BW - 12

GENERAL CORRESPONDENCE

YEAR(S):

2007 → 1998

Chavez, Carl J, EMNRD

From: Ronnie D Devore [rddevore@paalp.com]
Sent: Wednesday, February 13, 2008 1:25 PM
To: Chavez, Carl J, EMNRD
Cc: Dennis L Shearer; Roger F Wortham; Pierce Broach
Subject: Saline Brine Station

Attachments: Reply from Mr. Chavez FW BW-12 Schurlock Permian-Hobbs Annual Mechanical Integrity Testing (MIT) Schedule.htm

Reply from Mr. Chavez FW BW-12...

Update: We have several people that are very interested in purchasing our brine water facility. We should begin receiving bids sometime this week. We are doing our best to get this accomplished before our extension expires. If you have questions please let me know. I am attaching previous communication.

Thanks

Ron

<<Reply from Mr. Chavez FW BW-12 Schurlock Permian-Hobbs Annual Mechanical Integrity Testing (MIT) Schedule.htm>>

Ronnie D. DeVore
District Manager
Plains Marketing, L.P.
The Hobbs District
"It's All About Service!"
(575) 393-5611
(575) 393-2455 Fax
(575) 441-6601 Mobile

To: Dennis L Shearer
Cc: Pierce Broach
Subject: FW: BW-12 Schurlock Permian-Hobbs Annual Mechanical Integrity Testing (MIT) Schedule
Please let me know what we need to do to get this accomplished. I am assuming we just need to pull samples from the test wells.
-----Original Message-----
From: Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]
Sent: Thursday, November 29, 2007 4:30 PM
To: Ronnie D Devore
Cc: Pierce Broach; Dennis L Shearer; Price, Wayne, EMNRD
Subject: RE: BW-12 Schurlock Permian-Hobbs Annual Mechanical Integrity Testing (MIT) Schedule

Mr. Devore:

Your request is approved on the condition that you test for chlorides in the monitor wells. Please complete the testing and submit the data to me in 30 days. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
(Pollution Prevention Guidance is under "Publications")

From: Ronnie D Devore [mailto:rddevore@paalp.com]
Sent: Thursday, November 29, 2007 2:52 PM
To: Chavez, Carl J, EMNRD
Cc: Pierce Broach; Dennis L Shearer
Subject: RE: Annual Mechanical Integrity Testing (MIT) Schedule

Mr. Chavez:

As we discussed on the phone, we are having plugging problems with the well at the Saline Brine facility. Due to this problem we will not be able to perform the required pressure test at this time. We would like to request a three month extension to give us time to evaluate the economic justification for repairs.

I have forwarded the information to my supervisor pertaining to upgrading the UIC Class III Well Bond to $50,000.00 by January 1, 2008.

Your consideration in this matter will be greatly appreciated.

Ron DeVore
District Manager

> -----Original Message-----
> **From:** Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]
> **Sent:** Monday, November 19, 2007 12:16 PM
> **To:** Chavez, Carl J, EMNRD; claylwilson@pccnm.com; rharrisnm@netscape.net; seay04@leaco.net; iwcarlsbad@plateautel.net; bpatterson@keyenergy.com; lsanchez@keyenergy.com; dherrera@swwmail.net; bpatterson@keyenergy.com; lsanchez@keyenergy.com; david@ewtitle.com; bpatterson@keyenergy.com; dlschearer@paalp.com; rddevore@paalp.com; garymschubert@aol.com; Steve.Prather@basicenergyservices.com; rddevore@paalp.com
> **Cc:** Price, Wayne, EMNRD; Gum, Tim, EMNRD; Williams, Chris, EMNRD
> **Subject:** RE: Annual Mechanical Integrity Testing (MIT) Schedule

Ladies & Gentlemen:

The OCD may be available to witness your MIT's during the second week of December 2007. Please provide your BW#, test type, date and time of test start so the OCD may be present to witness your MIT. Many of you already have done this. The OCD will require the following info. on the chart to be submitted to an OCD Representative or me at the address below in the event the OCD is not present to witness your MIT. Please give inspectors 15 minutes from the designated start time to be present.

1) MIT Information on pressure chart.

   a. The Operator shall supply the following information on the pressure chart that the inspector will file in the well records:

      1. Company Name, Well Name, API #, Legal Location.
      2. Test Procedure with "Pass/Fail" designation..
      3. Testing Media: Water, Gas, Oil, Etc.
      4. Date, time started and ending.
      5. Name (printed) and signature of company representative and OCD Inspector (if inspector is not present, include "OCD Inspector- n/a" on the chart)

2. Test Acceptance:

The OCD shall use the following criteria in determining if a well has passed the Mechanical Integrity Test:

   a. Passes if Zero Bleed-Off during the test.
   b. Passes if Final Test Pressure is within ± 1% of Starting Pressure, if approved by the OCD inspector.
   c. Fails if any Final Test Pressure is greater than ± 1% of Starting Pressure. Operators must investigate for leaks and demonstrate that mechanical integrity of the well(s) by ensuring there are no leaks in the tubing, casing, or packer, and injected/produced fluids are confined within the piping and/or injection zones.

      Note: OCD recognizes that different operations, well designs, formation characteristics and field conditions may cause variations in the above procedures. If the operator wishes to make or discuss anticipated changes, please notify the OCD for approval. All operators are responsible to notify OCD of any procedure that may cause harm to the well system or formation. Please be advised that OCD approval does not relieve any operator of liability should operations result in pollution of surface water, groundwater, or the environment.
   d. When the MIT is not witnessed by an OCD Representative and fails, the owner/operator shall notify the OCD within 24 hours after having knowledge of well MIT failure.

3. Mechanical Integrity Testing: Conduct an annual open to formation pressure test by pressuring up the formation with approved fluids or gas to a minimum of 300 psig measured on the surface casing for four hours. However, no operator may exceed test pressures that may cause formation fracturing or system failures. Systems requiring test pressures less than 300 psig must be approved by OCD prior to testing. At least once every five years and during well work-overs the salt cavern formation will be isolated from the casing/tubing annuals and the casing pressure tested at 300 psig for 30 minutes. All pressure tests must be performed per the scheduled shown below and witnessed by OCD unless otherwise approved.

UIC Class III Test Type & Frequency (Please make sure that the 30 min. test is performed every 5-years) :

- 30 minute @ 300 psig casing test only (set packer to isolate formation)

- 4 hour @ 300 psig casing open to formation test
- 4 hour @ 300 psig casing open to formation test
- 4 hour @ 300 psig casing open to formation test
- 4 hour @ 300 psig casing open to formation test

Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
(Pollution Prevention Guidance is under "Publications")

From: Chavez, Carl J, EMNRD
Sent: Wednesday, October 17, 2007 8:22 AM
To: Chavez, Carl J, EMNRD; claylwilson@pccnm.com; rharrisnm@netscape.net; seay04@leaco.net; iwcarlsbad@plateautel.net; bpatterson@keyenergy.com; lsanchez@keyenergy.com; dherrera@swwmail.net; bpatterson@keyenergy.com; lsanchez@keyenergy.com; david@ewtitle.com; bpatterson@keyenergy.com; dlschearer@paalp.com; rddevore@paalp.com; garymschubert@aol.com; Steve.Prather@basicenergyservices.com; rddevore@paalp.com
Cc: Price, Wayne, EMNRD
Subject: RE: Annual Mechanical Integrity Testing (MIT) Schedule

Gentlemen:

Looks like the 1st or 2nd week in December works best for the OCD. Thanks.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
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E-mail: CarlJ.Chavez@state.nm.us
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From: Chavez, Carl J, EMNRD
Sent: Monday, October 15, 2007 8:58 AM
To: 'claylwilson@pccnm.com'; 'rharrisnm@netscape.net'; 'seay04@leaco.net'; 'iwcarlsbad@plateautel.net'; 'bpatterson@keyenergy.com'; 'lsanchez@keyenergy.com'; 'dherrera@swwmail.net'; 'bpatterson@keyenergy.com'; 'lsanchez@keyenergy.com'; 'david@ewtitle.com'; 'bpatterson@keyenergy.com'; 'dlschearer@paalp.com'; 'rddevore@paalp.com'; 'garymschubert@aol.com'; 'Steve.Prather@basicenergyservices.com'
Cc: Price, Wayne, EMNRD
Subject: Annual Mechanical Integrity Testing (MIT) Schedule

Dear Sir or Madam:

Good morning. It is that time of season again to schedule your annual or 5-year MIT.

Mechanical Integrity Testing: Conduct an annual open to formation pressure test by pressuring up the formation with approved fluids or gas to a minimum of 300 psig measured on the surface casing for four hours. However, no operator may exceed test pressures that may cause formation fracturing or system failures. Systems requiring test pressures less than 300 psig must be approved by OCD prior to testing. At least once every five years and during well workovers, the salt cavern formation will be isolated from the casing/tubing annuals and the casing pressure tested at 300 psig for 30 minutes. All pressure tests must be performed per the scheduled shown below and witnessed by OCD unless otherwise approved.

Testing Schedule:

30 minute @ 300 psig casing test only (set packer to isolate formation every five years)
4 hour @ 300 psig casing open to formation test (annually)

Please contact me to schedule your MIT based on the above UIC Class III Well schedule and type of MIT. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
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1220 South St. Francis Dr., Santa Fe, New Mexico 87505
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E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
(Pollution Prevention Guidance is under "Publications")

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Wednesday, February 20, 2008 1:42 PM
To: 'Ronnie D Devore'
Cc: Dennis L Shearer; Roger F Wortham; Pierce Broach
Subject: RE: Saline Brine Station

Attachments: WQCC Transfer of Ownership 12-04-06.doc; Basic Energy Services Certificate.doc


WQCC Transfer of Ownership 12-...


Basic Energy Services Certific...

Ron:

Here are the drafts w/ more info. on transfer of ownership and a sample certificate that you can take and modify for your facility. The OCD needs to receive the certificate to ensure that the purchaser agrees to the terms and conditions of the existing permit. Also, the new owners bond (see note below) for $50,000.00 needs to be accepted and in the OCD's file. The seller may then send a request to relinquish it's existing bond.

Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM
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Oil Conservation Division, Environmental Bureau 1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
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E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
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-----Original Message-----
From: Ronnie D Devore [mailto:rddevore@paalp.com]
Sent: Friday, February 15, 2008 11:46 AM
To: Chavez, Carl J, EMNRD
Cc: Dennis L Shearer; Roger F Wortham; Pierce Broach
Subject: RE: Saline Brine Station

Thanks for the heads up. Will you send the template out?

-----Original Message-----
From: Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]
Sent: Friday, February 15, 2008 12:34 PM
To: Ronnie D Devore
Cc: Dennis L Shearer; Roger F Wortham; Pierce Broach
Subject: RE: Saline Brine Station

Ron:

You may want to look over the transfer of operator requirements for UIC Class III Wells. The OCD generally needs a certification from the purchaser that they have reviewed the file and agree to maintain the brine well under the discharge permit. We have a template that we send out. Also, a $50,000.00 bond will be required to be in position for the new operator and a request for release of the existing bond can occur once we have the original bond or Duplicate Original Copy of Bond. Thnx.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau 1220 South St. Francis Dr., Santa Fe, New Mexico 87505

Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
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Update: We have several people that are very interested in purchasing our brine water facility. We should begin receiving bids sometime this week. We are doing our best to get this accomplished before our extension expires. If you have questions please let me know. I am attaching previous communication.

Thanks

Ron

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WQCC Transfer of Discharge Permit Regulations

20.6.2.3104 DISCHARGE PERMIT REQUIRED: Unless otherwise provided by this Part, no person shall cause or allow effluent or leachate to discharge so that it may move directly of indirectly into ground water unless he is discharging pursuant to a discharge permit issued by the secretary. When a permit has been issued, discharges must be consistent with the terms and conditions of the permit. In the event of a transfer of the ownership, control, or possession of a facility for which a discharge permit is in effect, the transferee shall have authority to discharge under such permit, provided that the transferee has complied with Section 20.6.2.3111 NMAC, regarding transfers.

[2-18-77, 12-24-87, 12-1-95; Rn & A, 20.6.2.3104 NMAC - 20 NMAC 6.2.III.3104, 1-15-01; A, 12-1-01]

20.6.2.3111 TRANSFER OF DISCHARGE PERMIT: No purported transfer of any discharge permit shall be effective to create, alter or extinguish any right or responsibility of any person subject to this Part, unless the following transfer requirements are met:

A. Prior to any transfer of ownership, control, or possession (whether by lease, conveyance or otherwise) of a facility with a discharge permit, the transferror shall notify the transferee in writing of the existence of the discharge permit, and shall deliver or send by certified mail to the department a copy of such written notification, together with a certification or other proof that such notification has in fact been received by the transferee.

B. Upon receipt of such notification, the transferee shall have the duty to inquire into all of the provisions and requirements contained in such discharge permit, and the transferee shall be charged with notice of all such provisions and requirements as they appear of record in the department's file or files concerning such discharge permit.

C. Until both ownership and possession of the facility have been transferred to the transferee, the transferor shall continue to be responsible for any discharge from the facility.

D. Upon assuming either ownership or possession of the facility, the transferee shall have the same rights and responsibilities under the discharge permit as were applicable to the transferor.

E. Nothing in this section or in this part shall be construed to relieve any person of responsibility or liability for any act or omission which occurred while that person owned, controlled or was in possession of the facility.

[2-18-77, 12-24-87, 12-1-95, 11-15-96; 20.6.2.3111 NMAC - Rn, 20 NMAC 6.2.III.3111, 1-15-01; A, 12-1-01]

20.6.2.5101 DISCHARGE PERMIT AND OTHER REQUIREMENTS FOR CLASS I NON-HAZARDOUS WASTE INJECTION WELLS AND CLASS III WELLS:

H. Transfer of Class I non-hazardous waste injection well and Class III well Discharge Permits.

(1) The transfer provisions of Section 20.6.2.3111 NMAC do not apply to a discharge permit for a Class I non-hazardous waste injection well or Class III well.

(2) A Class I non-hazardous waste injection well or Class III well discharge permit may be transferred if:

(a) The secretary receives written notice 30 days prior to the transfer date; and

(b) The secretary does not object prior to the proposed transfer date. The secretary may require modification of the discharge permit as a condition of transfer, and may require demonstration of adequate financial responsibility.

(3) The written notice required by Subparagraph (b) of Paragraph (2) of Subsection I above shall:

(a) Have been signed by the discharger and the succeeding discharger, including an acknowledgement that the succeeding discharger shall be responsible for compliance with the discharge permit upon taking possession of the facility; and

(b) Set a specific date for transfer of discharge permit responsibility, coverage and liability; and

(c) Include information relating to the succeeding discharger's financial responsibility required by Paragraph (17) of Subsection B of Section 20.6.2.5210 NMAC.

OCD CERTIFICATION

Basic Energy Services (BES) hereby accepts the terms and conditions of the attached Chaparral SWD discharge plan permit (BW-025) and agrees to comply with the terms and conditions. BES acknowledges that the Oil Conservation Division (OCD) may change the terms and conditions for good cause shown as necessary to protect fresh water, human health, and the environment. The undersigned also attests to the fact that he or she understands 19.15.1.41 NMAC which states "Any person who conducts any activity pursuant to a permit, administrative order or other written authorization or approval from the division shall comply with every term, condition and provision of such permit, administrative order, authorization or approval."

Accepted.

Basic Energy Services
1819 N. Turner, Suite B
Hobbs, New Mexico 88240

Signature_____ Title_____ Date_____

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Monday, December 17, 2007 11:44 AM
To: 'Daniel M Bryant'; Price, Wayne, EMNRD
Cc: Ronnie D Devore; Pierce Broach; Dennis L Shearer
Subject: RE: BW-12 Schurlock Permian-Hobbs Annual Mechanical Integrity Testing (MIT) Schedule

Mr. Bryant, et al.:

The analytical data results for chlorides in water look good. If Schurlock Permian-Hobbs does not plug and abandon or close the site in 3 months, it shall schedule a 5-Yr. EPA MIT (pull tubing, set plug, & conduct a 30 minute casing test) with the OCD around the first week in March of 2008.

Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
(Pollution Prevention Guidance is under "Publications")

From: Daniel M Bryant [mailto:dmbryant@paalp.com]
Sent: Thursday, December 13, 2007 5:37 AM
To: Chavez, Carl J, EMNRD; Price, Wayne, EMNRD
Cc: Ronnie D Devore; Pierce Broach; Dennis L Shearer
Subject: RE: BW-12 Schurlock Permian-Hobbs Annual Mechanical Integrity Testing (MIT) Schedule

Gentlemen,

Here are the analytical results from the chloride analysis for the Saline Brine facility monitoring wells.

If you have any questions, please let me know.

Daniel Bryant
Environmental Specialist
Plains All American

Office: 432/686-1769
Cellular: 432/557-5865
E-mail: dmbryant@paalp.com

-----Original Message-----
From: Dennis L Shearer
Sent: Tuesday, December 04, 2007 1:52 PM
To: Daniel M Bryant
Subject: FW: BW-12 Schurlock Permian-Hobbs Annual Mechanical Integrity Testing (MIT) Schedule

-----Original Message-----
From: Ronnie D Devore
Sent: Thursday, November 29, 2007 4:34 PM
To: Dennis L Shearer
Cc: Pierce Broach
Subject: FW: BW-12 Schurlock Permian-Hobbs Annual Mechanical Integrity Testing (MIT) Schedule

Please let me know what we need to do to get this accomplished. I am assuming we just need to pull samples from the test wells.
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From: Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]
Sent: Thursday, November 29, 2007 4:30 PM
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Subject: RE: BW-12 Schurlock Permian-Hobbs Annual Mechanical Integrity Testing (MIT) Schedule

Mr. Devore:

Your request is approved on the condition that you test for chlorides in the monitor wells. Please complete the testing and submit the data to me in 30 days. Thank you.

Carl J. Chavez, CHMM
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I have forwarded the information to my supervisor pertaining to upgrading the UIC Class III Well Bond to $50,000.00 by January 1, 2008.

Your consideration in this matter will be greatly appreciated.

Ron DeVore
District Manager

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Chavez, Carl J, EMNRD BW-012

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Attachments: 2007_293991_.pdf

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District Manager

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Cc: Price, Wayne, EMNRD; Gum, Tim, EMNRD; Williams, Chris, EMNRD
Subject: RE: Annual Mechanical Integrity Testing (MIT) Schedule

Ladies & Gentlemen:

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1) MIT Information on pressure chart.

   a. The Operator shall supply the following information on the pressure chart that the inspector will file in the well records:

      1. Company Name, Well Name, API #, Legal Location.
      2. Test Procedure with "Pass/Fail" designation..
      3. Testing Media: Water, Gas, Oil, Etc.

4. Date, time started and ending.
5. Name (printed) and signature of company representative and OCD Inspector (if inspector is not present, include "OCD Inspector- n/a" on the chart)

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b. Passes if Final Test Pressure is within ± 1% of Starting Pressure, if approved by the OCD inspector.
c. Fails if any Final Test Pressure is greater than ± 1% of Starting Pressure. Operators must investigate for leaks and demonstrate that mechanical integrity of the well(s) by ensuring there are no leaks in the tubing, casing, or packer, and injected/produced fluids are confined within the piping and/or injection zones.

   Note: OCD recognizes that different operations, well designs, formation characteristics and field conditions may cause variations in the above procedures. If the operator wishes to make or discuss anticipated changes, please notify the OCD for approval. All operators are responsible to notify OCD of any procedure that may cause harm to the well system or formation. Please be advised that OCD approval does not relieve any operator of liability should operations result in pollution of surface water, groundwater, or the environment.
d. When the MIT is not witnessed by an OCD Representative and fails, the owner/operator shall notify the OCD within 24 hours after having knowledge of well MIT failure.

3. Mechanical Integrity Testing: Conduct an annual open to formation pressure test by pressuring up the formation with approved fluids or gas to a minimum of 300 psig measured on the surface casing for four hours. However, no operator may exceed test pressures that may cause formation fracturing or system failures. Systems requiring test pressures less than 300 psig must be approved by OCD prior to testing. At least once every five years and during well work-overs the salt cavern formation will be isolated from the casing/tubing annuals and the casing pressure tested at 300 psig for 30 minutes. All pressure tests must be performed per the scheduled shown below and witnessed by OCD unless otherwise approved.

UIC Class III Test Type & Frequency (Please make sure that the 30 min. test is performed every 5-years) :

- 30 minute @ 300 psig casing test only (set packer to isolate formation)
- 4 hour @ 300 psig casing open to formation test
- 4 hour @ 300 psig casing open to formation test
- 4 hour @ 300 psig casing open to formation test
- 4 hour @ 300 psig casing open to formation test

Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.

Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
(Pollution Prevention Guidance is under "Publications")

From: Chavez, Carl J, EMNRD
Sent: Wednesday, October 17, 2007 8:22 AM
To: Chavez, Carl J, EMNRD; claylwilson@pccnm.com; rharrisnm@netscape.net; seay04@leaco.net; iwcarlsbad@plateautel.net; bpatterson@keyenergy.com; lsanchez@keyenergy.com; dherrera@swwmail.net; bpatterson@keyenergy.com; lsanchez@keyenergy.com; david@ewtitle.com; bpatterson@keyenergy.com; dlschearer@paalp.com; rddevore@paalp.com; garymschubert@aol.com; Steve.Prather@basicenergyservices.com; rddevore@paalp.com
Cc: Price, Wayne, EMNRD
Subject: RE: Annual Mechanical Integrity Testing (MIT) Schedule

Gentlemen:

Looks like the 1st or 2nd week in December works best for the OCD. Thanks.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
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From: Chavez, Carl J, EMNRD
Sent: Monday, October 15, 2007 8:58 AM
To: 'claylwilson@pccnm.com'; 'rharrisnm@netscape.net'; 'seay04@leaco.net'; 'iwcarlsbad@plateautel.net'; 'bpatterson@keyenergy.com'; 'lsanchez@keyenergy.com'; 'dherrera@swwmail.net'; 'bpatterson@keyenergy.com'; 'lsanchez@keyenergy.com'; 'david@ewtitle.com'; 'bpatterson@keyenergy.com'; 'dlschearer@paalp.com'; 'rddevore@paalp.com'; 'garymschubert@aol.com'; 'Steve.Prather@basicenergyservices.com'
Cc: Price, Wayne, EMNRD
Subject: Annual Mechanical Integrity Testing (MIT) Schedule

Dear Sir or Madam:

Good morning. It is that time of season again to schedule your annual or 5-year MIT.

> Mechanical Integrity Testing: Conduct an annual open to formation pressure test by pressuring up the formation with approved fluids or gas to a minimum of 300 psig measured on the surface casing for four hours. However, no operator may exceed test pressures that may cause formation fracturing or system failures. Systems requiring test pressures less than 300 psig must be approved by OCD prior to testing. At least once every five years and during well workovers, the salt cavern formation will be isolated from the casing/tubing annuals and the casing pressure tested at 300 psig for 30

minutes. All pressure tests must be performed per the scheduled shown below and witnessed by OCD unless otherwise approved.

Testing Schedule:

30 minute @ 300 psig casing test only (set packer to isolate formation every five years)

4 hour @ 300 psig casing open to formation test (annually)

Please contact me to schedule your MIT based on the above UIC Class III Well schedule and type of MIT. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
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E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
(Pollution Prevention Guidance is under "Publications")

Analytical Report 293991

for

PLAINS ALL AMERICAN EH&S

Project Manager: JIMMY BRYANT

Saline Brine Station

07-DEC-07

12600 West I-20 East Odessa, Texas 79765

A Xenco Laboratories Company

Texas certification numbers:
Houston, TX T104704215

Florida certification numbers:
Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675

Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America
Midland - Corpus Christi - Atlanta

LAB OF

07-DEC-07

Project Manager: **JIMMY BRYANT**
PLAINS ALL AMERICAN EH&S
1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No: **293991**
Saline Brine Station
Project Address: Lea County, NM

JIMMY BRYANT:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 293991. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 293991 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brent Barron, II
Odessa Laboratory Manager

XENCO Laboratories

Sample Cross Reference 293991

PLAINS ALL AMERICAN EH&S, Midland, TX

Saline Brine Station

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-1	W	Dec-04-07 15:25		293991-001
MW-2	W	Dec-04-07 16:00		293991-002

Project Id:
Contact: JIMMY BRYANT
Project Location: Lea County, NM

Project Name: Saline Brine Station

Date Received in Lab: Wed Dec-05-07 08:35 am
Report Date: 07-DEC-07
Project Manager: Brent Barron, II

Analysis Requested							
	Lab Id:	293991-001	293991-002				
	Field Id:	MW-1	MW-2				
	Depth:						
	Matrix:	WATER	WATER				
	Sampled:	Dec-04-07 15:25	Dec-04-07 16:00				
Total Chloride by EPA 325.3	***Extracted:***						
	Analyzed:	Dec-06-07 11:34	Dec-06-07 11:34				
	Units/RL:	mg/L RL	mg/L RL				
Chloride		117 5.00	53.2 5.00				

Brent Barron
Odessa Laboratory Director

XENCO Laboratories

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the MQL and above the SQL.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

* Outside XENCO'S scope of NELAC Accreditation

Laboratories

Blank Spike Recovery

Project Name: Saline Brine Station

Work Order #: 293991 **Project ID:**

Lab Batch #: 709928 **Sample:** 709928-1-BKS **Matrix:** Water

Date Analyzed: 12/06/2007 **Date Prepared:** 12/06/2007 **Analyst:** IRO

Reporting Units: mg/L **Batch #:** 1

Total Chloride by EPA 325.3 Analytes	Blank Result [A]	BLANK /BLANK SPIKE RECOVERY STUDY Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	ND	100	95.7	96	80-120	

Blank Spike Recovery [D] = 100*[C]/[B]
All results are based on MDL and validated for QC purposes.

ENVIRONMENTAL LAB OF

Form 3 - MS / MSD Recoveries

Project Name: Saline Brine Station

Work Order # : 293991 **Project ID:**

Lab Batch ID: 709928 **QC- Sample ID:** 293991-002 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 12/06/2007 **Date Prepared:** 12/06/2007 **Analyst:** IRO

Reporting Units: mg/L

Total Chloride by EPA 325.3 Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	53.2	500	542	98	500	553	100	2	80-120	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*(D-G)/(D+G)

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ken Dutton PAGE 01 OF 01

Project Name: SALINE BRINE STATION

Company Name: Basin Environmental Service Technologies, LLC

Project #:

Company Address: 2800 Plains Hwy

Project Loc: Lea County, NM

City/State/Zip: Lovington, NM 88260

PO #: PAA - D. Bryant

Telephone No: (505) 441-2124 Fax No: (505) 396-1429

Report Format: [X] Standard [ ] TRRP [ ] NPDES

Sampler Signature: Ken Dutton e-mail: kdutton@basinenv.com

(lab use only)
ORDER #: 293991

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW = Drinking Water SL = Sludge GW = Groundwater S = Soil/Solid NP = Non-Potable Specify Oth	Analyze For: TCLP: TPH 418.1	8015M	TOTAL: TPH TX 1005	TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	CHLORIDES			RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
001	MW-1			04-Dec-07	1525		1	X								GW													X				X
002	MW-2			04-Dec-07	1600		1	X								GW													X				X

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
Ken Dutton	12/5/07	0835			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
			anitalof	12/05/07	0635

Laboratory Comments: 2-1 L ga

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered by Sampler/Client Rep.?	Y	N

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: 5.0 °C

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Basin Envir.

Date/ Time: 12/05/07 18:35

Lab ID #: 293991

Initials: qmk

Sample Receipt Checklist

					Client Initials
#1	Temperature of container/ cooler?	Yes	No	5.0 °C	
#2	Shipping container in good condition?	Yes	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	Not Present	
#4	Custody Seals intact on sample bottles/ container?	Yes	No	Not Present	
#5	Chain of Custody present?	Yes	No		
#6	Sample Instructions complete of Chain of Custody?	Yes	No		
#7	Chain of Custody signed when relinquished/ received?	Yes	No		
#8	Chain of Custody agrees with sample label(s)?	Yes	No	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	Yes	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	Yes	No		
#11	Containers supplied by ELOT?	Yes	No		
#12	Samples in proper container/ bottle?	Yes	No	See Below	
#13	Samples properly preserved?	Yes	No	See Below	
#14	Sample bottles intact?	Yes	No		
#15	Preservations documented on Chain of Custody?	Yes	No		
#16	Containers documented on Chain of Custody?	Yes	No		
#17	Sufficient sample amount for indicated test(s)?	Yes	No	See Below	
#18	All samples received within sufficient hold time?	Yes	No	See Below	
#19	Subcontract of sample(s)?	Yes	No	Not Applicable	
#20	VOC samples have zero headspace?	Yes	No	Not Applicable	

Variance Documentation

Contact: _____ Contacted by: _____ Date/ Time: _____

Regarding: _____

Corrective Action Taken: _____

Check all that Apply:

- ☐ See attached e-mail/ fax
- ☐ Client understands and would like to proceed with analysis
- ☐ Cooling process had begun shortly after sampling event

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Thursday, November 29, 2007 3:30 PM
To: 'Ronnie D Devore'
Cc: Pierce Broach; Dennis L Shearer; Price, Wayne, EMNRD
Subject: RE: BW-12 Schurlock Permian-Hobbs Annual Mechanical Integrity Testing (MIT) Schedule

Mr. Devore:

Your request is approved on the condition that you test for chlorides in the monitor wells. Please complete the testing and submit the data to me in 30 days. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
(Pollution Prevention Guidance is under "Publications")

From: Ronnie D Devore [mailto:rddevore@paalp.com]
Sent: Thursday, November 29, 2007 2:52 PM
To: Chavez, Carl J, EMNRD
Cc: Pierce Broach; Dennis L Shearer
Subject: RE: Annual Mechanical Integrity Testing (MIT) Schedule

Mr. Chavez:

As we discussed on the phone, we are having plugging problems with the well at the Saline Brine facility. Due to this problem we will not be able to perform the required pressure test at this time. We would like to request a three month extension to give us time to evaluate the economic justification for repairs.

I have forwarded the information to my supervisor pertaining to upgrading the UIC Class III Well Bond to $50,000.00 by January 1, 2008.

Your consideration in this matter will be greatly appreciated.

Ron DeVore
District Manager

-----Original Message-----
From: Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]
Sent: Monday, November 19, 2007 12:16 PM
To: Chavez, Carl J, EMNRD; claylwilson@pccnm.com; rharrisnm@netscape.net; seay04@leaco.net; iwcarlsbad@plateautel.net; bpatterson@keyenergy.com; lsanchez@keyenergy.com; dherrera@swwmail.net; bpatterson@keyenergy.com; lsanchez@keyenergy.com; david@ewtitle.com; bpatterson@keyenergy.com; dlschearer@paalp.com; rddevore@paalp.com; garymschubert@aol.com; Steve.Prather@basicenergyservices.com; rddevore@paalp.com
Cc: Price, Wayne, EMNRD; Gum, Tim, EMNRD; Williams, Chris, EMNRD
Subject: RE: Annual Mechanical Integrity Testing (MIT) Schedule

Ladies & Gentlemen:

The OCD may be available to witness your MIT's during the second week of December 2007. Please provide your BW#, test type, date and time of test start so the OCD may be present to witness your MIT. Many of you already have done this. The OCD will require the following info. on the chart to be submitted to an OCD Representative or me at the address below in the event the OCD is not present to witness your MIT. Please give inspectors 15 minutes from the designated start time to be present.

1) MIT Information on pressure chart.

   a. The Operator shall supply the following information on the pressure chart that the inspector will file in the well records:

      1. Company Name, Well Name, API #, Legal Location.
      2. Test Procedure with "Pass/Fail" designation..
      3. Testing Media: Water, Gas, Oil, Etc.
      4. Date, time started and ending.
      5. Name (printed) and signature of company representative and OCD Inspector (if inspector is not present, include "OCD Inspector- n/a" on the chart)

2. Test Acceptance:

The OCD shall use the following criteria in determining if a well has passed the Mechanical Integrity Test:

   a. Passes if Zero Bleed-Off during the test.
   b. Passes if Final Test Pressure is within ± 1% of Starting Pressure, if approved by the OCD inspector.
   c. Fails if any Final Test Pressure is greater than ± 1% of Starting Pressure. Operators must investigate for leaks and demonstrate that mechanical integrity of the well(s) by ensuring there are no leaks in the tubing, casing, or packer, and injected/produced fluids are confined within the piping and/or injection zones.

      Note: OCD recognizes that different operations, well designs, formation characteristics and field conditions may cause variations in the above procedures. If the operator wishes to make or discuss anticipated changes, please notify the OCD for approval. All operators are responsible to notify OCD of any procedure that may cause harm to the well system or formation. Please be advised that OCD approval does not relieve any operator of liability should operations result in pollution of surface water, groundwater, or the environment.
   d. When the MIT is not witnessed by an OCD Representative and fails, the owner/operator shall notify the OCD within 24 hours after having knowledge of well MIT failure.

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UIC Class III Test Type & Frequency (Please make sure that the 30 min. test is performed every 5-years) :

- 30 minute @ 300 psig casing test only (set packer to isolate formation)

- 4 hour @ 300 psig casing open to formation test
- 4 hour @ 300 psig casing open to formation test
- 4 hour @ 300 psig casing open to formation test
- 4 hour @ 300 psig casing open to formation test

Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
(Pollution Prevention Guidance is under "Publications")

From: Chavez, Carl J, EMNRD
Sent: Wednesday, October 17, 2007 8:22 AM
To: Chavez, Carl J, EMNRD; claylwilson@pccnm.com; rharrisnm@netscape.net; seay04@leaco.net; iwcarlsbad@plateautel.net; bpatterson@keyenergy.com; lsanchez@keyenergy.com; dherrera@swwmail.net; bpatterson@keyenergy.com; lsanchez@keyenergy.com; david@ewtitle.com; bpatterson@keyenergy.com; dlschearer@paalp.com; rddevore@paalp.com; garymschubert@aol.com; Steve.Prather@basicenergyservices.com; rddevore@paalp.com
Cc: Price, Wayne, EMNRD
Subject: RE: Annual Mechanical Integrity Testing (MIT) Schedule

Gentlemen:

Looks like the 1st or 2nd week in December works best for the OCD. Thanks.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
(Pollution Prevention Guidance is under "Publications")

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Sent: Monday, October 15, 2007 8:58 AM
To: 'claylwilson@pccnm.com'; 'rharrisnm@netscape.net'; 'seay04@leaco.net'; 'iwcarlsbad@plateautel.net'; 'bpatterson@keyenergy.com'; 'lsanchez@keyenergy.com'; 'dherrera@swwmail.net'; 'bpatterson@keyenergy.com'; 'lsanchez@keyenergy.com'; 'david@ewtitle.com'; 'bpatterson@keyenergy.com'; 'dlschearer@paalp.com'; 'rddevore@paalp.com'; 'garymschubert@aol.com'; 'Steve.Prather@basicenergyservices.com'
Cc: Price, Wayne, EMNRD
Subject: Annual Mechanical Integrity Testing (MIT) Schedule

Dear Sir or Madam:

Good morning. It is that time of season again to schedule your annual or 5-year MIT.

Mechanical Integrity Testing: Conduct an annual open to formation pressure test by pressuring up the formation with approved fluids or gas to a minimum of 300 psig measured on the surface casing for four hours. However, no operator may exceed test pressures that may cause formation fracturing or system failures. Systems requiring test pressures less than 300 psig must be approved by OCD prior to testing. At least once every five years and during well workovers, the salt cavern formation will be isolated from the casing/tubing annuals and the casing pressure tested at 300 psig for 30 minutes. All pressure tests must be performed per the scheduled shown below and witnessed by OCD unless otherwise approved.

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30 minute @ 300 psig casing test only (set packer to isolate formation every five years)
4 hour @ 300 psig casing open to formation test (annually)

Please contact me to schedule your MIT based on the above UIC Class III Well schedule and type of MIT. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
(Pollution Prevention Guidance is under "Publications")

BW-12 run [Cl] on wells

Send email - MIT pass + bond info. Approved

Chavez, Carl J, EMNRD

From: Ronnie D Devore [rddevore@paalp.com]
Sent: Wednesday, October 17, 2007 8:21 AM
To: Chavez, Carl J, EMNRD
Subject: Out of Office AutoReply: Annual Mechanical Integrity Testing (MIT) Schedule?

+ Surface subsidence? Subsurf subsid. issue?

I will be in the field. You can contact me at 505-441-6601.

11/28/07
3 PM + Shut-in (plugged up).
+ Trying to sell it? yes, putting word out & maybe put bids on it.
+ Not going to repair it.
Don't know what's
+ bond amt? will want to update this. —
+ subsidence issues
Options? Let's call him.
Carl Ch
Thx.

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, October 30, 2007 11:27 AM
To: Price, Wayne, EMNRD
Cc: 'rddevore@paalp.com'
Subject: BW-12 MIT & Other Problems

Wayne:

Re:

The Permian Corporation	SCURLOCK/PERMIAN -HOBBS (Saline #1 Well)	BW-12	30-025-12803

FYI.

I received a call today at around 9:50 a.m. from Mr. Ron Devore at (505) 441-6601. Ron informed me that their BW has not produced in about a month due to what he perceived as a down hole plugging problem. He indicated that they had replaced tubing last year during their 5-yr. MIT. He said that he is awaiting instructions from above on how they are going to proceed with corrective action or other options. He said that they may want to sell the facility and made reference to the recent requirement for an increase in the bond amount to $50,000.00. They would like to cancel their MIT until their down-hole problem can be corrected.

Based on notes from 2/6/07 at 10:56 a.m., there was bent tubing on ground with concerns about a cavern slump problem. Operator had lost 800 ft. of tubing down hole at about 1700 ft. Problem w/ BOP leaking & had to replace before running MIT. BOP removed and Teflon seal set at op of flange & reseated BOP for pressure up tomorrow. District staff requested to be present following day for test.

I informed Ron that I would discuss the situation above with you and that the OCD would respond. Thanks.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
(Pollution Prevention Guidance is under "Publications")

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, July 10, 2007 11:10 AM
To: Price, Wayne, EMNRD
Subject: Class III BW-12 Transfer of ownership to Mesquite- Carlsbad

Wayne:

FYI, after contacting Dennis Schearer at (505) 441-6602 today about expiring Letters of Credit on BW-27 wells, he informed me that the Permian Corporation sold BW-12 to Mesquite-Carlsbad. Since I have no record of a transfer of ownership, I requested that his legal department contact me to discuss the transfer of ownership process. It would appear that Mesquite- Carlsbad is operating BW-12 without their bond being in place.

The Permian Corporation	SCURLOCK/PERMIAN -HOBBS (Saline #1 Well)	BW-12	30-025-12803

What do you think? Thanks.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
(Pollution Prevention Guidance is under "Publications")

Mr. Ronnie D. DeVore
Plains Marketing, LP
214 West County Rd. 61
Hobbs, N.M. 88242

Thank you for your patience.....we did have a very difficult time getting a pulling unit.

If there is an attachment, I am unable to open it. Please send the letter to me.

Thanks,

Ron

-----Original Message-----
From: Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]
Sent: Thursday, February 08, 2007 3:46 PM
To: rddevore@paalp.com
Cc: Dennis L Shearer; Price, Wayne, EMNRD
Subject: Attached BW-12 MIT Letter of January 26, 2007

Mr. Devore:

The Oil Conservation Division mailed out the attached letter to you, but the letter was returned to sender due to an incorrect mail address. Could you please provide your updated mail address and company information for our records.

In addition, we note that BW-12 underwent a successful MIT yesterday and that the OCD witnessed the MIT. We hope that future conflicts with pulling units, etc. required for MITs will not be hampered. Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM
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Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/
(Pollution Prevention Guidance is under "Publications")

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Thursday, February 08, 2007 2:46 PM
To: 'rddevore@paalp.com'
Cc: 'Dennis L Shearer'; Price, Wayne, EMNRD
Subject: Attached BW-12 MIT Letter of January 26, 2007

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Website: http://www.emnrd.state.nm.us/ocd/
(Pollution Prevention Guidance is under "Publications")

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

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

2007 FEB 6 PM 10 54

January 26, 2007

Mr. Ron Devore
Plains Marketing L.P.
3514 Lovington Hwy.
Hobbs, New Mexico 88240

Re: BW-12 Annual Mechanical Integrity Test (MIT)
Scurlock Permian LLC.

Dear Mr. Devore:

The New Mexico Oil Conservation Division (OCD), Environmental Bureau had corresponded with you on July 26, 2006 to schedule a date and time for the Underground Injection Control (UIC) annual MIT. You had mentioned that Scurlock Permian LLC. was waiting for Key for a pulling unit to perform the MIT. On October 13, 2006, the OCD corresponded with you again about the MIT and allowed you an extension of 30 days or by November 13, 2006 to schedule a date and time to run the MIT.

To date, our records indicate that Scurlock Permian LLC. has not provided a date and time for conducting the MIT. The excuse has been acquiring a pulling unit to complete the MIT. The OCD recently witnessed a series of brine well MITs where operators indicated that they also experienced equipment delays on work over rigs, pulling units, etc.; however, they were all able to complete their MITs within their required MIT schedules.

Consequently, the OCD is allowing Scurlock Permian LLC. a final 30-day extension until February 28, 2007 to schedule a date and time to complete the MIT. If you do not meet this date, you may be out of compliance with OCD/EPA UIC Regulations.

Please contact Carl Chavez of my staff at (505-476-3491) or E-mail carlj.chavez@state.nm.us. . to schedule a date and time for the MIT that will allow the OCD to witness the MIT. Thank you.

Sincerely,

Wayne Price
Environmental Bureau Chief

LWP/cc
xc: OCD District Office

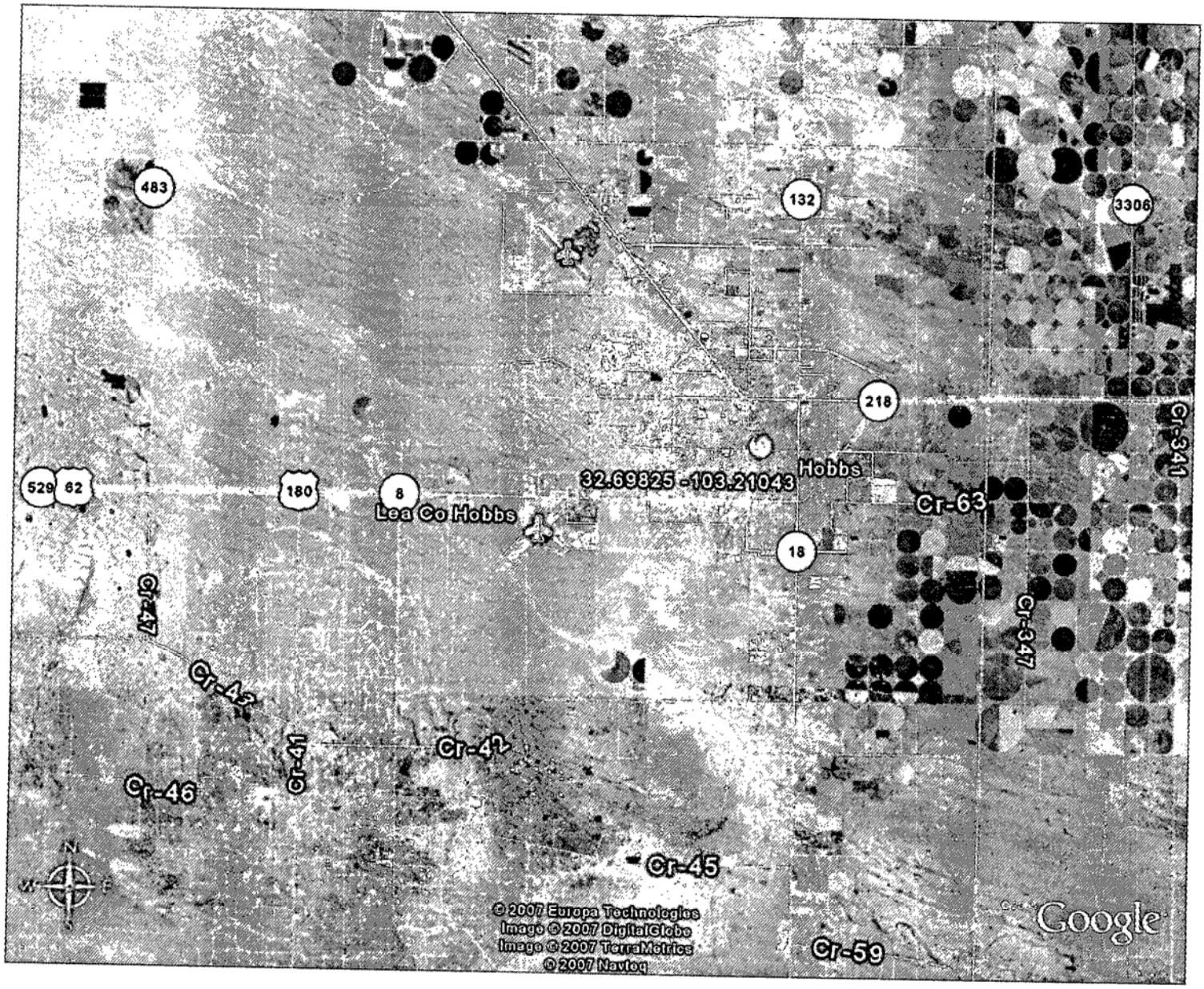
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Image © 2007 TerraMetrics
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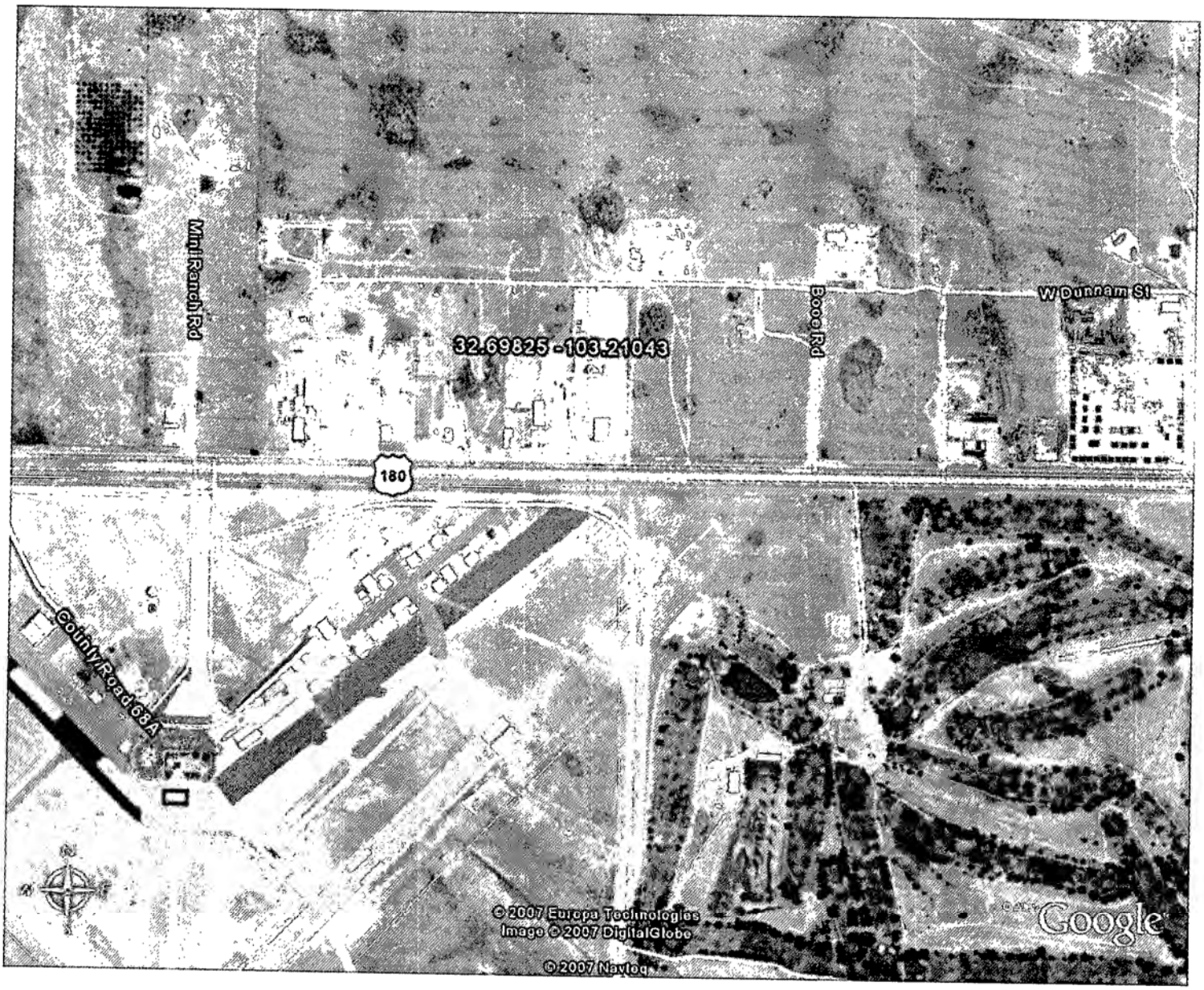
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County Road 68A
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NOTICE OF PUBLICATION

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations, the following discharge permit application(s) has been submitted to the Director of the Oil Conservation Division, 1220 S. Saint Francis Drive, Santa Fe, New Mexico 87505, Telephone (505) 476-3440:

(BW-012) – Plains Marketing, L.P., Richard Lentz, (505-392-6559) District Manager, 3514 Lovington HWY, Hobbs, New Mexico 88240, has submitted an application for the renewal of a discharge plan for the SPC Saline No. 1 Brine Station, located in the SW/4 SW/4 of Section 36, Township 18 South, Range 37 East, NMPM, Lea County, New Mexico. Up to 400 barrels per day of 1.2 specific gravity brine water is produced for use in the oil industry. Groundwater most likely to be affected by a spill, leak, or accidental discharge to the surface is at a depth of approximately 40 feet with a total dissolved solids concentration of approximately 400 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The discharge permit application and draft discharge permit may be viewed at the above address between 8:00 a.m. and 4:00 p.m., Monday through Friday. The draft discharge permit may also be viewed at OCD's web site http://www.emnrd.state.nm.us/ocd/. Prior to ruling on any proposed discharge permit or its modification, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted and a public hearing may be requested by any interested person. Requests for a public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed permit based on information available. If a public hearing is held, the director will approve or disapprove the proposed permit based on information in the permit and information submitted at the hearing.

