

AP - 053

**GENERAL
CORRESPONDENCE**

YEAR(S):

2005 - 2006



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

Mark E. Fesmire, P.E.
Director
Oil Conservation Division

RECORD OF COMMUNICATION

To: File, New Mexico Salt Water Disposal Company (AP053)

Copy: *N* Wayne Price, Daniel Sanchez, Cheryl O'Connor

From: Glenn von Gonten, Hydrologist *Gv*

Date: December 4, 2006

At approximately 3:20 PM, November 30, 2006, Florene Davidson forwarded a call to me from Mr. Charles Read, President of New Mexico Salt Water Disposal Company (NMSWDCo). He stated that his company had submitted a Stage 1 Abatement Plan as requested by OCD in February 2006, and had submitted its Public Notice as required on September 19, 2006, which was 3 months ago and wanted to know when OCD would approve this plan. I explained to Mr. Read that I was the person working on this case and that I was working through the backlog of correspondence, reports, workplans, etc. that had been generated as a result of my involvement with the surface waste management rulemaking process and had not yet started work on his workplan.

Mr. Read had several issues: (1) that NMSWDCo was waiting on OCD to approve the Stage 1, (2) that NMSWDCo had complied with all of OCD's requirements, (3) that he was getting the "run around" whenever he talked with anyone, (4) that he had 25 water trucks that were waiting to use his facility, (5) and that he would be in Santa Fe on December 1, 2006, and would come in if there was anything that he could do to expedite the process.

I explained that OCD had determined that NMSWDCo's Stage 1 was administratively complete, that public notice was required, and that OCD had to review the Stage 1 for technical completeness before it could be approved. I further explained that when I was working through the backlog, that I would give high priority to workplans such as his to make sure that people were not waiting on us, but that I had not yet started work on his site. I then asked whom he had spoken with. Mr. Read was not certain, but mentioned an individual in the State Land Office and someone else in another agency. He did not state that he had spoken with anyone in OCD.

I then asked for additional information on how and why his business was impacted by the delay in reviewing his Stage 1. Mr. Read replied that he didn't know and that I would have to speak with his lawyer and/or engineer. I asked Mr. Read to hold and got Wayne Price to join me. Mr. Read then explained his issues to Wayne. Wayne reiterated what I had already told Mr. Read. Wayne also pointed out that NMSWDCo was months late in its public notice. Mr. Read did not reply to that but stated that he thought that the government was not doing its job and that it should have completed its work within 10 days. Wayne then pointed out to Mr. Read that nothing in the requirement to implement a Stage 1 investigation should be impacting NMSWDCo's operations and asked Mr. Read to explain how his operations had been affected. Mr. Read replied that we should talk to his son, Mr. James B. Read, or his engineer, Mr. John Maxey.

Mr. Read provided us with phone numbers, email address, phone number for his son in Oklahoma and the phone number of Mr. John Maxey (NMSWDCo engineer). The phone call ended at approximately 3:45 PM.

On December 1, 2006, I reviewed the NMSWDCo files. Mr. Read signed an ACO on December 30, 2005 which required it to submit a Stage 1 AP and an Infrastructure Report. NMSWDCo actually submitted the Stage 1 AP on November 15, 2005 and the Infrastructure Report on December 16, 2005. On February 2, 2006, OCD requested minor revisions which NMSWDCo responded to on February 22, 2006. OCD determined that NMSWDCo's Stage 1 AP was administratively complete on July 13, 2006. Pursuant to Rule 19G, NMSWDCo had 15 days to provide public notice after having been informed that its Stage 1 had been determined to administratively complete. On August 22, 2006, Mr. Clayton Barnhill (NMSWDCo's environmental consultant) requested that I provide a recent public notice to use as a template for NMSWDCo's public notice. I provided Mr. Barnhill with an example of a recent public notice on August 23, 2006. I received an email from Mr. Thaddeus Kostrubala of the State Land Office on September 27, 2006; he indicated that he had seen the public notice and wanted to know more about the Abatement Plan process.

NMSWDCo provided general public notice on September 21, 2006 - some 51 days late. NMSWDCo failed to timely provide public notice pursuant to Rule 19G, and it is not clear whether any "surface owners of record" were properly notified. Rule 19H does not clearly indicate how much time OCD has to technically review a Stage 1, but it would appear that the clock could not start until it receives proper written notice that the Responsible Person has completed all of its public notice obligations. To date, I have not received any written notice from NMSWDCo concerning its public notice, but did get copied on an email to Cheryl O'Connor from Gary Larson (attorney for NMSWDCo) on October 31, 2006, in which he attached pdfs of the notices.

At approximately 2:00 PM on December 1, 2006, I received a phone call from Mr. Thaddeus Kostrubala (Environmental Engineer) with the State Land Office. Mr. Kostrubala requested that I participate in a conference call with Mr. Read, John Bemis (Assistant Commissioner - SLO), and Larry Kehoe (Assistant Commissioner - SLO). Mr. Read again brought up the issue of how much time it was taking OCD to approve his Stage 1 AP and how he had truckers waiting to access his facility. I again asked Mr. Read to explain why he thought that OCD's review and

approval of his Stage 1 AP was impacted his operations. Mr. Read responded that he didn't want to be fined again. I explained to SLO staff the Abatement Plan approval process and went over the general chronology of events up through my conversations with Mr. Read on November 30, 2006, and pointed out that OCD had not yet received written notice that NMSWDCo had completed its public notice obligations. During our discussion it was determined that NMSWDCo might not have notified nearby landowners pursuant to Rule 19G. Mr. Bemis explained his understanding of the situation to Mr. Read. Mr. Read suggested that we contact his lawyer about the notice details or his new consultants, Mr. Bob Allen or Mr. David Boyer with Safety and Environmental Solutions. When I contacted Mr. Boyer, he stated he had not been involved with the public notice process and that he would be unable to begin any work until January 2007 at the earliest.

After our conference call was ended, I called Mr. Kostrubala with SLO and learned that this site is on state land, but is surrounded by private land. Therefore, the requirement that NMSWDCo contact nearby landowners is definitely an issue. Also, Mr. Kostrubala believes that NMSWDCo's is operational because he was aware of two additional spills this year. I checked with Mr. Larry Johnson in Hobbs and requested copies of any new C-141s for NMSWDCo. Larry was aware of 2-3 new spills.

VonGonten, Glenn, EMNRD

From: Gary Larson [glarson@hinklelawfirm.com]
Sent: Tuesday, October 31, 2006 9:57 AM
To: OConnor, Cheryl, EMNRD; VonGonten, Glenn, EMNRD
Cc: jbro@brightok.net; cmbenviro@dfn.com; read@lookingglass.net
Subject: New Mexico Salt Water Disposal

Attachments: NMSW.Alb.Journal.pdf; NMSW.Hobbs.News-Sun.pdf; NMSW.LeaCo.Notice.pdf;
NMSW.ONRT.Notice.pdf; NMSW.SLO.Notice.pdf



NMSW.Alb.JournNMSW.Hobbs.NeNMSW.LeaCo.NoNMSW.ONRT.No NMSW.SLO.Noti
al.pdf (169 KB) s-Sun.pdf (204 Kce.pdf (362 KB).tice.pdf (354 KB) ce.pdf (362 KB)

Cheryl and Glenn,

Attached, in pdf format, are copies of the written and publication notices of New Mexico Salt Water Disposal's Stage 1 abatement plan proposal.

Gary

CONFIDENTIALITY NOTICE

This message (including attachments) is subject to attorney-client privilege or is otherwise a confidential communication from the law firm of Hinkle, Hensley, Shanor & Martin, LLP, that is covered by the Electronic Communications Privacy Act, 18 U.S.C. Sections 2510-2521, and is intended solely for the use of the addressee. It is not intended for transmission to, or receipt by, any unauthorized person. If you are not the intended recipient or received these documents by mistake, please do not read it and immediately notify us by collect telephone call to (505) 982-4554 for instructions on its destruction or return. If you are not the intended recipient, you are hereby notified that any disclosure, copying, distribution, action or reliance upon the contents of the documents is strictly prohibited.

Gary W. Larson
Hinkle, Hensley, Shanor & Martin, L.L.P.
218 Montezuma
Santa Fe, NM 87501
Phone: (505) 982-4554
Fax: (505) 982-8623
E-Mail: glarson@hinklelawfirm.com

Notice is hereby given that, pursuant to New Mexico Oil Conservation Division Regulations, the following Stage 1 Abatement Plan Proposal has been submitted to the Director of the Oil Conservation Division, 1220 St. Francis Dr., Santa Fe, New Mexico 87505, Telephone (505) 476-3440:

New Mexico Salt Water Disposal Company, Inc., John Maxey, Telephone (505) 622-3770, extension 224, has submitted a Stage 1 Abatement Plan Proposal to investigate possible ground water contamination resulting from spills of produced formation water at New Mexico Salt Water Disposal Company, Inc.'s Station # 11 Tank Battery, Unit Letter D, Section 21, Township 10 South, Range 34 East, Lea County, New Mexico. The total estimated volume of produced formation water that has been released at Station # 11 Tank Battery is 1545 barrels. The total volume of produced formation water from these releases not recovered after their initial discovery is 120 barrels. The Stage 1 Abatement Plan Proposal specifies that New Mexico Salt Water Disposal Company, Inc. will make public notice and provide for public participation; investigate the possible ground water contamination at the site by advancing soil borings; installing monitor wells; monitoring and analyzing ground water; determine the geology and hydrology of the site; and submit an investigation report.

You have 30 days to submit written comments to the Director of the Oil Conservation Division at the address given above. The Stage 1 Abatement Plan Proposal may be viewed at the above address or at the Oil Conservation Division Hobbs District 1 Office, 1625 N. French Drive, Hobbs, New Mexico 88240. Telephone (505) 393-6161, between 8:00 a.m. and 4:00 p.m., Monday through Friday. Journal: September 21, 2006.

STATE OF NEW MEXICO
County of Bernalillo SS

Bill Tafoya, being duly sworn, declares and says that he is Classified Advertising Manager of The Albuquerque Journal, and that this newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Session Laws of 1937, and that payment therefore has been made of assessed as court cost; that the notice, copy of which is hereto attached, was published in said paper in the regular daily edition, for 1 times, the first publication being on the 21 day of Sept., 2006 and the subsequent consecutive publications on _____, 20_____.

[Handwritten Signature]

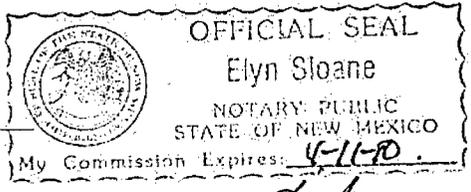
Sworn and subscribed to before me, a Notary Public, in and for the County of Bernalillo and State of New Mexico this 21 day of Sept. of 2006

PRICE \$34.71

Statement to come at end of month.

ACCOUNT NUMBER C8101

CLA-22-A (R-1/93)



[Handwritten Signature]

AFFIDAVIT OF PUBLICATION

State of New Mexico,
County of Lea.

I, KATHI BEARDEN

Publisher

of the Hobbs News-Sun, a newspaper published at Hobbs, New Mexico, do solemnly swear that the clipping attached hereto was published once a week in the regular and entire issue of said paper, and not a supplement thereof for a period.

of 1 weeks.

Beginning with the issue dated September 20 2006

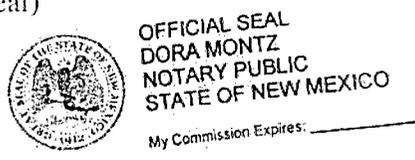
and ending with the issue dated September 20 2006

Kathi Bearden
Publisher

Sworn and subscribed to before me this 20th day of

September 2006
[Signature]
Notary Public.

My Commission expires February 07, 2009
(Seal)



This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937, and payment of fees for said publication has been made.

LEGAL LEGAL

LEGAL NOTICE
SEPTEMBER 20, 2006

Notice is hereby given that, pursuant to New Mexico Oil and Conservation Division Regulations, the following Stage 1 Abatement Plan Proposal has been submitted to the Director of the Oil Conservation Division, 1220 St. Francis Dr., Santa Fe, New Mexico 87505, Telephone (505) 476-3440:

New Mexico Salt Water Disposal Company, Inc., John Maxey, Telephone (505) 622-3770, extension 224, has submitted a Stage 1 Abatement Plan Proposal to investigate possible ground water contamination resulting from spills of produced formation water at New Mexico Salt Water Disposal Company Inc.'s Station #11 Tank Battery, Unit Letter D, Section 21, Township 10 South, Range 34 East, Lea County, New Mexico. The total estimated volume of produced formation water that has been released at Station #11 Tank Battery is 1545 barrels. The total volume of produced formation water from these releases not recovered after their initial discovery is 120 barrels. The Stage 1 Abatement Plan Proposal specifies that New Mexico Salt Water Disposal Company Inc. will: make public notice and provide for public participation; investigate the possible ground water contamination at the site by advancing soil borings, installing monitor wells, monitoring and analyzing ground water; determine the geology and hydrology of the site; and submit an investigation report.

You have 30 days to submit written comments to the Director of the Oil Conservation Division at the address given above. The Stage 1 Abatement Plan Proposal may be viewed at the above address or at the Oil Conservation Division Hobbs District 1 Office, 1625 N. French Drive, Hobbs, New Mexico 88240, Telephone (505) 393-6161, between 8:00 a.m. and 4:00 p.m., Monday through Friday.
#22656

a0107570000 67539997
READ & STEVENS, INC.
P.O. BOX 1518
ROSWELL, NM 88202

New Mexico Salt Water Disposal Company

*P. O. Box 1518
Roswell, N.M. 88202*

September 19, 2006

Lea County Commissioners
100 North Main Street
Suite 4C
Lovington, NM 88260

Subject: NOTICE OF PUBLICATION
New Mexico Salt Water Disposal Company

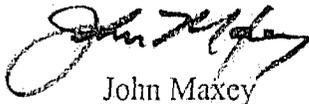
Ladies and Gentlemen:

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Sincerely,



John Maxey

JCM/sr/nmswdlt/notice of publication

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1. Article Addressed to:

Lea County Commissioners
 100 North Main Street
 Suite 4C
 Lovington, NM 88260

2. Article Number:

(Transfer from service label)

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PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

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X *Suzanne Williams*

Agent

Addressee

B. Received by (Printed Name)

Suzanne Williams

C. Date of Delivery

9.20.06

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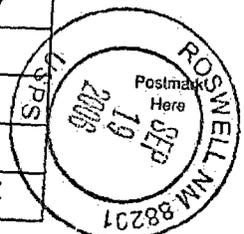
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Lea County Commissioners
 Street, Apt. No.,
 or PO Box No. **100 North Main Street Ste 4C**
 City, State, ZIP+4 **Lovington, NM 88260**

PS Form 3800, June 2002

See Reverse for Instructions

September 19, 2006

Office of Natural Resources Trustee
Attn: Martin Heinrich
610 Gold Avenue SW, Suite 236
Albuquerque, NM 87102

Subject: NOTICE OF PUBLICATION
New Mexico Salt Water Disposal Company

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Sincerely,



John Maxey

JCM/sr/nmswdlt/notice of publication

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Office of Natural Resources Trustee
 Attn: Martin Heinrich
 610 Gold Avenue SW, Suite 236
 Albuquerque, NM 87102

2. Article Number
(Transfer from service label)

7004 1350 0004 5386 0972

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A. Signature

X *Elysa Warner*
 Agent
 Addressee

B. Received by (Printed Name)

Elysa Warner

C. Date of Delivery

9-21-06

D. Is delivery address different from item 1?

 Yes

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 No

3. Service Type

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4. Restricted Delivery? (Extra Fee)

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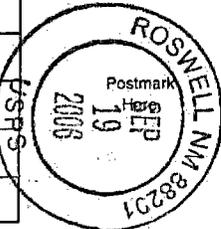
PS Form 3811, February 2004

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Send To **Attn: Martin Heinrich**
Office of Natural Resources Trustee
 Street, Apt. No.,
 or PO Box No. **610 Gold Avenue SW, Suite 236**
 City, State, ZIP+4
Albuquerque, NM 87102

PS Form 3800, June 2002

See Reverse for Instructions

New Mexico Salt Water Disposal Company

P. O. Box 1518

Roswell, N.M. 88202

September 19, 2006

New Mexico State Land Office
Attn: Pat Lyons
P. O. Box 1148
Santa Fe, NM 87504-1148

Subject: NOTICE OF PUBLICATION
New Mexico Salt Water Disposal Company

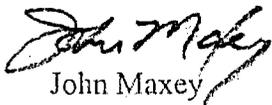
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Sincerely,


John Maxey

JCM/sr/nmswdlt/notice of publication

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1. Article Addressed to:

New Mexico State Land Office
 Attn: Pat Lyons
 P. O. Box 1148
 Santa Fe, NM 87504-1148

2. Article Number
 (Transfer from service label)

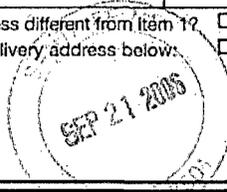
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 Addressee

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D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No



3. Service Type
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 Registered Return Receipt for Merchandise
 Insured Mail C.O.D.

4. Restricted Delivery? (Extra Fee) Yes

PS Form 3811, February 2004

Domestic Return Receipt

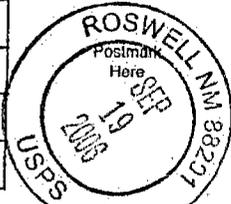
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| Restricted Delivery Fee (Endorsement Required) | |
| Total Postage & Fees | \$ 4.64 |



Sent To: Attn: Pat Lyons
 New Mexico State Land Office
 Street, Apt. No., or PO Box No.: P. O. Box 1148
 City, State, ZIP+4: Santa Fe, NM 87504-1148

PS Form 3800, June 2002

See Reverse for Instructions

7004 1350 0004 5386 0965

VonGonten, Glenn, EMNRD

From: Kostrubala, Thaddeus [TKostrubala@slo.state.nm.us]
Sent: Wednesday, September 27, 2006 11:05 AM
To: VonGonten, Glenn, EMNRD
Subject: NMSWDC Station #11

Glenn,

Would like to speak with you regarding the New Mexico Salt Water Disposal Company Station #11. Email or call.

Thaddeus Kostrubala
Environmental Engineer
New Mexico State Land Office
(505)827-5723
tkostrubala@slo.state.nm.us

This email has been scanned by the MessageLabs Email Security System.
For more information please visit <http://www.messagelabs.com/email>

VonGonten, Glenn, EMNRD

From: Clay Barnhill [cmbenviro@dfn.com]
Sent: Wednesday, August 23, 2006 11:35 AM
To: VonGonten, Glenn, EMNRD
Cc: 'John Maxey'
Subject: Public Notice of New Mexico Salt Water Disposal Company
Attachments: NMSWD Public Notice Fax.doc; NMSWD NOTICE OF PUBLICATION.doc

Glenn,

Thank you so much for your help. I could not have done it without your help and consideration. Thanks again. Attached are a fax and email that I have sent to Jim Read, Gary Larson, and John Maxey. I let them know of the urgency in which we need to proceed as soon as possible. If you have any questions or comments, please do not hesitate to call me on my cellular at (505) 626-1615. I know your busy, hope to get a certified letter with notice in the mail to you soon, once New Mexico Salt Water Disposal Company allows me to proceed.

Best Regards,

Clayton M. Barnhill, PG

VonGonten, Glenn, EMNRD

From: Clay Barnhill [cmbenviro@dfn.com]
Sent: Tuesday, August 22, 2006 10:51 AM
To: VonGonten, Glenn, EMNRD
Cc: cmbenviro@cableone.net
Subject: Public Notice Pursuant to OCD Rule 19G (19.15.1.19.G NMAC)

Mr. VonGoten:

I realize that you are very busy, and I hate to bother you, but I was wondering if you could still email me a copy of a recent public notice that I could use for a template. I saw that you called me yesterday afternoon, but I was in the field and missed your call. Sorry I was not here. If you could still send me a copy of recent well written and acceptable public notice, I would be most grateful as I want to get this project completed. Thank you.

Clayton M. Barnhill, PG

VonGonten, Glenn, EMNRD

From: VonGonten, Glenn, EMNRD

Sent: Tuesday, July 11, 2006 8:34 AM

To: OConnor, Cheryl, EMNRD

Attachments: Maps and Diagrams associated with NMSWDC Stage 1 Abatement Plan February 2006;
Maps & Diagrams associated with NMSWDC Revised Stage 1 Abatement Plan February
2006; New Mexico Salt Water Dposal Company Inc., Revised Stage 1 Abatem,ent Plan
February 2006

Cheryl,

FYI. I plan on giving final approval on this AP this week.

