 113 into the sample vial.

3.7 Cap the vial and shake for five minutes.

3.8 Carefully decant the liquid contents of the vial into a filter/desiccant cartridge and affix the cartridge cap. Recap the sample vial and set aside.

3.9 **Insert the metal tip of the pressure syringe into the cap opening and slowly pressurize.** WARNING: APPLY ONLY ENOUGH PRESSURE ON THE SYRINGE TO EFFECT FLOW THROUGH THE FILTERS. TOO MUCH PRESSURE MAY CAUSE THE CAP TO SEPARATE FROM THE BODY OF THE CARTRIDGE. **Once flow is established through the cartridge direct the flow into the 5 cm. cuvette until the cuvette is full. Reverse the pressure on the syringe and remove the syringe tip from the cartridge cap. Set the cartridge aside in vertical position.**

3.10 The cuvette has two clear and two frosted sides. Hold the cuvette by the frosted sides and carefully insert into the sample port of the machine. Read the right hand digital read-out of the instrument. If the reading is less than 1,000 ppm. the results shall be recorded in the field Soil Analysis Report. If the result is higher than 1,000 ppm, continue with the dilution procedure.

4.0 Dilution Procedure

4.1 When initial readings are greater than 1,000 ppm using the 5 cm. cuvette, pour the contents of the 5 cm. cuvette into a 1 cm. cuvette. Insert the 1. cm cuvette into the metal holder and insert into the test port of the instrument.

4.1 Read the left hand digital read-out of the machine. If the results are less than 10,000 ppm, record the results into the field Soil Analysis Report. If greater than 10,000 ppm, continue the dilution process. Concentrations >10,000 ppm are to be used for field screen purposes only.

4.2 Pour the contents of the small cuvette into a graduated glass pipette. Add 10 ml. pure Freon 113 into the pipette. Shake the contents and pour into the 1cm. cuvette. Repeat step 4.2. adding two zeros to the end of the displayed number. If the reported result is greater than 100,000 ppm. the accuracy of further readings through additional dilutions is extremely questionable. Do not use for reporting purposes.

4.4 Pour all sample Freon into the recycling container.

5.0 Split Samples

5.1 Each tenth test sample shall be a split sample. Decant approximately one half of the extraction solvent through a filter cartridge and insert into the instrument to obtain a concentration reading. Clean and rinse the cuvette and decant the remainder of the fluid to obtain a second concentration reading from the same sample. If the second reading varies by more than 1% from the original, it will be necessary to completely recalibrate the instrument.

QP-13

WHOLE EARTH ENVIRONMENTAL
QUALITY PROCEDURE

Procedure for Preparing a Paste Extraction

Completed By:	Approved By:	Effective Date: / /

1.0 Purpose

This procedure defines the methods to be employed in preparing a paste extraction to be analyzed for conductivity and exchangeable cations.

2.0 Scope

This procedure shall be used in all electrical Conductivity (EC) and Cation Exchange Capacity (CEC) tests.

3.0 Procedure

3.1 All samples shall be prepared in accordance with QP-12.

3.2 Weigh 100 +/- 0.1g soil sample into tared sample reservoir of filter assembly. Add deionized reagent water to fill pores, stirring gently with plastic stirrer to achieve saturation. The solid/water mixture is consolidated occasionally by tapping the container on the workbench. At saturation the surface of the mixture glistens and flows slightly when tipped. Let stand for one hour. The mixture should not stiffen or puddle; add more sample or water as required and allow to stand for one additional hour.

3.3 Analyze paste extract directly for EC and pH.

3.4 Connect filter assembly to vacuum assembly and filter extract until air begins to pass through filter. Analyze directly for Na, Ca, Mg, K.

QP-25

WHOLE EARTH ENVIRONMENTAL
QUALITY PROCEDURE

Procedure for Instrument Calibration and Quality Assurance Analysis for General Analysis "MEGA" TPH Analyzer

Completed By: Approved By: Effective Date: / /

1.0 Purpose

This procedure outlines the methods to be employed in calibrating the GAC MEGA TPH analyzer and for determining and reporting of accuracy curves.