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 16th day of August 2004.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

S E A L

Mark Fesmire, Director

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Revised June 10, 2003

Submit Original
Plus 1 Copy
to Santa Fe
1 Copy to Appropriate
District Office

DISCHARGE PLAN APPLICATION FOR BRINE EXTRACTION FACILITIES

RECEIVED

(Refer to the OCD Guidelines for assistance in completing the application)

☐ New ☒ Renewal

JUL 19 2004

OIL CONSERVATION DIVISION

I. Facility Name: Saline Brine Facility

II. Operator: Plains Marketing L.P.

Address: 3514 Lovington Hwy Hobbs, NM 88240

Contact Person: Richard Lentz Phone: 505-392-6559

III. Location: SW /4 SW /4 Section 36 Township 18S Range 37E

Submit large scale topographic map showing exact location.

IV. Attach the name and address of the landowner of the facility site.

V. Attach a description of the types and quantities of fluids at the facility.

VI. Attach a description of all fluid transfer and storage and fluid and solid disposal facilities.

VII. Attach a description of underground facilities (i.e. brine extraction well).

VIII. Attach a contingency plan for reporting and clean-up of spills or releases.

IX. Attach geological/hydrological evidence demonstrating that brine extraction operations will not adversely impact fresh water.

X. Attach such other information as is necessary to demonstrate compliance with any other OCD rules, regulations and/or orders.

XI. CERTIFICATION:

I hereby certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

Name: Richard Lentz Title: District Manager

Signature: Richard Lentz Date: 7-14-04

E-mail Address: ralentz@paalp.com

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

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Name: Richard Lentz Title: District Manager

Signature: Richard Lentz Date: 7-14-04

E-mail Address: ralentz@paalp.com

COPY

THE SANTA FE
NEW MEXICAN
Founded 1849

RECEIVED
AUG 24 2004
OIL CONSERVATION DIVISION

NM OIL CONSERVATION D
1220 ST. FRANCIS DR
Attn: Wayne Price
SANTA FE NM 87505

ALTERNATE ACCOUNT: 56689
AD NUMBER: 00081940 ACCOUNT: 00002212
LEGAL NO: 74776 P.O. #: 05-199-050185
142 LINES 1 TIME(S) 97.24
AFFIDAVIT: 5.50
TAX: 6.87
TOTAL: 109.61

AFFIDAVIT OF PUBLICATION

STATE OF NEW MEXICO
COUNTY OF SANTA FE

I, B. Perner, being first duly sworn declare and say that I am Legal Advertising Representative of THE SANTA FE NEW MEXICAN, a daily newspaper published in the English language, and having a general circulation in the Counties of Santa Fe and Los Alamos, State of New Mexico and being a newspaper duly qualified to publish legal notices and advertisements under the provisions of Chapter 167 on Session Laws of 1937; that the publication # 74776 a copy of which is hereto attached was published in said newspaper 1 day(s) between 08/20/2004 and 08/20/2004 and that the notice was published in the newspaper proper and not in any supplement; the first date of publication being on the 20th day of August, 2004 and that the undersigned has personal knowledge of the matter and things set forth in this affidavit.

/S/ B Perner
LEGAL ADVERTISEMENT REPRESENTATIVE

Subscribed and sworn to before me on this 20th day of August, 2004

Notary Laura E. Harding

Commission Expires: 11/23/07

AFFIDAVIT OF PUBLICATION

State of New Mexico,
County of Lea.

I, KENNETH NORRIS

Advertising Manager

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 issues(s).
Beginning with the issue dated

August 22 , 2004
and ending with the issue dated

August 22 ,2004

Kenneth Norris
Advertising Manager
Sworn and subscribed to before

me this 24th day of
August ,2004

Notary Public.

My Commission expires
November 27, 2004
(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.

01100060000 02571962
State of New Mexico Oil &
Conservsation Division
1220 S. St. Frances
Santa Fe, NM 87505

LEGAL NOTICE
August 22, 2004

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OIL CONSERVATION DIVISION

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GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 16th day of August 2004.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

SEAL
Mark Fesmire, Director
#20889

NOTICE OF PUBLICATION

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GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 16th day of August 2004.

STATE OF
NEW MEXICO
OIL CONSERVATION
DIVISION

S E A L

Mark Fesmire,
Director
Legal #74776
Pub. August 20, 2004

PLAINS
ALL AMERICAN

Mr. Wayne Price
Oil Conservation Division
1220 Saint Francis Dr.
Santa Fe, NM 87505

RE: Hobbs Brine Well

Dear Mr. Price:

Enclosed is the Quest report provided to Plains in regard to the groundwater investigation conducted near Hobbs, New Mexico.

The report findings appear to be conclusive, but we would welcome any comments you may have.

Should you need to contact me, I may be reached at 918.223.0215.

Respectfully,

Ky D. Nichols

Ky D. Nichols, Manager
Environmental & Regulatory Compliance

Enclosure

Rt. 1 Box 596 ■ Cushing, Oklahoma 74023 ■ 918-225-6473 Fax 918-225-4945

QUEST CONSULTING, INC.

6700 W. LOOP SOUTH, SUITE 310 • BELLAIRE, TEXAS 77401 • TEL (713) 667-6323 • FAX (713) 667-6213

October 1, 2001

Mr. Ky Nichols
Plains Marketing L.P.
Route 1, Box 595
Cushing, Oklahoma 74023

Re: Monitor Well Installation and Sampling — Hobbs Brine Production Well Facility
Lea County, New Mexico
Quest Project No. 02420

Dear Ky:

This letter documents the installation and sampling of a monitor well at the Plains Marketing (PM) brine production well location in Hobbs, New Mexico. County, Texas. Quest Consulting, Inc. (Quest) was retained by PM to assist in addressing concerns raised by the New Mexico Oil Conservation Division (NMOCD) regarding elevated chloride levels in water supply wells located to the east of the PM facility. The objective of the well installation was to allow collection of a groundwater sample from a location directly between the PM brine production well and an offsite water well that exhibited elevated chloride levels in a recent sampling event. This report describes the construction and sampling of the monitor well, and the laboratory analytical results for the groundwater sample collected.

Background and Work Scope

The Hobbs brine production well is located approximately 2 miles west of the town of Hobbs, on the north side of US Highway 62/180. The site presently consists of a brine production well and associated pumping and piping equipment, three brine storage tanks, and some surplus tankage and other equipment. A monitor well is located approximately 90 feet to the east-southeast of the brine production well. The site is bounded by an undeveloped tract to the east, and further to the east by a property owned and operated by Guardian, an oilfield supply company. A water supply well is located on the northern part of the Guardian property. Another commercial property is located directly to the west, where a water supply well identified as the McNabb well is located. Figure 1 shows the general layout of the subject site and vicinity.

According to a letter dated May 31, 2001, from Environmental Strategies Corporation (ESC) to Mr. Wayne Price of the NMOCD, several samples collected from the Guardian water well in 2000 and 2001 had chloride concentrations in excess of 1,000 mg/l. The New Mexico State Water Quality Control Commission (WQCC) has set a standard of 250 mg/l of chloride for water-bearing

zones. The monitor well on the PM property showed a chloride concentration of 134 mg/l when sampled in August 1998 (at the time of installation). The ESC report states that preliminary data shows groundwater flow in the upper water-bearing unit (the Ogallala, found from the surface to a depth of about 200 ft below ground surface, or bgs) to be to the north and east. The ESC report provides a scope of work for installing a single monitor well to the east of the brine production well, on PM property.

Quest discussed the proposed well construction details with Mr. Price of the NMOCD prior to commencing any work at the site. Mr. Price indicated that the agency wanted the well to be completed to the bottom of the Ogallala water-bearing unit (approximately 175 ft bgs), and that only the bottom 10 ft of the well was to be screened, in order to determine if high-density brine had been released from the brine production well. The construction details were agreed upon by Quest and the NMOCD prior to the start of construction.

Well Installation

The well installation was performed on September 6 and 7, 2001. The drilling and well construction was performed by Eades Drilling and Pump Service of Hobbs, with a Quest geologist logging cuttings and overseeing the well construction. Mr. Paul Sheeley and Mr. Larry Johnson of the NMOCD Hobbs district office were present during much of the drilling, well construction, and well development activities. The well location, which was determined by Mr. Price, was approximately 250 ft east-northeast of the brine production well, approximately 20 ft west of the western boundary fence of the PM property. The monitor well was placed on the direct line from the brine production well to the Guardian water well.

The boring was emplaced using a truck mounted drilling rig, using air rotary (top 50 ft) and wet rotary (remainder to total boring depth) methods. The drillers utilized a very small amount (less than one quart) of synthetic water-based polymer to aid in keeping the boring from collapsing during drilling and well construction activities. The boring diameter was approximately eight inches. Cuttings were circulated to the surface, where they were inspected and logged by the Quest geologist, and then into several settling tanks. The water used in the drilling operations was provided by Eades from a fresh water well at the company's yard in Hobbs. The subsurface geology was generally a progression of poorly sorted, unconsolidated sand layers, with some gravel, with intercalated hard caliche and sandstone layers. Saturated sands were encountered at approximately 50 ft bgs. The boring was completed to 171 ft, when cuttings indicated that the "red bed" clay layer had been encountered. This stratum is considered to be the base of the Ogallala water-bearing zone, and was the agreed-upon base for the well installation. The boring log for the monitor well, providing a description of the subsurface geology, is presented in Attachment A.

The monitor well (identified as MW-2) was constructed using four-inch diameter PVC screen and riser. The well had 10 ft of .020-inch machine-slotted screen (set at 170 ft bgs), and approximately 165 ft of solid riser. A sand pack, using 12/20 size quartz sand, was set to approximately 2 ft above the top of the screen (tagged using a weighted tape measure). A 2 ft thick layer of bentonite chips was placed atop the sand pack; this layer was also tagged using

the tape measure. The remaining annulus space was filled with a cement/bentonite slurry, which was placed using a tremie pipe. The tremie pipe was originally placed to a depth of 150 ft, and was successively elevated as the annulus was filled with the slurry. The well was completed with a concrete pad and locking steel protective cover over the PVC stickup. The well construction details are presented in Attachment A.

The water used in drilling operations, and the cuttings from the well boring, were discharged into a former caliche pit directly south of the monitor well on the PM site.

Well Sampling and Analytical Results

Prior to development of the well, the static water level was measured using a water level indicator. Groundwater was encountered at a depth of 54.02 ft below the top of the well casing. The groundwater level in the nearby MW-1 was also measured at this time, with a result of 51.11 ft below top of casing.

The monitor well was developed using an electric submersible pump, which was lowered to the bottom of the well on one-inch PVC pipe. After several attempts to pump at a higher rate, which pumped the well dry, the well was pumped at a steady rate of approximately 8 gal/min for 90 minutes. It is estimated that 800 gal in total was removed from the well. For the final 25 minutes of the pumping, Quest measured pH, total dissolved solids (TDS), conductivity, and temperature on a regular basis to determine if the well had stabilized. These parameters varied less than 5% during the measurement period, and it was determined that the well had been adequately developed and purged.

A sample of the groundwater was collected into laboratory-supplied containers, and was subsequently transported to e-Lab, Inc. in Houston, Texas by overnight courier for analysis. Standard chain-of-custody procedures were followed for handling of the sample. The sample was analyzed for total dissolved solids (TDS; EPA Method 160.1), and for chlorides (EPA Method 325.3), as proposed in the ESC letter and in discussions with the NMOCD. The laboratory data sheets and chain-of-custody documentation are found in Attachment B.

The analytical results are as follows:

TDS	300 mg/l
chloride	30 mg/l

The chloride results are substantially lower than the WQCC standard of 250 mg/l. The laboratory TDS result is similar to the field results noted during the well development and purging (average of about 360 mg/l).

Conclusions

A monitor well was installed in the location recommended by the NMOCD to determine if a possible release of brine from the PM brine production well had impacted other water wells to the

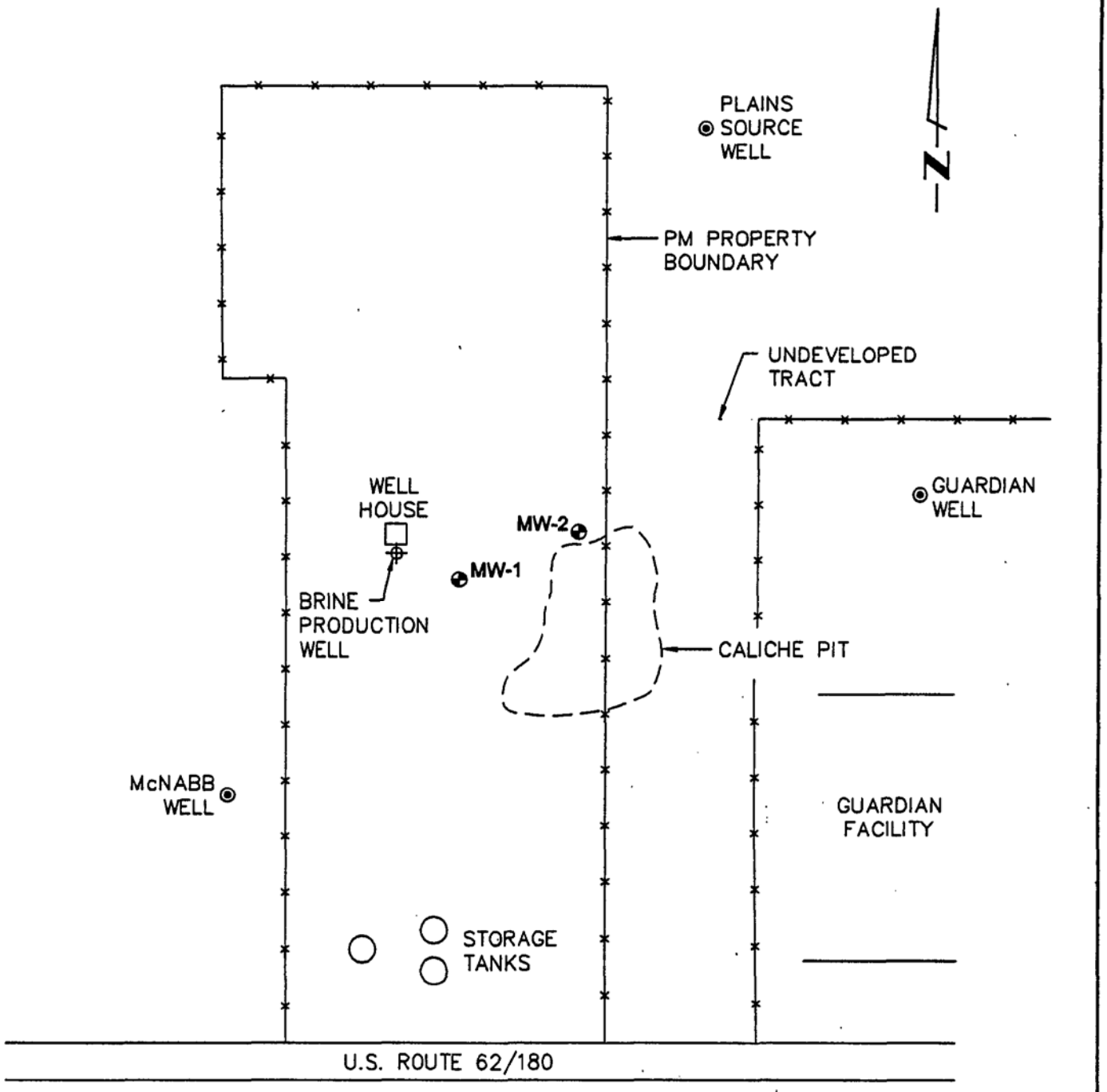
east of the PM site. The well construction details were agreed upon between PM and NMOCD prior to the drilling and installation activities, and the well was constructed using these guidelines. The results of the monitor well sampling indicate no chloride impact in the Ogallala water-bearing zone in the area to the east of the brine production well. Therefore, the brine production well is not the source of elevated chlorides in the Guardian water well, or other water wells located to the east of the PM site.

We appreciate the opportunity to assist you with your environmental needs. If you have any questions regarding this project, please contact me at 713-667-6323.

Sincerely,

Douglas S Kennedy
Project Manager

Attachments



LEGEND:

- ◓ – MONITOR WELL
- ⊙ – FRESH WATER WELL
- ⊕ – BRINE PRODUCTION WELL

0 200

FEET
APPROX.SCALE

QUEST CONSULTING, INC.

Figure 1
Site Map
PM Hobbs Brine Production Well
Hobbs, New Mexico

PROJ. NO: 02420	CK:	DATE: 9/01

09/27/01 22:18 TDR F:\ACAD\QUEST\02420\02420-01.dwg

Attachment A

Boring Log and Monitor Well Construction Detail

QUEST CONSULTING, INC.

Sh. 1 of 2

WELL NUMBER MW-2
PROJECT Plains – Hobbs Brine
OWNER Plains Marketing
LOCATION Hobbs, New Mexico
PROJECT NO. 02420
TOTAL DEPTH 170 ft. SURFACE ELEV. N/A BOREHOLE DIA. .
WATER FIRST ENCOUNTERED Approx. 50 ft. 24-HRS. .
SCREEN DIA. 4 inches LENGTH 10 ft. SLOT SIZE 0.010 inches
CASING DIA. 4 inches LENGTH 160 ft. TYPE Sch. 40 PVC
SCREENED INTERVAL 170–160 ft. bgs OTHER .
DRILLING COMPANY Eades Drilling DRILLING METHOD Air/Water Rotary
DRILLER . GEOLOGIST D. Kennedy DATE DRILLED 9/6/2001

SKETCH MAP

DEPTH (feet)	GRAPHIC LOG	DESCRIPTION/SOIL CLASSIFICATION	WELL CONSTRUCTION	CONSTRUCTION NOTES
				Steel Protective Well Cover
0		0–45 Buff/pink silty SAND, very fine-grained		
		– thin caliche layers 0–5 ft		
10		– hard caliche layer at 15 ft.		
20				
30		– hard caliche layer at 26–30 ft.		Cement / Bentonite Grout
40		– hard caliche layers at 40–45 ft.		
		– grades to below		
		45–104 Tan silty SAND, poorly sorted, moist		
50		– saturated at 50 ft.		
60				
70				
80				
90		– thin sandstone layers at 85–98 ft.		
100				

09/22/01 22:18 TDR F:\ACAD\QUEST\02420\mw-2a.dwg

QUEST CONSULTING, INC.

Sh. 2 of 2

WELL NUMBER MW-2
PROJECT Plains – Hobbs Brine
OWNER Plains Marketing
LOCATION Hobbs, New Mexico
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OTHER .
DRILLING COMPANY Eades Drilling
DRILLING METHOD Air/Water Rotary
DRILLER .
GEOLOGIST D. Kennedy
DATE DRILLED 9/6/2001

SKETCH MAP

DEPTH (feet)	DESCRIPTION/SOIL CLASSIFICATION
100	– very hard sandstone layer at 102 ft.
	104–110 White/buff sandy CLAY – soft.
110	110–114 Very hard precipitated carbonate layer.
	114–135 Tan silty SAND
120	
130	– grades to below
	135–168 Unconsolidated gravelly SAND – with chert and quartzite pebbles – poorly sorted, soft.
140	
	– pink sandy clay layers at 140–160 ft.
150	
160	
170	168–171 Red silty CLAY.
	TOTAL DEPTH = 171 FT.
180	
190	

WELL CONSTRUCTION

CONSTRUCTION NOTES

Cement / Bentonite Grout

Bentonite

Sand Pack

09/22/01 22:36 TDR F:\ACAD\QUEST\02420\mw-2b.dwg

Attachment B

Laboratory Analytical Data Sheets and Chain of Custody Documentation

e-Lab
QUALITY • INTEGRITY • SERVICE

e-Lab, Inc.

10450 Stancliff Road, Suite 210 • Houston, Texas 77099 • Ph: 281.530.5656 • Fax: 281.530.5887

September 19, 2001

Doug Kennedy
Quest Consulting
6700 West Loop South
Suite 310
Houston, TX 77401
TEL: (713) 667-6323
FAX (713) 667-6213

RE: Hobbs Brine 02420 Work Order No.: 0109031

Dear Doug Kennedy,

e-Lab, Inc. received 1 sample on 9/8/01 9:42:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by e-Lab, Inc. and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by e-Lab Inc. The total number of pages in this report is 7.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Shannon L. Tyrell
Project Manager

e-Lab, Inc.

Date: *September 19, 2001*

CLIENT:	Quest Consulting
Project:	Hobbs Brine 02420
Work Order:	0109031
Date Received:	9/8/01

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date
0109031-01	MW-2		9/7/01 10:32:00 AM

e-Lab, Inc.

Date: *September 19, 2001*

CLIENT: Quest Consulting
Project: Hobbs Brine 02420
Work Order: 0109031

Lab ID: 0109031-01A
Collection Date: 9/7/01 10:32:00 AM
Client Sample ID: MW-2
Matrix: WATER

Analyses	Result	Report Limit	Qual	Units	Dilution Factor	Date Analyzed
TOTAL DISSOLVED SOLIDS			**E160.1**			Analyst: **SAM**
Total Dissolved Solids (Residue, Filterable)	300	10		mg/L	1	9/13/01

Lab ID: 0109031-01B
Collection Date: 9/7/01 10:32:00 AM
Client Sample ID: MW-2
Matrix: WATER

Analyses	Result	Report Limit	Qual	Units	Dilution Factor	Date Analyzed
CHLORIDE			**E325.3**			Analyst: **SAM**
Chloride	30	1.0		mg/L	1	9/19/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time

e-Lab, Inc.

CLIENT: Quest Consulting
Work Order: 0109031
Project: Hobbs Brine 02420

Date: *Sep 19 2001*

QC BATCH REPORT

Batch ID: **R6015** InstrumentID: **Wet Chemistry**

MBLK Sample ID: **WMBLKW1-0913** Test Code: **E160.1** Units: **mg/L** Analysis Date **9/13/01** Prep Date:
Client ID: Run ID: **WET CHEMISTRY_0109** SeqNo: **109020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	ND	10									

LCS Sample ID: **WLCSW1-0913** Test Code: **E160.1** Units: **mg/L** Analysis Date **9/13/01** Prep Date:
Client ID: Run ID: **WET CHEMISTRY_0109** SeqNo: **109021**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	994	10	1000	0	99.4	75	125	0			

LCSD Sample ID: **WLCSW2-0913** Test Code: **E160.1** Units: **mg/L** Analysis Date **9/13/01** Prep Date:
Client ID: Run ID: **WET CHEMISTRY_0109** SeqNo: **109277**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	922	10	1000	0	92.2	75	125	0			

LCSD Sample ID: **WLCSW3-0913** Test Code: **E160.1** Units: **mg/L** Analysis Date **9/13/01** Prep Date:
Client ID: Run ID: **WET CHEMISTRY_0109** SeqNo: **109278**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	902	10	1000	0	90.2	75	125	0			

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank
U - Analyzed for but not detected

CLIENT: Quest Consulting
Work Order: 0109031
Project: Hobbs Brine 02420

QC BATCH REPORT

Batch ID: **R6050** InstrumentID: **Wet Chemistry**

MBLK Sample ID: **WBLKW1-0919** Test Code: **E325.3** Units: **mg/L** Analysis Date **9/19/01** Prep Date:
Client ID: Run ID: **WET CHEMISTRY_0109** SeqNo: **109734**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	1.0									

LCS Sample ID: **WLCSW1-0919** Test Code: **E325.3** Units: **mg/L** Analysis Date **9/19/01** Prep Date:
Client ID: Run ID: **WET CHEMISTRY_0109** SeqNo: **109735**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	999.8	1.0	1000	0	100	80	120	0			

MS Sample ID: **0109031-01BMS** Test Code: **E325.3** Units: **mg/L** Analysis Date **9/19/01** Prep Date:
Client ID: **MW-2** Run ID: **WET CHEMISTRY_0109** SeqNo: **109738**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	47.13	1.0	20	29.52	88.1	80	120	0			

DUP Sample ID: **0109031-01BDUP** Test Code: **E325.3** Units: **mg/L** Analysis Date **9/19/01** Prep Date:
Client ID: **MW-2** Run ID: **WET CHEMISTRY_0109** SeqNo: **109737**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	28.57	1.0	0	0	0	0	0	29.52	3.28	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank
U - Analyzed for but not detected

e-Lab, Inc
10450 Stancliff Rd. #210
Houston, Texas 77099
(Tel) 281.530.5656
(Fax) 281.530.5887

Chain of Custody Form

Page 1 of 1

e-Lab, Inc
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

e-Lab Project Manager:

e-Lab Work Order #: 0109031

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Hobbs Brine	A	Total Dissolved Solids
Work Order		Project Number	02420	B	Chloride (325.3)
Company Name	Quest Consulting	Bill To Company	Quest Consulting	C	
Send Report To	Doug Kennedy	Invoice Attn	Doug Kennedy	D	
Address	6700 West Loop South #310	Address	6700 West Loop South #310	E	
				F	
City/State/Zip	Houston, TX 77401	City/State/Zip	Houston, TX 77401	G	
Phone	713-667-6323	Phone	713-667-6323	H	
Fax	713-667-6213	Fax	713-667-6213	I	
e-Mail Address				J	

#	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MW-2	9/7/01	1032	water	Ø	2	X	X									
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s): Please Print & Sign: DS KENNEDY DSKennedy

Shipment Method:

Required Turnaround Time: (Check Box) ☒ STD. 10 W. Days ☐ 5 WA. Days ☐ 2 WA. Days ☐ 24 Hour ☐ Other

Results Due Date:

Relinquished by:	Date:	Time:	Received by:
DSKennedy	9 7 01	1115	
Relinquished by:	Date: 9/8/01	Time: 0944	Received by (Laboratory):
Laboratory (Laboratory):	Date: 9/10/01	Time:	Checked by (Laboratory):

Notes:

e-Lab Cooler ID	Cooler Temp.
0046	5.1°C

QC Package: (Check Box Below)

- Level II: Standard QC — X
- Level III: Standard QC + Raw Data
- Level IV: SW846 Methods/CLP
- Other:

Preservative Key: 1- HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C

Note: Any changes must be made in writing once samples and COC Form have been submitted to e-Lab, Inc

Price, Wayne

From: Price, Wayne
Sent: Wednesday, September 05, 2001 4:39 PM
To: Price, Wayne; 'Douglas Kennedy'
Cc: 'jhpeck@paalp.com'; 'Ky Nichols'; Williams, Chris; Sheeley, Paul; Johnson, Larry
Subject: RE: construction details - Hobbs monitor well

Dear Doug:

Pursuant to our telephone conversation I understand you are planning on placing the well near the east side property line on an imaginary line between the brine well and the fresh water well located on the Guardian Property.

-----Original Message-----
From: Price, Wayne
Sent: Wednesday, September 05, 2001 4:24 PM
To: 'Douglas Kennedy'; Price, Wayne
Cc: 'jhpeck@paalp.com'; 'Ky Nichols'; Williams, Chris; Sheeley, Paul; Johnson, Larry
Subject: RE: construction details - Hobbs monitor well

The OCD will require 10 feet of screen and the bentonite plug shall be tremied and tagged before placement of cement grout. The grout shall also be placed with a tremie.

The OCD needs to approve the location of the well. Please submit before drilling.

-----Original Message-----
From: Douglas Kennedy [mailto:dkennedy@questehs.com]
Sent: Friday, August 31, 2001 8:04 AM
To: wprice@state.nm.us
Cc: jhpeck@paalp.com; Ky Nichols
Subject: construction details - Hobbs monitor well

Wayne

Here are the planned construction layout for the monitor well to be installed at the Plains Marketing Hobbs brine well location on September 6-7.

1) Well will be completed to the base of the first water-bearing zone (Ogallala), estimated to be 175 ft below ground surface at this location. The drilling will stop when the redbed strata (aquiclude) has been reached.

2) Well will be drilled using water, as recommended by driller (Eades Drilling and Pump Service, Hobbs). The boring will be logged using cuttings only.

3) Well will be constructed of 4" PVC, to allow pumping if needed in the future.

4) Well will be constructed with 20 ft of screen at the bottom of the boring, with approximately 2 ft into the redbed and 18 ft in the overlying water-bearing zone. Sand pack will be placed around the screen and to a height of approximately 2 ft above the screen. A bentonite layer of at least 2 ft thickness will be placed atop the sand pack. The remaining annulus will then be filled with bentonite/cement grout to the ground surface. The well will be completed with a 3 ft stickup, w/ steel well head protector and concrete pad.

We will be starting at 8 am on Thursday, September 6 at the Plains facility. Please contact me by phone or e-mail if you have any questions or comments. Also, if I need to contact someone in the local NMOCD office, pass me a name

and number and I'll give h[redacted]/her a ring.

thanks

Doug Kennedy
Quest Consulting, Inc.
dkennedy@questehs.com
(713) 667-6323

Price, Wayne

From: Price, Wayne
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dkennedy@questehs.com
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thanks

Doug Kennedy
Quest Consulting, Inc.
dkennedy@questehs.com
(713) 667-6323

Price, Wayne

From: Price, Wayne
Sent: Tuesday, August 21, 2001 11:50 AM
To: 'Ky D Nichols'
Subject: RE: Hobbs Brine Well

Dear Ky:

The area of concern is located between two major water supply systems which admittedly could influence the local groundwater gradient. However, OCD has documentation showing that the gradient is generally toward the impacted well. Therefore we feel an extension of the phase I investigation could cause the salt water plume to reach one of these water supplies thus posing a threat to public health. Please proceed as directed!

-----Original Message-----
From: Ky D Nichols [mailto:kdnichols@paalp.com]
Sent: Tuesday, August 21, 2001 11:35 AM
To: 'Price, Wayne'
Cc: Doug Kennedy (E-mail)
Subject: RE: Hobbs Brine Well

Wayne,

We are moving to take action at Hobbs. However, both my staff and our consultant have a problem with committing to both phase i and phase ii of the ESC plan, that is: blindly installing a well without accurately determining the ground water flow in the area.

Wouldn't it be better to take that step first, and then determine the best placement for the well?

Ky

-----Original Message-----
From: Price, Wayne [mailto:WPrice@state.nm.us]
Sent: Friday, August 10, 2001 11:33 AM
To: Price, Wayne; 'Ky D Nichols'
Subject: RE: Hobbs Brine Well

Dear Mr. Nichols:

The OCD will extent the deadline from August 15 to September 15, 2001. OCD is very concerned about the two public water supplies located nearby plus the fact that out first inquiry was November 17, 2000. Failure to perform the action items listed in OCD's letter dated July 13, 2001 may result in a compliance enforcement action.

If you have any legal questions concerning this issue please call Steve Ross at 505-476-3451 or David Brooks at 505-476-3450. The regulations for brine wells can be found in the Water Quality Control Commission Regulations (WQCC) 20.6.2NMAC. Web site is www.nmenv.state.nm.us/ goto ground and surface water.

> ----------
> From: Ky D Nichols[SMTP:kdnichols@paalp.com]
> Sent: Thursday, August 09, 2001 9:49 AM
> To: Wayne Price (E-mail)
> Subject: Hobbs Brine Well
>
> Wayne,
>
> Plains just received a copy of the ESC proposed plan, which you have

> apparently approved, in [redacted]ard to the brine well investig[redacted]on near Hobbs.
>
> As I stated in my voice mail message to you, Plains will not be able to
> meet
> the deadline of August 15 for providing OCD results of the investigation.
> I
> will review the proposed plan and get back to you with any concerns as
> quickly as I can.
>
> Plains will employ its own independent contractor (you may recall ESC was
> working for Ashland) and therefore we would like to propose an amended
> deadline of October 15, 2001 to complete this investigation.
>
> Please call me with any questions you may have.
>
> Thank you for your consideration in this matter.
>
> Ky Nichols
> Manager of Environmental & Regulatory Compliance
> Plains Marketing, L.P.
> 918.223.0215
> kdnichols@paalp.com
>
>
>
> **********
> This email and any files transmitted with it are confidential and
> intended solely for the use of the individual or entity to whom they
> are addressed. If you have received this email in error please
> forward the message to plains.service.desk@paalp.com.
>
> This footnote also confirms that this email message has been swept
> for the presence of computer viruses.
>
> **********
>

Price, Wayne

From: Price, Wayne
Sent: Friday, August 10, 2001 10:33 AM
To: Price, Wayne; 'Ky D Nichols'
Subject: RE: Hobbs Brine Well

Dear Mr. Nichols:

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Thank you for your consideration in this matter.

Ky Nichols
Manager of Environmental & Regulatory Compliance
Plains Marketing, L.P.
918.223.0215
kdnichols@paalp.com

Price, Wayne

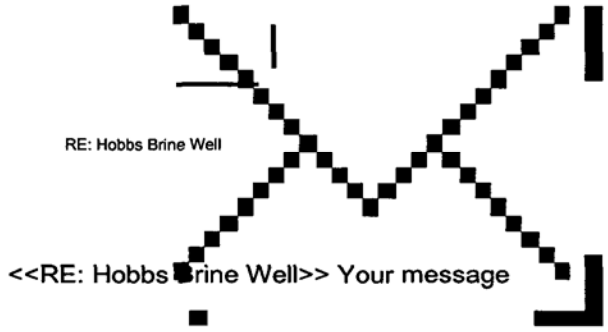
[redacted]

From: System Administrator[SMTP:postmaster@paalp.com]

Sent: Friday, August 10, 2001 10:43 AM

To: WPrice@state.nm.us

Subject: Delivered: RE: Hobbs Brine Well



To: Price, Wayne; 'Ky D Nichols'

Subject: RE: Hobbs Brine Well

Sent: Fri, 10 Aug 2001 11:32:59 -0500

was delivered to the following recipient(s):

Ky D Nichols on Fri, 10 Aug 2001 11:43:45 -0500

Price, Wayne

From: Price, Wayne

Sent: Friday, August 10, 2001 10:32 AM

To: Price, Wayne; 'Ky D Nichols'

Subject: RE: Hobbs Brine Well

Dear Mr. Nichols:

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From: Ky D Nichols[SMTP:kdnichols@paalp.com]

Sent: Thursday, August 09, 2001 9:49 AM

To: Wayne Price (E-mail)

Subject: Hobbs Brine Well

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Ky Nichols
Manager of Environmental & Regulatory Compliance
Plains Marketing, L.P.
918.223.0215
kdnichols@paalp.com

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
Governor
Jennifer A. Salisbury
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

July 13, 2001

CERTIFIED MAIL
RETURN RECEIPT NO. 5357 6860

Mr. Ky D. Nichols, Manager
Environmental & Regulatory Complaince
Plains Marketing, L.P.
Rt. 1 Box 596
Cushing, Oklahoma 74023

Re: Plains Marketing, L.P. Brine Well BW-012
SW/4 SW/4 Section 36-Ts18s-R37e
Lea County, New Mexico

Dear Mr. Nichols:

The New Mexico Oil Conservation Division (OCD) is in receipt of Environmental Strategies Corporation Data Summary Report dated May 31, 2001. The OCD hereby approves of the recommendations contained within the report subject to the following conditions:

1. The Phase II part of the project shall not be contingent upon the Phase I activities. OCD makes this decision on the fact that local groundwater flow in the area could be highly dependent upon seasonal activities of the surrounding water wells which might give a false assumption and the fact that previous investigations in the area indicate that local groundwater flow is generally in the direction of the down gradient study area in question.

2. The location of the new monitor well shall be as described in the phase II plan and located on the east side property line. This location shall be approved by OCD before drilling commences.

3. No less than 48 hours after the well(s) are developed, ground water from all monitor well(s) shall be purged, sampled and analyzed for concentrations of benzene, toluene, ethylbenzene, xylene, polycyclic aromatic hydrocarbons (PAH), total dissolved solids (TDS) and New Mexico Water Quality Control Commission (WQCC) metals and major cations and anions using EPA approved methods and quality assurance/quality control (QA/QC) procedures.

4. All wastes generated during the investigation shall be disposed of at an OCD approved facility.

5. Plains Marketing, L.P. will notify the OCD Santa Fe office and the OCD District office at least 72 hours in advance of all scheduled activities such that the OCD has the opportunity to witness the events and/or split samples during OCD's normal business hours.

6. Plains Marketing, L.P. shall submit the results of the investigation to the OCD Santa Fe Office by **August 15, 2001** with a copy provided to the OCD Hobbs District Office and shall include the following investigative information:

   a. A description of all investigation, remediation and monitoring activities which have occurred including conclusions and recommendations.

   b. A geologic/lithologic log and well completion diagram for each monitor well.

   c. A water table potentiometric map showing the location of the leaks and spills, excavated areas, monitor wells, and any other pertinent site features as well as the direction and magnitude of the hydraulic gradient.

   d. Isopleth maps for contaminants of concern which were observed during the investigations.

   e. Summary tables of all ground water quality sampling results and copies of all laboratory analytical data sheets and associated QA/QC data taken within the past year.

   f. The quantity and disposition of all recovered product and/or wastes generated.

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

Sincerely;

Wayne Price

Wayne Price-Pet. Engr. Spec.

cc: OCD Hobbs Office
David Anderson-Ashland Inc.

ESC

ENVIRONMENTAL STRATEGIES CORPORATION

Four Penn Center West ▪ Suite 315 ▪ Pittsburgh, Pennsylvania 15276 ▪ (412) 787-5100 ▪ Fax (412) 787-8065

May 31, 2001

Mr. Wayne Price
New Mexico Oil Conservation Division
1220 Saint Francis Drive
Santa Fe, NM 87505

Re: Data Summary Report
Former Scurlock Permian Brine Well BW-12, Hobbs, New Mexico

Dear Mr. Price:

Environmental Strategies Corporation (ESC), on behalf of Ashland Inc. is pleased to provide the New Mexico Oil Conservation Division (OCD) with this letter report for the former Scurlock Permian Brine Well BW-12 site in Hobbs, New Mexico. In accordance with our March 26, and April 30, 2001, letters, ESC has researched the following information:

- Location and construction details of existing wells in the vicinity of the brine well
- Hydrogeology of the area
- Groundwater flow directions
- The potential influence of pumping wells in the area
- Water quality results from wells in the vicinity of the brine well

The following discusses the project background, the findings of our research activities, and our recommendations.

Background

The former Scurlock Permian Brine Well site is located in Section 36, T18S, R37E in Hobbs, Lea County, New Mexico (Figure 1). The generalized site layout is shown on Figure 2.

The NMOCD requested a groundwater investigation plan in its November 17, 2000, letter to James C. Ephraim II of Scurlock Permian LLC. Plains Marketing, L.P. purchased the property from Scurlock Permian LLC and is the current operator of the brine well. Although ESC has been retained by Ashland, Inc. because of its affiliation with Scurlock Permian LLC, the ultimate responsibility for responding to NMOCD's request for information is being discussed between Ashland Inc. and Plains Marketing, L.P.

We understand that the NMOCD's basis for requesting an investigation work plan is a result of saltwater contamination discovered by the NMOCD in a water well (Guardian Well Service Company, 5605 Carlsbad Highway) to the north-northeast of the Brine Well BW-12. We are also aware that an initial groundwater investigation was completed by Scurlock Permian LLC at the Brine Well BW-12 property in 1988 that did not identify any saltwater contamination.

Results

Hydrogeology

Information regarding the hydrogeology of the area was obtained from published literature and boring logs for wells in the vicinity of the site. The groundwater system in the area of the site is comprised of three heterogeneous hydrogeologic units consisting of the following:

- High Plains Aquifer - consists of the Ogallala Formation; underlying aquifers in fluvial, deltaic, and fan-delta sandstones; and underlying marine limestones. All of the fresh water wells in the vicinity of the site are completed in the Ogallala which is characterized predominantly by sands with varying amounts of gravel, silt, and clay.
- Evaporite aquitard - major confining unit that separates the shallow High Plains Aquifer from the Deep-Basin Brine Aquifer.
- Deep-Basin Brine Aquifer - consists of aquifers in shelf and shelf-margin carbonates, aquifers in shallow-marine carbonates, and aquifers in arkosic or granite-wash sandstones. The former Scurlock Permian brine well is completed in the deep-basin brine aquifer at approximately 2,690 feet below the ground surface.

Based on a review of logs for wells in the vicinity of the site (Enclosure A), the base of the Ogallala is typically defined as the top of a "red bed" unit that is generally encountered at depths ranging from approximately 130 to 200 feet below the ground surface. The majority of fresh water wells installed in the Ogallala are completed above the "red bed".

Depth to groundwater and surveyed elevations were obtained from four water wells completed in the lower portion of the Ogallala (Guardien, McNabb, Plains Source, and BJ Services). These data were used to calculate the groundwater elevations summarized on Table 1. Because of the inconsistent measurements obtained from the McNabb Well, groundwater elevation contours could not be constructed. The McNabb Well may have been pumping before collecting the first depth to water measurement (59.57). Assuming this was the case, then the second and third measurements would be more representative of static conditions, which would suggest that groundwater flows toward the north and east. It should be noted, however, based on work to date a complete round of water level measurements that represent truly static conditions have not been obtained.

Existing Wells in the Vicinity of the Brine Well

As shown on Figure 1, ESC identified the following 16 fresh water wells and one monitoring well in the vicinity of the brine well:

- City of Eunice - 6 wells (4 northeast and 2 southeast of brine well) completed near the base of the Ogallala
- Hobbs Country Club - 5 wells (southeast of brine well) completed near the base of the Ogallala
- Guardian Well - 1 well (east-northeast of brine well) completed near the base of the Ogallala
- BJ Water Well - 1 well (east of brine well) completed in the Ogallala; total depth unknown, but pump set at approximately 90 feet.
- McVay Well - 1 well (east of brine well) completed near base of Ogallala
- McNabb Well - 1 well (southwest of brine well) completed in the Ogallala; total depth unknown, but pump set at approximately 87 feet.
- Plains Source Well - 1 well (northeast of brine well) completed near base of Ogallala
- Plains Monitoring Well (MW-1) - 1 well (southeast of brine well) completed at the water table surface in the Ogallala.

Available completion logs were obtained for these wells and are included in Enclosure A. Pumping records were not readily available for any of these wells.

Water Quality Results for Wells in the Vicinity of the Brine Well

A summary of chloride concentrations detected in groundwater near the site is provided on Table 2. The laboratory analytical reports are provided in Enclosure B. Only two wells (Guardian and BJ Services) contain chloride concentrations above the New Mexico State Water Quality Control Commission (WQCC) standard of 250 mg/L. Both of these wells are located approximately 750 feet to the east of the brine well.

Recommendations

Based on the information discussed above, Ashland proposes to proceed with the following two phases of additional work.

Phase I - Static Water Level Measurements

Phase I will involve collecting a complete round of static water level measurements from the wells listed on Table 1. In order to obtain representative measurements of static groundwater conditions, ESC will coordinate with the well owners to have the wells shut down at the same time for a minimum 12-hour period. At the end of this period, the depth to groundwater measurements will be obtained and the wells will be reactivated for use.

Phase II - Monitoring Well Installation and Sampling

Assuming that the static water level elevations show groundwater flow to the north and east as suggested by the preliminary data, ESC will implement Phase II of the approach. Phase II activities will include the installation and sampling of one new monitoring well to the east of the brine well and in line with the Guardian Well. The new monitoring well will be installed on top of the "red bed" at the base of the Ogallala, which is approximately 130 to 200 feet below the ground surface at the site. This proposed completion depth is consistent with the completion depth of the Guardian Well. The proposed monitoring well will be completed of 2-inch diameter PVC with 10 feet of 0.010-inch, machine slotted well screen. An appropriately sized gravel pack will be set around the well screen from the bottom of the hole to 2 feet above the top of the well screen. A minimum, 2 foot thick bentonite plug will be placed above the gravel pack. The remainder of the hole will be grouted to the surface with cement containing 5 percent bentonite. The proposed well will be completed at the surface with a lockable, steel protective casing.