Glenn

VonGonten, Glenn, EMNRD

From: jbro [jbro@brightok.net]
Sent: Tuesday, April 25, 2006 9:54 AM
To: VonGonten, Glenn, EMNRD
Subject: NMSWD

Dear Glenn,
Thanks for the call back. I will contact you after May 8.
Jim read

James B. Read
P.O. Box 638
Ardmore, OK 73402
580/221-3888 (Cell)
580/226-0055 (Office)
580/226-0056 (Fax)

VonGonten, Glenn, EMNRD

From: Clayton M. Barnhill [cmbenviro@hotmail.com]
Sent: Monday, July 10, 2006 9:09 PM
To: VonGonten, Glenn, EMNRD
Cc: jbro@brightok.net; read@lookingglass.net; glarson@hinklelawfirm.com; cmbenviro@cableone.net
Subject: Maps and Diagrams associated with NMSWDC Stage 1 Abatement Plan February 2006
Attachments: Maps _ Diagrams For NMSWDC Revised Stage 1 Abatement Plan February 2006.pdf

Attached are the diagrams and maps associated with the NMSWDC's stage 1 abatement plan. My other server would not allow such a large file to be attached, so I am sending it via hotmail.

Clayton M. Barnhill, PG

VonGonten, Glenn, EMNRD

From: Clay Barnhill DSL [cmbenviro@dfn.com]
Sent: Monday, July 10, 2006 8:53 PM
To: VonGonten, Glenn, EMNRD
Cc: jbro@brightok.net; read@lookingglass.net; glarson@hinklelawfirm.com
Subject: Maps & Diagrams associated with NMSWDC Revised Stage 1 Abatement Plan February 2006

Attachments: Maps & Diagrams For NMSWDC Revised Stage 1 Abatement Plan February 2006.pdf



Maps &
ms For NMSWD

Attached are the maps and diagrams associated with the NMNSWDC Stage 1 Abatement Plan dated February 2006.

Clayton M. Barnhill

system at dfn.com Sent via the KillerWebMail

VonGonten, Glenn, EMNRD

From: Clay Barnhill DSL [cmbenviro@dfn.com]
Sent: Monday, July 10, 2006 7:10 PM
To: VonGonten, Glenn, EMNRD
Cc: read@lookingglass.net; jbro@brightok.net; glarson@hinklelawfirm.com
Subject: New Mexico Salt Water Diposal Company Inc., Revised Stage 1 Abatem,ent Plan February 2006

Attachments: Cover Page Revised Stage 1 Abatement Plan NMSWD Februrary 2006.pdf; Stage 1 Abatement Plan Revised February 2006.pdf



Cover Page



Stage 1

vised Stage 1 Abement Plan Revis

Mr. VonGonten:

Attached, as per your request, is an electronic copy of the Revised Stage 1 Abatement Plan at New Mexico Salt Water Diposal Company's Station 11 Tank Battery, Unit Letter D, Section 21 T.10S. R.34 E., Lea County, NM. A copy of same was previously hand delivered to your office in February 2006 by a representative of the Hinkle Law Firm's Santa Fe Office. If you have any questions, please do not hesitate to call. Thank you.

Clayton M. Barnhill, PG

system at dfn.com Sent via the KillerWebMail

VonGonten, Glenn, EMNRD

From: Sheeley, Paul, EMNRD
Sent: Friday, January 06, 2006 7:48 AM
To: cmbenviro@cableone.net
Cc: VonGonten, Glenn, EMNRD; Sanchez, Daniel J., EMNRD
Subject: RE: Drilling and Installation of Monitor Wells NMSWCO Station # 11 Sec. 21 T. 10S R34 E Lea County, NM

Mr. Barnhill,

All groundwater abatement plans are approved and directed out of Santa Fe. I have not seen any approved plan for this.

Your client must submit a letter indicating that you are an "agent" and an official contact of NMSWD.

Also, You did improper plugging of some borehole/wells for Read & Stevens a year or two ago (that were plugged with cuttings and 5' of cement). We discussed this and you told me that these would be plugged with bentonite from top to bottom. I have not heard anything more on this.

Those boreholes must be properly plugged ASAP.

Thanks,

Paul Sheeley

From: Clayton M. Barnhill [mailto:cmbenviro@cableone.net]
Sent: Thu 1/5/2006 9:44 AM
To: Sheeley, Paul, EMNRD
Cc: glarson@hinklelawfirm.com; read@lookingglass.new; cmbenviro@dfn.com
Subject: Drilling and Installation of Monitor Wells NMSWCO Station # 11 Sec. 21 T. 10S R34 E Lea County, NM

This email is formal notice that CMB Environmental & Geological Services Inc., using Geo Projects International of Austin, Texas, will be commencing work on the drilling and installation of four monitor wells at New Mexico Salt Water Disposal Company's Station # 11 on Tuesday January 10th, 2006. The Site is located in unit D of Section 21 T. 10S. R. 34 E., Lea County, NM We anticipates to mobilize to the site and start drilling by 12:00 hour. If you have any quesitons I can be contacted at (505) 622-2012 or on my cellular at (505) 626-1615 or Joahn Maxey at (505) 622-3770 Ext. 224

12/1/2006

VonGonten, Glenn, EMNRD

From: Clayton M. Barnhill [cmbenviro@cableone.net]
Sent: Thursday, January 05, 2006 11:12 AM
To: VonGonten, Glenn, EMNRD
Cc: cmbenviro@dfn.com; read@lookingglass.net
Subject: Drilling and Installation of Monitor Wells NMSWCO Station # 11 Sec. 21 T. 10S R34 E Lea County, NM
Importance: High

Mr. VonGonten:

We have a drilling rig scheduled for Tuesday January 10, 2006 to commence work on finding the vertical and horizontal extent of the release at New Mexico Salt Water Disposal Company's Station 11 Tank Battery located in Unit D of Section 21 T. 10 S.. R. 34 E., Lea County, NM as proposed in a workplan that was submitted to you and your office in November 2005. We have not had a response from you to this workplan and would like to have your blessing before proceeding on the drilling and installation of the monitor wells. Below is an email message I sent to Paul Scheely of the NMOCD Hobbs District Office this a.m. If you have any questions or modifications to the workplan, please call me as soon as possible as time is of the essence and it is very hard to scheule drilling rigs. particularly hollow stem auger rigs for enviromental work. Thank you.

This email is formal notice that CMB Environmental & Geological Services Inc., using Geo Projects International of Austin, Texas, will be commencing work on the drilling and installation of four monitor wells at New Mexico Salt Water Disposal Company's Station # 11 on Tuesday January 10th, 2006. The Site is located in unit D of Section 21 T. 10S. R. 34 E., Lea County, NM We anticipates to mobilize to the site and start drilling by 12:00 hour. If you have any quesitons I can be contacted at (505) 622-2012 or on my cellular at (505) 626-1615 or Joahn Maxey at (505) 622-3770 Ext. 224



NEW MEXICO ENERGY, MINERALS and
NATURAL RESOURCES DEPARTMENT

AP053

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

Mark E. Fesmire, P.E.
Director
Oil Conservation Division

July 13, 2006

Mr. Charles B. Read
New Mexico Salt Water Disposal Company
P.O. Box 1518
Roswell, NM 88201

RE: STAGE 1 ABTEMENT PLAN PROPOSAL (AP053)

Dear Mr. Read:

The New Mexico Oil Conservation Division (OCD) has reviewed the *NMSWD Revised Stage 1 Abatement Plan Proposal* submitted on February 22, 2006, by New Mexico Salt Water Disposal (NMSWD) in response to OCD's letter of February 2, 2006. OCD has determined that the Stage 1 Abatement Plan proposal is administratively complete; therefore, NMSWD must now give appropriate public notice pursuant to OCD Rule 19G (19.15.1.19.G NMAC).

If you have any questions, please contact Glenn von Gonten at 505-476-3488.

Sincerely,

Wayne Price
Environmental Bureau Chief

xc: Paul Sheeley, OCD Hobbs District Office
Cheryl O'Connor, OCD Assistant General Counsel

AP053

NMSWD

(New Mexico Salt Water Disposal)
P. O. Box 1518
Roswell, New Mexico 88201
505/622-3770

VIA HAND DELIVERY

February 22, 2006

Ms. Cheryl O'Connor, Esq.
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: NMSWD Revised Stage 1 Abatement Plan Proposal

Dear Ms. O'Connor:

In accordance with Glenn von Gonten's letter dated February 2, 2006, I am enclosing NMSWD's Revised Stage 1 Abatement Plan Proposal for its Station 11 tank battery site.

Very truly yours,



Charles B. Read

CBR/jbr

cc (w/enc.): OCD District 1 Office
1625 N. French Drive
Hobbs, NM 88240

Enclosure: Revised Stage 1 Abatement Plan Proposal

STAGE 1 ABATEMENT PLAN PROPOSAL

NMSWD

Station #11 Tank Battery

Unit Letter D, Section 21

Township 10 South, Range 34 East

Lea County, New Mexico

Revised February 20, 2006

CMB Environmental and Geological Services, Inc. proposes to complete the *Stage One Abatement Plan* on the above described property as requested by the Owner, New Mexico Salt Water Disposal Company ("NMSWD") and the New Mexico Oil Conservation Division ("NMOCD"). This Stage 1 Abatement Plan is pursuant to and in accordance with the "Notice of Violation" issued to NMSWD on September 16, 2005 by the NMOCD and in compliance with Subsection E of 19.15.1.19 NMAC.

The purpose of this Stage 1 Abatement Plan is to design and conduct a site investigation that will adequately define site conditions, and provide the data necessary to select and design an effective abatement option.

Our work will conform to NMOCD Regulations; NMOCD approved Soil and Groundwater Sampling and Disposal Guidelines, OSHA Regulations, and other rules and regulations governing the work we propose herein. The work will be supervised by an experienced registered professional geologist and will be completed in an efficient, cost-effective manner.

1.0 Site Description:

The NMSWD Station # 11 is located in unit letter D of Section 21 of Township 10 South, Range 34 East, NMPM, Lea County, New Mexico.

Physical Setting of Site and Surface Characteristics:

To arrive at NMSWD's Station # 11, drive from Caprock, New Mexico go east on NM 380 3.15 miles to county road (black top) turn north, go 10 miles and turn east on county road (black top), go 11 miles and turn south on caliche road, go 4.3 miles to a tee in the road, turn west, go 1 mile, turn south, follow road ¾ mile to NMSWD Station # 11.

Soils:

According to the U.S. Conservation Service Soil Survey of Lea County, New Mexico, soils in the area of the NMSWD Station # 11 are of the Brownfield Series.

"The Brownfield series consists of well-drained soils that have a thick surface layer of fine sand and sandy clay loam subsoil. They are formed in wind-deposited sands on uplands in the northern part of Lea County. Slopes are 0-3 percent. The vegetation consists of tall and arid grasses and shrubs. The average annual precipitation is 12 to 15 inches, the average annual air temperature ranges from 58 degrees to 60 degrees Fahrenheit, and the frost free season is 195 to 205 days. Elevations range from 3600 to 4400 feet. Typically, the surface layer is a light brown fine sand about 22 inches thick. The subsoil is red sandy clay loam to a depth of 63 inches. Brownfield soils are used mostly as range, but also as wildlife habitat and recreational areas."

In the immediate area of NMSWDCO station # 11, the Brownfield-Springer association occurs.

"This mapping unit is about 60 percent Brownfield fine sand, 30 percent Springer loamy fine sand, and 10 percent inclusions of Tivoli, Gomez, Patricia, and Amarillo Soils. The landscape is one of billowy and undulating, low sand dunes intermingled with early level sandy areas. The Springer soil has moderately rapid permeability. Runoff is very slow. Water intake is rapid, and available water holding capacity is 6 to 8 inches. Roots penetrate to a depth of 60 inches and more. Soil blowing is a severe hazard."

Topography:

The general topography in the area of the NMSWDCO Station # 11 and surrounding area of Section 21, T.10.S. R. 34 E., Lea County, New Mexico is relatively flat to undulating, due to the nature of the sand dune development, with contours gently sloping to the east. Elevations range from 4220 feet ASL to 4200 feet ASL in section 21. Surface elevation of NMSWDCO Station # 11 is estimated to be 4217 feet ASL. **(See attached Topographic Maps / Satellite Images)**

2.0 Site History:

Nature of the Release that caused the alleged water pollution:

On April 17, 2003 a volume of 20 barrels of produced water was released from the storage tanks at NMSWD Station #11 and was contained inside the bermed area surrounding the tank battery. This release was immediately reported to the

*New Mexico Salt Water Disposal Company, Inc.
Station # 11 Abatement Plan Proposal
Lea County, NM*

NMOCD District 1 Office, located in Hobbs, New Mexico. NMSWD filed, with the NMOCD, a form C-141 release notification. After the discharge, NMSWD immediately ordered and installed three new 1000 barrel fiberglass tanks to replace the older steel tanks at NMSWD Station # 11. The berm surrounding the tanks was also upgraded at this time.

Summary of Previous Site Investigation:

In October and November of 2003, CMB Environmental & Geological Services, Inc. conducted a subsurface site investigation at Station # 11 in accordance with the requirements of the New Mexico State Land Office. The investigation was conducted to determine the lateral and vertical extent of the alleged contamination caused by this April 17, 2003 release of water from the tank battery / produced water storage facility.

In October and November, 2003 Atkins Engineering Associates, Inc., of Roswell New Mexico, was mobilized to the site to commence drilling activities for the site investigation. Eight soil borings, 1, 2, 3, 4, 1A, 2A, 3A, & 4A were drilled. The borings were drilled to depths ranging from 11' feet below ground surface to 36' feet below ground surface. (See Site Map) Two foot split spoon samples were taken from surface to total depth in all soil borings. Confirmation soil samples from the borings were collected and sent to Hall Environmental Analysis Laboratory, located in Albuquerque, NM, for chloride, Total Petroleum Hydrocarbons (TPH), and BTEX analysis. Hall Environmental Analysis Lab confirmed that there were no TPH or BTEX concentrations in the sampled soil borings. However, the soil samples collected contained chloride concentrations. A clay zone was encountered from 29-36 feet below ground surface in all soil borings. Perched water was found in soil boring 4A perched on top of the clay zone at 31 feet below ground surface. The capillary fringe, of this perched water, at a depth of 24-26 feet below ground surface and the perched water itself were sampled for any type of hydrocarbon, chloride, and metals. The clay zone was cored and sampled for porosity, hydraulic conductivity, and permeability soils testing.

As a result of encountering the clay zone, CMB Environmental & Geological Services Inc. determined that additional drilling to the water table would be dangerous as penetrating this aquitard / clay zone holding this perched water, may open up a conduit for contamination to the principal groundwater aquifer below via the soil borings if the clay zone were penetrated.

Based on research of nearby water wells in the area by CMB at the State of New Mexico State Engineers office located in Roswell, NM, it is anticipated that the first principal groundwater aquifer will be located at a depth of less than 100 feet below ground surface. The NMOCD Guidelines for soil contamination dictate that a level of 1000 PPM TPH concentration must be obtained in soil samples before for site closure of a leak, spill, or confirmed release from a tank battery.

From data obtained in the soil borings, soil contamination greater than or equal to the 1000 PPM level TPH did not occur on site. TPH concentrations in PPM from the soil boring samples are tabled below:

| <u>Soil Boring</u> | <u>Depth: 0'-2'</u> | <u>4'-6'</u> | <u>9'-11'</u> | <u>14'-16'</u> | <u>19'-21'</u> | <u>24'-26'</u> | <u>29'-31'</u> | <u>34'-36'</u> |
|--------------------|---------------------|--------------|---------------|----------------|----------------|----------------|----------------|----------------|
| SB - 1 | | | ND | | | | | |
| SB - 1A | 32 | | 280 | 55 | ND | ND | ND | ND |
| SB - 2 | 170 | ND | ND | ND | | | | |
| SB - 2A | ND | | ND | ND | | | | |
| SB - 3 | | | ND | | | | | |
| SB - 3A | ND | ND | ND | | | | | |
| SB - 4 | ND | ND | ND | ND | | | | |
| SB - 4A | ND | ND | ND | | | | ND(H2O) | |

From data obtained in the soil borings, BTEX soil contamination did not occur on site in any significant concentrations. BTEX concentrations in PPM from the soil boring samples are tabled below:

| <u>Soil Boring</u> | <u>Depth: 0'-2'</u> | <u>4'-6'</u> | <u>9'-11'</u> | <u>14'-16'</u> | <u>19'-21'</u> | <u>24'-26'</u> | <u>29'-31'</u> | <u>34'-36'</u> |
|--------------------|---------------------|--------------|---------------|----------------|----------------|----------------|----------------|----------------|
| SB - 1 | | | ND | | | | | |
| SB - 1A | ND | | 0.3 | ND | ND | ND | ND | ND |
| SB - 2 | ND | ND | ND | ND | | | | |
| SB - 2A | ND | | ND | ND | | | | |
| SB - 3 | | | ND | | | | | |
| SB - 3A | 0.03 | ND | ND | | | | ND | |
| SB - 4 | ND | ND | ND | ND | | | | |
| SB - 4A | ND | ND | ND | | | | ND(H2O) | |

Chloride concentrations in PPM from the soil boring samples are as tabled below: (Red Values indicate greater than 250 PPM Chloride Concentration)

| <u>Soil Boring</u> | <u>Depth: 0'-2'</u> | <u>4'-6'</u> | <u>9'-11'</u> | <u>14'-16'</u> | <u>19'-21'</u> | <u>24'-26'</u> | <u>29'-31'</u> | <u>34'-36'</u> |
|--------------------|---------------------|--------------|---------------|----------------|----------------|----------------|----------------|----------------|
| SB - 1 | | | 1800 | | | | | |
| SB - 1A | 120 | | 380 | 1900 | 1800 | 3700 | 5000 | 2000 |
| SB - 2 | 330 | 580 | 500 | 1100 | | | | |
| SB - 2A | 350 | | 1400 | 900 | 870 | 690 | 1700 | 1000 |
| SB - 3 | | | 3600 | | | | | |
| SB - 3A | 170 | 3700 | 510 | 570 | 880 | 3200 | 5900 | 1900 |
| SB - 4 | 1600 | 88 | 2200 | 3400 | | | | |
| SB - 4A | 160 | 800 | 2100 | 3400 | 4500 | 8300 | 3900 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

The area around the produced water storage tanks and surrounding berm at NMSWD Station # 11 is an area of *"historic storage of produced water and occasional spills throughout the many years of its use"*.

The soils surrounding tank battery and bermed area, accessible for "plant roots" to a depth of 60 inches below ground surface, did not indicate that the release of April 17, 2003 had any significant impact on the surface soils as the concentrations of chloride generally were in acceptable plant tolerance levels. The small amount of rainfall in the past several years would not have the ability to drive any surface chloride contamination to any significant depth below ground surface as most rainfall would evaporate or transpire due to the dry surface conditions present. No salt crystallization, wicking, or leaching of salt was evident on the ground surface surrounding the tank battery and bermed area at NMSWD Station # 11. The release of April 17, 2003 was contained by the existing bermed area surrounding the tank battery.

All Soil Borings did have significant concentrations of chloride below the ground surface after a depth of 9'feet. This should be expected, as the practices, protocols, and standard operating procedures of produced water disposal plants have drastically changed since the 1960's and 1970's when NMSWD first started using the facility.

As the produced water spilled onto the ground surface from various unreported historic spills from the tank battery and spread out, it quickly saturated the very porous sand close to the tank battery and caliche soils of the bermed area surrounding the tank battery. The produced water also pooled in low areas behind the tank battery as it spread out. The soil saturation tended to migrate vertically rather than horizontally due to the nature of the porosity and low horizontal permeability of the clayey sands in the area. For this reason some soil borings have high concentrations of chloride in close proximity to soil borings that have no significant chloride concentrations. The variable chloride concentrations in SB-4 and SB-4A (within 6 feet horizontal distance from each other) at depths of 0 feet – 2 feet and 4 feet to 6 feet below ground surface can be attributed to this phenomenon.

Through time and additional produced water releases, the chloride concentrations in the sands and clayey sands beneath the site were driven downward until they hit a fat clay zone at 29'feet to 31' feet below ground surface at the site. This fat clay zone was encountered in soil borings 1A, 2A, 3A, & 4A.

In soil boring 3A, a core sample of this clay from 34' feet to 36' feet below ground surface was sent to Daniel B Stephens Soils Testing Laboratory in Albuquerque, New Mexico for analysis. This clay sample was analyzed by the lab for Initial Moisture Content, Dry Bulk Density, Calculated porosity, Saturated Hydraulic Conductivity, Effective Porosity, and total organic carbon content.