2.0 Scope

This procedure shall be followed each day that the instrument is used.

3.0 Procedure

3.1 Turn the instrument on and allow to warm up with no cuvette in the receptacle. The instrument will take between five and ten minutes to come to equilibrium as can be determined by the concentration display readings moving a maximum of 5 ppm on the low scale. If the instrument continues to display erratic readings greater than 5 ppm, remove the cover and check both the mirrors and chopper to insure cleanliness.

3.2 All TPH standards shall be purchased form Environmental Resources Corporation and as a condition of their manufacture subject to independent certification by third party laboratories. Each standard is received with a calibration certificate.

3.3 Insert the low range (100 ppm) calibration standard into the receiving port and note the result on the right hand digital display. If the displayed reading is less than 98 ppm or greater than 102 ppm, remove the circuit board cover panel and zero out the instrument in accordance with QP-26.

3.4 Repeat the process with the mid range (500 ppm) calibration standard. If the displayed reading is less than 490 ppm or greater than 510 ppm zero out the span as described in QP-26.

3.5 Repeat the process again with the 1,000 and 5,000 ppm calibration standards.

3.6 Pour clean Freon 113 into a filter cartridge and extract into 10 ml cuvette. Insert the cuvette into the receiving port and zero out the instrument reading using the far right adjustment knob on the instrument. Repeat using the 1 ml cuvette and the left hand zero dial.

4.0 Determining & Reporting Instrument Accuracy

4.1 After making the fine adjustment with the zero dials reinsert each calibration standard into the instrument and note the concentration values. ***If <u>any</u> concentration value exceeds 2% of the standard set point, repeat all steps in section 3.0 of this Procedure.*** Note the actual concentration values displayed by the instrument after each calibration standard.

4.2 The four calibration standards shall be used in reporting span deviation as follows:

Standards Range			
100 ppm	**500 ppm**	**1,000 ppm**	**5,000 ppm**
0-250 ppm	251-750 ppm	751-2,500 ppm	2,501-10,000 ppm

4.3 Divide the actual instrument reading value of each calibration sample by the concentration shown on the standard (e.g.. 501 ppm instrument reading / 500 ppm standard = 1.002%). These readings shall be reported for each test performed.

5.0 Re-calibration

5.1 If any sample exceeds the concentration of 1,000 ppm on the 10 ml cuvette or 10,000 ppm on the 1 ml cuvette, the cuvette must be thoroughly rinsed with clean Freon and the instrument re-zeroed in accordance with 3.6 of this procedure.

QP-77

WHOLE EARTH ENVIRONMENTAL
QUALITY PROCEDURE

Procedure for Obtaining
Soil Samples for Transportation to a Laboratory

Completed By:	Approved By:	Effective Date: / /

1.0 Purpose

This procedure outlines the methods to be employed when obtaining soil samples to be taken to a laboratory for analysis.

2.0 Scope

This procedure is to be used when collecting soil samples intended for ultimate transfer to a testing laboratory.

3.0 Preliminary

3.1 Obtain sterile sampling containers from the testing laboratory designated to conduct analyses of the soil. The shipment should include a Certificate of Compliance from the manufacturer of the collection bottle or vial and a Serial Number for the lot of containers. Retain this Certificate for future documentation purposes.

3.2 If collecting TPH, BTEX, RCRA 8 metals, cation / anions or O&G, the sample jar may be a clear 4 oz. container with Teflon lid. If collecting PAH's, use an amber 4 oz. container with Teflon lid.

4.0 Chain of Custody

4.1 Prepare a Sample Plan. The plan will list the number, location and designation of each planned sample and the individual tests to be performed on the sample. The sampler will check the list against the available inventory of appropriate sample collection bottles to insure against shortage.

4.2 Transfer the data to the Laboratory Chain of Custody Form. Complete all sections of the form except those that relate to the time of delivery of the samples to the laboratory.

4.3 Pre-label the sample collection jars. Include all requested information except time of collection. (Use a fine point Sharpie to insure that the ink remains on the label). Affix the labels to the jars.