After installation, the new monitoring well will be developed by pumping. Field parameters including pH, specific conductivity, and temperature will be recorded during development. Development will be considered complete when all field parameters stabilize to within 10 percent on consecutive readings and a minimum of three casing volumes of water have been removed from the well. Following at least one week after development, the monitoring well will be sampled for chloride and total dissolved solids using EPA Methods 325.3 and 160.1, respectively. The new well will be purged of stagnant water before sampling using a pump. Purging will be considered complete when the field parameters specified above stabilize to within 10 percent on consecutive readings and a minimum of three casing volumes of water have been removed from the well. Once purging is complete, the groundwater sample for analysis will be obtained from the pump discharge line. Samples will be placed in a cooler on ice, and submitted to the analytical laboratory via overnight carrier under chain-of-custody.

Development water and purge water will be containerized in Department of Transportation (DOT) approved 55-gallon drums. The containerized water will be spread out on site.

Schedule and Reporting

ESC is prepared to initiate the proposed activities within one week following approval from the NMOCD. ESC will present a report of findings to the NMOCD within 4 weeks following receipt of the final groundwater analytical results from the new monitoring well.

Should you have any questions or require additional information, please do not hesitate to contact us.

Sincerely yours,

Doug Arendale for

Guillermo M. Accame, P.G.
Vice President

Willie Accame
303-850-9200

GMA:DJO:hsm

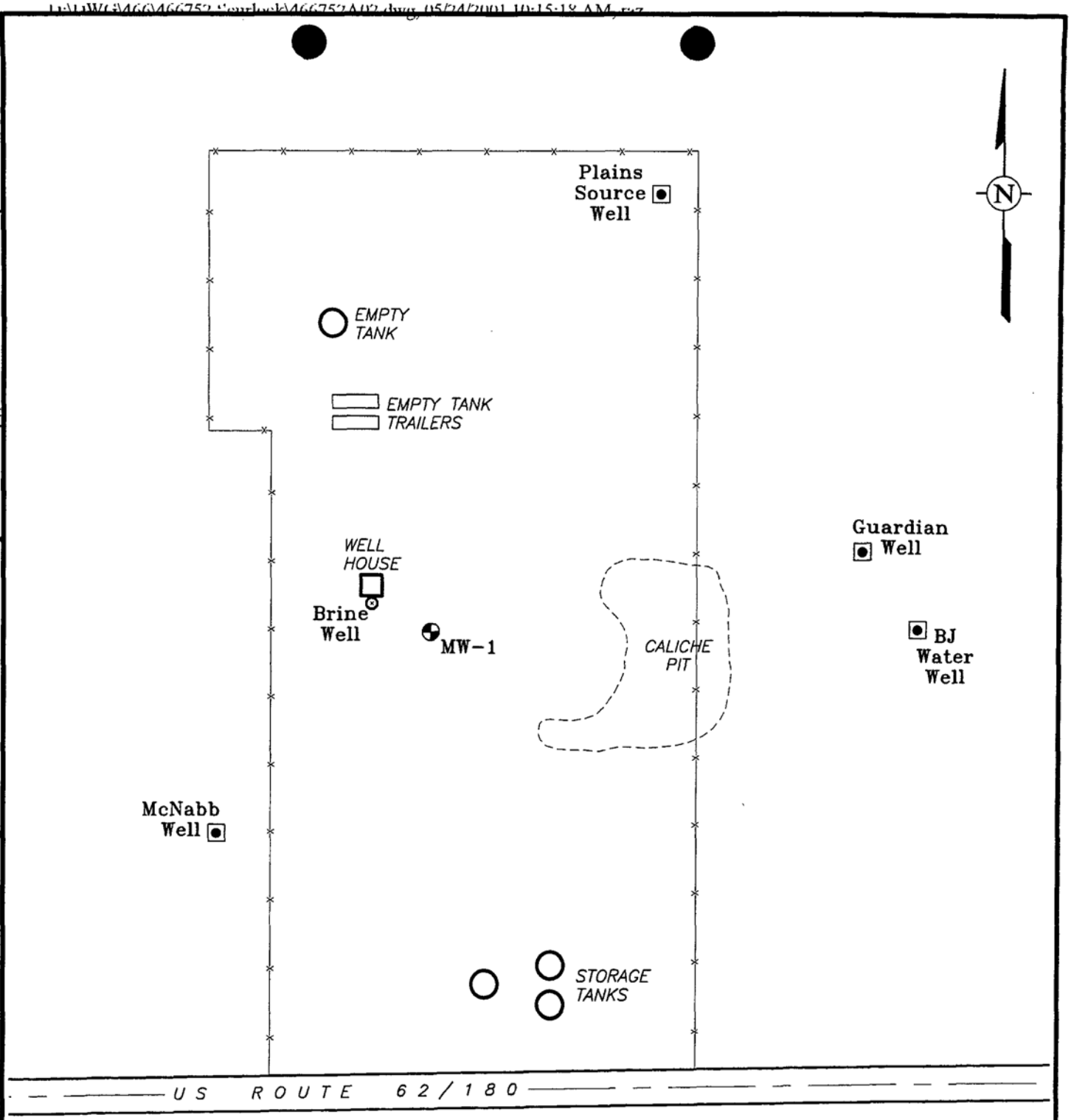
Enclosure

cc: Joseph French, Esq.
David Anderson

Ashland\Hobbs\466752\OCD Report 053001.doc

Figures

DWG Name: 466752-A02
Checked:
Approved:
Drawn By: rz 052201



LEGEND

- Monitoring Well
- Fresh Water Well
- Brine Water Well

APPROXIMATE SCALE, FEET
(FOR WELL SPACING ONLY)
0 100 200 400

ENVIRONMENTAL STRATEGIES CORPORATION
ESC
Four Penn Center West, Suite 315
Pittsburgh, Pennsylvania 15276
(412) 787-5100

Figure 2

SITE MAP

FORMER SCURLOCK PERMIAN BRINE WELL
HOBBS, NEW MEXICO
PREPARED FOR
ASHLAND INC. – DUBLIN, OHIO

Tables

Table 1

Summary of Water Level Elevation Measurements
Former Scurlock Permian Brine Well
Hobbs, New Mexico

Name	Measuring Point Elevation (feet above msl)	Depth to Groundwater (feet)	Groundwater Elevation (feet above msl)
McNabb Well	3,651.22	59.57	3,591.65
		46.65	
		46.59	
Guardian Well	3,650.82	54.76	3,596.06
		55.40	
		55.20	
Plains Source Well	3,654.66	56.82	3,597.84
BJ Services Well	3,649.46	53.06	3,596.40
MW-1	3,652.76	50.57	3,602.19

1. Elevation datum is assumed, relative to mean sea level.
2. First round of Depth to Groundwater measurements were obtained on May 20, 2001.
3. A second depth to groundwater measurement was obtained from the McNabb Well and Guardian Well on May 24, 2001 at approximately 11:00 AM.
4. A third depth to groundwater measurement was obtained from the McNabb Well and the Guardian Well on May 24, 2001 at approximately 11:50 AM.

Table 2

Summary of Chloride Concentrations in Wells
Former Scurlock Permian Brine Well
Hobbs, New Mexico

Name	Chloride Concentration (mg/L)	Date Sampled
Guardian Well	1,050	May 11, 2001
Guardian Well	1,200	August 25, 2000
McNabb Well	32.2	May 11, 2001
BJ Fresh Water Well	508	May 21, 2001
MW-1	134	August 19, 1998
Plains Source Well	45	August 19, 1998

Enclosure A - Well Logs

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well City of [redacted]lice Owner's Well No. [redacted]
Street or Post Office Address % John West Engineering, 412 North Dal Paso
City and State Hobbs, New Mexico 88240

Well was drilled under Permit No. L-4920-S-3 and is located in the:

a. ___ ¼ SW ¼ SE ¼ NW ¼ of Section 36 Township 18S Range 37E N.M.P.M.

b. Tract No. ___ of Map No. ___ of the ___

c. Lot No. ___ of Block No. ___ of the ___
Subdivision, recorded in Lea County.

d. X= ___ feet, Y= ___ feet, N.M. Coordinate System ___ Zone in the ___ Grant.

(B) Drilling Contractor Abbott Bros. Drilling License No. WD-46

Address P.O. Box 637, Hobbs, New Mexico 88240

Drilling Began 1/13/86 Completed 1/17/86 Type tools Cable Size of hole 20 in.

Elevation of land surface or ___ at well is ___ ft. Total depth of well 192 ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 58 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
				700

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
PULLED 192' x 16" Pipe and screen.								
16	36	Welded	0	192	192	None	62	182

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To.	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

Section 5. PLUGGING RECORD

Plugging Contractor ___
Address ___
Plugging Method ___
Date Well Plugged ___
Plugging approved by:
___
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received January 27, 1986

Quad ___ FWL ___ FSL ___

File No. L-4920-S-3 Use (REPAIR) MUN Location No. 18.37.36.143233

18.37.36.14323

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
			CLEANED OUT SILICA SAND TO 192' TO BOTTOM OF HOLE, RUN 192' x 16" PIPE, GRAVEL PACKED WITH 25 YDS. 3/8" to 3/4" PEA GRAVEL, BAILED AND CLEANED OUT HOLE.

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Murrell Abbott
Driller

M.B.

Revised June 1972

TE ENGINEER OFFICE

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well City of Eunice Owner's Well No. 6

Street or Post Office Address City Hall - 1016 Avenue J

City and State Eunice, New Mexico 88231

Well was drilled under Permit No. Project#CAC 83-45 (Contract) L-4920-S-3 and is located in the: Hobbs North Well Field

Lease Note: Permit acquired by City of Hobbs & Engineering Firm.

a. ¼ SW ¼ SE ¼ NW ¼ of Section Hobbs 36 Township 18-S Range 37-E N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____

Subdivision, recorded in _____ County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor James Cole - Cole Drilling Company License No. WD-663

Address P. O. Box 17728 El Paso, TX 79917-7728

Drilling Began 5/29/84 Completed 6/20/84 Type tools Rotary Size of hole 23 in.

Elevation of land surface or unknown at well is 3656 ft. Total depth of well 190 ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 51 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
102	180	78	Sand & Gravel	120

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
16" .375W			180	190	10			
16" H.D.			180	120	60	(Johnson Stain-less Steel H.D.)	180	120
16" .375W			120	+2	122			

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
+2	22	33		85.8	Gravity

Section 5. PLUGGING RECORD

Plugging Contractor _____

Address _____

Plugging Method _____

Date Well Plugged _____

Plugging approved by:

_____

State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received April 22, 1985

Quad _____ FWL _____ FSL _____

File No. L-4920-S-3 Use MUN Location No. 18.37.36.143233

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	29	29	Caliche
29	34	5	Sand & Rock
34	40	6	Small Red Clay
40	54	14	Small Clay & Sand
54	62	8	Clay & Boulders
62	83	21	Small Clay & Sand
83	87	4	Boulders
87	92	5	Sand & Boulders
92	95	3	Sand & Rock
95	105	10	Small Clay & Sand
105	110	5	White Clay
110	113	3	Sand & Rock
113	118	5	Sand
118	120	2	Limestone
120	178	58	Sand & Gravel
178	182	4	Sand & Rock
182	190	8	Red Bed Sand
			L S Elev 3656
			Depth to K Trc 182
			Elev of K Trc 3474
			Loc. No. 18.37.36.143233
			Hydro. Survey Field Check X

Section 7. REMARKS AND ADDITIONAL INFORMATION

SOURCE OF ALTITUDE GIVEN

Interpolated from Topo. Sheet X

Determined by Inst. Leveling

Other

APR 22 8 46 AM '85

STATE ENGINEER
ROSWELL, NM

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

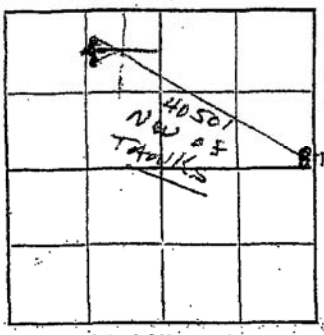
James M Cole
Driller

INSTRUCTIONS: This f... should be executed ... triplicate, preferably typewritten, and submitt... to the appropriate district office

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1



(Plat of 640 acres)

(A) Owner of well CITY OF EUNICE "Well No. "

Street and Number

City EUNICE, N.M. State

Well was drilled under Permit No. L-4920-5-2 and is located in the

~~¼~~ NE ¼ NW ¼ of Section 36 Twp. 18 Rge. 37

(B) Drilling Contractor ABBOTT BROS. License No. WD-46

Street and Number BOX 637

City HOBBS, N.M. State

Drilling was commenced MAY 25, 1971 19

Drilling was completed MAY 31, 1971 19

Elevation at top of casing in feet above sea level 3659 Total depth of well 200

State whether well is shallow or artesian shallow Depth to water upon completion 42

Section 2 PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation
1	42	80	38	sand water
2				
3				
4				
5				

Section 3 RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth Top	Depth Bottom	Feet	Type Shoe	Perforations From	Perforations To
16	40	welded	1	201	201	none	56	201

Section 4 RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used

Section 5 PLUGGING RECORD

Name of Plugging Contractor License No.

Street and Number City State

Tons of Clay used Tons of Roughage used Type of roughage

Plugging method used Date Plugged 19

Plugging approved by:

Basin Supervisor

Cement Plugs were placed as follows:

No.	Depth of Plug From	Depth of Plug To	No. of Sacks Used

FOR USE OF STATE ENGINEER ONLY

STATE ENGINEER OFFICE

Date Received ✓

1971 JUN 17 AM 8:18

File No. L-4920-5-2 Use MUN. Location No. 18.37.36.12133

Section 6

LOG OF WELL

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color	Type of Material Encountered
0	2	2	brown	surface soil
2	21	19	gray	caliche
21	42	21	brown	sand (tight)
42	80	38	brown	sand water
80	92	12	brown	sand rock
92	95	3	brown	sand
95	101	6	brown	sand rock
101	105	4	brown	sand tight
105	140	35	brown	sand & gravel
140	182	42	brown	~~red clay~~ sand
182	184	2	red	red clay
184	190	16	white	gravel
190	198	8	gray	sandy clay
198	200	2	red	clay

L S Elev 3659'

Depth to K Trc 198'?

Elev of K Trc 3461'?

Loc. No. 18.37.26.12133

Hydro. Survey Field Check X

SOURCE OF ALTITUDE GIVEN

Interpolated from Topo. Sheet X

Determined by Inst. Leveling

Other

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

Murrell Abbott
Well Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1

(A) Owner of well City of Eunice "Well No. 4"

Street and Number City Hall Ave. J

City Eunice State N.M.

Well was drilled under Permit No. _____ and is located in the SE ¼ NE ¼ ¼ of Section 12 Twp. 19S Rge. 37E

(B) Drilling Contractor Roberts Drilling Co License No. WD 137

Street and Number Ave C and 15th St.

City Eunice State N.M.

Drilling was commenced 10/12/64 19__

Drilling was completed 10/15/64 19__

(Plat of 640 acres)

Elevation at top of casing in feet above sea level _____ Total depth of well 132

State whether well is shallow or artesian Shallow Depth to water upon completion 30

Section 2 PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation
1	25	30	5	Sand
2		65	32	Sand
3	37 72	94	22	Sand with few fine gravel
4	94	104	10	Sand
5	104	120	16	Sand and shale breaks
	120	125	5	Course sand with few gravel
	125	130	5	Sand with shale breaks

Section 3 RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth Top	Depth Bottom	Feet	Type Shoe	Perforations From	Perforations To
16	50	P.E.	0X I	132	133	None	67	132

Section 4 RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used

Section 5 PLUGGING RECORD

Name of Plugging Contractor _____ License No. _____

Street and Number _____ City _____ State _____

Tons of Clay used _____ Tons of Roughage used _____ Type of roughage _____

Plugging method used _____ Date Plugged _____ 19__

Plugging approved by:

_____ Basin Supervisor

Cement Plugs were placed as follows:

No.	Depth of Plug From	Depth of Plug To	No. of Sacks Used

FOR USE OF STATE ENGINEER ONLY

Date Received STATE ENGINEER OFFICE DISTRICT II ROSWELL, N.M. 1965 APR -1 AM 8:20

File No. L-4921-X Use Municipal Location No. 19.37.12.24221

Section 6

LOG OF WELL

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color	Type of Material Encountered
0	20	20	White	Caliche
20	25	5	Pink	Quartzite
25	30	5	Red	Sand
30	37	7	Pink	Sand Rock
37	65	32	Red	Sand
65	72	7	Brown	Sand Rock
72	94	22	Brown	Sand with few fine gravel
94	104	10	Pink	Sand
104	120	16	Pink	Sand and shale breaks
120	125	5	Brown Course	Sand with few gravel
125	130	5	Pink	Sand and shale breaks
130	132	2	Red	Red Bed

L S Elev 3619 ✓
Depth to K Trc 130 ✓
Elev of K Trc 5487 ✓

Loc. No. 19.37.12.24221 ✓
Hydrn. Survey Field Check ✗ 11-21-71

SOURCE OF ALTITUDE GIVEN
Interpolated from Topo. Sheet 3619
Determined by Inst. Leveling
Other

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

Grady Roberts
Well Driller

Form WR-23

FIELD ENGR LOG

STATE ENGINEER OFFICE

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1

(Plat of 640 acres)

(A) Owner of well ~~City of Eunice~~ "Well No. 3"

Street and Number City Hall Ave.

City Eunice State ~~New Mexico~~

Well was drilled under Permit No. L-4921 and is located in the NE ¼ NE ¼ ¼ of Section 12 Twp. 19S Rge. 37E

(B) Drilling Contractor ~~Roberts Drilling Co.~~ License No. WD 137

Street and Number 621 15th

City Eunice State ~~New Mexico~~

Drilling was commenced July 24 1964

Drilling was completed Aug 4 1964

Elevation at top of casing in feet above sea level ______ Total depth of well 142

State whether well is shallow or artesian Shallow Depth to water upon completion 25

Section 2 — PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation
1	30	70	40	Brown sand
2	70	86	13	Water sand
3	86	120	34	Sand with shale breaks
4	120	125	5	Sand
5	125	138	13	Sand and gravel

Section 3 — RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth Top	Depth Bottom	Feet	Type Shoe	Perforations From	Perforations To
16	50	P.E.	0 plus 1	142	143	Texas Pattern	82	142

Section 4 — RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used

Section 5 — PLUGGING RECORD

Name of Plugging Contractor ______ License No. ______

Street and Number ______ City ______ State ______

Tons of Clay used ______ Tons of Roughage used ______ Type of roughage ______

Plugging method used ______ Date Plugged ______ 19__

Plugging approved by:

______
Basin Supervisor

Cement Plugs were placed as follows:

No.	Depth of Plug From	Depth of Plug To	No. of Sacks Used

FOR USE OF STATE ENGINEER ONLY

Date Received [illegible] ✓

1964 AUG -7 AM 8:28

File No. L-4921 Use Muni Location No. 19.37.12.22221

Section 6

LOG OF WELL

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color	Type of Material Encountered
0	20	20	White	Caliche
20	30	10	Brown	Sand Rock
30	86	56	Brown	Sand
86	120	34	Mixed	Sand with shale breaks
120	125	5	Brown	Sand
125	138	13	Light	Sand and gravel
138	140	2	Brown	Shale sand and gravel
140	142	2	Red	Red bed

L S Elev 3622'
Depth to K Tre 140'
Elev of K Tre 3482'

Loc. No. 19.37.12.22221

Hydro. Survey Field Check X

SOURCE OF ALTITUDE GIVEN
Interpolated from Topo. Sheet X
Determined by Inst. Leveling
Other

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

Grady Roberts
Well Driller

Form WR-23 STATE ENGINEER OFFICE

FIELD ENGR. LOG

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1

(Plat of 640 acres)

(A) Owner of well City Of Eunice "Well No. "

Street and Number City Hall

City Eunice State New Mexico

Well was drilled under Permit No. L-4920 and is located in the

¼ ¼ ¼ of Section Twp. Rge.

(B) Drilling Contractor Roberts Drilling Company License No. WD 137

Street and Number 621 15th Street

City Eunice State New Mexico

Drilling was commenced June 1, 1964 19

Drilling was completed June 5, 1964 19

Elevation at top of casing in feet above sea level Total depth of well 180

State whether well is shallow or artesian Shallow Depth to water upon completion 40

Section 2 PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation
1	5	12	12	
2	60	78	18	Brown Sand (water)
3	78	90	12	Sand with shale breaks
4	90	110	20	Sand with few small gravel (water)
5	110	118	8	Quartzite
	118	173	55	Sand with few gravel (water)

Section 3 RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth Top	Depth Bottom	Feet	Type Shoe	Perforations From	Perforations To
16"	.281		0	180'	180'	Texas Pattern	120	180

Section 4 RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used
0	180'	16"	10Sacks		Poured in from top

Section 5 PLUGGING RECORD

Name of Plugging Contractor License No.

Street and Number City State

Tons of Clay used Tons of Roughage used Type of roughage

Plugging method used Date Plugged 19

Plugging approved by:

Basin Supervisor

Cement Plugs were placed as follows:

No.	Depth of Plug From	Depth of Plug To	No. of Sacks Used

FOR USE OF STATE ENGINEER ONLY

Date Received

STATE ENGINEER OFFICE DISTRICT II 1964 JUN 25 AM 8:20

File No. L-4920 Use Dom. Location No. 18.37.36.24221

Section 6

LOG OF WELL

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color	Type of Material Encountered
0	32	32	White	Caliche
32	40	8	Pink	Sand and Caliche
40	78	38	Brown	Sand
78	90	12	Brown	Sand withshale breaks
90	110	20	Brown	Sand with few gravel
110	118	8	Red and white	Quartzite
118	173	55	Brown	Sand with few small gravel
173	176	5	Brown	Sand and shale
178	180	2	Red	Shale

L S Elev 3650 ✓
Depth to K Tre 178 ✓
Elev of K Tre 3472 ✓

Loc. No. 18.37.36.24221 ✓

Hydro. Survey ✓ Field Check

SOURCE OF ALTITUDE GIVEN

Interpolated from Topo. Sheet ✓

Determined by Inst. Leveling

Other

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

Grady Roberts

Well Driller

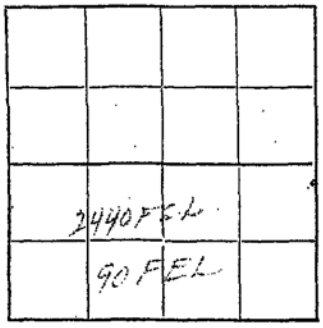
Form WR-23 STATE ENGINEER OFFICE

STATE ENGR. COPY

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1



(Plat of 640 acres)

(A) Owner of well City of Eunice "Well No"

Street and Number

City Eunice State N.M.

Well was drilled under Permit No. L-4920-X and is located in the

¼ NE ¼ NE ¼ of Section Twp. 22-S Rge. 37-E

(B) Drilling Contractor Roberts drilling Co. License No. WD 147

Street and Number 622 15th St.

City Eunice, N.M. State

Drilling was commenced Jan. 25, 1963 19

Drilling was completed Feb. 3, 1963 19

Elevation at top of casing in feet above sea level Total depth of well 175

State whether well is shallow or artesian shallow Depth to water upon completion 35

Section 2 PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation
1	40	58	18	Fine sand
2	67	106	39	white sand
3	116	120	10	Brown sand
4	120	150	30	Fellow sand
5	150	170	20	White sand and gravel

Section 3 RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth Top	Depth Bottom	Feet	Type Shoe	Perforations From	Perforations To
10	40	welded	Open	175	175	none	121	175

Section 4 RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used
40	170	18	3/4		Mud with water

Section 5 PLUGGING RECORD

Name of Plugging Contractor License No.

Street and Number City State

Tons of Clay used Tons of Roughage used Type of roughage

Plugging method used Date Plugged 19

Plugging approved by:

Basin Supervisor

Cement Plugs were placed as follows:

No.	Depth of Plug From	Depth of Plug To	No. of Sacks Used

FOR USE OF STATE ENGINEER ONLY

Date Received STATE ENGINEER OFFICE DISTRICT II ROSWELL, N. MEX. 1963 FEB 13 AM 8:17

File No. L-4920-X Use Municipal Location No. 18.37.36.422242

Section 6

LOG OF WELL

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color	Type of Material Encountered
0	27	27	White	Caliche
27	32	5	Pink	Hard rock
32	40	8	White	Caliche and sand
40	58	18	Pink	Sand
58	67	9	White	Sandy lime (hard)
67	106	39	White	Sand
106	110	4	White	Sandy lime (hard)
110	120	10	Brown	Sand
120	150	30	Yellow	Sand
150	170	20	White	Sand and gravel
170	175	5	Red	Shale

U S Elev 3646'

Depth to K Tr 170'

Elev of K Tr 3476'

Loc. No. 18.37.36.422242

Hydro. Survey (West) Field Check

SOURCE OF ALTITUDE GIVEN

Interpolated from Topo. Sheet X

Determined by Inst. Leveling

Other

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

Grady Parker Co
Well Driller

Form WR-23 FIELD ...R. LOG STATE ENGINEER OFFICE

...ELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1

4 1 on 05-1-58-1			
DPN: 25-12278			

(Plat of 640 acres)

(A) Owner of well McVey and Stafford Drilling Co.

Street and Number 513 E. Lea

City Hobbs State New Mexico

Well was drilled under Permit No. L-4313 and is located in the NW ¼ NW ¼ ¼ of Section 19 Twp. 19S Rge. 37E

(B) Drilling Contractor Ed Burke License No. 111

Street and Number Box 306

City Hobbs State New Mexico

Drilling was commenced October 23 19 59

Drilling was completed October 23 19 59

Elevation at top of casing in feet above sea level ____ Total depth of well 116'

State whether well is shallow or artesian shallow Depth to water upon completion 52'

Section 2 PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation
1	52	65	13	Water sand
2				
3				
4				
5				

Section 3 RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth Top	Depth Bottom	Feet	Type Shoe	Perforations From	Perforations To

Section 4 RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used

Section 5 PLUGGING RECORD

Name of Plugging Contractor ____ License No. ____

Street and Number ____ City ____ State ____

Tons of Clay used ____ Tons of Roughage used ____ Type of roughage ____

Plugging method used ____ Date Plugged ____ 19 ____

Plugging approved by:

____
Basin Supervisor

Cement Plugs were placed as follows:

No.	Depth of Plug From	Depth of Plug To	No. of Sacks Used

FOR USE OF STATE ENGINEER ONLY

Date Received STATE ENGINEER OFFICE ROSWELL, N. MEX. DISTRICT II 1959 OCT 29 AM 8:16

File No. L-4313 Use D.D.D. Location No. 19.37.19.113211

Section 6

LOG OF WELL

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color	Type of Material Encountered
0	1	1		Surface soil
1	19	18		Caliche
19	23	4		Sand rock
23	29	6		Sand, tight
29	52	23		Sand, rock
52	65	13		Sand, water
65	67	2		Red clay
67	82	15		Sand, gravel 2
82	85	3		Red clay
85	91	6		Sand
91	94	3		Red clay
94	99	5		Sand
99	116	17		Red clay

L S Elev 3703 ✓
Depth to K Trc 82 2 ✓
Elev of K Trc 3621 2

Loc. No. 17.37.19.113211 ✓

Hydro. Survey ____ Field Check X

SOURCE OF ALTITUDE GIVEN

Interpolated from Topo. Sheet X

Determined by Inst. Leveling ____

Other ____

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

Edward R Burke
Well Driller

Form WR-23 STATE ENGINEER OFFICE

FIELD L[illegible] LOG **WELL RECORD** Well #[illegible]

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1

(Plat of 640 acres)

(A) Owner of well Hobbs Country Club

Street and Number % Dan Bodie

City Hobbs State New Mexico

Well was drilled under Permit No. L-1840 and is located in the ¼ ¼ ¼ of Section 1 Twp. 19 S Rge. 37 E

(B) Drilling Contractor Ed Burke License No. WD-111

Street and Number Box 306

City Hobbs State New Mexico

Drilling was commenced July 19 35

Drilling was completed July 19 35

Elevation at top of casing in feet above sea level _____ Total depth of well 105

State whether well is shallow or artesian Shallow Depth to water upon completion 36

Section 2 PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation
1	61	78	17	Water Sand
2				
3				
4				
5				

Section 3 RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth Top	Depth Bottom	Feet	Type Shoe	Perforations From	Perforations To
7	19	10	0	82	82	none	52	82

Section 4 RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used

Section 5 PLUGGING RECORD

Name of Plugging Contractor _____ License No. _____

Street and Number _____ City _____ State _____

Tons of Clay used _____ Tons of Roughage used _____ Type of roughage _____

Plugging method used _____ Date Plugged _____ 19 _____

Plugging approved by:

_____ Basin Supervisor

Cement Plugs were placed as follows:

No.	Depth of Plug From	Depth of Plug To	No. of Sacks Used

FOR USE OF STATE ENGINEER ONLY

Date Received FEB 6 1957

OFFICE GROUND WATER SUPERVISOR ROSWELL, NEW MEXICO

File No. L-1840 Use Comm Location No. 19.37.1.214

Section 6

LOG OF WELL

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color	Type of Material Encountered
0	1	1		Soil
1	14	13		Caliche
14	32	18		Rock Sand
32	36	4		Sand Rock
36	48	12		Water Sand
48	54	6		Tight Sand
54	61	7		Sand Rock
61	78	17		Water Sand
78	90	12		Tight Sand
90	105	15		Water Sand

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

Edward B Burke
Well Driller

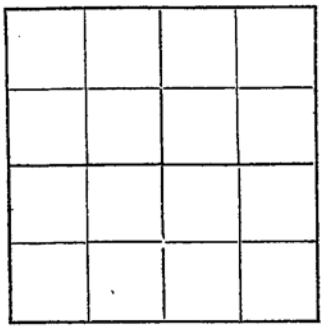
Form WR-23

STATE ENGINEER OFFICE

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1



(Plat of 640 acres)

(A) Owner of well Hobbs County Club

Street and Number

City Hobbs State N.M.

Well was drilled under Permit No. and is located in the

NW ¼ SW ¼ NE ¼ of Section 1 Twp. 19 Rge. 37

(B) Drilling Contractor Ed Burke License No.

Street and Number

City State

Drilling was commenced 19

Drilling was completed April 19 42

Elevation at top of casing in feet above sea level 3638.4 LS Total depth of well

State whether well is shallow or artesian Depth to water upon completion

Section 2 PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation
1				
2				
3				
4				
5				

Section 3 RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth Top	Depth Bottom	Feet	Type Shoe	Perforations From	Perforations To
12½					62			
10					98			

Section 4 RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used

Section 5 PLUGGING RECORD

Name of Plugging Contractor License No.

Street and Number City State

Tons of Clay used Tons of Roughage used Type of roughage

Plugging method used Date Plugged 19

Plugging approved by:

Basin Supervisor

Cement Plugs were placed as follows:

No.	Depth of Plug From	Depth of Plug To	No. of Sacks Used

FOR USE OF STATE ENGINEER ONLY

Date Received Copied from USGS Well

Schedule by U.N. Benge, May 15, 1944.

File No. Use Irr & Swim.Pool Location No. 19.37.1.231/3

Section 6

LOG OF WELL

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color	Type of Material Encountered
0	1			soil
1	15			caliche
15	28			packsand
28	36			water, sand
36	44			hard sand, firm
44	60			water, sand
60	64			hard lime shell
64	106			hard, firm sand
106	114			water, sand and gravel
114	116			sandy shale
116	126			firm brown sand

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

Well Driller

Form WR-23 FIEL IGR. LOG STATE ENGINEER OFFICE

WELL RECORD

Well

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1

(Plat of 640 acres)

(A) Owner of well Hobbs Country Club

Street and Number % Dan Boddie

City Hobbs State New Mexico

Well was drilled under Permit No. L-1841 and is located in the

¼ NE ¼ SE ¼ of Section 1 Twp. 19 S Rge. 37 E

(B) Drilling Contractor Ed Burke License No.

Street and Number Box 306

City Hobbs State New Mexico

Drilling was commenced March 19 44

Drilling was completed March 19 44

Elevation at top of casing in feet above sea level Total depth of well 170

State whether well is shallow or artesian Shallow Depth to water upon completion 34

Section 2 PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation
1	134	151	17	Water Sand
2				
3				
4				
5				

Section 3 RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth Top	Depth Bottom	Feet	Type Shoe	Perforations From	Perforations To
12½	36	8	0	170	170	none	120	170

Section 4 RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used

Section 5 PLUGGING RECORD

Name of Plugging Contractor License No.

Street and Number City State

Tons of Clay used Tons of Roughage used Type of roughage

Plugging method used Date Plugged 19

Plugging approved by:

Basin Supervisor

Cement Plugs were placed as follows:

No.	Depth of Plug From	Depth of Plug To	No. of Sacks Used

FOR USE OF STATE ENGINEER ONLY

Date Received FEB 6 19[illegible]

OFFICE OF GROUND WATER SUPERVISOR

File No. L-1841 Use Dom. Location No. 19.37.1.422

23113

Section 6

LOG OF WELL

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color	Type of Material Encountered
0	1	1		Soil
1	16	15		Caliche
16	34	18		Rock Sand
34	37	3		Sand Rock
37	45	8		Water Sand
45	58	13		Tight Sand
58	63	5		Sand Rock
63	81	18		Water Sand
81	93	12		Tight Sand
93	112	19		Water Sand
112	134	22		Tight Sand
134	151	17		Water Sand
151	167	16		Tight Sand
167	170	3		Yellow Clay

L S Elev 3638

Depth to K Trc 167

Elev of K Trc 3471

Loc. No. 18.37.1.231

Hydro. Survey Field Check X

SOURCE OF ALTITUDE GIVEN

Interpolated from Topo. Sh

Determined by Inst. Leveling X

Other

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

Edward B Burke

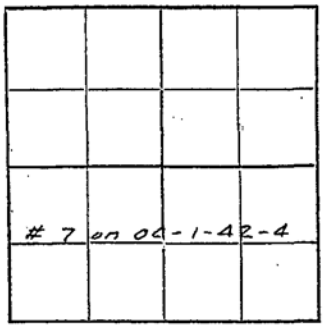
Well Driller

Form WR-23 FIELD [illegible]R. LOG STATE ENGINEER OFFICE

WELL RECORD Well # 3

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1



(Plat of 640 acres)

(A) Owner of well Hobbs Country Club
Street and Number % Dan Rodi a
City Hobbs State New Mexico
Well was drilled under Permit No. L-1842 and is located in the ¼ ¼ ¼ of Section 1 Twp. 19 S Rge. 37 E
(B) Drilling Contractor Ed Burke License No. WD-111
Street and Number Box 396
City Hobbs State New Mexico
Drilling was commenced May 19 47
Drilling was completed May 19 47

Elevation at top of casing in feet above sea level ____ Total depth of well 172
State whether well is shallow or artesian Shallow Depth to water upon completion 35

Section 2 PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation
1	136	155	19	Water Sand
2				
3				
4				
5				

Section 3 RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth Top	Depth Bottom	Feet	Type Shoe	Perforations From	Perforations To
10	34	10	0	17 2	172	none	112	172

Section 4 RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used

Section 5 PLUGGING RECORD

Name of Plugging Contractor ____ License No. ____
Street and Number ____ City ____ State ____
Tons of Clay used ____ Tons of Roughage used ____ Type of roughage ____
Plugging method used ____ Date Plugged ____ 19 ____
Plugging approved by:

Basin Supervisor

Cement Plugs were placed as follows:

No.	Depth of Plug From	Depth of Plug To	No. of Sacks Used

FOR USE OF STATE ENGINEER ONLY

Date Received FEB 6 1957

OFFICE GROUND WATER SUPERVISOR ROSWELL, NEW MEXICO

ENM 1840-5-4

File No. L-1842 Use Comm. Location No. 19.37.2.24

Section 6

LOG OF WELL

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color	Type of Material Encountered
0	1	1		Soil
1	18	17		Caliche
18	32	14		Tight Sand
32	36	4		Sand Rock
36	48	12		Water Sand
48	56	8		Tight Sand
56	68	12		Sand Rock
68	80	12		Water Sand
80	96	16		Tight Sand
96	114	18		Water Sand
114	136	22		Tight Sand
136	155	19		Water Sand
155	167	12		Tight Sand
167	172	5		Yellow Clay

L S Elev 3641

Depth to K Tre 167

Elev of K Tre 3474

Loc. No. 19.31.1.212 41

Hydro. Survey ____ Field Check X

SOURCE OF ALTITUDE GIVEN

Interpolated from Topo. Sheet X

Determined by Inst. Leveling ____

Other ____

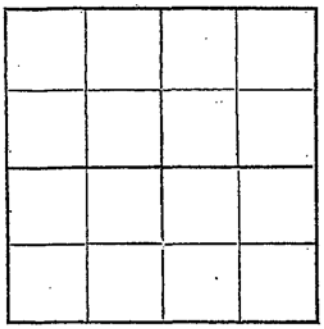
The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

Edward B Burke

Well Driller

nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1



(Plat of 640 acres)

(A) Owner of well Hobbs Country Club

Street and Number % Dan Dodie

City Hobbs State New Mexico

Well was drilled under Permit No. L-1843 and is located in the ¼ NW ¼ NE ¼ of Section 1 Twp. 19 S. Rge. 37 E

(B) Drilling Contractor Ed Burke License No.

Street and Number Box 306

City Hobbs State New Mexico

Drilling was commenced January 28 19 57

Drilling was completed January 31 19 57

Elevation at top of casing in feet above sea level Total depth of well 180

State whether well is shallow or artesian Shallow Depth to water upon completion 34

Section 2 PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation
1	123	149	26	Water Sand
2				
3				
4				
5				

Section 3 RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth Top	Depth Bottom	Feet	Type Shoe	Perforations From	Perforations To
12	48	Welded	+1	180	161	none	78	161

Section 4 RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used

Section 5 PLUGGING RECORD

Name of Plugging Contractor License No.

Street and Number City State

Tons of Clay used Tons of Roughage used Type of roughage

Plugging method used Date Plugged 19

Plugging approved by:

Basin Supervisor

Cement Plugs were placed as follows:

No.	Depth of Plug From	Depth of Plug To	No. of Sacks Used

FOR USE OF STATE ENGINEER ONLY

Date Received FEB 6 1957

OFFICE GROUND WATER SUPERVISOR ROSWELL, NEW MEXICO

File No. L-1843 Use Irr. Location No. 19.37.22224

Section 6

LOG OF WELL

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color	Type of Material Encountered
0	1	1		Soil
1	17	16		Caliche
17	40	23		Tight Sand
40	44	4		Water Sand
44	50	6		Sand Rock
50	72	22		Water Sand
72	91	19		Tight Sand
91	98	7		Water Sand
98	123	25		Tight Sand
123	134	11		Gravel
134	149	15		Sand & Gravel
149	152	3		Red Clay
152	173	21		Tight Sand
173	180	7		Yellow Clay

L S Elev 3404'

~~Depth to K~~ Trc 173'

Elev of K Trc 3471'

Loc. No. 17.37.1.22224

Hydro. Survey ____ Field Check X

SOURCE OF ALTITUDE GIVEN

Interpolated from Topo. X

Determined by Inst. Leveling ____

Other ____

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

Edward B Burke
Well Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1

(A) Owner of well Hobbs Country Club
Street and Number Box 920
City Hobbs, State New Mexico
Well was drilled under Permit No. L-1840-L-1843 Comb-S and is located in the Pt.NE ¼ Pt.E½ ¼ NW ¼ of Section 1 Twp. 19s Rge. 37e
(B) Drilling Contractor Abbott Bros. License No. Wd-46
Street and Number Box 637
City Hobbs, State N. M.
Drilling was commenced July 13 1965
Drilling was completed July 16 1965

(Plat of 640 acres)

Elevation at top of casing in feet above sea level ______ Total depth of well 166'
State whether well is shallow or artesian shallow Depth to water upon completion 28'

Section 2

PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation
1	30'	155'	125'	Brown water sand
2				
3				
4				
5				

Section 3

RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth Top	Depth Bottom	Feet	Type Shoe	Perforations From	Perforations To
12 3/4	32	none	0	166	166	none	50	155

Section 4

RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used

Section 5

PLUGGING RECORD

Name of Plugging Contractor ______ License No. ______
Street and Number ______ City ______ State ______
Tons of Clay used ______ Tons of Roughage used ______ Type of roughage ______
Plugging method used ______ Date Plugged ______ 19____
Plugging approved by:

______
Basin Supervisor

Cement Plugs were placed as follows:

No.	Depth of Plug From	Depth of Plug To	No. of Sacks Used

FOR USE OF STATE ENGINEER ONLY

STATE ENGINEER OFFICE
DISTRICT II
ROSWELL, N. MEX.

Date Received 1965 JUL 22 AM 8:14

File No. L-1840, L-1841, L-1842, & L-1843-Comb. S-P Use Irr. & Dom. Location No. 19.37.1.234322

Section 6

LOG OF WELL

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color	Type of Material Encountered
0	1	1	Brown	soil
1	18	17	White	caliche
18	30	12	brown	sand rock
30	85	55	brown	water sand
85	95	10	brown	tight sand
95	140	45	brown	water sand
140	166	26	brown & red	sandy clay

L S Elev 3629.
Depth to K T. 2166
Elev of K T. 2346.3

For. No. [illegible]

Hydro. Survey Field Check

SOURCE OF ALTITUDE GIVEN

Interpolated from Topo. Sheet

Determined by Inst. Leveling

Other

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

Russell Abbott
Well Driller

Form WR-23 STATE ENGINEER OFFICE

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1

(A) Owner of well Country Club

Street and Number

City Hobbs, N.M. State

Well was drilled under Permit No. L-1841 and is located in the NW ¼ SW ¼ NE ¼ of Section 1 Twp. 19-S Rge. 37-E

(B) Drilling Contractor Abbott Bros. License No. WD-46

Street and Number Box 637

City Hobbs State N.M.

Drilling was commenced June 7 19 66

Drilling was completed 19

(Plat of 640 acres)

Elevation at top of casing in feet above sea level Total depth of well 145'

State whether well is shallow or artesian Depth to water upon completion

Section 2 PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation
1	0	1	1	soil
2	1	18	17	coliche
3	18	55	37	sand
4	55	140	85	water m sand
5	140	145	5	red clay

Section 3 RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth Top	Depth Bottom	Feet	Type Shoe	Perforations From	Perforations To
12	3/4 32	welded					55'	140'

Section 4 RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used

Section 5 PLUGGING RECORD

Name of Plugging Contractor License No.

Street and Number City State

Tons of Clay used Tons of Roughage used Type of roughage

Plugging method used Date Plugged 19

Plugging approved by:

Basin Supervisor

Cement Plugs were placed as follows:

No.	Depth of Plug From	Depth of Plug To	No. of Sacks Used

FOR USE OF STATE ENGINEER ONLY

Date Received JUL 13 1967

File No. L-1841 Use Serv (Clow) Location No. 19.37.23.114

Section 6

LOG OF WELL

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color	Type of Material Encountered
0	1	1	soil brown	soil
1	18	17	white	caliche
18	55	37	brown	sand
55	140	85	brown	water sand
140	145	5	red	red clay

L S Elev 3642 ±
Depth to K Trc 140 ±
Elev of K Trc 3502 ±

Loc. No. 19.37.1 231 1

Hydro. Survey ____ Field Check X

SOURCE OF ALTITUDE GIVEN

~~Interpolated from Topo. Sheet~~ X

~~Determined by Inst. Leveling~~

~~Other~~

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

Murrell Abbott

Murrell Abbott

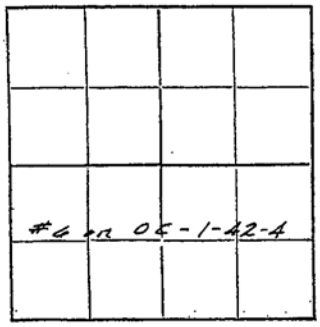
Well Driller

Form WR-23 STATE ENGINEER OFFICE FIELD ENGR. LOG

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1



(Plat of 640 acres)

(A) Owner of well HOBBS COUNTRY CLUB

Street and Number BOX 584

City HOBBS State N.M.

Well was drilled under Permit No. L-1840-1843S-2 and is located in the SE ¼ SE ¼ NW ¼ of Section 1 Twp. 19 Rge. 37E

(B) Drilling Contractor AUBOTT BROS. License No. WD-46

Street and Number BOX 637

City HOBBS, N.M. State

Drilling was commenced SEPT. 22, 1969 19

Drilling was completed SEPT. ~~22~~ 22, 1969 19

Elevation at top of casing in feet above sea level Total depth of well 143

State whether well is shallow or artesian shallow Depth to water upon completion 50

Section 2 PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation
1	50	140	90	water bearing sand
2				
3				
4				
5				

Section 3 RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth Top	Depth Bottom	Feet	Type Shoe	Perforations From	Perforations To
12 3/4	40	welded	1	143	143	none	50	140

Section 4 RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used

Section 5 PLUGGING RECORD

Name of Plugging Contractor License No.

Street and Number City State

Tons of Clay used Tons of Roughage used Type of roughage

Plugging method used Date Plugged 19

Plugging approved by:

Basin Supervisor

Cement Plugs were placed as follows:

No.	Depth of Plug From	Depth of Plug To	No. of Sacks Used

FOR USE OF STATE ENGINEER ONLY

Date Received STATE ENGINEER OFFICE 1969 SEP 24 AM 8:19

File No. L-1840-Combs-S-T Use IRR Location No. 19.37.12.12.10

Section 6

LOG OF WELL

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color	Type of Material Encountered
0	1	1	brown	soil
1	18	17	gray	caliche
18	30	12	brown	sand
30	35	5	brown	sand rock
35	50	15	brown	sand
50	140	90	brown	water sand
140	143	3	red	rocky clay
				L S Elev 3643
				Depth to K Trc 140
				Elev of K Trc 3503
				Loc. No. 19.37.13.12101
				Hydro. Survey Field Check ✓
				SOURCE OF ALTITUDE GIVEN
				Interpolated from Topo. Sheet X
				Determined by Inst. Leveling
				Other

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

Murrell Abbott
Well Driller

Revised June 1972

STATE ENGINEER OFFICE
WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well HOBBS COUNTRY CLUB Owner's Well No. _____
Street or Post Office Address 5001 W CARLSBAD HWY
City and State HOBBS, NM 88240

Well was drilled under Permit No. L - 1840 and is located in the:

a. _____ ¼ ~~SW~~ ¼ ~~NW~~ ¼ ~~NE~~ ¼ of Section 1 Township 19S Range 37E N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in LEA County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor W. L. VAN NOY DRILLING CO. License No. WD - 208

Address ~~BOX 7, OIL CENTER, NM 88266~~

Drilling Began 8-5-94 Completed 8-11-94 Type tools CABLE TOOL Size of hole 20 in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well 170 ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well _____ ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
110	167	57		

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
12 ~~OD~~	~~170~~	PVC	0	170			126	166

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

Section 5. PLUGGING RECORD

Plugging Contractor _____
Address _____
Plugging Method _____
Date Well Plugged _____
Plugging approved by: _____
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received 08/22/94

Quad _____ FWL _____ FSL _____

File No. L-1840 Use Irrigation Location No. 19S.37E.1.14222

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	15	15	TOP SOIL ~~HARD CALICHE~~
15	40 ~~25~~	25	HARD CALICHE
40	~~65~~ 25	~~65~~	SAND ROCK
65	95	30	water sand
95	110	15	firm sand rock
110	167	57	water sand
167	170 ~~167~~	3	red bed

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

R W L Ramsey

Driller

INSTRUCTIONS: This form should be executed [redacted]plicate, preferably typewritten, and submitted to the appr[redacted]te district office of the State Engineer. All [redacted]ons, except Section 5, shall be answered as completely and accurately [redacted]ossible when any well is

Enclosure B - Laboratory Analytical Reports

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

Environmental Strategies Corporation

Certificate of Analysis Number:

01050386

Report To:		Project Name:	Ashland Brine Well
Environmental Strategies Corporation		Site:	Hobbs,N.M.
Doug Oberdorl		Site Address:	
4 Penn Center West			
Pittsburgh		PO Number:	
Pennsylvania		State:	New Mexico
15276-		State Cert. No.:	
ph: (412) 787-5100	fax: (412) 787-8065	Date Reported:	5/16/01

This Report Contains A Total Of 8 Pages

Excluding This Page

And

Chain Of Custody

5/16/01

Date

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

Case Narrative for:

Environmental Strategies Corporation

Certificate of Analysis Number:

01050386

Report To:		Project Name:	Ashland Brine Well
Environmental Strategies Corporation		Site:	Hobbs,N.M.
Doug Oberdorl		Site Address:	
4 Penn Center West			
Pittsburgh		PO Number:	
Pennsylvania		State:	New Mexico
15276-		State Cert. No.:	
ph: (412) 787-5100	fax: (412) 787-8065	Date Reported:	5/16/01

Matrix spike (MS) and matrix spike duplicate (MSD) samples are chosen and tested at random from an analytical batch of "like " matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. Since the MS and MSD are chosen at random from an analytical batch, the sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The Laboratory Control Sample (LCS) and the Method Blank (MB) are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

Any other exceptions associated with this report will be footnoted in the analytical result page(s) or the quality control summary page(s).