The most important test components of this analysis of the clay sampled in SB-3A @ 34'-36' are as follows:

K_{sat} (cm/sec) = 1.5E-08 (Hydraulic Conductivity rate at which groundwater, at saturation, will flow through the sampled clay) this rate is extremely slow.

Intrinsic Permeability: = 1.5E-13 (the sampled clay is extremely impermeable)

Effective Porosity: 5.5% (the sampled clay is not very porous)

The soil test analyses of the sampled clay in soil boring 3A show that the clay zone, underlying the site and encountered in soil borings 1A, 2A, 3A, and 4A, is a tight, non-porous, impermeable clay barrier. The soil analysis test results also show that it is unlikely that this clay barrier will allow any release of produced water to penetrate and migrate to any principal groundwater aquifer below.

High chloride concentrations encountered in the soil samples in soil borings 1A-4A are a result of numerous years of previous produced water releases from the facility and not a result of any recent releases. The concentrations of chloride seen in the soil borings are from previous "historic" releases that occurred long before the documented release on 04/17/03.

The most consistently high chloride concentrations are seen in all borings at a depth of 29-31 feet below ground surface which is at the top of the clay barrier underlying the site. The samples from SB-1A, SB-2A, and SB-3A, at a depth of 34-36 feet below ground surface, continued to have high concentrations of chloride but were on the average 43% lower in chloride concentration than the samples from the 29'-31' foot intervals.

In SB-4A a perched water zone, possibly caused by a previous "historic" release of produced water, was encountered at the top of the clay zone from 29-31 feet below ground surface. This perched water was only encountered in soil boring SB-4A. This perched water was sampled and tested for Volatile Organic Compounds, Chloride, Poly Aromatic Hydrocarbons, Mercury, Total recoverable metals, and total dissolved solids.

A summary of the analytical results is as follows:

| <u>Soil Boring 4-A</u> | <u>Depth: 29'-31':</u> |
|-------------------------------|-------------------------------|
| <u>Aqueous Sample:</u> | <u>PPM:</u> |
| BTEX | Non-Detect |
| TPH | Non-Detect |
| PAH's | Non-Detect |
| VOC's | Non-Detect |
| Arsenic | Non-Detect |
| Barium | 0.45PPM |
| Cadmium | Non-Detect |
| Chromium | Non-Detect |
| Lead | Non-Detect |
| Selenium | Non-Detect |
| Silver | Non-Detect |
| Mercury | Non-Detect |
| TDS | 70000 mg/l |
| Chloride | 45000 PPM |

Chloride concentrations of the perched water of 45000 PPM Chloride and 70,000 PPM TDS exceed acceptable NMWQCC and NMOCD Guidelines for groundwater chloride and total dissolved solids concentrations.

Since April 18th of 2003, there have been four additional surface releases of produced formation water at the Station # 11 site that have been reported to the NMOCD in C-141 Forms by NMSWD. The total estimated volume of brine that has been released at Station 11 is 1545 barrels. The total volume of brine from these releases not recovered after their discovery is 120 barrels.

3.0 New Site Investigation and Workplan:

NMSWD Inc., under the direction of their environmental consultant – CMB Environmental & Geological Services, Inc., propose a new site investigation be conducted that will define site geology and hydrogeology, the vertical and horizontal extent and magnitude of the vadose-zone and groundwater contamination, subsurface hydraulic conductivity, transmissivity, storativity, and rate and direction of contaminant migration, and an inventory of water wells within a 1 mile radius from the perimeter of the three dimensional body where the standards set forth by the NMOCD and NMWQCC are exceeded and the location and number of wells actually or potentially affected by the alleged pollution. Vertical and horizontal impacts of any alleged contamination to surface water and

stream sediments will also be addressed.

CMB Environmental and Geological Services, Inc. proposes to complete the continued Site Investigation on the above described property as requested by the Owner, NMSWD and the NMOCD pursuant to and in accordance with the "Notice of Violation" issued to NMSWD on September 16, 2005 by the NMOCD. Our work will conform to NMOCD Regulations; NMOCD approved Soil and Groundwater Sampling and Disposal Guidelines, with OSHA Regulations, and other rules and regulations governing the work we propose herein. The work will be supervised by an experienced professional geologist and will be completed in an efficient, cost-effective manner. (See soil boring / new monitor well location map.)

Consultant Services to Be Completed Prior to Field Activities

CMB Environmental & Geological Services, Inc. will carefully evaluate all readily available previous file information on the environmental history of this property prior to commencing the field activities.

CMB Environmental & Geological Services, Inc. has reviewed and copied the facility files located in the office of NMSWD prior to submitting this proposal.

Prior to drilling access to the properties will be obtained from the on-site and off-site property owners.

Prior to drilling the on-site utilities will be cleared with New Mexico One-Call.

Prior to drilling the NMOCD will be notified 48 hours in advance.

Prior to drilling a HASP will be prepared and submitted to the drilling contractor and NMSWD.

Prior to drilling a certificate of liability insurance will be provided to the NMSWD

Drilling Subcontractor Services to be provided

All drilling services to be performed by subcontractor drilling company, using hollow-stem auger methods and will include the following:

1. Install one four inch soil boring / monitor well in the area where the previously drilled boring SB-4A encountered perched water, in accordance with NMED / NMOCD guidelines and standards, to delineate if this perched water is still present. Depth to the perched water in SB-4A was at 29 feet below ground surface, resting on top of a clay layer of low porosity and permeability. The 4 inch monitor well will be installed at a total depth of 32 feet below ground surface and finished with schedule 40, 4-inch PVC well materials with threaded joints, including a 0.010 inch slotted 10-foot long screen from the base and a solid riser pipe to the surface. The annular space will be occupied

by a sand filter pack over the screened interval and two feet above it, a two foot bentonite seal, and cement / bentonite grout to the surface. The monitor well will be finished with a flush mounted vault. Locks will be installed on the inside and outside of the vault to prevent tampering by other parties

2. If the perched water is again encountered, a pump test will be completed by CMB Environmental & Geological Services, Inc. to determine the "sustainability" of the alleged aquifer as per NMOCD guidelines and a report detailing the results will be prepared and submitted to NMSWD and the NMOCD. All pumped or recovered water from this pump test will be placed in the NMSWD's on-site tank battery for disposal.
3. *Three additional soil borings / 2 inch monitor wells will be drilled and installed outside the perimeter of the NMSWD's Station 11 Tank Battery, off the tank battery site. (See soil boring / new monitor well location map.)* The purpose of these borings / monitor wells is to determine the vertical and horizontal extent of the alleged groundwater chloride contamination, and to determine and delineate the principal aquifer in the area's gradient and flow direction. These borings will include split spoon derived measurements of total aromatic hydrocarbons (TPH) at least every 10 feet, at every significant change in lithology, on top of the clay zone anticipated at 29-32 feet below ground surface, and at the capillary fringe above the principal aquifer in the area (estimated to be 54-56 feet below ground surface) using an appropriate field instrument (PID). The borings will also include the submittal laboratory analyzed confirmation soil samples at least every 10 feet, at every significant change in lithology, on top of the clay zone, and at 54-56 feet below ground surface, at the estimated capillary fringe of the water table / principal aquifer in the area. Although the principal water table aquifer is estimated at 54-56 feet below ground surface underneath the NMSWD's site, each soil boring will be drilled until water is encountered and then an additional ten feet drilled and fifteen feet of monitor well screen installed, 10 feet below water table level, and five feet of screen above the water table. These borings may be drilled up to a total depth of 100 feet below ground surface depending on site conditions. These wells will be finished with schedule 40, 2 inch PVC well materials with threaded joints, including a 0.010 inch slotted 15 foot long screen from the base and a solid riser pipe to the surface. The annular space will be occupied by a sand filter pack over the screened interval and two feet above it, a two foot bentonite seal, and cement / bentonite grout to the surface. All two inch monitor wells will be finished with stick up well vaults. Locks will be installed on the inside and outside of the well vaults to prevent tampering by other parties.
4. All soil samples will be sent to Hall Environmental Laboratory located in Albuquerque, NM for laboratory analysis of all soil samples for TPH using

SW-846 Method 8015B-Modified, BTEX using SW-846 Method 8021B, and for general chemistry, including chlorides and total dissolved solids (TDS) using appropriate US EPA Methods' and quality assurance / quality control (QA/QC) procedures. A water sample from each installed two inch monitor well will also be taken and analyzed at Hall Environmental Laboratory for BTEX using SW-846 Method 8021B, and for general chemistry, including chlorides and total dissolved solids (TDS) using appropriate US EPA Methods' and quality assurance / quality control (QA/QC) procedures. All samples will be taken in accordance with NMOCD Sampling Protocols, Approved Methods, and Guidelines.

Decontamination will be performed to eliminate the possibility of cross-contamination between soil samples and individual borings. All sampling equipment will be decontaminated between each sample. Decontamination will consist of washing the sampling equipment with a detergent solution and double rinsing with clean tap water.

Additionally, the hand tools used by the sampler to select and divide samples will be given a final rinse with de-ionized water before use on each new sample. The drilling augers will be decontaminated between each boring by steam cleaning. A stiff brush will be used, if required, to remove soil adhering to the augers.

Completed monitoring wells will receive an appropriate surface finish, concrete aprons for well vaults, etc. Soil cuttings and other investigative wastes (i.e. well development water) will be managed in accordance with NMOCD guidelines. All monitor well purge water / development water will be placed in the on-site tank battery for disposal. Soil boring / cuttings waste disposal, if necessary, will be in accordance to NMOCD Guidelines, and produced waste will be drummed and shipped to Gandy-Marley Land Disposal Farm. The drilling contractor and the consultant will ensure the property is fully restored to the O/O's satisfaction, and that the site is free of debris and other matter introduced or encountered during the drilling activities.

Consultant Services Associated with Drilling Activities

CMB will provide a professional geologist to locate the monitoring wells and borings and to generally oversee the drilling activities and document the work.

During hollow-stem auger drilling, a split-spoon sampler will be driven ahead of the augers to collect a minimally disturbed soil sample. Soil samples will be collected at the intervals described above. After retrieval of the sampler from the boring, the sampler will be opened and the sample will be split longitudinally. That half of the sample, which is to be set aside for analytical work, will be dealt with immediately. Following this, the other half of the sample will then be placed

in a Mason-type jar, and heated, in order to screen it with a, field calibrated to 100 PPM Isobutylene, photoionization detector (PID) using the "jar headspace method". A PID with a lamp voltage of 10.6 eV or higher will be used to perform this screening. All samples from which sufficient soil is recovered will be screened in this manner. All results from this field-testing will be recorded.

One split spoon sample from each off site boring, at the clay layer anticipated to be at 30 feet to 32 feet below ground surface, will be sent to Daniel B Stephens and Associates Soil Testing Laboratory Located in Albuquerque, NM for analysis of Hydraulic Conductivity, porosity, and fractional organic carbon content. One sample of the capillary fringe of the principal aquifer below the clay zone (or at whatever depth it is encountered) from one of the new borings will also be sent to Daniel B. Stephens and Associates laboratory for analysis of Hydraulic Conductivity, storativity, porosity, and fractional organic carbon content.

Boring logs will be prepared for all soil borings describing soils according to the Unified Soil Classification System. Characteristics, such as soil structure, voids, layering, lenses, odor, staining and mottling, will be noted on the logs.

The investigation described above will allow for the Scientist to make in-field, immediate qualitative assessment of the presence of ground water contamination, and to define the vertical and horizontal extent of soil contamination. Of course, laboratory samples will provide additional supporting evidence at a later date.

Consultant Services Associated with Groundwater Sampling and Groundwater Investigation of the New Monitor Wells

Following the installation of the new monitoring wells, each well will be developed by alternately surging and purging for a minimum of 30 minutes. Water will then be pumped from the well until ten well volumes have been removed or until clear water is produced. If the permeabilities of the aquifers are too low to permit the described development, the wells will be bailed dry and permitted to recover at least three times. The wells will be developed after a minimum of 12 hours. Well construction and development details will be documented on appropriate forms as required. All produced purge water will be placed in the on-site tank battery for disposal.

The new monitoring well(s) will be professionally surveyed, by a State of New Mexico licensed professional surveyor, in accordance with current professional standards for conducting ground water investigations, which include standards set forth by the NMED / NMOCD. The following information will be obtained to the nearest 0.01 feet for each monitoring well:

- 1) Elevation of ground. (USGS Topographic Elevation)
- 2) Elevation of top of PVC casing. (USGS Topographic Elevation)

3) Horizontal location of well to the nearest 0.1 feet. (USGS Topographic Elevation)

This information will be tied into a known surveyed location and elevation, and will be referenced to mean sea level. (USGS Topographic Elevation)

Groundwater Monitoring Program:

Groundwater samples will be collected within 48 hours and in accordance with CMB's standard QA/QC operating procedures described below. Three additional quarters of groundwater samples will be collected from the three new monitor wells for the same parameters during initial stage 1 abatement plan.

Quality Assurance & Quality Control of Groundwater & Soil Sampling

The following procedures will be used during sample collection to provide quality assurance and quality control (QA/QC), to minimize loss of volatiles and to maintain the suitability of samples for analysis. Except for drinking water samples, the sample collection and analytical procedures will be consistent with SW-846: *Test Methods for Evaluating Solid Waste*, November 1986, and updates published by the U.S. EPA. QA/QC methods to be used are described below.

A state-certified laboratory will supply all sampling containers and preservatives, and a state-certified laboratory will perform analyses (Hall Environmental Analysis Laboratory in Albuquerque, NM).

All samples will be handled in such a manner as to minimize the loss of organic compounds to volatilization and biodegradation, and sampling equipment will be decontaminated between sampling events.

All samples collected will be discrete (not composite) samples. Soil from a given sample collected during drilling activities which is to be submitted for laboratory analytical work will be handled and prepared before soil from that sample is used for field screening (SW-846).

All samples for analysis will be placed in a cooler on ice at a temperature of 4° C. immediately following collection.

Samples will be delivered to the laboratory on either the day they are collected or the morning of the next day, unless the samples are collected on a Friday, in which case they will be delivered no later than Monday morning. Where possible, sample collection on Fridays will be avoided.

Chain-of-custody procedures will be utilized throughout the sampling/delivery process.

1) One trip blank per sampling event

Documentation of the sampling and QA/QC procedures will include notes available for NMED / NMOCD inspection. These notes will document the procedures for sampling and all other routine activities, logs of all routine and non-routine instrument calibrations performed on field equipment, and field notes describing the sequence of activities that took place in the investigation.

Reports

Upon completion of the above scope of work, CMB will prepare and submit to NMSWD and the NMOCD a report that meets or exceeds the requirements set forth in the NMOCD Guidelines, including a description of the vertical and horizontal extent of any possible soil and groundwater contamination encountered in the investigation. The report will also address any encountered phase separated hydrocarbon; any encountered highly contaminated soils, surface water bodies, potable water wells, and other water supplies within 1 mile that may potentially be affected by the alleged release. The groundwater investigation described above will allow for the calculation of hydraulic gradients and favored contaminant pathways and migration routes.

Maps will be prepared documenting the groundwater contours, groundwater gradient, the lateral extent of soil and ground water contamination encountered in the investigation, soil contamination contour maps, groundwater plume maps, drawings of release site, area and vicinity maps, and cross sections through the contaminated zone. Well data logs and completion diagrams for each soil boring and monitor well will be provided. Tables will include contaminant concentration tables and ground water elevation tables.

Site-specific conditions identified with drilling will also be addressed in the report.

Quarterly progress reports of the groundwater sampling and monitoring will also be submitted after completion of the quarterly groundwater sampling events.

Two paper copies and one electronic copy of the final Stage 1 Report will be submitted to the OCD no later than 45 days following NMSWD's receipt of the analytical data, with a paper copy provided to the OCD Hobbs, NM District Office.

Estimated Schedule for all Stage 1 Abatement Activities:

April 2006: Drilling and installation of 3 new 2 inch monitor wells, one 4 inch sentinel / monitor well on top of clay zone and aquifer sustainability pump test of perched water. Groundwater sampling and laboratory analysis of groundwater from the three new monitor wells. Conduct professional survey location of new monitor wells.

June 2006: Final Site Investigation Report detailing findings of the investigation.

July 2006: First quarter sampling event of monitor wells. Possible stage 2 abatement plan submitted

August 2006: First Quarter Monitor Well Quarterly Report Submitted

October 2006: Second Quarter sampling event of monitor wells.

December 2006: Second Quarter Monitor Well Quarterly Report Submitted

January 2007: Third Quarter sampling event of monitor wells

March 2007: Third Quarter Monitor Well Quarterly Report Submitted

April 2007: Fourth Quarter sampling event of monitor wells

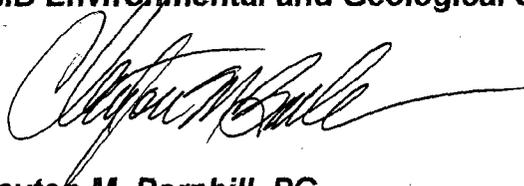
June 2007: Fourth Quarter Monitor Well Quarterly Report Submitted

References

CMB and/or its key employees have a long list of references for which similar work has been performed both within New Mexico and in other states Clayton M. Barnhill is a registered professional geologist in the states of Texas and Wyoming.

Questions on this proposal will receive my prompt response.

Sincerely,
CMB Environmental and Geological Services, Inc.



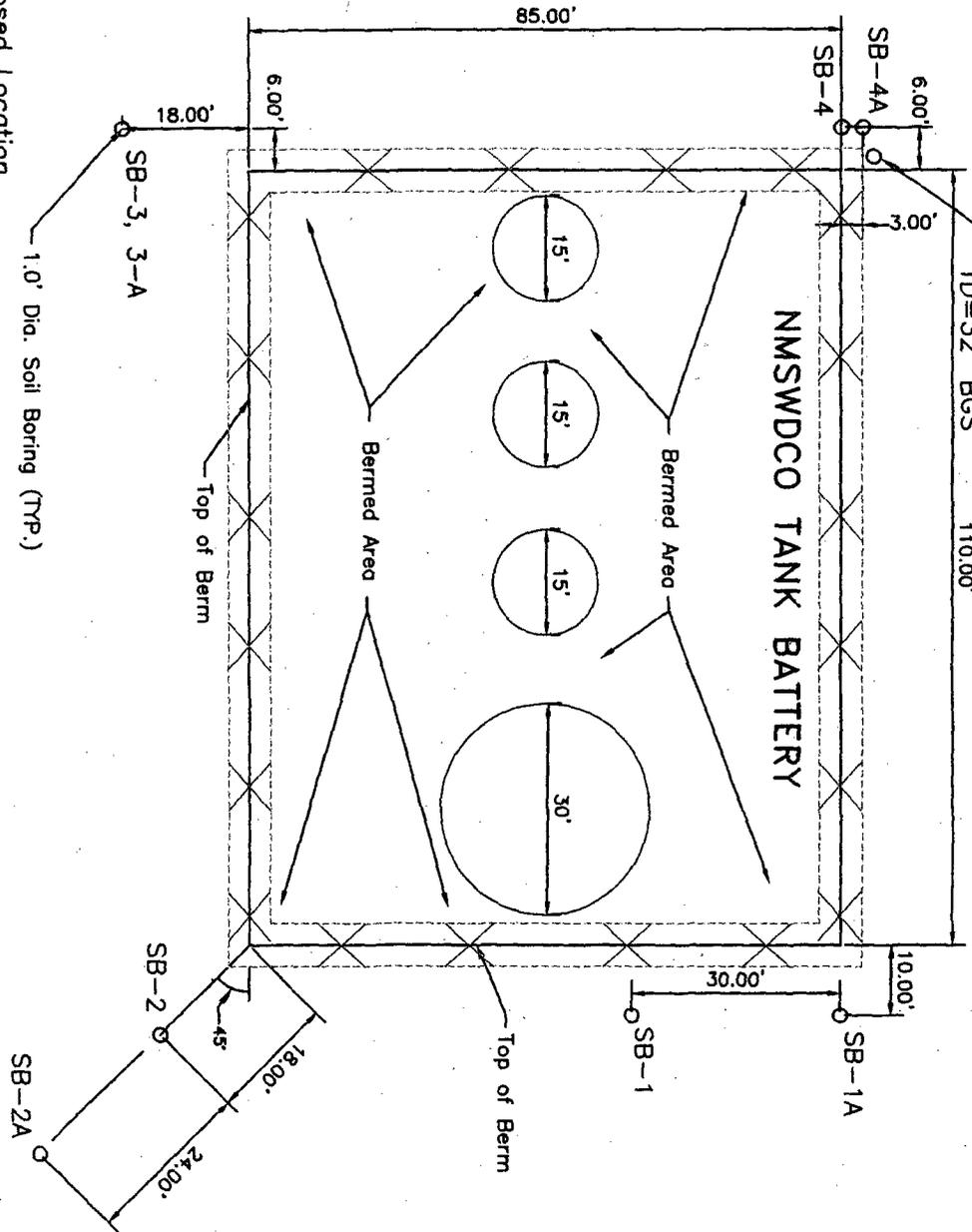
Clayton M. Barnhill, PG
February 20, 2006

