

1R - 214

**GENERAL
CORRESPONDENCE**

YEAR(S):

2005-1999

Price, Wayne

1R0214-01

From: Price, Wayne
Sent: Friday, March 11, 2005 1:54 PM
To: Price, Wayne; 'Carolyn Doran Haynes (E-mail)'; 'Kristin Farris Pope (E-mail)'
Cc: Sheeley, Paul; Johnson, Larry; Anderson, Roger
Subject: RE: Junction Box Upgrade Work Plan (Rev. July 2003) letter dated February 02, 2005 requesting 20 mil plastic liner vs Compacted Clay

Correction: OCD did approve the Junction Box Upgrade Project OCD 1R0214 on July 22, 2003. OCD would still like to see a complete submittal amending the project.

-----Original Message-----

From: Price, Wayne
Sent: Friday, March 11, 2005 1:26 PM
To: Carolyn Doran Haynes (E-mail); Kristin Farris Pope (E-mail)
Cc: Sheeley, Paul; Johnson, Larry; Anderson, Roger
Subject: Junction Box Upgrade Work Plan (Rev. July 2003) letter dated February 02, 2005 requesting 20 mil plastic liner vs Compacted Clay

Dear Ms. Haynes:

OCD is in receipt of the subject letter listed above. Please note sometime ago I mention that OCD did not officially approve that project. I believe this would be a great opportunity for us to rectify that. As for the plastic liner I would like to see the following:

1. Please explain why Compacted Clay was chosen originally over plastic liner.
2. Please provide your rationale as to why 20 mil Plastic will suffice versus 40 mil.
3. Provide OCD with all of the relative ASTM spec's associated with the liner specification sheet provided from West Texas Plastics for our files.
4. Please explain if this is the only liner for approval or will there be other manufactures. What OCD recommends is that you propose a general spec so you can utilize other manufactures liners, if you so desire.
5. Please send us a sample of the liner.
6. How will the expected life compare to natural clay.
7. What is the permeability difference between clay and plastic.
8. Our new pit guidelines require 40 mil thickness for disposal pits. OCD feels 40 mils may provide more protection from debris, rocks, plant roots etc than 20 mil.
9. Placement installation specifications and QA/QC of the liner should be included in the plan. How will expansion joints, connection joints etc be made.

As soon as OCD receives the above information we will attempt to turn your request around within one month. Also, please note OCD may have other questions or issues concerning this project depending upon the information provided.

Sincerely:

Wayne Price
New Mexico Oil Conservation Division
1220 S. Saint Francis Drive
Santa Fe, NM 87505
505-476-3487
fax: 505-476-3462
E-mail: WPRICE@state.nm.us

Price, Wayne

(1R0214)-7

From: Price, Wayne
Sent: Friday, March 11, 2005 1:26 PM
To: Carolyn Doran Haynes (E-mail); Kristin Farris Pope (E-mail)
Cc: Sheeley, Paul; Johnson, Larry; Anderson, Roger
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Wayne Price
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RICE *Operating Company*

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

CERTIFIED MAIL
RETURN RECEIPT NO. 7002 2410 0000 4940 1879

February 2, 2005

Mr. Wayne Price
New Mexico Energy, Minerals, & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 S. St. Francis Drive
Santa Fe, New Mexico 87505

RE: JUNCTION BOX UPGRADE WORK PLAN (REV. JULY 16, 2003)

Mr. Price:

As outlined in the Junction Box Upgrade Work Plan (Work Plan), compacted clay barriers are installed when delineation and specified criteria warrants.

Rice Operating Company (ROC) would appreciate NMOCD's consideration of granting ROC the option to use either a black synthetic 20 mil polyethylene liner or compacted clay for use as a moisture infiltration barrier (clay is sometimes not readily available). The polyethylene liner will be installed in the same configuration as the clay barrier as illustrated in the Work Plan. The position of the liners/barriers is such that infiltrating water is diverted and will run off of the sides of the structure and not through the impacted soils producing a concentrated leachate. The subsurface polyethylene liner will be buried below plow depth and will not be susceptible to degradation from ultra violet rays. As with all sites in which a moisture barrier is installed, a concrete marker will be placed on the surface that marks the location (depth below ground surface) of the subsurface barrier.

All other activities associated with the Junction Box Upgrade Program will be conducted in accordance with the Work Plan unless alternatives are requested and approved by NMOCD.

Thank you for your consideration concerning this matter. Your prompt review is appreciated. If you have any questions, do not hesitate to contact me.

RICE OPERATING COMAPANY

Kristin Farris Pope

Kristin Farris Pope
Project Scientist

enclosure: specification sheet

cc: CDH, file, Chris Williams
NMOCD, District I Office
1625 N. French Drive
Hobbs, NM 88240

West Texas Plastics, Inc.

P.O. Box 60004
Midland, Texas 79711

Phone 432-563-4005
Fax 432-561-5209
Toll Free 800-583-6005

TECHNICAL SPECIFICATION SHEET 20 MIL BLACK POLYETHYLENE

<u>PROPERTIES</u>	<u>TEST METHOD</u>	<u>VALUE</u>
Thickness mils	ASTM D 1593	20
Weight per 1000 Sq.ft.		100 lbs
Density lb/cm3	ASTM D792	57.7 lbs.
Tensile Strength at Yield	ASTM D638	40 lbs.
Tensile Strength at Break	ASTM D638	90 lbs.
Elongation at Break	ASTM D638	700 %
Hydrostatic Resistance	ASTM D751	122
Puncture Resistance	FTMS 101 C	36
Tear Resistance	ASTM D1004	13
Volatile Loss	ASTM 1203	<1%
Resistance to Soil Burial	ASTM G22	-4%
Low Temp, Failure	ASTM D746	<-94
Dimensional Stability %Change	ASTM D1204	<2
Environmental Stress Crack Resistance Hours to failure	ASTM D5397 Method A	>400
Carbon Black %	ASTM D1603	2.75
WVTR GH ₂ O/100 in 2/24 hrs (g H ₂ O/m ² /24 hrs.	ASTM E96 Method A73 F, 50% RH	.020 (.022)

Note: To the best of our knowledge, these are typical property values and are intended as guides only. Not as specification limits. **WEST TEXAS PLASTICS, INC., MAKES NO WARRANTIES AS TO THE FITNESS FOR A SPECIFIC USE OR MERCHANTABILITY OF PRODUCTS REFERRED TO**, no guarantee of satisfactory results from reliance upon contained information or recommendations and disclaims all liability for resulting loss or damage.

Price, Wayne

From: Price, Wayne
Sent: Thursday, December 09, 2004 10:42 AM
To: Carolyn Doran Haynes (E-mail); Kristin Farris Pope (E-mail)
Cc: Randall Hicks (E-mail); Gil Van Deventer (E-mail)
Subject: Path Forward

Dear Ms. Haynes:

The OCD has logged every ROC site into our RBDM system. I will be sending you this comprehensive list. The list will have case numbers for all of our sites. I would like to see Kristin add those numbers to here spreadsheet if possible. I will be in the process of reviewing all of the closure sites (i.e. green sheet cover) and hope to send you approvals so we can close those sites out. I would also think it would be helpful if ROC would spell out on your spread sheet how each site was being closed. For example if one of the generic plans is or was used please note that, If not then signify type of closure, i.e. case-by-case, etc.

For disclosure sites, I am going to try to let ROC set the priority for these sites, however if we receive a complaint or in OCD's opinion it is a possible threat to public health then we may ask you to address that particular site.

I have already sent you my comments concerning the monument area up-gradient groundwater issue. The vadose zone and groundwater issues will have to be addressed. One thing we might do is set a lower priority on those sites and delay work until we have more data.

The other issue of concern for OCD is where disclosure sites had groundwater contamination and over a period of time this contamination has been reduced below the groundwater standards by dilution. OCD is very concerned that salt density gradient plumes are simply moving off site and thus could degrade down-gradient fresh water sources. OCD has a fiduciary duty to make sure this is not happening. Therefore, ROC will be expected to demonstrate this phenomenon is not happening. OCD will not accept models that demonstrate this unless monitor wells are installed to calibrate the model.

Sincerely:

Wayne Price
New Mexico Oil Conservation Division
1220 S. Saint Francis Drive
Santa Fe, NM 87505
505-476-3487
fax: 505-476-3462
E-mail: WPRICE@state.nm.us

Price, Wayne

From: Carolyn Doran Haynes [cdhriceswd@leaco.net]
Sent: Wednesday, November 24, 2004 2:22 PM
To: 'Price, Wayne'
Cc: 'Kristin Farris'
Subject: FW: Rice Projects

Wayne,

Please scroll down and read my responses imbedded in your email. They are in red.

-----Original Message-----

From: Rice Operating [mailto:riceswd@leaco.net]
 Sent: Wednesday, November 24, 2004 11:47 AM
 To: Haynes, Carolyn Doran
 Subject: Fw: Rice Projects

----- Original Message -----

From: "Price, Wayne" <WPrice@state.nm.us>
 To: "Carolyn Doran Haynes (E-mail)" <riceswd@leaco.net>; "Kristin Farris Pope (E-mail)" <enviro@leaco.net>
 Sent: Wednesday, November 24, 2004 10:32 AM
 Subject: Rice Projects

> Dear Carolyn:

>
 > The first thing I want to do is compliment Kristin on the good job she is
 > doing on filing, processing and maintaining records on all of your
 > projects.
 > Excellent work!

Thank you!

>
 > The next item is a question. Which ROC projects are not under the generic
 > Jct plan or Redwood Tank closure? Are you using the Jct Box plan for
 > redwood tank and leak sites also? I understand that EME and DB projects
 > are all under the generic Jct plan approved on July 22, 2003 by OCD. I also
 > understand that disclosure reports from these projects are covered on a
 > case-by-case basis. So how is the Hobbs SWD and other ROC systems being
 > handled? Please clarify.

The Junction Box Plan is just that, a junction box plan, for all of the Systems. The reason most reports are for EME and BD is because they are the Systems with the most activity (due to barrels disposed and dollars ROC can AFE.) The Hobbs SWD project is for abandonment. The Hobbs junction boxes were evaluated also according to the junction box plan. The Hobbs E-15 site initially was to be done under the generic redwood tank and pit closure plan. The impact suspected there and the landowner (OXY) desire to keep expense minimal, however, warrants usage of a RBCA plan, so ROC called in Arcadis to develop a plan. Leak sites are not worked according to the junction box plan, and are evaluated site by site. Some of the closure conditions, however, may resemble the junction box plan closure conditions (decline of chlorides, for example). The more ROC discovers about the historical

12/1/2004

salt behavior, the more we find we can apply it to sites.

As far as which sites are not the JB plan or RWtank plan, I'll have to get back to you. Generally, if a site has come into you for a workplan approval, the site is not on one of the two plans or is out of the scope of the plan.

>

> Also, the conference call on Dec 1 is a discussion on a path forward
> procedure for the sites in the Monument area. I wasn't planning on
> discussing each individual site with your contractors. The call will be
> about OCD's understanding and procedure for addressing the groundwater
> issue in that area. I think having contractors on the line will cloud the
> issue.

The only reason I wanted the consultants on the line is because they are truly handling their projects and ROC is just coordinating. It is not a problem to exclude them.

Please understand that ROC does not have staff that has the credentials or expertise of the consultants. I'm not an environmental professional and with my ROC management responsibilities, I can't keep my hand on everything. Kristin is a degreed geologist and has been with ROC 3 years, but that doesn't approach the experience and network of the consultants.

>

>

> Another issue is the Vacuum G-35 and F-35 projects. I sent an E-mail
> yesterday requiring action. I understand Randy Hicks sent E-mails
> concerning this project. We have a problem with his E-mails and we don't
> always get the attachments, and then usually we never receive the hard
> copy.
> However, It's not all his fault because we have had some E-mail problems
> ourselves and we have been inundated with paper work recently combined
> with
> the loss of Bill Olson. I am finding that some of the projects were in
> his
> name and may be the reason for some confusion. Please send anything
> associated with ROC to me and as I am making a concerted effort to process
> these as soon as possible.

ROC will send all project info to you. I'll talk with Randy about paperwork. The G-35 and F-35 sites will be addressed with you asap. I'll consult with Randy and get him on board with what OCD is going to require. I will want to discuss the conditions with you during the conference call.

>

> Hobbs SWD E-15. Please send photos and area map where it is located. Was
> there a closure plan issued for the tanks, jct box equipment etc. and is
> there photos for this work? Is this part of the Hobbs abandonment
> project?

The E-15 site is a redwood tank and pit site. It is part of the Hobbs abandonment. The tanks and pit were NORM cleared and removed under the generic plan. The site was partially delineated under the generic plan. All work was suspended due to the I-9 McNeill site pending the lawsuit, OCD's approval of the Stage II, and the new ownership of the land (OXY). We are now set to proceed and OXY wanted a RBCA to minimize expenses, so Arcadis was called in and Sharon Hall submitted a work plan to you.

I'm on vacation right now, but will be back in the office Monday. Kristin and I will discuss these issues and will look forward to our conference call for a path forward. I have long since believed the Monument area GW will have to become a cooperative effort of all the producers in the area. I believe the information we

are gathering now will map-out pockets of impact that can be addressed on a much larger scale - probably not approachable by ROC... We have a lot of work ahead, and it will take a long time to produce results. I've thought for some time now that the ROC work is just the top of the iceberg, but we're working as fast as we can. We have five consultants working on various projects and hope to secure the funding for work next year. ROC is in a precarious position these days, and I'm so glad oil is \$45+/bbl. Without that, AFEs would be very difficult to gain approval.

Have a great Thanksgiving. I am on my cell phone if you need to speak for any reason. 505-631-0680. Carolyn

>

>

> Sincerely:

>

> Wayne Price

> New Mexico Oil Conservation Division

> 1220 S. Saint Francis Drive

> Santa Fe, NM 87505

> 505-476-3487

> fax: 505-476-3462

> E-mail: WPRICE@state.nm.us

>

>

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NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON

Governor

Joanna Prukop

Cabinet Secretary

January 24, 2002 ³

Lori Wrotenbery

Director

Oil Conservation Division

CERTIFIED MAIL

RETURN RECEIPT NO. 3929 9741

Carolyn Doran Haynes
Operations Engineer
Rice Operating Company
122 West Taylor
Hobbs, New Mexico 88240

RE: Summary of Technical Meeting held on January 23, 2003
ROC Voluntary Junction Box Upgrade Project OCD 1R0214
Hobbs Salt Water Disposal System
Lea County, New Mexico

Dear Ms. Haynes:

The New Mexico Oil Conservation Division (OCD) recently received a complaint from Mr. Leo Sims, a local landowner representative, concerning Rice Operating Company's (ROC) procedure for groundwater impact notification, remediation and sampling techniques at the ROC N-29 site. As a result of this complaint, OCD conducted a technical meeting with ROC on January 23, 2003 in OCD's Santa Fe office. ROC's original generic plan for the Junction Box Upgrade Project (OCD case #1R0214) was reviewed by OCD to determine if there were any significant deficiencies in the original plan.

The two main topics of concern were; (1) notification of groundwater impact procedure used by ROC; (2) and the issue of proper barrier design for the protection of groundwater. ROC has been providing the OCD with disclosure reports indicating possible groundwater contamination with commitments to investigate and remediate if necessary. Due to the size and nature of this project this procedure has been accepted by OCD in the past. As of to date, ROC pointed out they have never failed to respond to any groundwater impact issue that was deemed a significant threat to public health. As discussed during the meeting this method allowed ROC to schedule and budget these projects.

The other topic was contaminants left in place that may be laterally outside of a protective barrier. The original plan was approved on OCD's assumption that any contaminants left in place would have some sort of barrier to prevent leachate from migrating and impacting groundwater. ROC noted that the original

Carolyn Doran Hayn

January 24, 2002

Page 2

work plan proposed a barrier under the junction box for secondary containment. ROC also pointed out due to cost benefit analysis and newer technical methods acquired during this project caused their thinking and procedure to deviate from the original plan in some instances. However, they informed OCD that ROC could demonstrate that any remaining contaminants will not impact groundwater in the foreseeable future. They also noted they have submitted closure reports for some of the sites and did not receive any feedback from the agency. ROC indicated they took some latitude and proceeded with these projects knowing they could and will demonstrate these closure methods will not cause harm to the environment.

Sampling procedures and QA/QC protocol issues were also discussed during the meeting. OCD did not have an issue with ROC's methods as long as third party confirmations are used.

OCD pointed out that Rule 116C requires immediate notification to the Environmental Bureau Chief if there is a reasonable probability that groundwater may have been contaminated. ROC indicated they notified the local OCD environmental representative, and had not notified the OCD Environmental Bureau because they felt this was a gray area since in most cases they only suspected there may be groundwater contamination and the fact that only a properly installed monitor well completed and sampled would be the only true way to tell. However, ROC agreed to immediately start notifying the OCD pursuant to Rule 116C upon reasonable probability.

OCD concluded that any work already completed, which did not conform to the original work plan, shall be addressed. ROC agreed to modify the original work plan, closure reports and rank all sites for protection of public health **for OCD approval by April 1, 2003.**

If you have any questions please do not hesitate to contact me at 505-476-3487 or E-mail WPRICE@state.nm.us.

Sincerely,



Wayne Price- Engineer

cc: OCD Hobbs Office,
RC Anderson- Environmental Bureau Chief
Mr. Leo Sims

OCD/Rice Meeting 1/23/03 9:00 am

Attendees - Bill Olson - OCD
Wayne Price - "
Roger Ambrose - "
Carolyn Haynes - Rice
Randy Hicles - Hicles Consultants

Discussed N-29 & generic plan

N-29

2 issues -

1.) Reporting at GW

2.) Adequacy of soil remediation

* Rice needs to report GW contamination and possible GW contamination to E-Bureau staff

Changes are in documents, submitted.
Rice believed OCD would point out problems if they had them

Verification of sample results (lab vs field)

* Summary of cases, #'s, etc

RICE Operating Company

From the desk of:

Carolyn Doran Haynes

2/23/00

Wayne,

As you + I both expected, we're learning more & becoming more practical as this type of work is repeated. ROC is improving through experience! ROC certainly appreciates your patience + cooperation as this work progresses - especially I appreciate it. I have absorbed more valuable knowledge this past year at ROC than I did the previous 10 at Conoco. Sincerely,
I thank you for all your help.

Carolyn

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

RECEIVED
FEB 28 2000
Environmental Bureau
Oil Conservation Division

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
Operations Engineer

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

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 1×10^{-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.

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 1×10^{-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.

RICE Operating Company

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

EEEN

MAR 26 2001

CERTIFIED MAIL

RETURN RECEIPT NO. 7099 3220 0001 9928 4423

CONSERVATION DIVISION

March 23, 2001

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

RE: SUMMARY OF ENVIRONMENTAL SUBMISSIONS
ROC, BD, EME, JUSTIS Salt Water Disposal Systems
Lea County, NM

Dear Mr. Price:

Rice Operating Company (ROC) takes this opportunity to review the closure requests that have been submitted to the NMOCD during Year 2000. ROC understands the need to periodically review correspondence, especially since the NMOCD has experienced a major relocation.

ROC is the service provider (operator) for several Salt Water Disposal Systems in Lea County and has no ownership of any portion of pipeline, well or facility. Each 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.

This is a list in order of date of submission of requests that ROC has not received response:

FACILITY	LEGAL DESCRIPTION	DATE
ROC SWD Well Facility P-25	Sec 25-T18S-R37E	January 27, 2000
EME SWD Facility L-21	Sec 21-T21S-R36E	March 20, 2000
BD SWD Facility C-2	Sec 2-T22S-R37E	May 30, 2000
ARCO South Justis Unit F-230	Sec 25-T25S-R37E	November 21, 2000
EME Jct. Box N-4-1 (Reeves Ranch)	Sec 4-T20S-R37E	January 4, 2001

ROC has received approval letters concerning the Junction Box Upgrade Plan and EME SWD Facility M-33 Closure Report, also submitted during Year 2000. The Hobbs SWD System I-9 Release Site is a Rule 19 Event and is currently in discussions of Stage II Revision and the ROC F-29 Facility Redwood Tank and Overflow Pit Closure Project is also in discussion.

As always, thank you for your consideration to review these various work and closure requests. If there are any questions or concerns, please don't hesitate to call.

RICE OPERATING COMPANY



Carolyn Doran Haynes
Operations Engineer

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

RICE Operating Company

EME SWD SYSTEM Junction Box UpGrade Project Work Schedule

Expected Start Date	Junction Box	Legal Descrip			Depth to GW	Water Well < 200'	Surf Water <1000'	Water Well <1000'	NMOCD Assessment #
October 2000	I-35	35	20	36	115-122	NO	NO	NO	0
November 2000	K-1	1	20	36	26	NO	NO	NO	20
December 2000	B-30	30	19	37	17-27-58	NO	NO	NO	20
JJanuary 2001	J-9	9	20	37	25	NO	NO	NO	20
February 2001	F-29-1	29	19	37	17	NO	NO	NO	20
November 2000	F-29-2	29	19	37	17	NO	NO	NO	20
December 2000	C-1-1	1	20	36	23-27	NO	NO	NO	20
January 2001	K-32	32	20	37	37-80	NO	NO	NO	10-20
February 2001	I-1-A	1	20	37	48	NO	NO	NO	20
March 2001	I-1-C	1	20	37	48	NO	NO	NO	20
April 2001	B-6	6	20	37	23-31	NO	NO	NO	20
April 2001	P-36-2	36	19	36	22-37	NO	NO	NO	20
April 2001	L-20	20	20	37	23-27	NO	NO	NO	20
April 2001	U-6-1	6	21	36	157	NO	NO	NO	0
April 2001	E-12	12	20	36	29-32	NO	NO	NO	20
May 2001	H-31	31	19	37	17	NO	NO	NO	20
Spetember 2000	M-10	10	21	36	120-200	NO	NO	NO	0
October 2000	Q-6-1	6	21	36	157	NO	NO	NO	0
September 2000	F-20	20	22	36	216	NO	NO	NO	0
September 2000	E-4	4	21	37					
May 2001	D-7	7	21	36	157	NO	NO	NO	0
May 2001	J-10	10	21	36	120-200	NO	NO	NO	0
May 2001	V-5	5	21	36	150-200	NO	NO	NO	0
May 2001	L-31	31	20	37	80	NO	NO	Yes	20

RICE Operating Company

EME SWD SYSTEM Junction Box UpGrade Project Work Schedule

Expected Start Date	Junction Box	Legal Descrip Sec T R	Depth to GW	Water Well < 200'	Surf Water <1000'	Water Well <1000'	NMOCD Assessment #
June 2001	N-16-1	16 20 37	15	NO	NO	NO	20
June 2001	P-1	1 21 35					
September 2001	C-12-2	12 20 36	25-29	NO	NO	NO	20
September 2001	K-15	15 20 37	No Wells	NO	NO	NO	
September 2001	K-6	6 20 37	29	NO	NO	NO	20
July 2001	K-36	36 20 36	115	NO	Yes	Yes	20
July 2001	Penroc Cooper Fed D	26 20 36	90-122	NO	NO	NO	0
September 2001	A-2	2 20 36	27-30	NO	NO	NO	20
October 2001	A-20	20 20 37	15-23	NO	NO	NO	20
June 2001	Conoco Britt B15	15 20 37	No Wells	NO	NO	NO	
June 2001	K-15-1	15 20 37	No Wells	NO	NO	NO	
October 2001	M-16-1	16 20 37	15	NO	NO	NO	20
July 2001	M-34	34 19 37	23-31	NO	NO	NO	20
August 2001	M-3-2	3 21 36	120-200	NO	NO	NO	0
August 2001	M-3-1-A	3 21 36	120-200	NO	NO	NO	0
September 2001	ARCO FDE	19 21 36	217	NO	NO	NO	0
September 2001	O-24	24 20 36	30-60	NO	NO	NO	20
August 2001	C-2	2 20 36	27-30	NO	NO	NO	20
July 2001	G-32	32 19 37	12	NO	NO	YES	20
October 2001	A-26-B	26 20 36	107	NO	NO	YES	20
October 2000	N-6	6 21 36	157	NO	NO	NO	0
July 2001	D-28	28 21 36	245	NO	NO	NO	0
October 2001	O-17-1	17 20 37	15-30	NO	NO	NO	20
July 2001	K-33-1	33 19 37	12-30	NO	NO	NO	20
October 2001	N-5	5 20 37	30	NO	NO	NO	20
August 2001	B-1-1	1 20 36	23-26	NO	NO	NO	20

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 8158

July 24, 2000

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

Re: Generic Work Plan for Junction Box Upgrade Project

Mr. Price:

Rice Operating Company (ROC) is submitting a generic work plan for upgrading junction boxes that are presently used 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. This type of capital improvement project requires AFE approval and pre-work funding.)

The site assessments, work plans, time schedules, sample and test plans, impacted soil removal, replacement junction boxes will be specifically fitted to the particular site, but will generally follow this generic plan. NMOCD will be notified in advance of significant events and will be consulted throughout the work plan process for concurrence of any plan alterations, assessment and analytical interpretations, etc.

The impact target values of this work plan reflect the present NMOCD guidelines. Should these guideline values be adjusted in the course of the TPH and Chlorides Workgroup results, the target values mentioned in this plan will be adjusted to reflect the new guideline values.

ROC asks that the NMOCD review this plan for approval. As mentioned during the initial presentation of this work plan on July 21, an AFE has been approved and work will begin immediately after receiving approval.

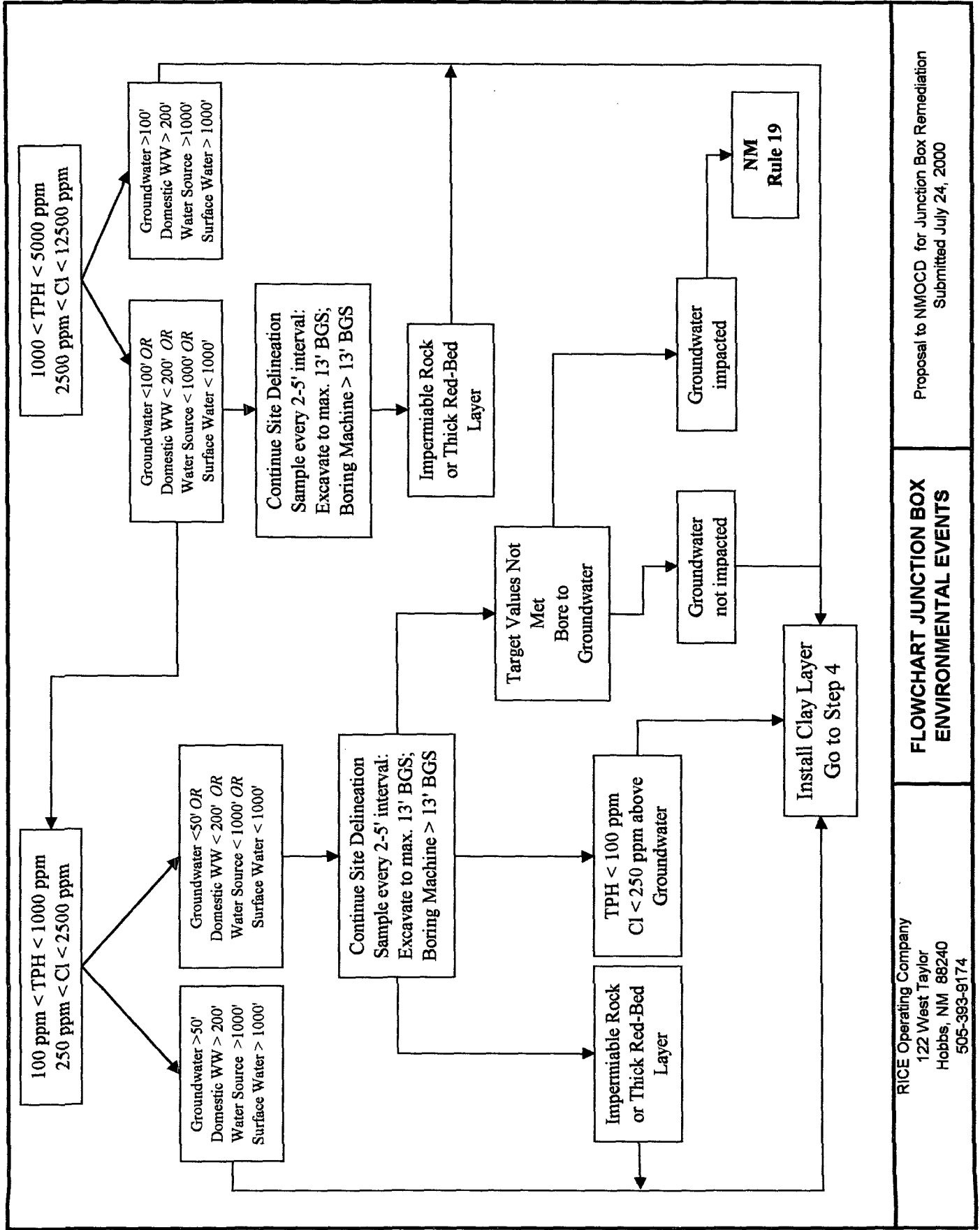
Thank you for your time and consideration of this work plan. We look forward to hearing from you soon. If there are any additional questions, please contact me at the above phone number.



Carolyn Doran Haynes
Operations Engineer

Enclosures

Cc KH; file; Mr. Roger Anderson, NMOCD, Santa Fe, NM; Ms. Donna Williams, OCD District I, Hobbs, NM



RICE Operating Company

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

CERTIFIED MAIL
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NM Energy, Minerals and Natural Resources Department
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2040 S. Pacheco
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Carolyn Doran Haynes
Operations Engineer

Enclosures

Cc KH; file; Mr. Roger Anderson, NMOCD, Santa Fe, NM; Ms. Donna Williams, OCD District I, Hobbs, NM

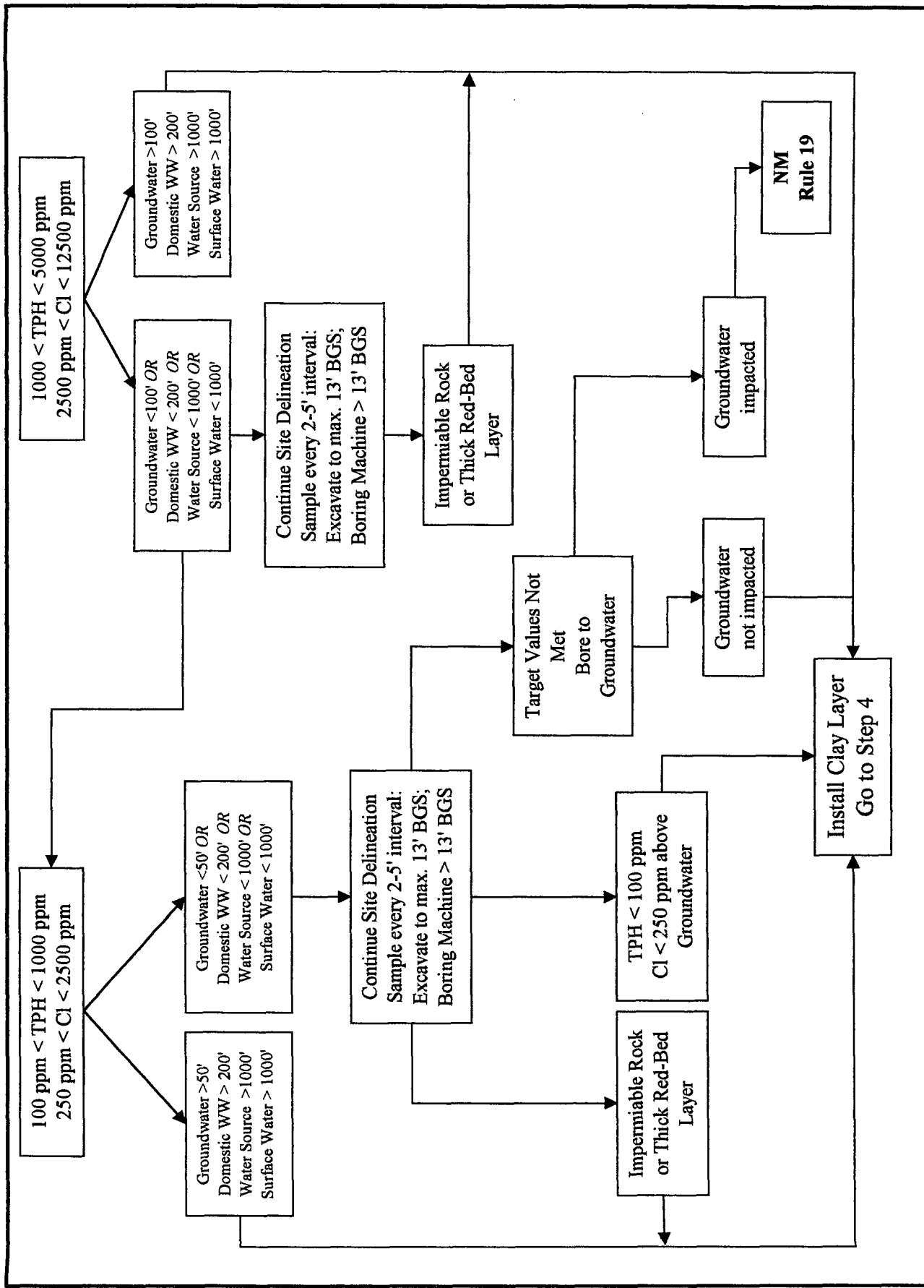
RICE Operating Company

Remediation Plan for Below Grade Junction Boxes

1. Submit to NMOCD a yearly work plan of site-specific locations, site assessments, time schedule, sampling and testing plan, etc., all pursuant to NMOCD guidelines.
2. Excavate junction box, removing and containing any NORM impacted soils for proper storage or disposal at a permitted facility. Excavate obvious hot spots as is practical and properly dispose of highly impacted soils. Use caution to ensure pipeline integrity or temporarily re-route.
3. Procure soil samples from excavation bottom (2-4' below pipeline). Follow Flowchart for applicable target values, vadose zone/groundwater parameters and delineation procedures.
4. If impact reaches target value above groundwater depth or if groundwater is not impacted, evaluate site for risk-based assessment: representative depth to groundwater, nearest domestic water well, nearest water source well, nearest surface water body, etc. Procure composite samples of bottom (5-point) and sides (4-point) for lab analysis of TPH, BTEX, Chlorides using approved laboratory testing procedures as per NMOCD guidelines.
5. If 100 ppm TPH is not identified before reaching groundwater, then boring and sampling will continue to ground water. Upon reaching groundwater, the borehole will be cased and developed pursuant to NMOCD guidelines. Ground water sample will be procured and tested for major cations and anions, TDS and BTEX levels with approved laboratory testing as per NMOCD guidelines. If ground water is found to exceed WQCC standards, NMOCD will be notified immediately and the closure plan will move into Rule 19 procedures.
6. If in Rule 19, discuss with NMOCD for verbal approval to proceed with clay layer and backfill to get the site back into operation. Rule 19 will direct groundwater implications.
7. For containment/isolation of impact and prevention of downward percolation or migration, install compacted clay liner (layer 10-12") to meet or exceed 95% of a Proctor Test ASTM-D-698 with permeability (hydraulic conductivity) equal to or less than 1×10^{-7} cm/sec. Test density randomly for compliance.
8. Backfill excavation (with clean or NMOCD approved level of impacted soils) to within 2' of bottom of pipeline. Spread clay and tamp (compact) to a level surface. Construct watertight containment (junction box) around pipeline connections. Backfill remainder of excavation with tamped clay to provide semi-secondary containment. Cover junction box with lid.
9. Submit to NMOCD yearly a summary report of locations, activities and laboratory results.

July 24, 2000

Submitted by Carolyn Doran Haynes



Proposal to NMOCD for Junction Box Remediation
Submitted July 24, 2000

**FLOWCHART JUNCTION BOX
ENVIRONMENTAL EVENTS**

RICE Operating Company
122 West Taylor
Hobbs, NM 88240
505-393-9174

RICE Operating Company

From the desk of:

Carolyn Doran Haynes

Wed

Wayne,

Here is a paper copy of the
slides used for the junction
box presentation on 7-21-00.

Rice appreciates the approval
of the work plan and will be
forwarding to you the Work
Schedule as soon as it is
completed.

Thank you again for your quick
consideration.

Carolyn

7-21-00

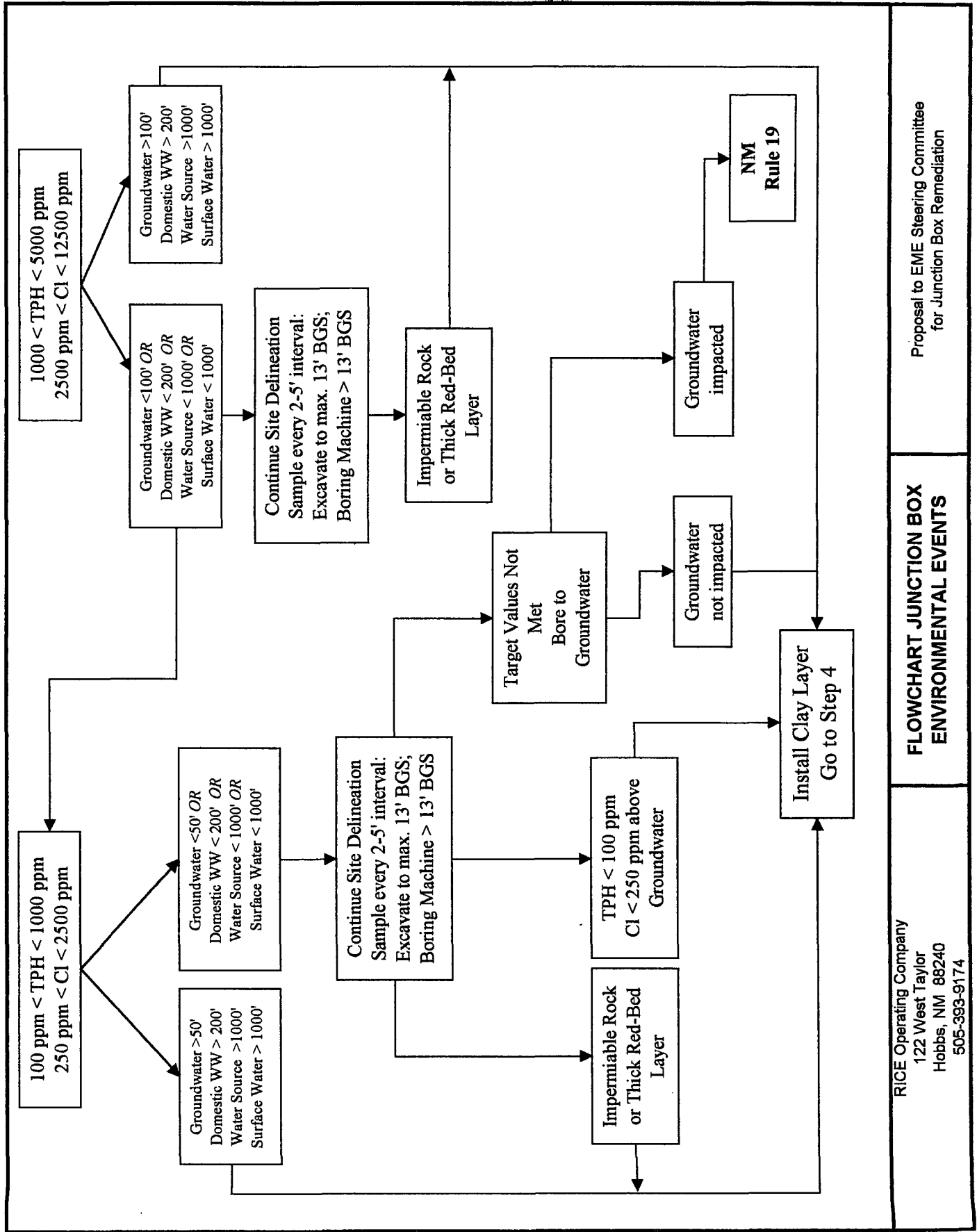
O.C.D. MEETING, SANTA FE

<u>NAME</u>	<u>COMPANY</u>	<u>ADDRESS, PHONE</u>
KEN HASTEN	RICE OPERATING	122 W. TAYLOR
John L. Moody JR	RICE OPERATING	HOBBS, NM 88240
		505-393-9174
Sam Small	Amerco	P.O. Box 840, Seminole, TX
WAYNE PRICE	OCD	915-758-6741
ROGER ANDERSON	OCD	827-7155
BRETT BRADFORD	TEXACO	827-7152
Bishop Decker	Chevron Midland, TX	MIDLAND, TX (915) 688-2924
Pete Miller	Conoco - Midland, TX	(915) 687-7345
Neal Goates	Conoco - Midland, TX	(915) 688-6161
Bill Olson	OCD	915-686-5488 10 DESTA DRIVE
Carolyn Haynes	ROC	(505) 827-7154
		2040 S. Pacheco
		Santa Fe, NM 87540
	505 393 9174	122w Taylor, Hobbs

*generic per EPA
10.5.2011*

Remediation Plan for Below Grade Junction Boxes

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RICE Operating Company
122 West Taylor
Hobbs, NM 88240
505-393-9174