Please do not hesitate to contact us if you have any questions or comments pertaining to this data report. Please reference the above Certificate of Analysis Number.

This report shall not be reproduced except in full, without the written approval of the laboratory. The reported results are only representative of the samples submitted for testing.

SPL, Inc. is pleased to be of service to you. We anticipate working with you in fulfilling all your current and future analytical needs.

Paul Neschich
Senior Project Manager

5/16/01
Date

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

Environmental Strategies Corporation

Certificate of Analysis Number:

01050386

Report To: Environmental Strategies Corporation
Doug Oberdorl
4 Penn Center West

Pittsburgh
Pennsylvania
15276-
ph: (412) 787-5100 fax: (412) 787-8065

Fax To: Environmental Strategies Corporation
Doug Oberdorl fax : (412) 787-8065

Project Name: Ashland Brine Well
Site: Hobbs,N.M.
Site Address:

PO Number:
State: New Mexico
State Cert. No.:
Date Reported: 5/16/01

Client Sample ID	Lab Sample ID	Matrix	Date Collected	Date Received	COC ID	HOLD
Guardian Well	01050386-01	Water	5/11/01 11:20:00 AM	5/12/01 10:00:00 AM	104896	☐
McNabb Well	01050386-02	Water	5/11/01 11:35:00 AM	5/12/01 10:00:00 AM	104896	☐

5/16/01

Paul Neschich
Senior Project Manager

Date

Joel Grice
Laboratory Director

Ted Yen
Quality Assurance Officer

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

Client Sample ID Guardian Well **Collected:** 5/11/01 11:20:00 **SPL Sample ID:** 01050386-01

Site: Hobbs,N.M.

Analyses/Method	Result	Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL			**MCL**	**E325.3**	**Units: mg/L**		
Chloride	1050	10	10		05/15/01 14:22	ES	671816

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

Client Sample ID McNabb Well **Collected:** 5/11/01 11:35:00 **SPL Sample ID:** 01050386-02

Site: Hobbs,N.M.

Analyses/Method	Result	Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL			**MCL**	**E325.3**	**Units: mg/L**		
Chloride	32.2	1	1		05/15/01 14:22	ES	671819

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

Quality Control Documentation

5/16/01 8:08:10 AM

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

Quality Control Report

Environmental Strategies Corporation

Ashland Brine Well

Analysis: Chloride, Total
Method: E325.3
WorkOrder: 01050386
Lab Batch ID: R35256

Method Blank

RunID: WET_010515C-671813 Units: mg/L
Analysis Date: 05/15/2001 14:22 Analyst: ES

Analyte	Result	Rep Limit
Chloride	ND	1.0

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
01050386-01A	Guardian Well
01050386-02A	McNabb Well

Laboratory Control Sample (LCS)

RunID: WET_010515C-671815 Units: mg/L
Analysis Date: 05/15/2001 14:22 Analyst: ES

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Chloride	109	108	99	90	110

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 01050386-01
RunID: WET_010515C-671817 Units: mg/L
Analysis Date: 05/15/2001 14:22 Analyst: ES

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Chloride	1100	500	1560	102	500	1560	102	0	20	85	115

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

5/16/01 8:08:14 AM

Sample Receipt Checklist

And

Chain of Custody

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

Sample Receipt Checklist

Workorder:	01050386	Received By:	NB
Date and Time Received:	5/12/01 10:00:00 AM	Carrier name:	FedEx
Temperature:	3	Chilled by:	Water Ice

		Yes	No	Not Present	Not Applicable
1.	Shipping container/cooler in good condition?	☑	☐	☐	
2.	Custody seals intact on shippping container/cooler?	☑	☐	☐	
3.	Custody seals intact on sample bottles?	☐	☐	☑	
4.	Chain of custody present?	☑	☐		
5.	Chain of custody signed when relinquished and received?	☑	☐		
6.	Chain of custody agrees with sample labels?	☑	☐		
7.	Samples in proper container/bottle?	☑	☐		
8.	Sample containers intact?	☑	☐		
9.	Sufficient sample volume for indicated test?	☑	☐		
10.	All samples received within holding time?	☑	☐		
11.	Container/Temp Blank temperature in compliance?	☑	☐		
12.	Water - VOA vials have zero headspace?	☐	☐		☑
13.	Water - pH acceptable upon receipt?	☑	☐	☐	

SPL Representative: _____ **Contact Date & Time:** _____

Client Name Contacted: _____

Non Conformance Issues: _____

Client Instructions: _____

6

SPL, Inc.

Analysis Request & Chain of Custody Record

SPL Workorder No: 01050386

104896

page 1 of 1

Client Name: Environmental Strategies Corporation

Address/Phone: Campbells Run Road 4 Penn Ctr. Ste. 315 Pittsburg, PA 15276

Client Contact: Doug Oberdorf (412-787-5100)

Project Name: Ashland Baine Well

Project Number:

Project Location: Hobbs, N.M.

Invoice To: Same

SAMPLE ID	DATE	TIME	comp	grab	matrix (W=water S=soil SL=sludge O=other:)	bottle (P=plastic A=amber glass G=glass V=vial)	size (1=1 liter 4=4oz 40=vial 8=8oz 16=16oz)	pres. (1=HCl 2=HNO3 3=H2SO4 O=other:)	Number of Containers	Chlorides								
Guardian Well	5-11-01	11:20			W	P	1	—	2	X								
McNabb Well	5-11-01	11:35			W	P	1	—	2	X								

Client/Consultant Remarks:

Laboratory remarks:

Intact? ☐ Y ☐ N

Temp: 3°C

Requested TAT

24hr ☐ 72hr ☐

48hr ☐ Standard ☒

Other ☐ ________

Special Reporting Requirements Fax Results ☒ Raw Data ☐

Standard QC ☐ Level 3 QC ☐ Level 4 QC ☐

Special Detection Limits (specify): → Fax # 412-787-8065

PM review (initial): PBW

	date	time	
1. Relinquished by Sampler: B Allen	5-11-01	1:15 PM	2. Received by:
3. Relinquished by:	date	time	4. Received by:
5. Relinquished by:	date	time	6. Received by Laboratory: Nancy Barnula 5/12/01 1000

☒ 8880 Interchange Drive, Houston, TX 77054 (713) 660-0901

☐ 500 Ambassador Caffery Parkway, Scott, LA 70583 (318) 237-4775

☐ 459-Hughes Drive, Traverse City, MI 49684 (616) 947-5777

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

Environmental Strategies Corporation

Certificate of Analysis Number:

01050660

Report To:		Project Name:	Ashland Brine Well
Environmental Strategies Corporation		Site:	Hobbs, NM
Doug Oberdorf		Site Address:	
4 Penn Center West			
Pittsburgh		PO Number:	
Pennsylvania		State:	New Mexico
15276-		State Cert. No.:	
ph: (412) 787-5100	fax: (412) 787-8065	Date Reported:	5/24/01

This Report Contains A Total Of 7 Pages

Excluding This Page

And

Chain Of Custody

5/24/01

Date

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

Case Narrative for:

Environmental Strategies Corporation

Certificate of Analysis Number:

01050660

Report To:		Project Name:	Ashland Brine Well
Environmental Strategies Corporation		Site:	Hobbs, NM
Doug Oberdorf		Site Address:	
4 Penn Center West			
Pittsburgh		PO Number:	
Pennsylvania		State:	New Mexico
15276-		State Cert. No.:	
ph: (412) 787-5100	fax: (412) 787-8065	Date Reported:	5/24/01

Matrix spike (MS) and matrix spike duplicate (MSD) samples are chosen and tested at random from an analytical batch of "like " matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. Since the MS and MSD are chosen at random from an analytical batch, the sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The Laboratory Control Sample (LCS) and the Method Blank (MB) are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

Any other exceptions associated with this report will be footnoted in the analytical result page(s) or the quality control summary page(s).

Please do not hesitate to contact us if you have any questions or comments pertaining to this data report. Please reference the above Certificate of Analysis Number.

SPL, Inc. is pleased to be of service to you. We anticipate working with you in fulfilling all your current and future analytical needs.

Paul Neschich
Senior Project Manager

5/24/01
Date

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

Environmental Strategies Corporation

Certificate of Analysis Number:

01050660

Report To: Environmental Strategies Corporation
Doug Oberdorf
4 Penn Center West

Pittsburgh
Pennsylvania
15276-
ph: (412) 787-5100 fax: (412) 787-8065

Fax To: Environmental Strategies Corporation
Doug Oberdorf fax : (412) 787-8065

Project Name: Ashland Brine Well
Site: Hobbs, NM
Site Address:

PO Number:
State: New Mexico
State Cert. No.:
Date Reported: 5/24/01

Client Sample ID	Lab Sample ID	Matrix	Date Collected	Date Received	COC ID	HOLD
BJ Yard Well	01050660-01	Water	5/21/01 1:30:00 PM	5/22/01 9:30:00 AM		☐

Paul Neschich
Senior Project Manager

5/24/01
Date

Joel Grice
Laboratory Director

Ted Yen
Quality Assurance Officer

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

Client Sample ID BJ Yard Well **Collected:** 5/21/01 1:30:00 **SPL Sample ID:** 01050660-01

Site: Hobbs, NM

Analyses/Method	Result	Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL			**MCL**	**E325.3**	**Units: mg/L**		
Chloride	508	10	10		05/22/01 11:15	CV	679635

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

Quality Control Documentation

5/24/01 8:37:15 AM

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

Quality Control Report

Environmental Strategies Corporation

Ashland Brine Well

Analysis: Chloride, Total
Method: E325.3
WorkOrder: 01050660
Lab Batch ID: R35689

Method Blank

RunID: WET_010522H-679624 Units: mg/L
Analysis Date: 05/22/2001 11:15 Analyst: CV

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
01050660-01A	BJ Yard Well

Analyte	Result	Rep Limit
Chloride	ND	1.0

Laboratory Control Sample (LCS)

RunID: WET_010522H-679626 Units: mg/L
Analysis Date: 05/22/2001 11:15 Analyst: CV

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Chloride	109	108	99	90	110

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 01050506-01
RunID: WET_010522H-679629 Units: mg/L
Analysis Date: 05/22/2001 11:15 Analyst: CV

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Chloride	5.9	50	57.6	103	50	57.6	103	0	20	85	115

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

5/24/01 8:37:20 AM

Sample Receipt Checklist

And

Chain of Custody

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

Sample Receipt Checklist

Workorder:	01050660	Received By:	DS
Date and Time Received:	5/22/01 9:30:00 AM	Carrier name:	FedEx
Temperature:	4	Chilled by:	Water Ice

		Yes	No	Not Present	Not Applicable
1.	Shipping container/cooler in good condition?	☑	☐	☐	
2.	Custody seals intact on shippping container/cooler?	☐	☐	☑	
3.	Custody seals intact on sample bottles?	☐	☐	☑	
4.	Chain of custody present?	☑	☐		
5.	Chain of custody signed when relinquished and received?	☑	☐		
6.	Chain of custody agrees with sample labels?	☑	☐		
7.	Samples in proper container/bottle?	☑	☐		
8.	Sample containers intact?	☑	☐		
9.	Sufficient sample volume for indicated test?	☑	☐		
10.	All samples received within holding time?	☑	☐		
11.	Container/Temp Blank temperature in compliance?	☑	☐		
12.	Water - VOA vials have zero headspace?	☐	☐		☑
13.	Water - pH acceptable upon receipt?	☑	☐	☐	

SPL Representative: Neschich,Paul
Contact Date & Time: 5/22/01 11:00:00 AM
Client Name Contacted: Doug Oberdorf

Non Conformance Issues:

Client Instructions: Per Doug, run on 24hr or quicker turn around

01050660

~~CARDINAL LABORATORIES, INC.~~ SPL, Inc

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

~~(915) 673-7001 Fax (915) 673-7020 (800) 378-1296 (505) 393-2476~~

Page ____ of ____

Company Name:	Environmental Strategies	BILL TO	PO #:
Project Manager:	Doug Oberdorf	Company:	Envir Strat.
Address:	4 Penn Central West	Attn:	
City:	Pittsburg State: PA Zip: 15276	Address:	
Phone #:	(412) 787-5100	City:	
Fax #:		State:	Zip:
Project #:	Project Owner:	Phone #:	
Project Name:	Ashland Brine Well	Fax #:	
Project Location:	Hobbs		

ANALYSIS REQUEST

Chlorides

5/22

FOR LAB USE ONLY				MATRIX							PRES.			SAMPLING		
LAB I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID:	ICE / COOL	OTHER :	DATE	TIME	
	BT Yard well	G	2	X							X		05/21	1330	✓

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

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

Sampler Relinquished:	Date: 5/21	Received By:	Phone Result ☐ Yes ☐ No Additional Fax #:
	Time: 5:30		Fax Result: ☐ Yes ☐ No
Relinquished By:	Date: 5/21	Received By: (Lab Staff)	REMARKS:
	Time: 4:30	Donna Dell 5/22/01 930	
Delivered By: (Circle One)	Sample Condition	CHECKED BY:	
Sampler - UPS - Bus - Other: FedEx	Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No	(Initials)	40

† Cardinal cannot accept verbal changes. Please fax written changes to 915-673-7020.

Price, Wayne

From: Price, Wayne

Sent: Monday, April 30, 2001 3:50 PM

To: 'Danielle Smith'

Subject: RE: Former Scurlock Permian Brine Well BW-12, Hobbs, New Mexico

The OCD hereby approves of the attached progress report. Due to the high profile of this case OCD is requiring the final investigation results be submitted by May 31, 2001.

From: Danielle Smith[SMTP:DSmith@escden.com]

Sent: Monday, April 30, 2001 1:57 PM

To: 'wprice@state.nm.us'

Subject: Former Scurlock Permian Brine Well BW-12, Hobbs, New Mexico

<<File: 1_update letter to ocd.doc>><<File: wells.bmp>>

<<1_update letter to ocd.doc>> <<wells.bmp>>

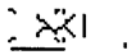
Price, Wayne

From: System Administrator[SMTP:postmaster@escden.com]

Sent: Monday, April 30, 2001 3:58 PM

To: WPrice@state.nm.us

Subject: Delivered: RE: Former Scurlock Permian Brine Well BW-12, Hobbs, N ew Mexico



RE: Former Scurlock

Permian Brine We...

<<RE: Former Scurlock Permian Brine Well BW-12, Hobbs, New Mexico>> Your message

To: 'Danielle Smith'

Subject: RE: Former Scurlock Permian Brine Well BW-12, Hobbs, New Mexico

Sent: Mon, 30 Apr 2001 15:50:20 -0600

was delivered to the following recipient(s):

Danielle Smith on Mon, 30 Apr 2001 15:58:37 -0600

ESC

ENVIRONMENTAL STRATEGIES CORPORATION

4600 S. Ulster Street ▪ Suite 930 ▪ Denver, CO 80237 ▪ (303) 850-9200 ▪ Fax (303) 850-9214

April 30, 2001

Mr. Wayne Price
New Mexico Oil Conservation Division
1220 Saint Francis Drive
Santa Fe, NM 87505

Re: Former Scurlock Permian Brine Well BW-12, Hobbs, New Mexico

Dear Mr. Price:

As a follow-up to our March 26, 2001, correspondence, Environmental Strategies Corporation (ESC), is pleased to provide the New Mexico Oil Conservation Division (OCD) with an update of our data collection activities related to the above referenced site.

We have identified 15 water wells in the vicinity of the site as shown on Figure 1. In addition, we are aware of numerous monitoring wells on the BJ Services Company property to the east. Unfortunately, we have not been able to locate the construction details for all of these wells, and we have not been able to obtain water levels or pumping rates for any of the wells. This information is needed to properly evaluate the scope of any potential future investigation, if one is necessary.

ESC will continue to compile the following information (to the extent it is available) during the next 60 days:

- construction details of the existing wells in the vicinity of the brine well
- the potential influence of existing pumping wells on the regional groundwater flow direction at the site
- water quality results from wells in the vicinity of the site

In addition, we will also attempt to obtain access to the Guardian and McNabb properties to collect groundwater samples from existing water wells. Following completion of the additional data collection activities and receipt of the groundwater analytical results from the Guardian and McNabb water wells, we will submit a letter report summarizing our findings and providing recommendations for additional work, if necessary.

Should you have any questions or require additional information, please do not hesitate to contact us.

Sincerely yours,

Guillermo M. Accame
Vice President

Enclosure

cc: Joseph French, Esq.
David Anderson

April 30, 2001

Mr. Wayne Price
New Mexico Oil Conservation Division
1220 Saint Francis Drive
Santa Fe, NM 87505

Re: Former Scurlock Permian Brine Well BW-12, Hobbs, New Mexico

Dear Mr. Price:

As a follow-up to our March 26, 2001, correspondence, Environmental Strategies Corporation (ESC), is pleased to provide the New Mexico Oil Conservation Division (OCD) with an update of our data collection activities related to the above referenced site.

We have identified 15 water wells in the vicinity of the site as shown on Figure 1. In addition, we are aware of numerous monitoring wells on the BJ Services Company property to the east. Unfortunately, we have not been able to locate the construction details for all of these wells, and we have not been able to obtain water levels or pumping rates for any of the wells. This information is needed to properly evaluate the scope of any potential future investigation, if one is necessary.

ESC will continue to compile the following information (to the extent it is available) during the next 60 days:

- construction details of the existing wells in the vicinity of the brine well
- the potential influence of existing pumping wells on the regional groundwater flow direction at the site
- water quality results from wells in the vicinity of the site

In addition, we will also attempt to obtain access to the Guardian and McNabb properties to collect groundwater samples from existing water wells. Following completion of the additional data collection activities and receipt of the groundwater analytical results from the Guardian and McNabb water wells, we will submit a letter report summarizing our findings and providing recommendations for additional work, if necessary.

Should you have any questions or require additional information, please do not hesitate to contact us.

Sincerely yours,

Guillermo M. Accame
Vice President

Enclosure

cc: Joseph French, Esq.
David Anderson

ESC

ENVIRONMENTAL STRATEGIES CORPORATION

4600 S. Ulster Street ▪ Suite 930 ▪ Denver, CO 80237 ▪ (303) 850-9200 ▪ Fax (303) 850-9214

March 27, 2001

Mr. Wayne Price
New Mexico Oil Conservation Division
1220 Saint Francis Drive
Santa Fe, NM 87505

Re: Brine Well BW-12, Hobbs, New Mexico

Dear Mr. Price:

As a follow-up to your discussion on March 22, 2001, with Doug Oberdorf of Environmental Strategies Corporation (ESC), this letter confirms your agreement to a 30-day extension of time for providing the New Mexico Oil Conservation Division (OCD) with the groundwater investigation plan requested in its November 17, 2000, letter to James C. Ephraim II of Scurlock Permian LLC.

Plains Marketing, L.P. ("Plains") acquired the above-noted property and others from Marathon Ashland Petroleum LLC ("MAP") when it purchased many, if not all of the assets of Scurlock Permian, a wholly owned subsidiary of MAP. Plains is the current operator of the brine well. Although ESC has been retained by Ashland, Inc. because of that Company's past affiliation with Scurlock Permian, the legal/regulatory responsibility for responding to OCD's request for investigation or to developing and/or providing such other information as OCD may deem necessary, remains the topic of discussion between Plains, MAP and Ashland.

We understand that the OCD's basis for requesting an investigation work plan is the saltwater contamination discovered by OCD in a water well (Guardian Well Service Company, 5605 Carlsbad Highway) to the north-northeast of Plain's Brine Well BW-12. We are also aware that an initial groundwater investigation was completed by Scurlock Permian at the Brine Well BW-12 property in 1998 that did not identify any saltwater contamination. Additionally, we have been advised that the most recent BW-12 pressure test, performed in 2000, the results of which have been provided to OCD, has demonstrated the well's continued integrity.

ESC will be gathering the following information (to the extent it is available) during the next 30 days:

- location and construction details of existing wells in the vicinity of BW-12
- geology and hydrogeolgy of the area including regional groundwater flow direction
- the potential influence of existing pumping wells on the regional groundwater flow direction at the site
- water quality results from wells in the vicinity of the site

If you have any information that may be relevant to our efforts or know of the location of same, please advise at your earliest convenience. Should you have any questions or require additional information, please do not hesitate to contact us.

Sincerely yours,

Guillermo M. Accame
Vice President

cc: Jeril R. Benedict, Esq. Plains Marketing, LP
C. Eugene Farmer, Esq. Marathan Ashland Petroleum, LLC

PLAINS
MARKETING, L.P.

February 21, 2001

Mr. Wayne Price
New Mexico Oil Conservation Division
1220 Saint Francis Dr.
Santa Fe, NM 87505

RE: Hobbs Brine Production Well

Dear Mr. Price:

Enclosed please find a hard copy of the Marathon Ashland letter regarding liability for any environmental issues at the Hobbs Brine Production Well.

Please do not hesitate to contact me if you have questions. I may be reached in our Cushing, Oklahoma office at 918.223.0215.

Sincerely,

Ky D. Nichols

Ky D. Nichols, Manager
Environmental & Regulatory Compliance

encl.

Rt. 1 Box 596 ☐ Cushing, Oklahoma 74023 ☐ 918-225-6473 ☐ Fax 918-225-6364

C. Eugene Farmer, Jr.
Attorney

MARATHON ASHLAND Petroleum LLC

539 South Main Street
Findlay, OH 45840-3295
Telephone: 419/421-3344
Fax: 419/421-3604
E-Mail: CEFarmer@MAPLLC.com

February 9, 2001

Joseph A. French, Esq.
Ashland Inc.
5200 Blazer Parkway
Dublin, OH 43017

Re: New Mexico Oil Conservation Division v. SPLLC (SD1676)

Dear Joe:

Pursuant to our telephone conversation of Friday, February 9, 2001, enclosed please find a copy of the entire file on the above-referenced matter received from Plains Marketing following the sale of Scurlock Permian LLC. I am also including an original document entitled Installation of Monitor Well and Investigation Results prepared by Safety & Environmental Solutions, Inc. I have not retained a copy for my file.

Pursuant to Section 9.2 of the Asset Transfer and Contribution Agreement between Ashland Inc. and Marathon Oil Company, I believe this matter is an "Ashland Ongoing Remediation" and thus is a matter for which Ashland Inc. is both responsible and obligated to provide indemnification.

After your review of the enclosed, please contact me.

Sincerely,

C. Eugene Farmer, Jr.

CEF/lfn
Enclosures

cc: J. L. Benson
J. R. Benedict

FEB 19 2001

(132434.DOC)

PLAINS MARKETING, L.P.

Jeril R. Benedict
Attorney

Direct: 713-646-4261
Fax: 713-646-4216

CONFIDENTIAL
FAX COVER SHEET

DATE: Feb 20, 2001

TO: Ky D. Nichols **FAX NO.:** (918) 225-6364

FROM: Jeril R. Benedict
Phone: 713-646-4261
Fax: 713-646-4216

NO. OF PAGES: 2 Hobbs Brine Production Well (CL1676)

COMMENTS:

Attached is letter we discussed
The Phone number for Joe French
w/ the Ashland Law Dept is (614) 790-
3851. I do not have a fax or e-mail number.
Jerry

Price, Wayne

[redacted]

From: Price, Wayne

Sent: Wednesday, February 28, 2001 10:08 AM

To: 'Ky D Nichols'

Subject: RE: Plains Marketing LP Brine well BW-012

Dear Ky:

The OCD web site is www.emnrd.state.nm.us/ocd/ for Oil & Gas regs in general. I recommend that you also look at the Oil & Gas Statutes. 70-2-12 Enumeration of Powers specifically item (22).

Brine wells are defined by EPA as Class III wells and are administered under the NM Water Quality Control Commission Regulations (WQCC) in which OCD is a constituent agency. I have included a copy of the WQCC REGS. This is where you will find the regulations for Brine Wells SUBPART V.

Please submit a groundwater investigation plan for OCD approval by March 30, 2001.

From: Ky D Nichols[SMTP:kdnichols@paalp.com]

Sent: Wednesday, February 28, 2001 9:18 AM

To: 'Price, Wayne'

Subject: RE: Plains Marketing LP Brine well BW-012

Wayne,

Our address (for operations) is:

concluded that Plains Marketing LP is the current operator of the brine well system and is responsible for any environmental liability. Therefore, please submit a groundwater investigation plan for OCD approval by March 30, 2001.

Please send us your current address.

Price, Wayne

[redacted]

From: Ky D Nichols[SMTP:kdnichols@paalp.com]

Sent: Wednesday, February 28, 2001 9:18 AM

To: 'Price, Wayne'

Subject: RE: Plains Marketing LP Brine well BW-012

Wayne,

Our address (for operations) is:

Route 1 Box 596

Cushing, OK 74023

My phone is listed below and my fax is 918.225.6364.

Can you provide me with a website that I can refer to regarding the authorities of the NMOCD? As we discussed earlier this month, I have very little knowledge regarding NMOCD and I'd like to read up on what I might expect, as well as what you can and can't require under your statutes and regs.

Thanks,

Ky Nichols

Environmental & Regulatory Compliance Manager

Plains Marketing, L.P.

918.223.0215

kdnichols@paalp.com

Price, Wayne

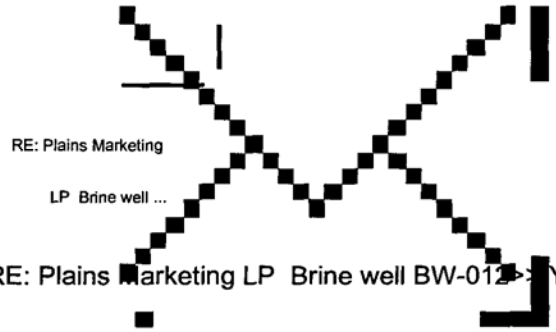
[redacted]

From: System Administrator[SMTP:postmaster@paalp.com]

Sent: Wednesday, February 28, 2001 10:11 AM

To: WPrice@state.nm.us

Subject: Delivered: RE: Plains Marketing LP Brine well BW-012



<<RE: Plains Marketing LP Brine well BW-012>> Your message

To: 'Ky D Nichols'

Subject: RE: Plains Marketing LP Brine well BW-012

Sent: Wed, 28 Feb 2001 11:08:16 -0600

was delivered to the following recipient(s):

Ky D Nichols on Wed, 28 Feb 2001 11:14:03 -0600

MSEXCH:MSExchangeMTA:Houston:PAAEXCH

Price, Wayne

[redacted]

From: Price, Wayne

Sent: Wednesday, February 28, 2001 9:05 AM

To: 'kdnichols@paalp.com'

Subject: Plains Marketing LP Brine well BW-012

Dear Mr. Nichols: 918-225-6473

The OCD is in receipt of your recent fax dated 2-21-01 with attachments. Please note OCD has discussed this issue with our legal department and have concluded that Plains Marketing LP is the current operator of the brine well system and is responsible for any environmental liability. Therefore, please submit a groundwater investigation plan for OCD approval by March 30, 2001.

Please send us your current address.

Price, Wayne

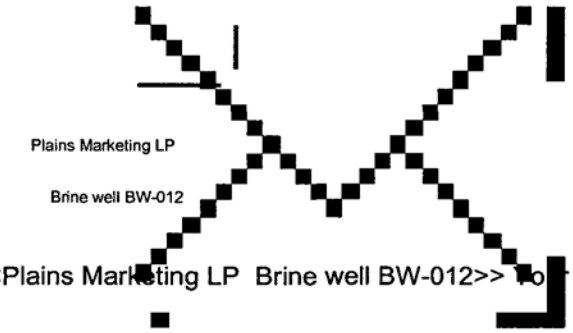
[redacted]

From: System Administrator[SMTP:postmaster@paalp.com]

Sent: Wednesday, February 28, 2001 9:08 AM

To: WPrice@state.nm.us

Subject: Delivered: Plains Marketing LP Brine well BW-012



<<Plains Marketing LP Brine well BW-012>> Your message

To: 'kdnichols@paalp.com'

Subject: Plains Marketing LP Brine well BW-012

Sent: Wed, 28 Feb 2001 10:05:45 -0600

was delivered to the following recipient(s):

Ky D Nichols on Wed, 28 Feb 2001 10:11:14 -0600

MSEXCH:MSExchangeMTA:Houston:PAAEXCH

Price, Wayne

[redacted]

From: Price, Wayne

Sent: Wednesday, February 28, 2001 9:05 AM

To: 'kdnichols@paalp.com'

Subject: Plains Marketing LP Brine well BW-012

Dear Mr. Nichols: 918-225-6473

The OCD is in receipt of your recent fax dated 2-21-01 with attachments. Please note OCD has discussed this issue with our legal department and have concluded that Plains Marketing LP is the current operator of the brine well system and is responsible for any environmental liability. Therefore, please submit a groundwater investigation plan for OCD approval by March 30, 2001.

Please send us your current address.

Price, Wayne

From: System Administrator[SMTP:postmaster@paalp.com]
Sent: Wednesday, February 28, 2001 9:08 AM
To: WPrice@state.nm.us
Subject: Delivered: Plains Marketing LP Brine well BW-012

Plains Marketing LP
Brine well BW-012

<<Plains Marketing LP Brine well BW-012>> Your message

To: 'kdnichols@paalp.com'
Subject: Plains Marketing LP Brine well BW-012
Sent: Wed, 28 Feb 2001 10:05:45 -0600

was delivered to the following recipient(s):

Ky D Nichols on Wed, 28 Feb 2001 10:11:14 -0600
MSEXCH:MSExchangeMTA:Houston:PAAEXCH

Route 1, Box 595 Cushing, OK 74023 Fax # 918-225-6364

Plains Marketing, L.P.

Fax

To: Wayne Price | From: Ky Nichols

Fax: 505.476.3471 | Pages: 3

Phone: 505.476.3487 | Date: 2-21-01

Re: | CC:

☐ Urgent ☒ For Review ☐ Please Comment ☐ Please Reply ☐ Please Recycle

Wayne

The short story here is that Marathon Ashland Pipeline retained any liability in regard to the brine well near Hobbs. Please call if you have questions.

Ky

PLAINS MARKETING, L.P.

Jeril R. Benedict
Attorney

Direct: 713-646-4261
Fax: 713-646-4216

CONFIDENTIAL
FAX COVER SHEET

DATE: Feb 20, 2001

TO: Ky D. Nichols FAX NO.: (918) 225-6364

FROM: Jeril R. Benedict
Phone: 713-646-4261
Fax: 713-646-4216

NO. OF PAGES: 2 Hobbs Brine Production Well (CL1676)

COMMENTS.

Attached is letter we discussed. The Phone number for Joe French with Ashland law Dept is (614) 790-3851. I do not have a fax or e-mail number.

Jeril

C. Eugene Farmer, Jr.
Attorney

MARATHON ASHLAND Petroleum LLC

539 South Main Street
Findlay OH 45840-3295
Telephone: 419/421-3244
Fax: 419/421-3604
E-Mail: CEFarmer@MAPLLC.com

February 9, 2001

Joseph A. French, Esq.
Ashland Inc.
5200 Blazer Parkway
Dublin, OH 43017

Re: **New Mexico Oil Conservation Division v. SPLLC (SD1676)**

Dear Joe:

Pursuant to our telephone conversation of Friday, February 9, 2001, enclosed please find a copy of the entire file on the above-referenced matter received from Plains Marketing following the sale of Scurlock Permian LLC. I am also including an original document entitled Installation of Monitor Well and Investigation Results prepared by Safety & Environmental Solutions, Inc. I have not retained a copy for my file.

Pursuant to Section 9.2 of the Asset Transfer and Contribution Agreement between Ashland Inc and Marathon Oil Company, I believe this matter is an "Ashland Ongoing Remediation" and thus is a matter for which Ashland Inc. is both responsible and obligated to provide indemnification.

After your review of the enclosed, please contact me.

Sincerely,

C. Eugene Farmer, Jr

CEF/lfn
Enclosures

cc J. L. Benson
J. R. Benedict

FEB 13 2001

OIL CONSERVATION DIVISION

2040 South Pacheco
Santa Fe, NM 87505
(505) 827-7133
Fax: (505) 827-8177

(PLEASE DELIVER THIS FAX)

To: RICHARD LENTZ 1-505-392-6988

From: OCD - W PRICE

Date: 12/18/00

Number of Pages (Includes Cover Sheet) 2

Message: PER YOUR REQUEST COPY OF LETTER

If you have any trouble receiving this, please call:
(505) 827-7133

OCD ENVIRONMENTAL BUREAU

SITE INSPECTION SHEET

DATE: 12/11/00 Time: 11 AM

Type of Facility: Refinery ☐ Gas Plant ☐ Compressor St. ☐ Brine St. ☑ Oilfield Service Co. ☐
Surface Waste Mgt. Facility ☐ E&P Site ☐ Crude Oil Pump Station ☐
Other ☐_____

Discharge Plan: No ☐ Yes ☑ DP# BW-012

FACILITY NAME: SALINE BRINE ST - HOBBS St

PHYSICAL LOCATION: _____

Legal: QTR SW QTR SW Sec 36 TS 18S R 37E County LEA

OWNER/OPERATOR (NAME) PLAINS MARKETING

Contact Person: RICHARD LENTZ Tele:# _____

MAILING

ADDRESS: _____ State _____ ZIP _____

Owner/Operator Rep's: DENNIS SHEARER

OCD INSPECTORS: W PRICE

1. **Drum Storage:** All drums containing materials other than fresh water must be stored on an impermeable pad with curbing. **All empty drums will be stored on their sides with the bungs in and lined up on a horizontal plane. Chemicals in other containers such as sacks or buckets will also be stored on an impermeable pad and curb type containment.**

OK

2. **Process Areas: All process and maintenance areas which show evidence that leaks and spills are reaching the ground surface must be either paved and curbed or have some type of spill collection device incorporated into the design.**

OK

3. **Above Ground Tanks: All above ground tanks which contain fluids other than fresh water must be bermed to contain a volume of one-third more than the total volume of the largest tank or of all interconnected tanks. All new tanks or existing tanks that undergo a major modification, as determined by the Division, must be placed within an impermeable bermed enclosure.**

OK

4. Above Ground Saddle Tanks: Above ground saddle tanks must have impermeable pad and curb type containment unless they contain fresh water or fluids that are gases at atmospheric temperature and pressure.

OK

5. Labeling: All tanks, drums and containers will be clearly labeled to identify their contents and other emergency notification information.

NA

6. Below Grade Tanks/Sumps: All below grade tanks, sumps, and pits must be approved by the OCD prior to installation or upon modification and must incorporate secondary containment and leak-detection into the design. All pre-existing sumps and below-grade tanks must demonstrate integrity on an annual basis. Integrity tests include pressure testing to 3 pounds per square inch above normal operating pressure and/or visual inspection of cleaned out tanks and/or sumps, or other OCD approved methods. The OCD will be notified at least 72 hours prior to all testing.

N.A.

7. Underground Process/Wastewater Lines: All underground process/wastewater pipelines must be tested to demonstrate their mechanical integrity at present and then every 5 years thereafter, or prior to discharge plan renewal. The permittee may propose various methods for testing such as pressure testing to 3 pounds per square inch above normal operating pressure or other means acceptable to the OCD. The OCD will be notified at least 72 hours prior to all testing.

BRINE WELL TO TANKS

8. Onsite/Offsite Waste Disposal and Storage Practices: Are all wastes properly characterized and disposed of correctly? Does the facility have an EPA hazardous waste number? _____ Yes _____ No

ARE ALL WASTE CHARACTERIZED AND DISPOSED OF PROPERLY? YES ☑ NO ☐ IF NO DETAIL BELOW.

9. Class V Wells: Leach fields and other wastewater disposal systems at OCD regulated facilities which inject non-hazardous fluid into or above an underground source of drinking water are considered Class V injection wells under the EPA UIC program. All Class V wells that inject non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes will be closed unless it can be demonstrated that groundwater will not be impacted in the reasonably foreseeable future. Closure of Class V wells must be in accordance with a plan approved by the Division's Santa Fe Office. The OCD allows industry to submit closure plans which are protective of human health, the environment and groundwater as defined by the WQCC, and are cost effective. Class V wells that inject domestic waste only must be permitted by the New Mexico Environment Department.

ANY CLASS V WELLS NO ☑ YES ☐ IF YES DESCRIBE BELOW ! Undetermined ☐

10. Housekeeping: All systems designed for spill collection/prevention will be inspected weekly and after each storm event to ensure proper operation and to prevent overtopping or system failure. A record of inspections will be retained on site for a period of five years.

GOOD

11. Spill Reporting: All spills/releases will be reported pursuant to OCD Rule 116 and WQCC 1203 to the proper OCD District Office.

—

12. Does the facility have any other potential environmental concerns/issues?

POSSIBLE GROUNDWATER CONTAMINATION - DOWN GRADIENT WATER WELL (GUARDIAN INC) HAS ELEVATED SALT LEVELS

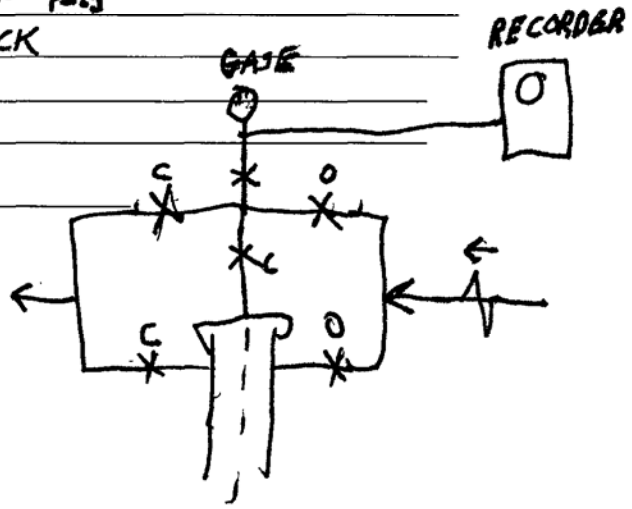
13. Does the facility have any other environmental permits - i.e. SPCC, Stormwater Plan, etc.?

14. ANY WATER WELLS ON SITE ? NO ☐ YES ☑ IF YES, HOW IS IT BEING USED ?

Miscellaneous Comments:

MIT - OPEN HOLE RECORDER 0-500 PSIG
GAGE 0-1000 24 HOUR CLOCK
GAGE START 318 PSIG 11:15 AM
STOP 318 PSIG 3:15 PM
ON @ 11:15AM

Number of Photos taken at this site: _____
attachments-



Price, Wayne

From: Price, Wayne
Sent: Friday, February 02, 2001 10:46 AM
To: 'kdnichols@paalp.com'
Subject: Hobbs Brinw Well BW-012

Dear Mr. Ky Nichols:

Please find enclosed a letter I had sent to Houston concerning possible groundwater contamination at your Hobbs Brine well Site. Please submit the plan to this office by March 02, 2001.

Wayne Price
Oil Consevation Div.
1220 Saint Francis Dr.
Santa Fe, NM 87505
505-476-3487

Gwinv.doc

2040 South Pacheco, Santa Fe, NM 87505

I. REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT

[1] Operator name and Address	[2] OGRID Number
PLAINS MARKETING L P P O BOX 4648 HOUSTON, TEXAS, 77210-4648	034053
	[3] Reason for Filing Code NAME CHANGE 06/01/2000

[4] API Number	[5] Pool Name	[6] Pool Code
30 - 0 25-12803	BSW: SALADO	96173

[7] Property Code	[8] Property Name	[9] Well Number
~~15281~~ 26980	SALINE	1

II. [10] Surface Location

Ul or lot no.	Section	Township	Range	Lot.Idn	Feet from the	North/South Line	Feet from the	East/West line	County
M	36	18S	37E		578	S	908	W	025

[11] Bottom Hole Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

[12] Lse Code	[13] Producing Method Code	[14] Gas Connection Date	[15] C-129 Permit Number	[16] C-129 Effective Date	[17] C-129 Expiration Date
S	WSW				

III. Oil and Gas Transporters

[18] Transporter OGRID	[19] Transporter Name and Address	[20] POD	[21] O/G	[22] POD ULSTR Location and Description
	Att: Wayne Price OCD - Santa Fe			

IV. Produced Water

[23] POD	[24] POD ULSTR Location and Description

V. Well Completion Data

[25] Spud Date	[26] Ready Date	[27] TD	[28] PBTD	[29] Perforations	[30] DHC, MC

[31] Hole Size	[32] Casing & Tubing Size	[33] Depth Set	[34] Sacks Cement

VI. Well Test Data

[35] Date New Oil	[36] Gas Delivery Date	[37] Test Date	[38] Test Length	[39] Tbg. Pressure	[40] Csg. Pressure

[41] Choke Size	[42] Oil	[43] Water	[44] Gas	[45] AOF	[46] Test Method

[47] I hereby certify that the rules of the Oil Conservation Division have been complied with and that the information given above is true and complete to the best of my knowledge and belief.

Signature: Tina Val

Printed name: Tina Val

Title: Controller

Date: 06/27/00 Phone: (713)646-4275

OIL CONSERVATION DIVISION

Approved by: GARY WINK FIELD REP. II

Title:

Approval Date: DEC 05 2000

[48] If this is a change of operator fill in the OGRID number and name of the previous operator

167356 Scurlock Permian L L C

Previous Operator Signature	Printed Name	Title	Date
Tina Val	Tina Val	Controller	06/27/00


JUL 2000
Received
Hobbs

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
Governor
Jennifer A. Salisbury
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

November 17, 2000

CERTIFIED MAIL
RETURN RECEIPT NO. 5051 4751

James C. Ephraim II P.E.
Scurlock Permian Corporation
333 Clay
P.O. Box 4648
Houston, Texas 77210-4648

Re: Scurlock Permian Brine Well BW-12
Groundwater Investigation

Dear Mr. Ephraim:

The New Mexico Oil Conservation Division (NMOCD) has recently sampled a new water well located at Guardian Well Service Co. located at 5605 Carlsbad Hwy, Hobbs NM and has discovered saltwater contamination. This site is down-gradient of the Scurlock Permian Brine Well BW-12.

Please provide to OCD for approval a groundwater investigation plan by December 31, 2000. Please make sure your plan includes any possible density gradient effect for saltwater migration.

If you have any questions please call me at 505-827-7155.

Sincerely;

Wayne Price-Pet. Engr. Spec.

Cc: OCD Hobbs Office

Attachments-

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
Governor
Jennifer A. Salisbury
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

October 20, 2000

CERTIFIED MAIL
RETURN RECEIPT NO. 5051 4416 pw-012 5-p

Attention: Brine Well Operators

Re: Mechanical Integrity Testing of Brine Supply Wells

The Underground Injection Control Program of the Federal Safe Drinking Water Act requires that operators demonstrate mechanical integrity of all injection wells by ensuring there are no leaks in the tubing, casing, or packer, and injected/produced fluids are confined within the piping and injection zones.

The Oil Conservation Division (OCD) requires operators of brine supply wells to perform the following mechanical integrity tests:

1. At least once every five years isolate the cavern formation from the casing/tubing annuals and hydrostatic fluid pressure test the casing at 300 psig for 30 minutes. New brine wells and wells being worked over will have to be tested in this manner before operations begin.

2. Annually perform an open hole cavern formation pressure test by pressuring up the formation with fluid to one and one-half times the normal operating pressure or 300 psig whichever is greater for four hours. Operators shall not exceed surface pressures that may cause formation fracturing or system failures. OCD prior to test shall approve test pressures below 300 psig and methods that use media other than fluids. Brine supply wells operating with packers will have to pressure both the cavern formation and casing/tubing annuals.

Please find enclosed an "OCD Brine Well Test Schedule December 2000" and "Brine Well Test Procedure Guidance Document" for this December 8th through 18th 2000. Please have your well ready for testing on the date and time you are scheduled. Please refer to the Well Test Schedule attached for the **type of test** you are scheduled to perform. You must receive prior OCD approval to alter the scheduled time or type of test.

Operators will be responsible for providing equipment and shall bear all costs incurred. All tests must be witnessed by the New Mexico Oil Conservation Division. Operators failing to abide by the procedures, type of test, and time schedules listed herein may be required to shut-in their systems until OCD has an opportunity to approve and witness testing.

If you require any further information or assistance please do not hesitate to write or call me at (505-827-7155).

Sincerely Yours,

Wayne Price

Wayne Price-Pet. Engr. Spec.
Environmental Bureau

cc: OCD District Offices

Attachments- 1. OCD Brine Well Test Schedule December 2000.
2. Brine Well Testing Procedure Guidance Document.