○ MW-2
Proposed Location
2" MW

RW-1
Proposed 4" RW/MW
TD=32' BGS
110.00'

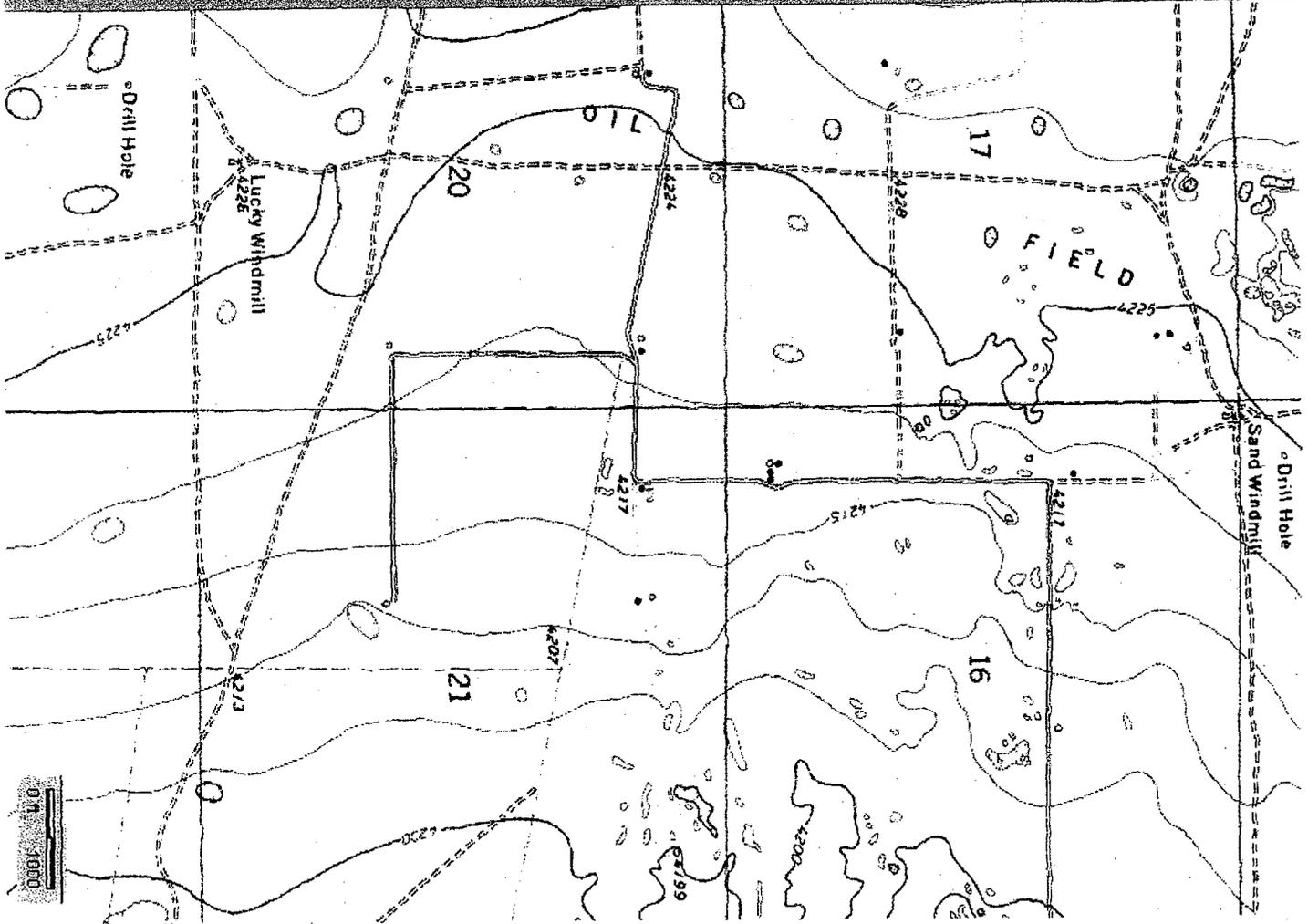
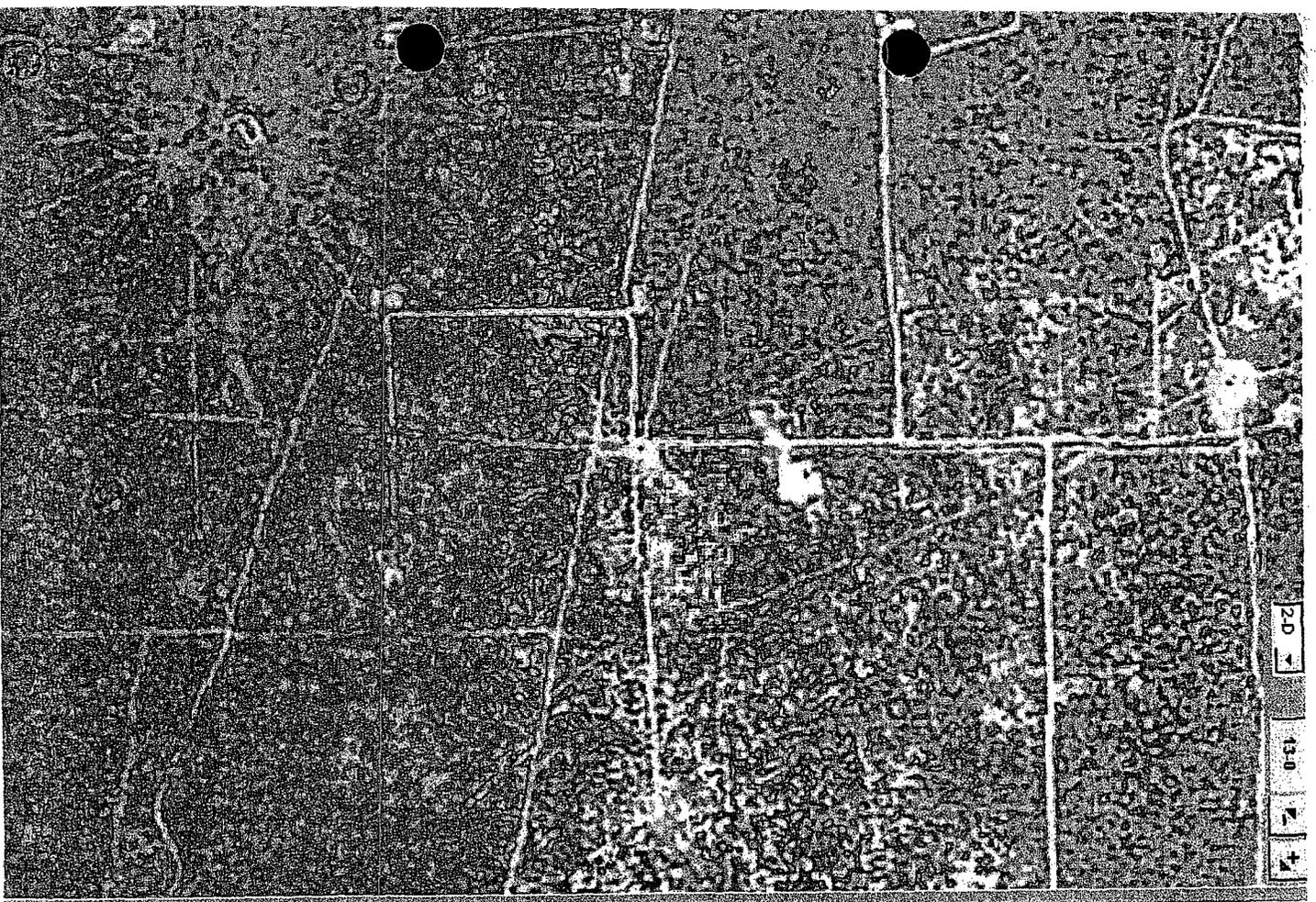
○ MW-1
Proposed Location
2" MW

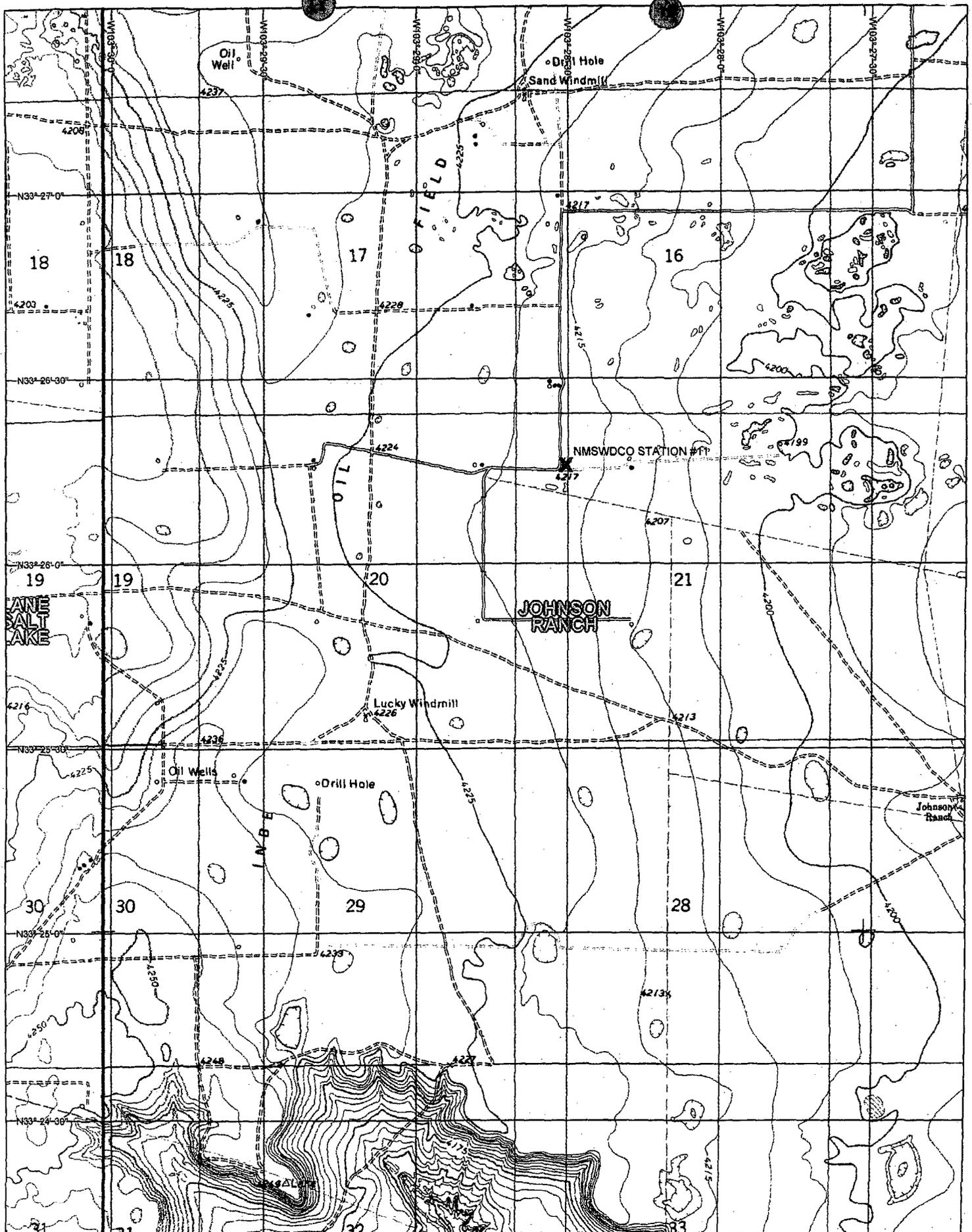
○ MW-3
Proposed Location
2" MW

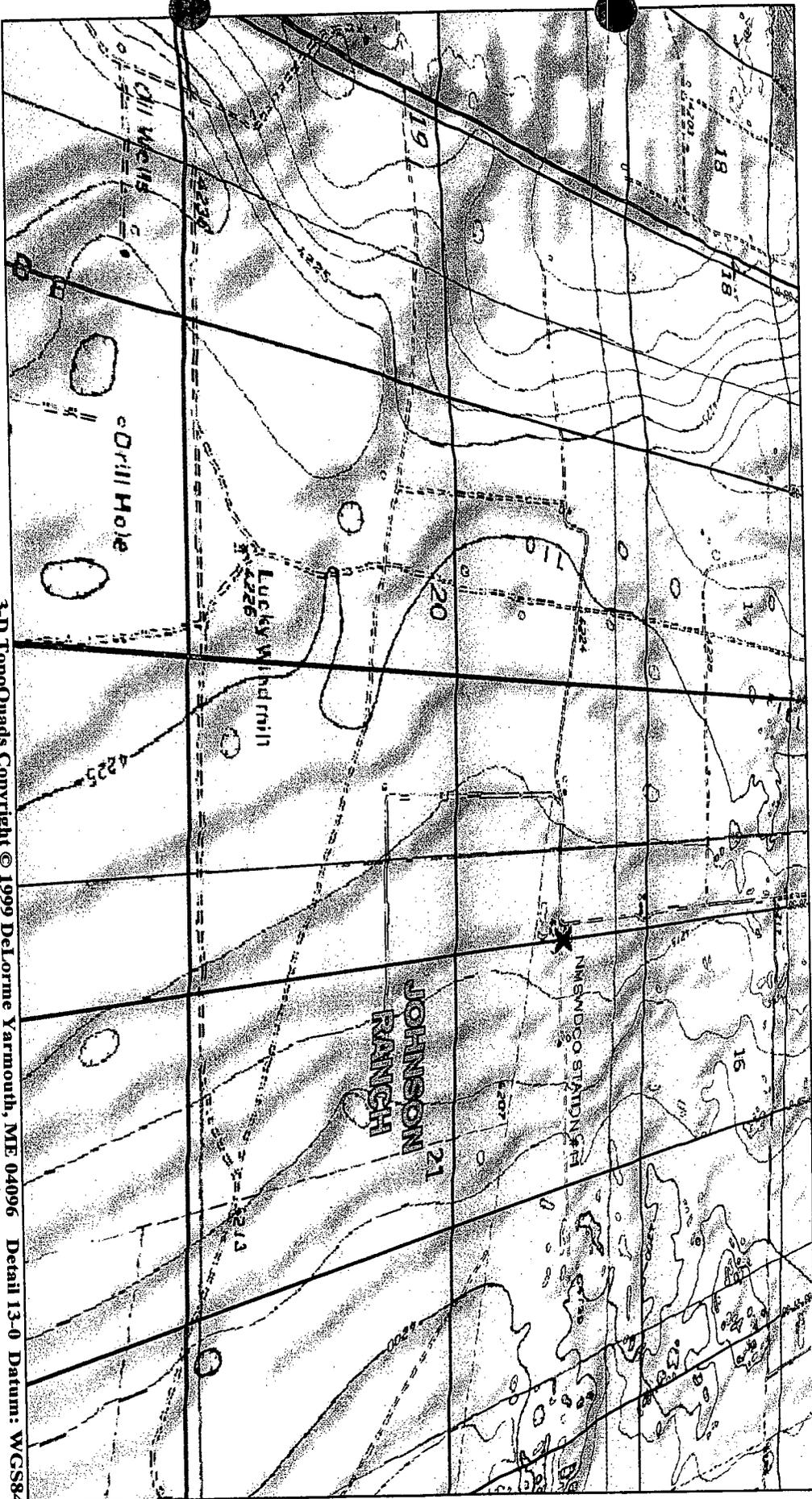


CMB ENVIRONMENTAL & GEOLOGICAL SERVICES, INC.
SITE INVESTIGATION
SOIL BORING/NEW MONITOR WELL
LOCATION MAP

| | | |
|-------------------------------------|---------------|----------------|
| Clayton K. Barnhill | | 02/06 |
| NED / PSTB Certified Scientist #246 | | |
| DATE: FEB., 2006 | DRAWN BY: MDS | JOB NO. 403001 |
| SCALE: NONE | | EXHIBIT NO. 1 |







3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Detail 13-0 Datum: WGS84



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

Mark E. Fesmire, P.E.
Director
Oil Conservation Division

February 2, 2006

Mr. Charles B. Read
New Mexico Salt Water Disposal Company
P.O. Box 1518
Roswell, NM 88201

RE: STAGE 1 ABATEMENT PLAN PROPOSAL (AP053)

Dear Mr. Read:

The New Mexico Oil Conservation Division (OCD) has reviewed the *Stage 1 Abatement Plan Proposal* submitted on November 15, 2005, by New Mexico Salt Water Disposal (NMSWD). OCD Rules (19.15.1.19.G NMAC) require that the applicant shall give appropriate public notice after OCD determines that the Stage 1 Abatement Plan proposal is administratively complete. In the interest of avoiding unnecessary delays, OCD is providing NMSWD with a technical review at this time because it feels that the NMSWD's *Stage 1 Abatement Plan Proposal* needs only minor revisions before it can be approved.

NMSWD should make the following changes and corrections to its *Stage 1 Abatement Plan Proposal* and submit a revised proposal to OCD by February 22, 2006. OCD will then formally determine that the *Stage 1 Abatement Plan Proposal* is administratively complete and NMSWD can then make the appropriate public notice in accordance with OCD's requirements. After the close of the public comment period, assuming that there are no substantive comments and that there is no other technical issues, NMSWD will be able to implement its workplan without further delay.

NMSWD should make the following corrections and changes:

1. NMSWD should correct the typo "*Regulaitions*" on page 1.
2. NMSWD should specify in the *Summary of Previous Site Investigation* (page 3) that it conducted a subsurface site investigation at Station 11 in accordance with the requirements of the State Land Office.

3. NMSWD should note on page 7 the total estimated volume of brine that has been released at Station 11.
4. NMSWD should renumber Section 2.0 (*New Site Investigation and Workplan*) as Section 3.0 on page 7.
5. NMSWD should add a figure that depicts the proposed locations of the 4 new soil borings/monitor wells.
6. NMSWD should specify the proposed depth of the four-inch monitor well (see task no. 1).
7. NMSWD should revise its workplan to specify that it will collect and analyze soil samples at least every 10 feet, at every significant change in lithology, and on top of the "clay zone." NMSWD should revise its workplan to specify that it will analyze all soil samples for TPH using SW-846 Method 8015B-Modified, BTEX using SW-846 Method 8021B, and for general chemistry, including chlorides and total dissolved solids (TDS), using appropriate EPA methods and quality assurance/quality control (QA/QC) procedures.

NMSWD should still analyze split-spoon samples for organic vapors in the field using the methods proposed on page 10.

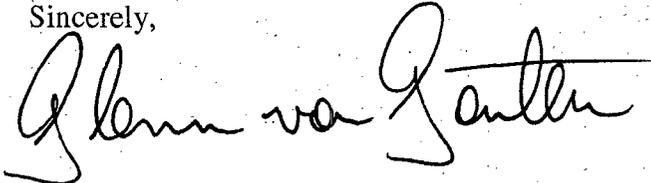
8. OCD does not feel that it is necessary for NMSWD to analyze the soil samples for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and polynuclear aromatic hydrocarbons (PAHs) using EPA SW-846 Methods 8260, 8270, and 8310.
9. NMSWD should revise its workplan to specify that all wells shall be completed with 15 feet of well screen installed with 5 feet of well screen placed above the water table and 10 feet of well screen placed below the water table.
10. NMSWD should revise its workplan to specify that all water samples shall be analyzed for BTEX using SW-846 Method 8021B, and for general chemistry, including chlorides and TDS, using appropriate EPA methods and quality assurance/quality control (QA/QC) procedures.
11. NMSWD should revise its workplan on page 11 to specify that all purge water will be placed in the on-site tank battery for disposal (see page 2).
12. NMSWD should revise its workplan on page 11 to specify that it will have the monitor wells professionally surveyed.

Mr. Charles B. Read
February 2, 2006
Page 3

13. NMSWD should revise its workplan on page 13 to specify that it will submit two paper copies and one electronic copy of its final Stage 1 Report to OCD no later than 45 days following its receipt of analytical data, with a paper copy provided to the OCD Hobbs District Office.

If you have any questions, please contact me at 505-476-3488.

Sincerely,

A handwritten signature in black ink that reads "Glenn von Gonten". The signature is written in a cursive style with a long horizontal line extending from the end of the name.

Glenn von Gonten
Senior Hydrologist

xc: Gary Larson, Hinkle, Hensley, Shanor & Martin, L.L.P.
Paul Sheeley, OCD Hobbs District Office
Cheryl O'Connor, OCD Assistant General Counsel

STATE OF NEW MEXICO
NEW MEXICO OIL CONSERVATION DIVISION

IN THE MATTER OF
New Mexico Salt Water Disposal Co., Inc.