5.0 Sampling Procedure

5.1 Go to the sampling point with the sample container. If not analyzing for ions or metals, use a trowel to obtain the soil. Do not touch the soil with your bare hands. Use new latex gloves with each sample to help minimize any cross-contamination.

5.2 Pack the soil tightly into the container leaving the top slightly domed. Screw the lid down tightly. Enter the time of collection onto the sample collection jar label.

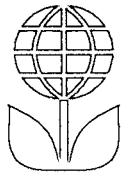
5.3 Place the sample directly on ice for transport to the laboratory.

5.4 Complete the Chain of Custody form to include the collection times for each sample. Deliver all samples to the laboratory.

6.0 Documentation

6.1 The testing laboratory shall provide the following minimum information:

A. Client, Project and sample name.
B. Signed copy of the original Chain of Custody Form including data on the time the sample was received by the lab.
C. Results of the requested analyses
D. Test Methods employed
E. Quality Control methods and results



Laboratory Analytical Results

This section contains copies of the chain of custody and laboratory analytical results for the delineation portion of this project.

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

WHOLE EARTH ENVIRONMENTAL
ATTN: MR. ELLIOT WERNER
19606 SAN GABRIEL
HOUSTON, TEXAS 77084
FAX: 281-646-8996

Sample Type: Soil
Sample Condition: Intact/ Iced/ 2 deg C
Project #: None Given
Project Name: A-22
Project Location: Eunice

Sampling Date: 04/16/01
Receiving Date: 04/17/01
Analysis Date: 04/19/01

ELT#	FIELD CODE	Chloride mg/kg
39267	25'	1,613
39269	35'	381
39271	45'	620
39273	55'	248
39275	65'	76

QUALITY CONTROL	5140
TRUE VALUE	5000
% INSTRUMENT ACCURACY	103
BLANK	<10

Methods: EPA SW 846-9253

Raland K. Tuttle

4-23-01
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

WHOLE EARTH ENVIRONMENTAL
ATTN: MR. ELLIOT WERNER
19606 SAN GABRIEL
HOUSTON, TEXAS 77084
FAX: 281-646-8996

Sample Type: Soil
Sample Condition: Intact/ Iced/ 2 deg C
Project #: None Given
Project Name: A-22
Project Location: Eunice

Sampling Date: 04/16/01
Receiving Date: 04/17/01
Analysis Date: 04/19/01

ELT#	FIELD CODE	GRO C6-C10 mg/kg	DRO >C10-C28 mg/kg
39267	25'	1,507	8,229
39269	35'	32	1,804
39271	45'	<10	<10
39273	55'	<10	579
39275	65'	<10	240
	% IA	88	99
	%EA	115	113
	BLANK	<10	<10

Methods: EPA SW 846-8015M GRO/DRO

Raland K. Tuttle

4-23-01
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

WHOLE EARTH ENVIRONMENTAL
ATTN: MR. ELLIOT WERNER
19606 SAN GABRIEL
HOUSTON, TEXAS 77084
FAX: 281-646-8996

Sample Type: Soil
Sample Condition: Intact/ Iced/ 2 deg C
Project #: None Given
Project Name: A-22
Project Location: Eunice

Sampling Date: 04/16/01
Receiving Date: 04/17/01
Analysis Date: 04/18/01

ELT#	FIELD CODE	BENZENE mg/kg	TOLUENE mg/kg	ETHYLBENZENE mg/kg	m,p-XYLENE mg/kg	o-XYLENE mg/kg
39267	25'	<0.100	0.471	1.55	5.65	0.673
39275	65'	<0.025	<0.025	<0.025	<0.025	<0.025
%IA		92	95	99	106	98
%EA		93	99	101	112	103
BLANK		<0.025	<0.025	<0.025	<0.025	<0.025

METHODS: EPA SW 846-8021B ,5030

Raland K. Tuttle

4-23-01
Date

Environmental Lab of Texas, Inc.