OCD BRINE WELL TEST SCHEDULE December of 2000

Company	DP#	Facility Name	Date of Test	Start	Stop	Type of Test(s) Required	Contact Person	Telephone	FAX #
Marbob Brine Well	BW-029	M. Dodd "A" BW#1	December 08, 2000	1:00 PM	5:00 PM	2 Pressure test cavern	Doyle Davis Raye Miller	748-5975 cell 748-3303	1-505-746-2523
P&S Brine	BW-002	Eunice Eunice Water ST.	December 11, 2000	8 am	12 noon	2 Pressure test cavern	Paul Prather	1-505-394-2545	1-505-394-2426
Simms-McCasland	BW-009A	Eunice Brine Station	December 11, 2000	9:30 am	1:30 pm	2 Pressure test cavern	Bob Patterson	1-505-394-2581	1-505-394-2584
Salty Dog, Inc.	BW-008	Arkansas-Jct	December 11, 2000	11 am	3 pm	2 Pressure test cavern	Mr. Piter Bergstein Walter Brisco	1-806-741-1080	
Stearns Inc.	BW-013	Crossroads	December 12, 2000	8:00 AM	12 noon	2 Pressure test cavern	L.A. Stearns	1-505-675-2356	1-505-675-2339
Gandy Corp.	BW-022	Tatum Water St.	December 12, 2000	9:00 AM	1:00 PM	2 Pressure test cavern	Larry Gandy	1-505-398-4960	cell 369-5721
Key Energy	BW-018	Truckers #2 (Hobbs)	December 12, 2000	10:30 AM	2:30 PM	2 Pressure test cavern	Pete Turner	1-505-397-4994	1-505-393-9023
I&W Trucking	BW-006 &6A	Carlsbad Yard	December 13, 2000	8:00 AM	12 noon	2 Pressure test cavern	~~George Perchman~~ EUGENE IRVY	1-505-885-6663	1-505-885-8477
Loco Hills Brine	BW-021	Loco Hills	December 13, 2000	1:30 PM	5:30 PM	2 Pressure test cavern	D. Maloney or R. Harris	1-505-677-2370	1-505-677-2361
Goldstar	BW-028	Eunice Brine Station	December 14, 2000	9:30 am	1:30 pm	2 Pressure test cavern	Royce Crowell	1-505-394-2504	1-505-394-2560
~~Quality Oil (Salado Brine Sales)~~ CHAPPAL CBR INC	BW-025	Salado Brine St. #2	December 14, 2000	11am	3 pm	2 Pressure test cavern	see P&S		
Key Energy-Carlsbad	BW-019	Rowland Truckers	December 15, 2000	8:00 AM	12 noon	2 Pressure test cavern	John Hutcheson		1-505-887-3011
Scurlock/Permian	BW-027 &27A	Carlsbad Brine St.	December 15, 2000	9:00 AM	1:00 PM	2 Pressure test cavern	Jim Ephraim	1-713-672-8092	1-713-672-7609
Jims Water Ser.	BW-005	SE of Artesia	December 15, 2000	10:30 AM	2:30 PM	2 Pressure test cavern	Sammy Stoneman	1-505-748-1352	1-505-746-3227
Scurlock-Permian	BW-012	Hobbs Station	December 18, 2000	8:00 AM	12 noon	2 Pressure test cavern	Richard Lentz	1-505-392-8212	1-505-392-6988
Gandy- WasserHaun	BW-004	Buckeye St.	December 18, 2000	9:00 AM	1:00 PM	2 Pressure test cavern	Larry Gandy	1-505-398-4960	cell 369-5721

CERT MAIL

4515

4485 4454 4478

4508

4447

4423

5051 4409 4461

4492

4454

4423

5051 4416 4430

5051 4416 - 4447

Notes:

Type of Pressure Test:

1 Casing Test — Isolate cavern formation from the casing/tubing annuals and hydrostatic fluid pressure test the casing at 300 psig for 30 minutes.

2 Open Hole Cavern Pressure Test — Open hole cavern formation pressure test by pressuring up the formation with fluid to one and one-half times the normal operating pressure or 300 psig whichever is greater for four hours. Operators shall not exceed surface pressures that may cause formation fracturing or system failures. OCD prior to test shall approve test pressures below 300 psig and methods that use media other than fluids. Brine supply wells operating with packers will have to pressure both the cavern formation and casing/tubing annuals.

3 Others — Nitrogen-Brine Interface Test, Nitrogen Test, Etc.

Brine Well Testing Procedure Guidance Document

1) The cavern and all piping must be filled, pressured up and stabilized for a period of at least 24 hours prior to testing. If this test requires or utilizes a packer then the casing/tubing annulus must be loaded with inert fluid 24 hours prior to testing.

2) Have manpower and equipment available for pressure test. Well head shall be prepared for test and all valves and gauges should be in good working order.

3) Pressure devices i.e pumps, truck pumps, etc. must be isolated from the well head during test.

4) A continuous recording pressure chart with an 8 hour clock shall be installed on the casing/tubing annulus, as directed by the OCD, with a pressure range of not greater than 500 psig. The operator must provide proof that pressure recording device has a range of 0-500 psig and has been calibrated within the past 6 months. Wells, with isolation packers installed, which requires both the casing/tubing annulus and cavern to be tested will require two recording devices or one recording device with two pins. Operators may utilize other types of pressure recording devices, such as electronic data loggers, etc., if approved by OCD.

5) A minimum of one pressure gage shall be installed in the system as directed by OCD.

6) OCD must witness the beginning of test (putting chart on) and ending of test (removing chart). At the end of test operator may be required to bleed-off pressure to demonstrate recorder response.

7) **The Operator will supply the following information on the pressure chart before starting test:**

   1. Company name, discharge plan #, well name and number, legal location UL, section, township, range and county.
   2. Type of Test: Open Hole, Casing Test, or Both.
   3. Date, time test started, time stop.
   4. Chart and Recorder information. (can be attached)
   5. Normal operating surface and formation fracture pressure. (can be attached)
   6. **After Test Completed:**
      Name (printed) and signature of company representative and OCD inspector.

Note: NMOCD recognizes that different operations, well constructions, well designs and field conditions may cause variations in the above procedures. Operator is responsible to notify OCD of any procedure that may cause harm to the well or formation. If operator wishes to make or anticipate changes you must notify the OCD for approval.

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

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

NOTICE OF PUBLICATION

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations, the following discharge plan applications have been submitted to the Director of the Oil Conservation Division, 2040 South Pacheco, Santa Fe, New Mexico 87505, Telephone (505) 827-7131:

(BW-02) - P&S Brine Sales, Paul Prather, P.O. Box 7169, Eunice, New Mexico 88231, has submitted an application for the renewal of a discharge plan for the P&S Brine Sales Station, located in the SW/4 SE/4 of Section 34, Township 21 South, Range 37 East, NMPM, Lea County, New Mexico. An average of 250 barrels per day of brine water with a TDS of approximately 300,000 mg/l is produced for use in the oil industry. Groundwater most likely to be affected by a spill, leak, or accidental discharge to the surface is at a depth of approximately 45 feet with a total dissolved solids concentration of approximately 1400 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(BW-012) - Scurlock Permian Corporation, James C. Ephraim II, Senior Project Engineer, P.O. Box 4648, Houston, Texas, 77210-4648, has submitted an application for the renewal of a discharge plan for the SPC Saline NO. 1 Brine Station, located in the SW/4 SW/4 of Section 36, Township 18 South, Range 37 East, NMPM, Lea County, New Mexico. Up to 400 barrels per day of brine water with a TDS of approximately 300,000 mg/l is produced for use in the oil industry. Groundwater most likely to be affected by a spill, leak, or accidental discharge to the surface is at a depth of approximately 40 feet with a total dissolved solids concentration of approximately 400 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(BW-027) - Scurlock Permian Corporation, James C. Ephraim II, Senior Project Engineer, P.O. Box 4648, Houston, Texas, 77210-4648, has submitted an application for the renewal of a discharge plan for the Carlsbad Brine Station, located in the SE/4 NW/4 of Section 23, Township 22 South, Range 27 East, NMPM, Eddy County, New Mexico. An average of 1000 barrels per day of brine water with a TDS of approximately 300,000 mg/l is produced for use in the oil industry. Groundwater most likely to be affected by a spill, leak, or accidental discharge to the surface is at a depth from approximately 50 to 200 feet with a total dissolved solids concentration of approximately 4000 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The discharge plan application may be viewed at the above address between 8:00 a.m. and 4:00 p.m., Monday through Friday. Prior to ruling on any proposed discharge plan or its modification, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted to him and a public hearing may be requested by any interested person. Requests for a public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed plan based on information available. If a public hearing is held, the director will approve or disapprove the proposed plan based on information in the plan and information submitted at the hearing.

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 22th day of September, 1999.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

SEAL

for LORI WROTENBERY, Director

ACKNOWLEDGEMENT OF RECEIPT OF CHECK/CASH

I hereby acknowledge receipt of check No. [redacted] dated 7/07/99,

or cash received on _____ in the amount of $ 50.00

from SCURLOCK PERMIAN LLC

for HOBBS BRINE FACILITY BW-12
(Facility Name) (OP No.)

Submitted by: WAYNE PRICE Date: 9/13/99

Submitted to ASD by: Wayne Price Date: 9/13/99

Received in ASD by: _____ Date: _____

Filing Fee ✓ New Facility ___ Renewal ___

Modification ___ Other _____
(specify)

Organization Code 521.07 Applicable FY 2000

To be deposited in the Water Quality Management Fund.

Full Payment ___ or Annual Increment ___

THIS CHECK IS VOID IF BROWN COLORED BACKGROUND IS ABSENT

FORM 2501 REV. 5-95

ACCOUNTS PAYABLE CHECK

Scurlock Permian LLC
P.O. Box 4648
Houston, Texas 77210

70-2382/719

CHECK DATE 07/07/99

CHECK NUMBER [redacted]

MATCH AMOUNT IN WORDS WITH NUMBERS

U.S. Funds ********$50.00

VOID AFTER 180 DAYS

PAY TO THE ORDER OF:

NMED WATER QUALITY MANAGEMENT
OIL CONSERVATION DIVISION
2040 S PACHECI ST
SANTA FE NM 87505

Fifty and 00/100 U.S. Dollars

Scurlock Permian LLC

The Northern Trust Company
Payable Through
Northern Trust Bank/DuPage
Oakbrook Terrace, IL

By: Michael J. Latiolais
Authorized Representative

THE BACK OF THIS DOCUMENT CONTAINS AN ARTIFICIAL WATERMARK HOLD AT AN ANGLE TO VIEW

[redacted]

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

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

September 11, 1999

CERTIFIED MAIL
RETURN RECEIPT NO. Z 357 870 147

Mr. Richard Lentz
Scurlock Permian Corporation
3514 Lovington Hwy.
Hobbs, New Mexico 88240

Re: Mechanical Integrity Testing of Brine Supply Wells

Dear Mr. Richard Lentz:

The Underground Injection Control Program of the Federal Safe Drinking Water Act requires that operators demonstrate mechanical integrity of all injection wells by ensuring there are no leaks in the tubing, casing, or packer, and injected/produced fluids are confined within the piping and injection zones.

The Oil Conservation Division (OCD) requires operators of brine supply wells to perform the following mechanical integrity test:

1. At least once every five years isolate the cavern formation from the casing/tubing annuals and pressure test the casing at 300 psig for 30 minutes. New brine wells and wells being worked over will have to be tested in this manner before operations begin.

2. Annually perform an open hole cavern formation pressure test by pressuring up the formation one and one-half times the normal operating pressure (not to exceed formation fracture pressure) or 300 psig whichever is greater for four hours. Brine supply wells operating with packers will have to pressure both the cavern formation and casing/tubing annuals.

Please find enclosed an OCD Brine Well Test Schedule and Test Procedure for this Fall October 25, 1999 through November 2, 1999. Please have your well ready for testing on the date and time you are schedule. Operators will be responsible for providing equipment and shall bear all costs incurred. All test must be witnessed by the New Mexico Oil Conservation Division.

If you require any further information or assistance please do not hesitate to write or call me at (505-827-7155).

Sincerely Yours,

Wayne Price

Wayne Price-Pet. Engr. Spec.
Environmental Bureau

cc: OCD District Offices
attachments- OCD Brine Well Test Schedule & Brine Well Testing Procedure Guidance Document

OCD BRINE WELL TEST SCHEDULE FALL OF 1999

Company		DP#	Facility Name	Date of Test	Start	Stop	Type of Test(s) Required
P&S Brine	**	BW-002	Eunice Eunice Water ST.	October 25 1999	8 am	12 noon	Isolate cavern & pressure test casing + Cavern survey***
Simms-McCasland	**	BW-009A	Eunice Brine Station	October 25 1999	9:30 am	1:30 pm	Isolate cavern & pressure test casing + Cavern survey***
Goldstar		BW-028	Eunice Brine Station	October 25 1999	11 am	3 pm	Pressure test cavern
Key Energy	**	BW-018	Rowland Truckers #2	October 26 1999	8 am	12 noon	Pressure test cavern + Cavern survey***
Scurlock-Permian	**	BW-012	Hobbs Station	October 26 1999	9:30 am	1:30 pm	Isolate cavern & pressure test casing + Cavern survey***
Salty Dog, Inc.	**	BW-008	Arkansas-Jct	October 26 1999	11 am	3 pm	Pressure test cavern + Cavern survey***
Quality Oil (Salado Brine Sales)	**	BW-025	Salado Brine St. #2	October 27 1999	8 am	12 noon	Isolate cavern & pressure test casing + Cavern survey***
Conoco	**	BW-001	Warren -McKee #3	October 27 1999	1:30 pm	5:30 pm	Isolate cavern & pressure test casing
Conoco	**	BW-001	Warren -McKee #4	October 27 1999	1:30 pm	5:30 pm	Isolate cavern & pressure test casing
ality Brine		BW-022	Tatum Water St.	October 28 1999	9 am	1 pm	Pressure test cavern
Kenneth Tank Service		BW-013	Crossroads	October 28 1999	11 am	3 pm	Pressure test cavern
WasserHaun		BW-004	Buckeye	October 29 1999	9 am	1 pm	Pressure test cavern
Marathon Brine St.		BW-015	Marthon Road	October 29 1999	11 am	3 pm	Pressure test cavern
Loco Hills Brine		BW-021	Loco Hills	November 1 1999	9 am	1 pm	Pressure test cavern
Jims Water Ser.		BW-005	SE of Artesia	November 1 1999	11 am	3 pm	Pressure test cavern
I&W Trucking		BW-006 &6A	Carlsbad Yard	November 2 1999	8 am	12 noon	Pressure test cavern
Key Energy-Carlsbad		BW-019	Rowland Truckers	November 2 1999	9:30 am	1:30 pm	Pressure test cavern
Scurlock/Permian	**	BW-027 &27A	Carlsbad Brine St.	November 2 1999	11 am	3 pm	Isolate cavern & pressure test casing + Cavern survey***

Notes:

** Discharge Plan up for renewal

*** Cavern Surveys are Discharge Plan Requirments Companies have the option to perform now are at a later date approved by OCD.

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

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

Brine Well Testing Procedure Guidance Document

1) The cavern and all piping must be filled, pressured up and stabilized for a period of at least 24 hours prior to testing. If this test requires a packer then casing/tubing annulus must be loaded with inert fluid 24 hours prior to testing.

2) Have manpower and equipment available for pressure test. Well head shall be prepared for test and all valves and gauges should be in good working order.

3) Pressure devices i.e pumps, truck pumps, etc. must be isolated from the well head before and during test.

4) A continuous recording pressure chart with an 8 hour clock shall be installed on the casing/tubing annulus. The pressure range shall not be greater than 1,000 psig. The operator must provide proof that the recording device has been calibrated within the past 6 months. **Note: Wells with packer installed: If this test requires both the casing/tubing annulus and cavern to be tested then two recording devices must be supplied or one recording device with two pins.**

5) A minimum of one pressure gage shall be installed in the system.

6) OCD must witness the beginning of test (putting chart on) and ending of test (removing chart). At the end of test operator shall bleed-off pressure by 10% to demonstrate recorder response.

7) The following information shall be place on the chart:

   1. Date, time test started, time stop.
   2. Company name, Discharge Plan #, well name and number, legal location UL, section, township, range and county.
   3. Type of Test; Open hole, Casing Test, or Both.
   4. Printed name and signature of company representative and OCD representative.

Note: NMOCD recognizes that different operations, well constructions and field conditions may cause variations in the above procedures. If operator wishes to make or anticipate changes please notify the OCD for approval.

SCURLOCK PERMIAN CORPORATION

333 Clay
P.O. Box 4648
Houston, Texas 77210-4648

(713) 646-4100

August 24, 1999

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
2040 South Pacheco
Santa Fe, NM. 87505

Attention: Mr. Wayne Price

Re: Discharge Plan Renewal for Hobbs Brine Production Facility BW-12
Lea County, New Mexico

Dear Sir:

Attached are the original and one copy of Discharge Plan Application renewal for Scurlock Permian LLC's brine production facility located at Hobbs, New Mexico. Also inclosed is check #022417 for $50.00 for the filling fee.

The Cavity Configuration Test will be scheduled at a time approved by the OCD and a copy of the report furnished after the completion of testing. We continue to work with your office to schedule a suitable time to accommodate the OCD to witness the tests.

Plains All American Pipeline L.P.'s acquisition of Scurlock Permian LLC along with the scheduling of the Cavity Configuration Test has resulted in some delays in submitting the Discharge Plan renewal. Also, I am working on the Discharge Plan renewal for the Carlsbad Brine Station BW-024 and will be sending it to you in the next few days.

If you have any questions, you may call me at 713/672-8092. Your help in completing this Discharge Plan renewal is appreciated.

Sincerely,

James C. Ephraim II. P.E.

James C. Ephraim II. PE
Senior Project Engineer

C: State of New Mexico
Oil Conservation Division, Hobbs District Office
P.O. Box 1980
Hobbs, New Mexico 88240

C: Mark Shires
Richard Lentz

Check No	Check Date	Bank No	Vendor No
022417	07/07/99	5208	N07226

Scurlock Permian LLC
P.O. Box 4648
Houston, Texas 77210

ACCOUNTS PAYABLE DEPARTMENT
Scurlock Permian LLC
PHONE: 713-646-4543

Loc	Mo	Vou	Sub	P.O. Number	Invoice Number	Invoice Date	Remit Comment	Discount	Invoice/Pay Amt
1980	07	880	6	MCC-07	062999	06/29/99	HOBBS BRINE WELL WATER DISCHARGE PLAN	0.00	50.00
							Total remittance: U.S. Dollars		50.00

~~GW-~~ BW-12

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 South First, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

Revised March 17, 1999

Submit Original
Plus 1 Copy
to Santa Fe
1 Copy to Appropriate
District Office

DISCHARGE PLAN APPLICATION FOR SERVICE COMPANIES,GAS PLANTS. REFINERIES, COMPRESSOR, AND CRUDE OIL PUMP STATIONS

(Refer to the OCD Guidelines for assistance in completing the application)

__ New **XX** Renewal __ Modification

1. Type: **Brine Extraction Facility**

2. Operator: **SCUROLCK PERMIAN LLC**

   Address: **P.O. BOX 4648 HOUSTON, TEXAS 77210-4648**

   Contact Person: **JAMES C. EPHRAIM II.** Phone: **713/672-8092**

3. Location: **SW** /4 **SW** /4 Section **36** Township **18S** Range **37E**
   Submit large - scale topographic map showing exact location.

4. Attach the name, telephone number and address of the landowner of the facility site.

5. Attach the description of the facility with a diagram indicating location of fences, pits, dikes and tanks on the facility.

6. Attach a description of all materials stored or used at the facility.

7. Attach a description of present sources of effluent and waste solids. Average quality and daily volume of waste water must be included.

8. Attach a description of current liquid and solid waste collection/treatment/disposal procedures.

9. Attach a description of proposed modifications to existing collection/treatment/disposal systems.

10. Attach a routine inspection and maintenance plan to ensure permit compliance.

11. Attach a contingency plan for reporting and clean-up of spills or releases.

12. Attach geological/hydrological information for the facility. Depth to and quality of ground water must be included.

13. Attach a facility closure plan, and other information as is necessary to demonstrate compliance with any other OCD rules, regulations and/or orders.

14. CERTIFICATIONI hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: **JAMES C. EPHRAIM II.** Title: **SENIOR PROJECT ENGINEER**

Signature: James C. Ephraim II. Date: **July 13, 1999**

A DISCHARGE PLAN

FOR

BRINE EXTRACTION FACILITIES

OF

SCURLOCK PERMIAN LLC

Well site known as

SALINE NO. 1

BRINE PRODUCTION FACILITY BW-12

Located in

SW/4 Sec 36 T-18-S, R-37-E

Lea County, N.M.

U.S. Highway 62/180 West

Hobbs, N.M.

Prepared for compliance with

New Mexico Water Quality Control Regulations

I. Facility Name — Scurlock Permian LLC
Saline Brine No. 1
(BW-12)

II. Operator: — Scurlock Permian LLC
333 Clay Street
P. O. Box 4648
Houston, TX 77210-4648

Contact Person: — Mark Shires
713/646-4100

III. Location: — SW/4 Section 36
T-18-S R-37-E
Lea County, New Mexico

U.S. Highway 62/180 West
Hobbs, New Mexico

(See Map Labeled Exhibit "A")

IV. Landowner — Scurlock Permian LLC
P. O. Box 4648
Houston, Texas 77210-4648

V. Type and Quantities of Fluids Stored at This Facility:

No surface storage pits are in use at this facility.

This facility stores fresh water and brine water produced from the underground salt formation at site. No other fluids are stored at this facility. Fresh water is produced from a water well located about 800 feet northeast of the brine well and stored in an above ground 1,000 Bbl cone roof storage tank. This fresh water is pumped at a rate of about 100 BPH down the casing of the brine well. Salt brine is recovered up the tubing and stored in two 940 Bbl. above ground cone roof storage tanks (1880 Bbl total volume). These tanks are located inside a polyethylene (Permalon Ply x-210) lined dike area. Exhibit "F" in Attachment Index shows Containment Liner Design and Specification. The dike area is sized to hold more than 133% of the brine tanks combined capacity. Volume of brine production is determined by level of area oil and gas drilling activities and varies from month to month. Average monthly production form 1/1/1995 to 4/30/1999 was 15,777.6 Bbls. per month. Chart of production volumes is listed in Attachment Index as Exhibit "N".

gauges, fresh water meter readings, pump run time, and product sale tickets can be compared to give a general insight into the integrity of the facility operation. The volume of fresh water injected and the volume of produced brine are to be recorded monthly and submitted to the OCD office in Santa Fe by the Hobbs operations district office quarterly.

Tanks and piping are above ground for visual leak inspection and detection. Storage tanks and truck loading operations are located in dike Polly lined areas (see attachments for designs and specifications) to contain any spillage that may occur. Dike areas prevent run-off of storm water. Storm waters are either allowed to evaporate or vacuumed up and hauled to an approved disposal site.

Integrity testing of the well and salt formation is conducted annually. Piping is pressure tested at intervals not to exceed five years.

Water samples from the fresh water well are analyzed to check for potential contamination. Samples from the monitor well located between the brine well and the storage tanks provides site ground water information. See "Installation of Monitor Well and Investigation Results" in attachments for monitor well description and test results.

B. Fluid and Solid Disposal:

No fluids or solids are disposed of at this site. All brine fluids are sold for use in oil and gas production. In the event brine fluid disposal would be required, the brine will be taken to OCD approved disposal well. Solids such as chloride contaminated soils will be taken to an approved disposal site.

General Closure Plan

Should it become necessary to abandon this brine production facility, the well will be filled with brine water. The well will be plugged and capped according to plans and specifications recommended by the OCD to meet requirements for protection of groundwater.

All fluid and solids will be removed from the site and transported to an approved disposal well, or tested for contaminants and hauled to an approved disposal site.

Upon removal of all surface equipment, remediation and grading of the facility will be done in a manner reflecting its original condition.

VI. Fluid Transfer and Storage

A. Fresh water is received into the 1,000 Bbl. above ground steel storage tank via polyethylene pipe from a fresh water well located about 800 feet from the brine well. Above ground polyethylene pipe connects the fresh water storage tank to the suction of a pump which pumps the fresh water down the annulus of the brine well casing at a rate of 100 BPH and normal operating pressure of 220 to 230 psi. Brine water is produced up the brine well tubing and delivered into the two above ground 940 Bbl. cone roof steel storage tanks via above ground polyethylene pipe. Except for the short section of steel pipe between the pump and the well, all piping is considered low-pressure operation with pressure near tank head pressure that is less than 40 psi. Except for short sections were covered for protection from traffic, the piping is visible for quick on site leak detection.

Fresh water and brine water is transported from the site by tanker truck for sale and use in oil and gas production operations. Tanker trucks are positioned inside a polyethylene-lined dike loading area to retain fluids in the event abnormal condition results in a spill. Brine water flows at storage tank head pressure through piping positioned above the polyethylene liner to a header valve. Tanker truck mounted pumps are connected to the header valve by a truck-mounted hose and the pump pulls the fluid from the header valve and discharges it into the tanker. When the loading is complete, the operator closes the header valve and parts the connection from the header valve with the pump still running in the "load" position to empty the hose preventing spills or drips. As an additional precaution, a drip barrel is located at the header valve to catch any drips that might occur during the loading process. The truck driver is in charge of the loading process and does not leave the loading area during the transfer process. The driver fills out paper work and leaves a ticket for the volume of brine or fresh water hauled on each load. The ticket volumes are used in billing brine sales and comparing volumes of fresh water and brine production for system integrity.

A water meter is located at the fresh water well and provides the volume of fresh water used at the facility. The brine well injection pump is a positive displacement pump. This pump generally pumps at the same flow rate with minor changes in system operation. A pressure chart on pump discharge provides pressure recording and pump run time. Run time multiplied by pump flow rate gives an indication of water volume pumped into the formation and brine water recovered. Tank volume

VII. Description of Underground Facility:

Underground facilities are limited to brine well casing and piping constructed as shown on attachment. Drawing schematic labeled Exhibit "D" and described as follows:

1720′ 8 5/8″ 24 lb. outside casing cemented bottom to surface.

1660′ 5 ½″ 15.5 lb. inside casing cemented bottom to surface.

2007′ 2 7/8″ 6.5 lb. tubing open ended at bottom with four (4) preparations at depth between 1980′ and 1984′.

General operation is to pump fresh water down annulus between the 2 7/8″ tubing and the 5 ½″ casing and produce brine water up the 2 7/8″ tubing. Once a month, the flow is reversed, for up to 24 hours, pumping the fresh water down the 2 7/8″ tubing and producing the brine water up the annulus to dissolve any particulate buildup in the tubing.

A mechanical integrity test is conducted on the well and salt dome formation annually. The well and formation is pressured up to one and one-half times the normal operating pressure and shut in for four hours with pressure recorded on a pressure chart. The OCD is notified prior to testing to witness the procedure. Brine water transfer piping is pressure tested to $\geq$ 125% of operating pressure a minimum of one time each five years to insure mechanical integrity.

Cavity configuration test is conducted as required by OCD office to determine the size and configuration of the mined cavity. The OCD will be consulted for approved testing procedure and notified of the time test is scheduled for witnessing purposes. A cavity configuration test in attachment section is labeled Exhibit "H".

The OCD office will be notified for approval prior to any Drilling, Deepening, or Plug Back Operations using Form C-101, and before remedial work such as altering or pulling casing, plugging, or abandonment by completing OCD Form C-103 "Sundry Notices and Reports on Wells".

VIII. Reporting and Clean Up of Spills:

Above ground piping and tanks are visually inspected for leaks by company personnel during each site visit. Upon the discovery of any leaks, spills, or failure of the well/salt cavity or piping integrity tests, the facility will be immediately shut down and the operator will notify the district supervisor. The district supervisor will notify SPLLC Operations by telephone at 1-800-392-3676. Repairs are to be made before operations may be resumed.

Minor Release (5 Bbls. to ≤ 25 Bbls.)

For spills greater than 5 Bbls. and less than 25 Bbls. the Hobbs District Supervisor will file a written notice to New Mexico Oil Conservation Hobbs District office at 1625 North French Drive, Hobbs, New Mexico 88240 within 15 days of the spill using form C-141.

Major Releases (>25 Bbls.)

For spills greater than 25 Bbls., immediately verbal notification is required to the Hobbs OCD District office at telephone number 505/393-6161 within 24 hours of discovery of the spill. Written notification is required within 15 days of spill using Form C-141 to the OCD Hobbs District office at 1625 North French Drive, Hobbs, New Mexico 88240 with a copy sent to the OCD Division Environmental Bureau Chief office at P. O. Box 2088, Santa Fe, New Mexico 8750-2088.

IX. Site Characteristics

1. The Saline No. 1 brine facility is located in an area with very little elevation definition. Drainage patterns are shallow and not of the deep arroyo type.

   The nearest surface water is located approximately 3,000 feet southeast of the Saline No. 1, on property owned by the Hobbs County Club. Several intermittent watercourses as part of the golf course. Brine volumes available at the Saline No. 1 are insufficient to reach the watercourse given the rainfall pattern and topography of this area.

2. Ground Water

   The water well furnishing water for this operation is approximately 800 feet northeast of the Saline No. 1 brine well. Both are located on the USCG sketch. The water well elevation is shown to be 3,651′ while the brine well lies on the 3,650 contour. The water well was drilled to a depth of 127′ in 1951. No log is available.

   Static water level, last measured in 1951 was 65′ from surface. A 5 hp submersible pump serves the well from 90′. Water sample analysis Exhibit "J" is attached.

   Monitor well drilling logs, soil samples, and water sample analysis are attached as Exhibit "G". Analysis of soil and water samples obtained during installation of on site monitor well in August of 1998 indicates no elevated chlorides or TDS levels.

3. Hydrology

Underground aquifers in this area are the ogallala and quaternary alluvium deposits. The ground water in these formations is unconfined where the underlying red beds are relatively impermeable. They form a lower confining layer, which prevents further downward movement.

From piezometric maps, and the reported water levels in this area, 40 to 60 feet below ground surfaces, all water wells are producing from the ogallala or quaternary.

4. Topography - Flood Potential

Due to relatively small amount of precipitation in this area and the very shallow drainage patters, this area is not subject to flooding or dramatic run-off events. See Exhibit "A".

5. Geology

The Saline No. 1 brine well is located on the Central Basin Platform of the Permian Basin area of West Texas and Eastern New Mexico. See Exhibit "L".

The sub-surface formations are in transitional area between Delaware Basin's back reef or shelf area and the Platform.

The brine product is from the Salado formation of the Ochoa series. The series is of upper Permian Age, and extends across the Delaware Basin, Central Basin Platform, thins and pinches out on the eastern shelf. This series is predominately evaporates; successive layers of anhydrite, halite, polyhalite, and to the west, in the Carlsbad area, varying thicknesses of the potash rich sylvanite and langbeinite. Evaporates contain stringers of dolomite, shale, siltstone, and sandstone.

These evaporates were formed during recurrent retreats of shallow seas. The lowermost formation is the Castile and is chiefly anhydrite but contains some halite beds. It rests unconformable on the Delaware Mountain group in the Delaware Basin, but does not extend beyond the basin margin. Overlying the Castile is the Salado, which ranges in thickness from 0 to 2,000 feet. In the back-reef and platform areas it rests unconformable on the Whitehorse group. This formation is mainly halite containing some anhydrite. The Rustler formation overlies the Salado, and varies in thickness from 90 to 360 feet, and consists chiefly of anhydrite, but

includes red beds (shale) and salt.

The Triassic rocks, overlying the Permian formation is the Dockem group, and is divisible into the Santa Rosa sandstone and the Chinle formation. The Santa Rosa is a fine to coarse-grained sandstone and ranges in thickness from 140 to 300 feet. The Chinle is dominantly red and green claystone and contains minor stringers of fine-grained sandstone and siltstone.

The Triassic and Cretaceous rocks are absent in this area. Although the Cretaceous was present initially, it has extensively eroded and only exposed as blocks of limestone in widely isolated areas.

The Tertiary rocks are represented by the Ogallala formation. This formation ranges in thickness from 0 to 300 feet. It is chiefly calcareous, unconsolidated sand, but contains clay, silt, and gravel. This formation covers the surface of this area of Central Lea County, trending northwest from the Hobbs area, forming the locally named "Caprock" and identified on geological maps a Mescalero Ridge. This ridge forms a vertical dip of 100′ to 150′ from the Llano Estacado to the northeast, to the Querecho Plans to the southwest.

The Quaternary sediments in this area are in the form of alluvial deposits and dune sands. The alluvium was deposited in topographically low areas where the Ogallala formation had been stripped away. The dune sands mantle the oldest alluvium and Ogallala in this area.

Attachment Index

Exhibit A	Topographic Map
Exhibit B	Survey Plat
Exhibit C	Ownership Map
Exhibit D	Wellbore Schematic
Exhibit E	Schematic of Facility
Exhibit F	Containment Liner Design & Specification
Exhibit G	Installation of Monitor Well & Investigation Results (1998)
Exhibit I	Piping Integrity Test 1998
Exhibit J	Analysis of Fresh Water Supply Well 1998
Exhibit K	Analysis of Produced Brine Water 1998
Exhibit L	Map of Permian Structural Features
*Exhibit M	Cavity Configuration Test 1999
Exhibit N	Saline #1 Brine Facility Production Volumes

*NOTE: Cavity Configuration Test 1999 will be scheduled at a time approved by the OCD and a copy of report furnished after completion of testing.

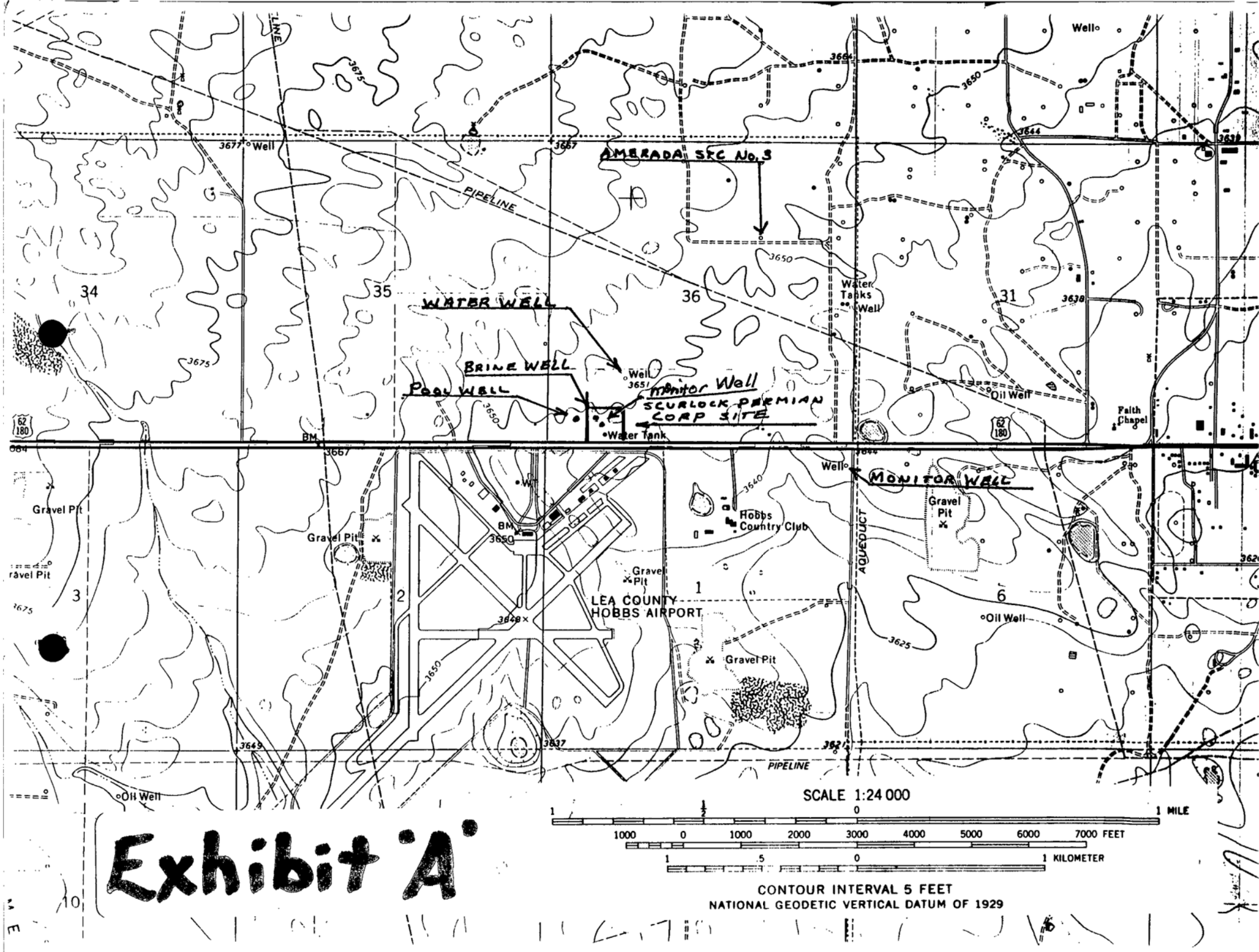
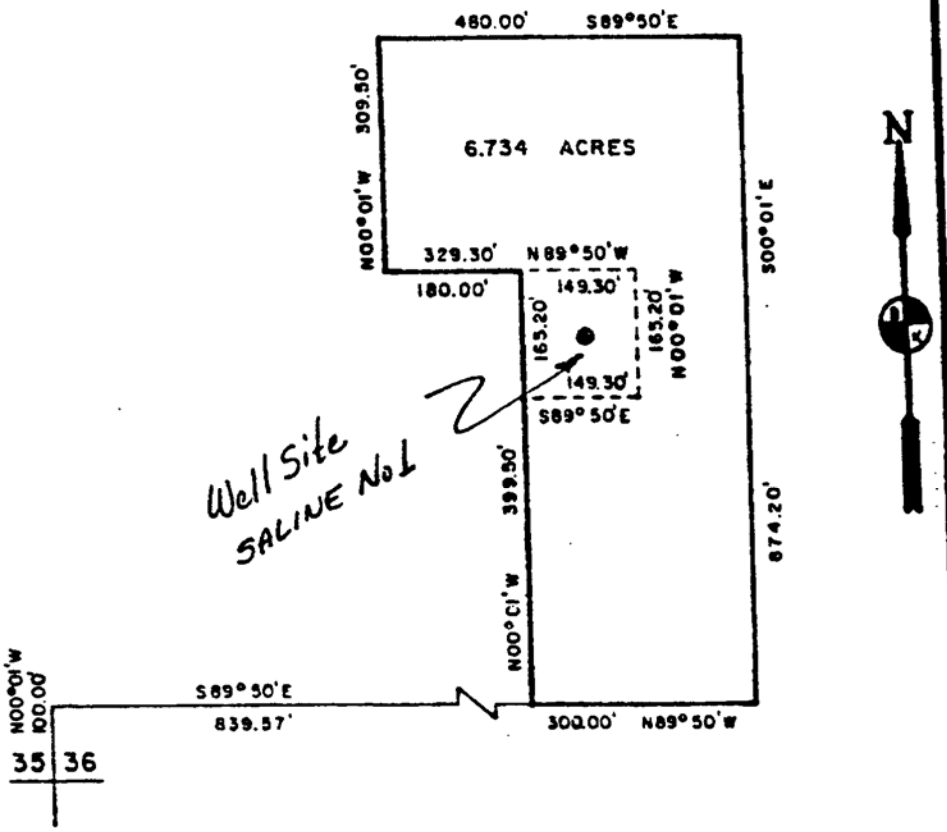

EMERADA SEC No. 3
WATER WELL
BRINE WELL
POOL WELL
Monitor Well
SCURLOCK PERMIAN CORP SITE
MONITOR WELL
LEA COUNTY
HOBBS AIRPORT
PIPELINE
AQUEDUCT
Hobbs Country Club
Water Tanks
Water Tank
Faith Chapel
Gravel Pit
Oil Well
Well
34
35
36
31
6
3
2
1
10
SCALE 1:24 000
1 MILE
7000 FEET
1 KILOMETER
CONTOUR INTERVAL 5 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

Exhibit "A"

PLAT OF SURVEY



DESCRIPTION

A tract of land situated in the Southwest Quarter of the Southwest Quarter (SW¼ SW¼) of Section 36, Township 18 South, Range 37 East, N.M.P.M., Lea County, New Mexico, being further described as follows:
Beginning at a point which lies N00° 01'W 100.00 feet and S89° 50'E 839.57 feet from the Southwest Section Corner of said Section 36; thence, N00° 01'W 399.50 feet; thence, S89° 50'E 149.30 feet; thence, N00° 01'W 165.20 feet; thence, N89° 50'W 329.30 feet; thence, N00° 01'W 309.50 feet; thence, S89° 50'E 480.00 feet; thence, S00° 01'E 874.20 feet; thence, N89° 50'W 300.00 feet to the point of beginning, containing 6.734 acres, more or less.

Exhibit 'B'

I HEREBY CERTIFY THAT I AM THE REGISTERED LAND SURVEYOR WHO PREPARED THE ABOVE PLAT FROM FIELD NOTES OF ACTUAL SURVEYS MADE UNDER MY DIRECTION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

Neal D. King
New Mexico R.L.S. No 6541
Texas R.P.S. No 6239

NEAL D. KING NEW MEXICO 6541 REGISTERED LAND SURVEYOR

KEN MARSH

A tract of land situated in the SW¼ SW¼ of Section 36, Township 18 South, Range 37 East, N.M.P.M., Lea County, New Mexico.

BROWN & KING
ENGINEERING & SURVEYING, INC.
3515 INDUSTRIAL DRIVE — LOVINGTON HIGHWAY HOBBS, N. M. 88240

SCALE. 1 " = 200 '	DRAWN BY: Maudie W.
DATE. NOV. 11, 1981	SHEET 1 OF 1

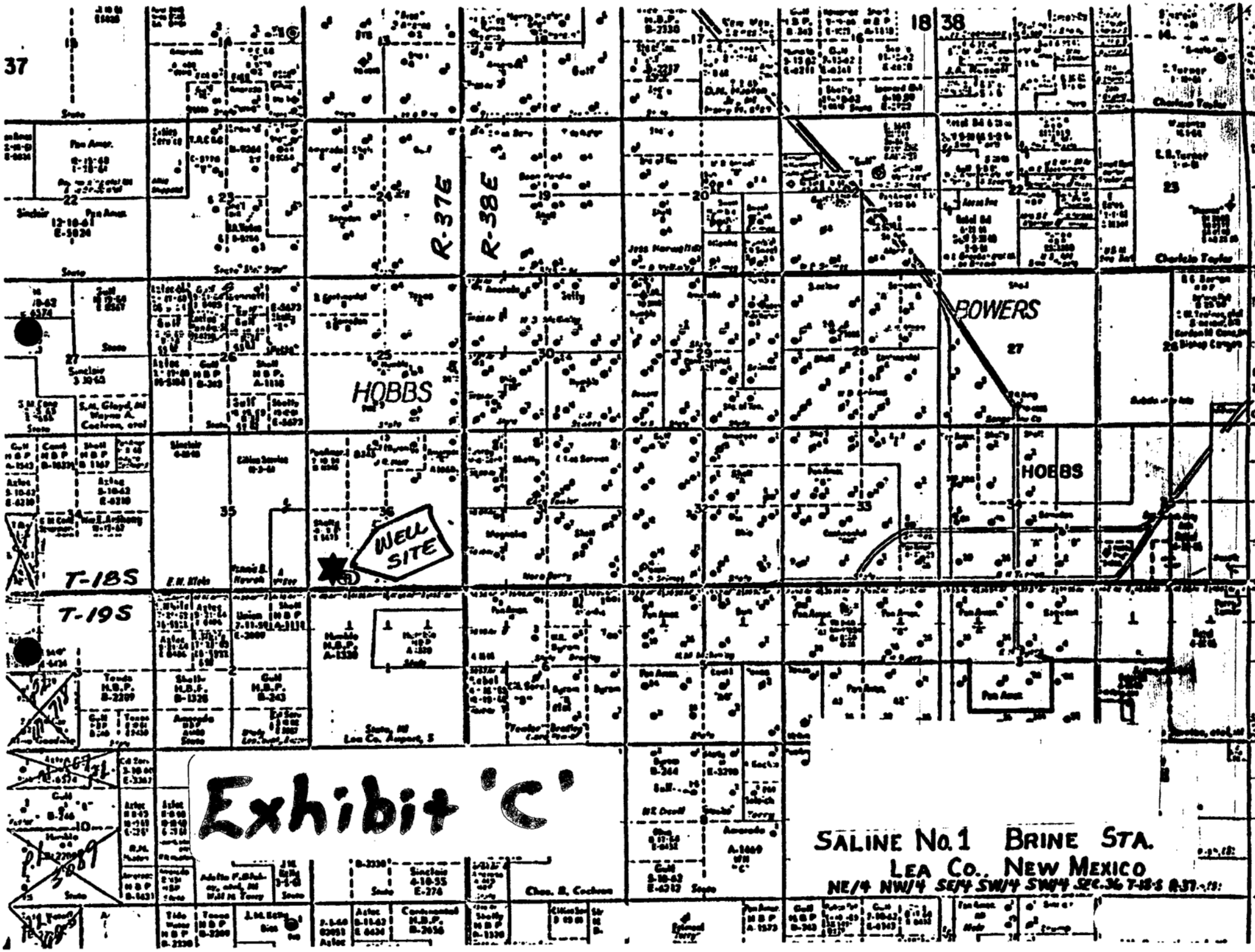


Exhibit 'C'
SALINE No. 1 BRINE STA.
LEA CO., NEW MEXICO
NE/4 NW/4 SE/4 SW/4 SW/4 SEC. 36 T-18-S R-37-E
R-37E
R-38E
HOBBS
BOWERS
WELL SITE
T-18S
T-19S
Chas. B. Cochran

ASHLAND PIPE LINE COMPANY ENGINEERING DEPARTMENT			SHEET
			AFE
SUBJECT SALINE No. 1 BRINE WELL			DISTRICT
SECTION 36, 18S, 37E., LEA Co. NMPM			DRAWING
BY S. ROGERS.	CHECKED BY	APPROVED BY	DATE 7/29/94

0427-6 (02/91)

API # 30-025-12803
SALINE No. 1 BRINE WELL
AS COMPLETED 7/22/94

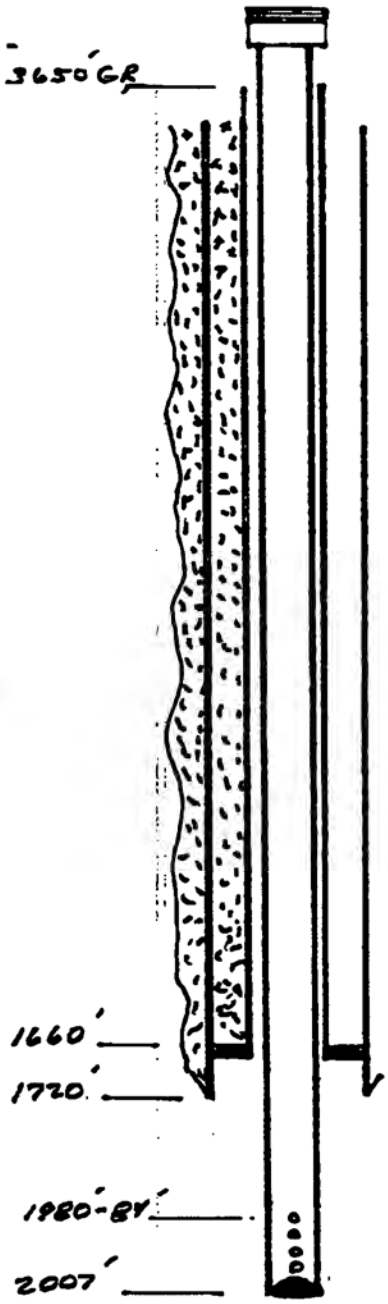


Exhibit 'D'

1660' - FORMATION PACKER SHOE, FLOAT COLLAR, 5½" 15.5# J-55 CASING CEMENT W/200 SX NEAT AND 65 SX W/ 2% CaCl2 - TOC 5 FT FROM SURFACE BY CBL.