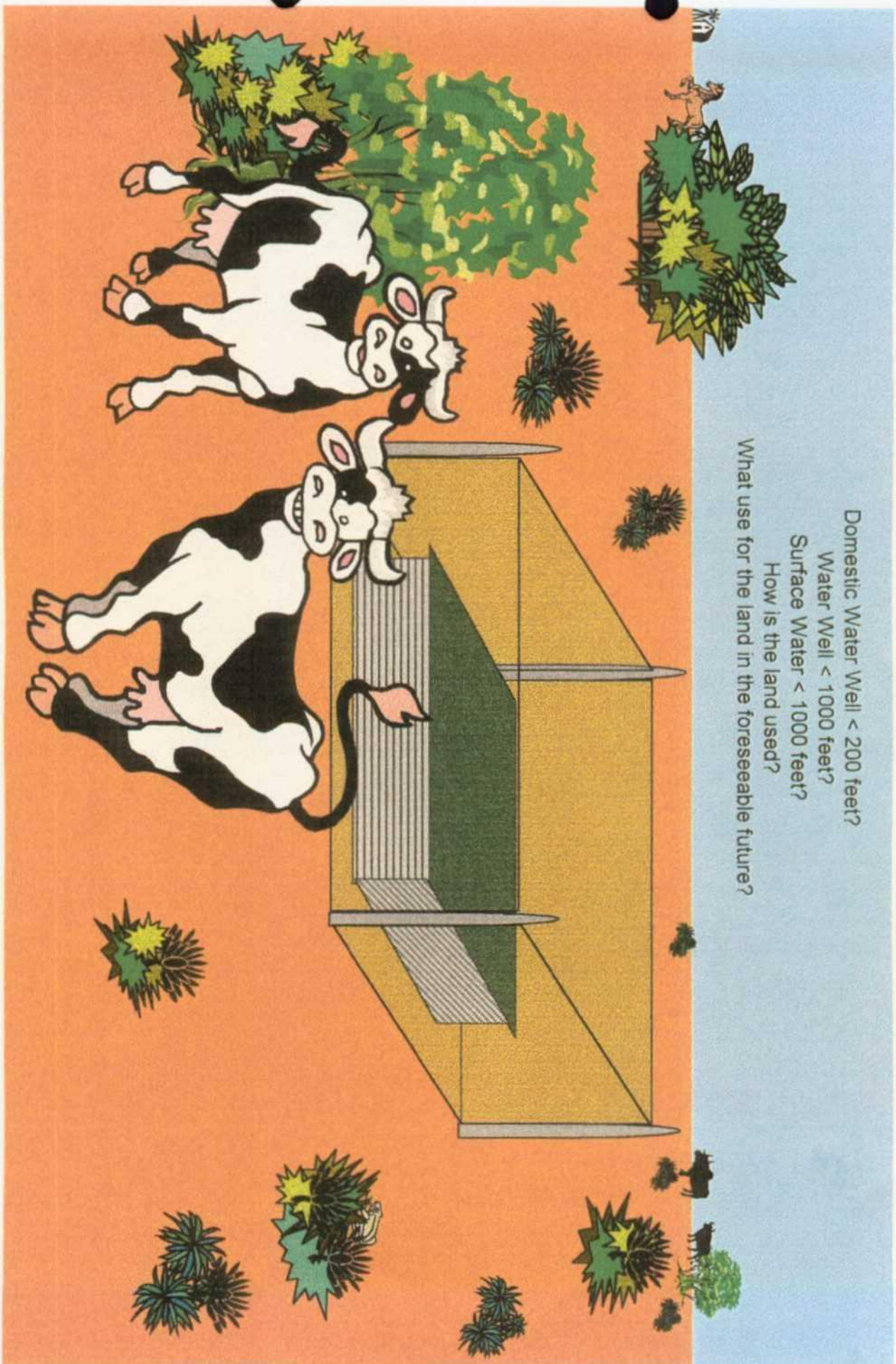
FLOWCHART JUNCTION BOX ENVIRONMENTAL EVENTS

Proposal to EME Steering Committee
for Junction Box Remediation

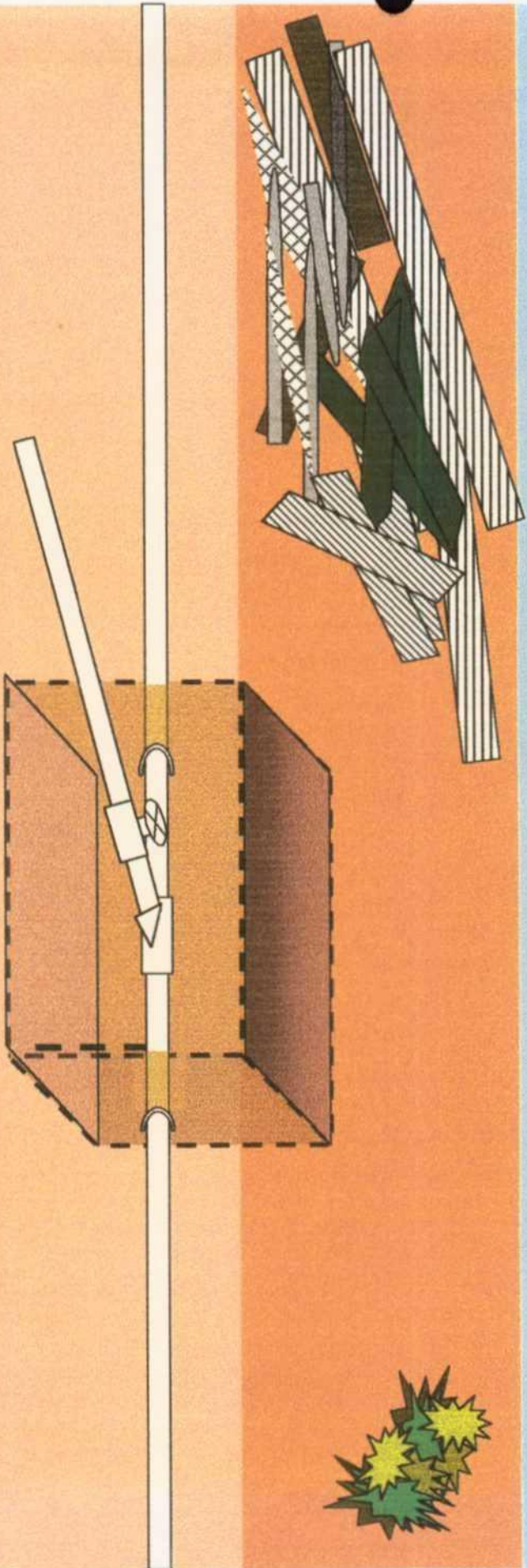
Junction Box Upgrade Project Work Schedule

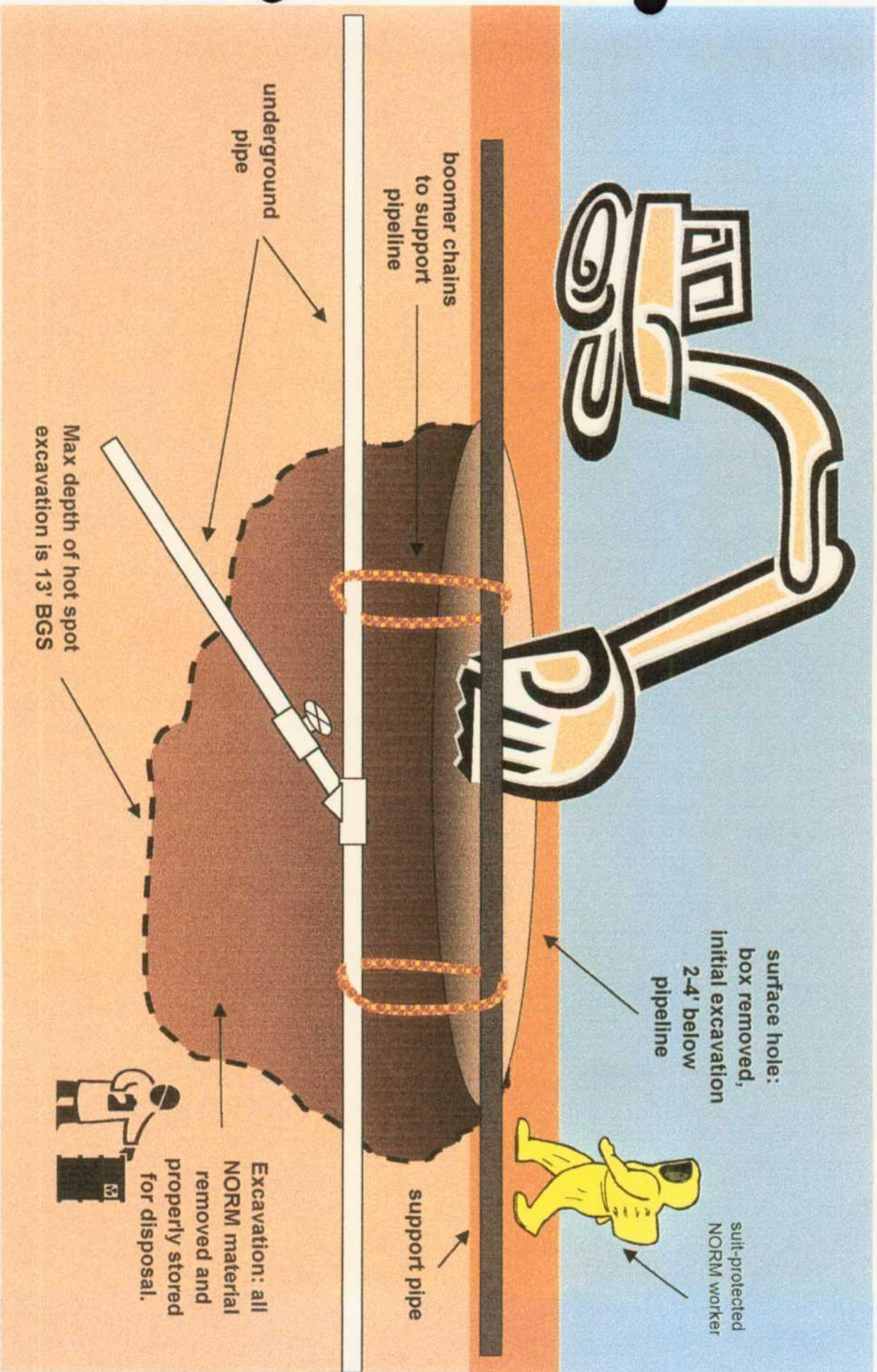
[illegible]

Domestic Water Well < 200 feet?
Water Well < 1000 feet?
Surface Water < 1000 feet?
How is the land used?
What use for the land in the foreseeable future?



Junction Box Removed
Before Excavation





5-point composite
sampling after hot
spots are removed

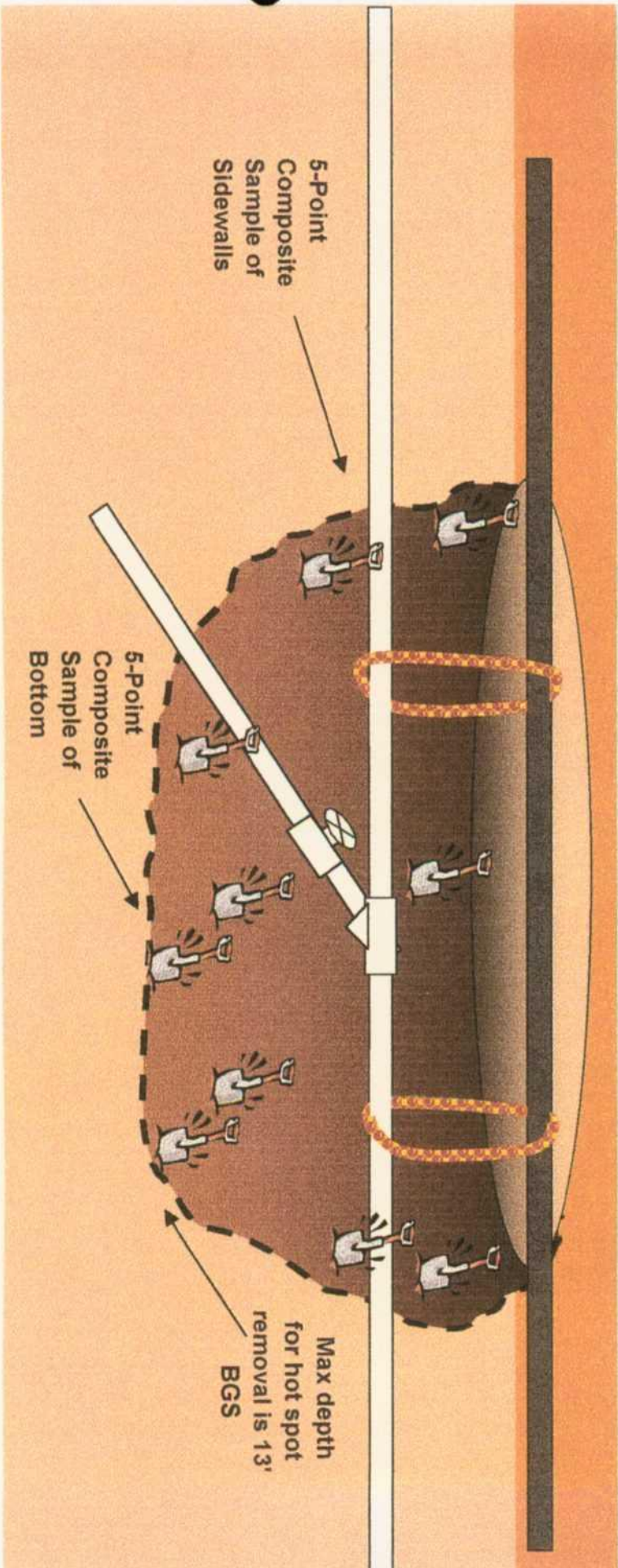


Field test for
TPH, Chlorides
until target
values are met.
Confirm values
at approved
lab

5-Point
Composite
Sample of
Sidewalls

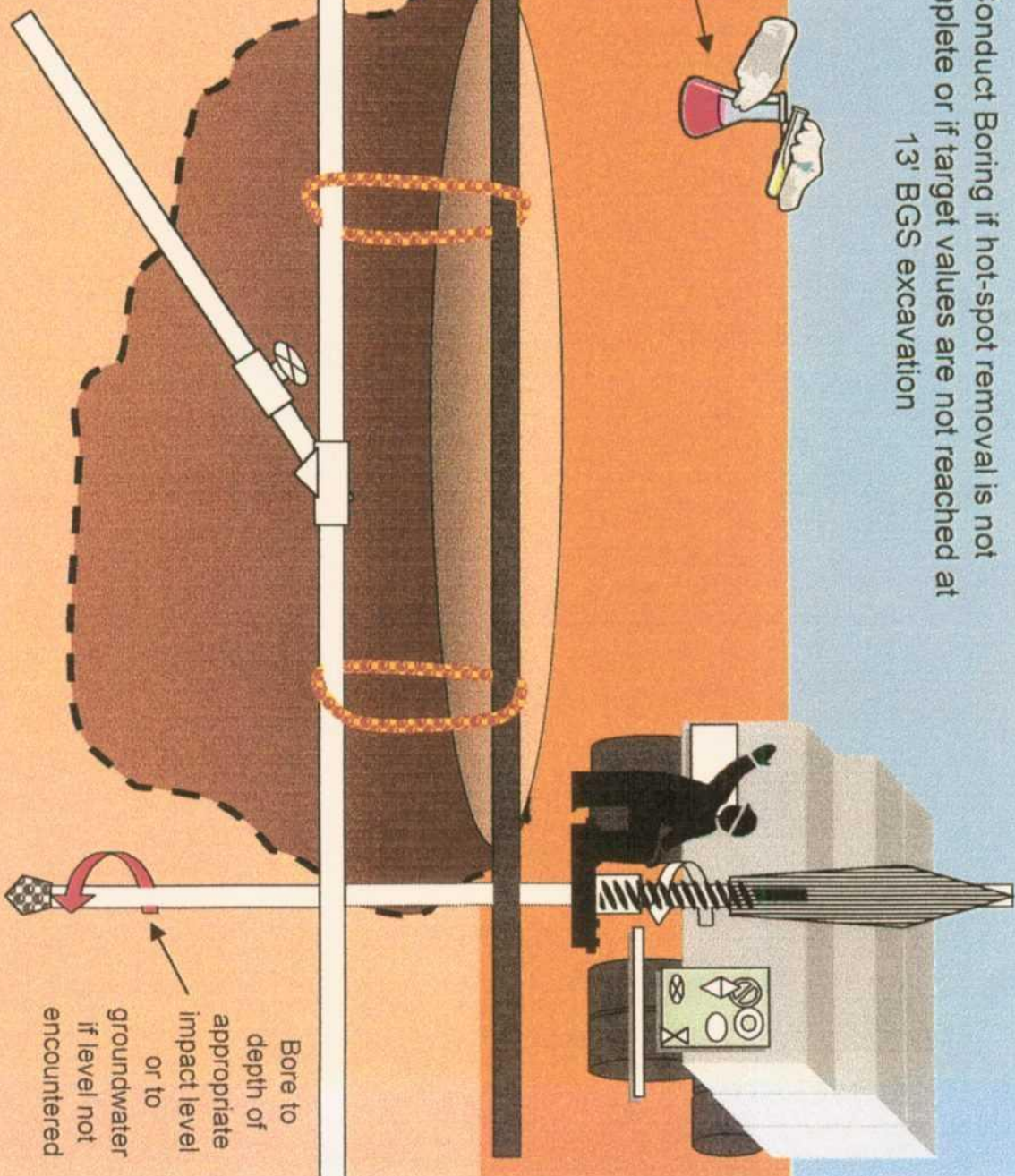
5-Point
Composite
Sample of
Bottom

Max depth
for hot spot
removal is 13'
BGCS

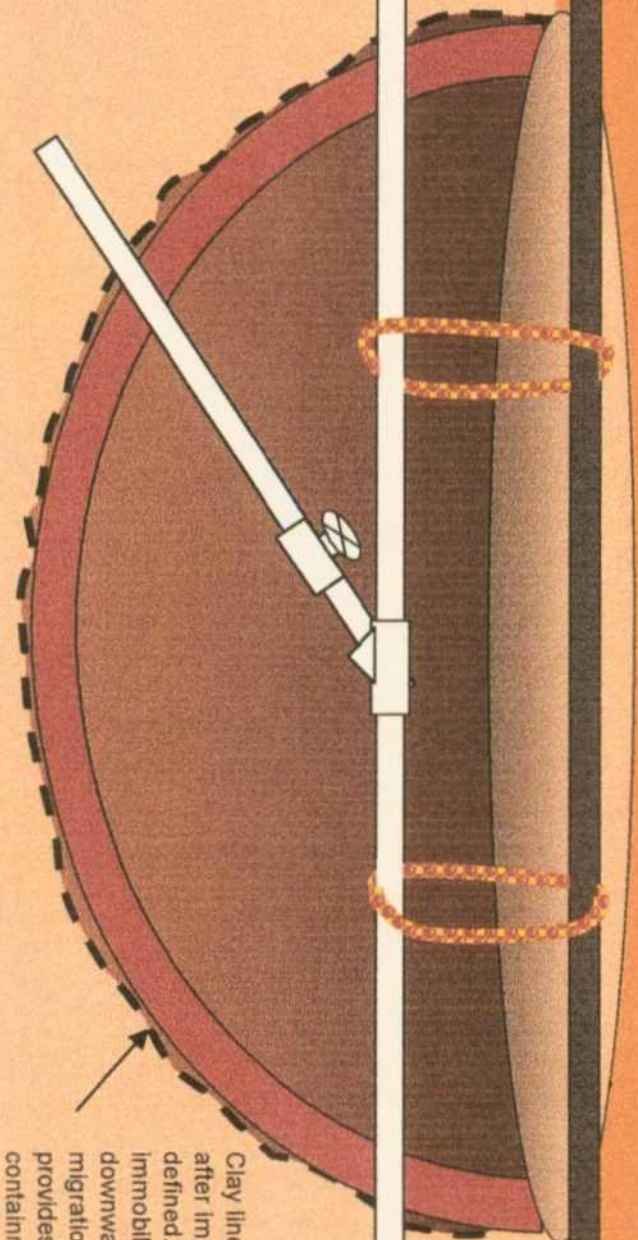


Conduct Boring if hot-spot removal is not complete or if target values are not reached at 13' BGS excavation

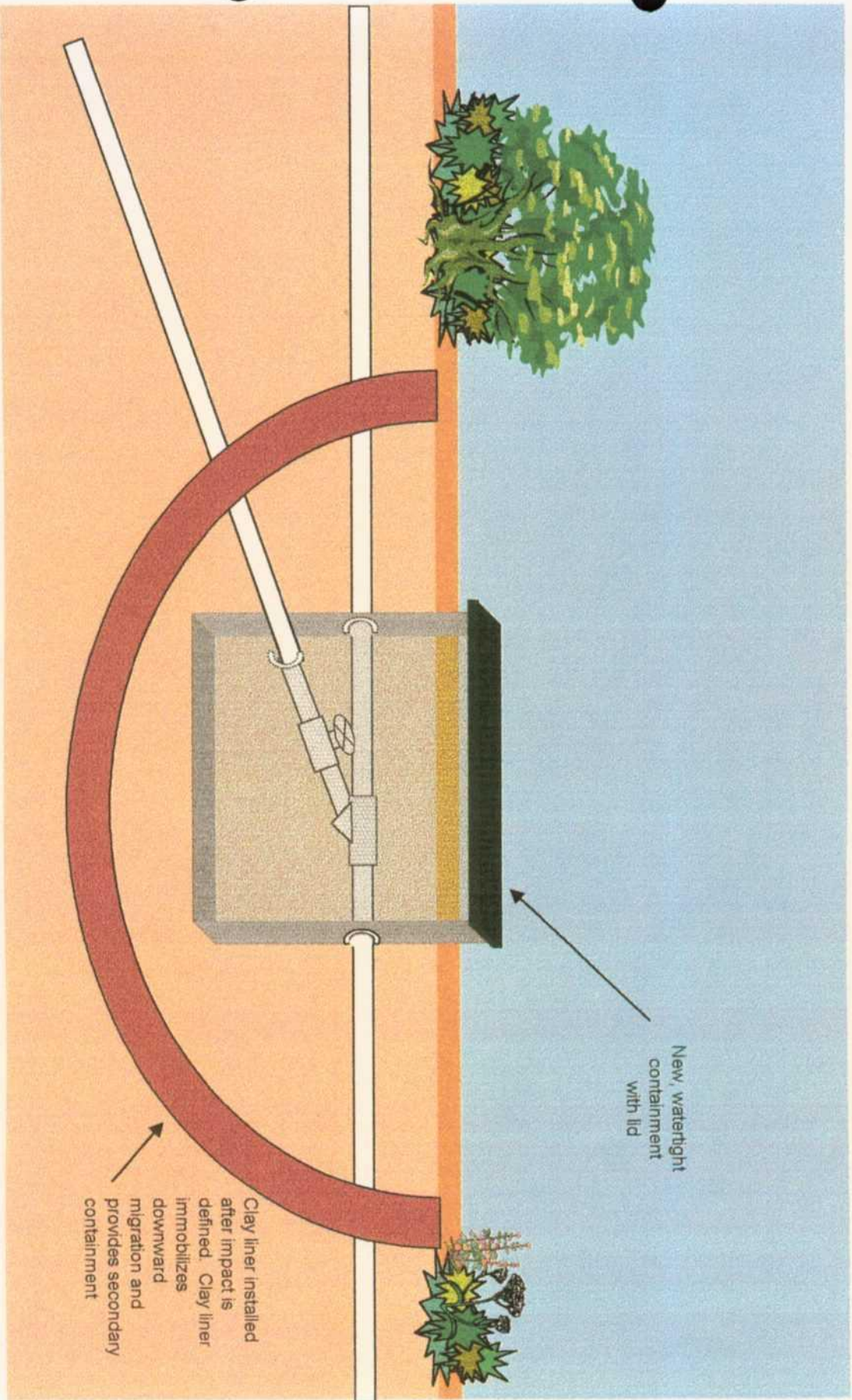
Samples taken at 2-5' intervals during boring operation and tested on-site with lab verification to follow



Clay Liner is tested for density, compactability, and permeability



Clay liner installed after impact is defined. Clay liner immobilizes downward migration and provides secondary containment



RICE Operating Company

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

JUN - 9 2000

June 6, 2000

Ms. Lori Wrotenbery
NM Energy, Minerals and Natural Resources Department
Oil Conservation Division
2040 S. Pacheco
Santa Fe, NM 87505

RE: JUNCTION BOX UPGRADE GENERIC WORK PLAN

Dear Ms. Wrotenbery:

On behalf of the System Partners of the Eunice Monument Eumont (EME) Salt Water Disposal System, Rice Operating Company (ROC) would like to arrange a meeting with you and your Environmental Bureau to present and discuss a generic work plan for upgrading junction boxes that are presently used in the ROC-operated SWD systems in Lea County.

Several of the EME System Partners would also like to attend the meeting. ROC and the System Partners would like to expedite reaching an agreement with the NMOCD for a generic work plan so the junction box upgrade project can begin immediately. We would like to present this plan to you and your Environmental Bureau in person in order to save valuable time by addressing issues of concern and avoid numerous letters and phone calls.

As it is difficult to arrange a meeting with this many parties, a choice of dates, times, and places has been suggested: June 27 or 29; morning or afternoon; Santa Fe, or Hobbs. Please list in order of your preference the most convenient meeting possibilities. If there is another date more convenient to your schedules, please list it. Please call or fax the Rice Operating Company office at the above numbers so this meeting can be arranged soon.

ROC has no ownership of pipelines, wells, or facilities of the SWD Systems. Each system is owned by a consortium of oil producers, System Partners, who provide operating capital based on percent ownership or usage. This type of capital improvement project requires AFE approval and pre-work funding.

Thank you,

RICE OPERATING COMPANY

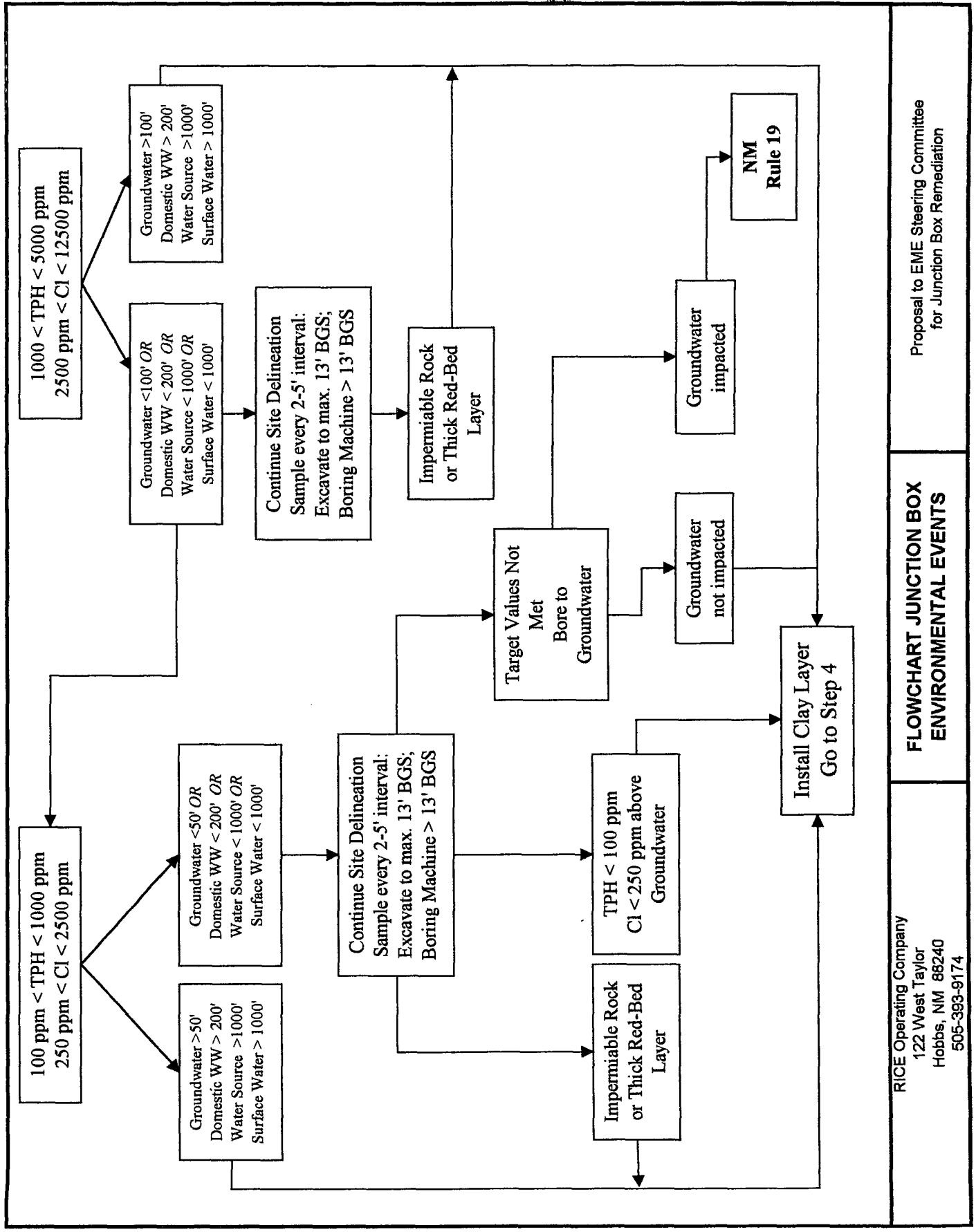


Carolyn Doran Haynes
Operations Engineer

Cc: Roger Anderson, NMOCD Environmental Bureau

Remediation Plan for Below Grade Junction Boxes

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RICE Operating Company
122 West Taylor
Hobbs, NM 88240
505-393-9174

FLOWCHART JUNCTION BOX ENVIRONMENTAL EVENTS

Proposal to EME Steering Committee
for Junction Box Remediation

**THIS PACKAGE CONTAINS THREE
MAJOR ITEMS OF SEPARATE
INTEREST.**

1. REVISED CLOSURE PLAN FOR REDWOOD TANK SITES AND EMERGENCY PITS.
2. A COPY OF THE F-29 REDWOOD TANK SITE CLOSURE REQUEST
3. THE PROOF OF NOTIFICATION FOR THE STAGE I ABATEMENT PLAN FOR THE JUNCTION I-9 RELEASE SITE.

*Please make notation of this information.
If you do not find each of these items, please inform me
immediately.*

Thank You

Carolyn Doran Haynes
505-393-9174

RECEIVED
APR 2 1999
Environmental Bureau
Oil Conservation Division

RICE *Operating Company*

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

March 22, 1999

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

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

Mr. Price:

Enclosed are copies of emergency pit permits and below grade redwood tank installations for our operations in Lea County, New Mexico, that were previously submitted to NMOCD in October, 1997. This documentation serves as a list of facilities operated by Rice Operating Company (ROC) that contain or have contained pits or below grade tanks.

Closure plans for two locations, F-29 and H-35, are in process with the OCD now. The generic "Closure Plan for Below Grade Redwood Tanks" detailed below will accommodate the systematic closure of existing ROC operated below-grade redwood tanks. The existing emergency pits will be closed pursuant to the generic "Closure Plan for Permitted Emergency Pits", also detailed below. It is expected that at facilities containing both, the below-grade redwood tank (s) and the emergency pit will be closed at the same time, but under separate closure plans and closure reports.

Rice Operating Company is the service provider (operator) for these salt-water disposal systems in SE NM. Rice Operating has no ownership of any of the pipelines, wells, or facilities. Each system is owned by a consortium of oil producers and they are called "System Partners," and the System Partners provide all operating capital on a percentage ownership/usage basis. Each location will independently require System Partner AFE approval and advance billing for the closure funds. Only after funds are received can closure work begin.

Thank you,

Carolyn Doran Haynes
Operations Engineer

COPY

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

RICE Operating Company

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

April 23, 1999

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

RECEIVED
APR 23 1999
Environmental Bureau
Oil Conservation Division

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

Mr. Price:

Enclosed are the revised Closure Plans for Below Grade Redwood Tanks and for Permitted Emergency Pits. The revisions concern changes in items #3B, #8 and #10 for the Below Grade Redwood tanks and items #4B, #6 and #8 for the Permitted Emergency Pits, as directed by our telephone conversation of April 22, 1999, and your subsequent e-mail.

It is important to reiterate that **all activities** pertaining to closure of emergency pits and replacement of the redwood tanks will be conducted **pursuant to NMOCD guidelines**. All site assessments, work plans, time schedules, sample and test plans, impacted soil removal, replacement tankage and facilities, etc., will be specifically fitted to the particular site applying for closure but will generally follow these generic plans. NMOCD will be notified in advance of significant occasions and will be consulted throughout the closure process for concurrence of plan alterations, assessment and analytical interpretations, etc.

Also enclosed are preliminary generic drafts of the open, below-ground-level replacement tank facility that you requested. The elevation of the collection vessel is vital to the system's gravity-flow capability, and in most cases, the replacement tank facility must remain at the same lower-than-surface elevation as the redwood tanks. Each site will be assessed for elevation limitations and the replacement facility will be designed accordingly. Rice Operating Company proposes to contain new tanks and piping within a concrete, sealed and frequently inspected (for integrity) vault-like enclosure, thus insuring future impact minimization to the environment and the public.

Thank you,



Carolyn Doran Haynes
Operations Engineer

Enclosures

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

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 Chloride and BETX levels. 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. Excavate bottom and sides to a depth and width that is deemed practical by soil analytical results. Install a 40-mil polyethylene liner on bottom, graded to provide water run-off away from the contamination left in place below the liner; cover and compact over the liner with 1-2' of sand fill.
9. Apply to NMOCD for closure of permitted emergency pit site per NMOCD guidelines and site results.
10. After approval is received, proceed with backfill and grading of pit site with clean soil and/or appropriately blended soil compatible with the on-site soil.

EACH
SIDE

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.
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: propose to excavate hole bottom and sides as practical to minimize risk; install 40-mil polyethylene liner on sanded bottom, graded to direct moisture accumulation away from the impacted area; cover and compact bottom with 2' sand fill.
11. Apply to NMOCD for closure of redwood tank site per NMOCD guidelines and site results.
12. After approval is received, proceed with installation of new fiberglass or steel tanks and appropriate plumbing changes within engineered secondary containment system.

RICE *Operating Company*

122 West Taylor • Hobbs, NM 88240

Phone: (505) 393-9174 • Fax: (505) 397-1471

SECONDARY CONTAINMENT SYSTEM FOR OPEN, BELOW-GRADE TANK FACILITY

Preliminary draft: April 23, 1999

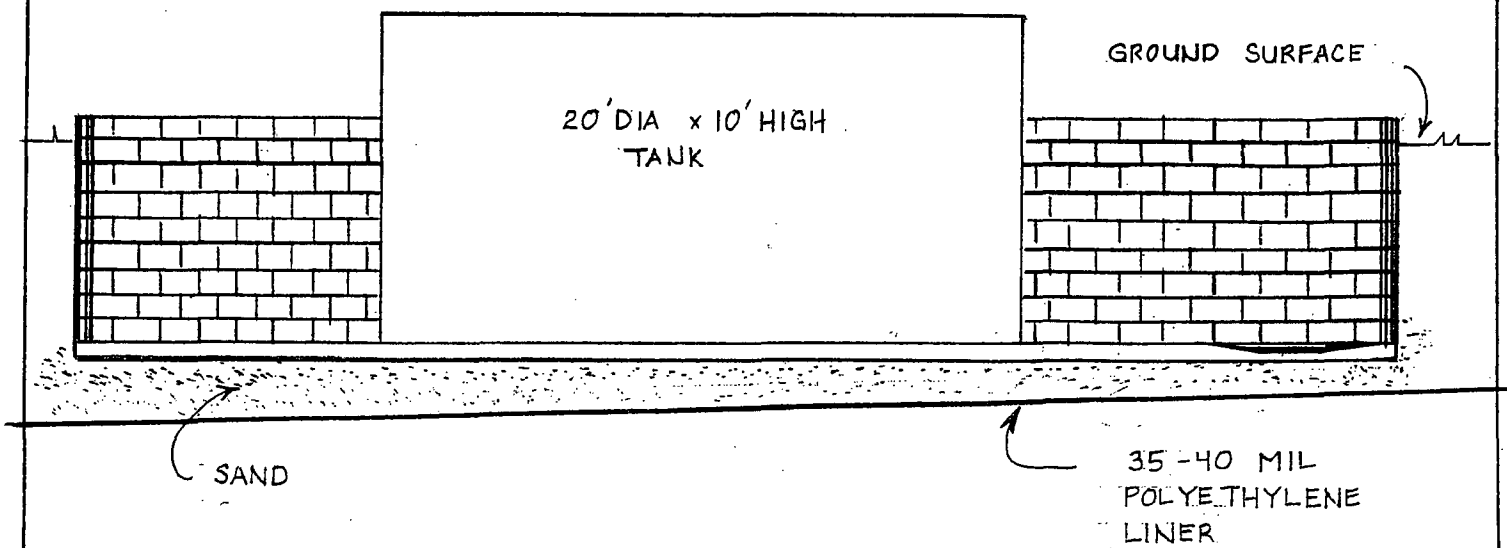
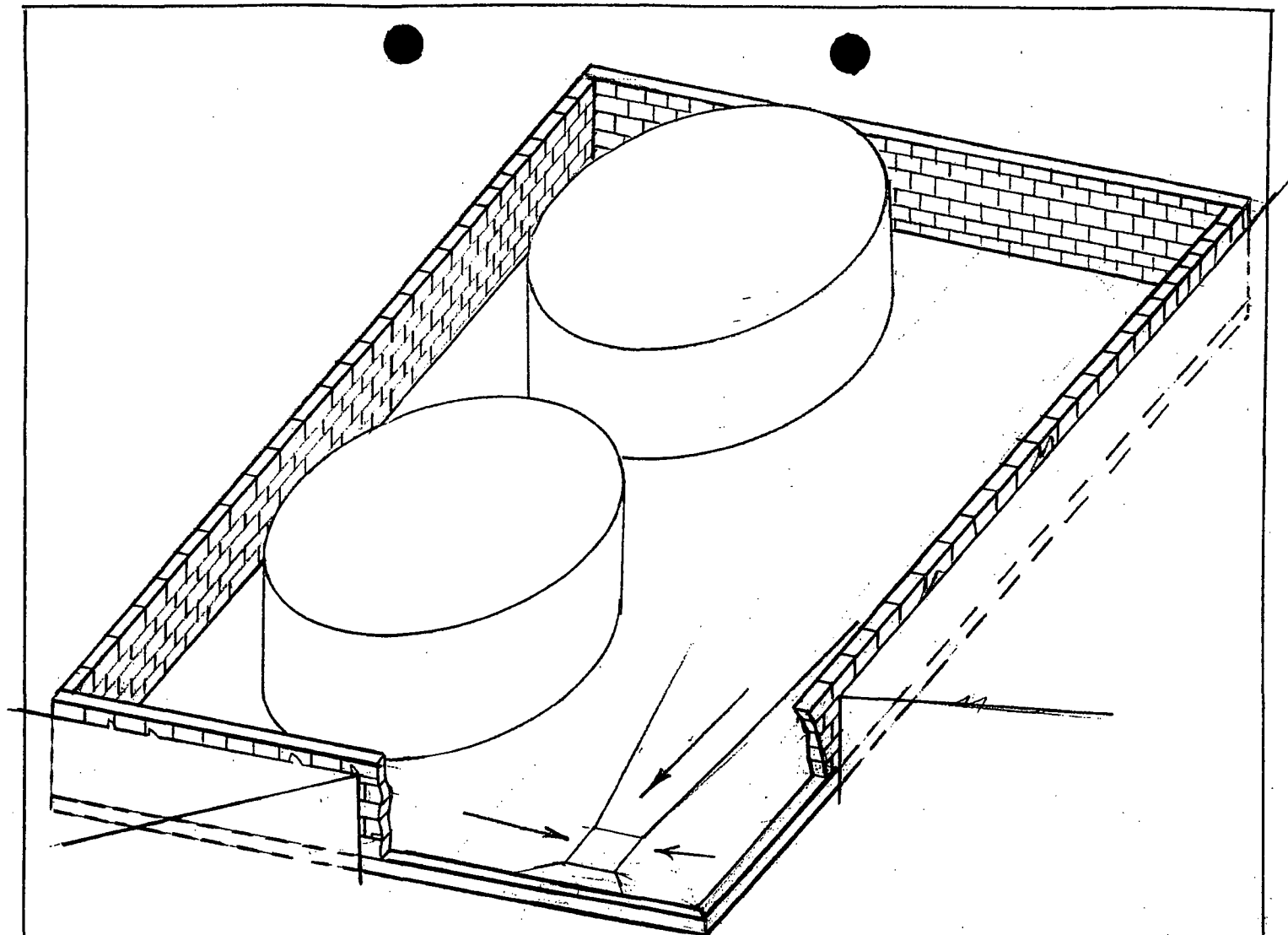
Upon closure approval of the under-ground redwood tank site, the site will be graded and sand-bedded for installation of the impervious polyethylene fabric.

- 1.) The excavation zone will be expanded to accommodate covering the assessed area of impacted soil plume.
- 2.) The grade for the liner will be at least 1" per 10 foot; sloped in the direction that will allow moisture run-off away from the impacted soil plume beneath the liner.
- 3.) After grading, the area will be cleared of any rocks and then sand bedded to insure the liner will maintain its integrity.
- 4.) The liner will be covered with at least 1 foot of clean and compacted sand.

A concrete and block vault-type structure will be constructed to house the replacement tanks and associated piping for the permanent disposal facility.

- 1.) A concrete foundation will be formed, structurally enhanced with footings, re-bar, etc., sized to accommodate two 500bbl, 20' diameter fiberglass or steel/internally coated tanks and all associated piping. Entrance and escape structures (steps) as well as pipe support stands will be incorporated.
- 2.) The concrete base will be designed to be level beneath the tanks, approximately an area 60' X 40'. It will have a sloping area in front of the tanks graded at least 4" per 10', culminating in a depression area at one quadrant to accommodate fluid gathering and vacuum accessibility (to remove accumulating rainwater, etc.).
- 3.) Cinder-block containment walls (protruding at least 6" above surface grade) will be erected around the entire foundation. A safety rail will be installed on the perimeter. Pipelines entering / exiting the containment will be encased in conduit through the wall and then sealed-off with watertight boots and packing.
- 4.) The concrete foundation and cinder block walls will be primed and coated with a three-coat system of industrial maintenance finish (one coat primer/sealer and two coats of topcoat). This maintenance finish package is expressly designed to provide water-seal for concrete structures used in immersion service. (Typical coating package technical info attached.) Corners and floor to wall joint will be sealed with an elastomer designed for sealing concrete joints and cracks.
- 5.) A catwalk system spanned across the vault structure will provide safe and easy access to the tank hatches without descending into the vault.

Vault will be backfilled with clean soil and the facility pad will be graded and fenced.



DWN	SRT	4-99	SECONDARY CONTAINMENT SYSTEM	SCALE NONE
			Rice Engineering & Operating, Inc. Hobbs, New Mexico	DWG NO.

SUPERIOR

ENVIRONMENTAL PRODUCTS, INC.

4101 Lindbergh Drive
Dallas, Texas 75244
Phone: (972) 490-0566

SP-2000

Epoxy (Coal Tar Substitute)

Good Chemical Resistance
Moderate Wear Resistance
Moderate Abrasion Resistance

PRODUCT PROFILE

DESCRIPTION **SP-2000 W, -R Sprayable, Ceramic-Filled, 100% Solids Industrial Maintenance Coatings for Metal and Concrete Substrates**

The **SP-2000** series is designed to provide a 100% solids, 0 VOC alternative to coal tar epoxies. They eliminate the user and environmental safety concerns of solvent-based coal tar epoxies and, at the same time, match or exceed the protection provided by them.

SP-2000 coatings are self-priming in most applications, tolerate less than perfect surface preparation and adhere well to a variety of substrates.

SP-2000W most closely emulates conventional coal tar epoxies and is intended to be used in water and waste treatment, waterfront and similar environments. **SP-2000W** is designed to protect metal and concrete that is exposed to salt, waste and non-potable water, sewage, dilute mineral acids, salts and alkalis.

SP-2000R is a rubber-filled, more flexible version of **SP-2000W** and is intended to be used primarily on concrete in immersion service in water and waste treatment industries. It offers better impact resistance than **SP-2000W** and stretches enough to bridge micro-cracks up to 0.10 inch. **SP-2000R** can also be used on metal structures that are subject to vibration or moderate flexing.