COMPLIANCE ORDER
NM-OCD

Respondent.

**AGREED ORDER DIRECTING COMPLIANCE
AND ASSESSING CIVIL PENALTY**

Pursuant to the New Mexico Oil and Gas Act, NMSA 1978, Sections 70-2-1 through 70-2-38, as amended (hereinafter, "Act") and the Water Quality Act, NMSA 1978, Sections 74-6-1 to 74-6-17, as amended (hereinafter, "WQA"), the Director of the New Mexico Oil Conservation Division (hereinafter, "OCD"), issues this Order to **NEW MEXICO SALT WATER DISPOSAL COMPANY, INC.** (hereinafter, "NMSW"), directing compliance with the Act, the OCD Rules, WQA and the Water Quality Control Commission (hereinafter, "WQCC") Rules, and assessing a penalty for violations of OCD, WQA and WQCC Rules and the Act.

I. FINDINGS of FACTS

1. The OCD, a division of the New Mexico Energy, Minerals and Natural Resources Department, is the state division charged with administration and enforcement of the Oil and Gas Act (hereinafter, "Act"), NMSA 1978, Section 70-2-12B(22), as amended, and OCD Rules, including the administration and enforcement of the WQA and the WQCC Rules as pertaining to New Mexico's oil and gas activity, which includes disposal facilities, such as community or lease salt water disposal systems.
2. NMSW is a domestic profit corporation authorized to do business in the State of New Mexico under Public Regulation Commission (hereinafter, "PRC") SCC number 1690171.
3. NMSA 1978, Section 70-2-33(A) defines "person" to include corporations.
4. OCD Rule 19.15.3.116B(1)(d) and C(1)(2) NMAC (hereinafter, "OCD Rule 116"), stipulates that "*a release of any volume which may with reasonable probability be detrimental to water or cause an exceedance of the standards in Section 19, Subsection B, Paragraphs (1) and (2) or (3) of 19.15.1 NMAC*" constitutes a major release. OCD Rule 116C(1), (2) requires the person operating or controlling either the release or the location of the major release to immediately make a verbal report of the release and then timely submit a written report on OCD Form C-141 to the OCD's local district office and to the OCD's Environmental Bureau Chief in Santa Fe.
5. OCD Rule 19.15.1.19 NMAC (hereinafter, "OCD Rule 19") specifies that the WQCC groundwater standards, set out in 20.6.2.3103 NMAC (hereinafter, "ED Rule 3103"), shall be met.

6. Section 70-2-31(A), NMSA 1978 of the Act authorizes penalties of up to one thousand dollars (\$1,000.00) per day per violation for any knowing and willful violation of any provision of the Act or any rule adopted pursuant to the Act.
7. Section 74-6-10(A), NMSA 1978 of the WQA provides for civil penalties of up to \$10,000.00 per day for violations of the WQA. The OCD is authorized to enforce these penalties as they relate to the protection of groundwater. *See Section 74-6-2, NMSA 1978.*
8. NMSW is the operator of record for Pumping Station # 11.
9. On May 6, 2003, NMSW reported a release of produced water from a storage tank at its Pumping Station #11. The 20 barrel release occurred inside a storage tank berm on April 17, 2003.
10. By requirement imposed by the State Land Office, on April 1, 2004 NMSW submitted an Environmental Site Assessment (hereinafter, "ESA") to the State Land Office. In its ESA, NMSW reported that a perched water zone was encountered in one of the soil borings (Soil Boring 4A), and that a sample taken from the perched water zone contained elevated levels of chlorides and total dissolved solids. These levels exceeded the ground water standards set out in 19.15.1.19 NMAC. Within the meaning of OCD Rules 19 and 116, the perched water constitutes ground water. NMSW disagrees that pursuant to OCD Rules 19 and 116 that perched water constitutes ground water.

One ground water sample shows the total dissolved solids (hereinafter, "TDS") concentration to be approximately 70,000 milligrams per liter (hereinafter, "mg/l") and the chlorides concentration to be approximately 45,000 mg/l. WQCC Regulations specify acceptable concentrations of 1000 mg/l and 250 mg/l, respectively, for TDS and chlorides.

11. The OCD has determined that the ESA shows that NMSW knew or should have known by April 1, 2004 that the spills had exceeded WQCC standards for ground water. However, NMSW failed to report the ground water contamination to the OCD, violating OCD Rule 116B(1)(d) and C(1)(2).
12. As NMSW knew or should have known by April 1, 2004 that the spill exceeded WQCC standards, NMSW violated Rule 116 by knowingly and willfully failing to report the ground water contamination to the OCD for approximately 530 days.
13. NMSW violated OCD Rule 19 and WQCC Rule 20 by exceeding acceptable ground water concentrations of TDS and chloride; it has been in violation for at least 530 days.
14. Since the April 17, 2003 release of produced water, NMSW has reported on OCD Form C-141 five (5) additional releases on the system to the OCD Hobbs District Office. This number of releases in twenty-five (25) months indicates that NMSW has significant problems with a degrading infrastructure and/or operating procedures.

15. NMSW disagrees with the OCD that it knowingly and willfully failed to timely report ground water contamination.

II. CONCLUSIONS of LAW

1. The OCD has jurisdiction over NMSW and over the subject matter in this Order pursuant to the Act (NMSA 1978, Section 70-2-12B(22), as amended), OCD Rules, the WQA and WQCC Regulations.
2. NMSW is a person as defined in the Act (NMSA 1978, Section 70-2-33A), the WQA and 20.6.2.7(II) NMAC.
3. NMSW's Pumping Station # 11 is a source for water contaminants that are being discharged directly or indirectly into surface or groundwater, as defined in the WQA (NMSA 1978, Section 74-6-2M).
4. NMSW knowingly and willfully violated OCD Rule 116 by failing to report unauthorized releases to the OCD for a minimum of 530 days; untimely submission of spill reports (C-141s); and failure to remediate ground water contamination. NMSW disagrees that it knowingly and willfully violated OCD Rule 116.
5. NMSW violated OCD Rule 19 and WQCC Regulation 3103 by exceeding acceptable ground water concentrations of TDS and chloride; it has been in violation for at least 530 days.

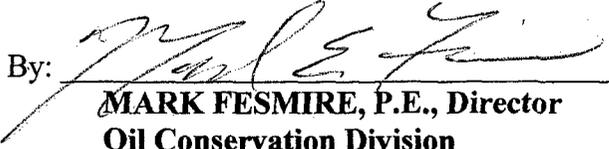
III. ORDER and CIVIL PENALTY

1. The OCD hereby assesses a civil penalty of **Twenty-five Thousand Dollars (\$25,000.00)** against NMSW for violations of OCD Rule 116 (failure to report unauthorized releases to the OCD and untimely submission of spill reports (C-141s)) and OCD Rule 19B (contaminating ground water by exceeding standards set out in 20.6.2.3103 NMAC).
2. NMSW shall pay the **Twenty-five Thousand Dollars (\$25,000.00)** by the end of November 2005. Payment shall be made by certified or cashier's check made payable to the "New Mexico Oil Conservation Division" and mailed or hand delivered to the New Mexico Oil Conservation Division, Attention: Director, 1220 South Saint Francis Drive, Santa Fe, New Mexico 87505.
3. NMSW must submit a Stage 1 abatement plan proposal to the OCD Santa Fe Office, with a copy provided to the OCD Hobbs District Office, no later than November 30, 2005. All submittals to OCD must be sent from NMSW rather than being submitted by a consultant. NMSW shall provide one paper copy and one electronic copy of all future work plans and/or reports relating to the cleanup to the OCD Santa Fe Office and the Hobbs District Office.
4. NMSW shall install a shut-off valve at its North Dumping Station; install a digital electronic alarm at Pumping Stations 8 and 11 and the North Dumping Station; and develop written

operational guidelines and training for its personnel to aid in the operation and maintenance of this site. This work shall be completed no later than March 15, 2006.

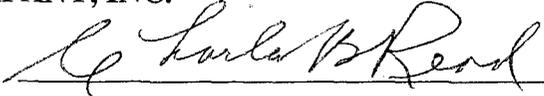
5. NMSW shall submit a report on the state of its infrastructure and operating procedures to the OCD Santa Fe Office, with a copy to the OCD Hobbs District Office, by December 16, 2005, which shall be subject to the OCD's review and reasonable comments and approval. This report shall include a plan to repair and/or upgrade its infrastructure and improve its operating procedures to prevent human error. The plan shall also address NMSW's requirement to install a shut-off at its North Dumping Station; install digital electronic alarms at Pumping Stations # 8 and # 11 and the North Dumping Station; and develop written operational guidelines and training for its personnel to aid in the operation and maintenance of this site. Nothing in this paragraph or Order is intended to limit or prohibit the OCD from requiring NMSW address maintenance, repair and operation of its facilities to bring them into compliance with applicable rules and regulations.
6. The OCD retains the right to pursue relief authorized by the Act or the WQA for any violation not addressed herein. The OCD retains the right to enforce this Order by suit or otherwise to the same extent and with the same effect as a final Order of the Division entered after notice and hearing in accordance with all terms and provisions of the Act.
7. The laws of New Mexico shall govern the construction and interpretation of this Order.
8. NMSW shall assume all costs and liabilities incurred in performing any obligation under this Order. The OCD, on its own behalf or on behalf of the Department of Energy, Minerals and Natural Resources, shall not assume any liability for NMSW's performance of any obligation under this Order.
9. NMSW shall disclose this Order to any successor-in-interest to the facility and shall advise such successor-in-interest that this Order is binding on the successor-in-interest until such time as NMSW complies with its terms and conditions or it is terminated by written agreement of the parties.
10. By signing this Order, NMSW expressly:
 - a) acknowledges the correctness of the Findings and Conclusions set forth in this Order;
 - b) agrees to comply with Ordering Paragraphs (2) through (4), (8) and (9);
 - c) waives any right, pursuant to the Oil and Gas Act or otherwise, to a hearing either prior or subsequent to the entry of this Order or to an appeal from this Order; and
 - d) agrees that if it fails to comply with this Order, the Order may be enforced by suit or otherwise to the same extent and with the same effect as a final Order of the Division entered after notice and hearing in accordance with all terms and provisions of the Oil and Gas Act (NMSA 1978, Sections 70-2-1 through 70-2-38, as amended).

Done at Santa Fe, New Mexico this ¹⁴ ~~12~~ day of ~~December~~ ^{January} 2006.

By: 
MARK FESMIRE, P.E., Director
Oil Conservation Division

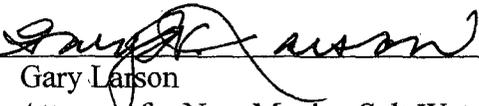
ACCEPTANCE

NEW MEXICO SALT WATER DISPOSAL CO., INC. hereby accepts the foregoing Order, and agrees to all of the terms and provisions set forth in the Order.

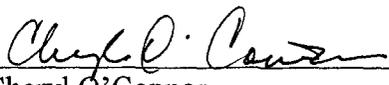
NEW MEXICO SALT WATER DISPOSAL 
COMPANY, INC.
By: 
Title: President
Date: 12/30/05

APPROVED:

HINKLE, HENSLEY, SHANOR & MARTIN, L.L.P.

By: 
Gary Larson
Attorney for New Mexico Salt Water Disposal Co., Inc.

ENERGY, MINERALS and NATURAL RESOURCES DEPT.
OIL CONSERVATION DIVISION

By: 
Cheryl O'Connor
Attorney for the OCD

05151

11-24

Office AU #

1210(8)

CASHIER'S CHECK

0515101934

Operator I.D.: albu0740

albu0740

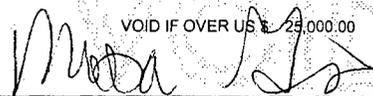
November 28, 2005

PAY TO THE ORDER OF *****NEW MEXICO OIL CONSERVATION DIVISION*****

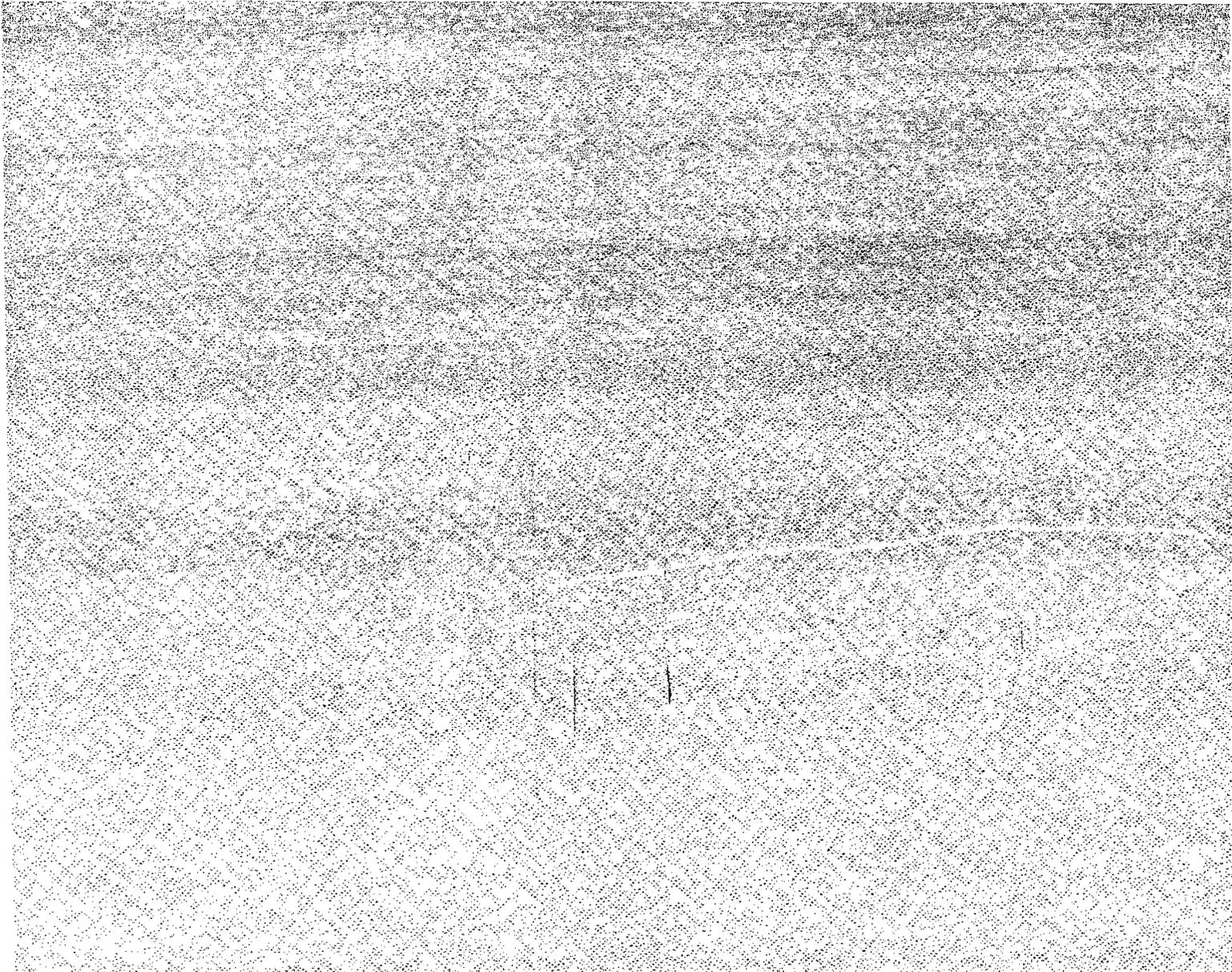
*****Twenty-five thousand dollars and no cents*****

****\$25,000.00****

WELLS FARGO BANK, N.A.
400 N PENNSYLVANIA AVE
ROSWELL, NM 88201
FOR INQUIRIES CALL (480) 394-3122

VOID IF OVER US \$ 25,000.00

AUTHORIZED SIGNATURE

⑈0515101934⑈ ⑆121000248⑆4861 505659⑈



APO53

NMSWD

(New Mexico Salt Water Disposal)
2005 DEC 16 PM 2 19
P. O. Box 1518
Roswell, New Mexico 88201
505/622-3770

December 16, 2005

Ms. Cheryl O'Conner
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: NMSWD Company - Vada Jenkins System
Report on Infrastructure and Operating Guidelines

Dear Ms. O'Connor:

In accordance with the Notice of Violation issued to New Mexico Salt Water Disposal Company on September 16, 2005, I am enclosing the following for your review.

- 1.) Report on current infrastructure/future operations and system enhancements
 - A.) Vada Jenkins Challenge Log(recent capital expenditures)
- 2.) Operational and Emergency Policy
 - B.) NMSWD Spill/Leak Policy

Please review the materials and in the event I can supply you with any additional information, please do not hesitate to call.

Very truly yours,

Charles B. Read
by SM

Charles B. Read

CBR/jbr

Cc: OCD
1625 N. French Drive
Hobbs, NM 88240

Enclosures: Current Infrastructure/Future Operations, Vada Jenkins Challenge Log, Operational and Emergency Policy

NMSWD

(New Mexico Salt Water Disposal)
P. O. Box 1518
Roswell, New Mexico 88201
505/622-3770

December 16, 2005

Infrastructure and Operations Procedures/Future Enhancements to System

History

NMSWD Company (Vada Jenkins Disposal System) has been in operations for the past 55 years. We have provided a much needed system and service for the oil and gas industry and the production of oil and gas properties. We have provided a service which has afforded the State of New Mexico millions of dollars of royalty revenue by disposing of the salt water from oil and gas wells in this area of New Mexico.

Current Enhancements to System

Over the past 3 years we have recognized a renewed need to upgrade and rehabilitate our system for operation.

Since June of 2003 we have made capital improvements in the amount of \$ 246,588. Our policy is to replace the pipeline system, where needed, with high grade poly pipe instead of traditional PVC. We have replaced old tanks with new fiberglass tanks and are replacing any old steel valves with stainless steel valves.

We maintain a Boy Scout "campsite" policy and have cleaned up unsightly materials and equipment not necessary in our operation as well as maintain roads and existing equipment on our current operational locations. We will keep the land around our operation in its original condition the way we entered the property 55 years ago. Our objective and goal is to be 100% maintenance and environmentally safe in our operation.

Future Operations and Plans

We plan to continue with our operations and totally upgrade our system. We plan to do the following:

- 1) Upon approval of our Stage 1 Abatement plan, fulfill the required work needed by the OCD and receive approval to rebuild pump station 11.
- 2) Rebuild pump station 11.
- 3) Replace and add necessary accessory items to upgrade to today's standards to maintain an

environmentally safe operation.

- 4) Install electronic digital alarms at Pumping Station 8, Pumping Station 11 and North Dump Station to notify of any potential overload on the system. Place shut off valve at the North Dump Station to stop inflow of water upon an alarm of overload on system. This will control water coming in from main dump station.
- 5) Operate system to the operational and emergency policy placed in this report to OCD.

NMSWD

(New Mexico Salt Water Disposal)

P. O. Box 1518

Roswell, New Mexico 88201

505/622-3770

December 16, 2005

Operational and Emergency Policy

Operation Policy

- 1.) Maintain a 24/7 policy on operating and maintain system.
- 2.) Work under and guidelines of OCD and or State Land Office for operating a system of this type.
- 3.) Operate under a policy to strive to be 100% environmentally safe.
- 4.) Have a zero tolerance to anybody who sees different to the policy set by the State of New Mexico or OCD. This would include adversarial tenants who do not cooperate with and also conform to the rules set out for tenants on State lands.
- 5.) Uphold the rights of the State of New Mexico to use state lands and dispose of salt water produced from oil and gas wells in the State of New Mexico. This includes identifying any persons or tenants which are impeding the growth of the State of New Mexico, because of there resistance to energy development on state lands, and by impeding our process to depose of water properly.

Emergency Procedures

- 1.) Follow the OCD and State Guidelines for operating and reporting for a system of this caliber.
- 2.) Follow the attached spill/Leak policy as set out in our company.
- 3.) "Be prepared" to be 100% emergency and environmentally safe.
- 4.) Have emergency alert equipment, so we can respond prior to any potential threat to our system which does not comply with our policy or the State of New Mexico guidelines.
- 5.) Change our attitude and corporate culture to reflect the *personal responsibility* to abide by the enforcement regulation and environmental responsibility to leave a clean and safe environment for future generation. (This would include especially being subject to the attached Spill/Leak policy. (See Attachment).