1720' - 8⅝ 24# CASING. CEMENTED WITH 334 SX 50-50 POZ W/18% GEL AND 3% SALT, AND 100 SX 50-50 POZ W/2% CaCl2 - CIRC. 26 bls CEMENT. (FROM C-103 SUBMITTED 5-26-63).

64 JTS 2⅞ J-55 TUBING - 2007 FT. OPEN ENDED W/ 4 PERFORATIONS AT 1980-1984

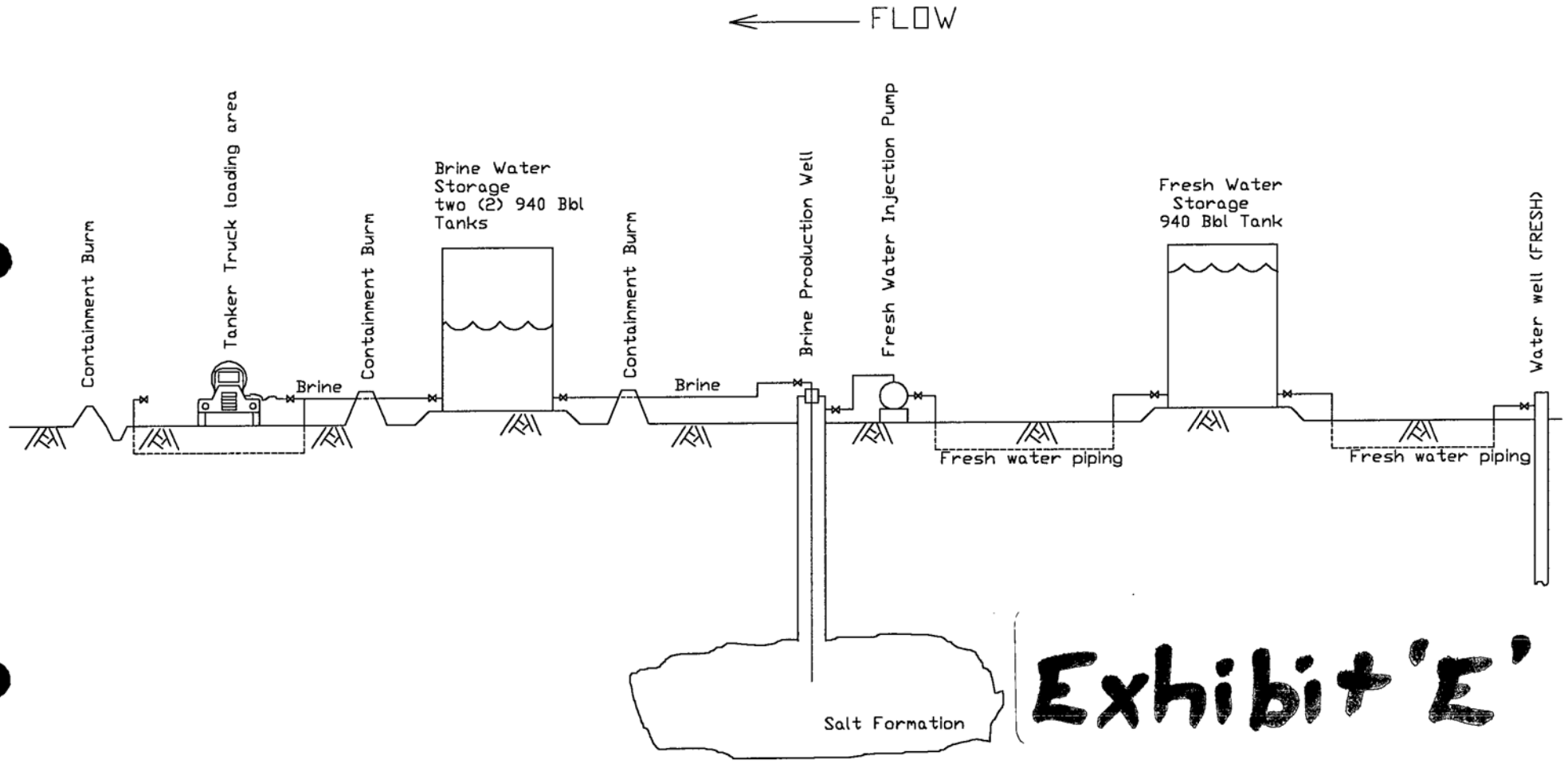


Exhibit 'E'

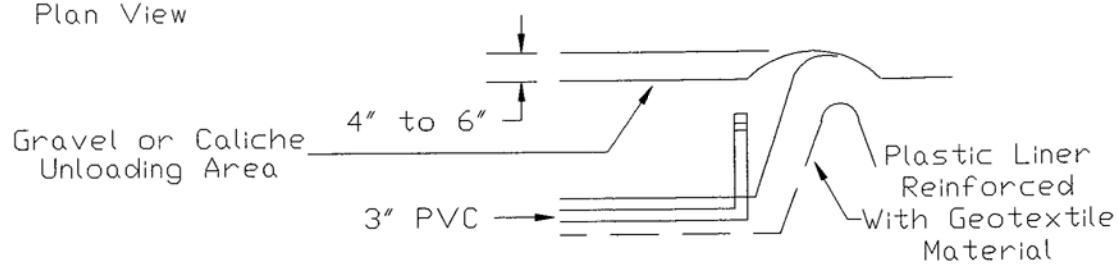
PROCESS FLOW DIAGRAM

SCURLOCK PERMIAN - SALINE #1 BRINE WELL/STATION

Scurlock Permian Corp.

Leo County, New Mexico	SCALE: None	DRAWN BY: V. Mares
Saline #1 Brine Station		
DATE: 7-25-94	APPROVED BY:	SHT. 1 of 1
		DRAWING NUMBER

Truck Loading and Containment Area
Plan View



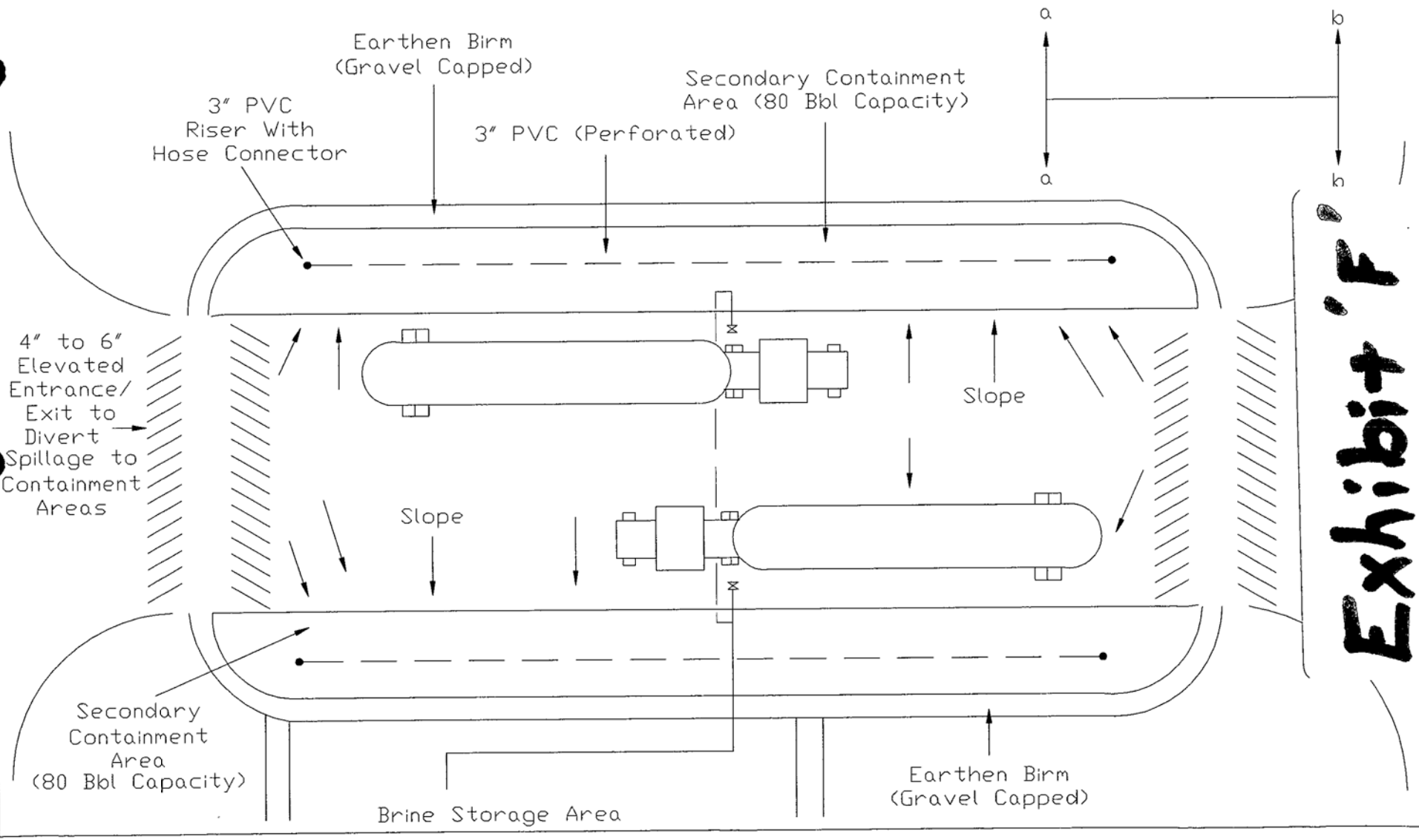


Exhibit 'F'

SCURLOCK PERMIAN CORPORATION

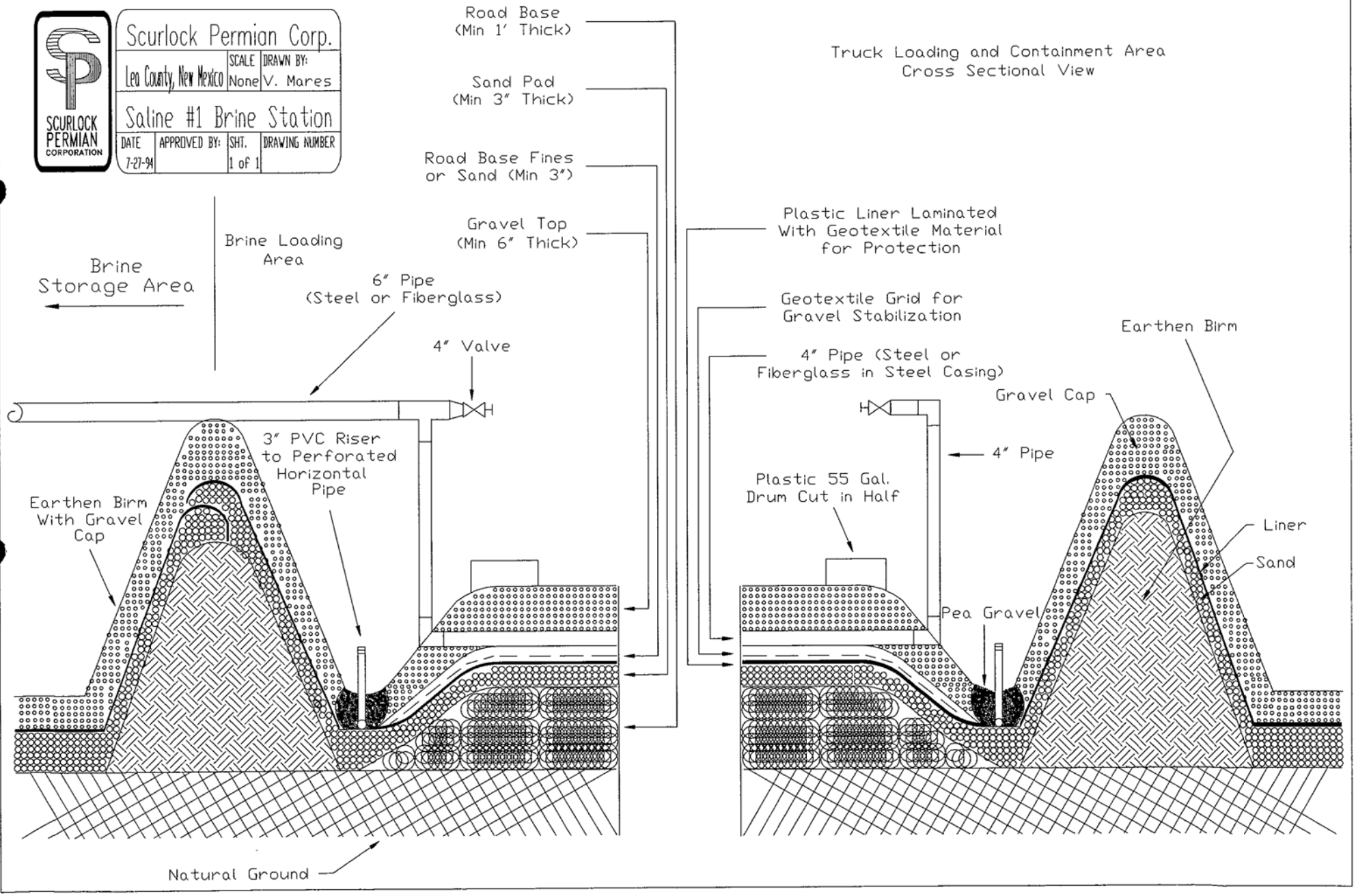
Scurlock Permian Corp.

Lea County, New Mexico	SCALE: None	DRAWN BY: V. Mares

Saline #1 Brine Station

DATE: 7-27-94	APPROVED BY:	SHT.: 1 of 1	DRAWING NUMBER:

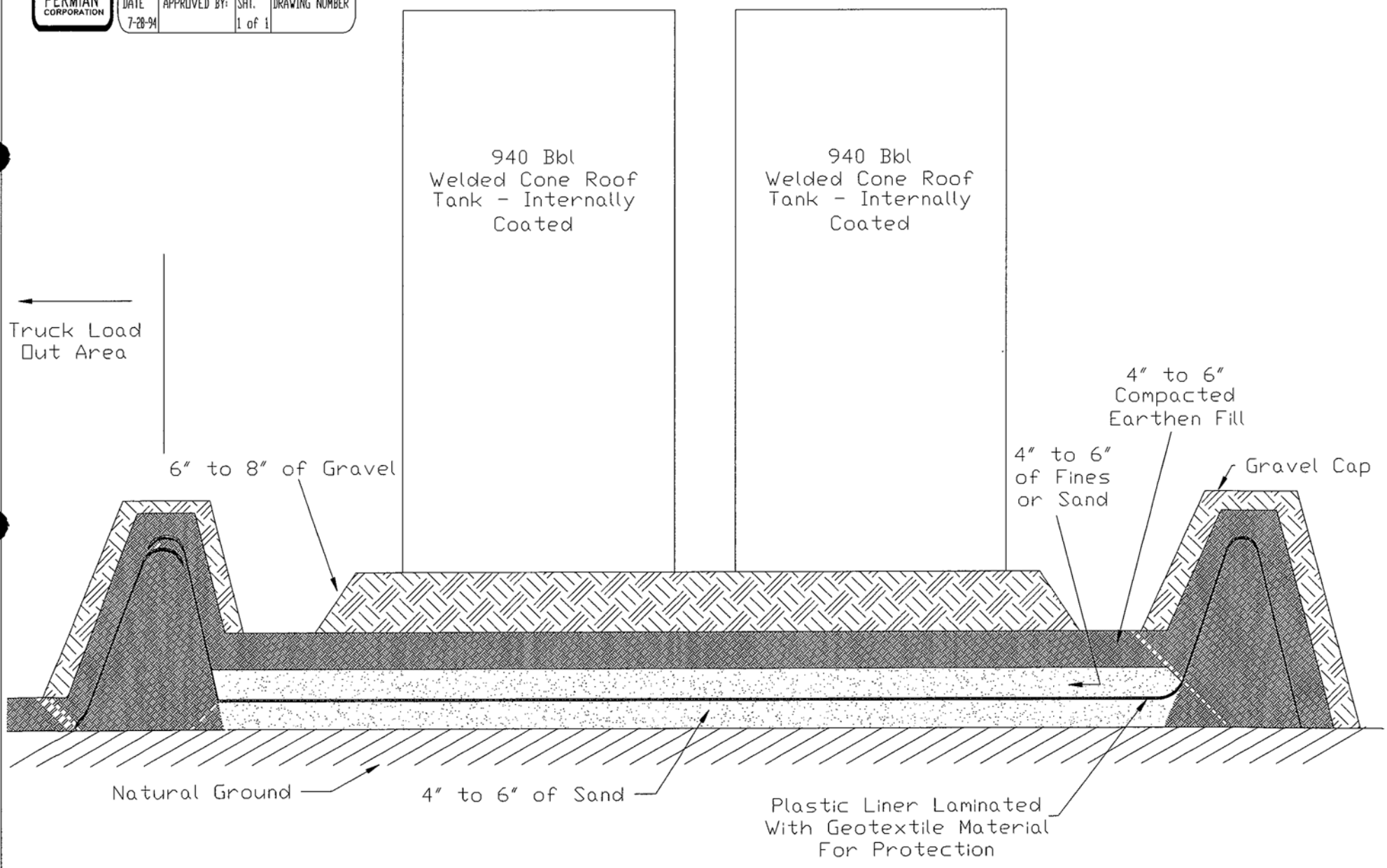
Truck Loading and Containment Area
Cross Sectional View



SCURLOCK PERMIAN CORPORATION

Scurlock Permian Corp.		
Lea County, New Mexico	SCALE None	DRAWN BY: V. Mares
Saline #1 Brine Station		
DATE 7-28-94	APPROVED BY:	SHT. 1 of 1	DRAWING NUMBER

Brine Storage Containment Area Specification Drawing
(Containment Area Sized For 133% Of Tank Storage Capacity)



CONTAINMENT LINER

SPECIFICATIONS DATA

2 of 4

PERMALON®

Reef Industries, Inc.
P.O. Box 750245
Houston, TX 77275-0245
Tel: (713) 484-6892
Toll Free: 1-800-231-2417
Fax: (713) 947-2053

I wanted to provide you with some weatherability information on our Permalon Ply X-210. This high density, cross-laminated poly is designed to be UV resistant by a state of the art stabilization system. When exposed to harsh weather conditions, including intense sun, X-210 should last in excess of five years. When buried, this material should last indefinitely. X-210 is chemically inert, non-leachable, and is resistant to root penetration, rodents and microbials(it is not a food source). Additionally, it meets ASTM D-3083 (Soil Burial). Ply X-210 is not prone to stress-cracking (ESC), thus, making a very good moisture and Radon barrier.

I hope this information will serve useful to you and please do not hesitate to call if you should have any questions.

Respectfully,

David Dewsnap
Chemist
Reef Industries, Inc.

3 of 4

Reef Industries, Inc.
"Since 1957"

Product Development Group
11/18/1993

Physical Properties of Geomembrane / Geotextile Composite

Material/Property	X1GPET45	X2GPET45
Basis Weight oz/yd^2 ASTM D-3776	9.83	15.1
Thickness (mils/mm) ASTM D-2103	31/0.88	39/0.99
Tensile Strength (lb_f) ASTM D - 882 - 3 in. (MD/TD)	190/159	263/222
Tensile Elongation (%) ASTM D - 882 - 3 in. (MD/TD)	63/83	46/54
Grab Tensile Strength (lb_f) ASTM D - 4632 (MD/TD)	194/168	303/250
Grab Elongation (%) ASTM D - 4632 (MD/TD)	70/110	-
Trapezoid Tear Strength (lb_f) ASTM D - 4533 (MD/TD)	91/80	132/135
Puncture Resistance (lb_f) ASTM D - 4833	85	100
Puncture Elongation (in) ASTM D - 4833	0.66	0.63
Mullen Burst (lb_f) ASTM D - 3786	237	333
Puncture Prop. & Tear (lb_f) ASTM D - 2582 (MD/TD)	-	55/57
Dart Impact Strength (lb_m) ASTM D-1709	6.5	9.9

ASTM D - 882 : Tensile strength of thin plastic sheeting (less than 40 mils)
ASTM D - 4632: Breaking Load and Elongation of Geotextiles.

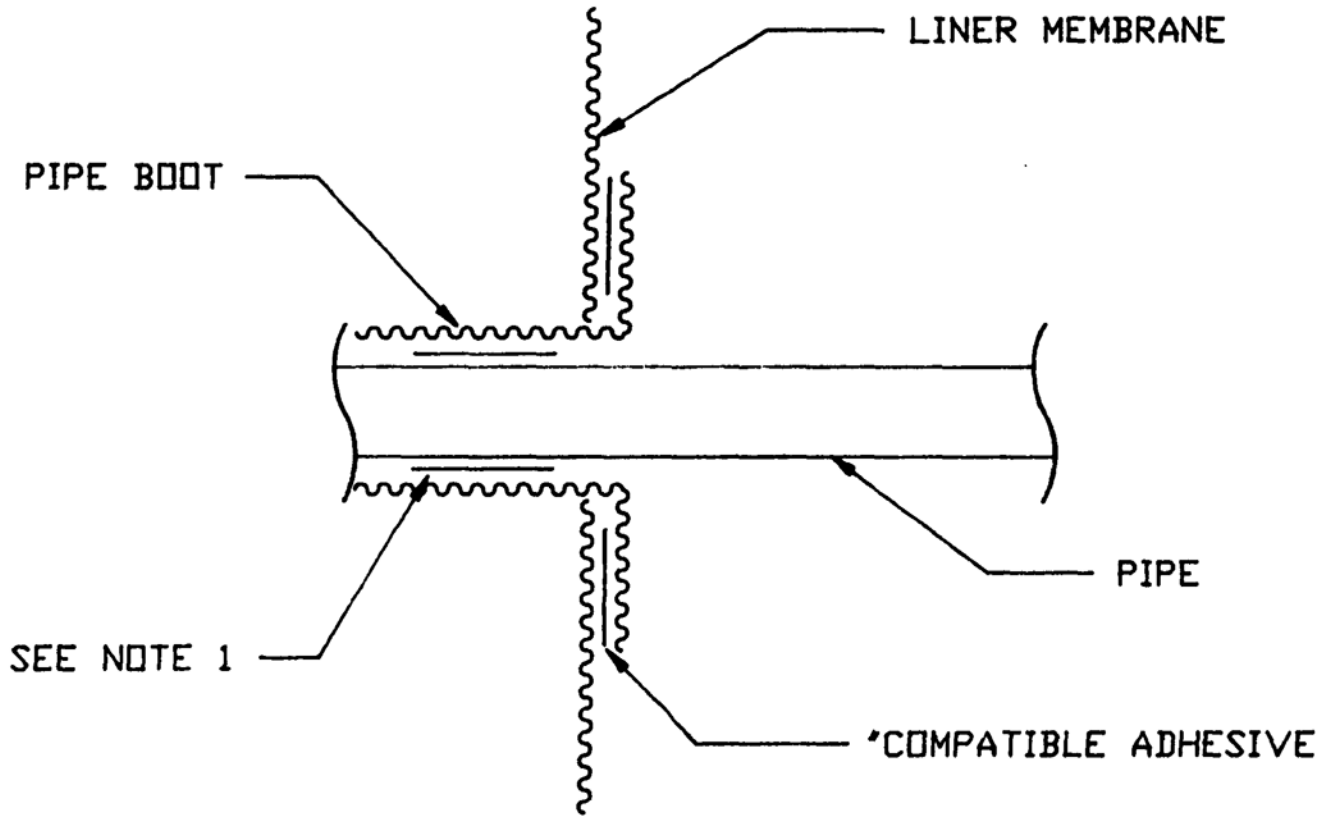
N.B. These are typical values and not be interpreted as specifications. (Average Roll Values will be presented on availability of sufficient data)

P.O. Box 750250 • Houston, Texas 77275-0250
Tel: (713) 943-0070 • U.S.A. Toll Free: 1-800-231-6074 • Canada Toll Free: 1-800-847-5616
Fax: (713) 943-8085

4 of 8

REEF
INDUSTRIES INC

PIPE INTRUSION THROUGH PERMALON LINER MEMBRANE



SPECIAL INSTRUCTIONS:

1) AFFIX PIPE BOOT TO PIPE USING ADHESIVE OR CLAMPS.
2) PLACE PIPE AND BOOT THROUGH LINER MEMBRANE.
3) AFFIX LINER MEMBRANE TO PIPE BOOT WITH ADHESIVE.
4) NOTE: PIPE BOOTS WILL BE FURNISHED BY MANUFACTURE WHEN EXACT PIPE DIAMETER IS DETERMINED BY CONTRACTOR.

PERMALON®

Reef Industries, Inc.
P.O. Box 750245
Houston, TX 77275-0245
Tel: (713) 484-6892
Toll Free: 1-800-231-2417
Fax: (713) 947-2053

RADON PERMEATION TRANSMISSION RATES - PERMALON®

Radon transmission rates have been established for the following Permalon products. Testing was conducted by an independent research company following ASTM D-1434.

MATERIAL	VAPOR TRANSMISSION (grains/sqft - hour)	PERMEANCE (grains/hr - sqft - in. hg)
X-150	.070	.069
X-210	.079	.078

Results of these tests are available for review in the technical department.

Dennis Olheiser
Manufacturing Engineeer

12 October 1988

Scurlock Permian
Brine Well BW-12

Installation of Monitor Well and Investigation Results
Lea County, New Mexico

Exhibit 'G'

Safety & Environmental Solutions, Inc.
703 E. Clinton Suite 103
Hobbs, New Mexico 88240
(505) 397-0510

TABLE OF CONTENTS

I. Background

In early 19987 Scurlock Permian secured the services of Safety and Environmental Solutions, Inc. to determine the extent, if any, of Chlorides contamination at the specified location. A work plan was formulated to drill one monitor well down gradient of the existing brine well to provide initial indications of the extent of any groundwater contamination.

II. Work Performed

One monitor well was drilled adjacent to the Scurlock Permian Brine Well B120 located in Section 25, T25S, R37E, Lea County, NM according to the Approved Work Plan (GW-202 Pit Closure). SES contracted Atkins Engineering of Roswell, NM to drill this well on August 6, 1998. Cardinal Laboratories of Hobbs, NM was also contracted to perform the laboratory analytical testing required for this project.

SES sampled the monitor well hole soils at intervals of ten (10') feet using SOPs found in **Environmental Protection Agency, 1984, Characterization of Hazardous Waste Site - A Methods Manual: Vol II.** The composite soil samples from both the top and the bottom of the water table, 46' and 57' respectively, along with Chain of Custody were delivered to the laboratory for testing. The composite samples were analyzed for Total Petroleum Hydrocarbons (EPA Method 418.1), BTEX (EPA Method 8020) and Chlorides (EPA Method 600/4-79-020). The results of the BTEX, TPH and Chlorides were compared to the regulatory limits found in **"Guidelines for Remediation of Leaks, Spills and Releases"** *New Mexico Oil Conservation Division* - August 13, 1993. A summary of the laboratory analysis and correlated test hole data is represented in the following tables:

Well #1

Monitor Well #1 was drilled southeast of the existing brine well with top of casing at XX' and total depth of 57'.

TD/Depth	Lithology	TPH	Cl	Benzene	Toluene	Ethyl Benzene	Total Xylenes
46'	Fine, loose sand	<10	53	<0.002	<0.002	<0.002	<0.006
57'	Fine sand/ sandstone	<10	53	<0.002	<0.002	<0.002	<0.006

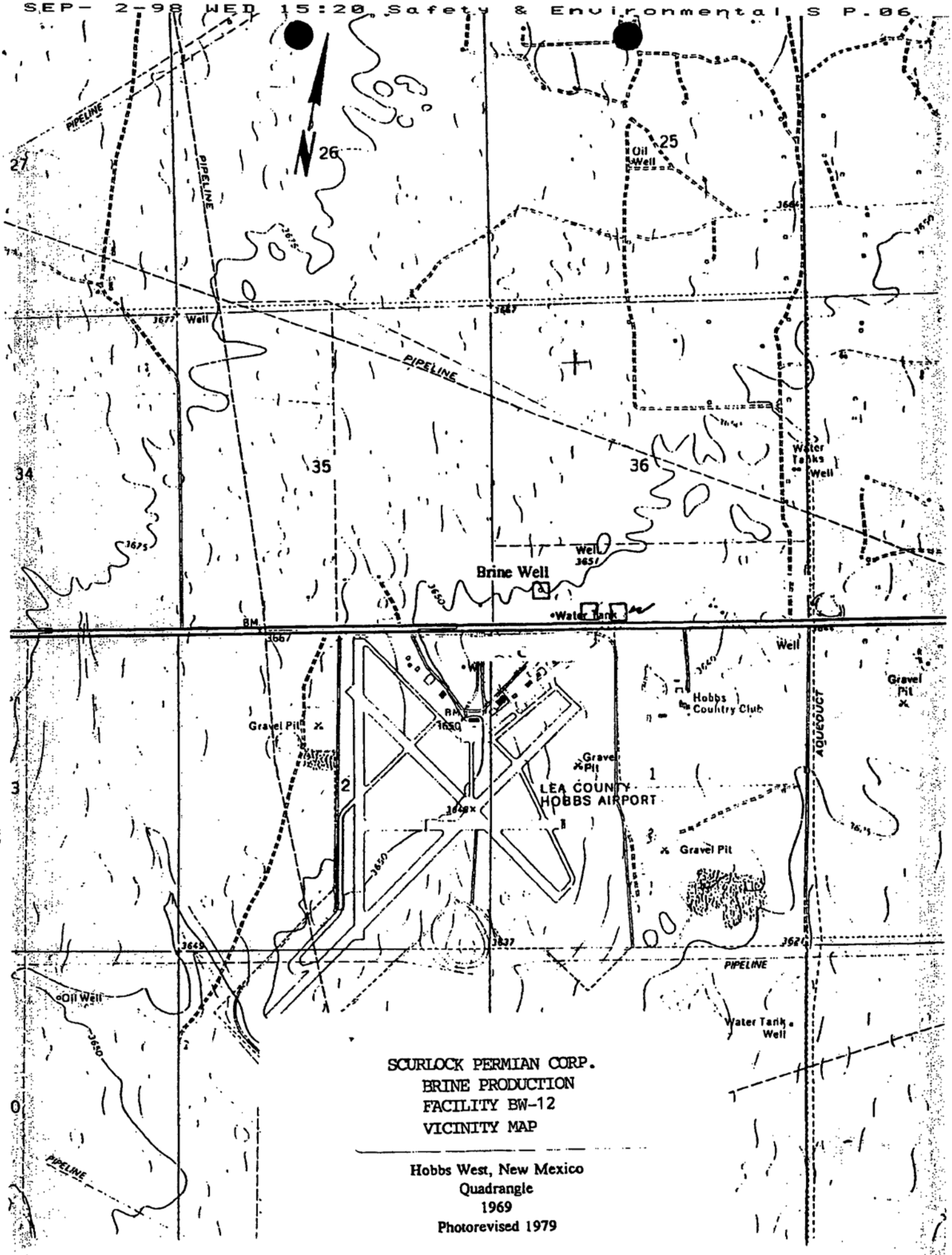
III. Monitor Well Testing

Initial water sampling from both the new monitor well and the existing brine well was performed on August 19, 1998 and the samples along with Chain of Custody were delivered to the laboratory for testing. The water samples were analyzed for BTEX (EPA Method 8020, 5030) as well as NMWQCC testing (Methods 625, 600/4-79-020, -206.2, -272.1,-213.1,-208.1, -218.1,-239.1,-245.1,-270.2, 600/4-78-020,-202.1,-220.1,-236.1,-243.1,-249.1,-289.1, 600/4-91-010,-212.1,-219.1,-246.1, SM4500-Cl-B, 375.4, 310.1, 150.1, 160.1, 120.1, 8049, 3500-Mg E, SM3500-Ca-D).

The results from the existing brine well and the new monitor well show no elevated Chlorides or TDS levels. The Chlorides were slightly higher in the monitor well. (See Analytical Reports attached)

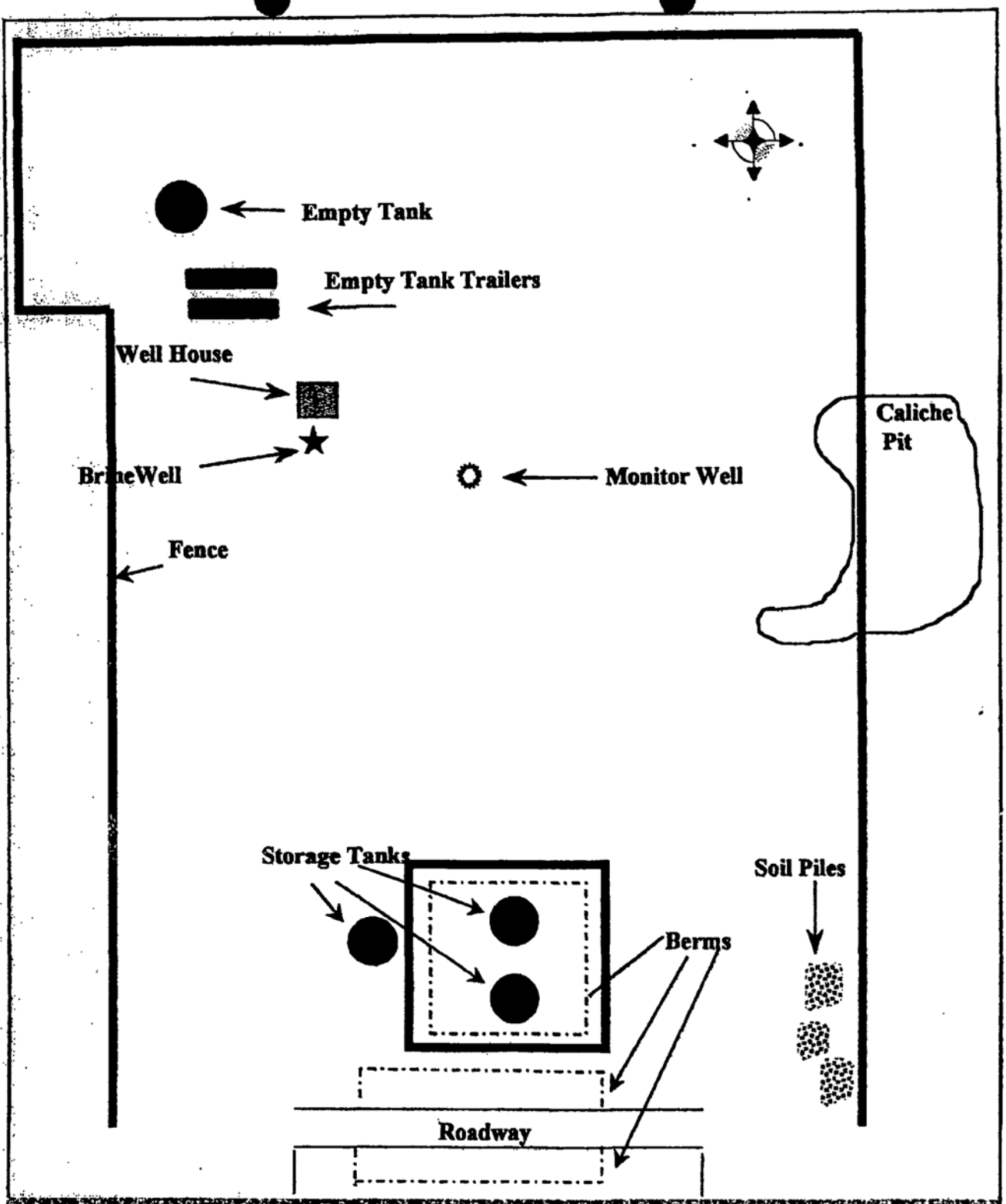
IV. Maps and Figures

Vicinity Map
Site Plan
Log of Boring
Chain of Custody for Samples
Analytical Results



SCURLOCK PERMIAN CORP.
BRINE PRODUCTION
FACILITY BW-12
VICINITY MAP

Hobbs West, New Mexico
Quadrangle
1969
Photorevised 1979



Scurlock Permian Corporation	**Brine Facility BW-12 Site Plan**	*Safety & Environmental Solutions, Inc. Hobbs, NM*

Atkins Engineering Associates, Inc.
P.O. Box 3156
Roswell, New Mexico 88202

LOG OF BORING Brine Production Facility TH-1

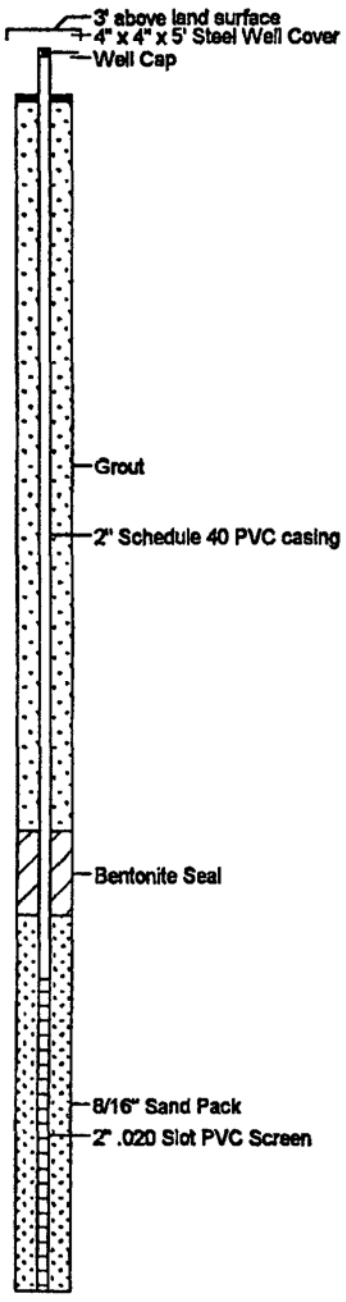
(Page 1 of 1)

Scurlock Permian Corp.
P.O. Box 4648
Houston, TX 77210
Contact: Mr. James C. Ephram II
Job #98280

Date	: 8-6-98	Site Location	: 3 mi. W. of Hobbs on NM 62, 180
Drill Start	: 7:25 A.M.	Auger Type	: Hollow Stem
Drill End	: 2:00 P.M.	Logged By	: Mort Bates
Boring Location	: SE of well		

Depth in feet	GRAPHIC	USCS	Samples	DESCRIPTION
0		CL		Silty Clay w/Caliche Rock, Brown, Firm, Damp
				Caliche Rock, Gray to Tan, Firm, Dry
				Caliche Rock, Gray, Hard, Dry
5				Sandy Caliche, Loose, Tan, Dry
				Caliche w/Silty Sand, Tan, Firm, Dry
10			1	
				Sandy Caliche, Tan, Loose, Dry
15				
				Sandy Caliche, Tan, Loose, Damp
20			2	Sand, Tan, Loose, Damp
25		SP		
30			3	Sandstone, Tan, Hard, Dry
		SS		
35				Sand, Tan, Firm, Damp
40		SP	4	
45			5	
		SP		Sand, Tan, Loose, Moist
50				Sand w/Sandstone, Tan, Firm, Saturated
		SP		
55			6	
				TD = 57 ft.
60				

Well: TH-1
Elev.:



08-07-1998 c:\mtech45\Scurlock\th-1.bor

Safety & Environmental Solutions, Inc.

703 E. Clinton, Suite 103, Hobbs, New Mexico 88240
(505)397-0510

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: SESI

Phone #: 505.397.0510
FAX #: 505.393.4580

Company Name & Address: 703 E. Clinton #103 Hobbs NM 88240

Project #:

Project Name: Monitor Well

Project Location: Seuhock Permian Brine Well

Sampler Signature: Ben Allen

ANALYSIS REQUEST

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	OTHER	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	OTHER	SAMPLING: DATE	TIME	BTEX 8020/5030	TPH 418.1	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	TDS	RCI	Chloride
H3774-1	Monitor Well 46'	1			✓									8-7-98	1100a	✓	✓							✓
-2	Monitor Well 57' TD	1			✓									8-7-98	1300	✓	✓							✓

Relinquished by:	Date:	Time:	Received by:
Ben Allen	8-10-98	7:00am	Donna Owen
Donna Owen	8/10/98	10:10 AM	Burgess J.A. Cooke
			Received by Laboratory:

REMARKS

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: BETH ALDRICH
P.O. BOX 1613
HOBBS, NM 88240
FAX TO: (505) 393-4380

Receiving Date: 08/10/98
Reporting Date: 08/12/98
Project Number: NOT GIVEN
Project Name: MONITOR WELL
Project Location: SCURLOCK PERMIAN BORE WELL

Sampling Date: 08/06/98
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: BC

LAB NUMBER	SAMPLE ID	TPH (mg/Kg)	Cl (mg/Kg)	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS DATE:		08/10/98	08/11/98	08/10/98	08/10/98	08/10/98	08/10/98
H3774-1	MW 46'	<10	53	<0.002	<0.002	<0.002	<0.006
H3774-2	MW 57' TD	<10	53	<0.002	<0.002	<0.002	<0.006
Quality Control		269	1209	0.103	0.093	0.098	0.301
True Value QC		273	1319	0.100	0.100	0.100	0.300
% Accuracy		97.4	91.7	103	92.7	98.4	100
Relative Percent Difference		6.1	4.4	12.6	5.9	2.5	1.9

METHODS: TRPHC-EPA 600/4-79-020, 418.1;Cl-EPA 600/4-79-020 325.3 BTEX-EPA SW-846-8020

Burgess J. A. Cooke, Ph. D.

8/12/98
Date

H3774-1.XLS

CARDINAL LABORATORIES, INC.

2111 Beechwood, Abilene, TX 79603 101 East Marland, Hobbs, NM 88240
(915) 673-7001 Fax (915) 673-7020 (505) 393-2326 Fax (505) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page ____ of ____

Company Name:	Safety & Environmental	BILL TO	
Project Manager:	Dee Whatley	P.O. #:	
Address:	703 W. Clinton St. 103	Company:	
City:	Hobbs State: NM Zip: 88240	Attn:	Same
Phone #:	Fax #:	Address:	
Project #:	Project Owner:	City:	
Project Name:	Scurlock Permian Brine Station	State: Zip:	
Project Location:	Scurlock Brine Station	Phone #:	
Sampler Name:	Dee Whatley	Fax #:	

FOR LAB USE ONLY

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING: DATE	TIME
#3799-1	MW#1	G	5	✓							✓		8/19	2:00
#3799-2	EW#2	G	5	✓							✓		8/19	2:00

See Attached List

Cations	Anions	TDS	Heavy Metals	P.A.H.

CASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

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

Sampler Relinquished:	Date: 8-19	Received By:	
	Time: 2:40		
Relinquished By:	Date: 8/19/98	Received By: (Lab Staff)	
	Time: 2:40		
Delivered By: (Circle One)	Sample Condition: Cool: Yes / No; Intact: Yes / No	CHECKED BY: (Initials)	
Sampler - UPS - Bus - Other:			

Phone Result: ☐ Yes ☐ No Add'l Phone #:
Fax Result: ☐ Yes ☐ No Add'l Fax #:
REMARKS:

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

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: DEE WHATLEY
703 W. CLINTON ST. SUITE 103
HOBBS, NM 88240
FAX TO:

Receiving Date: 08/19/98
Reporting Date: 08/31/98
Project Number: NOT GIVEN
Project Name: SCURLOCK PERMINAN BRINE STATION
Project Location: SCURLOCK BRINE STATION

Sampling Date: 08/19/98
Sample Type: GROUNDWATER
Sample Condition: COOL AND INTACT
Sample Received By: AH
Analyzed By: AH/GP

TOTAL METALS

LAB NUMBER	SAMPLE ID	Al (ppm)	Co (ppm)	Cu (ppm)	Fe (ppm)
ANALYSIS DATE:		08/21/98	08/22/98	08/22/98	08/22/98
H3799-1	MW #1	1.307	0.097	<0.01	1.450
H3799-2	EW #2	0.327	0.074	<0.01	1.496
Quality Control		10.40	2.950	4.944	5.026
True Value QC		10.00	3.000	5.000	5.000
% Accuracy		104	98.3	98.8	102
Relative Percent Difference		1.63	0.2	0.6	0.2
METHODS: EPA 600/04-79-020		202.1	219.1	220.1	236.1

		Mn (ppm)	Mo (ppm)	Ni (ppm)	Zn (ppm)
ANALYSIS DATE:		08/22/98	08/21/98	08/22/98	08/22/98
H3799-1	MW #1	0.216	<0.001	0.043	0.058
H3799-2	EW #2	0.030	<0.001	0.010	0.029
Quality Control		0.989	2.015	5.086	0.499
True Value QC		1.000	2.000	5.000	0.500
% Accuracy		98.9	101	102	100
Relative Percent Difference		0.7	1.3	0.1	0.5
METHODS: EPA 600/04-79-020		243.1	246.1	249.1	289.1

Burgett A. Cooke
Chemist

8/31/98
Date

H3799-2.XLS

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: DEE WHATLEY
703 W. CLINTON ST. SUITE 103
HOBBS, NM 88240
FAX TO:

Receiving Date: 08/19/98
Reporting Date: 08/24/98
Project Number: NOT GIVEN
Project Name: SCURLOCK PERMINAN BRINE STATION
Project Location: SCURLOCK BRINE STATION

Sampling Date: 08/19/98
Sample Type: GROUNDWATER
Sample Condition: COOL AND INTACT
Sample Received By: AH
Analyzed By: AH/GP

RCRA METALS

LAB NUMBER	SAMPLE ID	As ppm	Ag ppm	Ba ppm	Cd ppm	Cr ppm	Pb ppm	Hg ppm	Se ppm
ANALYSIS DATE:		08/21/98	08/21/98	08/21/98	08/21/98	08/21/98	08/21/98	08/22/98	08/21/98
H3799-1	MW #1	<0.01	<0.01	<1	<0.01	<0.05	<0.05	<0.002	<0.1
H3799-2	EW #2	<0.01	<0.01	<1	<0.01	<0.05	<0.05	<0.002	<0.1
Quality Control		0.205	4.991	18.73	1.984	5.028	4.970	0.0494	0.0506
True Value QC		0.200	5.000	20.00	2.000	5.000	5.000	0.0500	0.0500
% Recovery		102	99.8	93.7	99.2	100	99.4	98.8	101
Relative Percent Difference		6.3	0.7	0.9	0.3	3.1	0.8	4.7	23.76

METHODS: EPA 600/4-79-020		206.2	272.1	208.1	213.1	218.1	239.1	245.1	270.2
METHODS:	SW-846	7060A	7760A	7080A	7130	7190	7420	7470A	7740

Chemist

8/24/98
Date

H3799-1 XLS

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: DEE WHATLEY
703 W. CLINTON, SUITE 103
HOBBS, NM 88240
FAX TO:

Receiving Date: 08/19/98
Reporting Date: 08/21/98
Project Number: NOT GIVEN
Project Name: SCURLOCK PERMIAN BRINE STATION
Project Location: SCURLOCK BRINE STATION
Lab Number: H3799-1
Sample ID: MW#1

Analysis Date: 08/20/98
Sampling Date: 08/19/98
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: BC

POLYNUCLEAR AROMATIC HYDROCARBONS - 625 (mg/L)	Sample Result H3799-1	Method Blank	QC	% Recov.	True Value QC
1 Naphthalene	<0.001	<0.001	0.043	86	0.050
2 2-Methylnaphthalene	<0.002	<0.002	0.045	90	0.050
3 1-Methylnaphthalene	<0.002	<0.002	NR	NR	NR
4 Acenaphthylene	<0.001	<0.001	0.048	96	0.050
5 Acenaphthene	<0.001	<0.001	0.050	100	0.050
6 Fluorene	<0.001	<0.001	0.049	98	0.050
7 Phenanthrene	<0.001	<0.001	0.050	100	0.050
8 Anthracene	<0.001	<0.001	0.049	98	0.050
9 Fluoranthene	<0.001	<0.001	0.048	96	0.050
10 Pyrene	<0.001	<0.001	0.051	102	0.050
11 Benzo(a)anthracene	<0.001	<0.001	0.051	102	0.050
12 Chrysene	<0.001	<0.001	0.049	98	0.050
13 Benzo(b)fluoranthene	<0.001	<0.001	0.050	100	0.050
14 Benzo(k)fluoranthene	<0.001	<0.001	0.051	102	0.050
15 Benzo(a)pyrene	<0.0007	<0.0007	0.052	104	0.050
16 Indeno(1,2,3-cd)pyrene	<0.001	<0.001	0.046	92	0.050
17 Dibenzo(a,h,)anthracene	<0.002	<0.002	0.049	98	0.050
18 Benzo(g,h,i)perylene	<0.001	<0.001	0.051	102	0.050

	% Recovery
19 Nitrobenzene-d5	62
20 2-Fluorobiphenyl	47
21 Terphenyl-d14	102

METHODS: EPA 625

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: DEE WHATLEY
703 W. CLINTON, SUITE 103
HOBBS, NM 88240
FAX TO:

Receiving Date: 08/19/98
Reporting Date: 08/20/98
Project Number: NOT GIVEN
Project Name: SCURLOCK PERMIAN BRINE STATION
Project Location: SCURLOCK BRINE STATION
Lab Number: H3799-1
Sample ID: MW#1

Analysis Date: 08/19/98
Sampling Date: 08/19/98
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: BC

VOLATILES (mg/L)	Sample Result H3799-1	Method Blank	QC	%Recov.	True Value QC
Vinyl Chloride	<0.002	<0.002	0.094	94	0.100
1,1-Dichloroethylene	<0.002	<0.002	0.099	99	0.100
Methylene Chloride*	0.008	0.004	0.105	105	0.100
Chloroform	<0.002	<0.002	0.098	98	0.100
1,1-Dichloroethane	<0.002	<0.002	0.112	112	0.100
1,2-Dichloroethane	<0.002	<0.002	0.084	84	0.100
Benzene	<0.002	<0.002	0.105	105	0.100
Carbon Tetrachloride	<0.002	<0.002	0.095	95	0.100
Toluene	<0.002	<0.002	0.101	101	0.100
Trichloroethylene	<0.002	<0.002	0.105	105	0.100
Tetrachloroethylene	<0.002	<0.002	0.085	85	0.100
Ethylbenzene	<0.002	<0.002	0.102	102	0.100
m,p-Xylene	<0.004	<0.004	0.202	101	0.200
o-Xylene	<0.002	<0.002	0.104	104	0.100
1,1,1-Trichloroethane	<0.002	<0.002	0.082	82	0.100
1,1,2-Trichloroethane	<0.002	<0.002	0.100	100	0.100
1,1,2,2-Tetrachloroethane	<0.002	<0.002	0.108	108	0.100
Ethylene Dibromide	<0.002	<0.002	0.107	107	0.100

	% RECOVERY
Dibromofluoromethane	94
Toluene-d8	93
Bromofludrobenzene	95

*Detected at comparable levels in the sample and method blank.