TECHNICAL DATA

PHYSICAL PROPERTIES

Specific Gravity	SP-2000 W: Resin 1.78 Hardener 0.97
Weight	SP-2000 R: Resin 1.73 Hardener 0.97
Flash Point	11.56 pounds/gallon
Volatile Organic Compounds (VOC)	> 250° F (121° C)
Color	0 grams/liter
Recommended Coverage	Brown
Coverage per Gallon (theoretical)	16 - 20 mils
Container Size	160 square feet
	1 & 2 gallon

CHEMICAL RESISTANCE

Acetic Acid 10%	Diesel Fuel	Nitric Acid 10%
Ammonium Hydroxide 25%	Gasoline	(-R version only)
Brine	Hydrochloric Acid up to 30%	Potassium Hydroxide 50%
Copper Sulfate	Isopropyl Alcohol	Sodium Hydroxide 50%
	Mineral Spirits	Sulfuric Acid 50%

(Suitable for secondary containment or immersion at temperatures not exceeding 130°F.)

SERVICE TEMPERATURE

Exposure	Maximum Recommended Temperature	
	SP-2000W	SP-2000R
Dry Service	160° F (71° C)	160° F (71° C)
Spills, Splashes & Fumes	140° F (60° C)	140° F (60° C)
Immersion Service	110° F (43° C)	110° F (43° C)

SURFACE
PREPARATION

Note: For optimal coating performance, take considerable care with surface preparation.

Metal: Remove all oil, grease or scale from the surface, then blast with sharp sand or grit to finish. Use a non-spherical blast medium to give a 2-3 mil (50-75 micron) profile and to achieve the following surface preparation standards or their equivalents:

Non-chemical Service	SSPC-SP6 Commercial Blast (NACE 3)
Intermittent Splash or Wear	SSPC-SP 10 near White Metal Blast (NACE 2)
Immersion or Abrasive Service	SSPC-SP 5 White Metal Blast (NACE 1)

Concrete: Concrete should be aged at least 28 days before coating and the surface should be clean, dry and free of form-release agents, silicone water proofers and/or curing agents. Sand blasting or scarification is recommended. Wash down old concrete to remove all residues and neutralize the pH before blasting or scarifying. For severe service, a second wash is recommended.

Superior products are normally self-priming. However, under certain conditions such as old porous or poorly finished concrete, the sealer/primer SC-1200 is recommended to avoid bubbling caused by outgassing. Call your Superior representative for assistance as two coats of SC-1200 may be indicated on air entrained concrete.

MIXING
PROCEDURES

Note: Do not mix partial kits.

1. Thoroughly mix the resin before adding the hardener: SP-2000 is 100% solids and contains materials with high specific gravity.
2. Empty the entire amount of hardener into the resin container.
3. Mix thoroughly, until uniform in consistency, then continue to mix for an additional 2-3 minutes. Pay special attention to the bottom and sides of the container to insure complete mixing. Due to the high viscosity of this product, a mechanical mixer is preferred. Use at low speed and keep the mixing blade down in the product to avoid entrapping air. If mixing by hand, use a square-cornered, flat implement, such as a standard paint stirring stick.

THINNING

If thinning is necessary, especially at temperatures lower than 60°F (16° C), add up to 5 fl. oz. of MEK per gallon. (The addition of 5 fl oz of MEK will reduce the solids content to 96%.) Read the Material Safety Data Sheet for MEK (flammable liquid) before using it.

POT LIFE

Ambient Temperature	Time	
	SP-2000W	SP-2000R
40° F (4°C)	8 hours, 30 minutes	9 hours
75° F (24°C)	2 hours, 30 minutes	2 hours, 30 minutes
92° F (33°C)	55 minutes	1 hour

Do not keep the blended coating in the original container unless immediate use is planned. Otherwise, exotherm—heat created during the curing process—will considerably shorten the pot life. Pour the coating into a rolling tray or large aluminum basting pan. Try to keep the depth of the coating in the tray below 3/8".

CAUTIONS

1. If the ambient temperature is 85°F (29°C) or higher, pot life may be as short as 20 minutes. Have the working surfaces ready, and mix no more than one gallon of the coating at a time. To increase the pot life under these conditions, put the tray or pan on ice or in ice water. Do not get water or ice in the tray with the coating.
2. The substrate temperature must be no less than 5°F (3°C) above dew point—the temperature at which moisture will condense on the surface of the substrate—during all blasting and coating procedures. To calculate the dew point, consult the chart below.

Example: If the ambient air temperature is 70°F (top row below) and the relative humidity is 65% (left column) the dew point is 57°F. Under these conditions, the substrate temperature would need to be at least 62° F before proceeding with blasting and coating procedures.

% RH	Ambient Temperature, °F (°C)						
	50 (10)	60 (16)	70 (21)	80 (27)	90 (32)	100 (38)	110 (43)
90	47 (9)	57 (14)	67 (19)	77 (25)	87 (31)	97 (36)	107 (42)
85	45 (7)	55 (13)	65 (18)	75 (24)	84 (29)	95 (35)	104 (40)
80	44 (7)	54 (12)	63 (17)	73 (23)	82 (28)	93 (34)	102 (39)
75	42 (6)	52 (11)	62 (17)	71 (22)	80 (27)	91 (33)	100 (38)
70	40 (4)	50 (10)	60 (16)	69 (21)	78 (26)	88 (31)	98 (37)
65	38 (3)	48 (9)	57 (14)	67 (19)	76 (24)	86 (30)	95 (35)
60	36 (2)	46 (8)	55 (13)	65 (18)	74 (23)	83 (28)	92 (33)
55	34 (1)	43 (6)	53 (12)	62 (17)	71 (22)	80 (27)	90 (32)
50	31 (-5)	41 (5)	50 (10)	59 (15)	69 (21)	78 (26)	87 (31)

APPLICATION

SP-2000 may be sprayed, brushed, rolled or applied by squeegee. Use a medium bristle brush or a non-shed roller (3/8" nap or shorter) designed for use with epoxies. To spray SP-2000, use an airless system such as those available from Binks, DeVilbiss or Graco, with the following specifications as a guideline:

	SP-2000W	SP-2000R		SP-2000W	SP-2000R
Pump Ratio	40:1 or greater	40:1 or greater	Tip Size	.017 - .028 inch	.022 - .035 inch
Minimum Output	4000 psi	4000 psi	Product Hose:		
In-Line Filter	30 mesh	30 mesh	Min. - Optimum I.D.	0.375 - 0.5 inch	0.375 - 0.5 inch
			Max. Length	60 feet	60 feet

MULTIPLE COATS

Second and subsequent coats must be applied before the previous coat has completely cross-linked. Apply additional coats while the previous coat is still tacky. If only slight tack remains, allow the product to harden, then brush blast before applying the next coat. Small areas may be abraded by sanding or wire-brushing.

The same requirement applies when overlapping the seams of adjacent coating sections to create a continuous protective film. If the coating surface to be overlapped at the seam cannot be brush blasted, use a non-impact means such as power-brushing or sanding to create a mechanical profile.

**CURE TIME
(@ 70° F / 21 °C)**

Re-coat Window	24 hours
Light Loading	2 days
Immersion (Aqueous) Service	3 days
Full or Chemical Service	7 days

SPEED CURING

The cure time varies with temperature variations. If speed curing is desired, cure time can be reduced and product performance enhanced by applying heat during the curing process of the final coat. Allow to cure for 3 hours at 75°F, then increase temperature to 150°F for 1 ½ hours.

CLEAN-UP

Use a mixture of MIBK and Butyl acetate (50/50) or MEK for clean-up. Read the Material Safety Data sheets for any of these products (flammable liquids) before using them. Skin can be cleaned with denatured alcohol, preferably ethanol.

ORDERING INFORMATION

For additional information, prices or to place an order, contact your Superior Environmental Products sales representative. If you do not know the name of your sales representative, call (972) 490-0566 for more information.

MATERIAL SAFETY DATA

SP-2000R

HAZARDOUS INGREDIENTS

RESIN	HARDENER
Bisphenol A CAS #25085-99-8, 10-50% Exposure limits: TLV PEL: none established	Polyamide CAS #68410-23-1, 50% or less Polyamido Amine, CAS #647- 754-99-0, 50% or less Modified Polyamine, CAS # (Trade Secret), no established limit, irritant

PHYSICAL DATA

Specific Gravity	1.41	0.97
% Volatiles by volume	Nil	<0.5%
Appearance/Odor	Olive Brown	Brown/Slight sweet odor
Melting Point	< 0 degrees F (-18°C)	< 0 degrees F (-18°C)
Solubility in Water (% by weight)	Negligible	Negligible
pH	ca 5	ca 10

FIRE AND EXPLOSION DATA

Flash Point	> 300°F (149°C)	> 200°F (93°C)
Extinguishing Media	Carbon Dioxide, foam, dry chemical	
Special Procedures	Use a self-contained breathing apparatus	
NOTE: decomposition and combustion products may be toxic		

HEALTH AND HAZARD INFORMATION

Inhalation	LC ₅₀ (rabbits): 6000 mg/kg	LC ₅₀ : possible respiratory irritant
Skin Contact	LD ₅₀ (rabbits): 4000 mg/kg	Possible irritant, dermatitis in extreme
Eye Contact	Irritating	Severe irritant
Ingestion	LD ₅₀ (rabbits): 4000 mg/kg	LD ₅₀ (rats): 3000 mg/kg
Acute Overexposure	Irritation, possible sensitization	Irritation, possible sensitization, nausea
Chronic Overexposure	Skin sensitization, dermatitis	Skin Sensitization, nausea, may be corrosive

EMERGENCY FIRST AID PROCEDURES

Eyes	Immediately flush eyes with water for 15 minutes. Call physician.	
Skin	Promptly wash with mild soap and water.	
Inhalation	Remove to fresh air. Give oxygen if breathing is difficult.	
Ingestion	If large amounts are ingested, induce vomiting if conscious.	Call physician immediately. Give generous amounts of water if conscious. Do not induce vomiting.

REACTIVITY DATA

Conditions contributing to instability	Stable	Do not heat in bulk as dangerous decomposition may occur, liberating toxic fumes.
Incompatibility	Strong oxidizers, strong acids and bases	
Hazardous Decomposition Products	Carbon Monoxide, Carbon Dioxide, Phenolics	Carbon Monoxide, Carbon Dioxide, Phenolic Nitrogen Oxides and Compounds
Conditions Contributing to Hazardous Polymerization	Will not occur	Heating in bulk

**DISPOSAL
OR SPILL
PROCEDURES**

Aquatic Toxicity	Not available at this time	Not available at this time
Waste Disposal Method	Not considered hazardous under RCRA (40CFR 261). Dispose according to state, federal and local regulations.	
Steps to be taken if material is spilled.	Shovel into closeable container for disposal.	Absorb into sand or other absorbant material. Shovel into closeable container and dispose of in professional manner.

**SPECIAL
PROTECTION
MEASURES**

Ventilation Requirements	Good general mechanical ventilation and local exhaust
Specific Personal Protective Equipment	Organic chemical cartridge respirator if needed in non-vented area
Eyes	Splash-proof chemical goggles
Gloves	Impervious gloves
Other	Appropriate equipment to prevent probability of skin and eye contact

**SPECIAL
PRECAUTIONS**

Can cause irritation; wear protective skin and eye equipment. Do not heat in bulk; dangerous decomposition may occur, liberating toxic fumes.

This product is not regulated by the DOT and is not considered a hazardous waste under the RCRA.

PREPARED BY: Michael S. Cork, Director of Research and Development

REVISED: January 24, 1997

Please call the factory or your Superior Environmental Products sales representative for additional information regarding this product or its application.

SUPERIOR ENVIRONMENTAL PRODUCTS
1101 Lindberg Drive
Addison, Texas 75244

Phone: (972) 490-0566
Fax: (972) 490-0567

All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and the following is made in lieu of all warranties, express or implied: Seller's and manufacturer's only obligation shall be to replace such quantity of the product proved to be defective. Neither seller nor manufacturer shall be liable for any injury, loss or damage, direct or consequential, arising out of the use of or the inability to use the product. Before using, user shall determine the suitability of the product for the intended use, and user assumes all risk and liability whatsoever in connection therewith. No statement or recommendation not contained herein shall have any force or effect unless in an agreement signed by officers of seller and manufacturer.

SUPERIOR

ENVIRONMENTAL PRODUCTS, INC.

4101 Lindbergh Drive
Addison, Texas 75001
www.novocoat.com
Phone: (972) 490-0566
Fax: (972) 490-0567

ER-100

Elastomer

Excellent Elongation
Fair Wear Resistance
Good UV Stability

PRODUCT PROFILE

DESCRIPTION **ER-100 Trowelable Elastomer** designed for applications requiring high elongation in moderate environments.

ER-100 is a two component elastomer which is designed to handle moisture, mildly acidic or mildly alkaline environments.

ER-100 will provide an excellent level of protection for expansion joints, cracks in concrete in heaving, soils and sealing joints and cracks against freeze thaw dynamics. The UV stability of **ER-100** is of high order and will allow many years of service.

ER-100 should not be used in high wear areas as the high elongation is more suited to moderate to light wear applications.

TECHNICAL DATA

PHYSICAL PROPERTIES

Specific Gravity	Resin 1.28, Hardener 0.93
Weight per Gallon	9.62 lbs
Color	Gray
Pot Life @ 75°F	1 hour, 20 minutes
Tack Free @ 75°F	24 hours
Light Traffic @ 75°F	36 hours
Full Cure @ 75°F	7 days
Elongation @ 1/8"	Greater than 200%

SURFACE PREPARATION

Note: For optimal coating performance, take considerable care with surface preparation.

Metal: Remove all oil, grease or scale from the surface, then blast with sharp sand or grit to finish. use a non-spherical blast medium to give a 2-3 mil (50-75 micron) profile and to achieve the following surface preparation standards or their equivalents:

Non-chemical Service	SSPC-SP 6 Commercial Blast (NACE 3)
Intermittent Splash or Wear	SSPC-SP 10 Near White Metal Blast (NACE 2)
Immersion or Abrasive Service	SSPC-SP 5 White Metal Blast (NACE 1)

Concrete: Concrete should be aged at least 28 days before coating and the surface should be clean, dry and free of form-release agents, silicone water proofers and/or curing agents. Sand blasting or scarification is recommended. Wash down old concrete to remove all residues and neutralize the pH before blasting or scarifying. For severe service, a second wash is recommended.

Superior products are normally self-priming. However, under certain conditions such as old porous or poorly finished concrete, the sealer/primer SC-1200 is recommended to avoid bubbling caused by outgassing. Call your Superior representative for assistance as two coats of SC-1200 may be indicated on air entrained concrete.

MIXING PROCEDURES

Note: Do not mix partial kits.

1. Empty the entire amount of hardener into the resin container.
2. Mix thoroughly - until uniform in consistency - then continue to mix for an additional 2-3 minutes. Pay special attention to the bottom and sides of the container to insure complete mixing. Due to the high viscosity of this product, a mechanical mixer is preferred. Use at low speed and keep the mixing blade down in the product to avoid entrapping air. If mixing by hand, use a square-cornered, flat implement, such as a standard paint stirring stick.

POT LIFE

Ambient Temperature	Time
75° F (24°C)	1 hour 20 minutes

CAUTIONS

1. If the ambient temperature is 85°F (29°C) or higher, pot life may be as short as 15 minutes. Have the working surfaces ready, and mix no more than one gallon of the coating at a time. To increase the pot life under these conditions, put the tray or pan on ice or in ice water. **Do not** get water or ice in the tray with the coating.
2. The substrate temperature must be no less than 5°F (3°C) above dew point - the temperature at which moisture will condense on the surface of the substrate - during all blasting and coating procedures. To calculate the dew point, consult the chart below.

Example: If the ambient air temperature is 70°F - top row below - and the relative humidity is 65% - left column - the dew point is 57°F. Under these conditions, the substrate temperature would need to be at least 62° F before proceeding with blasting and coating procedures.

% RH	Ambient Temperature, °F (°C)						
	50 (10)	60 (16)	70 (21)	80 (27)	90 (32)	100 (38)	110 (43)
90	47 (9)	57 (14)	67 (19)	77 (25)	87 (31)	97 (36)	107 (42)
85	45 (7)	55 (13)	65 (18)	75 (24)	84 (29)	95 (35)	104 (40)
80	44 (7)	54 (12)	63 (17)	73 (23)	82 (28)	93 (34)	102 (39)
75	42 (6)	52 (11)	62 (17)	71 (22)	80 (27)	91 (33)	100 (38)
70	40 (4)	50 (10)	60 (16)	69 (21)	78 (26)	88 (31)	98 (37)
65	38 (3)	48 (9)	57 (14)	67 (19)	76 (24)	86 (30)	95 (35)
60	36 (2)	46 (8)	55 (13)	65 (18)	74 (23)	83 (28)	92 (33)
55	34 (1)	43 (6)	53 (12)	62 (17)	71 (22)	80 (27)	90 (32)
50	31 (-5)	41 (5)	50 (10)	59 (15)	69 (21)	78 (26)	87 (31)

APPLICATION

Apply ER-100 with a trowel, putty knife or other appropriate tool. When working with ER-100, dip the trowel or other tools in ethanol or a mixture of ethanol and water to reduce sticking.

**TOPCOATING
& JOINING
ADJACENT
SECTIONS**

If the compound is to be coated, apply the coating within the re-coat window (see table below). If this is not possible, allow the compound to cure, then brush-blast, wire-brush or sand to create a mechanical profile on the surface before coating.

When it is necessary to join multiple sections of the compound to create a continuous protective layer over a large area, do not attempt to feather and overlap adjoining sections. If adjoining sections cannot be applied within the recoat window (see table below), continue the full thickness of the compound up to the joint between sections. Allow the first section to cure, then create a mechanical profile, using one of the means listed above, on the edge that will be joined to the next section to ensure a satisfactory bond.

**CURE TIME
(@ 75° F/ 24 °C)**

Re-coat Window	24 hours
Light Loading	36 hours
Full Cure	7 days

SPEED CURING

The cure time can be reduced and product performance enhanced by applying heat during the curing process to the final coat: 150° (66°C) for 2 hours is recommended for speed curing before placing the coating into full service.

CLEAN-UP

Use a mixture of MIBK and Butyl acetate (50/50), MEK or MIBK and Xylene (50/50) for clean-up. Read the Material Safety Data sheets for any of these products (flammable liquids) before using them. Skin can be cleaned with denatured alcohol, preferably ethanol.

**ORDERING
INFORMATION**

For additional information, prices or to place an order, contact your Superior Environmental Products sales representative. If you do not know the name of your sales representative, call (972) 490-0566 for more information.

HAZARDOUS
INGREDIENTS

RESIN	HARDENER
Novolac Resin CAS #28064-14-4, 10-40% Exposure limits: TLV PEL: none established	Tris (dimethylaminomethyl phenol) CAS #90-72-2, 20% or less, eye irritant Modified Polyamine CAS # (Trade Secret), 80% or less, no established limit, irritant

PHYSICAL
DATA

Specific Gravity	1.39	1.05
% Volatiles by volume	Nil	<0.5%
Appearance/Odor	Brown	Brown/Slight sweet odor
Melting Point	< 0 degrees F (-18°C)	< 0 degrees F (-18°C)
Solubility in Water (% by weight)	Negligible	Negligible
pH	ca 5	ca 10

FIRE AND
EXPLOSION
DATA

Flash Point	> 300°F (149°C)	> 200°F (93°C)
Extinguishing Media	Carbon Dioxide, foam, dry chemical	
Special Procedures	Use a self-contained breathing apparatus	
NOTE: decomposition and combustion products may be toxic		

HEALTH AND
HAZARD
INFORMATION

Inhalation	LC ₅₀ (rabbits): 6000 mg/kg	LC ₅₀ : possible respiratory irritant
Skin Contact	LD ₅₀ (rabbits): 4000 mg/kg	Possible irritant, dermatitis in extreme
Eye Contact	Irritating	Severe irritant
Ingestion	LD ₅₀ (rabbits): 4000 mg/kg	LD ₅₀ (rats): 3000 mg/kg
Acute Overexposure	Irritation, possible sensitization	Irritation, possible sensitization, nausea
Chronic Overexposure	Skin sensitization, dermatitis	Skin Sensitization, nausea, may be corrosive

EMERGENCY
FIRST AID
PROCEDURES

Eyes	Immediately flush eyes with water for 15 minutes. Call physician.	
Skin	Promptly wash with mild soap and water.	
Inhalation	Remove to fresh air. Give oxygen if breathing is difficult.	
Ingestion	If large amounts are ingested, induce vomiting if conscious.	Call physician immediately. Give generous amounts of water if conscious. Do not induce vomiting.

REACTIVITY
DATA

Conditions contributing to instability	Stable	Do not heat in bulk as dangerous decomposition may occur, liberating toxic fumes.
Incompatibility	Strong oxidizers, strong acids and bases	
Hazardous Decomposition Products	Carbon Monoxide, Carbon Dioxide, Phenolics	Carbon Monoxide, Carbon Dioxide, Phenolic Nitrogen Oxides and Compounds
Conditions Contributing to Hazardous Polymerization	Will not occur	Heating in bulk

**DISPOSAL
OR SPILL
PROCEDURES**

Aquatic Toxicity	Not available at this time	Not available at this time
Waste Disposal Method	Not considered hazardous under RCRA (40CFR 261) Dispose according to state, federal and local regulations.	
Steps to be taken if material is spilled.	Shovel into closeable container for disposal.	Absorb into sand or other absorbant material. Shovel into closeable container and dispose of in professional manner.

**SPECIAL
PROTECTION
MEASURES**

Ventilation Requirements	Good general mechanical ventilation and local exhaust
Specific Personal Protective Equipment	Organic chemical cartridge respirator if needed in non-vented area
Eyes	Splash-proof chemical goggles
Gloves	Impervious gloves
Other	Appropriate equipment to prevent probability of skin and eye contact

**SPECIAL
PRECAUTIONS**

Can cause irritation; wear protective skin and eye equipment. **Do not** heat in bulk; dangerous decomposition may occur, liberating toxic fumes.

This product is not regulated by the DOT and is not considered a hazardous waste under the RCRA.

PREPARED BY: Michael S. Cork, Director of Research and Development

REVISED: February 6, 1997

Please call the factory or your Superior Environmental Products sales representative for additional information regarding this product or its application.

SUPERIOR ENVIRONMENTAL PRODUCTS
4101 Lindbergh Drive
Addison, Texas 75001

www.novocoat.com
Phone: (972) 490-0566
Fax: (972) 490-0567

All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and the following is made in lieu of all warranties, express or implied: Seller's and manufacturer's only obligation shall be to replace such quantity of the product proved to be defective. Neither seller nor manufacturer shall be liable for any injury, loss or damage, direct or consequential, arising out of the use of or the inability to use the product. Before using, user shall determine the suitability of the product for the intended use, and user assumes all risk and liability whatsoever in connection therewith. No statement or recommendation not contained herein shall have any force or effect unless in an agreement signed by officers of seller and manufacturer.

SUPERIOR

ENVIRONMENTAL PRODUCTS, INC.

4101 Lindbergh Drive
Dallas, Texas 75244
Phone: (972) 490-0566
Fax: (972) 490-0567

SC-1200

Low Viscosity Sealant

Clear Flexible Penetrant
100% Solids/No VOC's

PRODUCT PROFILE

DESCRIPTION **SC-1200 100% Solids Low Viscosity Penetrant designed for sealing concrete.**

SC-1200 is an ideal coating to:

- Help prevent outgassing
- Help a top coat be less sensitive to micro-fracturing of concrete.
- Help maintain long-term bond of concrete with top coat.

TYPICAL APPLICATIONS

- | | |
|--|---|
| ☐ Concrete Floors | ☐ Foundations |
| ☐ Concrete Walls | ☐ Secondary Containment Structures |

TECHNICAL DATA

PHYSICAL PROPERTIES

Flash Point	≥250°F
Volatile Organic Compounds (VOC)	0 grams/liter
Elongation @ 3 mils	24%
Color	Clear
Weight Per Gallon	8.07 lbs.
Recommended Thickness	2-4 mils
Severe Porosity	6-9 mils
Container Size	1, 2 & 5 gallon
Specific Gravity	Resin 1.08, Hardener 0.93

HAZARDOUS
INGREDIENTS

RESIN	HARDENER
Bisphenol Resin CAS #25085-99-8, 40-80% Exposure limits: TLV PEL: none established Multifunctional Monomer CAS # Trade Secret, 40% or less	Polyamide CAS #68410-23-1, 50% or less Polyamido Amine, CAS # 647- 754-99-0, 50% or less Modified Polyamine, CAS # (Trade Secret), no established limit, irritant 30% or less

PHYSICAL
DATA

Specific Gravity	1.08	0.93
% Volatiles by volume	Nil	<0.5%
Appearance/Odor	Light Amber	Brown/Slight sweet odor
Melting Point	< 0 degrees F (-18°C)	< 0 degrees F (-18°C)
Solubility in Water (% by weight)	Negligible	Negligible
pH	ca 5	ca 10

FIRE AND
EXPLOSION
DATA

Flash Point	> 300°F (149°C)	> 200°F (93°C)
Extinguishing Media	Carbon Dioxide, foam, dry chemical	
Special Procedures	Use a self-contained breathing apparatus	
NOTE: decomposition and combustion products may be toxic		

HEALTH AND
HAZARD
INFORMATION

Inhalation	LC ₅₀ (rabbits): 6000 mg/kg	LC ₅₀ : possible respiratory irritant
Skin Contact	LD ₅₀ (rabbits): 4000 mg/kg	Possible irritant, dermatitis in extreme
Eye Contact	Irritating	Severe irritant
Ingestion	LD ₅₀ (rabbits): 4000 mg/kg	LD ₅₀ (rats): 3000 mg/kg
Acute Overexposure	Irritation, possible sensitization	Irritation, possible sensitization, nausea
Chronic Overexposure	Skin sensitization, dermatitis	Skin Sensitization, nausea, may be corrosive

EMERGENCY
FIRST AID
PROCEDURES

Eyes	Immediately flush eyes with water for 15 minutes. Call physician.	
Skin	Promptly wash with mild soap and water.	
Inhalation	Remove to fresh air. Give oxygen if breathing is difficult.	
Ingestion	If large amounts are ingested, induce vomiting if conscious.	Call physician immediately. Give generous amounts of water if conscious. Do not induce vomiting.

REACTIVITY
DATA

Conditions contributing to instability	Stable	Do not heat in bulk as dangerous decomposition may occur, liberating toxic fumes.
Incompatibility	Strong oxidizers, strong acids and bases	
Hazardous Decomposition Products	Carbon Monoxide, Carbon Dioxide, Phenolics	Carbon Monoxide, Carbon Dioxide, Phenolic Nitrogen Oxides and Compounds

Price, Wayne

From: Rice Operating Company[SMTP:riceswd@gte.net]
Sent: Thursday, April 22, 1999 12:21 PM
To: Price, Wayne
Subject: Re: Rice Redwood Tk Closure Plan

Received and noted.

-----Original Message-----

From: Price, Wayne <WPrice@state.nm.us>
To: 'Riceswd@gte.net' <Riceswd@gte.net>
Date: Thursday, April 22, 1999 10:16 AM
Subject: Rice Redwood Tk Closure Plan

>Carolyn let me know if you receive this!

>

>Thanks Wayne!

>

>

>Telephone Con: 4/22

>

>Topics Discussed:

>

>Soil boring at tank sides, due to tanks presently sitting on concrete Pads;

>

>Vadose Zone vs Groundwater analytical requirements, OCD will advise;

>

>Proper disposal of waste;

>

>New Tank installation design & sec. containment, liner spec's., Rice to send

>Info!

>

>

>

Price, Wayne

From: Price, Wayne
Sent: Thursday, April 22, 1999 9:13 AM
To: 'Riceswd@gte.net'
Subject: Rice Redwood Tk Closure Plan

Carolyn let me know if you receive this!

Thanks Wayne!

Telephone Con: 4/22

Topics Discussed:

Soil boring at tank sides, due to tanks presently sitting on concrete Pads;

Vadose Zone vs Groundwater analytical requirements, OCD will advise;

Proper disposal of waste;

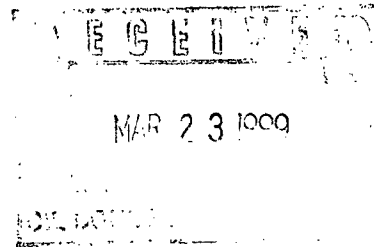
New Tank installation design & sec. containment, liner spec's,, Rice to send Info!

RICE Operating Company

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

March 22, 1999

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



Mr. Price:

Rice Operating Company requests closure plan approval for the emergency overflow pit, Pit Permit # H-69 and the below-grade redwood tanks at the Blinebry Drinkard Salt Water Disposal Site SWD Well C-2, located in Unit C, Sec. 2, T22S, R37E, NMPM, Lea County, NM.

The C-2 facility is included in the Rice Operating Company (ROC) generic closure plan for emergency pits and below-grade redwood tanks and is the first facility to apply under the generic plan. This facility has recently experienced an accidental discharge due to a tank collapse and needs immediate attention. Rather than repair the below-grade redwood tank, it is ROC's intention to clean-up this site, close the emergency overflow pit and replace the below-grade redwood tanks with steel or fiberglass tanks set in an engineered secondary containment. ROC expects to simultaneously close the pit and tank areas, but under separate closure plans and reports, pursuant to NMOCD guidelines. The C-103 form addresses this intention.

ROC is the service provider (operator) for this salt water disposal system and has no ownership of any portion of pipeline, well or facility. The Blinebry Drinkard System is owned by a consortium of oil producers, System Partners, who provide all operating capital on a percentage ownership/usage basis. This location requires System Partner AFE approval and advance billing for closure funds. Only after funds are received can closure work begin.

A timely response to this closure plan will be appreciated. Thank you for your consideration.

Carolyn Doran Haynes
Operations Engineer

Enclosures

Cc: KH, file, Ms. Donna Williams,
NMOCD, District I Office
P. O. Box 1980
Hobbs, NM 88240

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. *-SOIL Boring Rig*

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 Chloride and BTEX levels. If ground water is > 10ppm BTEX or > 250ppm Chlorides, NMOCD will be notified immediately and the closure plan will move into Rule 19 procedures. *SPEC'S*
MUST BE TESTED FOR WACC

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. *WELLS?*

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.

8. Remove and properly dispose of contaminated soil, as is practical, to eliminate hot spots.

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. *CHLORIDES!*

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. *40' deep?!*

10. Evaluate site for risk assessment: propose to excavate hole bottom to 10-12' below grade and sides to 4' deep horizontally; install a 20-60mil polyethylene liner on bottom and up sides of extended excavation; cover and compact bottom with 2' sand fill.

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

12. After approval is received, proceed with installation of new fiberglass or steel tanks and appropriate plumbing changes within engineered secondary containment system. *PERMANENT!*

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 Chloride and BETX levels. If ground water is > 10ppm BTEX or > 250ppm Chlorides, 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 and properly dispose of contaminated soil, as is practical, to eliminate hot spots.
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. Propose to excavate bottom 6-12' below grade and sides 4' deep horizontally (or depth and width that is deemed practical by soil analytical results); install a 20-60mil polyethylene liner on bottom, graded to provide water run-off away from the contamination left in place below the liner; cover and compact over the liner with 1-2' of sand fill.
9. Apply to NMOCD for closure of permitted emergency pit site per NMOCD guidelines and site results.
10. After approval is received, proceed with backfill and grading of pit site with clean soil and/or appropriately blended soil compatible with the on-site soil.

Submit 3 Copies
To Appropriate
District Office
DISTRICT I
P.O. Box 1980, Hobbs, NM 88240

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-103
Revised 1-1-89

OIL CONSERVATION DIVISION

2040 South Pacheco
Santa Fe, NM 87505

DISTRICT II
811 South First, Artesia NM 88210

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

WELL API NO. 30-025-24399
5. Indicate Type of Lease STATE ☒ FEE ☐
6. State Oil & Gas Lease No.
7. Lease Name or Unit Agreement Name: Blinebry-Drinkard Salt Water Disposal System
8. Well No. C-2
9. Pool name or Wildcat

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 Emergency pit and
Below-grade Redwood Tank

2. Name of Operator
RICE OPERATING COMPANY

3. Address of Operator
122 West Taylor, Hobbs, NM 88240

4. Well Location
Unit letter C: 660 feet from the NORTH line and 2305 feet from the WEST line
Section 2 Township 22 South Range 37 East NMPM, Lea County, NM

10. Elevation (Show whether DF, RKB, RT, GR, etc.)
3360' above sea level

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

CASING TEST AND CEMENT JOB

OTHER: Remove below-grade redwood tanks and close
emergency 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.

Proposed work according to generic closure plans for below grade redwood tanks and permitted pits:

Delineate site for contamination, remove redwood tanks, close emergency overflow pit (Pit Permit # H-69) and clean-up location pursuant to NMOCD guidelines. Replace redwood tanks with steel or fiberglass tanks within an engineered secondary-containment. Work to begin as soon as OCD approves closure plan (attached). All major events, including boring, sampling events will be coordinated to allow 48 hrs notice to OCD.

Information from the State Engineer's Office in Roswell estimated depth to ground water at 60' and indicate closest water well to be in Unit "P" of Section 2, T22S-R37E, which is more than 1000' from the facility at Well C-2. Topographic maps show no indication of surface water bodies within 1000' of the C-2 facility. A site review indicated no water sources within 1000' feet of the facility.

Depth to ground water: 50-99' = 10; No water source within 1000' = 0; >1000' to surface water body = 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 3/22/99

Type or print name CAROLYN DORAN HAYNES

Telephone No. 505-393-9174

(This space for State use)

APPROVED

BY _____ TITLE _____ DATE _____

Conditions of approval, if any:

District I - (505) 393-6161
P.O. Box 1980
Hobbs, NM 88241-1980
District II - (505) 748-1283
811 S. First
Artesia, NM 88210
District III - (505) 334-6178
1000 Rio Brazos Road
Aztec, NM 87410
District IV - (505) 827-7131

New Mexico
Energy Minerals and Natural Resources Department
Oil Conservation Division
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

Originated 6/27/97

Submit Original
Plus 1 Copy
to Santa Fe

PIT INVENTORY FORM

Operator: RICE OPERATING COMPANY
Address: 122 WEST TAYLOR
HOBBS, NEW MEXICO 88240
Phone Number: (505) 393-9174
Previous Operator(s): Agua Operating
Is the pit permitted: Yes ☒ No ☐
Unit Letter: C Section: 2 Township: 22S Range: 37E
County: Lea County
Location Name: Blinebry Drinkard Salt Water Disposal System Well C-2
Number of wells to the pit: 1
Are the wells to the pit operated by one operator ☒ or multiple operators ☐
Total daily volume (in barrels) to the pit: None
Pit Type: Emergency
(Emergency, Production, Workover, Reserve/Drilling (greater than 6 months old), Flare, Blowdown, Separator, Dehydrator,
Line Drip, BS&W/Tank Bottoms, Compressor, Pigging, Washdown, or other)
What types of wastes are accepted in the pit (Exempt, Non-exempt, Both, None): Exempt (production water)
Pit age (years): 30
Is the pit lined ☐ or unlined ☒
Type of liner (None, Synthetic, Clay): None
Is leak detection present: Yes ☐ No ☒
Is the pit netted: Yes ☐ No ☒
Pit dimensions (LxWxD): 127' X 38' X 7'

CERTIFICATION

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

Name: Roger Hall Title: Operations Engineer
Signature: Roger Hall Date: 10/28/97

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

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

Permit No. H-69
(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 Rule 711(I)

Operator Name: Rice Engineering Corporation
Operator Address: 122 W. Taylor Hobbs, New Mexico 88240
Lease or Facility Name Blinbry-Drinkard SWD Well # C-2 Location C 2 22S 37E
Size of pit or tank: 127' x 38' x 7' Deep Approx 6000 BBLs Ut. Ltr. Sec. Twp. Rge

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.
The pit is used only in emergencies. Major well remedial work.

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

Method: Vacuum truck

Time: within 24 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 S.A. Haktanir Title Division Manager Date 7-27-90
Printed Name S.A. Haktanir Telephone No. 505 393-9174

FOR OIL CONSERVATION DIVISION USE

Date Facility Inspected 8/1/90
Inspected by Edwin W. [Signature]

Approved by _____
Title _____
Date _____

District I - (505) 393-6161
P.O. Box 1980
Hobbs, NM 88241-1980
District II - (505) 748-1283
811 S. First
Artesia, NM 88210
District III - (505) 334-6178
1000 Rio Boscon Road
Aztec, NM 87410
District IV - (505) 827-7131

New Mexico
Energy Minerals and Natural Resources Department
Oil Conservation Division
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

Originated 6/27/97

Submit Original
Plus 1 Copy
to Santa Fe

PIT INVENTORY FORM

Operator: RICE OPERATING COMPANY
Address: 122 WEST TAYLOR
HOBBS, NEW MEXICO 88240
Phone Number: (505) 393-9174
Previous Operator(s): Agua Operating
Is the pit permitted: Yes ☐ No ☒
Unit Letter: C Section: 2 Township: 22S Range: 37E
County: Lea County
Location Name: Blinebry Drinkard Salt Water Disposal Well C-2
Number of wells to the pit: System Terminal Tanks (Varies)
Are the wells to the pit operated by one operator ☐ or multiple operators ☒
Total daily volume (in barrels) to the pit: 5,300
Pit Type: 2-below ground redwood terminal tanks
(Emergency, Production, Workover, Reserve/Drilling (greater than 6 months old), Flare, Blowdown, Separator, Dehydrator,
Line Drip, BSG/W/Tank Bottoms, Compressor, Pigging, Washdown, or other)
What types of wastes are accepted in the pit (Exempt, Non-exempt, Both, None): Exempt (production water)
Pit age (years): 30
Is the pit lined ☒ or unlined ☐
Type of liner (None, Synthetic, Clay): Redwood tank resting on concrete pad
Is leak detection present: Yes ☒ No ☐ Observation boxes around tanks
Is the pit netted: Yes ☒ No ☐ Covered with redwood top
Pit dimensions (LxWxD): two 21'-6" dia X 8'-7" Ht

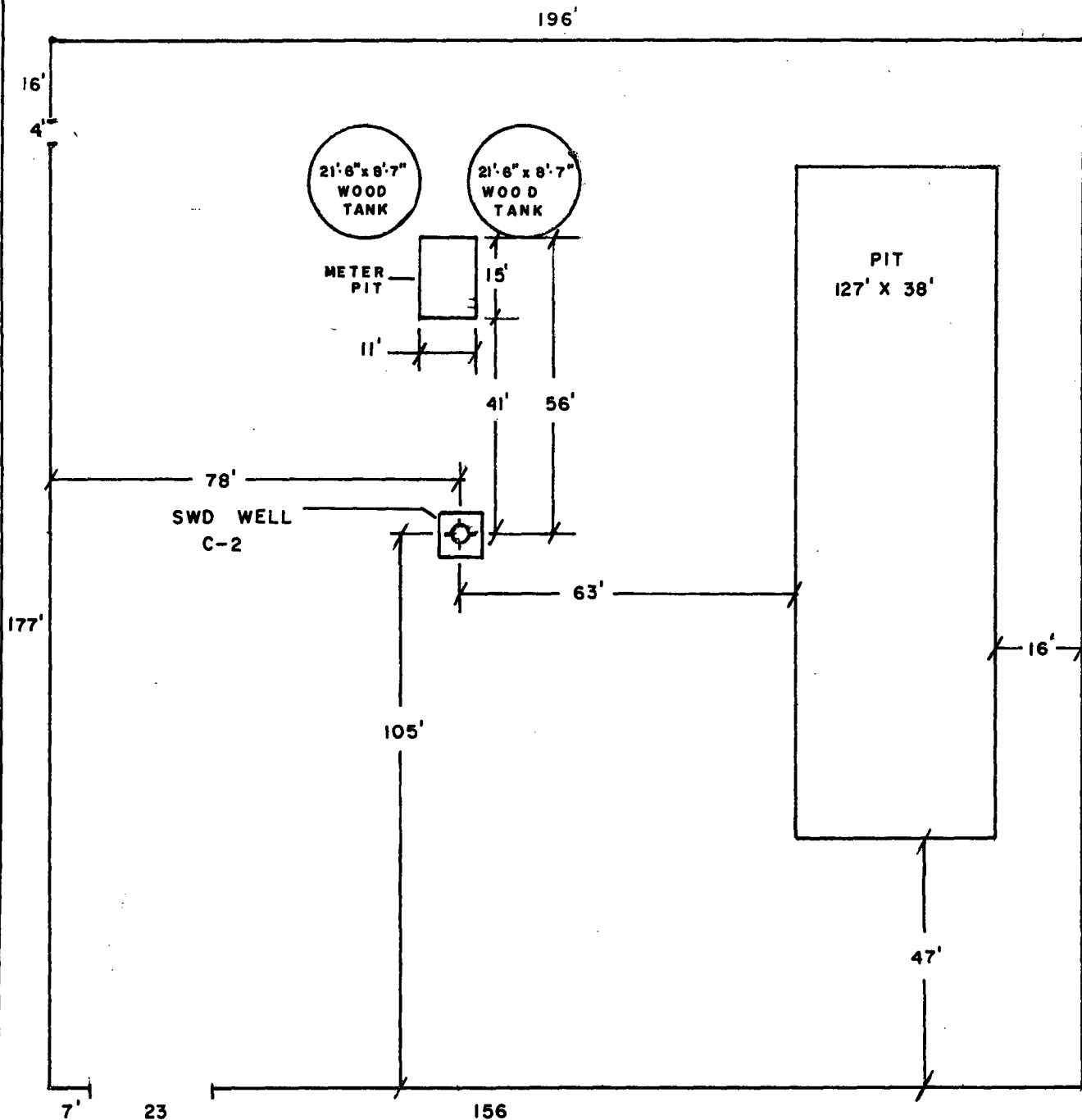
CERTIFICATION

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

Name: Roger Hall Title: Operations Engineer
Signature: Roger Hall Date: 10/30/97

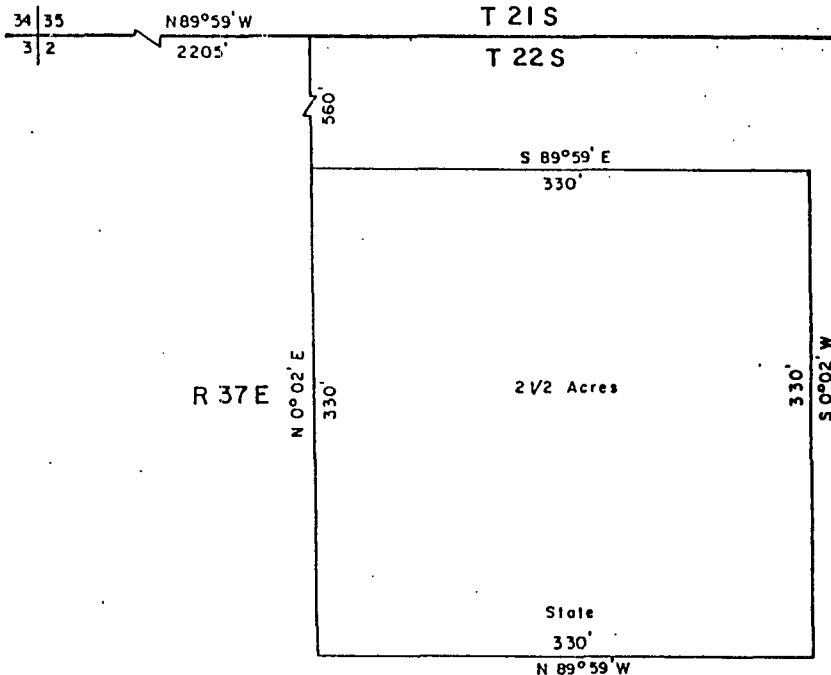
A pit is defined as any below grade or surface feature which receives any materials other than fresh water.