12600 West I-20 East
Odessa, Texas 79763
Phone: 915-563-1800
Fax: 915-563-1713

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Elliot Werner
Company Name: Whole Earth Env. Inc.
Company Address: 19606 San Gabriel
City/State/Zip: Houston, TX. 77084
Telephone No: 1-800-854-4358 Fax No:
Sampler Signature:

Project Name: A-22
Project #:
Project Loc: Eunice
PO #:

LAB # (lab use only)	FIELD CODE	Date Sampled	Time Sampled	No. of Containers	Preservative: Ice	HNO3	HCl	NaOH	H2SO4	None	Other (Specify)	Matrix: Water	Sludge	Soil	Other (specify)	Analyze For: TCLP: TDS / CL / SAR / EC	TPH 418.1	TPH TX 1005/1006	TPH 8015M GRO/DRO	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030	TOTAL: Chloride	Chlorides	BOS				RUSH TAT (Pre-Schedule)	Standard TAT
39266	20'	4/16	9:10 Am	1	✓														✓												
39267	25'		9:20	1																			✓		✓	✓					
39268	30'		9:35	1																					✓	✓					
39269	35'		10:30	1																					✓	✓					
39270	40'		11:00	1																					✓	✓					
39271	45'		11:45	1																					✓	✓					
39272	50'		11:55	1																											
39273	55'		12Noon	1																					✓	✓					
39274	60'		12:15	1																					✓	✓					
39275	65'		12:35	1																			✓		✓	✓					

Special Instructions:

Sample Containers Intact? Y N
Temperature Upon Receipt:
Laboratory Comments:
Rec 2°C

Relinquished by:	Date	Time	Received by:	Date	Time
Elliot Werner	4/17/01				
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
				4/17/01	1940

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

WHOLE EARTH ENVIRONMENTAL
ATTN: MR. ELLIOT WERNER
19606 SAN GABRIEL
HOUSTON, TEXAS 77084
FAX: 281-646-8996

Sample Type: Soil
Sample Condition: Intact/ Iced/ 2 deg C
Project #: None Given
Project Name: A-22
Project Location: Eunice

Sampling Date: 04/16/01
Receiving Date: 04/17/01
Analysis Date: 04/30/01

ELT#	FIELD CODE	SPLP Chloride mg/L
39275	65'	<10

QUALITY CONTROL	5069
TRUE VALUE	5000
% INSTRUMENT ACCURACY	101
BLANK	<10

Methods: EPA SW 846-9253, 1312

Raland K. Tuttle

5-1-01
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

WHOLE EARTH ENVIRONMENTAL
ATTN: MR. ELLIOT WERNER
19606 SAN GABRIEL
HOUSTON, TEXAS 77084
FAX: 281-646-8996

Sample Type: Soil
Sample Condition: Intact/ Iced/ 2 deg C
Project #: None Given
Project Name: A-22
Project Location: Eunice

Sampling Date: 04/16/01
Receiving Date: 04/17/01
Analysis Date: 04/30/01

ELT#	FIELD CODE	SPLP GRO C6-C10 mg/L	SPLP DRO >C10-C28 mg/L
39275	65'	<3	<3
	% IA	85	113
	%EA	97	97
	BLANK	<3	<3

Methods: EPA SW 846-8015M GRO/DRO, 1312

Raland K. Tuttle

5-1-01
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

WHOLE EARTH ENVIRONMENTAL
ATTN: MR. ELLIOT WERNER
19606 SAN GABRIEL
HOUSTON, TEXAS 77084
FAX: 281-646-8996

Sample Type: Soil
Sample Condition: Intact/ Iced/ 2 deg C
Project #: None Given
Project Name: A-22
Project Location: Eunice

Sampling Date: 04/16/01
Receiving Date: 04/17/01
Analysis Date: 04/30/01

ELT#	FIELD CODE	SPLP BENZENE mg/L	SPLP TOLUENE mg/L	SPLP ETHYLBENZENE mg/L	SPLP m,p-XYLENE mg/L	SPLP o-XYLENE mg/L
39275	65'	<0.001	<0.001	<0.001	<0.001	<0.001
%IA		92	97	100	99	100
%EA		93	95	97	96	99
BLANK		<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: EPA SW 846-8021B ,5030, 1312

Raland K. Tuttle

5-1-01
Date