METHODS: EPA SW 846-8260

Burgess J. A. Cooke, Ph. D.

8/20/98
Date

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: DEE WHATLEY
703 W. CLINTON, SUITE 103
HOBBS, NM 88240
FAX TO:

Receiving Date: 08/19/98
Reporting Date: 08/21/98
Project Number: NOT GIVEN
Project Name: SCURLOCK PERMIAN BRINE STATION
Project Location: SCURLOCK BRINE STATION
Lab Number: H3799-2
Sample ID: EW#2

Analysis Date: 08/20/98
Sampling Date: 08/19/98
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: BC

POLYNUCLEAR AROMATIC HYDROCARBONS - 625 (mg/L)	Sample Result H3799-2	Method Blank	QC	% Recov.	True Value QC
1 Naphthalene	<0.001	<0.001	0.043	86	0.050
2 2-Methylnaphthalene	<0.002	<0.002	0.045	90	0.050
3 1-Methylnaphthalene	<0.002	<0.002	NR	NR	NR
4 Acenaphthylene	<0.001	<0.001	0.048	96	0.050
5 Acenaphthene	<0.001	<0.001	0.050	100	0.050
6 Fluorene	<0.001	<0.001	0.049	98	0.050
7 Phenanthrene	<0.001	<0.001	0.050	100	0.050
8 Anthracene	<0.001	<0.001	0.049	98	0.050
9 Fluoranthene	<0.001	<0.001	0.048	96	0.050
10 Pyrene	<0.001	<0.001	0.051	102	0.050
11 Benzo(a)anthracene	<0.001	<0.001	0.051	102	0.050
12 Chrysene	<0.001	<0.001	0.049	98	0.050
13 Benzo(b)fluoranthene	<0.001	<0.001	0.050	100	0.050
14 Benzo(k)fluoranthene	<0.001	<0.001	0.051	102	0.050
15 Benzo(a)pyrene	<0.0007	<0.0007	0.052	104	0.050
16 Indeno(1,2,3-cd)pyrene	<0.001	<0.001	0.046	92	0.050
17 Dibenzo(a,h,)anthracene	<0.002	<0.002	0.049	98	0.050
18 Benzo(g,h,i)perylene	<0.001	<0.001	0.051	102	0.050

	% Recovery
19 Nitrobenzene-d5	67
20 2-Fluorobiphenyl	60
21 Terphenyl-d14	99

METHODS: EPA 625

Burgess J. A. Cooke, Ph. D.

8/21/98
Date

H3799-2 EW#2

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: DEE WHATLEY
703 W. CLINTON, SUITE 103
HOBBS, NM 88240
FAX TO:

Receiving Date: 08/19/98
Reporting Date: 08/20/98
Project Number: NOT GIVEN
Project Name: SCURLOCK PERMIAN BRINE STATION
Project Location: SCURLOCK BRINE STATION
Lab Number: H3799-2
Sample ID: EW#2

Analysis Date: 08/19/98
Sampling Date: 08/19/98
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: BC

VOLATILES (mg/L)	Sample Result H3799-2	Method Blank	QC	%Recov.	True Value QC
Vinyl Chloride	<0.002	<0.002	0.094	94	0.100
1,1-Dichloroethylene	<0.002	<0.002	0.099	99	0.100
Methylene Chloride*	0.006	0.004	0.105	105	0.100
Chloroform	<0.002	<0.002	0.098	98	0.100
1,1-Dichloroethane	<0.002	<0.002	0.112	112	0.100
1,2-Dichloroethane	<0.002	<0.002	0.084	84	0.100
Benzene	<0.002	<0.002	0.105	105	0.100
Carbon Tetrachloride	<0.002	<0.002	0.095	95	0.100
Toluene	<0.002	<0.002	0.101	101	0.100
Trichloroethylene	<0.002	<0.002	0.105	105	0.100
Tetrachloroethylene	<0.002	<0.002	0.085	85	0.100
Ethylbenzene	<0.002	<0.002	0.102	102	0.100
m,p-Xylene	<0.004	<0.004	0.202	101	0.200
o-Xylene	<0.002	<0.002	0.104	104	0.100
1,1,1-Trichloroethane	<0.002	<0.002	0.082	82	0.100
1,1,2-Trichloroethane	<0.002	<0.002	0.100	100	0.100
1,1,2,2-Tetrachloroethane	<0.002	<0.002	0.108	108	0.100
Ethylene Dibromide	<0.002	<0.002	0.107	107	0.100

	% RECOVERY
Dibromofluoromethane	94
Toluene-d8	93
Bromofluorobenzene	94

*Detected at comparable levels in the sample and method blank.

METHODS: EPA SW 846-8260

Burgess J. A. Cooke, Ph. D.

8/20/98
Date

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: DEE WHATLEY
703 W. CLINTON SUITE 103
HOBBS, NM 88240
FAX TO:

Receiving Date: 08/19/98
Reporting Date: 08/21/98
Project Number: NOT GIVEN
Project Name: SCURLOCK PERMIAN BRINE STATION
Project Location: SCURLOCK BRINE STATION

Sampling Date: 08/19/98
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: AH

LAB NUMBER	SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (u mhos/cm)	T-Alkalinity (mgCaCO3/L)
ANALYSIS DATE:		8/21/98	08/19/98	08/19/98	08/19/98	08/20/98	08/20/98
H3799-1	MW #1	28	146	47	4.7	1425	268
H3799-2	EW #2	69	54	18	1.4	601	160
Quality Control		NR	48	52	3.05	1402	NR
True Value QC		NR	50	50	3.00	1413	NR
% Recovery		NR	96	104	102	99.2	NR
Relative Percent Difference		NR	4.2	3.8	1.6	0.1	NR
METHODS:			SM3500-Ca-D	3500-Mg E	8049	120.1	310.1

LAB NUMBER	SAMPLE ID	Cl- (mg/L)	SO4 (mg/L)	CO3 (mg/L)	HCO3 (mg/L)	pH (s.u.)	TDS (mg/L)
ANALYSIS DATE:		08/19/98	08/19/98	08/19/98	08/19/98	08/19/98	08/19/98
H3799-1	MW #1	134	161.5	0	327	7.09	964
H3799-2	EW #2	45	133	0	195	7.48	357
Quality Control		1209	48.92	112	221	7.00	NR
True Value QC		1319	50	124	259	7.00	NR
% Recovery		91.7	97.84	90.3	85.4	100	NR
Relative Percent Difference		4.4	3.1			0	2.3
METHODS:		SM4500-Cl-B	375.4	310.1	310.1	150.1	160.1

Gayle A. Potter, Chemist

08/21/98
Date

H3799A.XLS

ON 3-5-98 I ran a test on the Two Brine water Tanks at Saline. They had 13' 3" in them at 7AM. I checked the every Two hours and the gauge Did Not change.

7:00	13' 3"
9:03	13' 3"
11:15	13' 3"
12:55	13' 3"

Dennis Shearer
Truck Supervisor
Hobbs, New Mexico

ON 3-9-98 I RICHARD LENTZ PRESSURE TESTED FLOW LINE FROM BRINE WELL TO BRINE TANKS 2 INCH LINE ABOVE GROUND HELD 20 LBS PRESSURE FOR 2 HRS.

Richard Lentz

Exhibit 'I'

onitor Well

xisting
r Well
y Well)

CARDINAL LABORATORIES, INC.

2111 Beechwood, Abilene, TX 79603 (915) 673-7001 Fax (915) 673-7020
101 East Marland, Hobbs, NM 88240 (505) 393-2326 Fax (505) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page ____ of ____

Company Name:	Safety & Environmental
Project Manager:	Dee Whatley
Address:	703 W. Clinton St. 103
City:	Hobbs State: NM Zip: 88240
Phone #:	Fax #:
Project #:	Project Owner:
Project Name:	Scurlock Permian Brine Station
Project Location:	Scurlock Brine Station
Sampler Name:	Dee Whatley

BILL TO

P.O. #:	
Company:	Same
Attn:	
Address:	
City:	
State:	Zip:
Phone #:	
Fax #:	

ANALYSIS REQUEST

See Attached List
Cations
Anions
TDS
Heavy Metals
P.A.H.

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	PRESERV: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING: DATE	TIME
H3799-1	MW#1	G	5	✓							✓		8/19	2:00
H3799-2	EW#2	G	5	✓							✓		8/19	2:00

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

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

Sampler Relinquished:	Date: 8.19	Received By:	
Relinquished By:	Time: 2:40	Received By: (Lab Staff)	Amy Hill
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Date: 8/19/98 Time: 2:40	Sample Condition: Cool ☑ Yes ☐ No, Intact ☑ Yes ☐ No	CHECKED BY: (Initials)

Phone Result: ☐ Yes ☐ No Add'l Phone #:
Fax Result: ☐ Yes ☐ No Add'l Fax #:
REMARKS:

Exhibit 'J'

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

LABORATORIES

ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: DEE WHATLEY
703 W. CLINTON, SUITE 103
HOBBS, NM 88240
FAX TO:

Receiving Date: 08/19/98
Reporting Date: 08/20/98
Project Number: NOT GIVEN
Project Name: SCURLOCK PERMIAN BRINE STATION
Project Location: SCURLOCK BRINE STATION
Lab Number: H3799-2
Sample ID: EW#2

Analysis Date: 08/19/98
Sampling Date: 08/19/98
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: BC

VOLATILES (mg/L)	Sample Result H3799-2	Method Blank	QC	%Recov.	True Value QC
Vinyl Chloride	<0.002	<0.002	0.094	94	0.100
1,1-Dichloroethylene	<0.002	<0.002	0.099	99	0.100
Methylene Chloride*	0.006	0.004	0.105	105	0.100
Chloroform	<0.002	<0.002	0.098	98	0.100
1,1-Dichloroethane	<0.002	<0.002	0.112	112	0.100
1,2-Dichloroethane	<0.002	<0.002	0.084	84	0.100
Benzene	<0.002	<0.002	0.105	105	0.100
Carbon Tetrachloride	<0.002	<0.002	0.095	95	0.100
Toluene	<0.002	<0.002	0.101	101	0.100
Trichloroethylene	<0.002	<0.002	0.105	105	0.100
Tetrachloroethylene	<0.002	<0.002	0.085	85	0.100
Ethylbenzene	<0.002	<0.002	0.102	102	0.100
m,p-Xylene	<0.004	<0.004	0.202	101	0.200
o-Xylene	<0.002	<0.002	0.104	104	0.100
1,1,1-Trichloroethane	<0.002	<0.002	0.082	82	0.100
1,1,2-Trichloroethane	<0.002	<0.002	0.100	100	0.100
1,1,2,2-Tetrachloroethane	<0.002	<0.002	0.108	108	0.100
Ethylene Dibromide	<0.002	<0.002	0.107	107	0.100

	% RECOVERY
Dibromofluoromethane	94
Toluene-d8	93
Bromofluorobenzene	94

*Detected at comparable levels in the sample and method blank.

METHODS: EPA SW 846-8260

Burgess J. A. Cooke, Ph. D.

8/20/98
Date

LABORATORIES

ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: DEE WHATLEY
703 W. CLINTON, SUITE 103
HOBBS, NM 88240
FAX TO:

Receiving Date: 08/19/98
Reporting Date: 08/21/98
Project Number: NOT GIVEN
Project Name: SCURLOCK PERMIAN BRINE STATION
Project Location: SCURLOCK BRINE STATION
Lab Number: H3799-2
Sample ID: EW#2

Analysis Date: 08/20/98
Sampling Date: 08/19/98
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: BC

POLYNUCLEAR AROMATIC HYDROCARBONS - 625 (mg/L)

		Sample Result H3799-2	Method Blank	QC	% Recov.	True Value QC
1	Naphthalene	<0.001	<0.001	0.043	86	0.050
2	2-Methylnaphthalene	<0.002	<0.002	0.045	90	0.050
3	1-Methylnaphthalene	<0.002	<0.002	NR	NR	NR
4	Acenaphthylene	<0.001	<0.001	0.048	96	0.050
5	Acenaphthene	<0.001	<0.001	0.050	100	0.050
6	Fluorene	<0.001	<0.001	0.049	98	0.050
7	Phenanthrene	<0.001	<0.001	0.050	100	0.050
8	Anthracene	<0.001	<0.001	0.049	98	0.050
9	Fluoranthene	<0.001	<0.001	0.048	96	0.050
10	Pyrene	<0.001	<0.001	0.051	102	0.050
11	Benzo(a)anthracene	<0.001	<0.001	0.051	102	0.050
12	Chrysene	<0.001	<0.001	0.049	98	0.050
13	Benzo(b)fluoranthene	<0.001	<0.001	0.050	100	0.050
14	Benzo(k)fluoranthene	<0.001	<0.001	0.051	102	0.050
15	Benzo(a)pyrene	<0.0007	<0.0007	0.052	104	0.050
16	Indeno(1,2,3-cd)pyrene	<0.001	<0.001	0.046	92	0.050
17	Dibenzo(a,h,)anthracene	<0.002	<0.002	0.049	98	0.050
18	Benzo(g,h,i)perylene	<0.001	<0.001	0.051	102	0.050

		% Recovery
19	Nitrobenzene-d5	67
20	2-Fluorobiphenyl	60
21	Terphenyl-d14	99

METHODS: EPA 625

Burgess J. A. Cooke, Ph. D.

8/21/98
Date

LABORATORIES

ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: DEE WHATLEY
703 W. CLINTON ST. SUITE 103
HOBBS, NM 88240
FAX TO:

Receiving Date: 08/19/98
Reporting Date: 08/31/98
Project Number: NOT GIVEN
Project Name: SCURLOCK PERMINAN BRINE STATION
Project Location: SCURLOCK BRINE STATION

Sampling Date: 08/19/98
Sample Type: GROUNDWATER
Sample Condition: COOL AND INTACT
Sample Received By: AH
Analyzed By: AH/GP

TOTAL METALS

LAB NUMBER	SAMPLE ID	Al (ppm)	Co (ppm)	Cu (ppm)	Fe (ppm)
ANALYSIS DATE:		08/21/98	08/22/98	08/22/98	08/22/98
H3799-1	MW #1	1.307	0.097	<0.01	1.450
H3799-2	EW #2	0.327	0.074	<0.01	1.496
Quality Control		10.40	2.950	4.944	5.026
True Value QC		10.00	3.000	5.000	5.000
% Accuracy		104	98.3	98.8	102
Relative Percent Difference		1.63	0.2	0.6	0.2
METHODS: EPA 600/04-79-020		202.1	219.1	220.1	236.1

		Mn (ppm)	Mo (ppm)	Ni (ppm)	Zn (ppm)
ANALYSIS DATE:		08/22/98	08/21/98	08/22/98	08/22/98
H3799-1	MW #1	0.216	<0.001	0.043	0.058
H3799-2	EW #2	0.030	<0.001	0.010	0.029
Quality Control		0.989	2.015	5.086	0.499
True Value QC		1.000	2.000	5.000	0.500
% Accuracy		98.9	101	102	100
Relative Percent Difference		0.7	1.3	0.1	0.5
METHODS: EPA 600/04-79-020		243.1	246.1	249.1	289.1

Burgett A. Cooke
Chemist

8/31/98
Date

H3799-2.XLS

LABORATORIES

ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: DEE WHATLEY
703 W. CLINTON SUITE 103
HOBBS, NM 88240
FAX TO:

Receiving Date: 08/19/98
Reporting Date: 08/21/98
Project Number: NOT GIVEN
Project Name: SCURLOCK PERMIAN BRINE STATION
Project Location: SCURLOCK BRINE STATION

Sampling Date: 08/19/98
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: AH

LAB NUMBER	SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (u mhos/cm)	T-Alkalinity (mgCaCO3/L)
ANALYSIS DATE:		8/21/98	08/19/98	08/19/98	08/19/98	08/20/98	08/20/98
H3799-1	MW #1	28	146	47	4.7	1425	268
H3799-2	EW #2	69	54	18	1.4	601	160
Quality Control		NR	48	52	3.05	1402	NR
True Value QC		NR	50	50	3.00	1413	NR
% Recovery		NR	96	104	102	99.2	NR
Relative Percent Difference		NR	4.2	3.8	1.6	0.1	NR
METHODS:			SM3500-Ca-D	3500-Mg E	8049	120.1	310.1

LAB NUMBER	SAMPLE ID	Cl (mg/L)	SO4 (mg/L)	CO3 (mg/L)	HCO3 (mg/L)	pH (s.u.)	TDS (mg/L)
ANALYSIS DATE:		08/19/98	08/19/98	08/19/98	08/19/98	08/19/98	08/19/98
H3799-1	MW #1	134	161.5	0	327	7.09	964
H3799-2	EW #2	45	133	0	195	7.48	357
Quality Control		1209	48.92	112	221	7.00	NR
True Value QC		1319	50	124	259	7.00	NR
% Recovery		91.7	97.84	90.3	85.4	100	NR
Relative Percent Difference		4.4	3.1			0	2.3
METHODS:		SM4500-Cl-B	375.4	310.1	310.1	150.1	160.1

Gayle A. Potter, Chemist

08/21/98
Date

H3799A.XLS

LABORATORIES

ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: DEE WHATLEY
703 W. CLINTON ST. SUITE 103
HOBBS, NM 88240
FAX TO:

Receiving Date: 08/19/98
Reporting Date: 08/24/98
Project Number: NOT GIVEN
Project Name: SCURLOCK PERMINAN BRINE STATION
Project Location: SCURLOCK BRINE STATION

Sampling Date: 08/19/98
Sample Type: GROUNDWATER
Sample Condition: COOL AND INTACT
Sample Received By: AH
Analyzed By: AH/GP

RCRA METALS

LAB NUMBER	SAMPLE ID	As ppm	Ag ppm	Ba ppm	Cd ppm	Cr ppm	Pb ppm	Hg ppm	Se ppm
ANALYSIS DATE:		08/21/98	08/21/98	08/21/98	08/21/98	08/21/98	08/21/98	08/22/98	08/21/98
H3799-1	MW #1	<0.01	<0.01	<1	<0.01	<0.05	<0.05	<0.002	<0.1
H3799-2	EW #2	<0.01	<0.01	<1	<0.01	<0.05	<0.05	<0.002	<0.1
Quality Control		0.205	4.991	18.73	1.984	5.028	4.970	0.0494	0.0506
True Value QC		0.200	5.000	20.00	2.000	5.000	5.000	0.0500	0.0500
% Recovery		102	99.8	93.7	99.2	100	99.4	98.8	101
Relative Percent Difference		6.3	0.7	0.9	0.3	3.1	0.8	4.7	23.76

METHODS: EPA 600/4-79-020		206.2	272.1	208.1	213.1	218.1	239.1	245.1	270.2
METHODS:	SW-846	7060A	7760A	7080A	7130	7190	7420	7470A	7740

Chemist

8/24/98
Date

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.

CHAIN-OF-CUSTODY AND ANALYSIS RE

CARDINAL LABORATORIES, INC.

2111 Beechwood, Abilene, TX 79603 (915) 673-7001 Fax (915) 673-7020

101 East Marland, Hobbs, NM 88240 (505) 393-2326 Fax (505) 393-2476

Page____ of_

Company Name:	Safety & Environmental Solutions
Project Manager:	Deb Wheeler
Address:	703 E Clinton Ste 103
City:	Hobbs State: NM Zip: 88240
Phone #:	505-397-0510
Fax #:	505-393-4388
Project #:	Project Owner:
Project Name:	Sinclair Permian
Project Location:	Brine Well BW-12

BILL TO	
PO #:	
Company:	
Attn:	Same
Address:	
City:	
State:	Zip:
Phone #:	
Fax #:	

FOR LAB USE ONLY				MATRIX						PRES.			SAMPLING		ANALYSIS REQUEST											
LAB I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID:	ICE / COOL	OTHER:	DATE	TIME	Cations	Anions	TPH	Heavy Metals								
H38310-1	Brine Well	G	3	✓							✓		9-4-08	7:45	✓	✓	✓	✓								

*PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

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

Sampler Relinquished:	Date: 9-4-08	Received By:	Phone Result: ☐ Yes ☐ No Additional Fax #:
	Time: 7:45 AM		Fax Result: ☐ Yes ☐ No
Relinquished By:	Date: 9-4-08	Received By: (Lab Staff)	REMARKS:
	Time: 8:00		
Delivered By: (Circle One)	Sample Condition: Cool: ☒ Yes ☐ No Intact: ☒ Yes ☐ No	CHECKED BY: (Initials)	
Sampler - UPS - Bus - Other:			

Exhibit "K"

† Cardinal cannot accept verbal changes. Please fax written changes to 915-673-7020.

ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: DEE WHATLEY
703 E. CLINTON, SUITE #103
HOBBS, NM 88240
FAX TO: (505) 393-4388

Receiving Date: 09/04/98
Reporting Date: 09/07/98
Project Number: NOT GIVEN
Project Name: SCURLOCK PERMIAN
Project Location: BRINE WELL BW-12
Lab Number: H3836-1
Sample ID: BRINE WELL

Analysis Date: 09/04/98
Sampling Date: 09/04/98
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: BC

POLYNUCLEAR AROMATIC HYDROCARBONS - 625 (mg/L)

	Sample Result H3836-1	Method Blank	QC	% Recov.	True Value QC
1 Naphthalene	<0.001	<0.001	0.033	66	0.050
2 2-Methylnaphthalene	<0.002	<0.002	0.036	72	0.050
3 1-Methylnaphthalene	<0.002	<0.002	NR	NR	NR
4 Acenaphthylene	<0.001	<0.001	0.032	64	0.050
5 Acenaphthene	<0.001	<0.001	0.033	66	0.050
6 Fluorene	<0.001	<0.001	0.035	71	0.050
7 Phenanthrene	<0.001	<0.001	0.038	77	0.050
8 Anthracene	<0.001	<0.001	0.041	82	0.050
9 Fluoranthene	<0.001	<0.001	0.036	72	0.050
10 Pyrene	<0.001	<0.001	0.041	82	0.050
11 Benzo(a)anthracene	<0.001	<0.001	0.038	76	0.050
12 Chrysene	<0.001	<0.001	0.041	83	0.050
13 Benzo(b)fluoranthene	<0.001	<0.001	0.037	73	0.050
14 Benzo(k)fluoranthene	<0.001	<0.001	0.042	84	0.050
15 Benzo(a)pyrene	<0.0007	<0.0007	0.037	73	0.050
16 Indeno(1,2,3-cd)pyrene	<0.001	<0.001	0.035	70	0.050
17 Dibenzo(a,h,)anthracene	<0.001	<0.001	0.041	82	0.050
18 Benzo(g,h,i)perylene	<0.001	<0.001	0.039	78	0.050

	% Recovery
19 Nitrobenzene-d5	65
20 2-Fluorobiphenyl	49
21 Terphenyl-d14	108

METHODS: EPA 625

Burgess J. A. Cooke, Ph. D.

9/7/98
Date

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.

ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC
ATTN: DEE WHATLEY
703 E. CLINTON, SUITE 103
HOBBS, NM 88240
FAX TO: (505) 393-4388

Receiving Date: 09/04/98
Reporting Date: 09/08/98
Project Number: NOT GIVEN
Project Name: SCURLOCK PERMIAN
Project Location: BRINE WELL BW-12

Sampling Date: 09/04/98
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: AH

LAB NUMBER	SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (u mhos/cm)	T-Alkalinity (mgCaCO3/L)
ANALYSIS DATE:		09/08/98	09/08/98	09/08/98	09/08/98	09/04/98	09/08/98
H3836-1	BRINE WELL	115649	760	2843	680	533540	72
Quality Control		NR	48	52	3.05	1402	NR
True Value QC		NR	50	50	3	1413	NR
% Accuracy		NR	96	104	102	99.2	NR
Relative Percent Difference		NR	4.2	3.8	1.6	0.1	NR
METHODS:			SM3500-Ca-D	3500-Mg E	8049	120.1	310.1

LAB NUMBER	SAMPLE ID	Cl (mg/L)	SO_4 (mg/L)	CO_3 (mg/L)	HCO_3 (mg/L)	pH (s.u.)	TDS (mg/L)
ANALYSIS DATE:		09/04/98	09/04/98	09/04/98	09/04/98	09/04/98	09/04/98
H3836-1	BRINE WELL	186130	3507	0	88	6.84	319790
Quality Control		1298	48.92	112	221	6.98	NR
True Value QC		1319	50	124	259	7.00	NR
% Accuracy		98	97.84	90.3	85.4	100	NR
Relative Percent Difference		6.8	3.1	-	-	0.2	
METHODS:		SM4500-Cl-B	375.4	310.1	310.1	150.1	160.1

Gayle A. Potter, Chemist

09/10/98
Date

H3836ACCT

ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: DEE WHATLEY
703 W. CLINTON ST. SUITE 103
HOBBS, NM 88240
FAX TO:

Receiving Date: 09/04/98
Reporting Date: 09/11/98
Project Number: NOT GIVEN
Project Name: SCURLOCK PERMIAN
Project Location: BRINE WELL BW-12

Sampling Date: 09/04/98
Sample Type: GROUNDWATER
Sample Condition: COOL AND INTACT
Sample Received By: AH
Analyzed By: GP

TOTAL METALS

LAB NUMBER SAMPLE ID	Al (ppm)	Co (ppm)	Cu (ppm)	Fe (ppm)
ANALYSIS DATE:	09/10/98	09/10/98	09/10/98	09/10/98
H3836-1 BRINE WELL	0.444	1.218	0.322	1.624
Quality Control	15.32	4.860	3.902	4.074
True Value QC	15.00	5.000	4.000	4.000
% Recovery	102	97	98	102
Relative Standard Deviation	1.25	0.90	0.66	0.51
METHODS: EPA 600/04-79-020	202.1	219.1	220.1	236.1

	Mn (ppm)	Mo (ppm)	Ni (ppm)	Zn (ppm)
ANALYSIS DATE:	09/10/98	09/10/98	09/10/98	09/10/98
H3836-1 BRINE WELL	2.647	0.310	0.979	0.245
Quality Control	5.221	4.730	5.099	0.479
True Value QC	5.000	5.000	5.000	0.500
% Recovery	104	95	102	96
Relative Standard Deviation	1.50	0.65	0.19	0.20
METHODS: EPA 600/04-79-020	243.1	246.1	249.1	289.1

Chemist

09/11/98
Date

H3836-1A.XLS

LABORATORIES

ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: DEE WHATLEY
703 W. CLINTON ST. SUITE 103
HOBBS, NM 88240
FAX TO:

Receiving Date: 09/04/98
Reporting Date: 09/11/98
Project Number: NOT GIVEN
Project Name: SCURLOCK PERMIAN
Project Location: BRINE WELL BW-12

Sampling Date: 09/04/98
Sample Type: GROUNDWATER
Sample Condition: COOL AND INTACT
Sample Received By: AH
Analyzed By: GP

RCRA METALS

LAB NUMBER SAMPLE ID	As ppm	Ag ppm	Ba ppm	Cd ppm	Cr ppm	Pb ppm	Hg ppm	Se ppm
ANALYSIS DATE:	09/10/98	09/10/98	09/10/98	09/10/98	09/10/98	09/10/98	09/10/98	09/10/98
H3836-1 BRINE WELL	0.001	0.161	0.142	0.192	0.417	2.026	<0.02	<0.1
Quality Control	0.201	4.767	45.14	0.473	4.081	3.140	0.0049	0.202
True Value QC	0.200	5.000	50.00	0.500	4.000	3.000	0.0050	0.200
% Recovery	100	95	90	95	102	105	98	101
Relative Standard Deviation	0.19	0.61	3.69	3.23	2.88	1.47	2.0	1.63

METHODS: EPA 600/4-79-020	206.2	272.1	208.1	213.1	218.1	239.1	245.1	270.2
METHODS: SW-846	7060A	7760A	7080A	7130	7190	7420	7470A	7740

Chemist

09/10/98
Date

H3836-1B.XLS

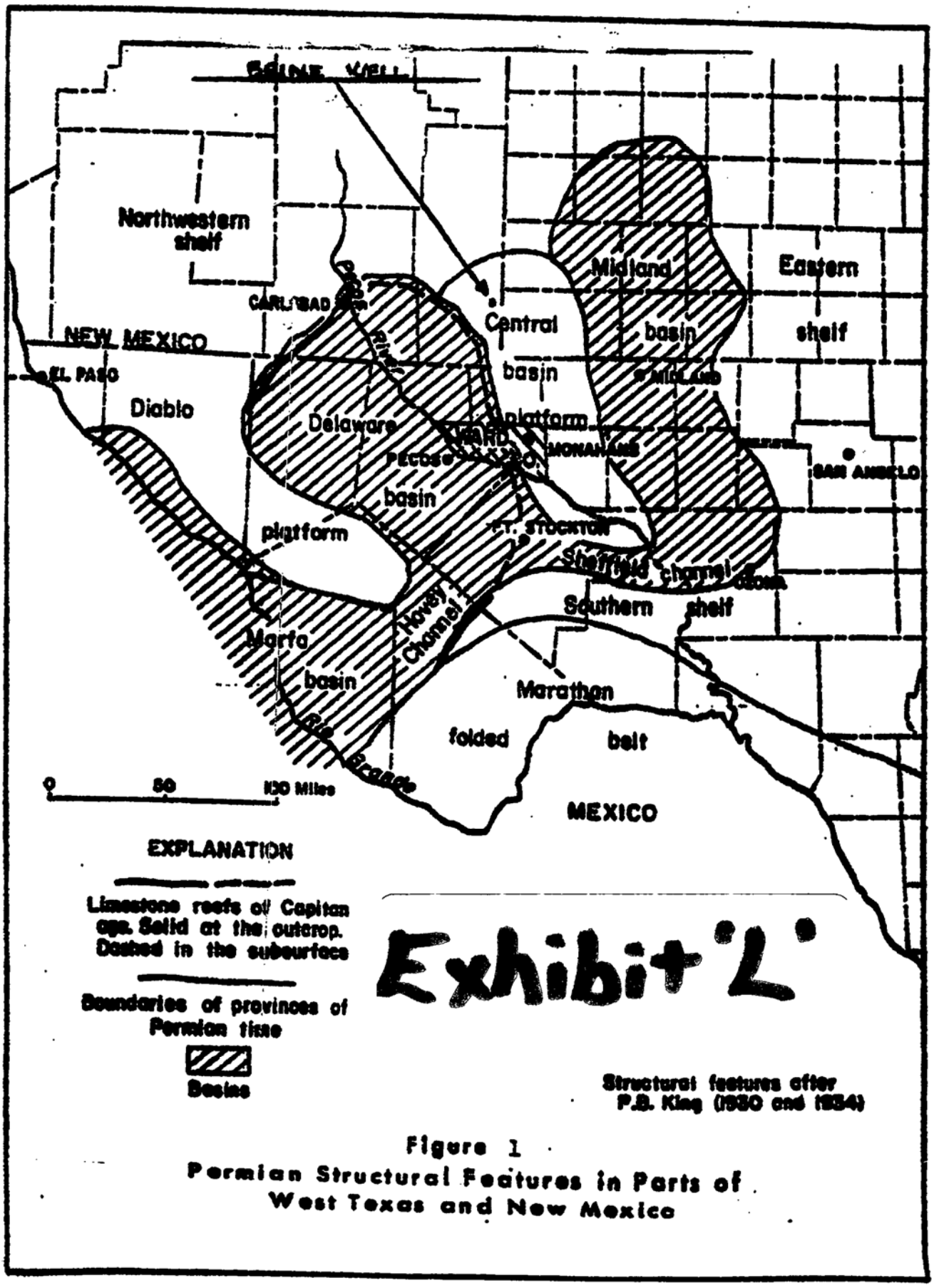


Exhibit 'L'

Figure 1
Permian Structural Features in Parts of West Texas and New Mexico

SALINE #1 BRINE FACILITY
PRODUCTION VOLUMES

DATE	BBL. BW NW(008+069)	DATE	BBL. BW NW(008+069)
Jan-95	14,066.00	Jan-96	16,776.00
Feb-95	12,115.00	Feb-96	16,333.00
Mar-95	18,201.00	Mar-96	21,094.00
Apr-95	15,339.00	Apr-96	29,442.00
May-95	23,239.00	May-96	19,214.00
Jun-95	21,277.00	Jun-96	19,820.00
Jul-95	17,438.00	Jul-96	23,391.00
Aug-95	16,947.00	Aug-96	25,023.00
Sep-95	15,865.00	Sep-96	20,358.00
Oct-95	25,150.00	Oct-96	22,826.00
Nov-95	24,439.00	Nov-96	15,019.00
Dec-95	19,743.00	Dec-96	14,771.00
TOTALS 1995	**223,819.00**	**TOTALS 1996**	**244,067.00**
AVG./MO. 1995	**18,651.58**	**AVG./MO. 1996**	**20,338.92**
Jan-97	15,765.00	Jan-98	9,284.00
Feb-97	14,343.00	Feb-98	14,332.00
Mar-97	11,898.00	Mar-98	9,867.00
Apr-97	8,632.00	Apr-98	8,762.00
May-97	23,524.00	May-98	8,904.00
Jun-97	24,269.00	Jun-98	9,861.00
Jul-97	16,393.00	Jul-98	14,371.00
Aug-97	19,673.00	Aug-98	22,515.00
Sep-97	15,928.00	Sep-98	15,395.00
Oct-97	9,159.00	Oct-98	7,303.00
Nov-97	12,527.00	Nov-98	5,343.00
Dec-97	20,484.00	Dec-98	13,238.00
TOTALS 1997	**192,595.00**	**TOTALS 1998**	**139,175.00**
AVG./MO. 1997	**16,049.58**	**AVG./MO. 1998**	**11,597.92**
Jan-99	6,944.00		
Feb-99	7,098.00		
Mar-99	3,031.00		
Apr-99	3,708.00		
May-99	NA		
Jun-99	NA		
Jul-99	NA		
Aug-99	NA		
Sep-99	NA		
Oct-99	NA		
Nov-99	NA		
Dec-99	NA		
TOTALS 1999	**20,781.00**		
AVG./MO. 1999	**5,195.25**		

Exhibit 'N'

TOTALS	**820,437.00**
AVERAGE / MO	**15,777.63**

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

Jennifer A. Salisbury
CABINET SECRETARY

Oil Conservation Div.
Environmental Bureau
2040 S. Pacheco
Santa Fe, NM 87505

Memorandum of Meeting or Conversation

Telephone __X__
Personal _____

Time: 10 am
Date: 8/20/99

Originating Party: **Wayne Price-OCD**

Other Parties: **Steve Falgoust 713-672-8092 Fax 713-672-7609** 3:58 PM

Subject: Scurlock-Permian Brine St's BW-012

Discussion:

Notified Mr. Falgoust that Discharge Plan BW-012 expired on July 18, 1999.

Conclusions or Agreements:

Scurlock will submit DP application within 10 days.

Signed: _____

CC:

P.O. Box 1613
703 E. Clinton Suite 103
Hobbs, New Mexico 88240
505/397-0510
fax 505/393-4388

Safety & Environmental Solutions, Inc.

June 24, 1999

Mr. Roger Anderson
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, NM 87505

Dear Roger:

This letter is a request for approval for Cavity Configuration testing of Scurlock Permian's two brine wells, BW-012 in Hobbs, NM and BW-027, in Carlsbad, NM. The cavity configuration log is a requirement prior to discharge plan renewal for each brine well.

Sonar and Well Testing Services (SWTS) of Houston, Texas will be performing the log upon NMOCD approval. The method is a sonar caliper survey and SWTS has done several prior surveys in conjunction with NMOCD requirements. Please find attached a specification sheet from SWTS.

We have tentatively scheduled testing for the weeks of July 5th or July 12th, pending NMOCD approval. If you have any questions, please call. We look forward to hearing from you shortly to complete this project.

Thank you.

Sincerely,

Beth Aldrich

Beth Aldrich

Cc: James Ephraim, Scurlock Permian

Specifications

COMPUTERIZED SURFACE CONTROL SYSTEM

Power required	115, VAC, 60 Hz
Range scales	10-25-50-100-500-1000

DOWNHOLE TOOL

Diameter	3.50 in.
Length	7 ft. 4 in.
Weight	104 lbs.
Roof/floor scans	1° increments
Horizontal scans	360° (2.5° increments)
Computer interpolation	1° increments
Hole condition	fluid-filled
Operating temp	0–300° F. range
Maximum depth	10,000 ft. (operating)
North orientation	magnetic
Vertical scan	1° through 175° (5° increments)
Beam width	1° through 5° (variable)

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

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

April 5, 1999

CERTIFIED MAIL
RETURN RECEIPT NO. P 288 259 113

James C. Ephraim II P.E.
Scurlock Permian Corporation
333 Clay
P.O. Box 4648
Houston, Texas 77210-4648

Re: Scurlock Permian Brine Well BW-12
Groundwater Investigation

Dear Mr. Ephraim:

The New Mexico Oil Conservation Division (NMOCD) is in receipt of the August 6, 1998 Scurlock Permian Corporation (SPC) document submitted by Safety & Environmental Solutions, Inc. "Installation of Monitor Well and Investigation Results". The NMOCD defers comment at this time in order so we may continue to investigate this area. Please maintain this well so as NMOCD may collect samples in the future, also please provide to NMOCD the actual depth to groundwater.

If you require any further information or assistance please do not hesitate to write or call me at (505-827-7155).

Sincerely Yours,

Wayne Price

Wayne Price-Pet. Engr. Spec.
Environmental Bureau

cc: Bob Allen-SPC e-mail

Safety & Environmental Solutions, Inc.

Scurlock Permian
Brine Well BW-12

Installation of Monitor Well and Investigation Results
Lea County, New Mexico

Safety & Environmental Solutions, Inc.
703 E. Clinton Suite 103
Hobbs, New Mexico 88240
(505) 397-0510

TABLE OF CONTENTS

I. Background

In early 1998 Scurlock Permian secured the services of Safety and Environmental Solutions, Inc. to determine the extent, if any, of Chlorides contamination at the specified location. A work plan was formulated to drill one monitor well down gradient of the existing brine well to provide initial indications of the extent of any groundwater contamination.

II. Work Performed

One monitor well was drilled adjacent to the Scurlock Permian Brine Well B120 located in Section 25, T25S, R37E, Lea County, NM according to the Approved Work Plan (GW-202 Pit Closure). SES contracted Atkins Engineering of Roswell, NM to drill this well on August 6, 1998. Cardinal Laboratories of Hobbs, NM was also contracted to perform the laboratory analytical testing required for this project.

SES sampled the monitor well hole soils at intervals of ten (10') feet using SOPs found in **Environmental Protection Agency, 1984, Characterization of Hazardous Waste Site - A Methods Manual: Vol II.** The composite soil samples from both the top and the bottom of the water table, 46' and 57' respectively, along with Chain of Custody were delivered to the laboratory for testing. The composite samples were analyzed for Total Petroleum Hydrocarbons (EPA Method 418.1), BTEX (EPA Method 8020) and Chlorides (EPA Method 600/4-79-020). The results of the BTEX, TPH and Chlorides were compared to the regulatory limits found in **"Guidelines for Remediation of Leaks, Spills and Releases"** *New Mexico Oil Conservation Division* - August 13, 1993. A summary of the laboratory analysis and correlated test hole data is represented in the following tables:

Well #1

Monitor Well #1 was drilled southeast of the existing brine well with top of casing at XX' and total depth of 57'.

ID/Depth	Lithology	TPH	Cl	Benzene	Toluene	Ethyl Benzene	Total Xylenes
46'	Fine, loose sand	<10	53	<0.002	<0.002	<0.002	<0.006
57'	Fine sand/ sandstone	<10	53	<0.002	<0.002	<0.002	<0.006

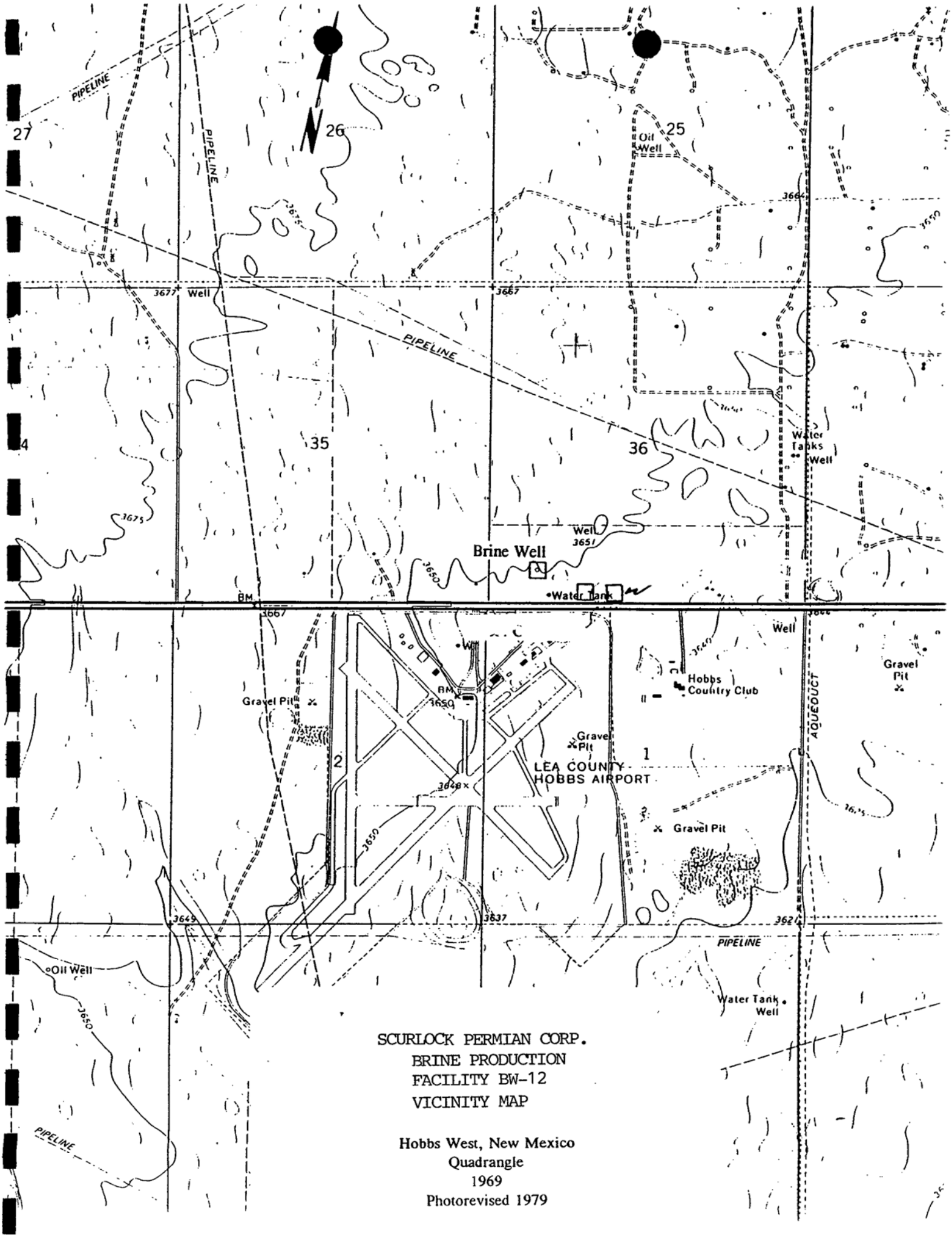
III. Monitor Well Testing

Initial water sampling from the new monitor well and the existing brine well was performed on August 19 and September 4, 1998 and the samples along with Chain of Custody were delivered to the laboratory for testing. The water samples were analyzed for BTEX (EPA Method 8020, 5030) as well as NMWQCC testing (Methods 625, 600/4-79-020, -206.2, -272.1,-213.1,-208.1, -218.1,-239.1,-245.1,-270.2, 600/4-78-020,-202.1,-220.1,-236.1,-243.1,-249.1,-289.1, 600/4-91-010,-212.1,-219.1,-246.1, SM4500-Cl-B, 375.4, 310.1, 150.1, 160.1, 120.1, 8049, 3500-Mg E, SM3500-Ca-D).