NE /4, NW/4, SEC. 2, T22S, R37E
LEA, COUNTY NM



NOTE: WELL LOCATION ON 2-1/2 ACRES IN UNIT C
WELL C-2: 660' FROM NORTH LINE AND 2305' FROM WEST LINE

DWN	SRT	3-99	BLINEBRY DRINKARD SWD WELL C-2 SCHEMATIC OF LOCATION	SCALE 1" = 30'
			Rice Engineering & Operating, Inc. Hobbs, New Mexico	DWG NO.



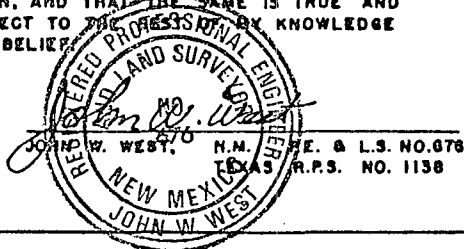
BLD
C-2

DESCRIPTION

A tract of land containing 2½ acres, more or less, being a certain part of the northeast quarter, of the northwest quarter, of Section 2, 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 northwest corner of said Section 2, bears north 0°02' east, a distance of 560 feet, and north 89°59' west, a distance of 2205 feet; thence, south 89°59' east, a distance of 330 feet to a point; thence, south 0°02' west, a distance of 330 feet to a point; thence, north 89°59' west, a distance of 330 feet to a point; thence, north 0°02' east, a distance of 330 feet to the point of beginning.

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.



RICE ENGINEERING CORP.

Hobbs

New Mexico

State Easement for 2½ acres of land, located in the NE¼, NW¼, Section 2, Township 22 South, Range 37 East, NMPM., Lea County, New Mexico.

BLINEBRY-DRINKARD SWD WELL C-2

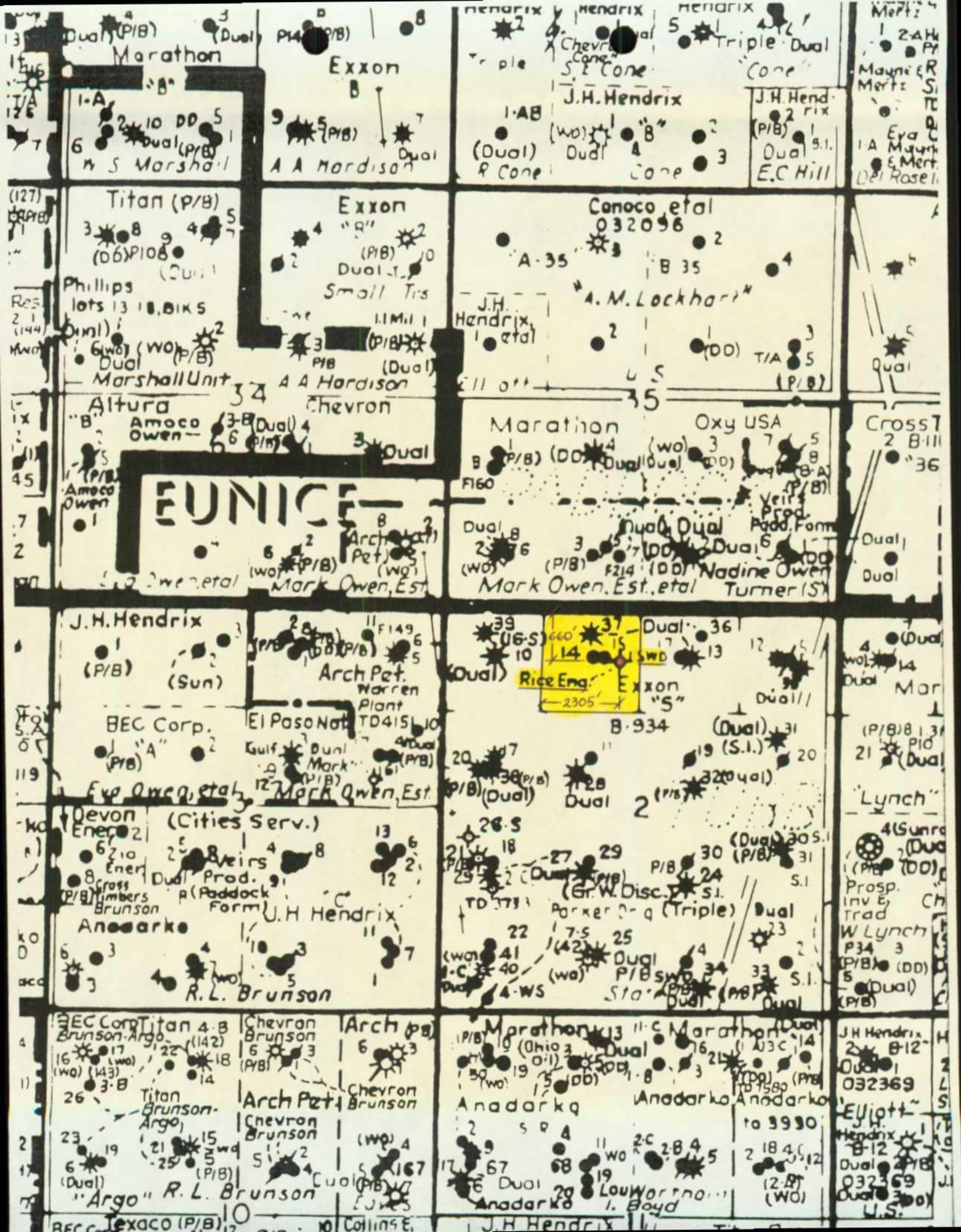
JOHN W. WEST ENGINEERING COMPANY
CONSULTING ENGINEERS HOBBS, NEW MEXICO

Scale 1" = 200'

Drawn by chb

Date 3/13/90

Sheet 1 of 1 Sheets





NEW MEXICO STATE LAND OFFICE

APPRAISEMENT OF STATE INSTITUTIONAL LANDS
FOR salt water disposal PURPOSES

To the Commissioner of Public Lands, Santa Fe, N. M.

SIR:

I have personally inspected the following described tract of land in Lea County, New Mexico, and submit this appraisal report together with a statement of the natural character and conditions thereof:

SUBDIVISION	SEC.	TWP.	RANGE	ACRES
NE/4 NW/4	2	22S	37E	2.50

Attach Exhibit if more space is needed for entire description or to complete answers below

CHARACTER OF LAND

Answer the following questions in all appraisals:

State the best use for which the land may be adapted: Grazing

State what other uses, if any, it may be or is being used for: Unknown

What is the general terrain or topography of the land? Rolling terrain

What type(s) of soil? Sandy loam. Are there any signs of erosion? Yes

If so, what type and to what extent? Minor wind erosion

What kind of vegetation is on the land, including grasses, if any? Mesquite & gramma grass

Is the land cultivated, grassland, or other? Grassland

If cultivated, is it dryland or irrigated farm land? (State acreage involved.) Not cultivated

Are there any natural streams, rivers, springs, ponds, and water holes on the land? If so, describe same
None

State kind of merchantable timber, quality, and present condition, if any None

What irrigation ditches are on the land? If non, then distance of nearest one
None within 10 miles

State the number of wells, depth and type on the land, whether used for domestic, irrigations, or other purposes
2 producing oil wells, 5175' and 6497' in total depth

State nearest distance to city, town, or village limits and name of municipality
Eunice, New Mexico, approx. 1 mi. northwest

Are there any existing or abandoned utility (electric, telephone, or telegraph) lines, railroads, public roads or highways, pipelines, borrow pits, material pits, cooperative irrigation ditches, reservoirs, airports, land strips, or trash dumps on the land? Yes. If so, please describe and give approximate location:
Oil & salt water disposal lines. If any of the above are found on the land, are they a benefit or detriment to the land? Explain: No detriment

List all improvements, their location, and value (including, but not limited to, houses, barns, stables, their sizes and how built; wells and their depth and description; windmills; fences, their amount, kind, and length; and all other improvements) None

Name and address of present owner of improvements is: _____

_____. State if any trespass or waste has been done to the land, or to any existing natural products thereon, and in what manner, by whom if known, and how it detracts from the value of the land: None

Does the land have any recreational potential, such as cabin sites, etc.? Explain: None

Answer the following questions in specific category for which application is made by applicant:

BUSINESS LEASE:

If so, what type of business is the land going to be used for by the applicant? _____

Or is the land being leased for speculative purposes, if known? _____

Estimate how much the parcel would lease for on a yearly basis for commercial purposes _____

List amounts for which parcels of fee land similarly situated lease for (monthly or annual rentals) _____

_____. If land applied for is within municipal limits, state type and kinds of businesses or uses to which surrounding properties are being put _____

State what (type and kind) improvements are located on this land that are beneficial to and consistent with business or commercial use of this land _____

RIGHT OF WAY AND WATER EASEMENT:

Is this State land within a declared water basin? _____

Will the construction or use of this right of way (water easement) increase or decrease the value of surrounding State lands? _____. How? _____

Have you examined the plat (survey for right of way) accompanying the application? _____

If yes, then is the acreage (width) requested sufficient or excessive for purposes of the right of way? _____

_____. Are there any other rights of way (easements) that bisect or cross over the one being applied for? _____. What type and kind? _____

Are there any existing water wells within one mile of lands inspected? _____

If so, how many and how far distant therefrom? _____

If known, at what depth is fresh water known to exist in this area? _____

If known, what damage will be done, if any, to the tangible property of state's prior patentees or lessees of this land by reason of applicant's use in making and constructing of a right of way (water easement) as requested? _____

SALT WATER DISPOSAL SITES:

Have you examined the plat showing the disposal well(s) from which produced salt water is to be disposed of together with necessary pipelines and haul roads, if any? Yes

If known, what is the formation into which the salt water will be injected? San Andres

_____. Will a pipeline, roadway, or other means of conveyance be necessary to dispose of the salt water in the instant application? Yes

If so, what? 6" PVC plastic flowline

What tangible surface damage, if any, will occur to other state lessees or patentees by the proposed salt water disposal site, roadway, or pipeline? None

Based upon your examination of the land applied for, is there an existing abandoned dry hole(s) located thereon? None. To what depth, if known? _____

AFFIDAVIT

STATE OF NEW MEXICO

COUNTY Lea) ss

I am well acquainted with the character of said described land and that my personal knowledge of said land is such as to enable me to testify understandingly with regard thereto.

After having personally inspected the within described tract of land, I HEREBY APPRAISE THE SAME at and state the ACTUAL CASH VALUE of same for the purpose desired to be \$ 100.00 (indicate per acre, square foot, or other), and certify that I am not interested in said land or leasing or sale thereof.

Signed

[Signature]
P. O. 610 Cottonwood Lane, Hobbs, New Mexico

Subscribed and sworn (affirmed) to before me this 16th day of March,
19 90.

My Commission Expires: 10-15-90

[Signature]

NOTE: The Laws of New Mexico require that all statements in appraisements must be made from personal knowledge, and not upon information and belief; save only those with reference to the actual value of the land appraised. This appraisalment must be sworn to before a Notary Public or County Magistrate.



NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

February 24, 1999

CERTIFIED MAIL

RETURN RECEIPT NO: P 288 259 099

Carolyn Doran Haynes
Operations Engineer
Rice Operating Company
122 West Taylor
Hobbs, New Mexico 88240

Re: Regulatory Interpretative Issues/Closure Requirements.

Dear Ms. Haynes:

The New Mexico Oil Conservation Division (NMOCD) is in receipt of Rice Operating Company's (Rice) letter dated February 2, 1999 concerning interpretation of certain regulations. Below, please find OCD's response to each specific question raised in Rice's letter.

1. "Chloride (and potential groundwater contaminants) delineation of the vadose zone:"

OCD's evaluation of remediation plans includes investigating horizontal and vertical extent of migration for any water contaminant.

2. "Filing a C-141 at the realization of contamination:"

This is required pursuant to 19 NMAC 15.C 116.(Rule 116). The definition of release includes any oil field waste. (See 19NMAC 15.A.7. 78 and 59 respectively)

3. "The Rule 116 and Rule 19 interpretation as pertains to vadose zone contaminants and clean-up:"

Remediation of releases are covered under 19 NMAC 15.C 116.D Corrective Action which requires all responsible persons to submit remediation or abatement plans for OCD approval.

4. "When Rule 19 is enforced over Rule 116:"

Rule 116 is the requirement for reporting releases and submitting corrective action plans for OCD Division approval. Pursuant to NMAC 15.C.116.D Corrective Action: "The responsible person must complete Division approved corrective action for releases which endanger public health or the environment. Releases will be addressed in accordance with a remediation plan submitted to and approved by the Division or with an abatement plan submitted in accordance with Rule 19 (19 NMAC 15.A.19)."

Ms. Haynes
February 24, 1999
Page 2

Rule 19 sets procedures to follow and abatement standards for both the vadose zone and groundwater. (See 19 NMAC 15.A.19.B.) There are exemptions to Rule 19 under 19 NMAC 15.A. 19.D. For releases, Rule 19.D.1.(g) allows a one year time frame for remediation of releases without having to submit an abatement plan pursuant to Rule 19, if the Division does not object. However, the OCD Director has the discretion to require an abatement plan pursuant to Rule 19 if certain water pollution standards are not met or if additional action is deemed necessary to protect health, welfare, environment or property, which includes the vadose zone. (See 19 NMAC 15.A. 19.D.(2).

5. "Work plan and closure required for redwood tank removal; etc." and "The underground redwood tank "impending permit status" and the eventual consequence of delay in our effort to facility closure of these sites (the bond money)".

The OCD understands that Rice intends to close surface waste management units at a number of facilities in lieu of permitting them under Rule 711. These facility modifications include closing pits and underground redwood tanks.

In order to forestall permitting of these facilities under Rule 711 the OCD requires that:

- a. Rice submit a list of all facilities which contain or have contained pits or below-grade tanks and their locations.***
- b. Rice shall submit for approval closure reports for all pits and below-grade tanks closed prior to the date of this letter.***
- c. Rice shall submit for approval closure plans for all existing pits and below-grade tanks.***

The above requested information and plans shall be submitted to the OCD Santa Fe office by April 1, 1999 with copies provided to the OCD Hobbs District Office.

If you require any further information or assistance please do not hesitate to write or call me at (505-827-7152).

Sincerely Yours,



Roger Anderson-
Environmental Bureau Chief

cc: OCD Hobbs Office

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

RICE Operating Company

Fax

To: Mr. Roger Anderson, NMOCD

From: Carolyn Doran Haynes

Fax: 505-827-8177

Pages: 1+cover

Phone: 505-827-7131

Date: 02/02/99

Re: Courtesy phone call follow-up

CC:

☐ **Urgent**

☐ **For Review**

☐ **Please Comment**

☐ **Please Reply**

☐ **Please Recycle**

• **Comments:**

Please distribute to

Mr. Roger Anderson

Mr. Wayne Price

Ms. Marlene Heeling (Commercial Pit Permitting)

RICE Operating Con

122 West Taylor • Hobbs, NM 882
Phone: (505) 393-9174 • Fax: (505) 397

*Alpha Homan**505 393-9174**Rice Eng*

February 2, 1999

New Mexico Energy, Materials
& Natural Resources Department
Oil Conservation Division
2040 South Pacheco Street
Santa Fe, NM 87505

Attn: Mr. Wayne Price, Mr. Roger Anderson, and Ms. Martine Heeling

To Each of You,

I want to personally thank each of you for our conference call this morning. I fully realize how few OCD professionals are in your office, and to have had three of you involved in answering my questions certainly illustrates how committed you are to serving the NM oil and gas industry.

As the new operations engineer at Rice Operating Company, it has become abruptly obvious to me that I must have true understanding of the reporting and remediation regulations. Because I have insufficient history in regulation interpretation, I *need* to ask questions and survey the people who *do* have the knowledge, knowledge that I can trust to be correct and reproducible. Our fact-filled conversation has dramatically elevated the level of understanding here at Rice Operating, and the regulations are no longer quite as confusing or ominous. The straightforward, logical approach your office has expressed to me is very appealing and truly relevant to our business philosophy, and I do look forward to working with you throughout the future.

I anticipate receiving your letter confirming our conversation about regulation specifics: chloride (and potential groundwater contaminants) delineation of the vadose zone; filing a C-141 at the realization of contamination; the Rule 116 and Rule 19 interpretation as pertains to vadose zone contaminants and clean-up; when Rule 19 is enforced over Rule 116; work plan and closure required for redwood tank removal; etc. As suggested by Mr. Anderson, it will be most pertinent to include in the letter the underground redwood tank "impending permit status" and the eventual consequence of delay in our effort to facilitate closure of these sites (the bond money). This information from NMOCD will be referenced in Rice Operating AFE proposals to the system partners and because of it, I expect timely response and progress.

The NMOCD can expect Rice Operating to completely fulfill the necessary requirements. We will immediately begin the closure work plan for the redwood tanks in our systems and include a schedule for individual site activity. Your assistance with this matter has been most appreciated. Thank you all for your help.