Subject: Spill/Leak Policy (Attachment to Operational and Emergency Policy)

Effective immediately the following policy will apply for handling any produced oil or water spill or leak (spill). The intent of this policy is to protect fresh water, public health and the environment. Superintendent, will make sure all company and contract pumpers get a copy of this policy, and recognize the importance of implementing this policy as soon as any discovery of a produced oil or water spill is made.

Spill/Leak Policy

In the event of any produced oil or water spill or leak (spill) on any operated property, the pumper discovering the spill will immediately report the incident along with the estimated volume of each component (oil/water) of the spill to your superintendent. The total estimated volume will determine whether the spill is major or minor, which are defined below. Based upon whether a spill is major or minor, Will or Joe will then handle the incident as directed under the major or minor heading below.

Definition: A Minor Spill is an unauthorized release of a volume, greater than 5 barrels but not more than 25 barrels.

Definition: A Major Spill is:

- (a) a volume in excess of 25 barrels;
- (b) a spill of any volume which:
 - (i) results in a fire;
 - (ii) will reach a water course;
 - (iii) may with reasonable probability endanger public health; or
 - (iv) results in substantial damage to property or the environment;
- (d) a release of any volume which may with reasonable probability be detrimental to surface or ground water.

Major Spill:

- (1) NMSWD will give immediate verbal notification within twenty-four (24) hours of spill discovery to the OCD district office for the area within which the spill takes place, and to the NMSWD, Operation Manager. This notification shall provide the information required on the OCD Form C-141 (attached to this policy).
- (2) NMSWD will fill out the C-141 (written or typed) and submit to the OCD district office for the area within which the spill takes place within 10 days of the incident. The NMSWD Roswell Office will be copied, attn: engineering. The written notification shall verify the prior OCD verbal notification and provide any appropriate additions or corrections to the information contained in the prior OCD verbal notification.

- (3) After attempting verbal notification, superintendent will immediately direct cleanup and remediation activities to pick up any free liquid and haul to an approved disposal site. The contaminated soils will then be removed and hauled to an approved land farm or disposal. The contaminated soils must then be replaced with like and kind uncontaminated soil, contouring to the lay of the land.

Minor Spill:

- (1) NMSWD will fill out the C-141 (written or typed) and submit to the OCD district office for the area within which the spill takes place within 10 days of the incident. The NMSWD Roswell Office will be copied, attn: engineering.
- (2) Upon notification of a Minor Spill, NMSWD will immediately direct cleanup and remediation activities to pick up any free liquid and haul to an approved disposal site. The contaminated soils will then be removed and hauled to an approved land farm or disposal. The contaminated soils must then be replaced with like and kind uncontaminated soil, contouring to the lay of the land.

NMSWD

(New Mexico Salt Water Disposal)
P. O. Box 1518
Roswell, New Mexico 88201
505/622-3770

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Oil Conservation Division
Environmental Bureau

November 15, 2005

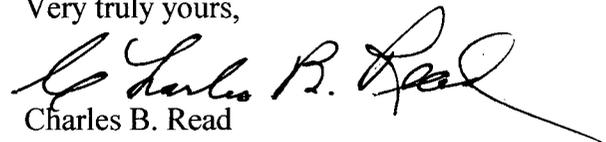
Ms. Cheryl O'Connor, Esq.
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: Stage/Abatement Plan Proposal

Dear Ms. O'Connor:

In accordance with Notice of Violation issued to New Mexico Salt Water Disposal Company ("NMSWD") on September 16, 2005, I am enclosing NMSWD's Stage 1 abatement plan proposal for its Station 11 tank battery site.

Very truly yours,


Charles B. Read
President, Owner

CBR/III

Cc: OCD District 1
1625 N. French Drive
Hobbs, NM 88240

Letter and Abatement Plan

STAGE 1 ABATEMENT PLAN PROPOSAL

NMSWD

Station #11 Tank Battery

Unit Letter D, Section 21

Township 10 South, Range 34 East

Lea County, New Mexico

November 14, 2005

CMB Environmental and Geological Services, Inc. proposes to complete the *Stage One Abatement Plan* on the above described property as requested by the Owner, New Mexico Salt Water Disposal Company ("NMSWD") and the New Mexico Oil Conservation Division ("NMOCD"). This Stage 1 Abatement Plan is pursuant to and in accordance with the "Notice of Violation" issued to NMSWD on September 16, 2005 by the NMOCD and in compliance with Subsection E of 19.15.1.19 NMAC.

The purpose of this Stage 1 Abatement Plan is to design and conduct a site investigation that will adequately define site conditions, and provide the data necessary to select and design an effective abatement option.

Our work will conform to NMOCD Regulations; NMOCD approved Soil and Groundwater Sampling and Disposal Guidelines, OSHA Regulations, and other rules and regulations governing the work we propose herein. The work will be supervised by an experienced registered professional geologist and will be completed in an efficient, cost-effective manner.

1.0 Site Description:

The NMSWD Station # 11 is located in unit letter D of Section 21 of Township 10 South, Range 34 East, NMPM, Lea County, New Mexico.

Physical Setting of Site and Surface Characteristics:

To arrive at NMSWD's Station # 11, drive from Caprock, New Mexico go east on NM 380 3.15 miles to county road (black top) turn north, go 10 miles and turn east on county road (black top), go 11 miles and turn south on caliche road, go 4.3 miles to a tee in the road, turn west, go 1 mile, turn south, follow road $\frac{3}{4}$ mile to NMSWD Station # 11.

Soils:

According to the U.S. Conservation Service Soil Survey of Lea County, New Mexico, soils in the area of the NMSWD Station # 11 are of the Brownfield Series.

"The Brownfield series consists of well-drained soils that have a thick surface layer of fine sand and sandy clay loam subsoil. They are formed in wind-deposited sands on uplands in the northern part of Lea County. Slopes are 0-3 percent. The vegetation consists of tall and arid grasses and shrubs. The average annual precipitation is 12 to 15 inches, the average annual air temperature ranges from 58 degrees to 60 degrees Fahrenheit, and the frost free season is 195 to 205 days. Elevations range from 3600 to 4400 feet. Typically, the surface layer is a light brown fine sand about 22 inches thick. The subsoil is red sandy clay loam to a depth of 63 inches. Brownfield soils are used mostly as range, but also as wildlife habitat and recreational areas."

In the immediate area of NMSWDCO station # 11, the Brownfield-Springer association occurs.

"This mapping unit is about 60 percent Brownfield fine sand, 30 percent Springer loamy fine sand, and 10 percent inclusions of Tivoli, Gomez, Patricia, and Amarillo Soils. The landscape is one of billowy and undulating, low sand dunes intermingled with early level sandy areas. The Springer soil has moderately rapid permeability. Runoff is very slow. Water intake is rapid, and available water holding capacity is 6 to 8 inches. Roots penetrate to a depth of 60 inches and more. Soil blowing is a severe hazard."

Topography:

The general topography in the area of the NMSWDCO Station # 11 and surrounding area of Section 21, T.10.S. R. 34 E., Lea County, New Mexico is relatively flat to undulating, due to the nature of the sand dune development, with contours gently sloping to the east. Elevations range from 4220 feet ASL to 4200 feet ASL in section 21. Surface elevation of NMSWDCO Station # 11 is estimated to be 4217 feet ASL. **(See attached Topographic Maps / Satellite Images)**

2.0 Site History:

Nature of the Release that caused the alleged water pollution:

On April 17, 2003 a volume of 20 barrels of produced water was released from the storage tanks at NMSWD Station #11 and was contained inside the bermed area surrounding the tank battery. This release was immediately reported to the

NMOCD District 1 Office, located in Hobbs, New Mexico. NMSWD filed, with the NMOCD, a form C-141 release notification. After the discharge, NMSWD immediately ordered and installed three new 1000 barrel fiberglass tanks to replace the older steel tanks at NMSWD Station # 11. The berm surrounding the tanks was also upgraded at this time.

Summary of Previous Site Investigation:

In October and November of 2003, CMB Environmental & Geological Services, Inc. conducted a subsurface site investigation of the soil affected by this release adjacent to the tank battery at NMSWDCO Station # 11. The investigation was conducted to determine the lateral and vertical extent of the alleged contamination caused by this April 17, 2003 release of water from the tank battery / produced water storage facility.

In October and November, 2003 Atkins Engineering Associates, Inc., of Roswell New Mexico, was mobilized to the site to commence drilling activities for the site investigation. Eight soil borings, 1, 2, 3, 4; 1A, 2A, 3A, &4A were drilled. The borings were drilled to depths ranging from 11' feet below ground surface to 36' feet below ground surface. (See Site Map) Two foot split spoon samples were taken from surface to total depth in all soil borings. Confirmation soil samples from the borings were collected and sent to Hall Environmental Analysis Laboratory, located in Albuquerque, NM, for chloride, Total Petroleum Hydrocarbons (TPH), and BTEX analysis. Hall Environmental Analysis Lab confirmed that there were no TPH or BTEX concentrations in the sampled soil borings. However, the soil samples collected contained chloride concentrations. A clay zone was encountered from 29-36 feet below ground surface in all soil borings. Perched water was found in soil boring 4A perched on top of the clay zone at 31 feet below ground surface. The capillary fringe, of this perched water, at a depth of 24-26 feet below ground surface and the perched water itself were sampled for any type of hydrocarbon, chloride, and metals. The clay zone was cored and sampled for porosity, hydraulic conductivity, and permeability soils testing.

As a result of encountering the clay zone, CMB Environmental & Geological Services Inc. determined that additional drilling to the water table would be dangerous as penetrating this aquitard / clay zone holding this perched water, may open up a conduit for contamination to the principal groundwater aquifer below via the soil borings if the clay zone were penetrated.

Based on research of nearby water wells in the area by CMB at the State of New Mexico State Engineers office located in Roswell, NM, it is anticipated that the first principal groundwater aquifer will be located at a depth of less than 100 feet below ground surface. The NMOCD Guidelines for soil contamination dictate that a level of 1000 PPM TPH concentration must be obtained in soil samples before for site closure of a leak, spill, or confirmed release from a tank battery.

From data obtained in the soil borings, soil contamination greater than or equal to the 1000 PPM level TPH did not occur on site. TPH concentrations in PPM from the soil boring samples are tabled below:

| <u>Soil Boring</u> | <u>Depth: 0'-2'</u> | <u>4'-6'</u> | <u>9'-11'</u> | <u>14'-16'</u> | <u>19'-21'</u> | <u>24'-26'</u> | <u>29'-31'</u> | <u>34'-36'</u> |
|--------------------|---------------------|--------------|---------------|----------------|----------------|----------------|----------------|----------------|
| SB - 1 | | | ND | | | | | |
| SB - 1A | 32 | | 280 | 55 | ND | ND | ND | ND |
| SB - 2 | 170 | ND | ND | ND | | | | |
| SB - 2A | ND | | ND | ND | | | | |
| SB - 3 | | | ND | | | | | |
| SB - 3A | ND | ND | ND | | | | | |
| SB - 4 | ND | ND | ND | ND | | | | |
| SB - 4A | ND | ND | ND | | | | ND(H2O) | |

From data obtained in the soil borings, BTEX soil contamination did not occur on site in any significant concentrations. BTEX concentrations in PPM from the soil boring samples are tabled below:

| <u>Soil Boring</u> | <u>Depth: 0'-2'</u> | <u>4'-6'</u> | <u>9'-11'</u> | <u>14'-16'</u> | <u>19'-21'</u> | <u>24'-26'</u> | <u>29'-31'</u> | <u>34'-36'</u> |
|--------------------|---------------------|--------------|---------------|----------------|----------------|----------------|----------------|----------------|
| SB - 1 | | | ND | | | | | |
| SB - 1A | ND | | 0.3 | ND | ND | ND | ND | ND |
| SB - 2 | ND | ND | ND | ND | | | | |
| SB - 2A | ND | | ND | ND | | | | |
| SB - 3 | | | ND | | | | | |
| SB - 3A | 0.03 | ND | ND | | | | ND | |
| SB - 4 | ND | ND | ND | ND | | | | |
| SB - 4A | ND | ND | ND | | | | ND(H2O) | |

Chloride concentrations in PPM from the soil boring samples are as tabled below: (Red Values indicate greater than 250 PPM Chloride Concentration)

| <u>Soil Boring</u> | <u>Depth: 0'-2'</u> | <u>4'-6'</u> | <u>9'-11'</u> | <u>14'-16'</u> | <u>19'-21'</u> | <u>24'-26'</u> | <u>29'-31'</u> | <u>34'-36'</u> |
|--------------------|---------------------|--------------|---------------|----------------|----------------|----------------|----------------|----------------|
| SB - 1 | | | 1800 | | | | | |
| SB - 1A | 120 | | 380 | 1900 | 1800 | 3700 | 5000 | 2000 |
| SB - 2 | 330 | 580 | 500 | 1100 | | | | |
| SB - 2A | 350 | | 1400 | 900 | 870 | 690 | 1700 | 1000 |
| SB - 3 | | | 3600 | | | | | |
| SB - 3A | 170 | 3700 | 510 | 570 | 880 | 3200 | 5900 | 1900 |
| SB - 4 | 1600 | 88 | 2200 | 3400 | | | | |
| SB - 4A | 160 | 800 | 2100 | 3400 | 4500 | 8300 | 3900 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

The area around the produced water storage tanks and surrounding berm at NMSWD Station # 11 is an area of *“historic storage of produced water and occasional spills throughout the many years of its use”*.

The soils surrounding tank battery and bermed area, accessible for “plant roots” to a depth of 60 inches below ground surface, did not indicate that the release of April 17, 2003 had any significant impact on the surface soils as the concentrations of chloride generally were in acceptable plant tolerance levels. The small amount of rainfall in the past several years would not have the ability to drive any surface chloride contamination to any significant depth below ground surface as most rainfall would evaporate or transpire due to the dry surface conditions present. No salt crystallization, wicking, or leaching of salt was evident on the ground surface surrounding the tank battery and bermed area at NMSWD Station # 11. The release of April 17, 2003 was contained by the existing bermed area surrounding the tank battery.

All Soil Borings did have significant concentrations of chloride below the ground surface after a depth of 9’feet. This should be expected, as the practices, protocols, and standard operating procedures of produced water disposal plants have drastically changed since the 1960’s and 1970’s when NMSWD first started using the facility.

As the produced water spilled onto the ground surface from various unreported historic spills from the tank battery and spread out, it quickly saturated the very porous sand close to the tank battery and caliche soils of the bermed area surrounding the tank battery. The produced water also pooled in low areas behind the tank battery as it spread out. The soil saturation tended to migrate vertically rather than horizontally due to the nature of the porosity and low horizontal permeability of the clayey sands in the area. For this reason some soil borings have high concentrations of chloride in close proximity to soil borings that have no significant chloride concentrations. The variable chloride concentrations in SB-4 and SB-4A (within 6 feet horizontal distance from each other) at depths of 0 feet – 2 feet and 4 feet to 6 feet below ground surface can be attributed to this phenomenon.

Through time and additional produced water releases, the chloride concentrations in the sands and clayey sands beneath the site were driven downward until they hit a fat clay zone at 29’feet to 31’ feet below ground surface at the site. This fat clay zone was encountered in soil borings 1A, 2A, 3A, & 4A.

In soil boring 3A, a core sample of this clay from 34’ feet to 36’ feet below ground surface was sent to Daniel B Stephens Soils Testing Laboratory in Albuquerque, New Mexico for analysis. This clay sample was analyzed by the lab for Initial Moisture Content, Dry Bulk Density, Calculated porosity, Saturated Hydraulic Conductivity, Effective Porosity, and total organic carbon content.

The most important test components of this analysis of the clay sampled in SB-3A @ 34'-36' are as follows:

K_{sat} (cm/sec) = 1.5E-08 (Hydraulic Conductivity rate at which groundwater, at saturation, will flow through the sampled clay) this rate is extremely slow.

Intrinsic Permeability: = 1.5E-13 (the sampled clay is extremely impermeable)

Effective Porosity: 5.5% (the sampled clay is not very porous)

The soil test analyses of the sampled clay in soil boring 3A show that the clay zone, underlying the site and encountered in soil borings 1A, 2A, 3A, and 4A, is a tight, non-porous, impermeable clay barrier. The soil analysis test results also show that it is unlikely that this clay barrier will allow any release of produced water to penetrate and migrate to any principal groundwater aquifer below.

High chloride concentrations encountered in the soil samples in soil borings 1A-4A are a result of numerous years of previous produced water releases from the facility and not a result of any recent releases. The concentrations of chloride seen in the soil borings are from previous "historic" releases that occurred long before the documented release on 04/17/03.

The most consistently high chloride concentrations are seen in all borings at a depth of 29-31 feet below ground surface which is at the top of the clay barrier underlying the site. The samples from SB-1A, SB-2A, and SB-3A, at a depth of 34-36 feet below ground surface, continued to have high concentrations of chloride but were on the average 43% lower in chloride concentration than the samples from the 29'-31' foot intervals.

In SB-4A a perched water zone, possibly caused by a previous "historic" release of produced water, was encountered at the top of the clay zone from 29-31 feet below ground surface. This perched water was only encountered in soil boring SB-4A. This perched water was sampled and tested for Volatile Organic Compounds, Chloride, Poly Aromatic Hydrocarbons, Mercury, Total recoverable metals, and total dissolved solids.

A summary of the analytical results is as follows:

| <u>Soil Boring 4-A</u> | <u>Depth: 29'-31':</u> |
|-------------------------------|-------------------------------|
| <u>Aqueous Sample:</u> | <u>PPM:</u> |
| BTEX | Non-Detect |
| TPH | Non-Detect |
| PAH's | Non-Detect |
| VOC's | Non-Detect |
| Arsenic | Non-Detect |
| Barium | 0.45PPM |
| Cadmium | Non-Detect |
| Chromium | Non-Detect |
| Lead | Non-Detect |
| Selenium | Non-Detect |
| Silver | Non-Detect |
| Mercury | Non-Detect |
| TDS | 70000 mg/l |
| Chloride | 45000 PPM |

Chloride concentrations of the perched water of 45000 PPM Chloride and 70,000 PPM TDS exceed acceptable NMWQCC and NMOCD Guidelines for groundwater chloride and total dissolved solids concentrations.

Since April 18th of 2003, there have been five additional surface releases of produced formation water at the Station # 11 site that have been reported to the NMOCD in C-141 Forms by NMSWD. The total volume of these releases not recovered after their discovery is 110 barrels.

2.0 New Site Investigation and Workplan:

NMSWD Inc., under the direction of their environmental consultant – CMB Environmental & Geological Services, Inc., propose a new site investigation be conducted that will define site geology and hydrogeology, the vertical and horizontal extent and magnitude of the vadose-zone and groundwater contamination, subsurface hydraulic conductivity, transmissivity, storativity, and rate and direction of contaminant migration, and an inventory of water wells within a 1 mile radius from the perimeter of the three dimensional body where the standards set forth by the NMOCD and NMWQCC are exceeded and the location and number of wells actually or potentially affected by the alleged pollution. Vertical and horizontal impacts of any alleged contamination to surface water and stream sediments will also be addressed.

CMB Environmental and Geological Services, Inc. proposes to complete the continued Site Investigation on the above described property as requested by the Owner, NMSWD and the NMOCD pursuant to and in accordance with the "Notice of Violation" issued to NMSWD on September 16, 2005 by the NMOCD. Our work will conform to NMOCD Regulations; NMOCD approved Soil and Groundwater Sampling and Disposal Guidelines, with OSHA Regulations, and other rules and regulations governing the work we propose herein. The work will be supervised by an experienced professional geologist and will be completed in an efficient, cost-effective manner.

Consultant Services to Be Completed Prior to Field Activities

CMB Environmental & Geological Services, Inc. will carefully evaluate all readily available previous file information on the environmental history of this property prior to commencing the field activities.

CMB Environmental & Geological Services, Inc. has reviewed and copied the facility files located in the office of NMSWD prior to submitting this proposal.

Prior to drilling access to the properties will be obtained from the on-site and off-site property owners.

Prior to drilling the on-site utilities will be cleared with New Mexico One-Call.

Prior to drilling the NMOCD will be notified 48 hours in advance.

Prior to drilling a HASP will be prepared and submitted to the drilling contractor and NMSWD.