Sincerely,

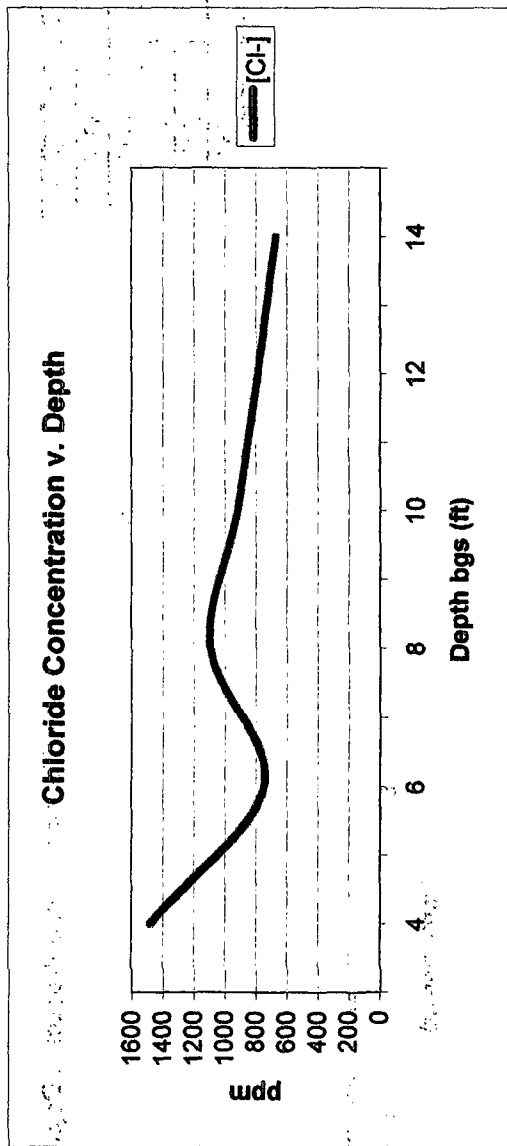
Carolyn Doran Haynes

Carolyn Doran Haynes
Operations Engineer

Cc: KH, FWR, file

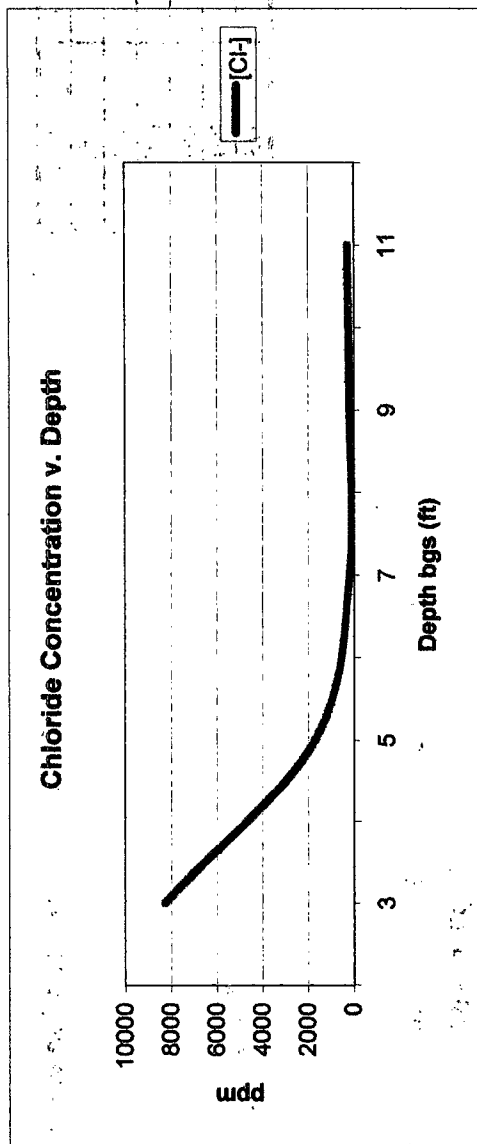
✓
EME jct. A-26
 T20S, R37E

Depth bgs (ft)	[Cl-] ppm
4	1482
6	748
8	1095
10	920
12	789
14	673



EME jct. H-10-1
T20S, R36E

Depth bgs (ft)	[Cl ⁻] ppm
3	8300
5	1716
7	199
9	201
11	284



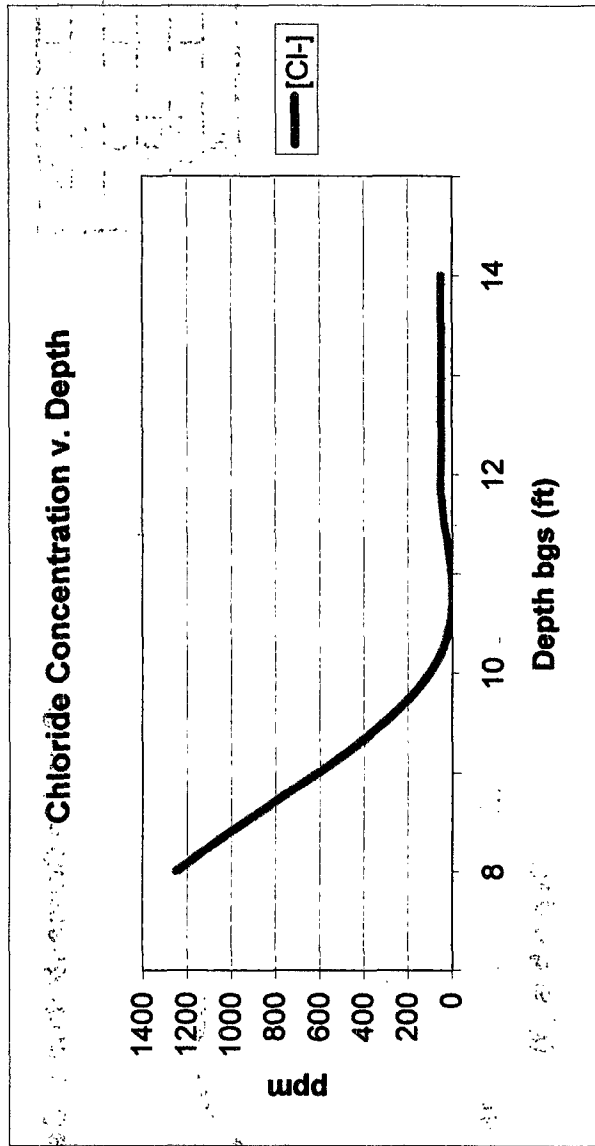
CHLORIDE CONCENTRATION CURVE

RICE Operating Company

EME jct. H-32-1

T19S, R37E

Depth bgs (ft)	[Cl-] ppm
8	1250
10	100
12	50
14	50



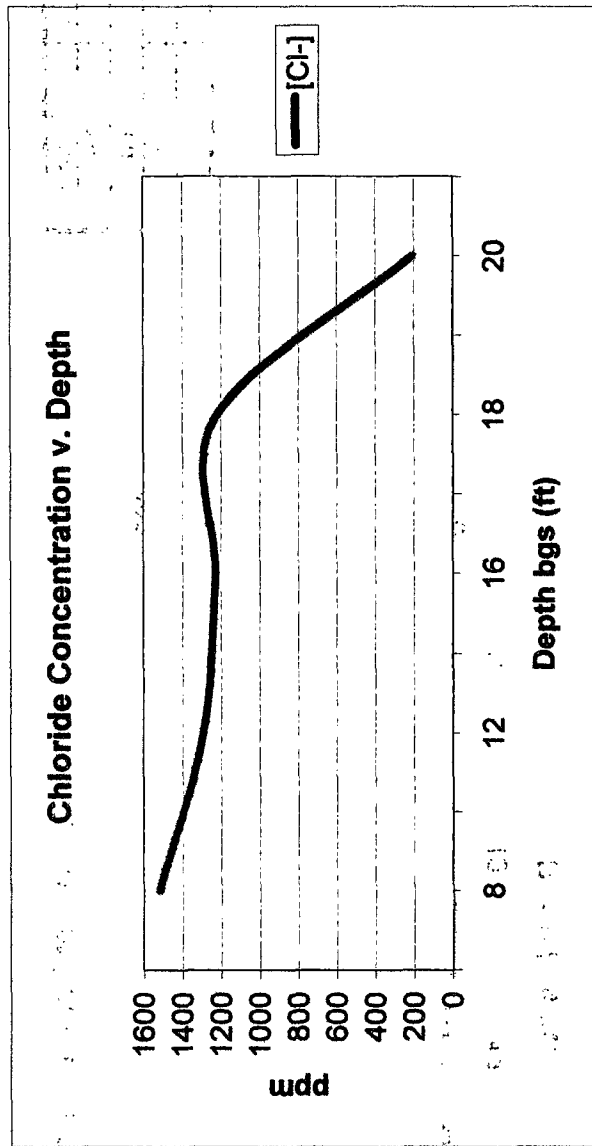
CHLORIDE CONCENTRATION CURVE

RICE Operating Company

BD jct. N-29-2

T21S, R37E

Depth bgs (ft)	[Cl-] ppm
8	1521
12	1294
16	1231
18	1220
20	208

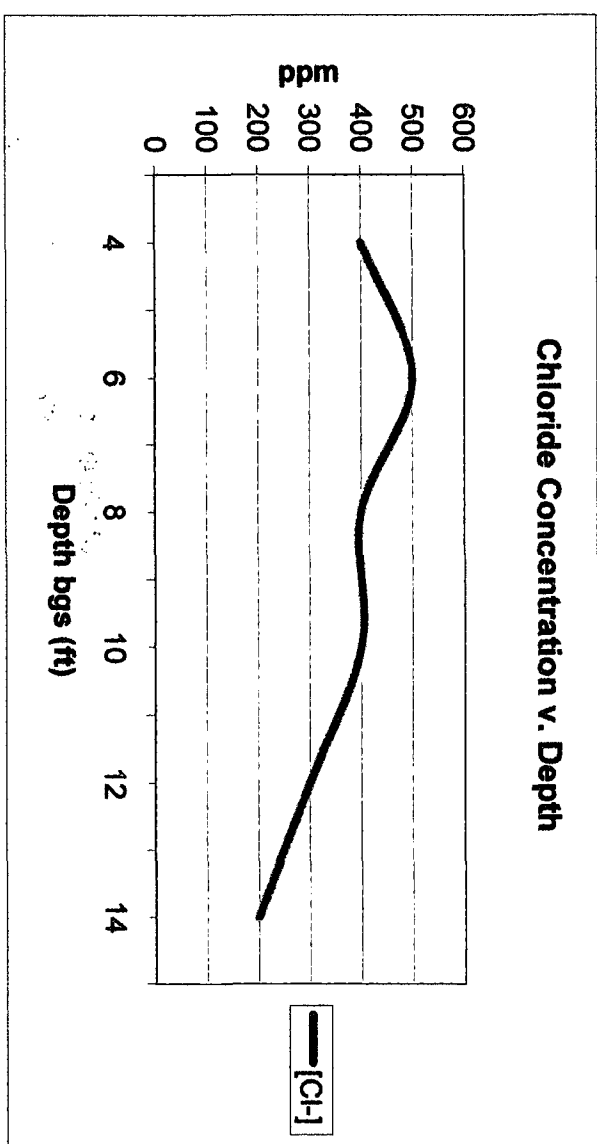


CHLORIDE CONCENTRATION CURVE

RICE Operating Company

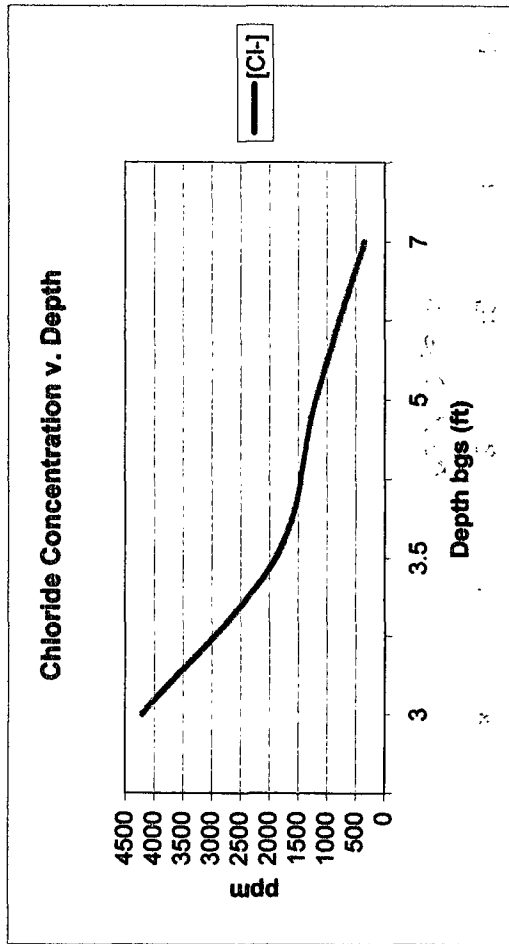
EME jet. A-2
T20S, R36E

Depth bgs (ft)	[Cl ⁻] ppm
4	400
6	500
8	400
10	400
12	300
14	200



✓
EME jct. H-2
T20S, R37E

Depth bgs (ft)	[Cl-] ppm
3	4216
3.5	1895
5	1200
7	350



no Gd

10/10

10/10

10/10

10/10

10/10

10/10

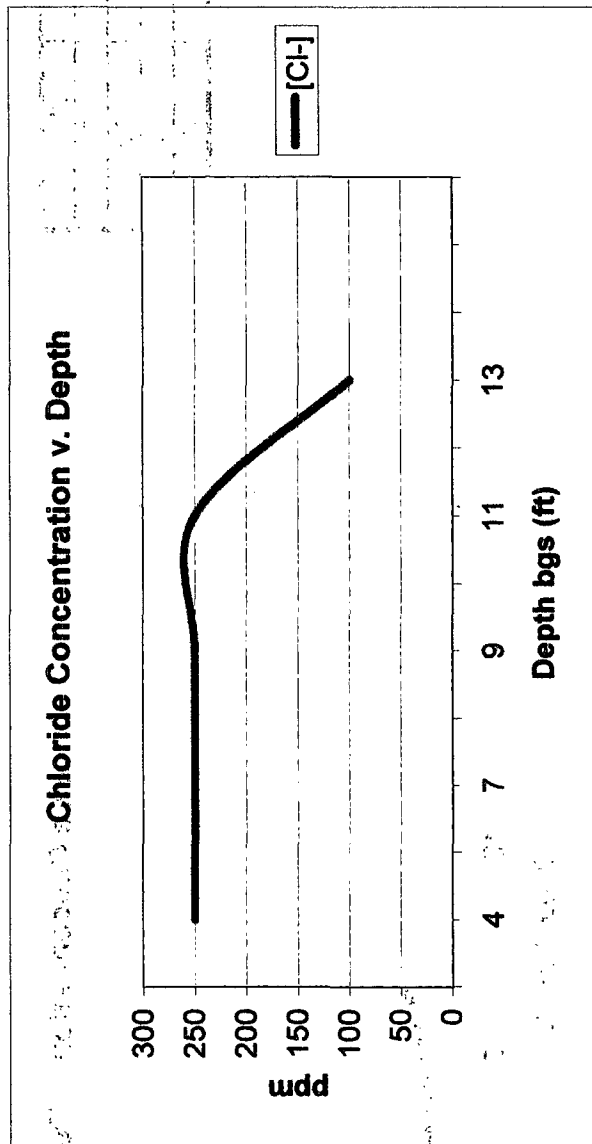
10/10

CHLORIDE CONCENTRATION CURVE

RICE Operating Company

EME jct. B-6
T20S, R37E

Depth bgs (ft)	[Cl-] ppm
4	250
7	250
9	250
11	250
13	100

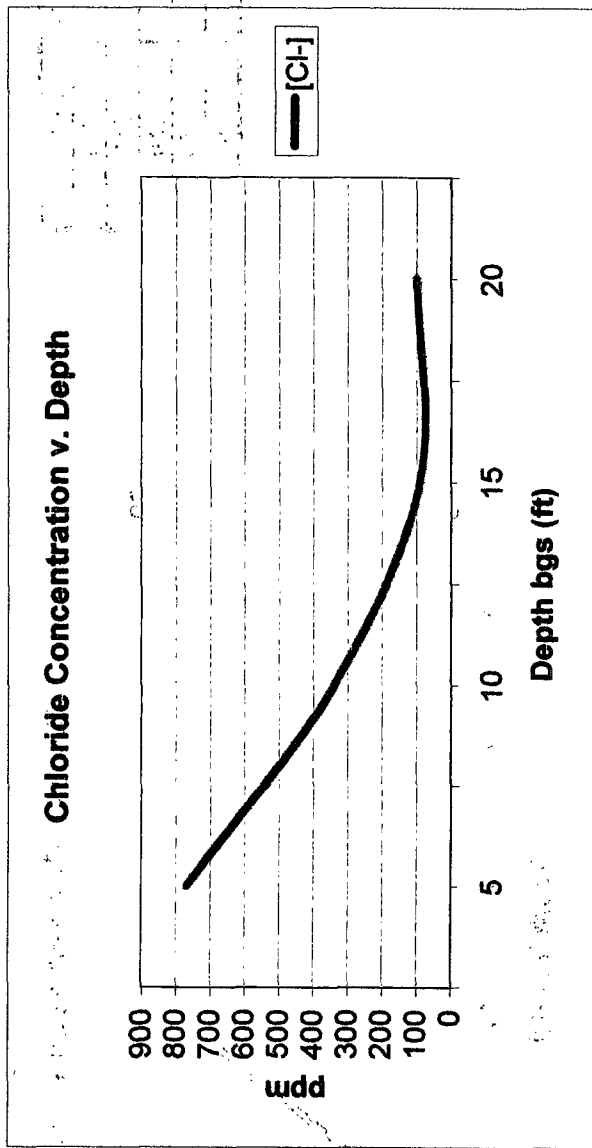


CHLORIDE CONCENTRATION CURVE

RICE Operating Company

EME jct. B-32 Soil Bore ✓
T19S, R37E

Depth bgs (ft)	[Cl-] ppm
5	770
10	340
15	90
20	100

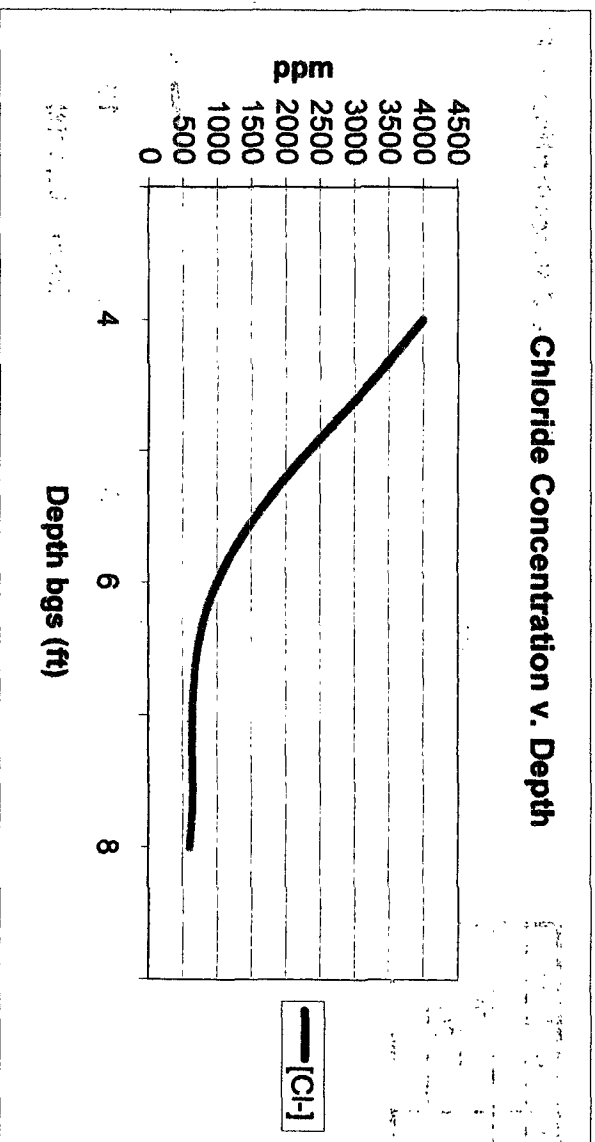


CHLORIDE CONCENTRATION CURVE

RICE Operating Company

EME jet. L-25 ✓
T19S, R36E

Depth bgs (ft)	[Cl ⁻] ppm
4	4000
6	1000
8	600

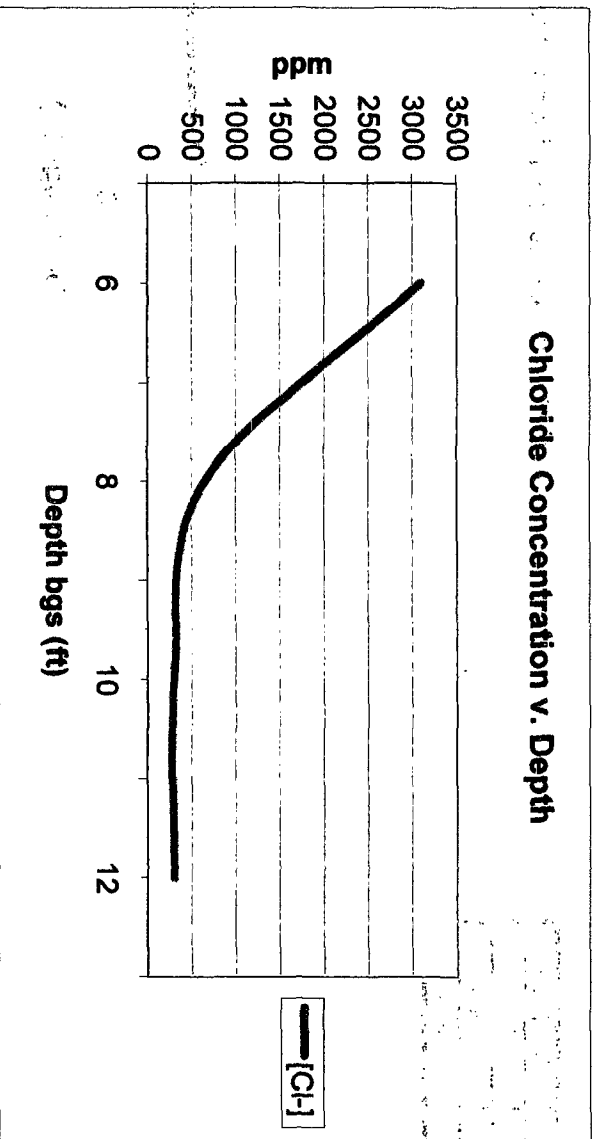


CHLORIDE CONCENTRATION CURVE

EME jet. B-1-1

T20S, R36E

Depth bgs (ft)	[Cl ⁻] ppm
6	3100
8	650
10	300
12	300

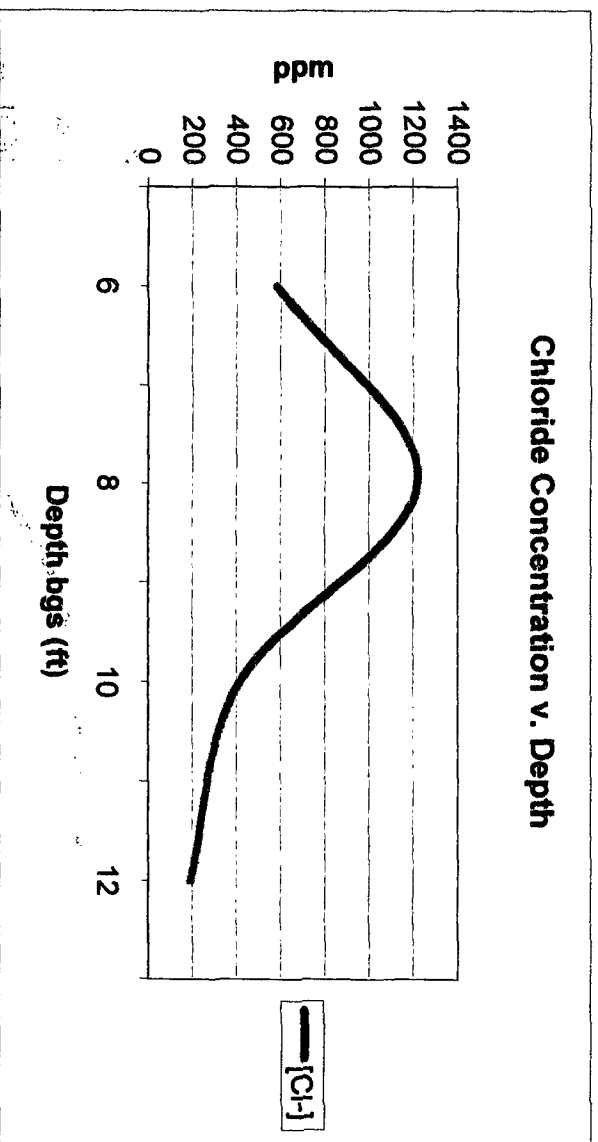


CHLORIDE CONCENTRATION CURVE

RICE Operating Company

BD jet. O-17-2 ✓
T21S, R37E

Depth bgs (ft)	[Cl-] ppm
6	585
8	1220
10	415
12	190



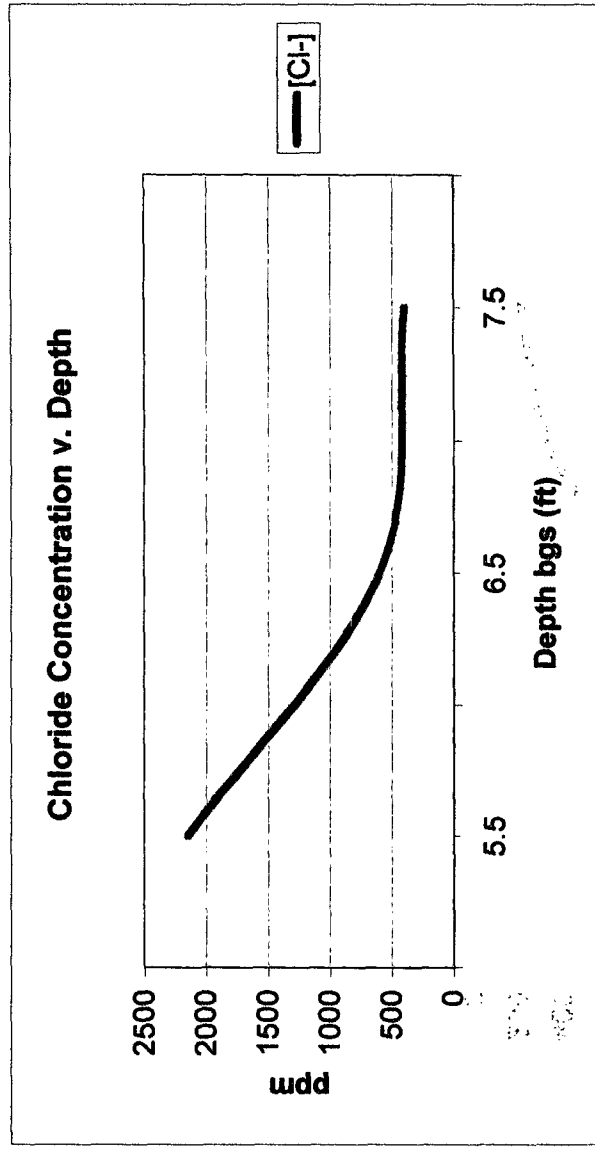
CHLORIDE CONCENTRATION CURVE

RICE Operating Company

EME jct. M-3-2

T21S, R36E

Depth bgs (ft)	[Cl-] ppm
5.5	2150
6.5	600
7.5	400



2150	600	400
5.5	6.5	7.5

2150 600 400

2150 600 400

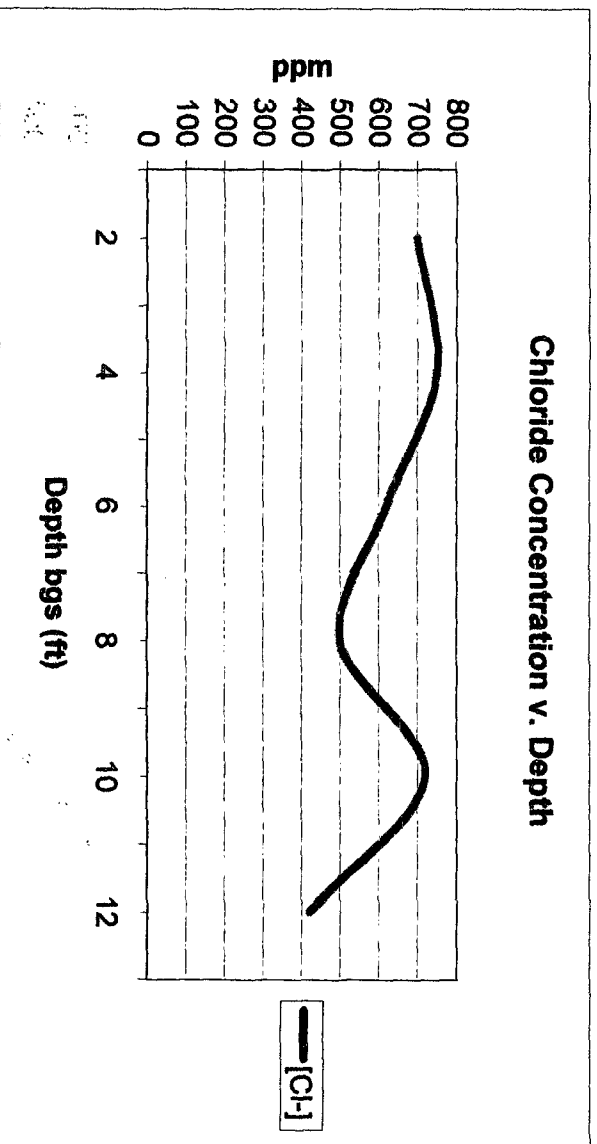
2150 600 400

CHLORIDE CONCENTRATION CURVE

RICE Operating Company

BD jet. L-1 ✓
T22S, R36E

Depth bgs (ft)	[Cl ⁻] ppm
2	700
4	750
6	620
8	500
10	720
12	420



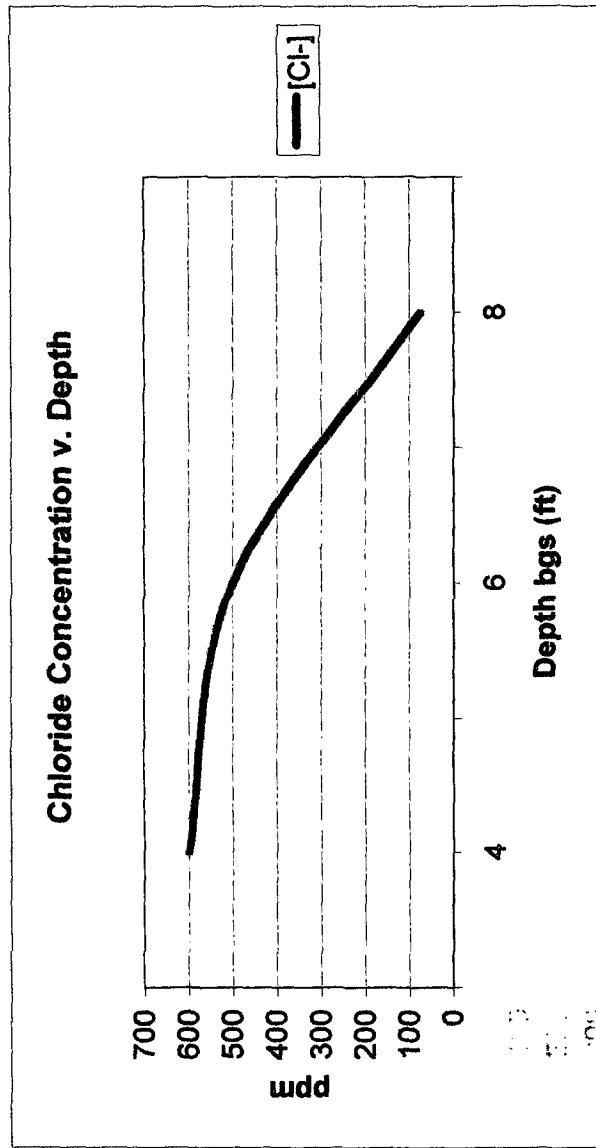
CHLORIDE CONCENTRATION CURVE

RICE Operating Company

EME jct. C-12-2 ✓

Legal Description

Depth bgs (ft)	[Cl-] ppm
4	600
6	500
8	75



PPM

8

6

4

Depth bgs (ft)

— [Cl-]

DATE: 10/1/00
TIME: 10:00 AM
BY: J. RICE
SHEET: 1 OF 1

10/1/00

CHLORIDE CONCENTRATION CURVE

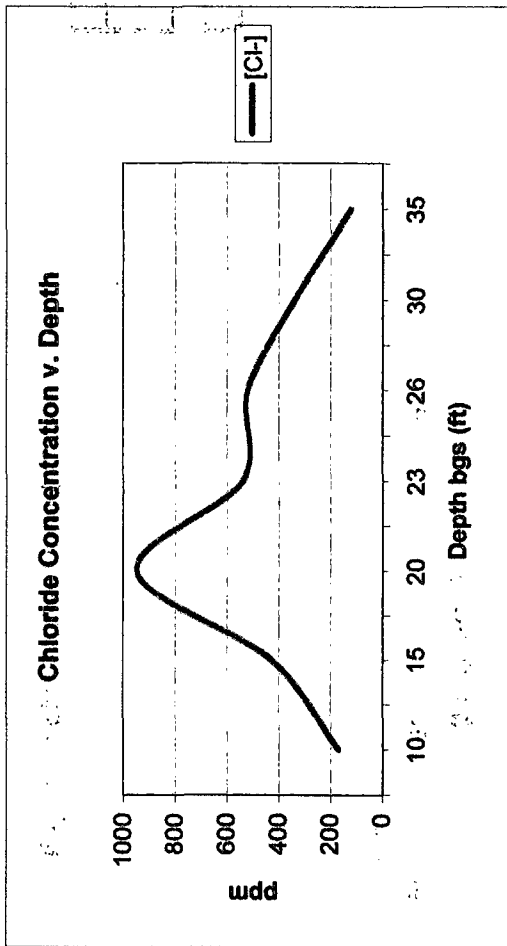
RICE Operating Company

EME jct. M-34 ✓

T19S, R37E

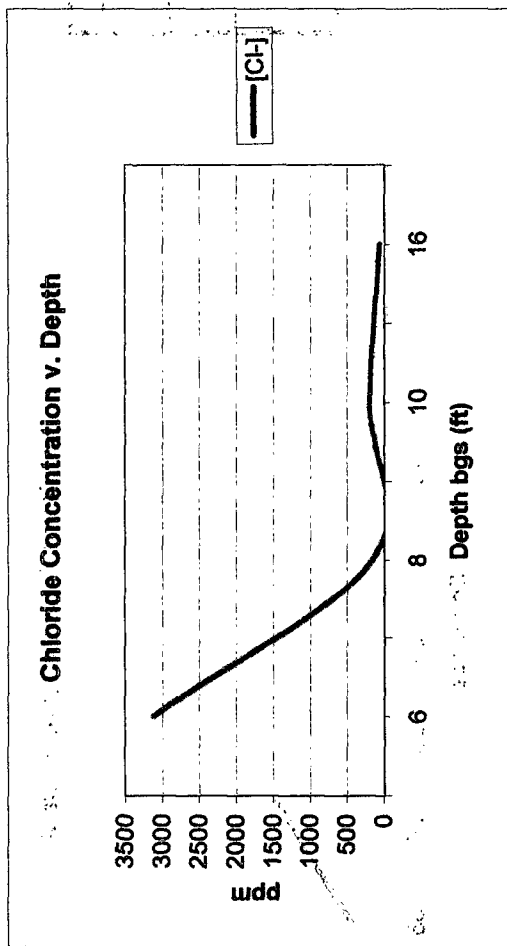
Soil Bore

Depth bgs (ft)	[Cl-] ppm
10	170
15	430
20	950
23	540
26	520
30	340
35	120



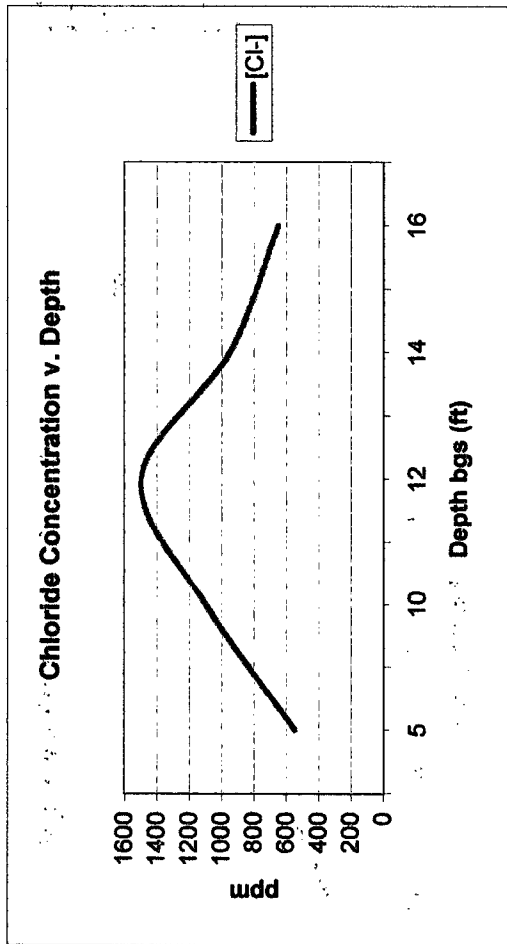
Justis jct. B-26
T25S, R37E

Depth bgs (ft)	[Cl-] ppm
6	3120
8	160
10	200
16	60



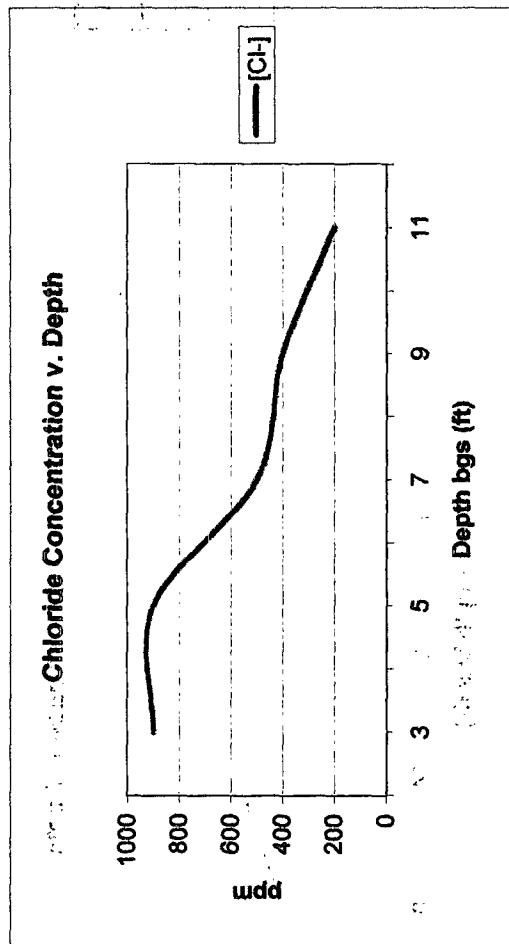
BD jet. N-9
T22S, R37E

Depth bgs (ft)	[Cl-] ppm
5	550
10	1100
12	1500
14	950
16	650



EME Trio Persons EOL
 UL T, Sec. 27, T19S, R36E

Depth bgs (ft)	[Cl-] ppm
3	900
5	900
7	500
9	400
11	200



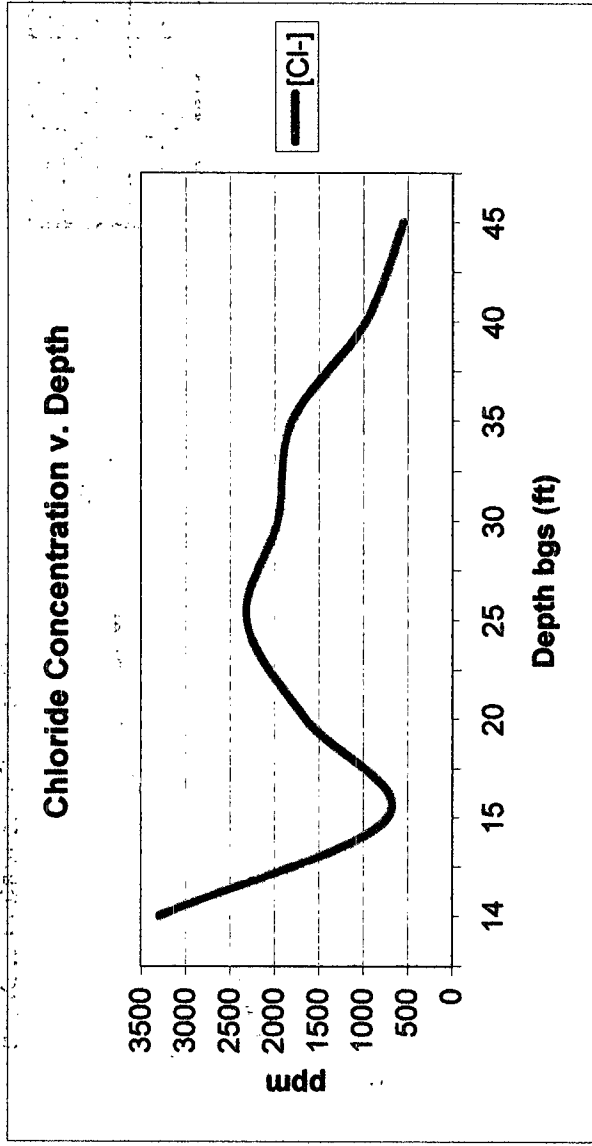
CHLORIDE CONCENTRATION CURVE

RICE Operating Company

BD jct. B-4-1 Soil Bore

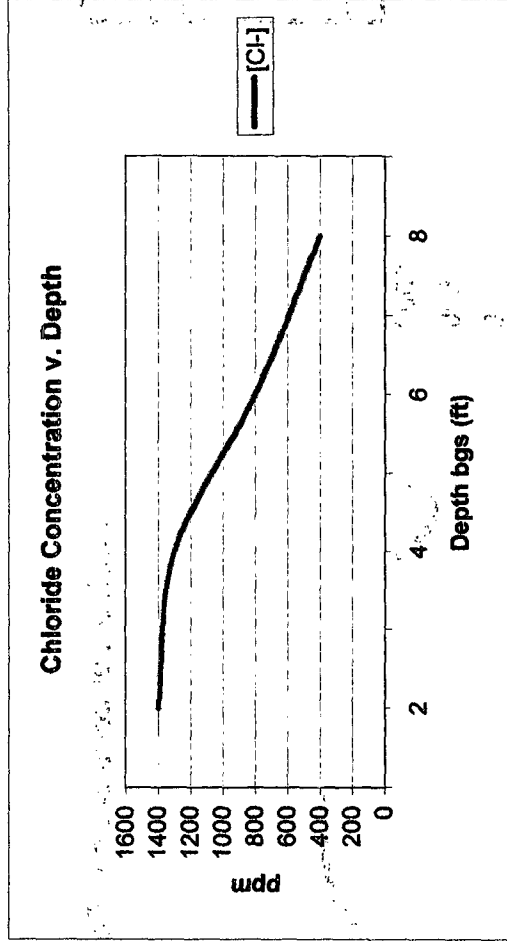
T22S, R37E

Depth bgs (ft)	[Cl-] ppm
14	3300
15	725
20	1650
25	2316
30	1966
35	1807
40	975
45	550



EME jct. C-12-1 North
T20S, R36E

Depth bgs (ft)	[Cl-] ppm
2	1400
4	1300
6	800
8	400



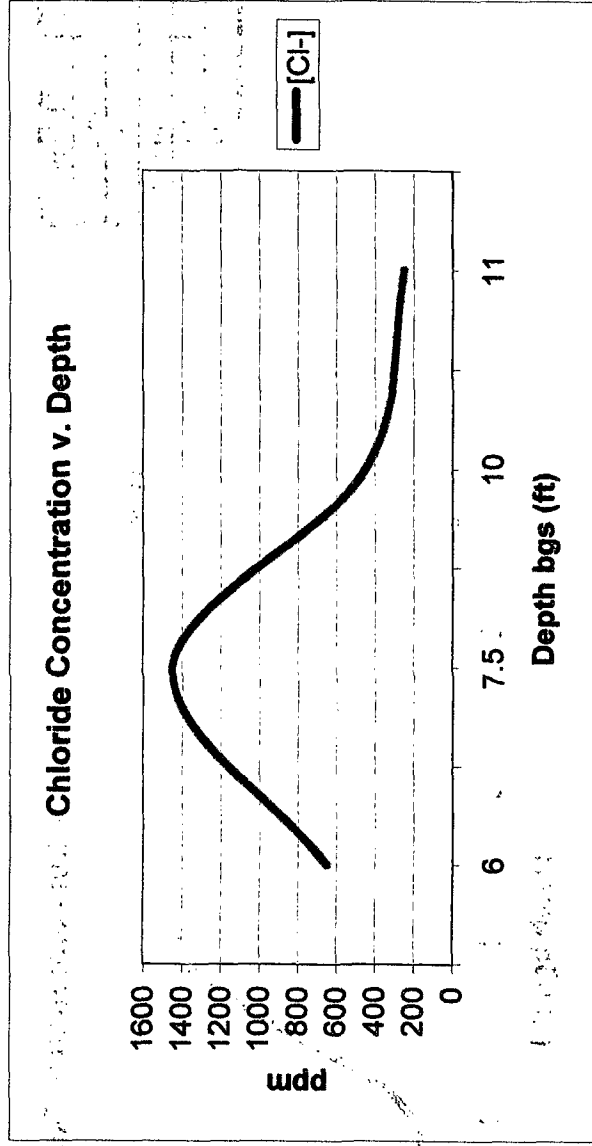
CHLORIDE CONCENTRATION CURVE

RICE Operating Company

EME jct. K-1 ✓

T20S, R36E

Depth bgs (ft)	[Cl-] ppm
6	650
7.5	1450
10	450
11	250



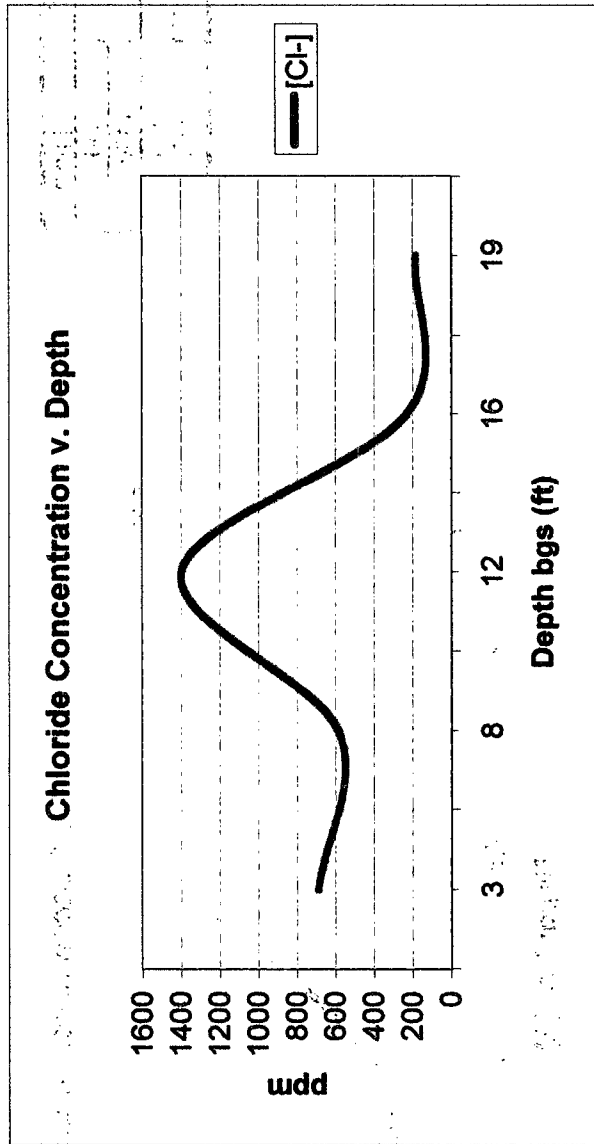
CHLORIDE CONCENTRATION CURVE

RICE Operating Company

BD jct. N-29-1

T21S, R37E

Depth bgs (ft)	[Cl-] ppm
3	690
8	587
12	1400
16	230
19	186



BD JCT N-29-1

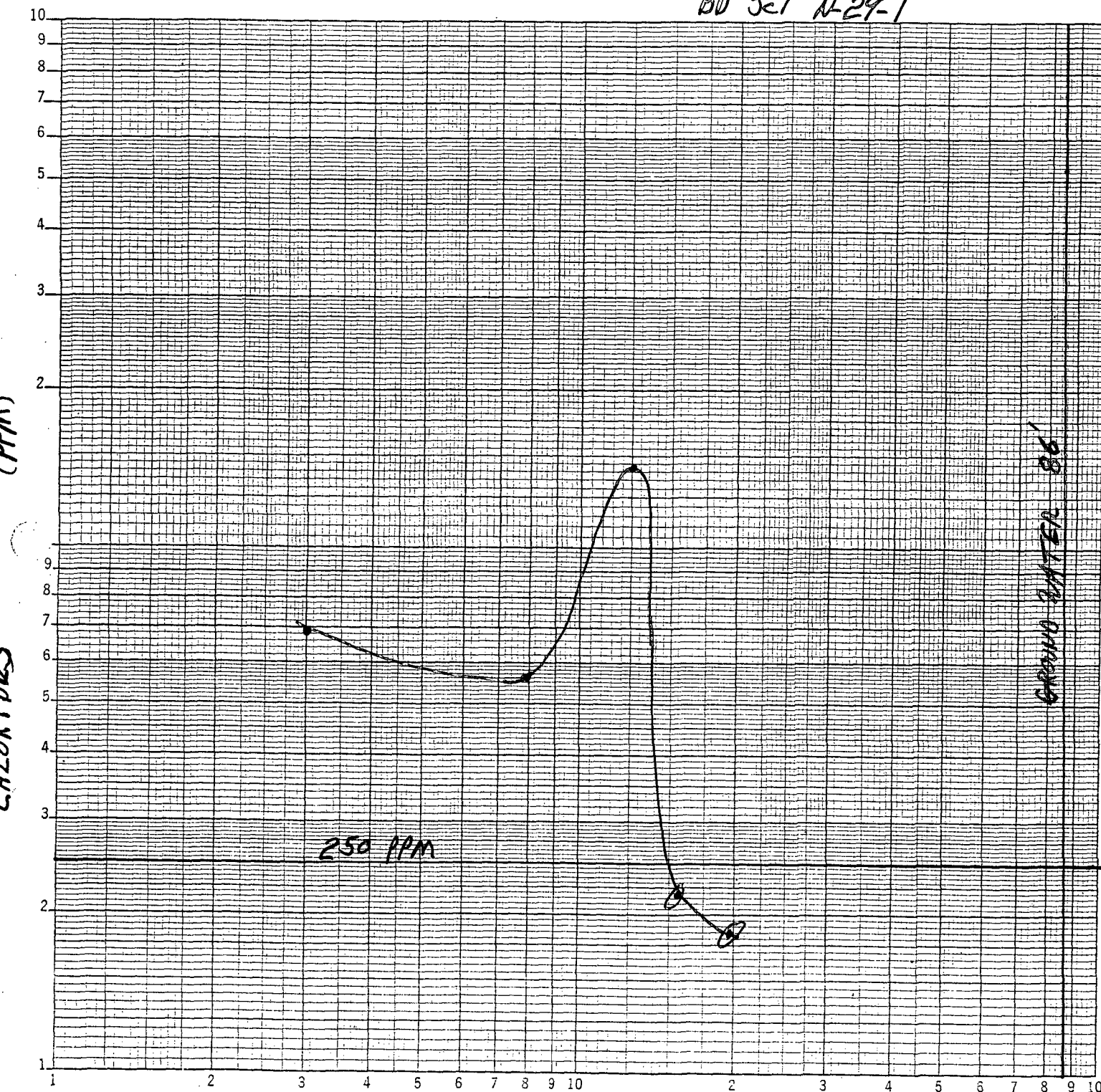
(PPM)

CHLORIDES

GROUND WATER 80'

250 PPM

DEPTH (ft)



EME K-1

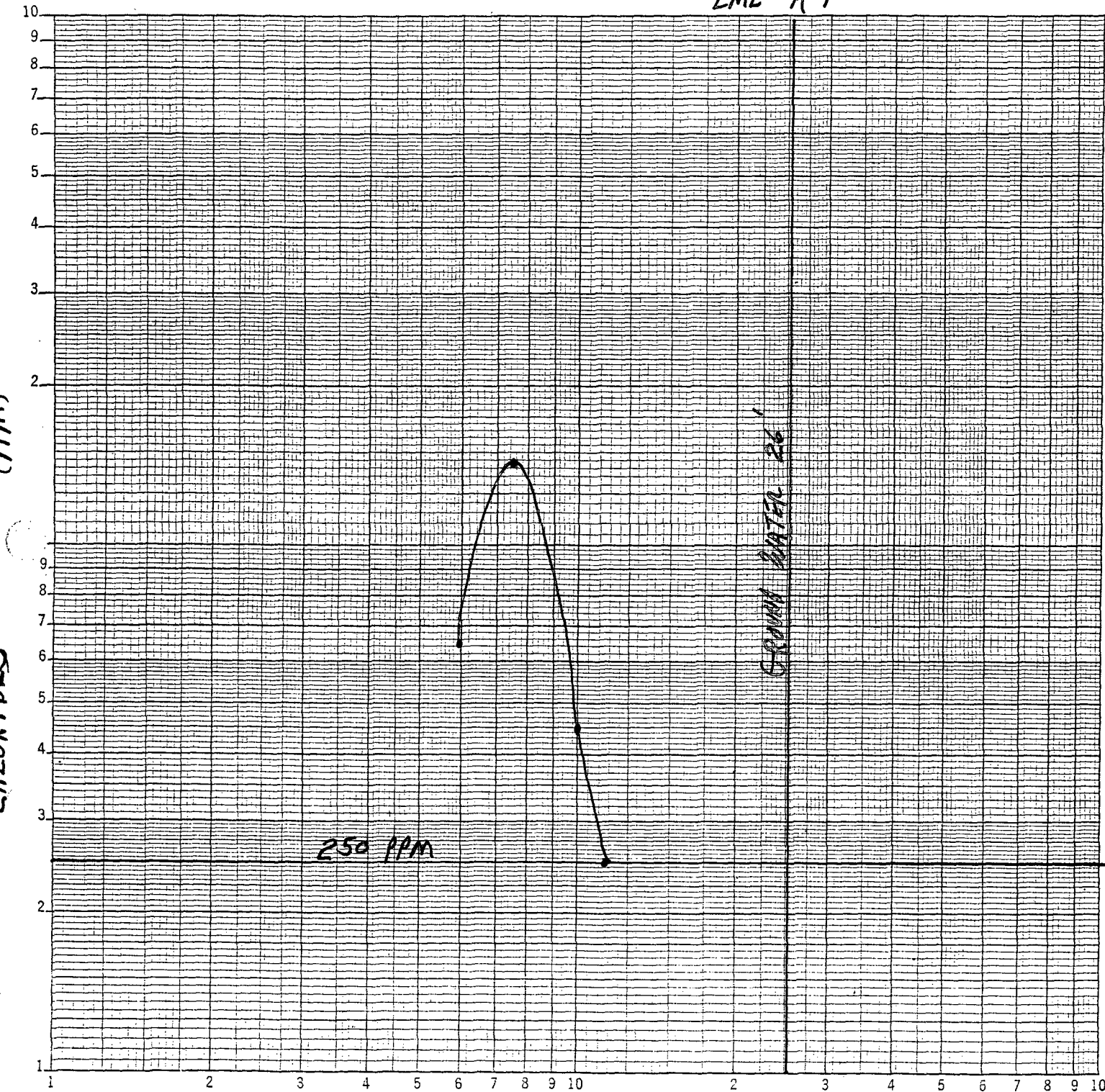
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CHLORIDES

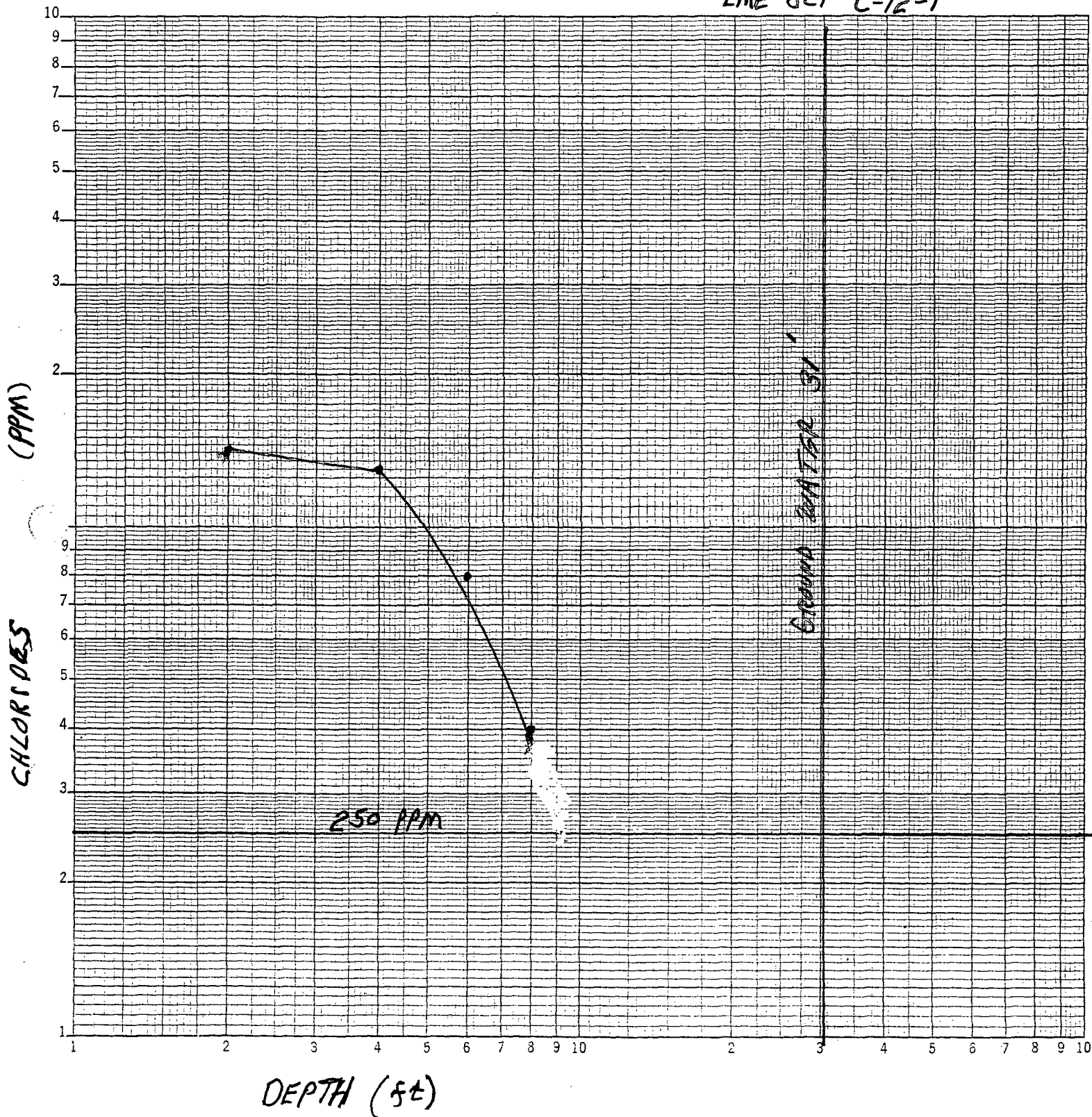
GROUND WATER 26'

250 PPM

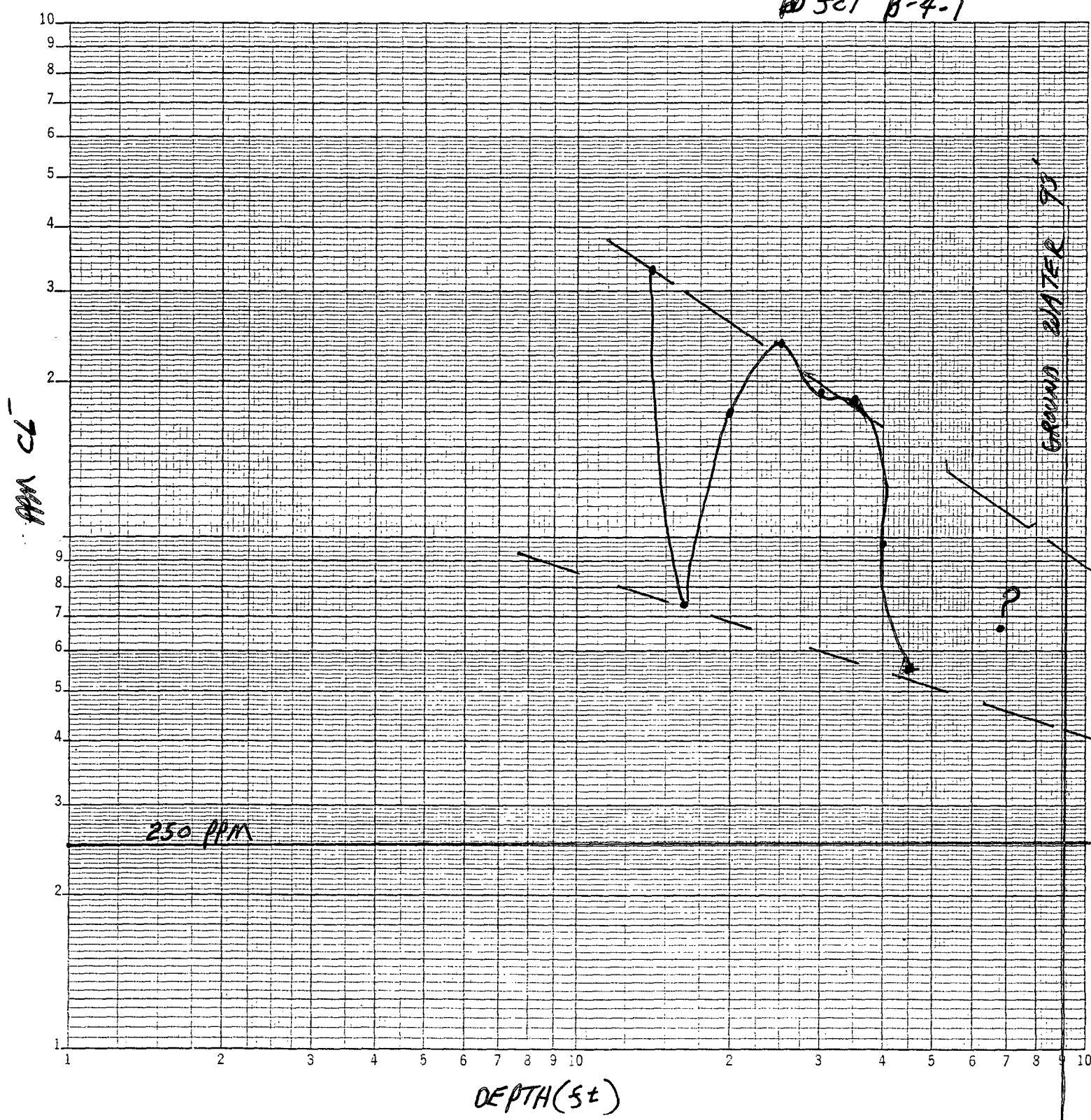
DEPTH (ft)



EME JCT C-12-1



SD 50T B-4-1



EME TRIO PERSONS EOL

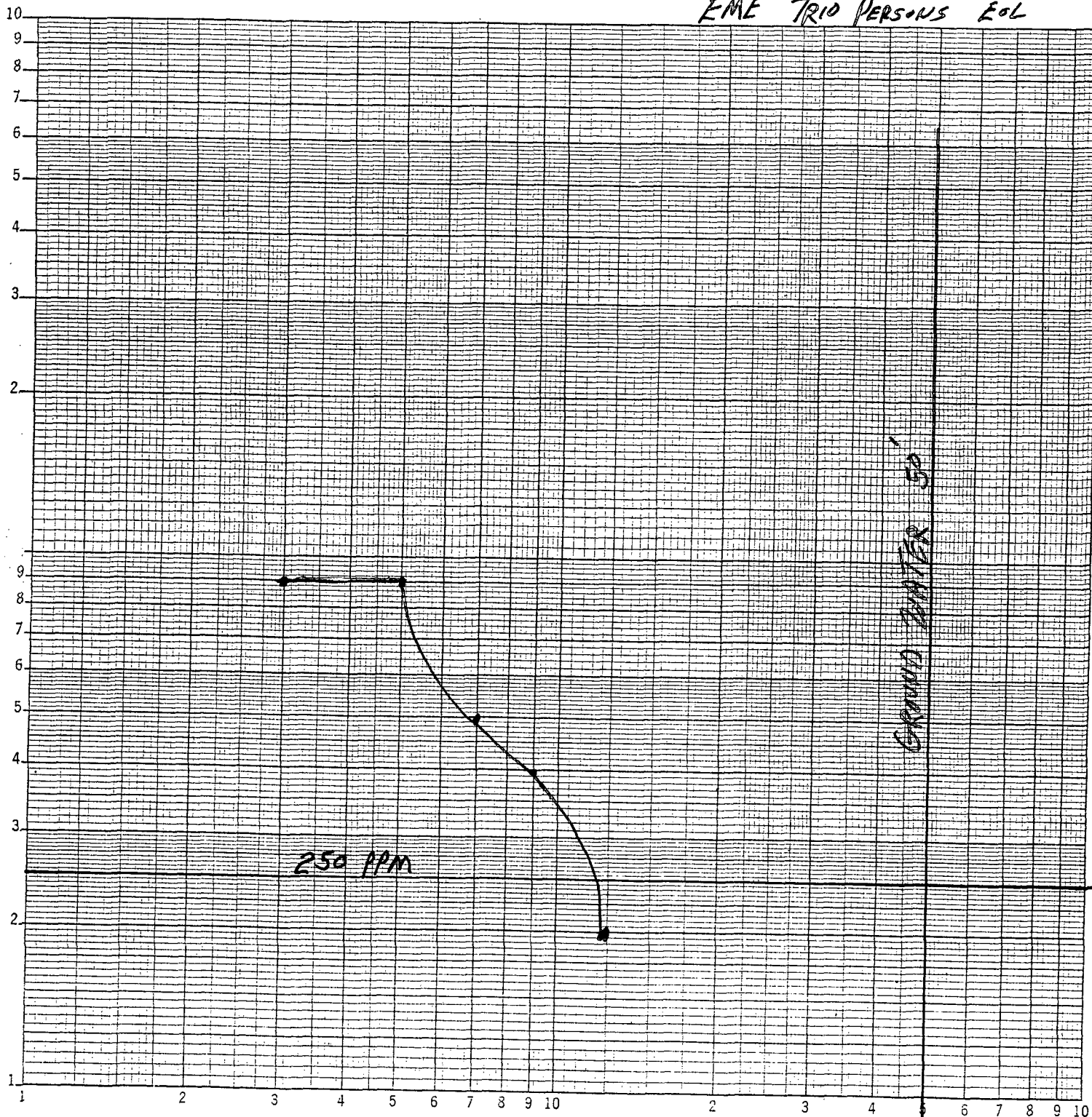
(PPM)

CHLORIDES

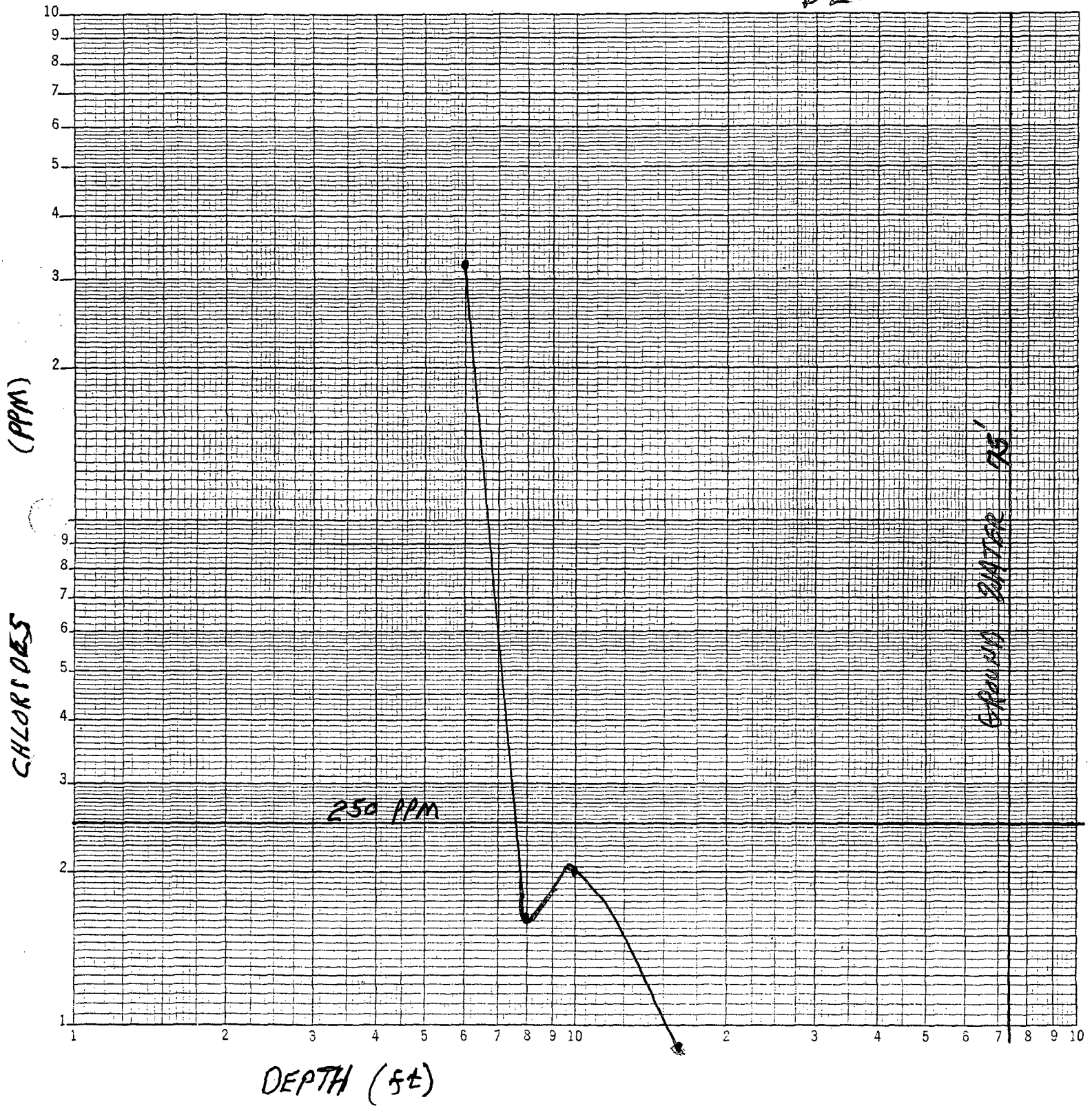
GROUND WATER 50'

250 PPM

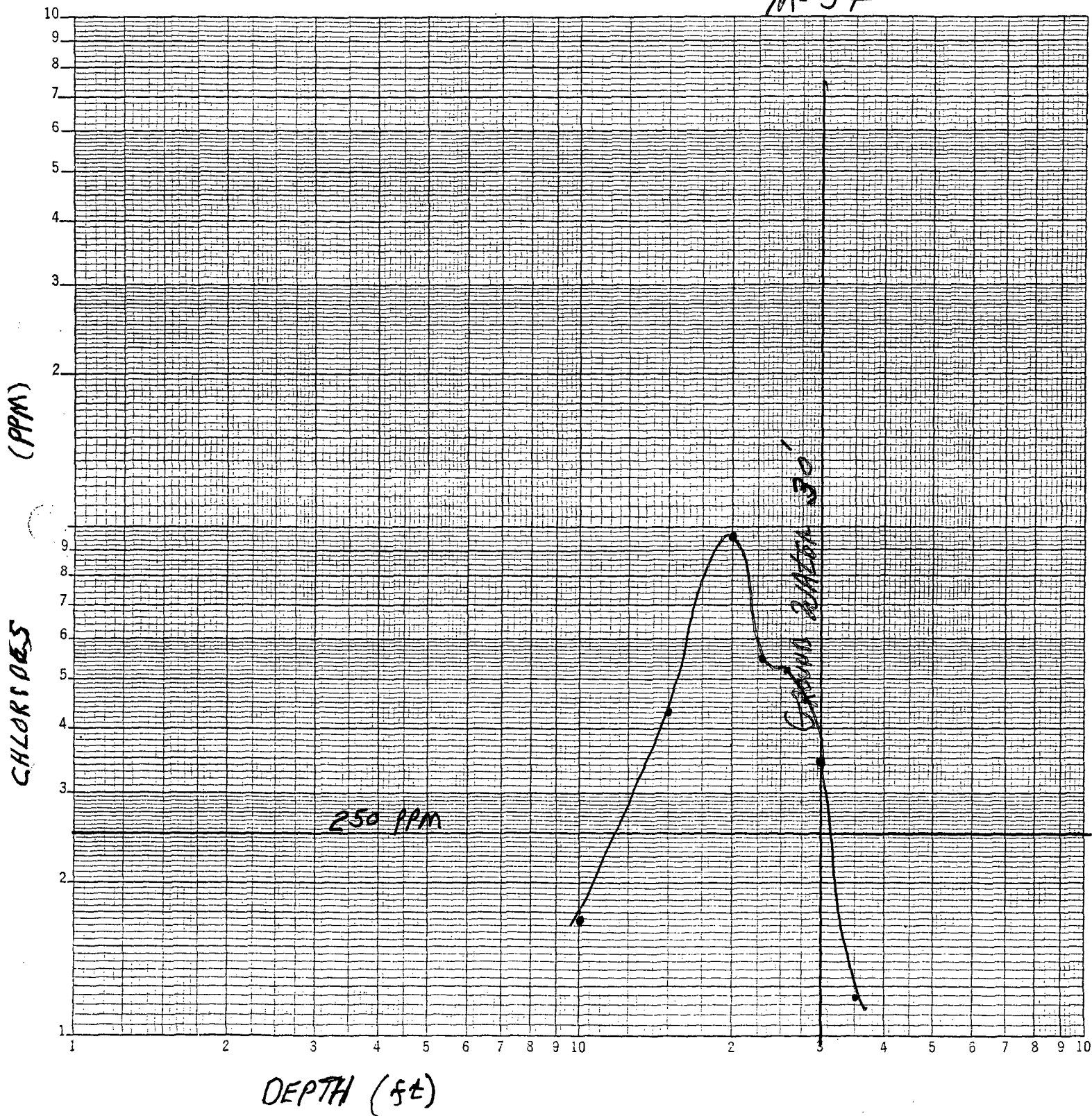
DEPTH (ft)



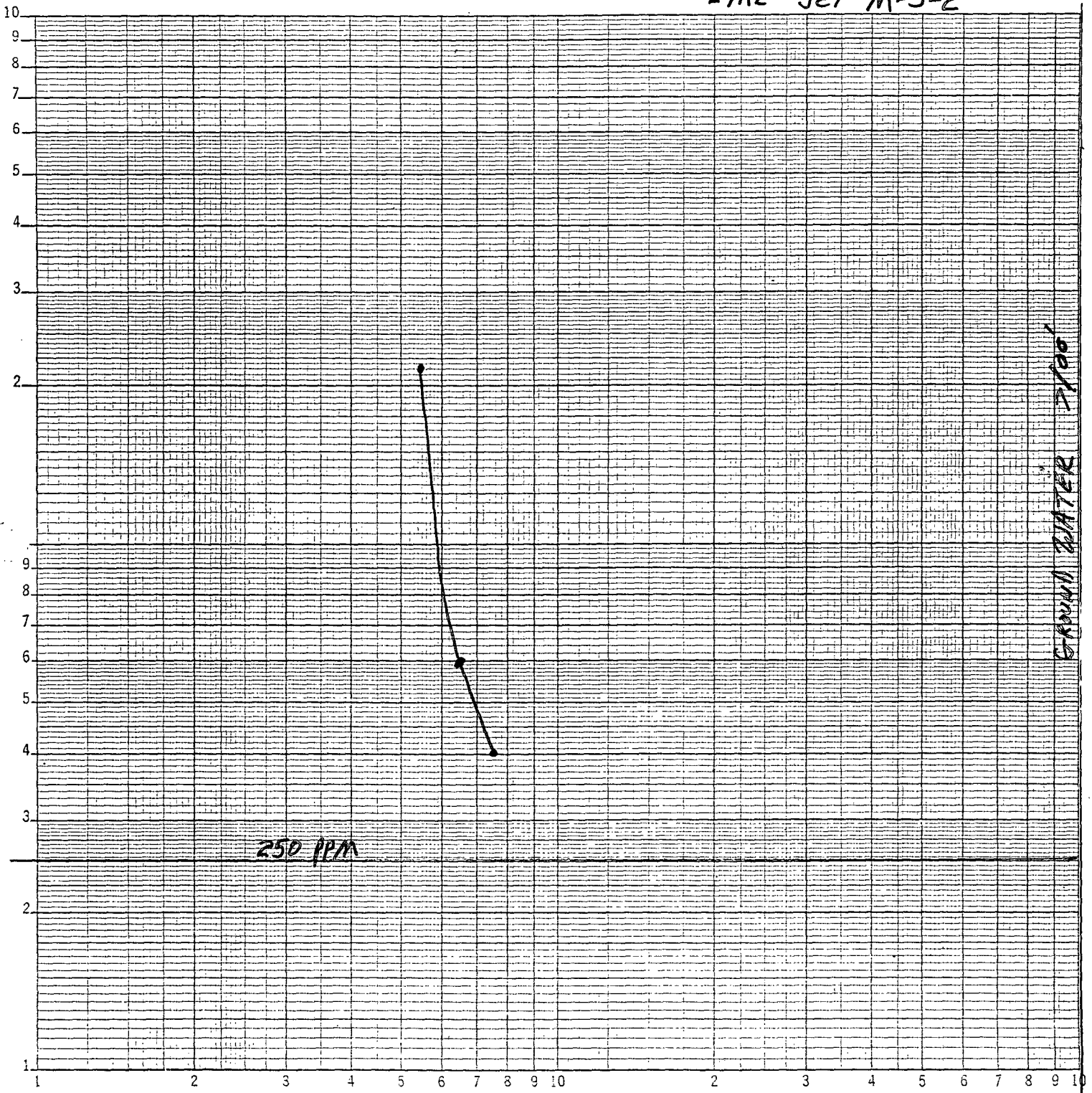
B-26



M-34



EME JCT M-3-2



0-17-2

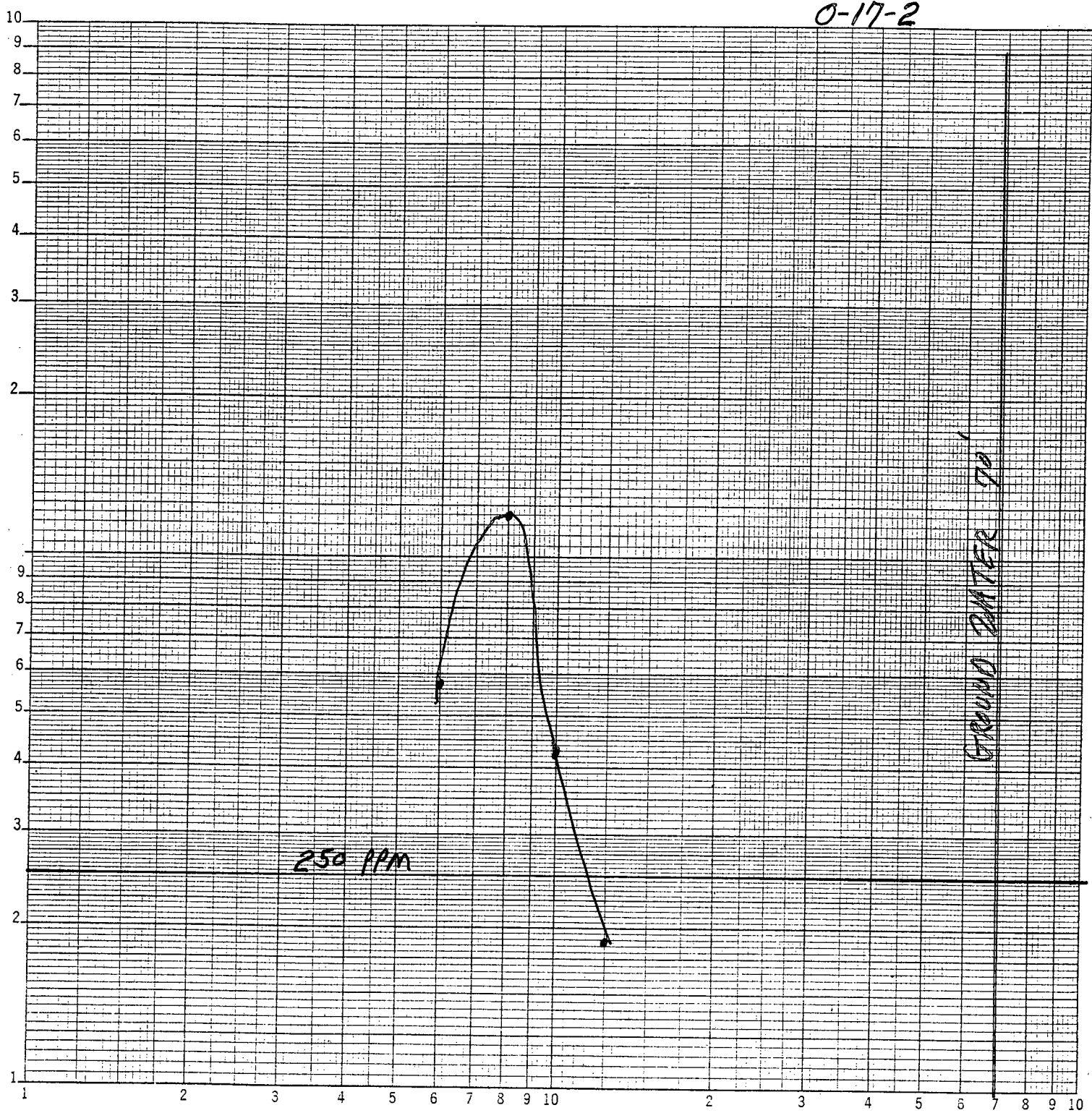
(PPM)

CHLORIDES

GROUND WATER 70'

250 PPM

DEPTH (ft)



L-25

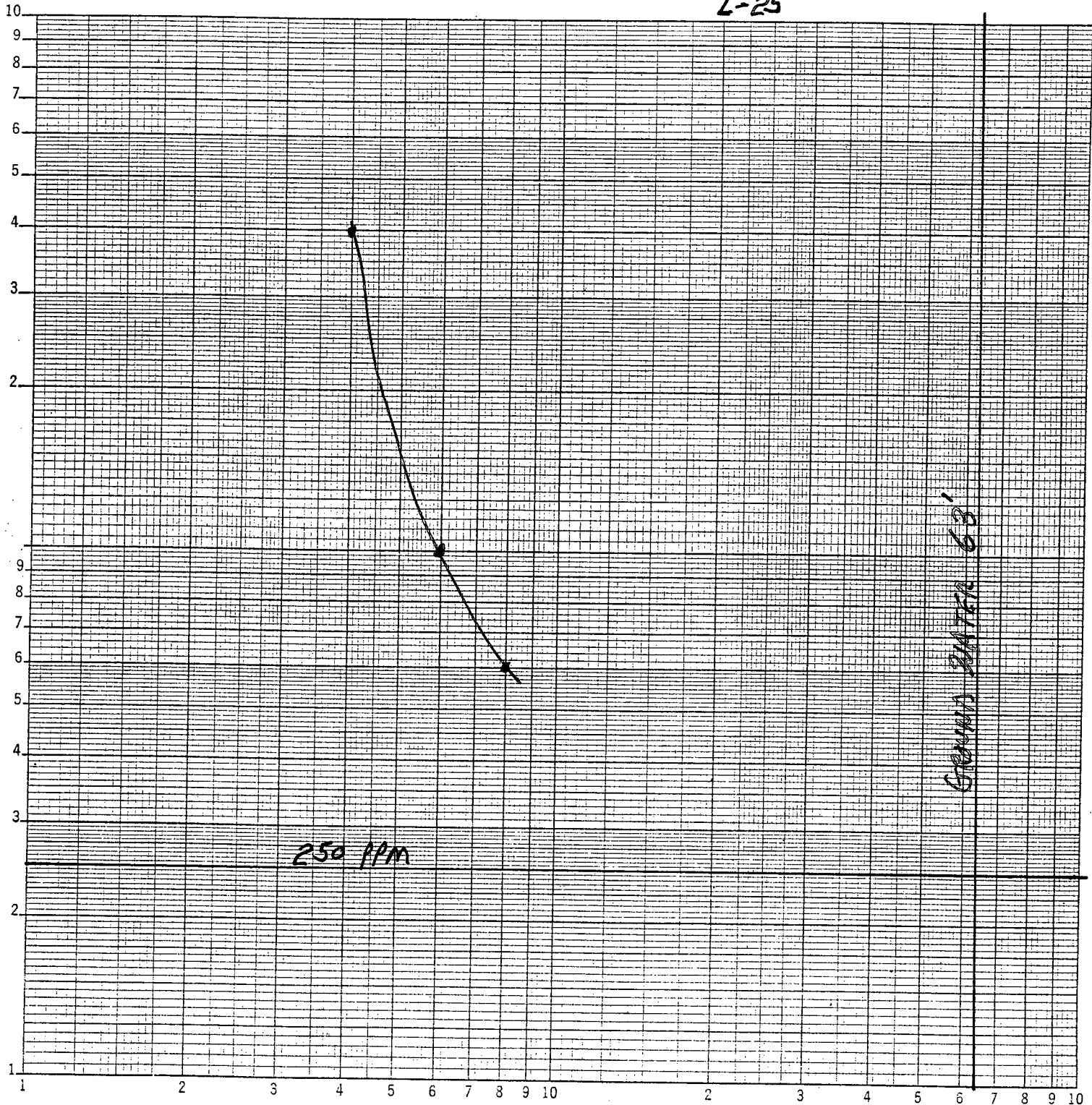
(PPM)

CHLORIDES

GROUND WATER 63'

250 PPM

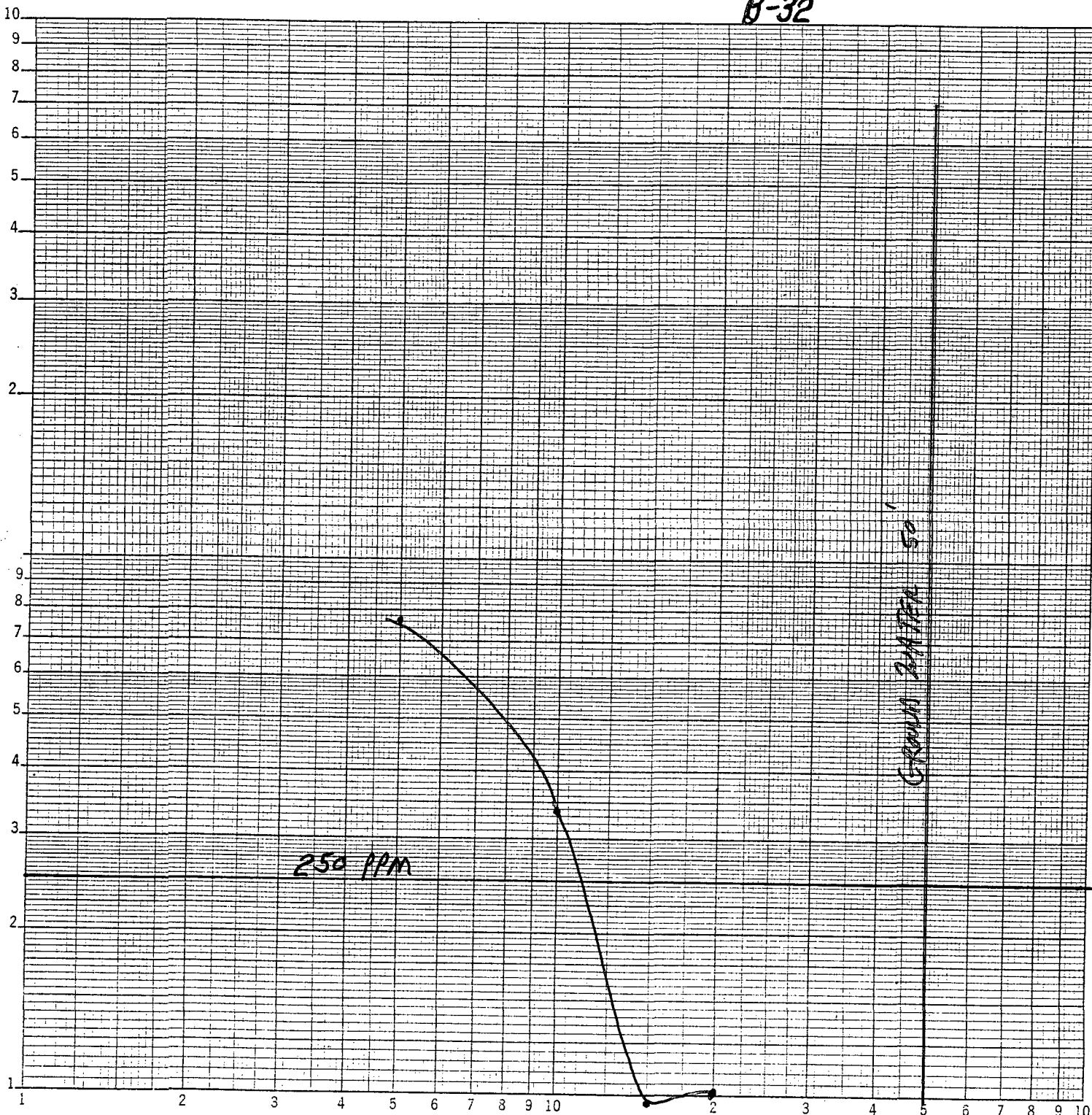
DEPTH (ft)



B-32

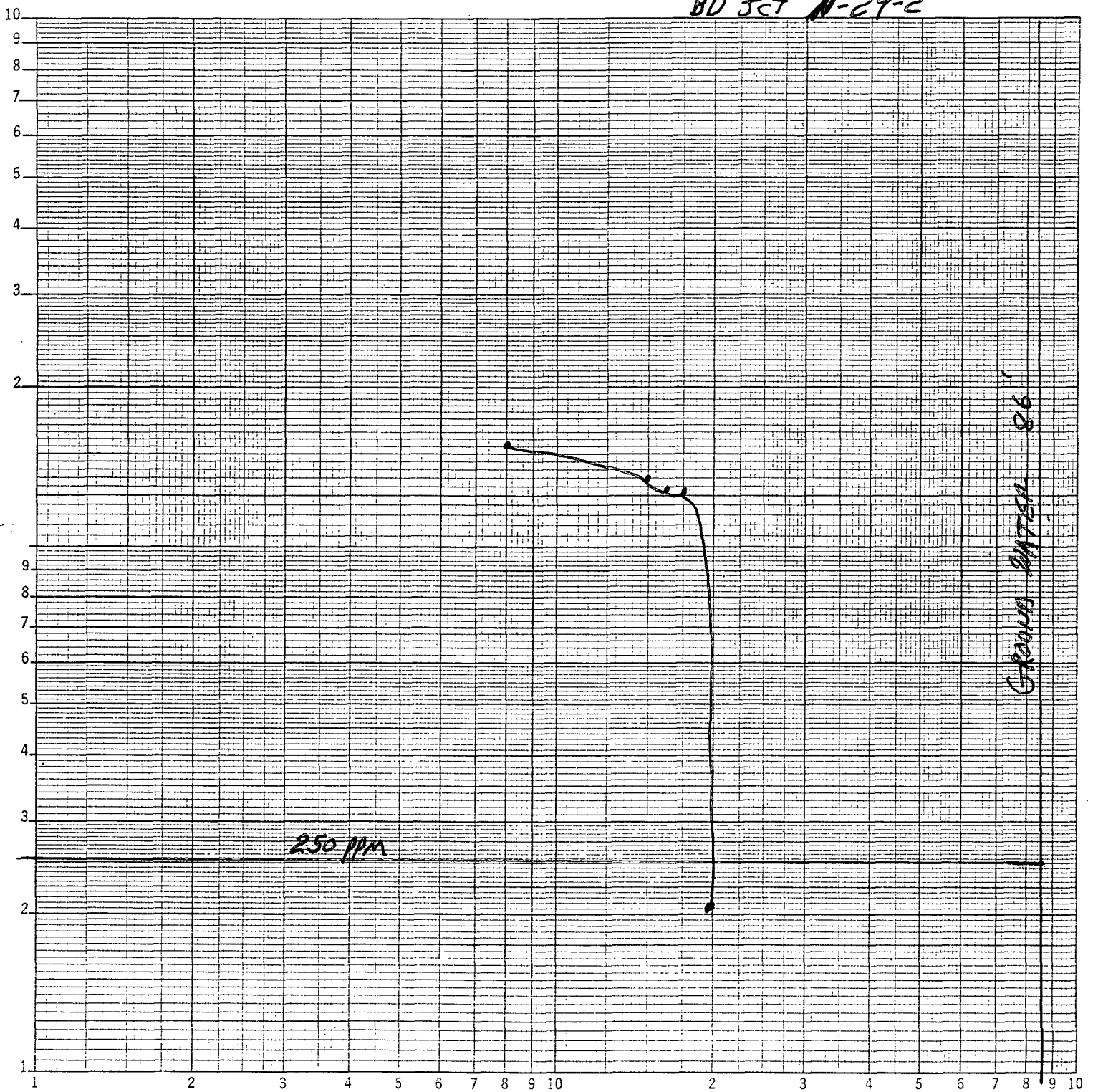
(PPM)

CHLORIDES



DEPTH (ft)

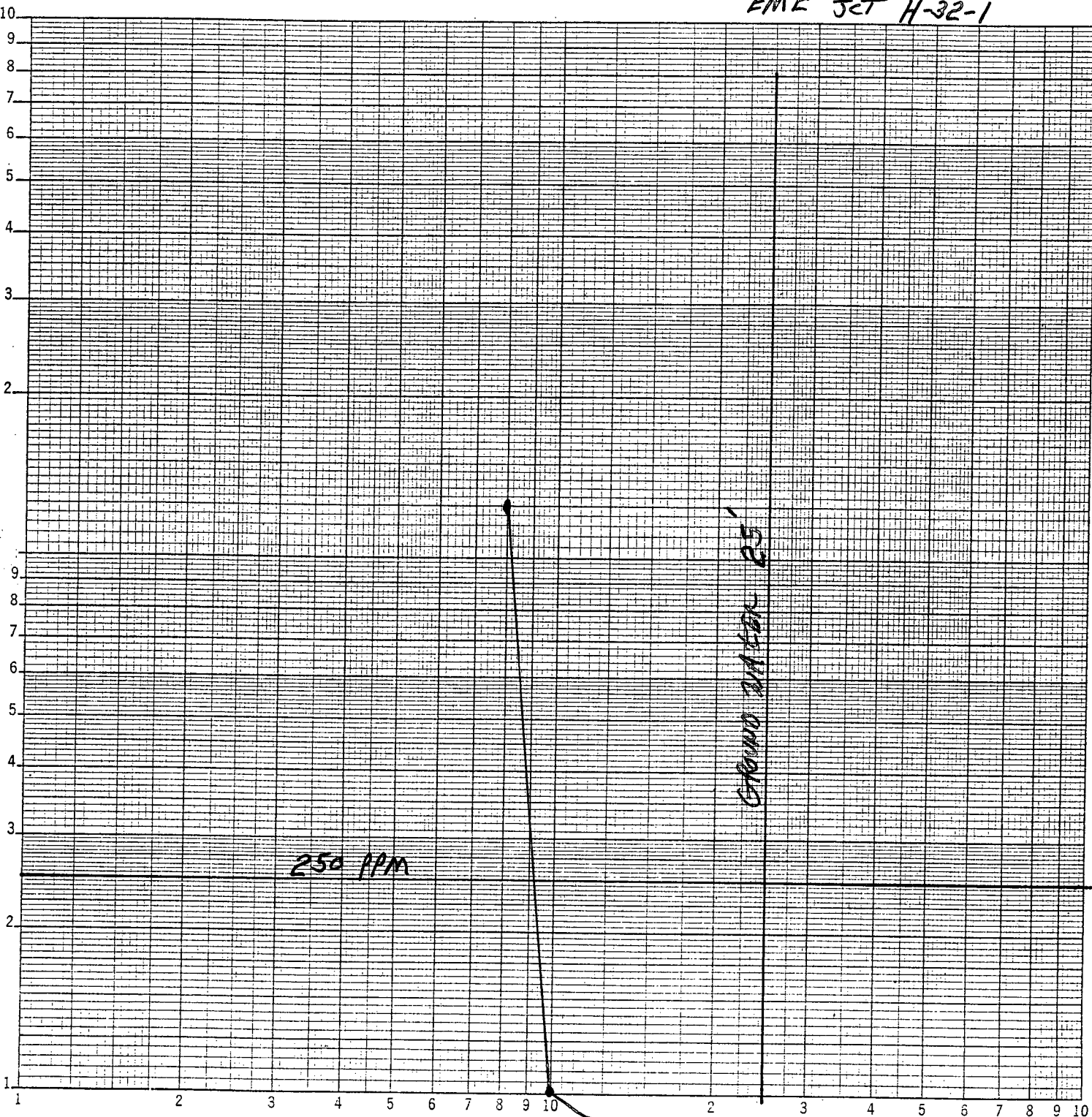
BD JCT N-29-2



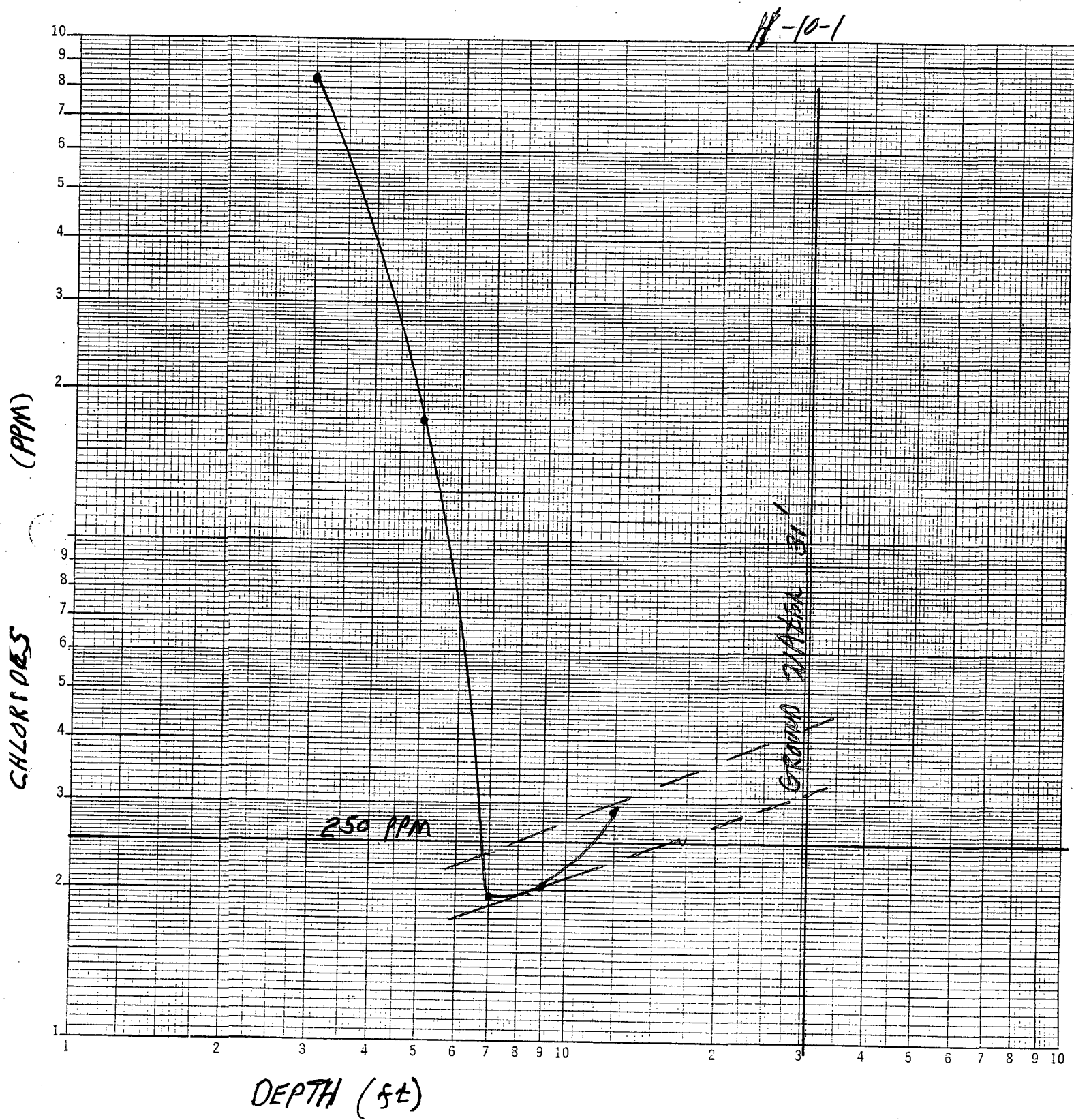
EMR JCT H-32-1

(PPM)

CHLORIDES



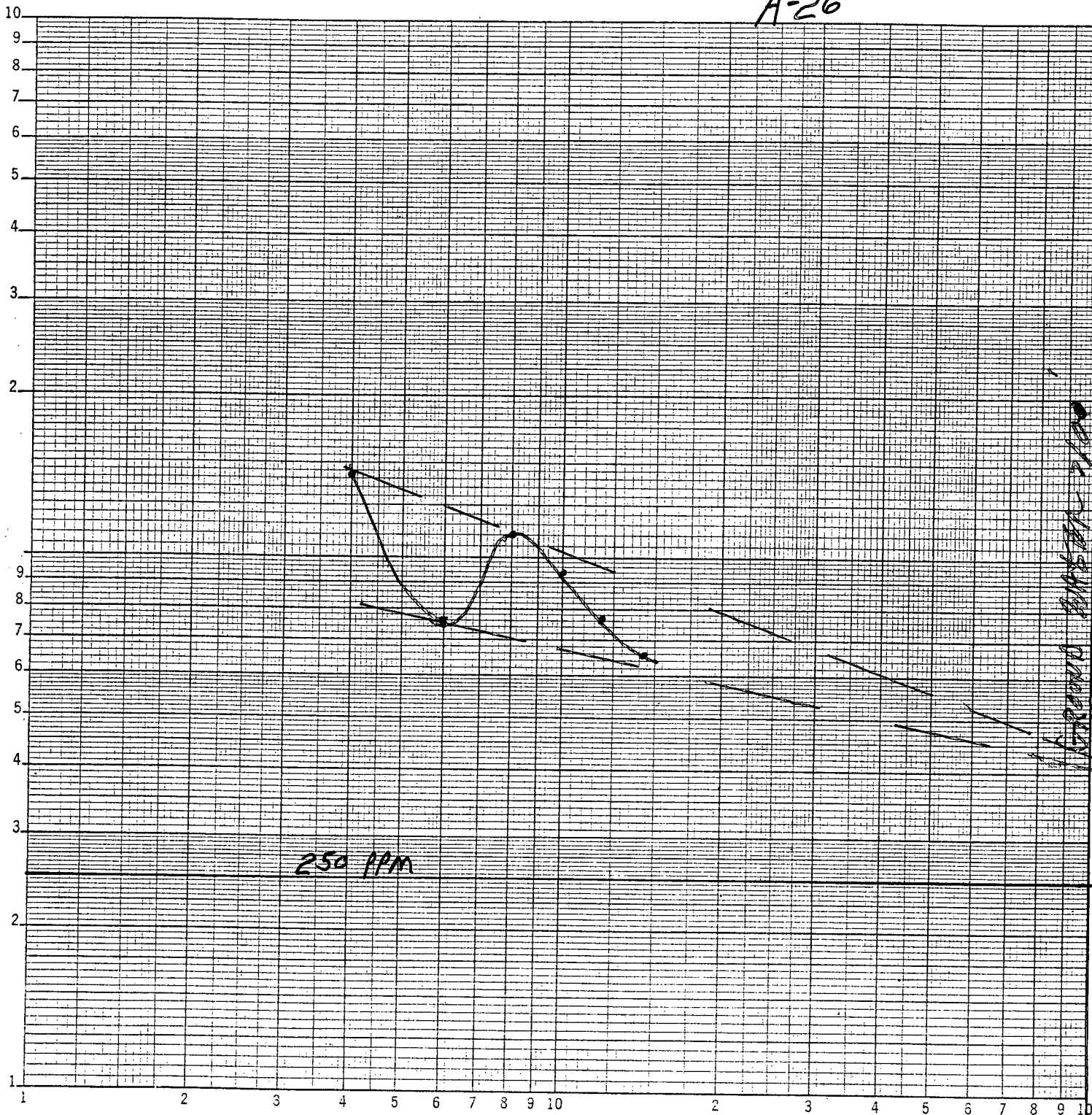
DEPTH (ft)



A-26

(PPM)

CHLORIDES



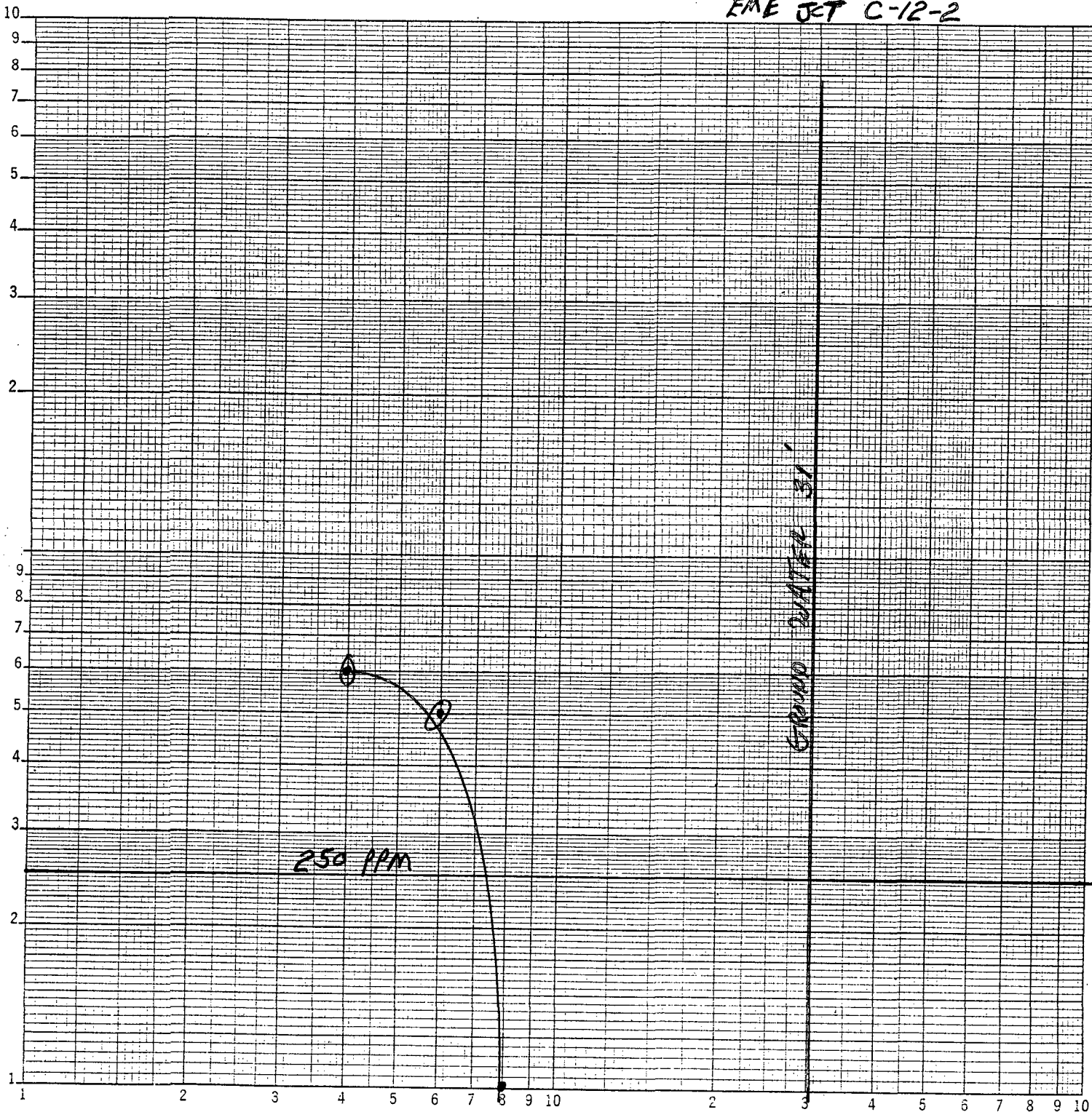
DEPTH (ft)

GROUND WATER

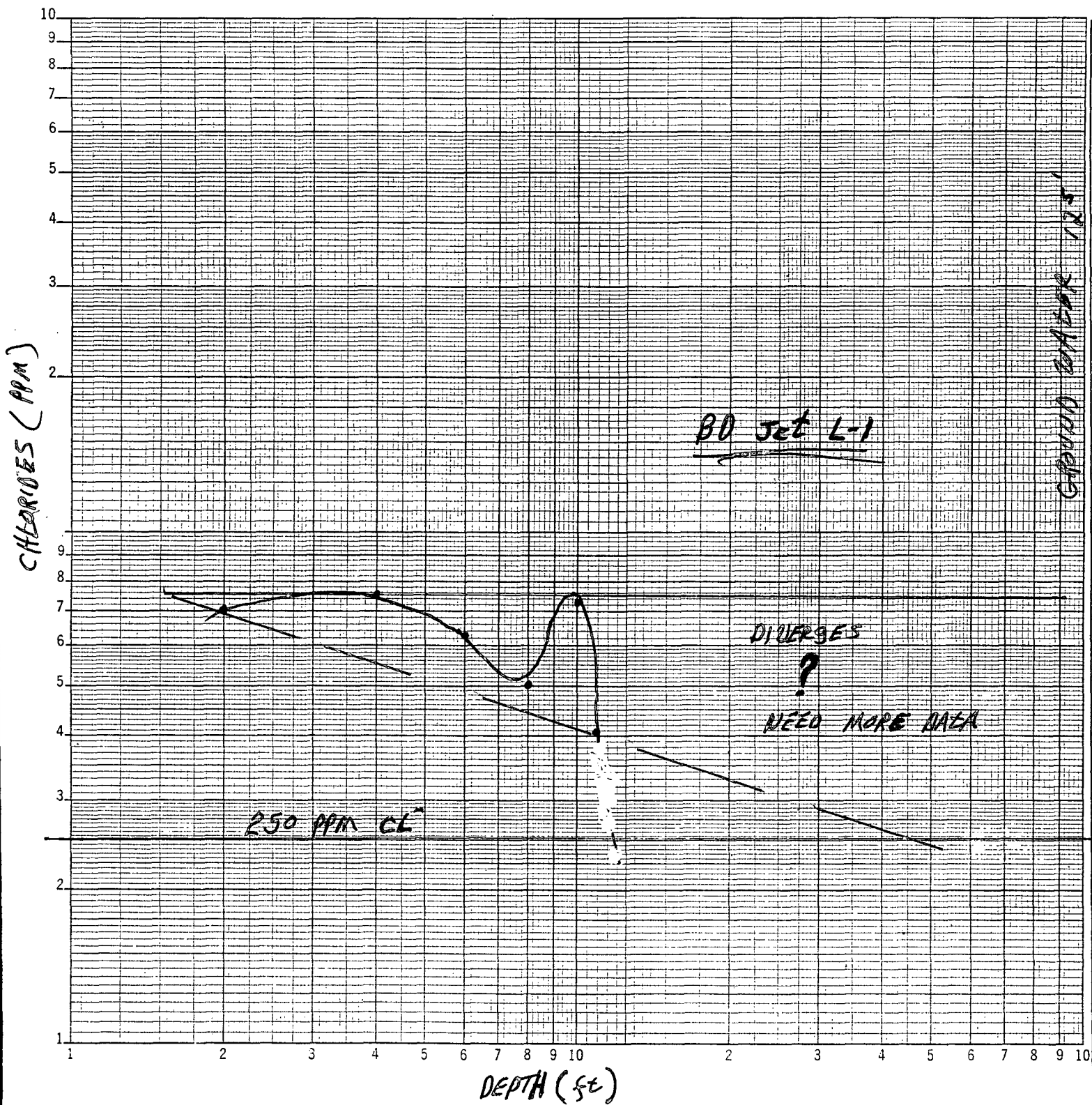
FME JET C-12-2

(PPM)

CHLORIDES



DEPTH (ft)



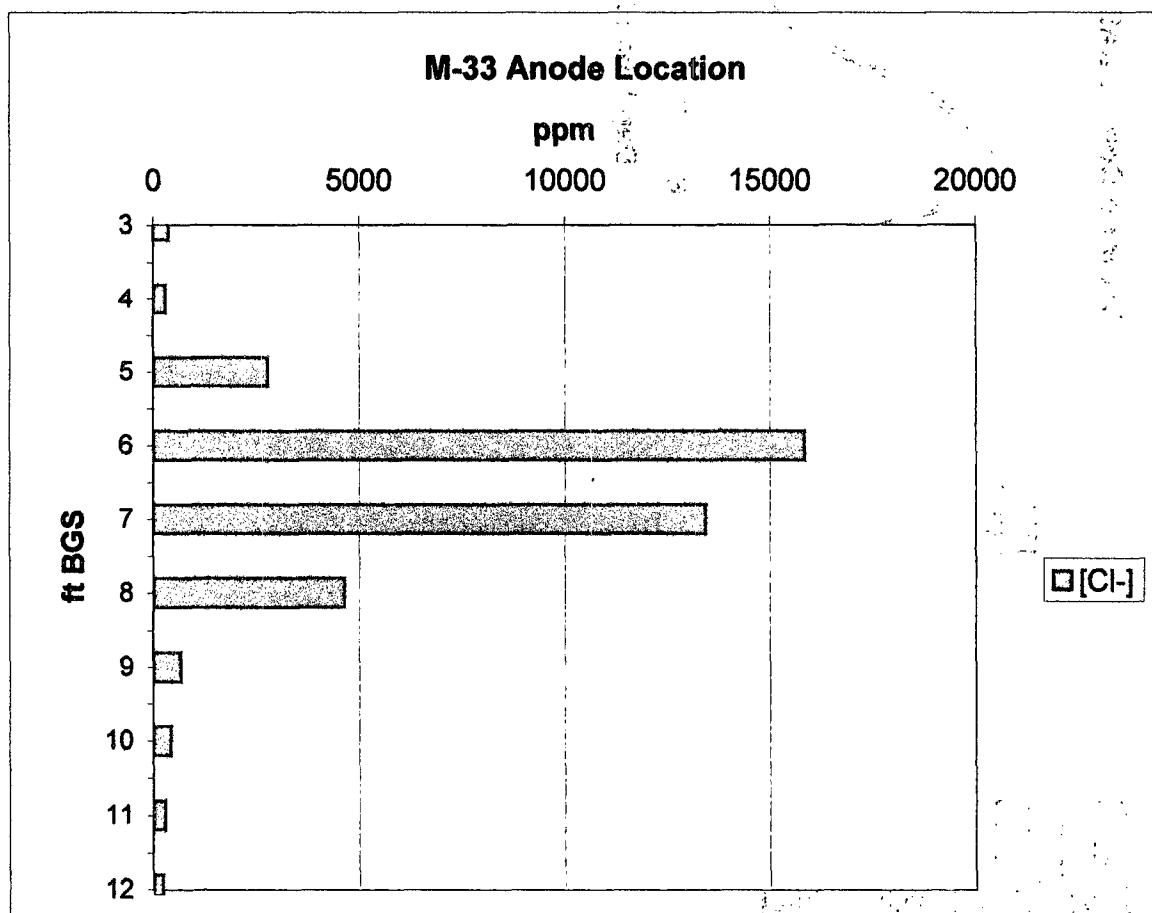
GROUNDWATER DEPTH FOR CLOSURE SITE GRAPHS

SYSTEM	SITE NAME	DEPTH TO GROUNDWATER
✓ EME	H-10-1	31
✓ EME	K-1	26
✓ EME	H-2	none
✓ EME	B-32	<50
✓ EME	C-12-1	31
✓ EME	C-12-2	31
✓ EME	C-12 NORTH	31
✓ EME	A-2	27
✓ EME	T-27 (Trio Persons)	<50
✓ EME	M-34	30
✓ EME	A-26	>100
✓ EME	L-25	63
✓ EME	M-3-2	>100
✓ EME	H-32-1	25
✓ BD	L-1	125
✓ BD	B-4-1(leak site)	93
✓ BD	O-17-2	70
✓ BD	N-29-1	86
✓ BD	N-29-2	86
✓ JUSTIS	B-26	75

EME M-33 SWD Buried anode location.