Prior to drilling a certificate of liability insurance will be provided to the NMSWD

Drilling Subcontractor Services to be provided

All drilling services to be performed by subcontractor drilling company, using hollow-stem auger methods and will include the following:

1. Install one four inch soil boring / monitor well in the area where the previously drilled boring SB-4A encountered perched water, in accordance with NMED / NMOCD guidelines and standards, to delineate if this perched water is still present. Depth to the perched water in SB-4A was at 29 feet below ground surface, resting on top of a clay layer of low porosity and permeability. The 4 inch monitor well will be installed and finished with schedule 40, 4-inch PVC well materials with threaded joints, including a 0.010 inch slotted 10-foot long screen from the base and a solid riser pipe to the surface. The annular space will be occupied by a sand filter pack over the screened interval and two feet above it, a two foot bentonite seal, and cement / bentonite grout to the surface. The monitor well will be finished with a flush mounted vault. Locks

will be installed on the inside and outside of the vault to prevent tampering by other parties

2. If the perched water is again encountered, a pump test will be completed by CMB Environmental & Geological Services, Inc. to determine the "sustainability" of the alleged aquifer as per NMOCD guidelines and a report detailing the results will be prepared and submitted to NMSWD and the NMOCD. All pumped or recovered water from this pump test will be placed in the NMSWD's on-site tank battery for disposal.
3. *Three additional soil borings / 2 inch monitor wells will be drilled and installed outside the perimeter of the NMSWD's Station 11 Tank Battery, off the tank battery site.* The purpose of these borings / monitor wells is to determine the vertical and horizontal extent of the alleged groundwater chloride contamination, and to determine and delineate the principal aquifer in the area's gradient and flow direction. These borings will include measurements of total aromatic hydrocarbons (TPH) at 5 feet to 6 feet below ground surface, on top of the clay zone anticipated at 29-32 feet below ground surface, and at the capillary fringe above the principal aquifer in the area (estimated to be 54-56 feet below ground surface) using an appropriate field instrument (PID). The borings will also include the submittal of three confirmation soil samples. One soil boring soil sample will be taken at 5 feet to 6 feet below ground surface, another at the top of the clay layer, anticipated to be between 30 feet and 32 feet below ground surface, and the other at 54-56 feet below ground surface, at the estimated capillary fringe of the water table / principal aquifer in the area. Although the principal water table aquifer is estimated at 54-56 feet below ground surface underneath the NMSWD's site, each soil boring will be drilled until water is encountered and then an additional ten feet drilled and ten feet of monitor well screen installed 10 feet below water table level. These borings may be drilled up to a total depth of 100 feet below ground surface depending on site conditions. These wells will be finished with schedule 40, 2 inch PVC well materials with threaded joints, including a 0.010 inch slotted 20 foot long screen from the base and a solid riser pipe to the surface. The annular space will be occupied by a sand filter pack over the screened interval and two feet above it, a two foot bentonite seal, and cement / bentonite grout to the surface. All two inch monitor wells will be finished with stick up well vaults. Locks will be installed on the inside and outside of the well vaults to prevent tampering by other parties.
4. All soil samples will be sent to Hall Environmental Laboratory located in Albuquerque, NM for laboratory analysis by the US EPA Methods' 8260 & 8270 for semi-volatile VOC's & Solvents, and EPA Method 8310, for PAH hydrocarbons, and Chloride. A water sample from each installed two inch monitor well will also be taken and analyzed at Hall Environmental Laboratory

for laboratory analysis by the US EPA Methods' 8260 & 8270 for semi-volatile VOC's & Solvents, and EPA Method 8310, for PAH hydrocarbons, TDS, and Chloride. All samples will be taken in accordance with NMOCD Sampling Protocols, Approved Methods, and Guidelines.

Decontamination will be performed to eliminate the possibility of cross-contamination between soil samples and individual borings. All sampling equipment will be decontaminated between each sample. Decontamination will consist of washing the sampling equipment with a detergent solution and double rinsing with clean tap water.

Additionally, the hand tools used by the sampler to select and divide samples will be given a final rinse with de-ionized water before use on each new sample. The drilling augers will be decontaminated between each boring by steam cleaning. A stiff brush will be used, if required, to remove soil adhering to the augers.

Completed monitoring wells will receive an appropriate surface finish, concrete aprons for well vaults, etc. Soil cuttings and other investigative wastes (i.e. well development water) will be managed in accordance with NMOCD guidelines. Waste Disposal if necessary will be in accordance to NMOCD Guidelines, and produced waste will be drummed and shipped to Gandy-Marley Land Disposal Farm if necessary. The drilling contractor and the consultant will ensure the property is fully restored to the O/O's satisfaction, and that the site is free of debris and other matter introduced or encountered during the drilling activities.

Consultant Services Associated with Drilling Activities

CMB will provide a professional geologist to locate the monitoring wells and borings and to generally oversee the drilling activities and document the work.

During hollow-stem auger drilling, a split-spoon sampler will be driven ahead of the augers to collect a minimally disturbed soil sample. Soil samples will be collected at the intervals described above. After retrieval of the sampler from the boring, the sampler will be opened and the sample will be split longitudinally. That half of the sample, which is to be set aside for analytical work, will be dealt with immediately. Following this, the other half of the sample will then be placed in a Mason-type jar, and heated, in order to screen it with a, field calibrated to 100 PPM Isobutylene, photoionization detector (PID) using the "jar headspace method". A PID with a lamp voltage of 10.6 eV or higher will be used to perform this screening. All samples from which sufficient soil is recovered will be screened in this manner. All results from this field-testing will be recorded.

It is anticipated that a minimum of three samples per boring will be submitted to a state-certified analytical laboratory for analysis although more samples will be submitted if conditions warrant it. One split spoon sample from each off site boring, at the clay layer anticipated to be at 30 feet to 32 feet below ground

surface, will be sent to Daniel B Stephens and Associates Soil Testing Laboratory Located in Albuquerque, NM for analysis of Hydraulic Conductivity, porosity, and fractional organic carbon content. One sample of the capillary fringe of the principal aquifer below the clay zone (or at whatever depth it is encountered) from one of the new borings will also be sent to Daniel B. Stephens and Associates laboratory for analysis of Hydraulic Conductivity, storativity, porosity, and fractional organic carbon content.

Boring logs will be prepared for all soil borings describing soils according to the Unified Soil Classification System. Characteristics, such as soil structure, voids, layering, lenses, odor, staining and mottling, will be noted on the logs.

The investigation described above will allow for the Scientist to make in-field, immediate qualitative assessment of the presence of ground water contamination, and to define the vertical and horizontal extent of soil contamination. Of course, laboratory samples will provide additional supporting evidence at a later date.

Consultant Services Associated with Groundwater Sampling and Groundwater Investigation of the New Monitor Wells

Following the installation of the new monitoring wells, each well will be developed by alternately surging and purging for a minimum of 30 minutes. Water will then be pumped from the well until ten well volumes have been removed or until clear water is produced. If the permeabilities of the aquifers are too low to permit the described development, the wells will be bailed dry and permitted to recover at least three times. The wells will be developed after a minimum of 12 hours. Well construction and development details will be documented on appropriate forms as required. All produced purge water will be filtered using a Granular Activated Carbon Filter and then purged onto the ground.

The new monitoring well(s) will be surveyed in accordance with current professional standards for conducting ground water investigations, which include standards set forth by the NMED / NMOCD. The following information will be obtained to the nearest 0.01 feet for each monitoring well:

- 1) Elevation of ground. (USGS Topographic Elevation)
- 2) Elevation of top of PVC casing. (USGS Topographic Elevation)
- 3) Horizontal location of well to the nearest 0.1 feet. (USGS Topographic Elevation)

This information will be tied into a known surveyed location and elevation, and will be referenced to mean sea level. (USGS Topographic Elevation)

Groundwater Monitoring Program:

Groundwater samples will be collected within 48 hours and in accordance with

CMB's standard QA/QC operating procedures described below. Groundwater samples will be analyzed for Semi-Volatile Organic Compounds, PAH's, & Solvents by EPA methods 8260, 8270, 8310, and chloride. Three additional quarters of groundwater samples will be collected from the three new monitor wells for the same parameters during initial stage 1 abatement plan.

Quality Assurance & Quality Control of Groundwater & Soil Sampling

The following procedures will be used during sample collection to provide quality assurance and quality control (QA/QC), to minimize loss of volatiles and to maintain the suitability of samples for analysis. Except for drinking water samples, the sample collection and analytical procedures will be consistent with SW-846: *Test Methods for Evaluating Solid Waste*, November 1986, and updates published by the U.S. EPA. QA/QC methods to be used are described below.

A state-certified laboratory will supply all sampling containers and preservatives, and a state-certified laboratory will perform analyses (Hall Environmental Analysis Laboratory in Albuquerque, NM).

All samples will be handled in such a manner as to minimize the loss of organic compounds to volatilization and biodegradation, and sampling equipment will be decontaminated between sampling events.

All samples collected will be discrete (not composite) samples. Soil from a given sample collected during drilling activities which is to be submitted for laboratory analytical work will be handled and prepared before soil from that sample is used for field screening (SW-846).

All samples for analysis will be placed in a cooler on ice at a temperature of 4 C. immediately following collection.

Samples will be delivered to the laboratory on either the day they are collected or the morning of the next day, unless the samples are collected on a Friday, in which case they will be delivered no later than Monday morning. Where possible, sample collection on Fridays will be avoided.

Chain-of-custody procedures will be utilized throughout the sampling/delivery process.

1) One trip blank per sampling event

Documentation of the sampling and QA/QC procedures will include notes available for NMED / NMOCD inspection. These notes will document the procedures for sampling and all other routine activities, logs of all routine and non-routine instrument calibrations performed on field equipment, and field notes describing the sequence of activities that took place in the investigation.

Reports

Upon completion of the above scope of work, CMB will prepare and submit to NMSWD and the NMOCD a report that meets or exceeds the requirements set forth in the NMOCD Guidelines, including a description of the vertical and horizontal extent of any possible soil and groundwater contamination encountered in the investigation. The report will also address any encountered phase separated hydrocarbon; any encountered highly contaminated soils, surface water bodies, potable water wells, and other water supplies within 1 mile that may potentially be affected by the alleged release. The groundwater investigation described above will allow for the calculation of hydraulic gradients and favored contaminant pathways and migration routes.

Maps will be prepared documenting the groundwater contours, groundwater gradient, the lateral extent of soil and ground water contamination encountered in the investigation, soil contamination contour maps, groundwater plume maps, drawings of release site, area and vicinity maps, and cross sections through the contaminated zone. Well data logs and completion diagrams for each soil boring and monitor well will be provided. Tables will include contaminant concentration tables and ground water elevation tables.

Site-specific conditions identified with drilling will also be addressed in the report.

Quarterly progress reports of the groundwater sampling and monitoring will also be submitted after completion of the quarterly groundwater sampling events.

Estimated Schedule for all Stage 1 Abatement Activities:

January 2006, Drilling and installation of 3 new 2 inch monitor wells, one 4 inch sentinel / monitor well on top of clay zone and aquifer sustainability pump test of perched water. Groundwater sampling and laboratory analysis of groundwater from the three new monitor wells. Conduct professional survey location of new monitor wells.

March 2006: Final Site Investigation Report detailing findings of the investigation.

April 2006: First quarter sampling event of monitor wells. Possible stage 2 abatement plan submitted

June 2006: First Quarter Monitor Well Quarterly Report Submitted

July 2006: Second Quarter sampling event of monitor wells.

September 2006: Second Quarter Monitor Well Quarterly Report Submitted

October 2006: Third Quarter sampling event of monitor wells

December 2006: Third Quarter Monitor Well Quarterly Report Submitted

January 2007: Fourth Quarter sampling event of monitor wells

March 2007: Fourth Quarter Monitor Well Quarterly Report Submitted

References

CMB and/or its key employees have a long list of references for which similar work has been performed both within New Mexico and in other states Clayton M. Barnhill is a registered professional geologist in the states of Texas and Wyoming.

Closing

Questions on this proposal will receive my prompt response.

Sincerely,

CMB Environmental and Geological Services, Inc.



Clayton M. Barnhill, PG

November 14, 2005

STATEMENT OF QUALIFICATIONS:

Clayton M. Barnhill, Consulting Geologist / Hydrogeologist
President and Owner of CMB Environmental & Geological Services, Inc.

EDUCATION:

40 Hour OSHA Health and Safety Training
8 Hour Hazardous Materials Refresher / Supervisor
Confined Space Entrant / Attendant

Oklahoma State University
Graduate School of Geology
9 Graduate Credit Hours

Ground-Water Hydrology and
Contamination Program, 1993
3.7 GPA

University of Arizona

B.Sc. Geochemistry, 1980

REGISTRATION:

American Institute of Professional Geologists, Certified Professional Geologist # 7145
New Mexico Environment Department UST/ Petroleum Storage Tank Bureau Certified
Scientist # 246

Wisconsin Division of Safety & Buildings (Petroleum Environmental Cleanup Fund)
PECFA Consultant # 261265

State of Wyoming Registered Professional Geologist No. PG-3072

State of Texas Registered Professional Geologist, PG License Number 6121

PROFESSIONAL EXPERIENCE:

Mr. Barnhill has 24 years of total geological experience, domestically and internationally, supervising exploration and drilling programs for minerals, oil and gas, and environmental site assessment, sampling, and remediation. Mr. Barnhill completed Oklahoma State University's, graduate school program, *Practical Approaches to Ground-Water Hydrology and Contamination*, in August of 1993. Since that time, Mr. Barnhill has prepared several Phase I, II, and III reports, and completed several Phase II and III -V, investigative, redmediation, environmental drilling, groundwater and soil sampling, and recovery projects under the guidelines of the New Mexico, Wisconsin, Oklahoma, and Texas Environment Departments and the US EPA in southeast New Mexico, Wisconsin, Oklahoma, and west Texas. This work included investigation and remediation of unsaturated and saturated zone contamination and the supervision of the investigation and remediation of unsaturated and saturated zone contamination. Various clients include; Cypress Engineering Services, Freese and Nichols, Berry Land and Cattle Company, The Alamo Band Navajo Nation, Hi - Pro Feeds, Queen Oil and Gas Company, Enron Oil and Gas Company, Transwestern Pipeline Company, Navajo Refining Company, BP Amoco Pipeline Company, The NMED, The FAA, The Town of Silver City, Waide Construction Company, Wakefield Oil Company, Tri-City Landfill Grant County-NM, Bank of America, First Federal Savings Bank, Camp Dresser, & Mckee, Intera, Daniel B. Stephens & Associates Inc., Souder Miller & Associates, MBF Services, Clayton Environmental Services., Bascor Environmental Inc., Soil Investigations, Inc., Harding Lawson Associates, Century 21 Real Estate, US Army Corp. of Engineers, Nature's Dairy, Baca Linda Dairy, Break-Away-Dairy, Blue Sky Farms, Sundance Dairies, Sand Creek Consultants Inc., RESPEC / Inc., SEMS Inc., Williams, Inc., Atkins Engineering Associates, Barron's Engineering Solutions, C& S, Inc., and Coldwell Bankers.

STATE OF TEXAS

BOARD OF PROFESSIONAL GEOSCIENTISTS

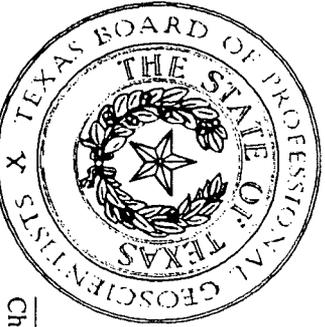
CLAYTON M. BARNHILL

Geology

License Number

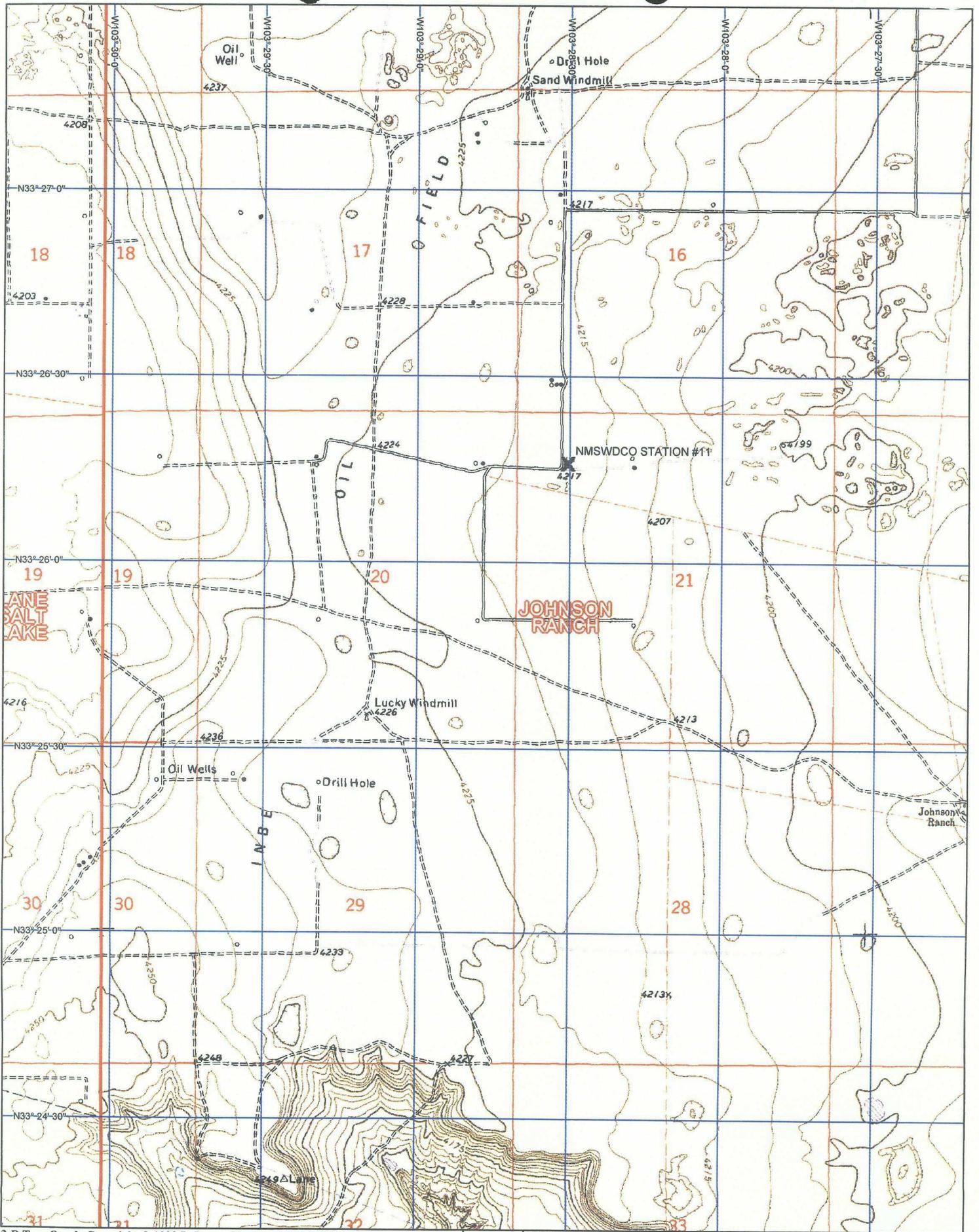
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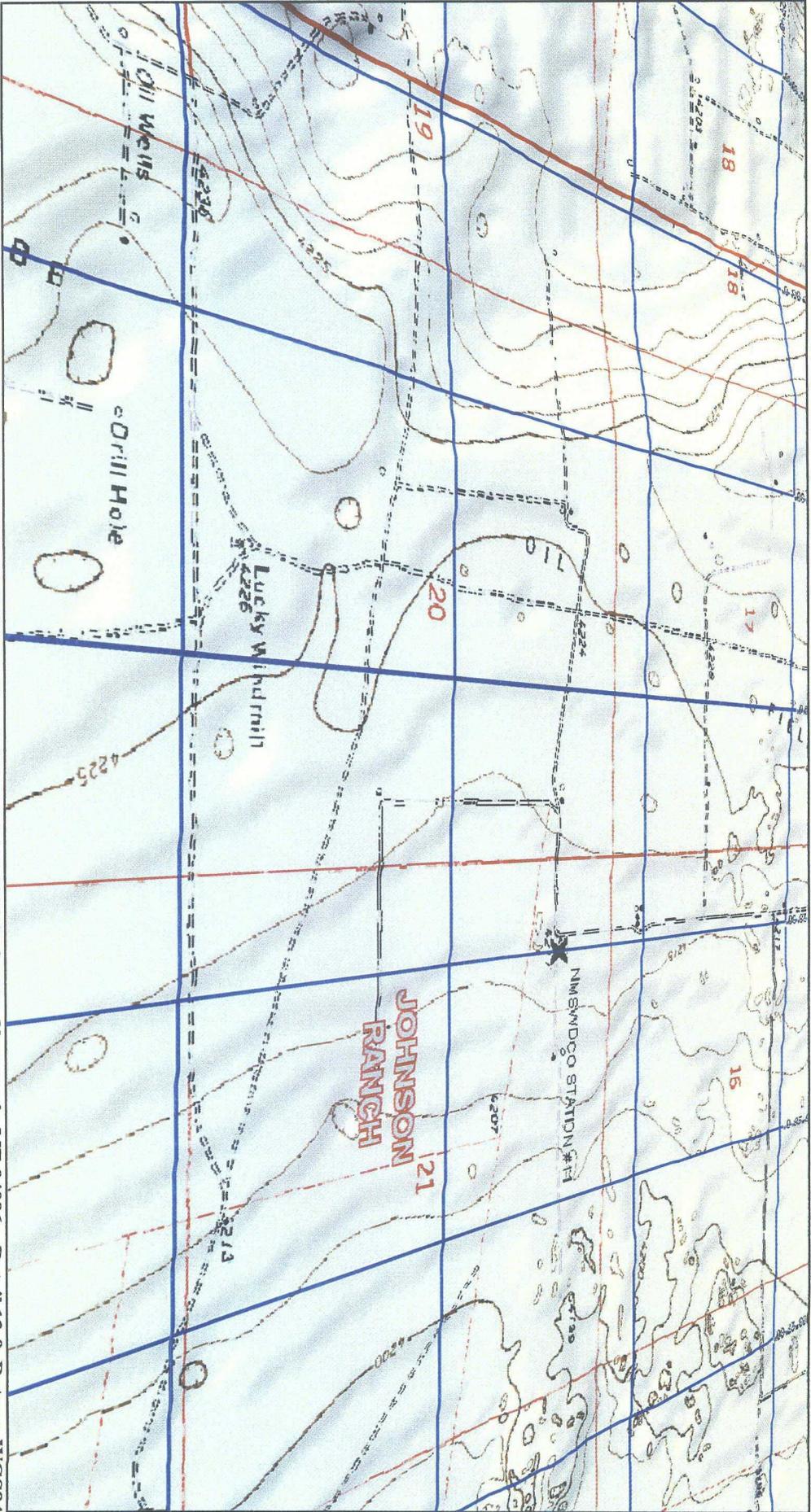
In accordance with the provisions of the Texas Geoscientists Practice Act, the Texas Board of Professional Geoscientists hereby certifies that the above named individual was licensed as a Professional Geoscientist on August 31, 2003.