September 10, 2002 Bored with rotary air drill to 12 ft BGS

ft BGS	[Cl-] ppm	Description
3	380	Caliche
4	295	Caliche Sande
5	2783	Red & Brown Sand
6	15848	"
7	13437	"
8	4653	"
9	669	"
10	425	"
11	286	"
12	225	"

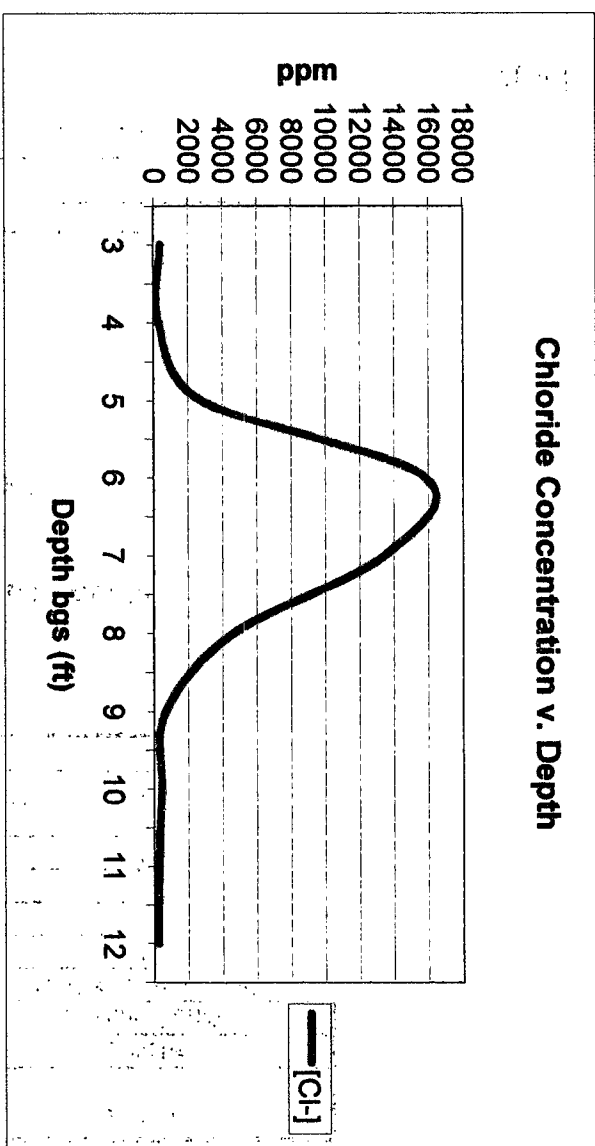


CHLORIDE CONCENTRATION CURVE

RICE Operating Company

EME M-33 SWD
Buried Anode Bed

Depth bgs (ft)	[Cl-] ppm
3	380
4	295
5	2783
6	15848
7	13437
8	4653
9	669
10	425
11	286
12	225

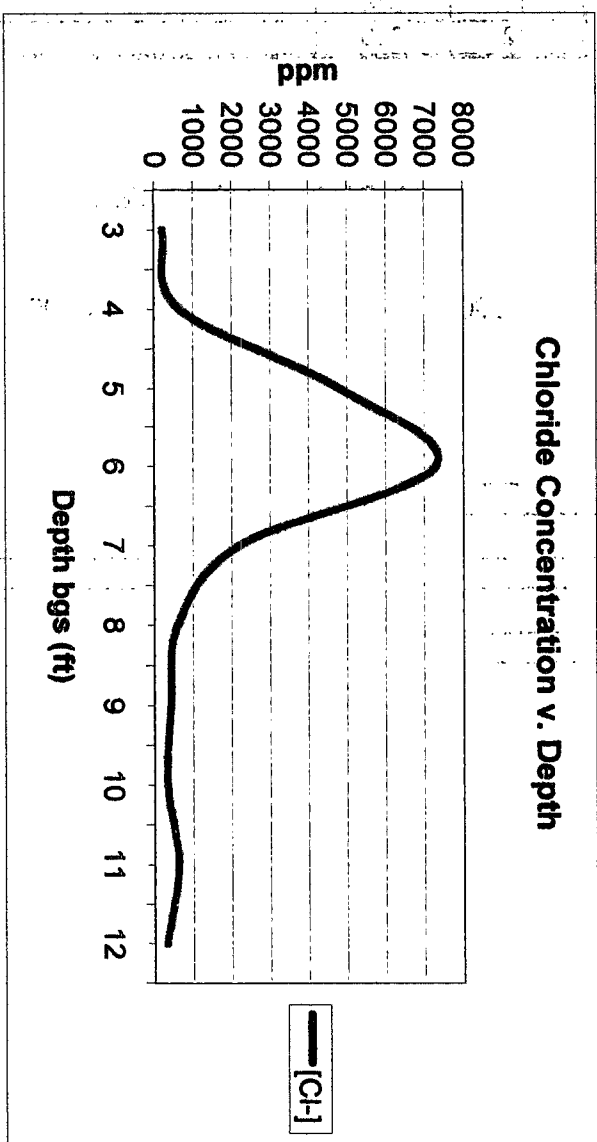


CHLORIDE CONCENTRATION CURVE

RICE Operating Company

EME L-21 SWD
Buried Anode Bed

Depth bgs (ft)	[Cl-] ppm
3	203
4	653
5	4800
6	7304
7	2212
8	608
9	419
10	335
11	614
12	316



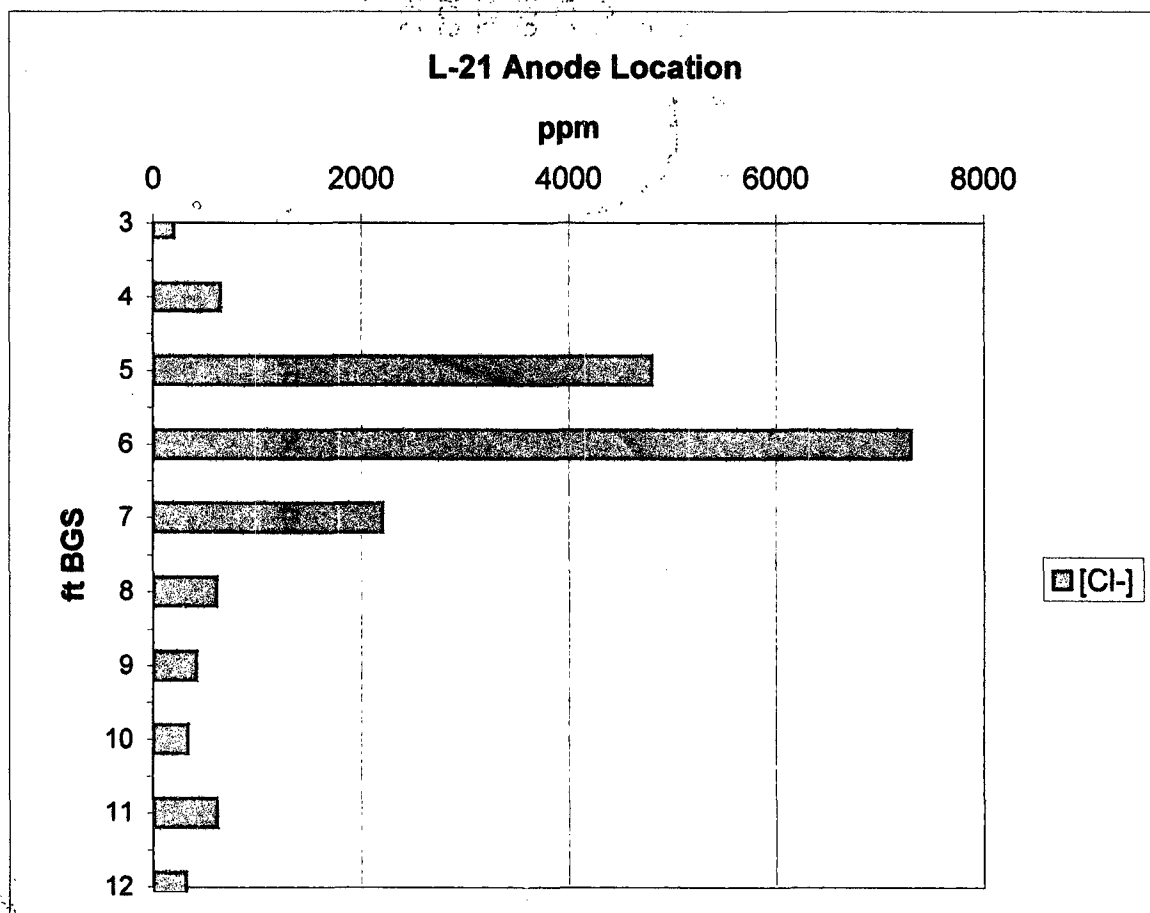
EME L-21 SWD Buried anode location.

September 10, 2002 Bored with rotary air drill to 12 ft BGS

Line at 4'BGS:

RO water used to
test is 35-50 ppm Cl-

ft BGS	[Cl-] ppm	Description
3	203	Brown sand w/clay
4	653	Sand w/caliche & clay
5	4800	Clay & caliche
6	7304	Sand & caliche
7	2212	"
8	608	Tan sand
9	419	"
10	335	Brown sand
11	614	"
12	316	"



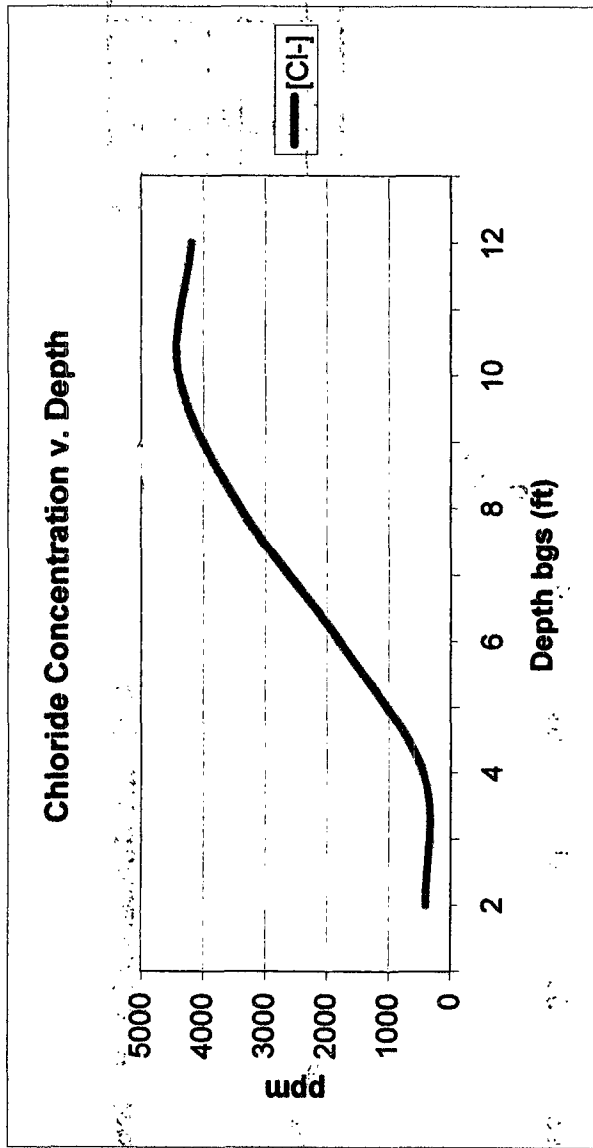
CHLORIDE CONCENTRATION CURVE

RICE Operating Company

BD jct. M-14

T21S, R37E

Depth bgs (ft)	[Cl-] ppm
2	400
4	440
6	1800
8	3400
10	4400
12	4200



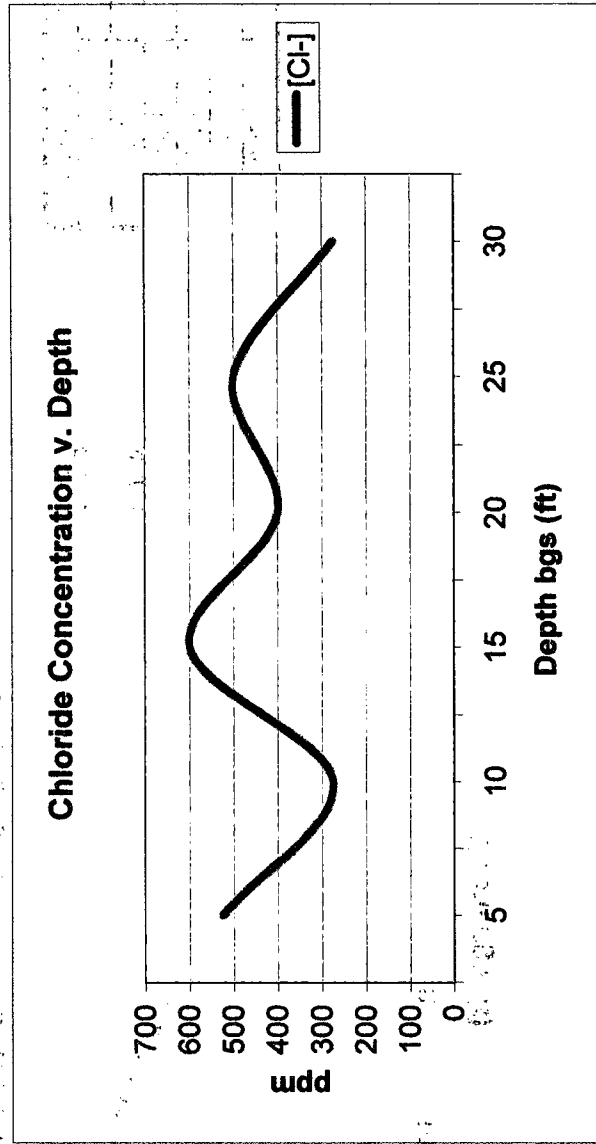
1/2 cycle length 6'

CHLORIDE CONCENTRATION CURVE

RICE Operating Company

EME P-6 Leak
T20S, R37E

Depth bgs (ft)	[Cl-] ppm
5	525
10	275
15	600
20	400
25	500
30	275

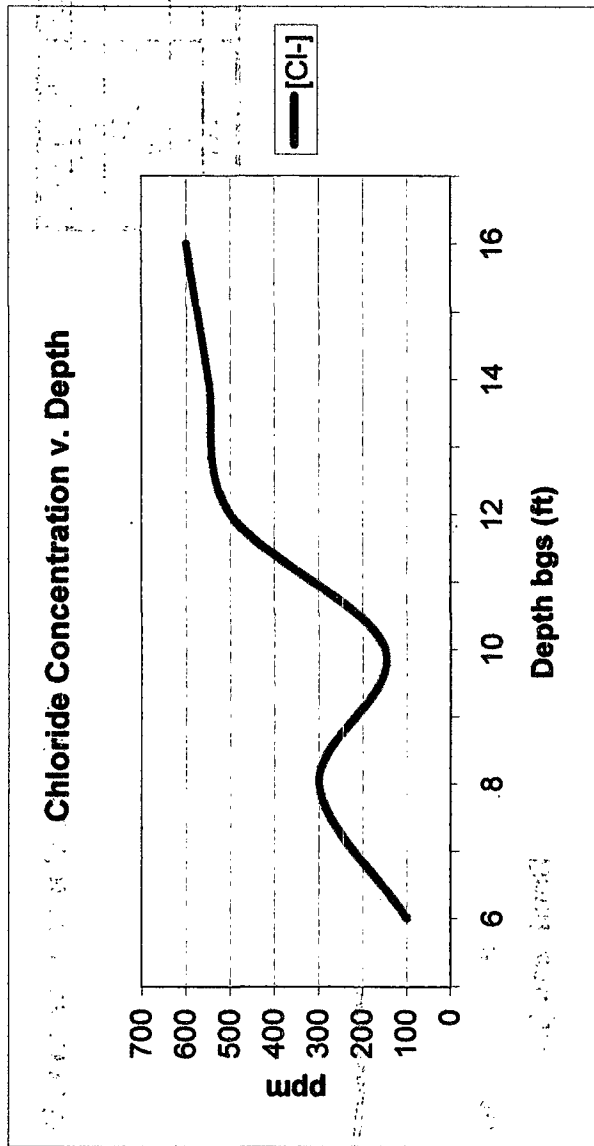


Chloride-Impacted groundwater encountered at 33 feet

EME jet. D-3

T20S, R37E

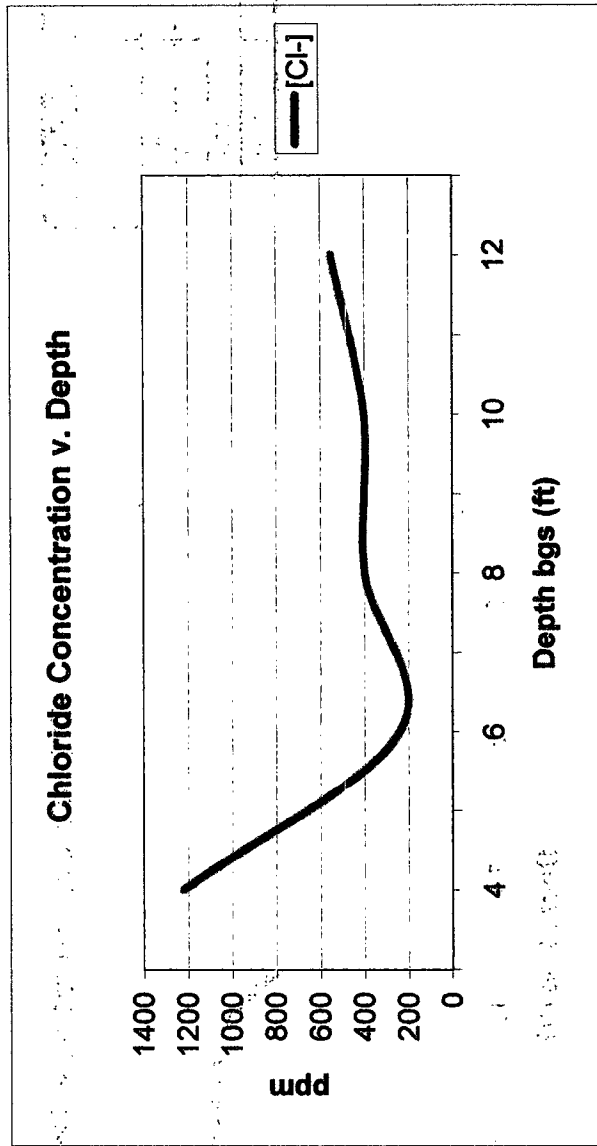
Depth bgs (ft)	[Cl-] ppm
6	100
8	300
10	150
12	500
14	550
16	600



EME jct. H-10

T20S, R36E

Depth bgs (ft)	[Cl-] ppm
4	1223
6	241
8	399
10	402
12	552



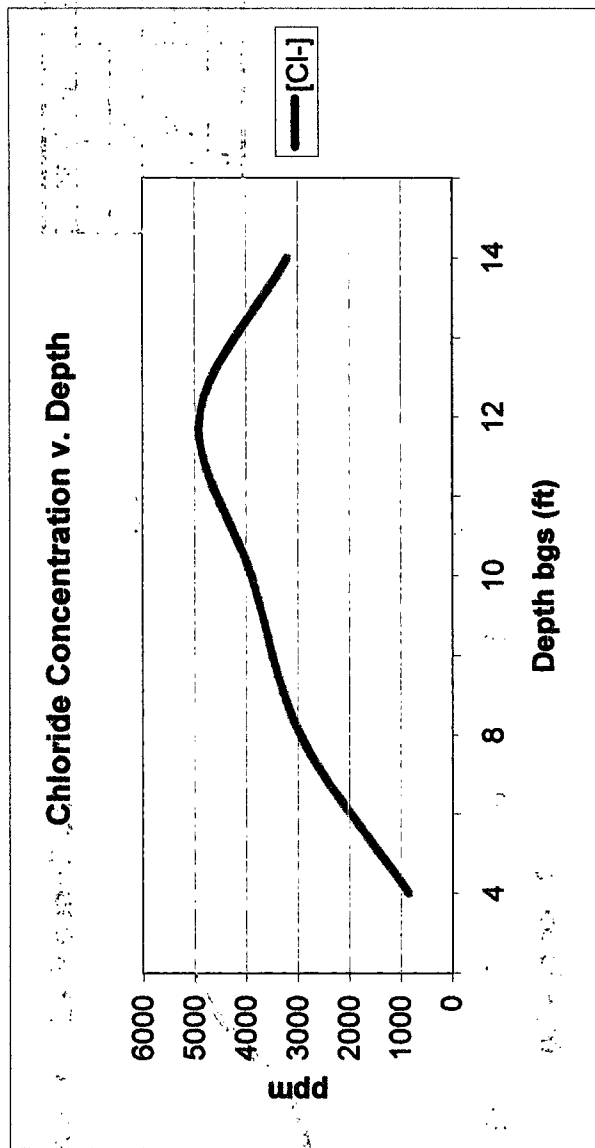
CHLORIDE CONCENTRATION CURVE

RICE Operating Company

BD jct. K-27-1

T21S, R37E

Depth bgs (ft)	[Cl-] ppm
4	850
8	2950
10	3900
12	4900
14	3200



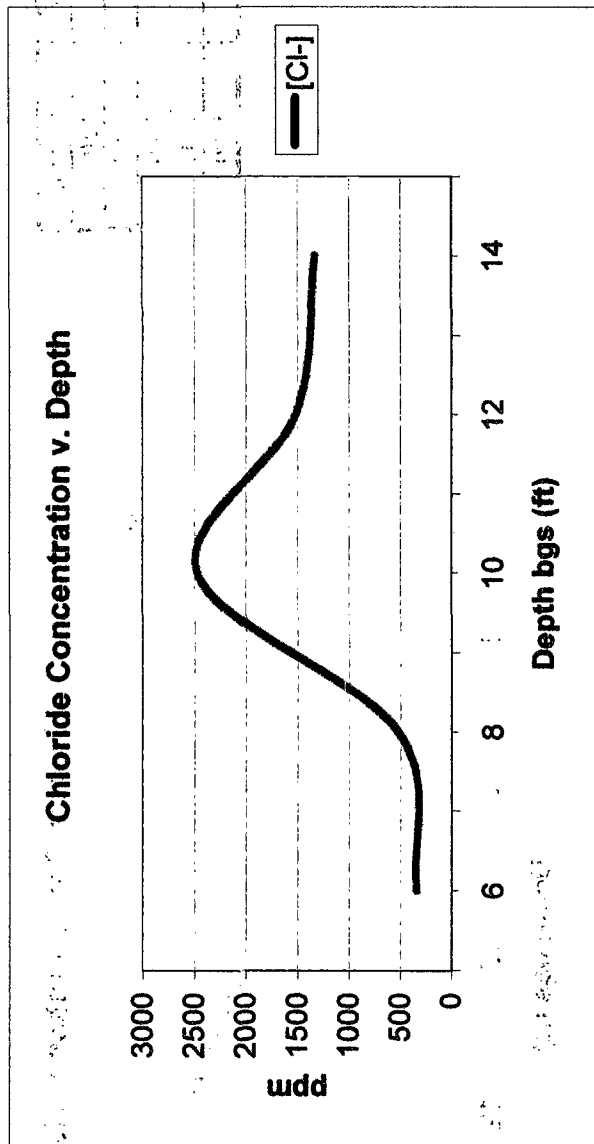
CHLORIDE CONCENTRATION CURVE

RICE Operating Company

BD jet. C-16

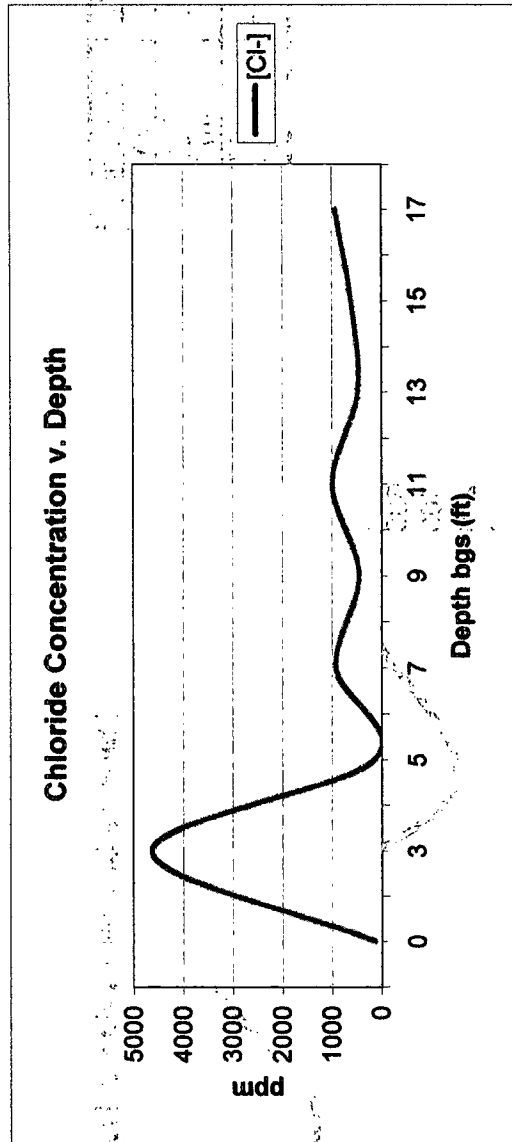
T22S, R37E

Depth bgs (ft)	[Cl-] ppm
6	340
8	520
10	2475
12	1520
14	1330



EME jct. J-10
T20S, R36E

Depth bgs (ft)	[Cl ⁻] ppm
0	140
3	4640
5	145
7	920
9	450
11	993
13	474
15	614
17	936

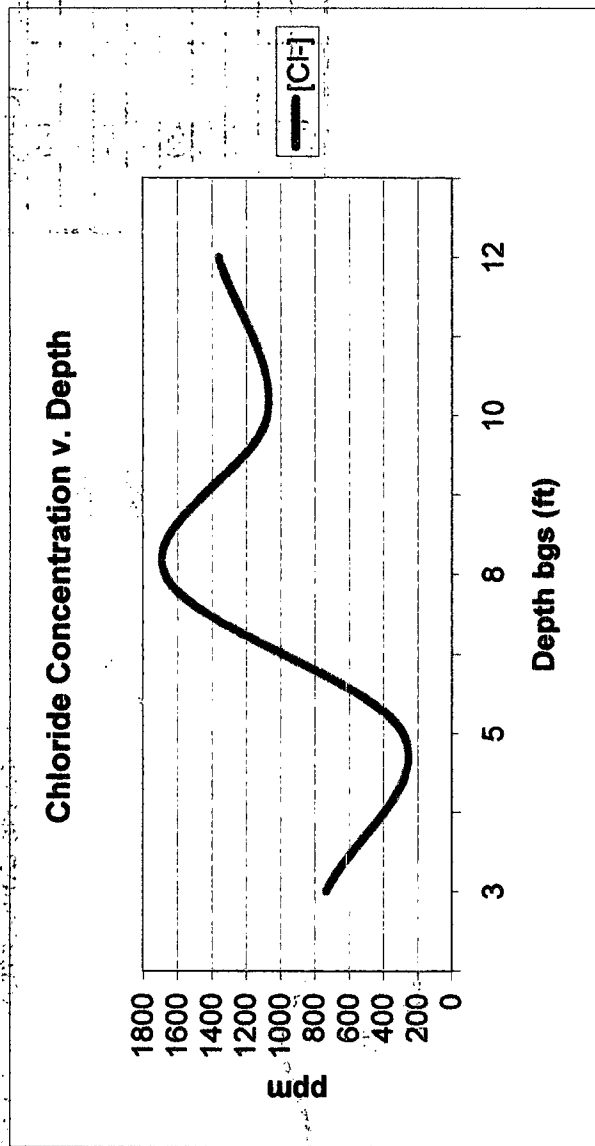


CHLORIDE CONCENTRATION CURVE

RICE Operating Company

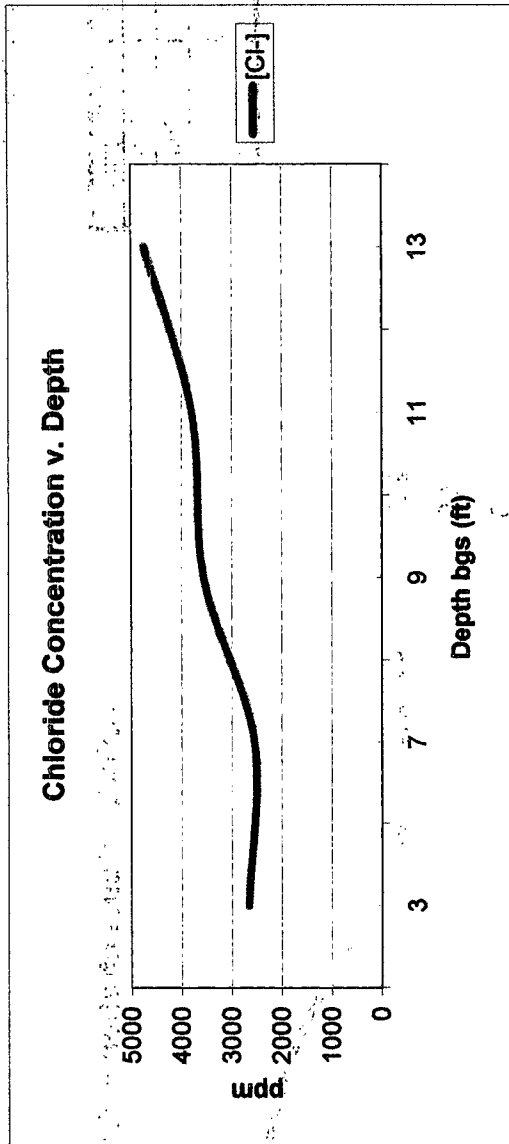
EME jct. K-35
T20S, R36E

Depth bgs (ft)	[Cl-] ppm
3	736
5	287
8	1677
10	1077
12	1362



BD Cole 'A' EOL
 UL 'G', Sec. 16, T22S, R37E

Depth bgs (ft)	[Cl-] ppm
3	2660
7	2550
9	3560
11	3800
13	4750



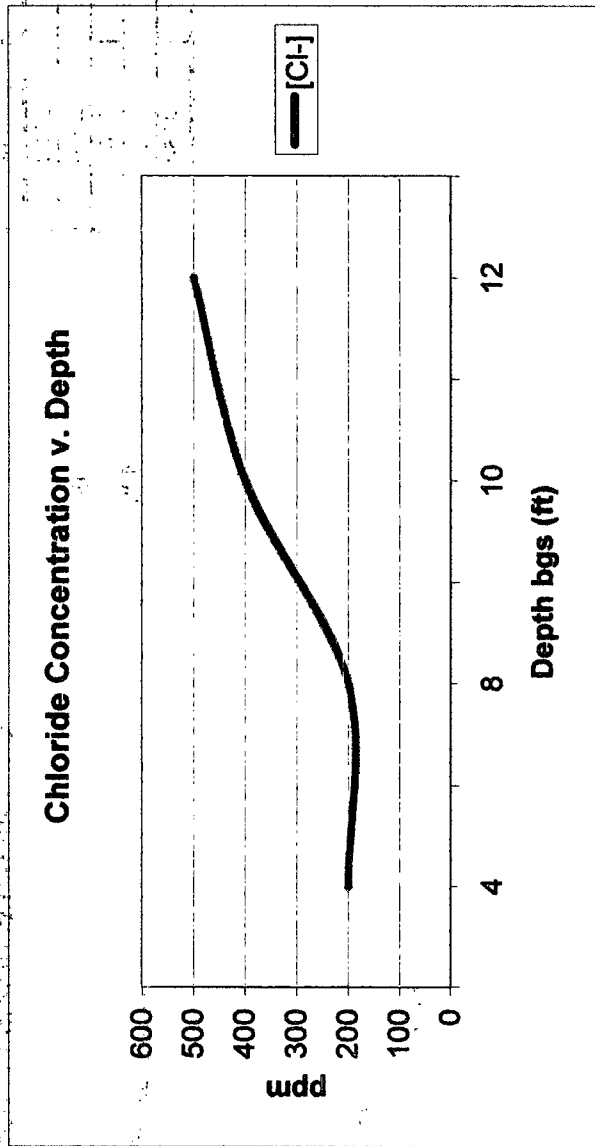
CHLORIDE CONCENTRATION CURVE

RICE Operating Company

BD Grizzel EOL

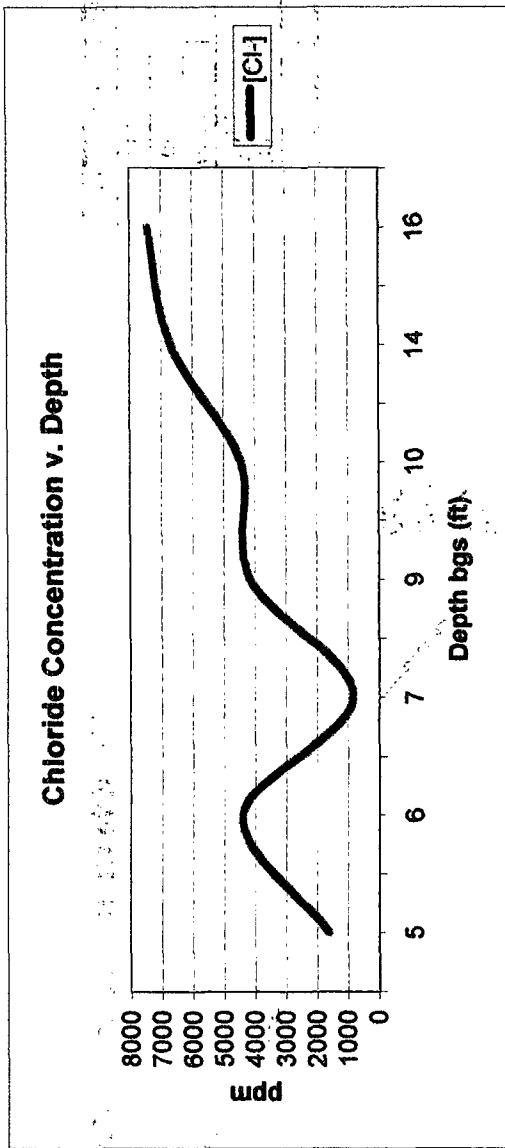
UL 'G', Sec. 8, T22S, R37E

Depth bgs (ft)	[Cl-] ppm
4	200
8	200
10	400
12	500



BD jct. I-8
T22S, R37E

Depth bgs (ft)	[Cl-] ppm
5	1617
6	4397
7	837
9	4157
10	4450
14	6700
16	7450



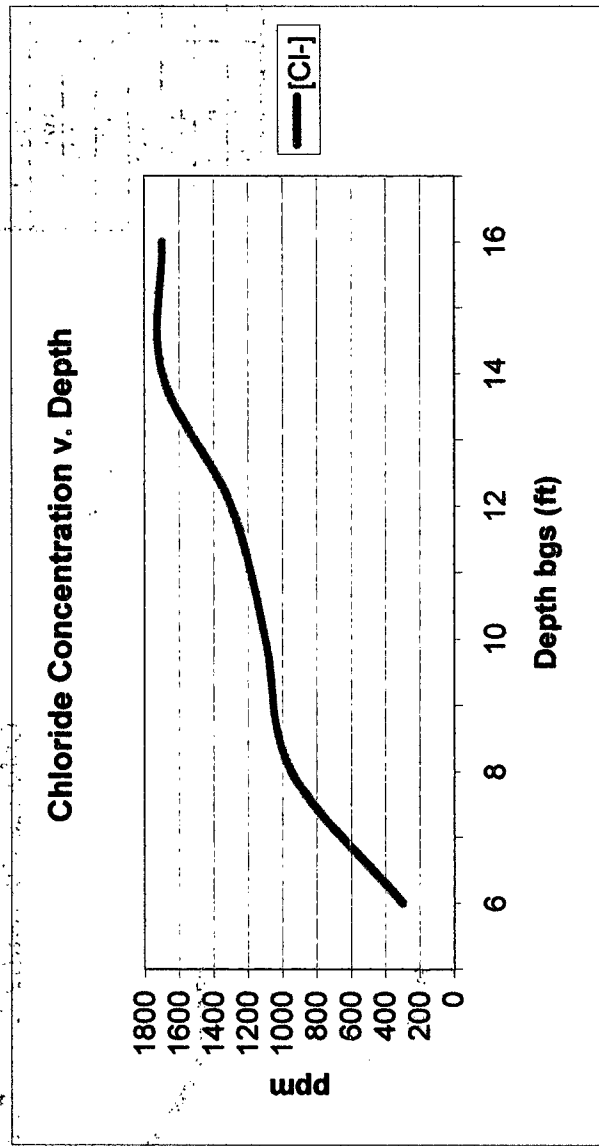
CHLORIDE CONCENTRATION CURVE

RICE Operating Company

EME jct. E-5

T20S, R37E

Depth bgs (ft)	[Cl-] ppm
6	300
8	950
10	1100
12	1300
14	1700
16	1700

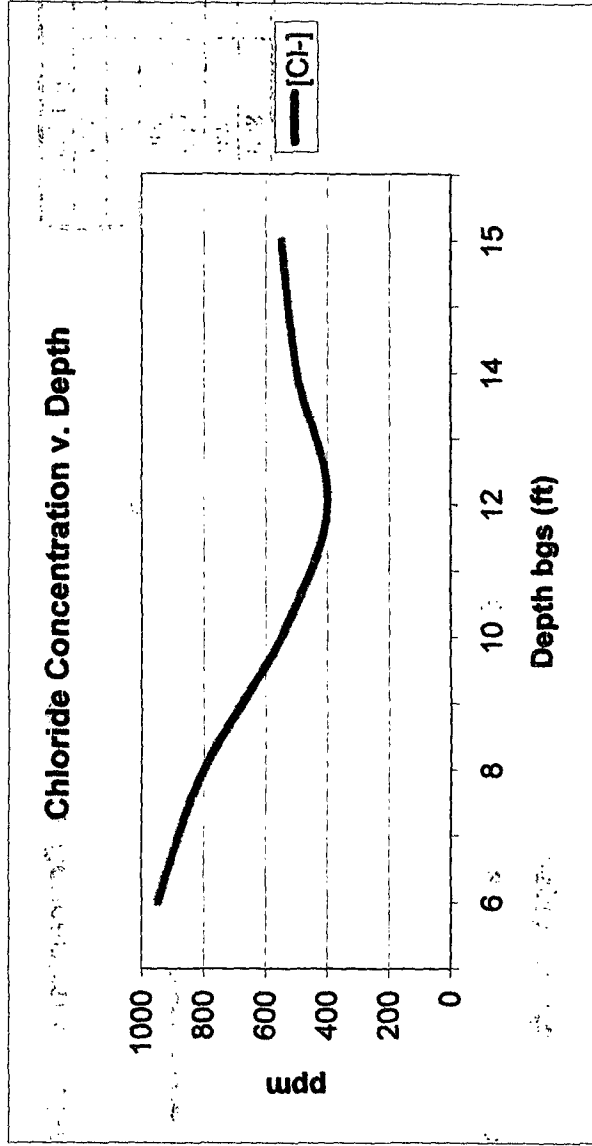


A soil bore was later conducted at this site and groundwater impact was encountered.