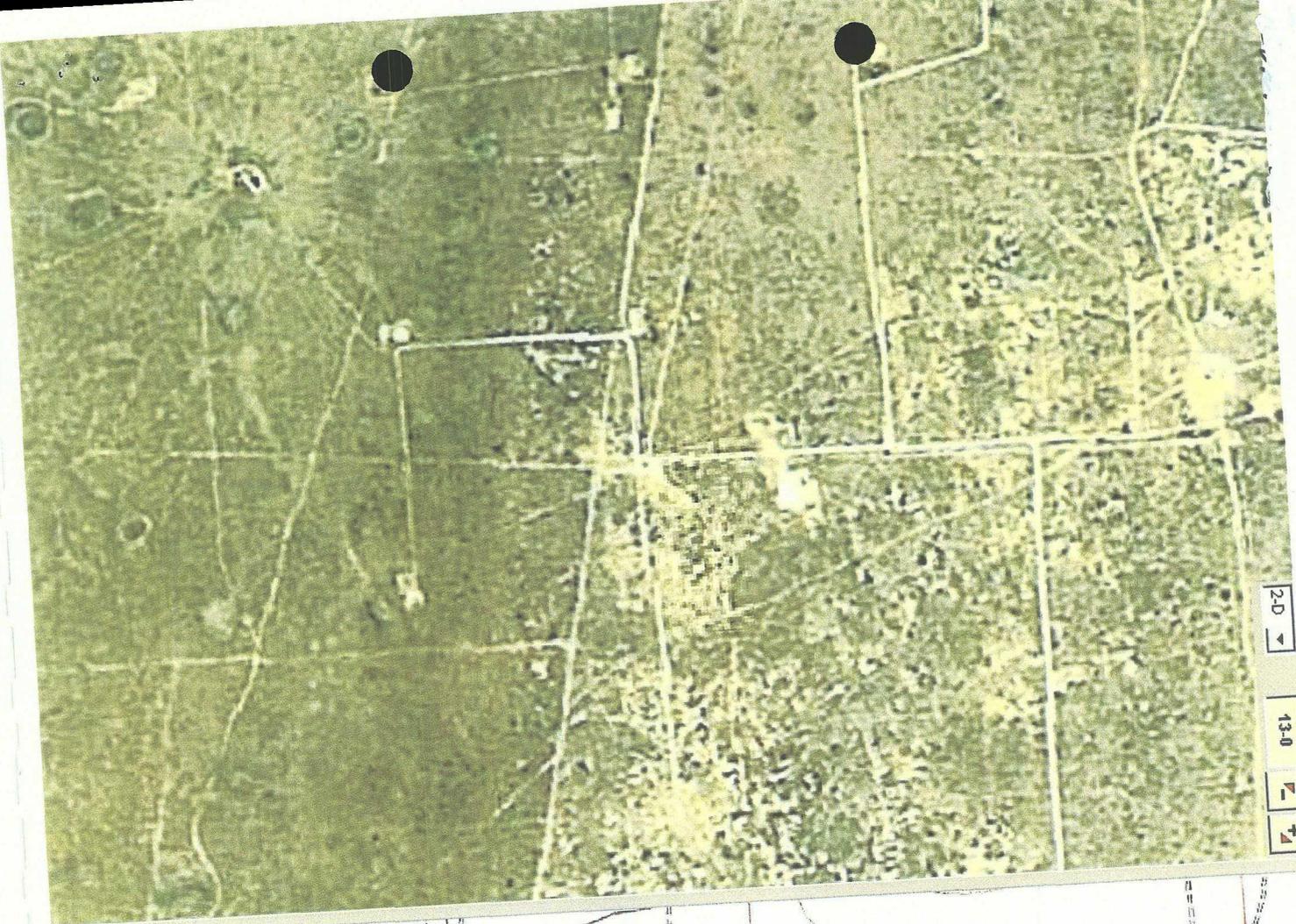
W. Kevin Coleman
Chairman, Texas Board of Professional Geoscientists



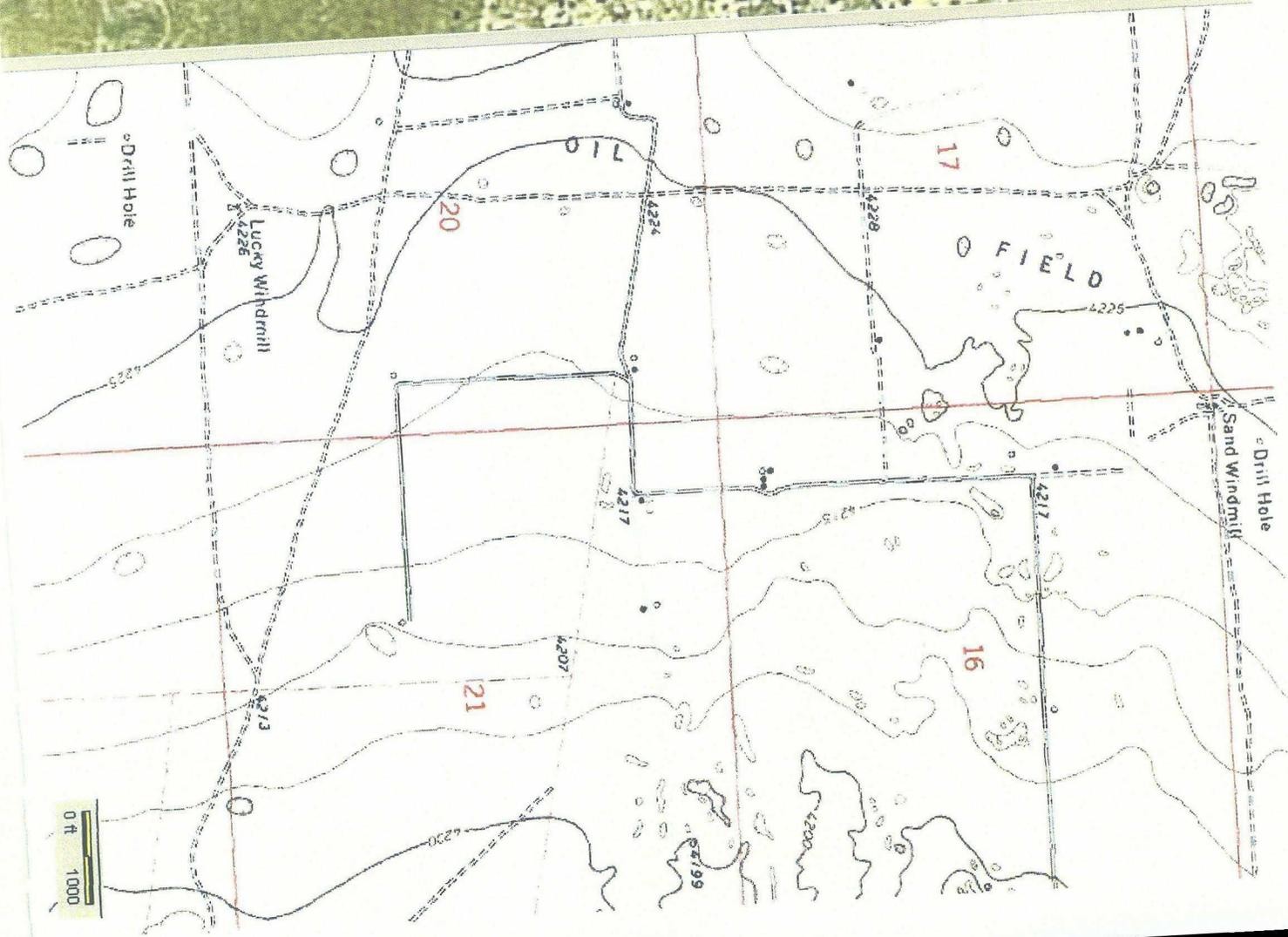




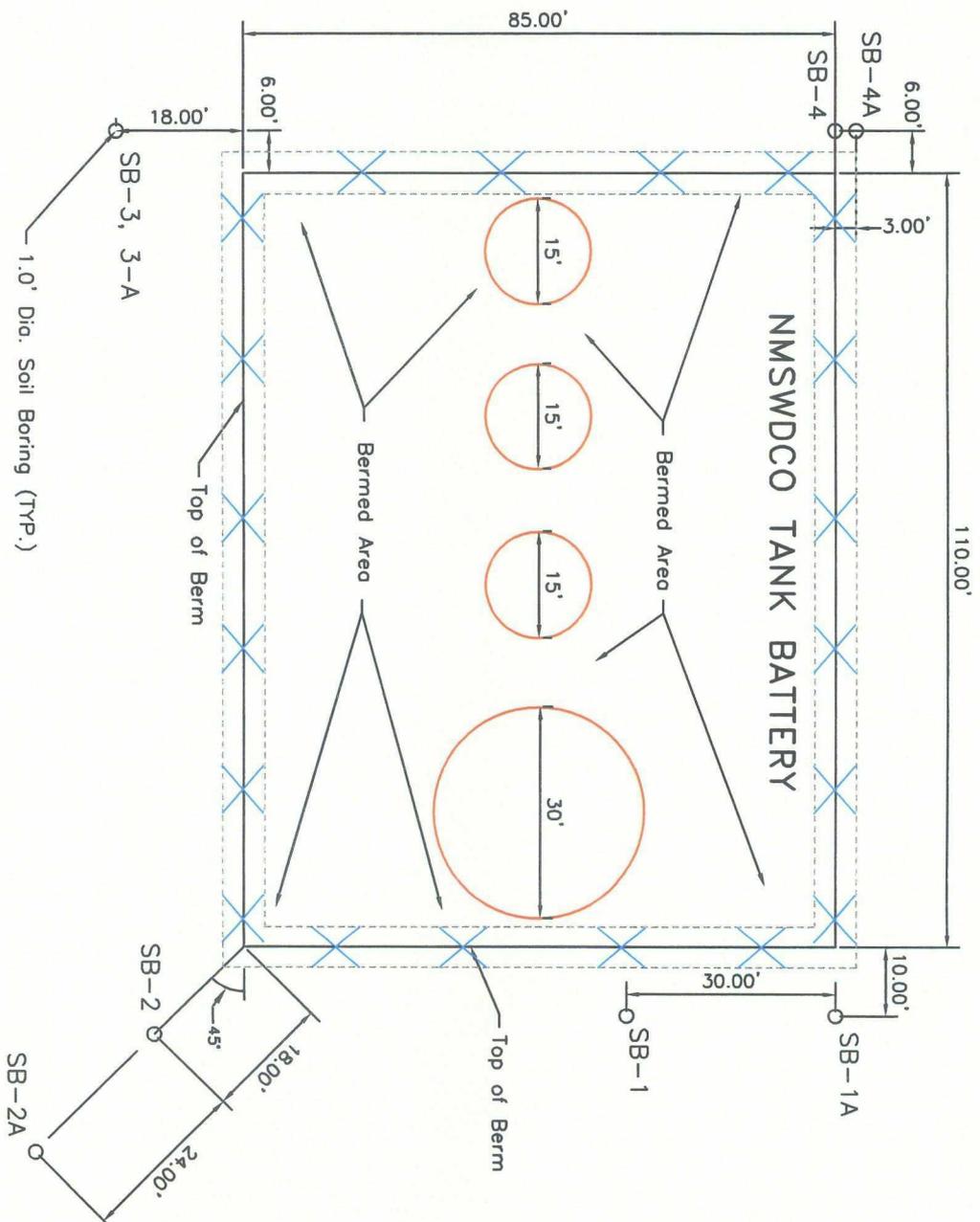
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CMB ENVIRONMENTAL & GEOLOGICAL SERVICES, INC.
 SITE INVESTIGATION
 SOIL BORING LOCATION MAP

Clayton M. Barrhill 02/04
 NMED / USTB Certified Scientist #246
 DATE: MARCH, 2004
 DRAWN BY: HNS
 JOB NO. 403001
 SCALE: AS SHOWN
 EXHIBIT NO. 1



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

APO52

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

Mark E. Fesmire, P.E.
Director
Oil Conservation Division

September 16, 2005

CERTIFIED MAIL
RETURN RECEIPT NO: 7923 4658

Mr. John Maxey
New Mexico Salt Water Disposal Company, Inc.
P.O. Box 1518
Roswell, NM 88202-1518

RE: NOTICE OF VIOLATION
OCD RULE 19.15.3.116 NMAC, FAILURE TO REPORT GROUNDWATER
CONTAMINATION
OCD RULES 19.15.1.19
EXCEEDING WQCC GROUND WATER STANDARDS (20.6.2.3103 NMAC)
REQUIREMENT TO SUBMIT INFRASTRUCTURE REPORT
REQUIREMENT TO SUBMIT ABATEMENT PLAN FOR STATION # 11 TANK
BATTERY APO52

Dear Mr. Maxey:

On May 6, 2003, the New Mexico Salt Water Disposal Company (hereinafter, "NMSWDCo") reported a release of produced water from a storage tank at its Pumping Station #11. The 20 barrel release occurred inside a storage tank berm on April 17, 2003.

Due to numerous problems at Tank Battery Pumping Station # 11, NMSWDCo submitted an Environmental Site Assessment (hereinafter, "ESA") to the State Land Office on April 1, 2004. In its ESA, NMSWDCo reported that ground water has been impacted by numerous produced water spills at this site. One ground water sample shows the total dissolved solids (hereinafter, "TDS") concentration to be approximately 70,000 mg/l and the chlorides concentration to be approximately 45,000 mg/l. Water Quality Control Commission (hereinafter, "WQCC") Regulations specify standards for ground water of 1000 mg/l and 250 mg/l respectively for TDS and chlorides.

| SENDER: COMPLETE THIS SECTION | COMPLETE THIS SECTION ON DELIVERY | |
|--|---|---------------------------------------|
| <ul style="list-style-type: none"> ■ Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. ■ Print your name and address on the reverse so that we can return the card to you. ■ Attach this card to the back of the mailpiece, or on the front if space permits. | A. Signature <input type="checkbox"/> Agent <input type="checkbox"/> Addressee <i>x Jordan</i> | |
| 1. Article Addressed to: MR JOHN MAXEY NEW MEXICO SALT WATER DISPOSAL CO., INC. PO BOX 1518 ROSWELL, NM 88202 | B. Received by (Printed Name) <i>Lidia Jordan</i> | C. Date of Delivery <i>9-23-05</i> |
| 2. Article Number (Transfer from service label) | D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No 3. Service Type <input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input checked="" type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D. | |
| PS Form 3811, August 2001 | 4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes 7001 1940 0004 7923 4658 Domestic Return Receipt 102595-01-M-2509 | |

Mr. John Maxey
New Mexico Salt Water Disposal Company, Inc.
September 15, 2005
Page 2

It is clear that by April 1, 2004, the date that NMSWDCo submitted its ESA to the State Land Office, NMSWDCo was aware that it had contaminated ground water. However, it failed to report the ground water contamination to the OCD, thus violating OCD Rule 19.15.3.116B(1)(d) and C (1)(2) (hereinafter, "OCD Rule 116").

OCD Rule 116B(1)(d) stipulates that "*a release of any volume which may with reasonable probability be detrimental to water or cause an exceedance of the standards in Section 19, Subsection B, Paragraphs (1) and (2) or (3) of 19.15.1 NMAC*" constitutes a major release. OCD Rule 116C(1)(2) requires the person operating or controlling either the release or the location of the major release to immediately make a verbal report of the release and then a timely written report, on OCD Form C-141, to both the OCD's local district office and to the OCD's Environmental Bureau Chief in Santa Fe.

Rule 19.15.1.19, NMAC (hereinafter, "OCD Rule 19") specifies that the WQCC standards for ground water, set out in 20.6.2.3103 NMAC (*Standards For Ground Water Of 10,000 mg/l TDS Concentration Or Less*), shall be met. The ESA shows that the NMSWDCo knew by April 1, 2004, that the spills had exceeded the WQCC standards for ground water.

In violation of Rule 116, NMSWDCo failed to report the ground water contamination to the OCD for approximately 530 days. The Oil and Gas Act, Section 70-2-31(A) NMSA 1978, authorizes penalties of up to one thousand dollars (\$1,000.00) per day per violation for any knowing and willful violation of any provision of the Oil and Gas Act or any rule adopted pursuant to the Act. NMSWDCo also violated OCD Rule 19 by exceeding the acceptable standards for ground water concentrations of TDS and chloride for at least 530 days. The Water Quality Act (see Section 74-6-10(A) NMSA 1978) specifies that OCD may assess civil penalties of up to \$10,000 per day. Section 74-6-2 NMSA 1978 authorizes the OCD to enforce these penalties as they relate to the protection of groundwater.

Because NMSWDCo's spills caused concentrations of chloride and TDS to exceed the WQCC standards for ground water, and because NMSWDCo knowingly and willfully failed to report this violation, OCD believes that a civil penalty of \$66,250.00 is appropriate for NMSWDCo's violations.

Since the May 6, 2003 release of the produced water, NMSWDCo has reported on OCD Form C-141 a minimum four additional releases to the OCD Hobbs District Office. This number of releases in 25 months indicates that NMSWDCo has significant problems with its degrading infrastructure and/or operating procedures. Therefore, NMSWDCo is now required to submit a report on the state of its infrastructure and operating procedures to the OCD Santa Fe Office, with a copy provided to the OCD Hobbs District Office, by December 16, 2005. In its report, NMSWDCo must propose a plan to repair and/or upgrade its infrastructure and improve its operating procedures to prevent human error.

Mr. John Maxey
New Mexico Salt Water Disposal Company, Inc.
September 15, 2005
Page 3

In addition, pursuant to OCD Rules 19C and E, NMSWDCo must submit a Stage 1 abatement plan proposal to the OCD Santa Fe Office, with a copy provided to the OCD Hobbs District Office, no later than November 18, 2005. All submittals to OCD must be sent from NMSWDCo rather than being submitted by a consultant. NMSWDCo shall also provide one paper copy and one electronic copy of all future workplans and/or reports relating to the cleanup to the OCD's Santa Fe and Hobbs District Offices.

Unless these matters are satisfactorily resolved at an administrative conference, OCD may request an enforcement hearing before an OCD Hearing Examiner or file suit in District Court. In this event, OCD may request a civil penalty greater than that being recommended herein.

Please call Glenn von Gonten at (505) 476-3488 to arrange the administrative conference by October 3, 2005. An OCD attorney may be present at the scheduled conference. Therefore, you may want to bring your attorney to the conference, when it is scheduled.

If you have any questions, please contact Mr. von Gonten.

Sincerely,



Roger C. Anderson
Environmental Bureau Chief

xc: Mr. Paul Sheeley, OCD Hobbs District Office
Glenn von Gonten, Senior Hydrologist
Cheryl O'Connor, OCD Assistant General Counsel