EME jct. O-33

T19S, R37E

Depth bgs (ft)	[Cl-] ppm
6	950
8	800
10	550
12	400
14	500
15	550

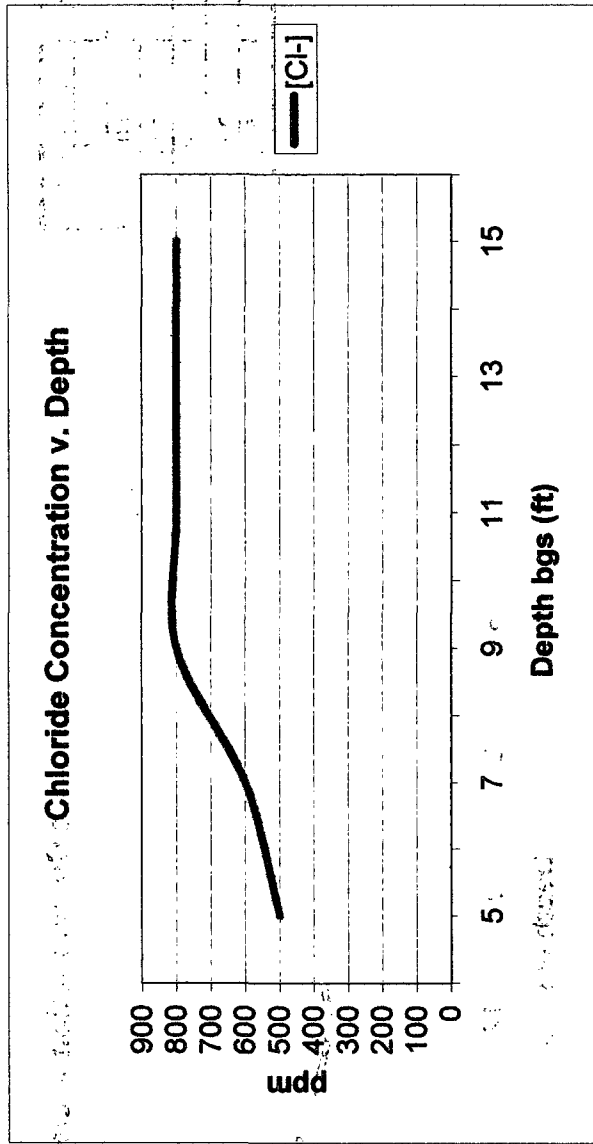


CHLORIDE CONCENTRATION CURVE

RICE Operating Company

EME jct. D-25
T20S, R36E

Depth bgs (ft)	[Cl-] ppm
5	500
7	600
9	800
11	800
13	800
15	800



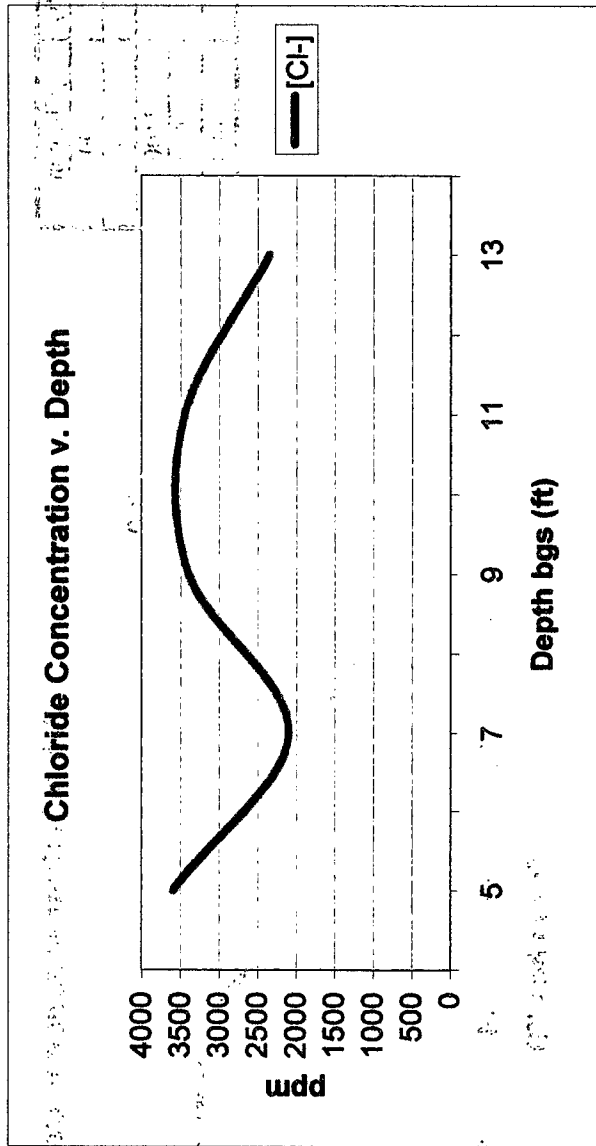
CHLORIDE CONCENTRATION CURVE

RICE Operating Company

BD jct. F-3

T22S, R37E

Depth bgs (ft)	[Cl-] ppm
5	3600
7	2100
9	3400
11	3450
13	2350



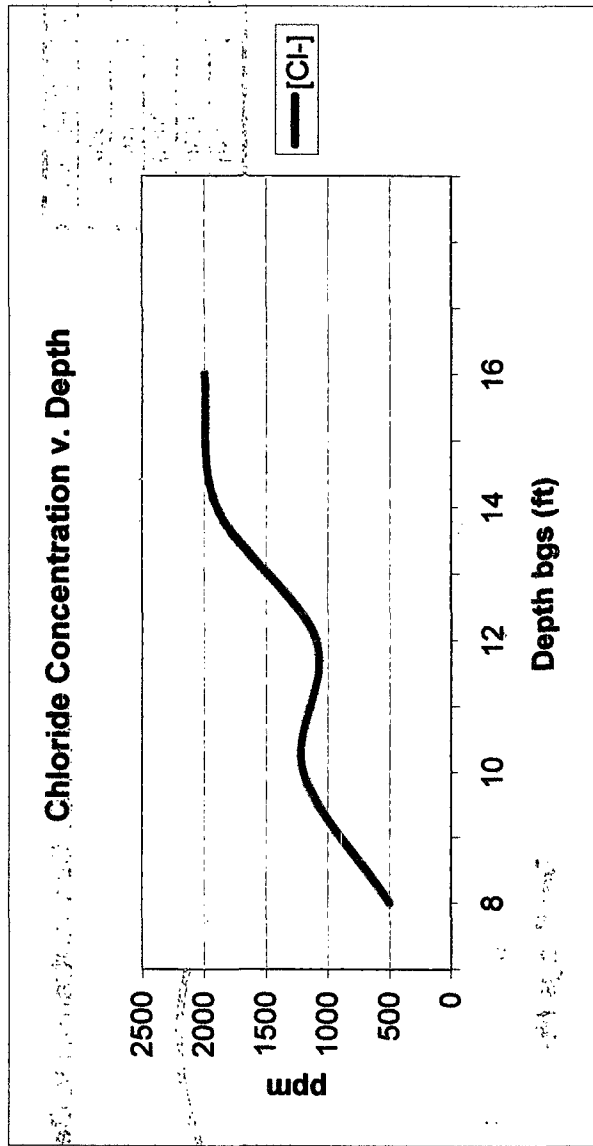
CHLORIDE CONCENTRATION CURVE

© 1997 RICE Operating Company

BD jct. E-3

T22S, R37E

Depth bgs (ft)	[Cl-] ppm
8	500
10	1200
12	1100
14	1900
16	2000

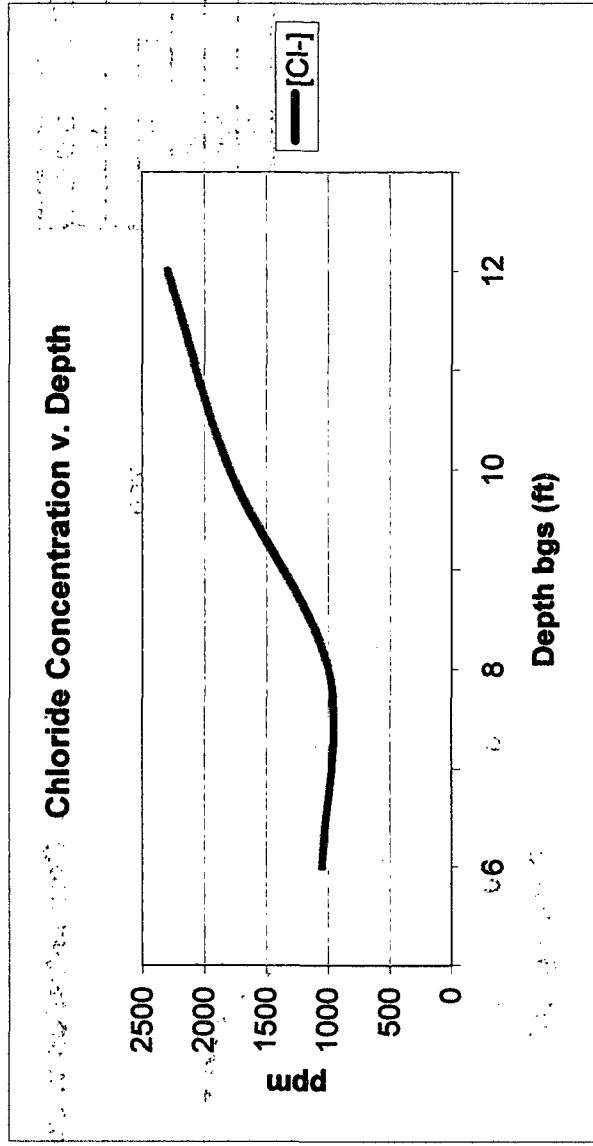


CHLORIDE CONCENTRATION CURVE

RICE Operating Company

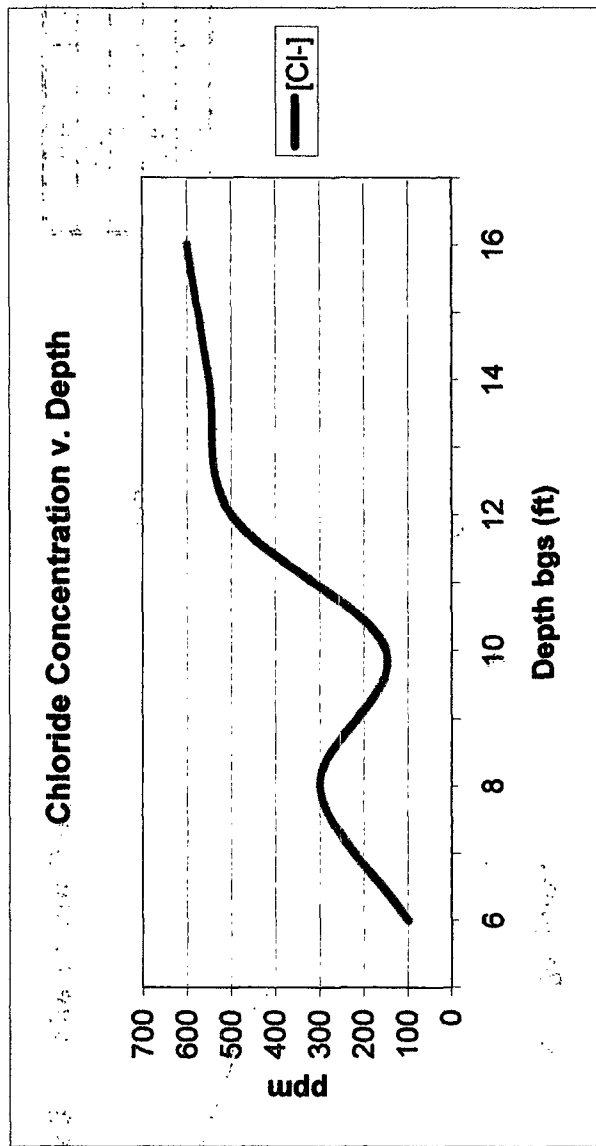
EME jet. L-34
T20S, R36E

Depth bgs (ft)	[Cl-] ppm
6	1050
8	1000
10	1800
12	2300



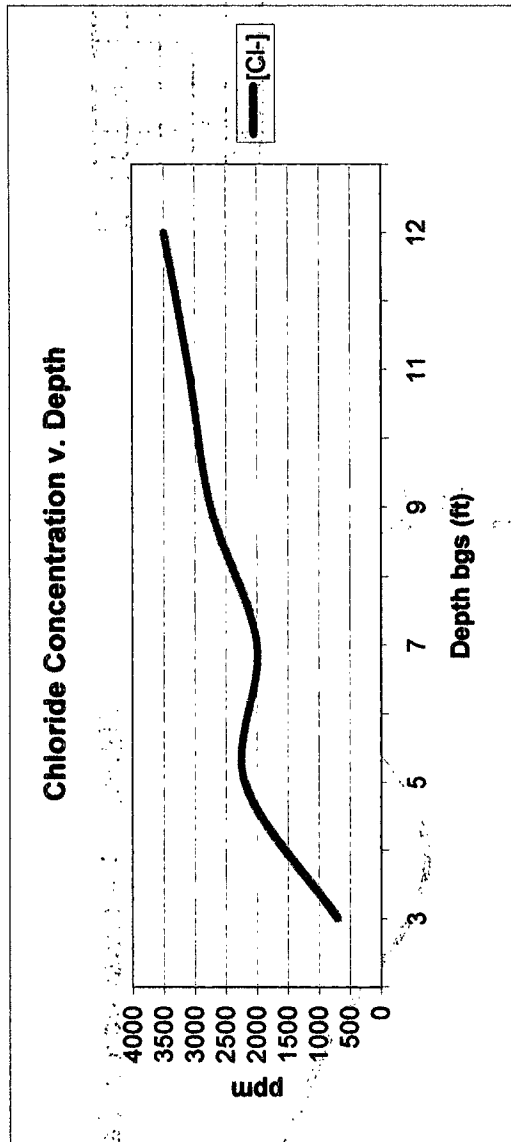
EME jct. D-3
T20S, R37E

Depth bgs (ft)	[Cl-] ppm
6	100
8	300
10	150
12	500
14	550
16	600



BD Brunson EOL
UL 'P', Sec. 4, T22S, R37E

Depth bgs (ft)	[Cl-] ppm
3	700
5	2200
7	2000
9	2750
11	3100
12	3500

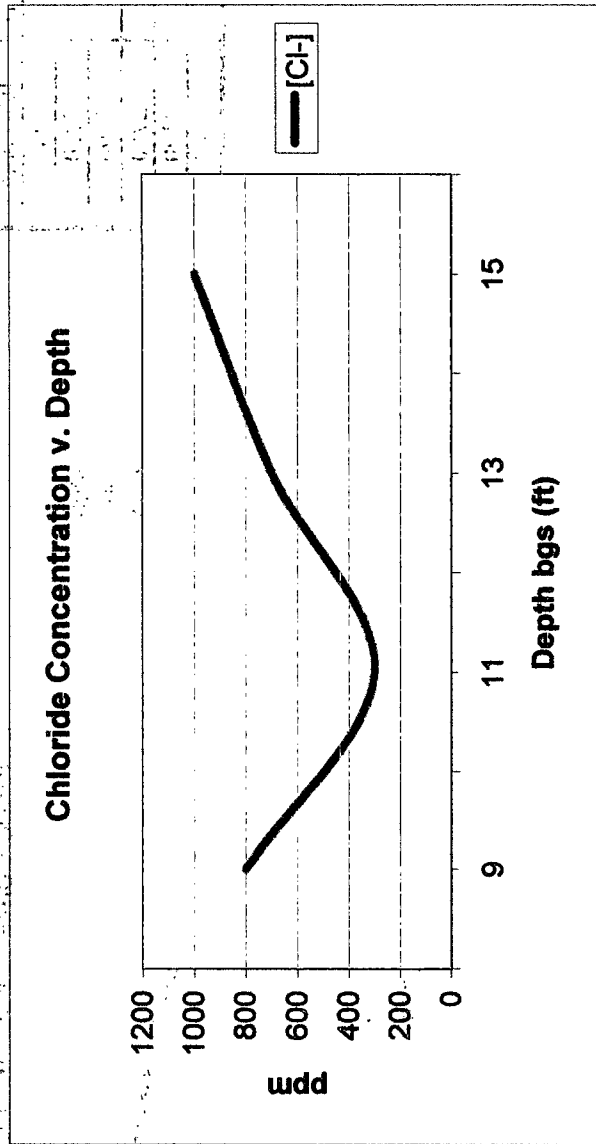


CHLORIDE CONCENTRATION CURVE

RICE Operating Company

EME jct. H-20
T20S, R37E

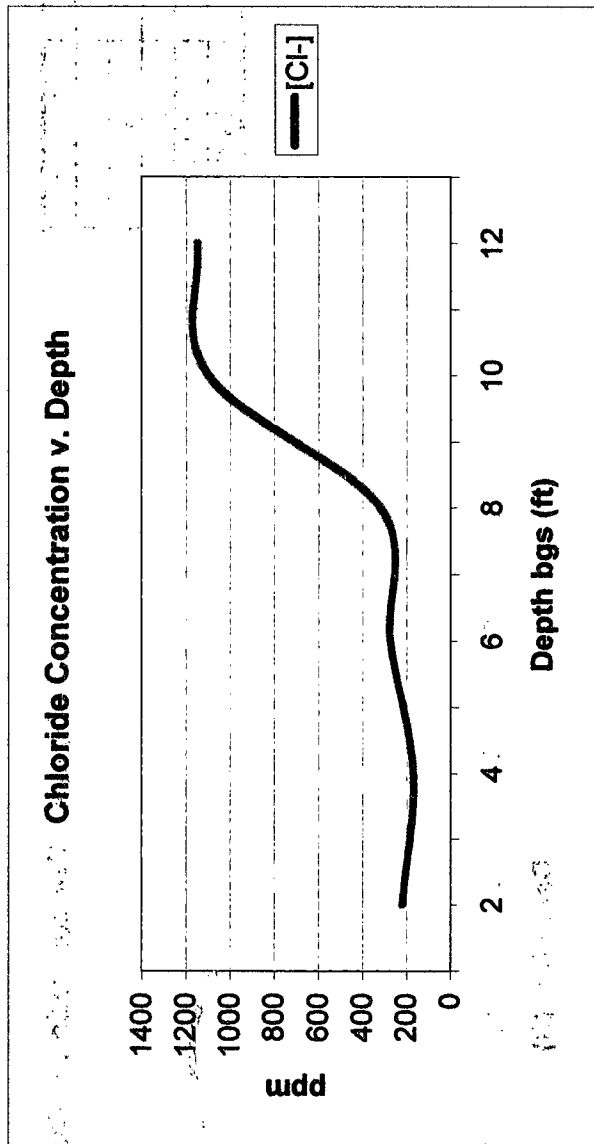
Depth bgs (ft)	[Cl ⁻] ppm
9	800
11	300
13	700
15	1000



EME jct. O-19

T20S, R37E

Depth bgs (ft)	[Cl-] ppm
2	220
4	170
6	275
8	320
10	1100
12	1150

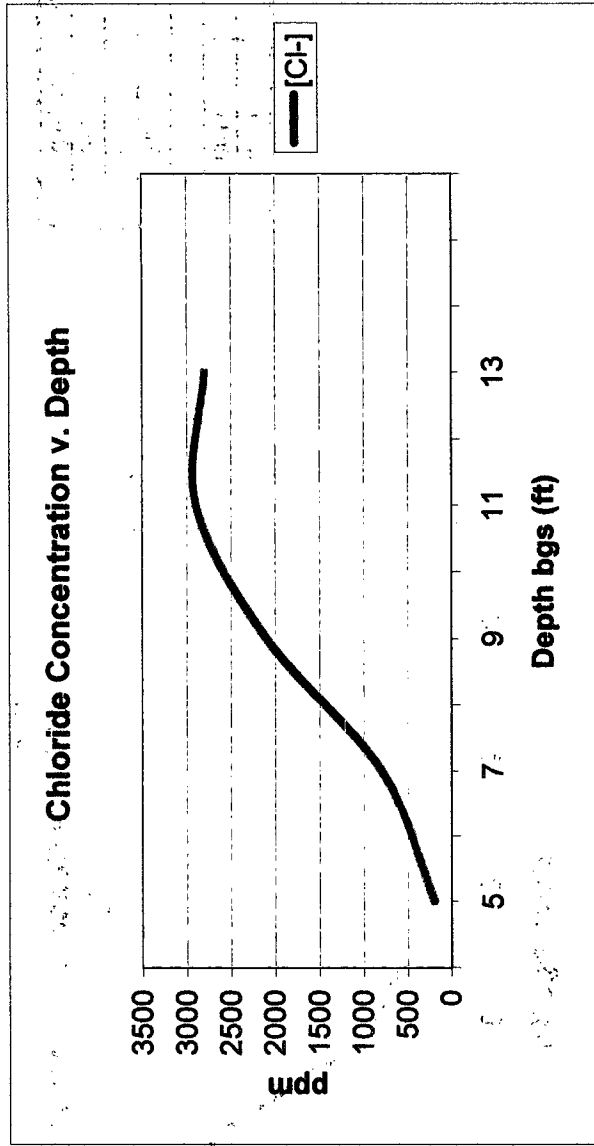


CHLORIDE CONCENTRATION CURVE

RICE Operating Company

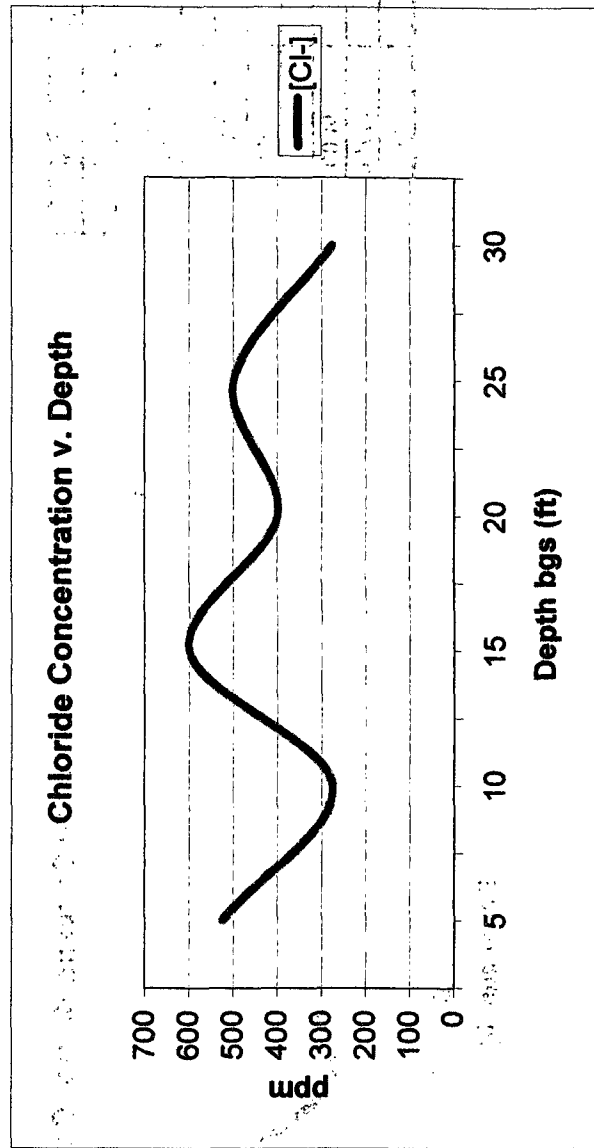
EME Monstate EOL
UL 'P', Sec. 13, T19S, R36E

Depth bgs (ft)	[Cl-] ppm
5	200
7	800
9	2100
11	2900
13	2800



EME P-6 Leak
T20S, R37E

Depth bgs (ft)	[Cl-] ppm
5	525
10	275
15	600
20	400
25	500
30	275



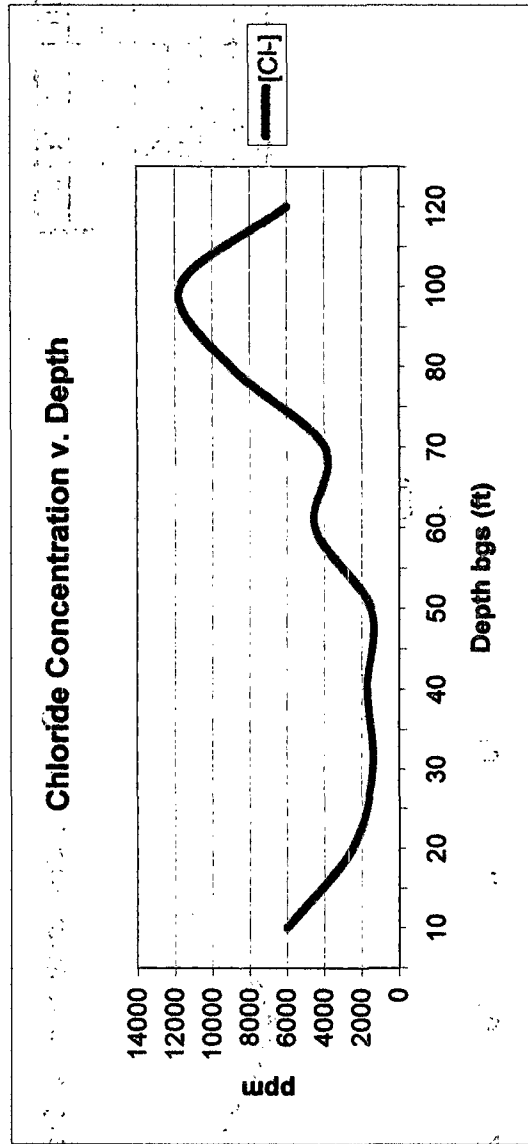
Chloride-Impacted groundwater encountered at 33 feet

CHLORIDE CONCENTRATION CURVE

RICE Operating Company

Justis H-2 SWD MW
T26S, R37E

Depth bgs (ft)	[Cl-] ppm
10	6000
20	2500
30	1400
40	1700
50	1500
60	4500
70	4000
80	9000
100	11700
120	6000



Chloride-impacted groundwater encountered at ~105 feet

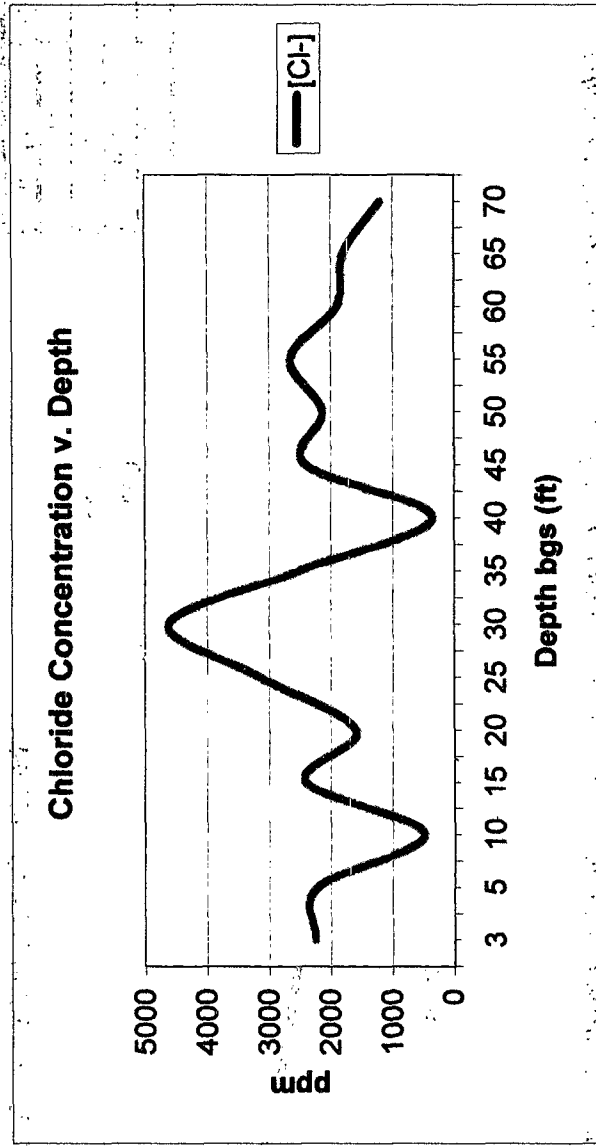
CHLORIDE CONCENTRATION CURVE

BD jct. F-17 MW
T21S, R37E

Depth bgs (ft)	[Cl-] ppm
3	2256
5	2212
10	492
15	2412
20	1597
25	3152
30	4628
35	2508
40	352
45	2420
50	2133
55	2665
60	1905
65	1800
70	1209

Disclosure
sites where
GW impact was
confirmed. (MW's)

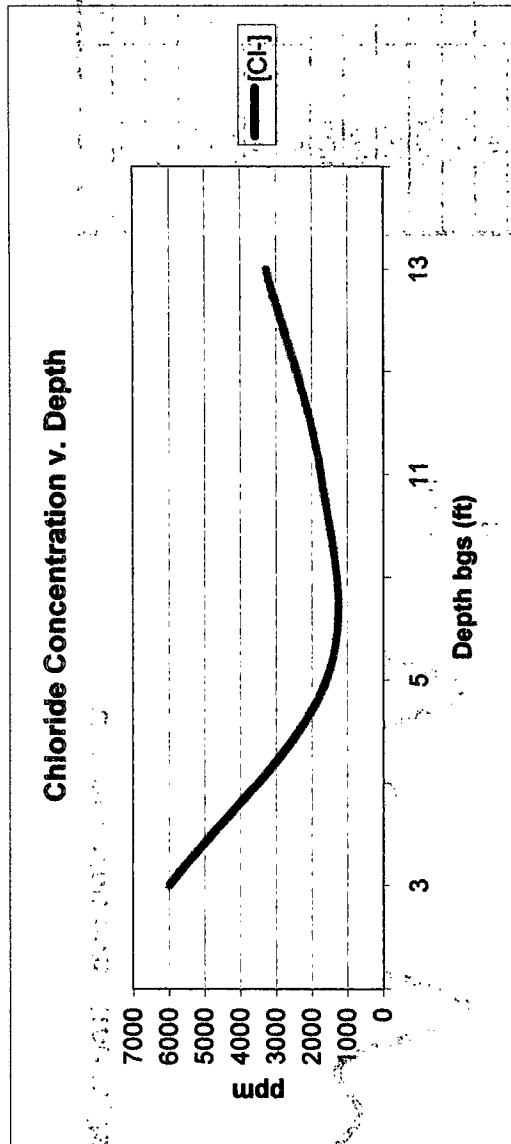
RICE Operating Company



Chloride-impacted groundwater encountered at 75 feet

BD jet. F-17
T21S, R37E

Depth bgs (ft)	[Cl-] ppm
3	6001
5	1591
11	1749
13	3273



A soil bore was done at this location and the site was found to have chloride impact to groundwater

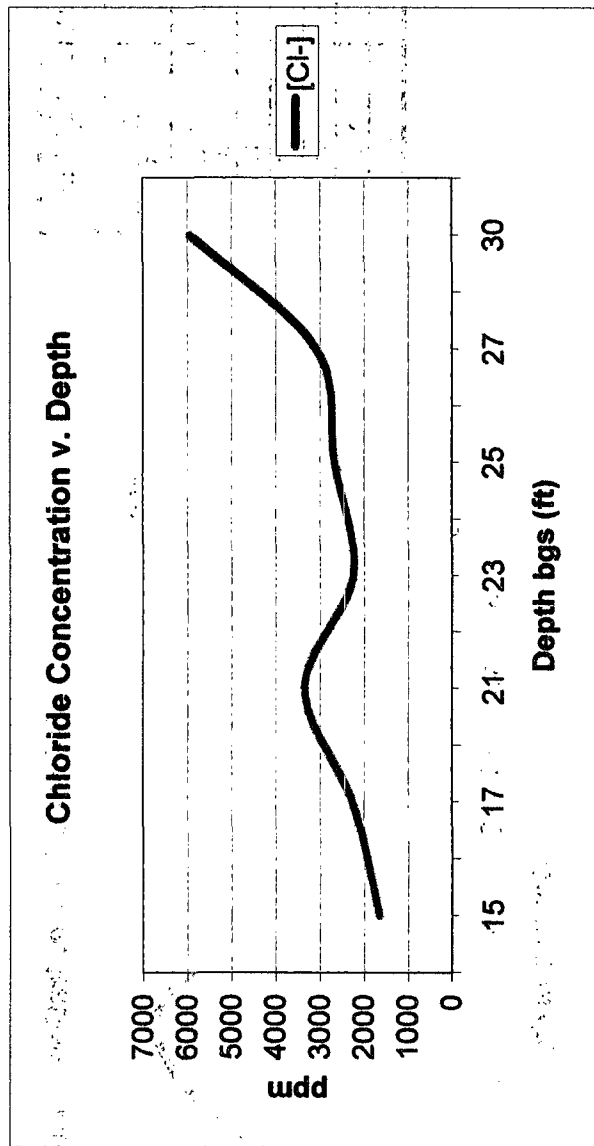
CHLORIDE CONCENTRATION CURVE

RICE Operating Company

BD jet. 1-27

T21S, R37E

Depth bgs (ft)	[Cl-] ppm
15	1650
17	2270
21	3350
23	2250
25	2670
27	3100
30	5950



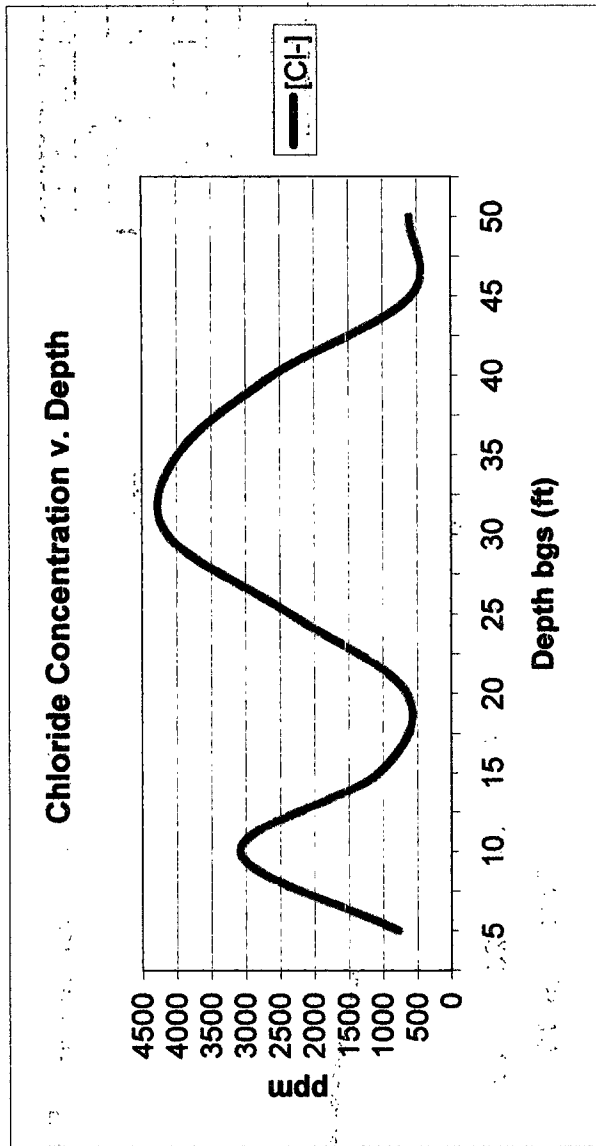
Chloride-impacted groundwater encountered at 45 feet

CHLORIDE CONCENTRATION CURVE

RICE Operating Company

BD jct. I-27 MW
T21S, R37E

Depth bgs (ft)	[Cl-] ppm
5	783
10	3083
15	1065
20	651
25	2340
30	4141
35	3993
40	2595
45	583
50	611



Chloride-impacted groundwater encountered at 45 feet

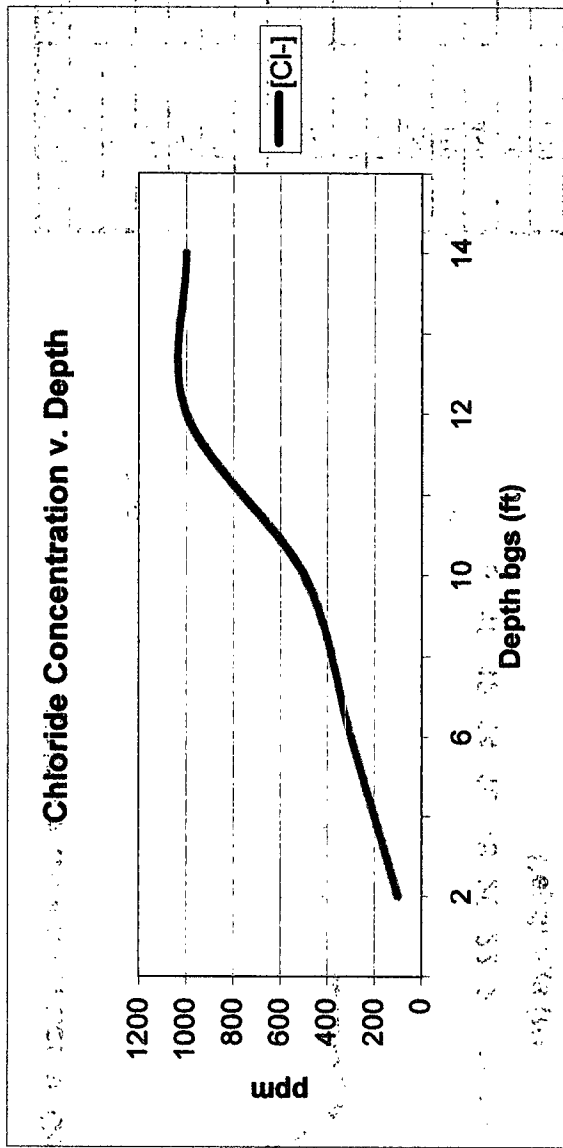
CHLORIDE CONCENTRATION CURVE

RICE Operating Company

EME jct. K-6

T20S, R37E

Depth bgs (ft)	[Cl ⁻] ppm
2	100
6	300
10	500
12	1000
14	1000



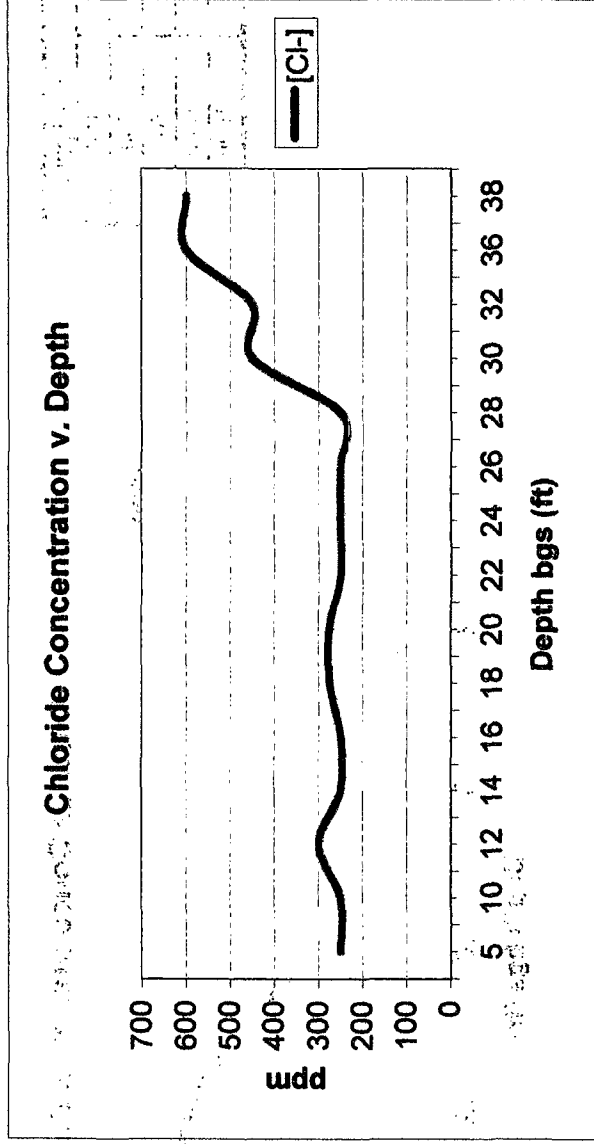
A soil bore was later conducted at this site and groundwater impact was encountered.

CHLORIDE CONCENTRATION CURVE

RICE Operating Company

EME jct. K-6 MW
T20S, R37E

Depth bgs (ft)	[Cl-] ppm
5	250
10	250
12	300
14	250
16	250
18	275
20	275
22	250
24	250
26	250
28	250
30	450
32	450
36	600
38	600



Chloride-impacted groundwater encountered at 34 feet