The results from the existing source well and the new monitor well show no elevated Chlorides or TDS levels. The Chlorides were slightly higher in the monitor well bot below limits. As expected, the existing brine well showed extremely elevated levels of TDS and Chlorides (>100,00ppm). (See Analytical Reports attached)

IV. Maps and Figures

Vicinity Map
Site Plan
Log of Boring
Chain of Custody for Samples
Analytical Results

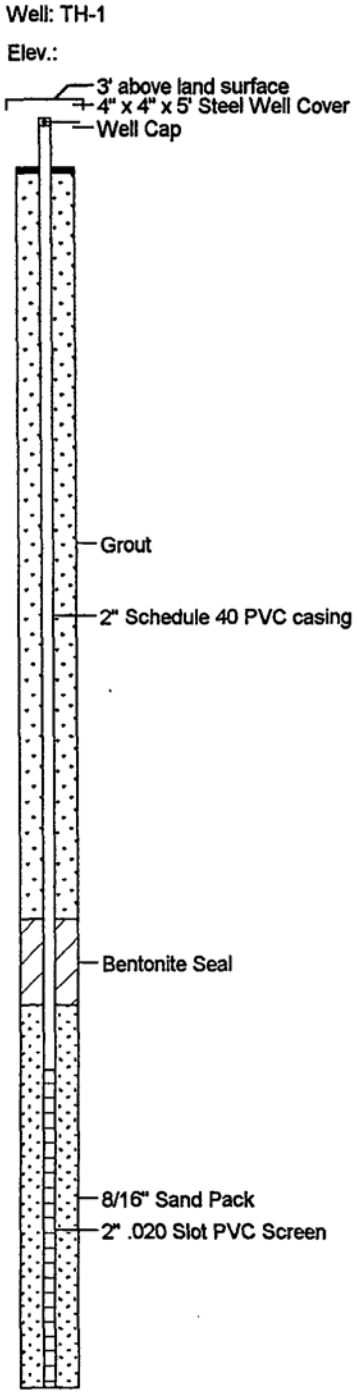


SCURLOCK PERMIAN CORP.
BRINE PRODUCTION
FACILITY BW-12
VICINITY MAP

Hobbs West, New Mexico
Quadrangle
1969
Photorevised 1979

Atkins Engineering Associates, Inc. P.O. Box 3156 Roswell, New Mexico 88202	LOG OF BORING Brine Production Facility TH-1 (Page 1 of 1)
Scurlock Permian Corp. P.O. Box 4648 Houston, TX 77210 Contact: Mr. James C. Ephram II Job #98280	Date : 8-6-98 Drill Start : 7:25 A.M. Drill End : 2:00 P.M. Boring Location : SE of well Site Location : 3 mi. W. of Hobbs on NM 62, 180 Auger Type : Hollow Stem Logged By : Mort Bates

Depth in feet	GRAPHIC	USCS	Samples	DESCRIPTION
0		CL		Silty Clay w/Caliche Rock, Brown, Firm, Damp
				Caliche Rock, Gray to Tan, Firm, Dry
				Caliche Rock, Gray, Hard, Dry
5				Sandy Caliche, Loose, Tan, Dry
				Caliche w/Silty Sand, Tan, Firm, Dry
10			1	
				Sandy Caliche, Tan, Loose, Dry
15				
				Sandy Caliche, Tan, Loose, Damp
20			2	Sand, Tan, Loose, Damp
25		SP		
30			3	Sandstone, Tan, Hard, Dry
		SS		
35				Sand, Tan, Firm, Damp
40		SP	4	
45			5	
		SP		Sand, Tan, Loose, Moist
50				Sand w/Sandstone, Tan, Firm, Saturated
		SP		
55			6	
				TD = 57 ft.
60				



08-07-1998 c:\mtech46\Scurlockth-1.bor

Safety & Environmental Solutions, Inc.

703 E. Clinton, Suite 103, Hobbs, New Mexico 88240
(505)397-0510

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: SESI

Phone #: 505-397-0510

FAX #: 505-393-4580

Company Name & Address: 703 E. Clinton #103 Hobbs NM 88240

Project #:

Project Name: Monitor Well

Project Location: Scurlock Permian Snia Well

Sampler Signature: [signature]

ANALYSIS REQUEST

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	MATRIX: SOIL	MATRIX: AIR	MATRIX: SLUDGE	MATRIX: OTHER	PRESERVATIVE METHOD: HCL	PRESERVATIVE METHOD: HNO3	PRESERVATIVE METHOD: ICE	PRESERVATIVE METHOD: NONE	PRESERVATIVE METHOD: OTHER	SAMPLING: DATE	SAMPLING: TIME	BTEX 8020/5030	TPH 418.1	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	TDS	RCI	Chloride									
H3774-1	Monitor Well 46'	1			✓									8-6-98	1100a	✓	✓							✓									
-2	Monitor Well 57' TD	1			✓									8-6-98	1200a	✓	✓							✓									

Relinquished by:	Date:	Time:	Received by:
[signature]	8-10-98	7:00 am	[signature]
[signature]	8/10/98	10:10 AM	[signature]
			Received by Laboratory:

REMARKS

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

CARDINAL LABORATORIES, INC.

2111 Beechwood, Abilene, TX 79603 (915) 673-7001 Fax (915) 673-7020

101 East Marland, Hobbs, NM 88240 (505) 393-2326 Fax (505) 393-2476

Page____ of ____

Company Name:		**BILL TO**	
Project Manager:		P.O. #:	
Address:		Company:	
City:	State: Zip:	Attn:	
Phone #:	Fax #:	Address:	
Project #:	Project Owner:	City:	
Project Name:		State: Zip:	
Project Location:		Phone #:	
Sampler Name:		Fax #:	

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING	
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME
H03771 -2														

ANALYSIS REQUEST

Sampler Relinquished:	Date:	Received By:	Phone Result: ☐ Yes ☐ No	Add'l Phone #:
	Time:		Fax Result: ☐ Yes ☐ No	Add'l Fax #:
Relinquished By:	Date:	Received By: (Lab Staff)	REMARKS:	
	Time:			
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Sample Condition Cool ☐Yes ☐No Intact ☐Yes ☐No	CHECKED BY: (Initials)	

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

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: BETH ALDRICH
P.O. BOX 1613
HOBBS, NM 88240
FAX TO: (505) 393-4380

Receiving Date: 08/10/98
Reporting Date: 08/12/98
Project Number: NOT GIVEN
Project Name: MONITOR WELL
Project Location: SCURLOCK PERMIAN BORE WELL

Sampling Date: 08/06/98
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: BC

LAB NUMBER	SAMPLE ID	TPH (mg/Kg)	Cl (mg/Kg)	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS DATE:		08/10/98	08/11/98	08/10/98	08/10/98	08/10/98	08/10/98
H3774-1	MW 46'	<10	53	<0.002	<0.002	<0.002	<0.006
H3774-2	MW 57' TD	<10	53	<0.002	<0.002	<0.002	<0.006
Quality Control		269	1209	0.103	0.093	0.098	0.301
True Value QC		273	1319	0.100	0.100	0.100	0.300
% Accuracy		97.4	91.7	103	92.7	98.4	100
Relative Percent Difference		6.1	4.4	12.6	5.9	2.5	1.9

METHODS: TRPHC-EPA 600/4-79-020, 418.1;Cl-EPA 600/4-79-020 325.3 BTEX-EPA SW-846-8020

Burgess J. A. Cooke, Ph. D.

8/12/98
Date

H3774-1.XLS

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

CARDINAL LABORATORIES, INC.

2111 Beechwood, Abilene, TX 79603 101 East Marland, Hobbs, NM 88240

(915) 673-7001 Fax (915) 673-7020 (505) 393-2326 Fax (505) 393-2476

Page____ of ____

Company Name:	Safety & Environmental	**BILL TO**	
Project Manager:	Dee Whatley	P.O. #:	
Address:	703 W. Clinton St. 103	Company:	
City:	Hobbs State: NM Zip: 88240	Attn:	Same
Phone #:	Fax #:	Address:	
Project #:	Project Owner:	City:	
Project Name:	Scurlock Permian Brine Station	State: Zip:	
Project Location:	Scurlock Brine Station	Phone #:	
Sampler Name:	Dee Whatley	Fax #:	

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST									
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	See Attached List	Cations	Anions	TDS	Heavy Metals	P.A.H.				
H3799-1	MW #1	G	3	X							X		8/19	2:00										
H3799-2	EW #2	G	3	X							X		8/19	2:00										

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

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

Sampler Relinquished:	Date: 8.19	Received By:	
	Time: 2:40		
Relinquished By:	Date: 8/19/98	Received By: (Lab Staff)	Amy Hill
	Time: 2:40		
Delivered By: (Circle One)	Sample Condition Cool: Yes / No	Intact: Yes / No	CHECKED BY: (Initials)
Sampler - UPS - Bus - Other:			

Phone Result: ☐ Yes ☐ No Add'l Phone #:

Fax Result: ☐ Yes ☐ No Add'l Fax #:

REMARKS:

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

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: DEE WHATLEY
703 W. CLINTON ST. SUITE 103
HOBBS, NM 88240
FAX TO:

Receiving Date: 08/19/98
Reporting Date: 08/31/98
Project Number: NOT GIVEN
Project Name: SCURLOCK PERMINAN BRINE STATION
Project Location: SCURLOCK BRINE STATION

Sampling Date: 08/19/98
Sample Type: GROUNDWATER
Sample Condition: COOL AND INTACT
Sample Received By: AH
Analyzed By: AH/GP

TOTAL METALS

LAB NUMBER	SAMPLE ID	Al (ppm)	Co (ppm)	Cu (ppm)	Fe (ppm)
ANALYSIS DATE:		08/21/98	08/22/98	08/22/98	08/22/98
H3799-1	MW #1	1.307	0.097	<0.01	1.450
H3799-2	EW #2	0.327	0.074	<0.01	1.496
Quality Control		10.40	2.950	4.944	5.026
True Value QC		10.00	3.000	5.000	5.000
% Accuracy		104	98.3	98.8	102
Relative Percent Difference		1.63	0.2	0.6	0.2
METHODS: EPA 600/04-79-020		202.1	219.1	220.1	236.1

LAB NUMBER	SAMPLE ID	Mn (ppm)	Mo (ppm)	Ni (ppm)	Zn (ppm)
ANALYSIS DATE:		08/22/98	08/21/98	08/22/98	08/22/98
H3799-1	MW #1	0.216	<0.001	0.043	0.058
H3799-2	EW #2	0.030	<0.001	0.010	0.029
Quality Control		0.989	2.015	5.086	0.499
True Value QC		1.000	2.000	5.000	0.500
% Accuracy		98.9	101	102	100
Relative Percent Difference		0.7	1.3	0.1	0.5
METHODS: EPA 600/04-79-020		243.1	246.1	249.1	289.1

Burgett A. Cooke
Chemist

8/31/98
Date

H3799-2.XLS

CARDINAL LABORATORIES

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PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: DEE WHATLEY
703 W. CLINTON ST. SUITE 103
HOBBS, NM 88240
FAX TO:

Receiving Date: 08/19/98
Reporting Date: 08/24/98
Project Number: NOT GIVEN
Project Name: SCURLOCK PERMINAN BRINE STATION
Project Location: SCURLOCK BRINE STATION

Sampling Date: 08/19/98
Sample Type: GROUNDWATER
Sample Condition: COOL AND INTACT
Sample Received By: AH
Analyzed By: AH/GP

RCRA METALS

LAB NUMBER	SAMPLE ID	As ppm	Ag ppm	Ba ppm	Cd ppm	Cr ppm	Pb ppm	Hg ppm	Se ppm
ANALYSIS DATE:		08/21/98	08/21/98	08/21/98	08/21/98	08/21/98	08/21/98	08/22/98	08/21/98
H3799-1	MW #1	<0.01	<0.01	<1	<0.01	<0.05	<0.05	<0.002	<0.1
H3799-2	EW #2	<0.01	<0.01	<1	<0.01	<0.05	<0.05	<0.002	<0.1
Quality Control		0.205	4.991	18.73	1.984	5.028	4.970	0.0494	0.0506
True Value QC		0.200	5.000	20.00	2.000	5.000	5.000	0.0500	0.0500
% Recovery		102	99.8	93.7	99.2	100	99.4	98.8	101
Relative Percent Difference		6.3	0.7	0.9	0.3	3.1	0.8	4.7	23.76

METHODS: EPA 600/4-79-020		206.2	272.1	208.1	213.1	218.1	239.1	245.1	270.2
METHODS:	SW-846	7060A	7760A	7080A	7130	7190	7420	7470A	7740

Gregory R. Cooke
Chemist

8/24/98
Date

H3799-1.XLS

CARDINAL LABORATORIES

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ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: DEE WHATLEY
703 W. CLINTON, SUITE 103
HOBBS, NM 88240
FAX TO:

Receiving Date: 08/19/98
Reporting Date: 08/21/98
Project Number: NOT GIVEN
Project Name: SCURLOCK PERMIAN BRINE STATION
Project Location: SCURLOCK BRINE STATION
Lab Number: H3799-1
Sample ID: MW#1

Analysis Date: 08/20/98
Sampling Date: 08/19/98
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: BC

POLYNUCLEAR AROMATIC HYDROCARBONS - 625 (mg/L)	Sample Result H3799-1	Method Blank	QC	% Recov.	True Value QC
1 Naphthalene	<0.001	<0.001	0.043	86	0.050
2 2-Methylnaphthalene	<0.002	<0.002	0.045	90	0.050
3 1-Methylnaphthalene	<0.002	<0.002	NR	NR	NR
4 Acenaphthylene	<0.001	<0.001	0.048	96	0.050
5 Acenaphthene	<0.001	<0.001	0.050	100	0.050
6 Fluorene	<0.001	<0.001	0.049	98	0.050
7 Phenanthrene	<0.001	<0.001	0.050	100	0.050
8 Anthracene	<0.001	<0.001	0.049	98	0.050
9 Fluoranthene	<0.001	<0.001	0.048	96	0.050
10 Pyrene	<0.001	<0.001	0.051	102	0.050
11 Benzo(a)anthracene	<0.001	<0.001	0.051	102	0.050
12 Chrysene	<0.001	<0.001	0.049	98	0.050
13 Benzo(b)fluoranthene	<0.001	<0.001	0.050	100	0.050
14 Benzo(k)fluoranthene	<0.001	<0.001	0.051	102	0.050
15 Benzo(a)pyrene	<0.0007	<0.0007	0.052	104	0.050
16 Indeno(1,2,3-cd)pyrene	<0.001	<0.001	0.046	92	0.050
17 Dibenzo(a,h,)anthracene	<0.002	<0.002	0.049	98	0.050
18 Benzo(g,h,i)perylene	<0.001	<0.001	0.051	102	0.050

	% Recovery
19 Nitrobenzene-d5	62
20 2-Fluorobiphenyl	47
21 Terphenyl-d14	102

METHODS: EPA 625

Burgess J. A. Cooke, Ph. D.

8/21/98
Date

H3799-19.XLS

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ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: DEE WHATLEY
703 W. CLINTON, SUITE 103
HOBBS, NM 88240
FAX TO:

Receiving Date: 08/19/98
Reporting Date: 08/20/98
Project Number: NOT GIVEN
Project Name: SCURLOCK PERMIAN BRINE STATION
Project Location: SCURLOCK BRINE STATION
Lab Number: H3799-1
Sample ID: MW#1

Analysis Date: 08/19/98
Sampling Date: 08/19/98
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: BC

VOLATILES (mg/L)	Sample Result H3799-1	Method Blank	QC	%Recov.	True Value QC
Vinyl Chloride	<0.002	<0.002	0.094	94	0.100
1,1-Dichloroethylene	<0.002	<0.002	0.099	99	0.100
Methylene Chloride*	0.008	0.004	0.105	105	0.100
Chloroform	<0.002	<0.002	0.098	98	0.100
1,1-Dichloroethane	<0.002	<0.002	0.112	112	0.100
1,2-Dichloroethane	<0.002	<0.002	0.084	84	0.100
Benzene	<0.002	<0.002	0.105	105	0.100
Carbon Tetrachloride	<0.002	<0.002	0.095	95	0.100
Toluene	<0.002	<0.002	0.101	101	0.100
Trichloroethylene	<0.002	<0.002	0.105	105	0.100
Tetrachloroethylene	<0.002	<0.002	0.085	85	0.100
Ethylbenzene	<0.002	<0.002	0.102	102	0.100
m,p-Xylene	<0.004	<0.004	0.202	101	0.200
o-Xylene	<0.002	<0.002	0.104	104	0.100
1,1,1-Trichloroethane	<0.002	<0.002	0.082	82	0.100
1,1,2-Trichloroethane	<0.002	<0.002	0.100	100	0.100
1,1,2,2-Tetrachloroethane	<0.002	<0.002	0.108	108	0.100
Ethylene Dibromide	<0.002	<0.002	0.107	107	0.100

	% RECOVERY
Dibromofluoromethane	94
Toluene-d8	93
Bromofluorobenzene	95

*Detected at comparable levels in the sample and method blank.

METHODS: EPA SW 846-8260

Burgess J. A. Cooke, Ph. D.

8/20/98
Date

CARDINAL LABORATORIES

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ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: DEE WHATLEY
703 W. CLINTON, SUITE 103
HOBBS, NM 88240

Receiving Date: 08/19/98
Reporting Date: 08/21/98
Project Number: NOT GIVEN
Project Name: SCURLOCK PERMIAN BRINE STATION
Project Location: SCURLOCK BRINE STATION
Lab Number: H3799-2
Sample ID: EW#2

FAX TO:

Analysis Date: 08/20/98
Sampling Date: 08/19/98
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: BC

POLYNUCLEAR AROMATIC HYDROCARBONS - 625 (mg/L)	Sample Result H3799-2	Method Blank	QC	% Recov.	True Value QC
1 Naphthalene	<0.001	<0.001	0.043	86	0.050
2 2-Methylnaphthalene	<0.002	<0.002	0.045	90	0.050
3 1-Methylnaphthalene	<0.002	<0.002	NR	NR	NR
4 Acenaphthylene	<0.001	<0.001	0.048	96	0.050
5 Acenaphthene	<0.001	<0.001	0.050	100	0.050
6 Fluorene	<0.001	<0.001	0.049	98	0.050
7 Phenanthrene	<0.001	<0.001	0.050	100	0.050
8 Anthracene	<0.001	<0.001	0.049	98	0.050
9 Fluoranthene	<0.001	<0.001	0.048	96	0.050
10 Pyrene	<0.001	<0.001	0.051	102	0.050
11 Benzo(a)anthracene	<0.001	<0.001	0.051	102	0.050
12 Chrysene	<0.001	<0.001	0.049	98	0.050
13 Benzo(b)fluoranthene	<0.001	<0.001	0.050	100	0.050
14 Benzo(k)fluoranthene	<0.001	<0.001	0.051	102	0.050
15 Benzo(a)pyrene	<0.0007	<0.0007	0.052	104	0.050
16 Indeno(1,2,3-cd)pyrene	<0.001	<0.001	0.046	92	0.050
17 Dibenzo(a,h,)anthracene	<0.002	<0.002	0.049	98	0.050
18 Benzo(g,h,i)perylene	<0.001	<0.001	0.051	102	0.050

	% Recovery
19 Nitrobenzene-d5	67
20 2-Fluorobiphenyl	60
21 Terphenyl-d14	99

METHODS: EPA 625

Burgess J. A. Cooke, Ph. D.

8/21/98
Date

H3799-2 SCURLOCK

CARDINAL LABORATORIES

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ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: DEE WHATLEY
703 W. CLINTON, SUITE 103
HOBBS, NM 88240
FAX TO:

Receiving Date: 08/19/98
Reporting Date: 08/20/98
Project Number: NOT GIVEN
Project Name: SCURLOCK PERMIAN BRINE STATION
Project Location: SCURLOCK BRINE STATION
Lab Number: H3799-2
Sample ID: EW#2

Analysis Date: 08/19/98
Sampling Date: 08/19/98
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: BC

VOLATILES (mg/L)	Sample Result H3799-2	Method Blank	QC	%Recov.	True Value QC
Vinyl Chloride	<0.002	<0.002	0.094	94	0.100
1,1-Dichloroethylene	<0.002	<0.002	0.099	99	0.100
Methylene Chloride*	0.006	0.004	0.105	105	0.100
Chloroform	<0.002	<0.002	0.098	98	0.100
1,1-Dichloroethane	<0.002	<0.002	0.112	112	0.100
1,2-Dichloroethane	<0.002	<0.002	0.084	84	0.100
Benzene	<0.002	<0.002	0.105	105	0.100
Carbon Tetrachloride	<0.002	<0.002	0.095	95	0.100
Toluene	<0.002	<0.002	0.101	101	0.100
Trichloroethylene	<0.002	<0.002	0.105	105	0.100
Tetrachloroethylene	<0.002	<0.002	0.085	85	0.100
Ethylbenzene	<0.002	<0.002	0.102	102	0.100
m,p-Xylene	<0.004	<0.004	0.202	101	0.200
o-Xylene	<0.002	<0.002	0.104	104	0.100
1,1,1-Trichloroethane	<0.002	<0.002	0.082	82	0.100
1,1,2-Trichloroethane	<0.002	<0.002	0.100	100	0.100
1,1,2,2-Tetrachloroethane	<0.002	<0.002	0.108	108	0.100
Ethylene Dibromide	<0.002	<0.002	0.107	107	0.100

	% RECOVERY
Dibromofluoromethane	94
Toluene-d8	93
Bromofluorobenzene	94

*Detected at comparable levels in the sample and method blank.

METHODS: EPA SW 846-8260

Burgess J.A. Cooke, Ph. D.

8/20/98
Date

CARDINAL LABORATORIES

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ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: DEE WHATLEY
703 W. CLINTON SUITE 103
HOBBS, NM 88240
FAX TO:

Receiving Date: 08/19/98
Reporting Date: 08/21/98
Project Number: NOT GIVEN
Project Name: SCURLOCK PERMIAN BRINE STATION
Project Location: SCURLOCK BRINE STATION

Sampling Date: 08/19/98
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: AH

LAB NUMBER	SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (u mhos/cm)	T-Alkalinity (mgCaCO3/L)
ANALYSIS DATE:		8/21/98	08/19/98	08/19/98	08/19/98	08/20/98	08/20/98
H3799-1	MW #1	28	146	47	4.7	1425	268
H3799-2	EW #2	69	54	18	1.4	601	160
Quality Control		NR	48	52	3.05	1402	NR
True Value QC		NR	50	50	3.00	1413	NR
% Recovery		NR	96	104	102	99.2	NR
Relative Percent Difference		NR	4.2	3.8	1.6	0.1	NR
METHODS:			SM3500-Ca-D	3500-Mg E	8049	120.1	310.1

		Cl^- (mg/L)	SO_4 (mg/L)	CO_3 (mg/L)	HCO_3 (mg/L)	pH (s.u.)	TDS (mg/L)
ANALYSIS DATE:		08/19/98	08/19/98	08/19/98	08/19/98	08/19/98	08/19/98
H3799-1	MW #1	134	161.5	0	327	7.09	964
H3799-2	EW #2	45	133	0	195	7.48	357
Quality Control		1209	48.92	112	221	7.00	NR
True Value QC		1319	50	124	259	7.00	NR
% Recovery		91.7	97.84	90.3	85.4	100	NR
Relative Percent Difference		4.4	3.1			0	2.3
METHODS:		SM4500-Cl-B	375.4	310.1	310.1	150.1	160.1

Gayle A. Potter, Chemist

08/21/98
Date

H3799A.XLS

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

CARDINAL LABORATORIES, INC.

2111 Beechwood, Abilene, TX 79603 (915) 673-7001 Fax (915) 673-7020
101 East Marland, Hobbs, NM 88240 (505) 393-2326 Fax (505) 393-2476

Page____ of ____

Company Name:	Safety & Environmental Solutions
Project Manager:	Deb Whaley
Address:	703 E. Clinton #103
City:	Hobbs State: NM Zip: 88240
Phone #:	505-397-0510
Fax #:	505-393-4388
Project #:	Project Owner:
Project Name:	Scurlock Permian
Project Location:	Brine Well BW-12

BILL TO	
PO #:	
Company:	
Attn:	Jaime
Address:	
City:	
State:	Zip:
Phone #:	
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY LAB I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRES.: ACID:	ICE / COOL	OTHER:	SAMPLING: DATE	TIME	Cations	Anions	PAH	Heavy Metals
H38830-1	Brine Well	G	3	✓							✓		9-4-98	7:45	✓	✓	✓	✓
	9																	

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

Sampler Relinquished:	Date: 9-4-98	Received By:
	Time: 7:45 AM	
Relinquished By:	Date: 9-4-98	Received By: (Lab Staff)
	Time: 8:00	
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Sample Condition: Cool: ☒ Yes ☐ No; Intact: ☒ Yes ☐ No	CHECKED BY: (Initials)

Phone Result ☐ Yes ☐ No Additional Fax #:
Fax Result: ☐ Yes ☐ No
REMARKS:

† Cardinal cannot accept verbal changes. Please fax written changes to 915-673-7020.

CARDINAL LABORATORIES

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ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: DEE WHATLEY
703 E. CLINTON, SUITE #103
HOBBS, NM 88240
FAX TO: (505) 393-4388

Receiving Date: 09/04/98
Reporting Date: 09/07/98
Project Number: NOT GIVEN
Project Name: SCURLOCK PERMIAN
Project Location: BRINE WELL BW-12
Lab Number: H3836-1
Sample ID: BRINE WELL

Analysis Date: 09/04/98
Sampling Date: 09/04/98
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: BC

POLYNUCLEAR AROMATIC HYDROCARBONS - 625 (mg/L)

	Sample Result H3836-1	Method Blank	QC	% Recov.	True Value QC
1 Naphthalene	<0.001	<0.001	0.033	66	0.050
2 2-Methylnaphthalene	<0.002	<0.002	0.036	72	0.050
3 1-Methylnaphthalene	<0.002	<0.002	NR	NR	NR
4 Acenaphthylene	<0.001	<0.001	0.032	64	0.050
5 Acenaphthene	<0.001	<0.001	0.033	66	0.050
6 Fluorene	<0.001	<0.001	0.035	71	0.050
7 Phenanthrene	<0.001	<0.001	0.038	77	0.050
8 Anthracene	<0.001	<0.001	0.041	82	0.050
9 Fluoranthene	<0.001	<0.001	0.036	72	0.050
10 Pyrene	<0.001	<0.001	0.041	82	0.050
11 Benzo(a)anthracene	<0.001	<0.001	0.038	76	0.050
12 Chrysene	<0.001	<0.001	0.041	83	0.050
13 Benzo(b)fluoranthene	<0.001	<0.001	0.037	73	0.050
14 Benzo(k)fluoranthene	<0.001	<0.001	0.042	84	0.050
15 Benzo(a)pyrene	<0.0007	<0.0007	0.037	73	0.050
16 Indeno(1,2,3-cd)pyrene	<0.001	<0.001	0.035	70	0.050
17 Dibenzo(a,h,)anthracene	<0.001	<0.001	0.041	82	0.050
18 Benzo(g,h,i)perylene	<0.001	<0.001	0.039	78	0.050

	% Recovery
19 Nitrobenzene-d5	65
20 2-Fluorobiphenyl	49
21 Terphenyl-d14	108

METHODS: EPA 625

Burgess J. A. Cooke, Ph. D.

9/7/98
Date

H3836S.XLS

CARDINAL LABORATORIES

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ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC
ATTN: DEE WHATLEY
703 E. CLINTON, SUITE 103
HOBBS, NM 88240
FAX TO: (505) 393-4388

Receiving Date: 09/04/98
Reporting Date: 09/08/98
Project Number: NOT GIVEN
Project Name: SCURLOCK PERMIAN
Project Location: BRINE WELL BW-12

Sampling Date: 09/04/98
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: AH

LAB NUMBER	SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (u mhos/cm)	T-Alkalinity (mgCaCO3/L)
ANALYSIS DATE:		09/08/98	09/08/98	09/08/98	09/08/98	09/04/98	09/08/98
H3836-1	BRINE WELL	115649	760	2843	680	533540	72
Quality Control		NR	48	52	3.05	1402	NR
True Value QC		NR	50	50	3	1413	NR
% Accuracy		NR	96	104	102	99.2	NR
Relative Percent Difference		NR	4.2	3.8	1.6	0.1	NR
METHODS:			SM3500-Ca-D	3500-Mg E	8049	120.1	310.1

LAB NUMBER	SAMPLE ID	Cl⁻ (mg/L)	SO_4 (mg/L)	CO_3 (mg/L)	HCO_3 (mg/L)	pH (s.u.)	TDS (mg/L)
ANALYSIS DATE:		09/04/98	09/04/98	09/04/98	09/04/98	09/04/98	09/04/98
H3836-1	BRINE WELL	186130	3507	0	88	6.84	319790
Quality Control		1298	48.92	112	221	6.98	NR
True Value QC		1319	50	124	259	7.00	NR
% Accuracy		98	97.84	90.3	85.4	100	NR
Relative Percent Difference		6.8	3.1	-	-	0.2	
METHODS:		SM4500-Cl-B	375.4	310.1	310.1	150.1	160.1

Gayle A. Potter, Chemist

09/10/98
Date

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: DEE WHATLEY
703 W. CLINTON ST. SUITE 103
HOBBS, NM 88240
FAX TO:

Receiving Date: 09/04/98
Reporting Date: 09/11/98
Project Number: NOT GIVEN
Project Name: SCURLOCK PERMIAN
Project Location: BRINE WELL BW-12

Sampling Date: 09/04/98
Sample Type: GROUNDWATER
Sample Condition: COOL AND INTACT
Sample Received By: AH
Analyzed By: GP

TOTAL METALS

LAB NUMBER SAMPLE ID	Al (ppm)	Co (ppm)	Cu (ppm)	Fe (ppm)
ANALYSIS DATE:	09/10/98	09/10/98	09/10/98	09/10/98
H3836-1 BRINE WELL	0.444	1.218	0.322	1.624
Quality Control	15.32	4.860	3.902	4.074
True Value QC	15.00	5.000	4.000	4.000
% Recovery	102	97	98	102
Relative Standard Deviation	1.25	0.90	0.66	0.51
METHODS: EPA 600/04-79-020	202.1	219.1	220.1	236.1

	Mn (ppm)	Mo (ppm)	Ni (ppm)	Zn (ppm)
ANALYSIS DATE:	09/10/98	09/10/98	09/10/98	09/10/98
H3836-1 BRINE WELL	2.647	0.310	0.979	0.245
Quality Control	5.221	4.730	5.099	0.479
True Value QC	5.000	5.000	5.000	0.500
% Recovery	104	95	102	96
Relative Standard Deviation	1.50	0.65	0.10	0.20
METHODS: EPA 600/04-79-020	243.1	246.1	249.1	289.1

Chemist

09/11/98
Date

H3836-1A.XLS

CARDINAL LABORATORIES

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Sample Received By: AH
Analyzed By: GP

RCRA METALS

LAB NUMBER	SAMPLE ID	As ppm	Ag ppm	Ba ppm	Cd ppm	Cr ppm	Pb ppm	Hg ppm	Se ppm
ANALYSIS DATE:		09/10/98	09/10/98	09/10/98	09/10/98	09/10/98	09/10/98	09/10/98	09/10/98
H3836-1	BRINE WELL	0.001	0.161	0.142	0.192	0.417	2.026	<0.02	<0.1
Quality Control		0.201	4.767	45.14	0.473	4.081	3.140	0.0049	0.202
True Value QC		0.200	5.000	50.00	0.500	4.000	3.000	0.0050	0.200
% Recovery		100	95	90	95	102	105	98	101
Relative Standard Deviation		0.19	0.61	3.69	3.23	2.88	1.47	2.0	1.63
METHODS: EPA 600/4-79-020		206.2	272.1	208.1	213.1	218.1	239.1	245.1	270.2
METHODS:	SW-846	7060A	7760A	7080A	7130	7190	7420	7470A	7740

Chemist

09/10/98
Date

H3836-1B.XLS

Safety & Environmental Solutions, Inc.

SCURLOCK PERMIAN CORP.
Brine Production Facility BW-12

Work Plan
Installation of Monitor Well
Lea County, New Mexico

Safety & Environmental Solutions, Inc.
703 E. Clinton Suite 103
Hobbs, New Mexico 88240
(505) 397-0510

SCURLOCK PERMIAN CORP.
Brine Production Facility BW-12

Work Plan
Installation of Monitor Well
Lea County, New Mexico

Safety & Environmental Solutions, Inc.
703 E. Clinton Suite 103
Hobbs, New Mexico 88240
(505) 397-0510

TABLE OF CONTENTS

Purpose

The purpose of this Work Plan is to propose installation of a groundwater monitor well at the Brine well location in SW ¼ SW ¼ Section 36 Township 18S Range 37E in Lea County, New Mexico. (See Vicinity Map)

Background

This plan is in response to the October 31, 1997 letter from the New Mexico Oil Conservation Division which requires Scurlock Permian Corporation to submit a work plan to determine the extent of ground water contamination, if any, at the Brine Production Facility BW-12 site.

Method

Scurlock Permian Corp. proposes to install one (1) monitor well down-gradient of the brine well to assure no negative impact from the existing brine well. The groundwater flow at this location is from the northwest to the southeast. The proposed down gradient monitor well will be located southeast of the existing brine well, approximately one hundred feet (100') to one hundred twenty feet (120') from the brine well.

The purpose of the downgradient well will be to determine the extent of groundwater contamination, if any, down gradient from the brine well.(See Site Plan)

The physical description of the monitor well installation is as follows:

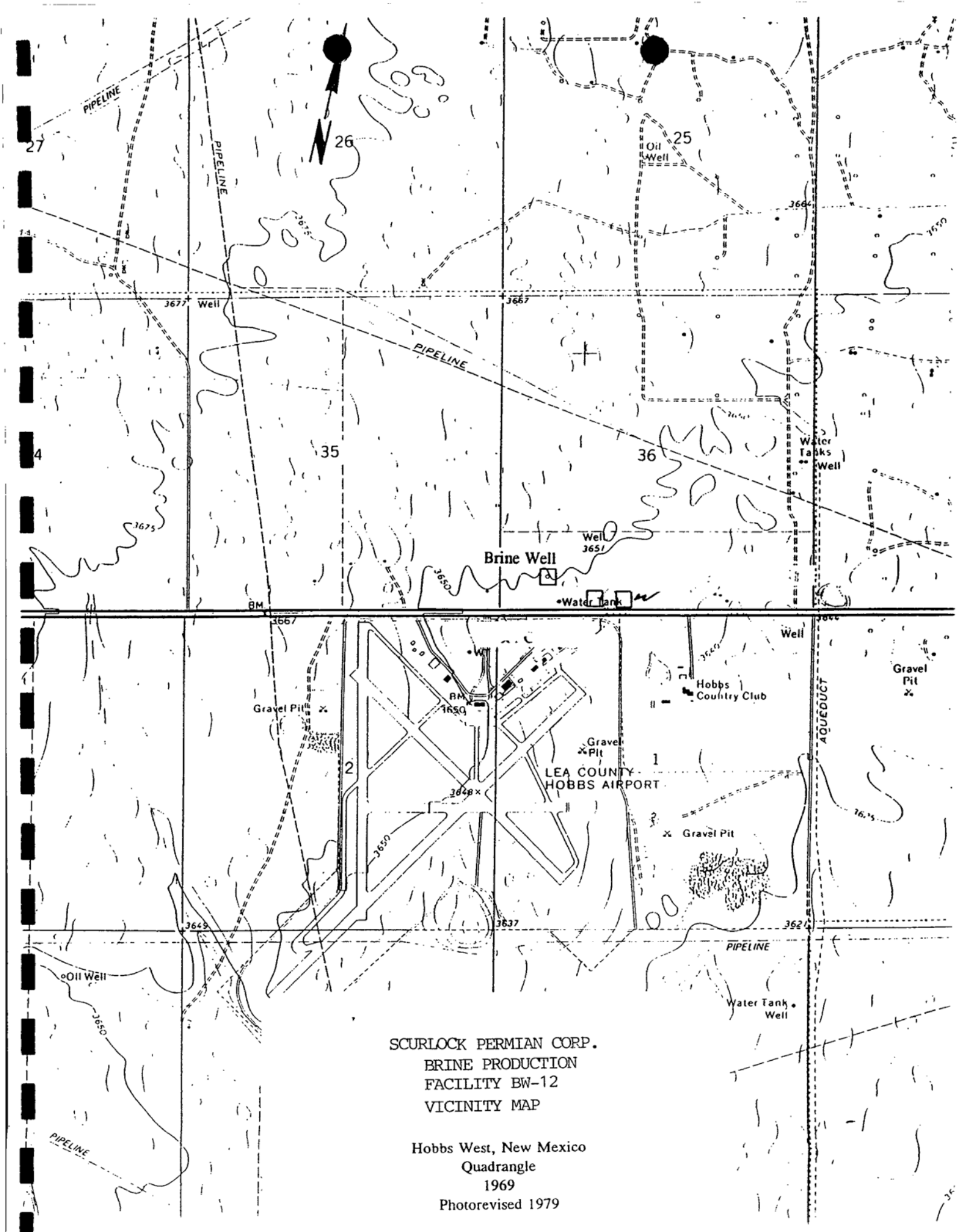
> The well will be drilled to a depth of ten (10) feet below the water table. Split spoon samples will be collected at ten (10) foot intervals and analyzed in the field for with a PID. All samples collected will be preserved. The sample with the highest field reading will be sent for third party testing for TPH and BTEX confirmation tests. A driller's log noting sample points and changes in lithology will be kept. The wells will be cased with 2" PVC pipe with a minimum of fifteen (15) feet of well screen on the bottom, five (5) feet above the water table and ten (10) feet below the water table. Screen will be gravel packed to a point 2-3 feet above the screen, with a bentonite plug set above the gravel pack. The remainder of the casing annulus to surface will be grouted with cement containing 5% bentonite. The wells will be equipped with a locking well cap. (See monitor well diagram)

Monitoring Parameters

The monitor well will initially be sampled and analyzed for total dissolved solids (TDS) and major cations and anions, and results filed with the OCD Santa Fe and Hobbs District offices.

Maps and Figures

Vicinity Map
Site Plan
Groundwater Monitor Well Diagram



SCURLOCK PERMIAN CORP.
BRINE PRODUCTION
FACILITY BW-12
VICINITY MAP

Hobbs West, New Mexico
Quadrangle
1969
Photorevised 1979

Safety & Environmental Solutions, Inc.
703 E. Clinton, Suite 103
Hobbs, New Mexico 88240

FACSIMILE COVER SHEET

To: Mark Ashley

From: Bob Allen

Subject: S-P Brine Well Work Plan

Total Number of Pages: 8 including cover sheet

If any portion of the preceding fax is illegible, please call us immediately at:

(505) 397-0510

Fax (505) 393-4388

SCURLOCK PERMIAN CORP.
Brine Production Facility BW-12

Work Plan
Installation of Monitor Well
Lea County, New Mexico

Safety & Environmental Solutions, Inc.
703 E. Clinton Suite 103
Hobbs, New Mexico 88240
(505) 397-0510

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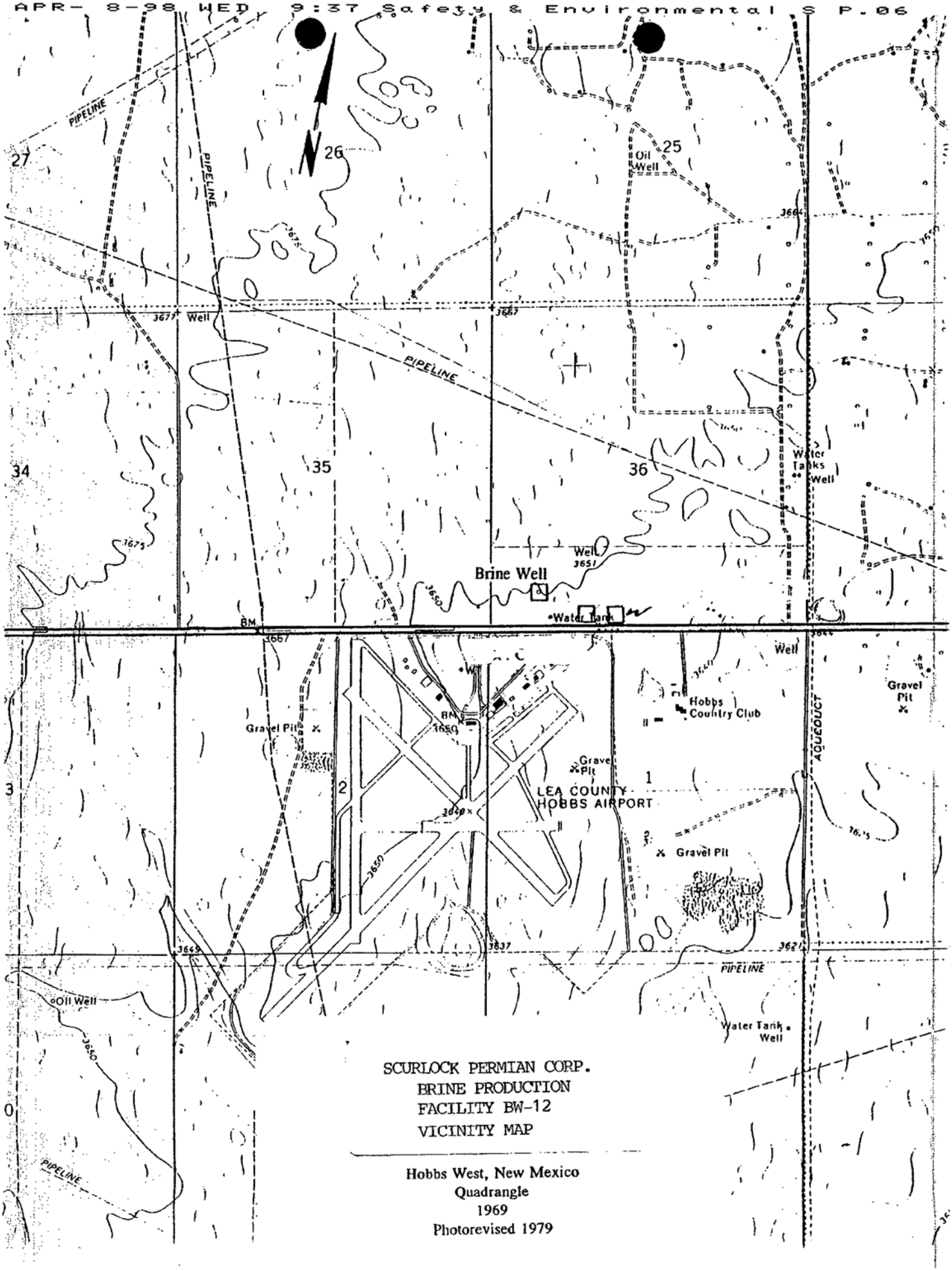
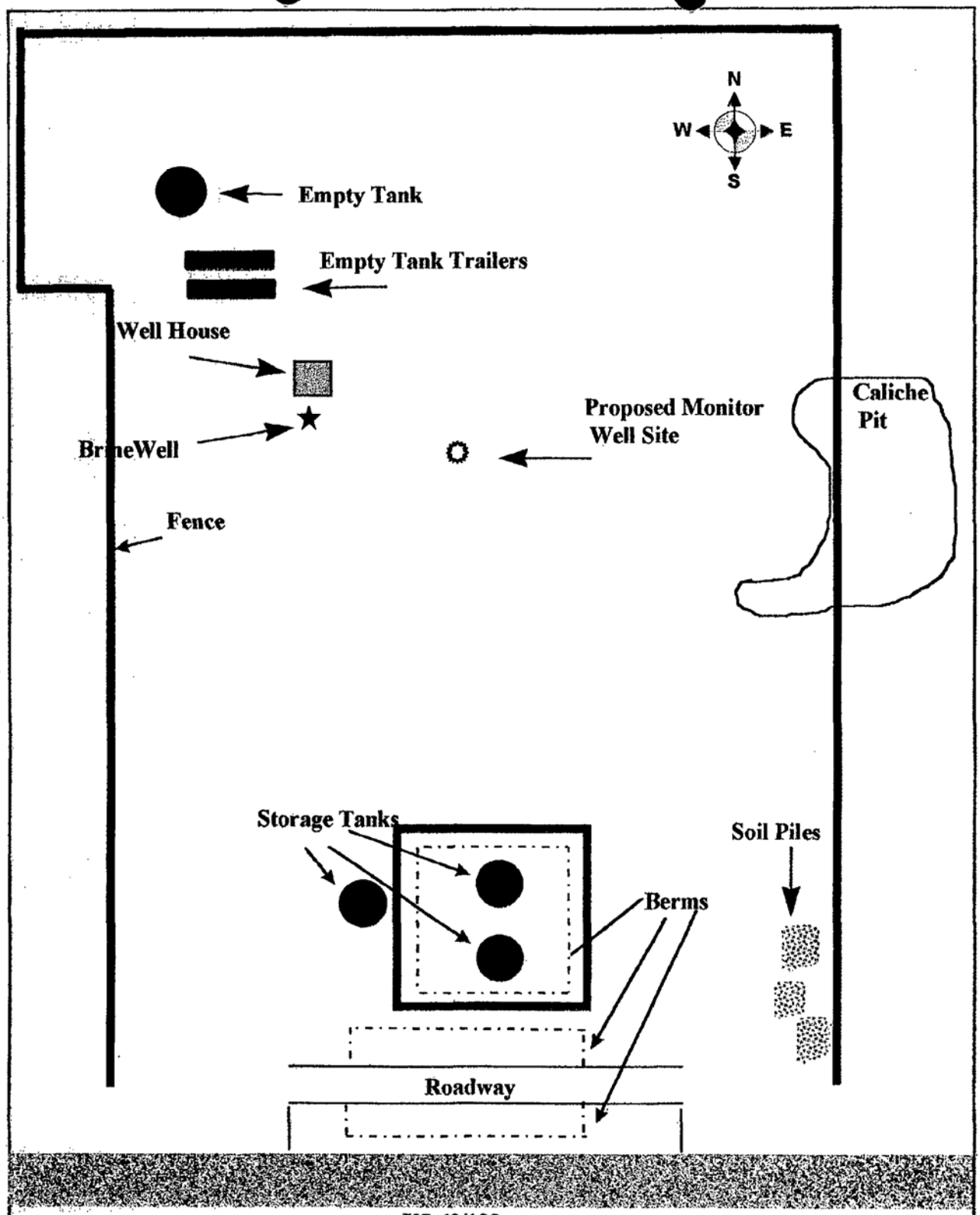
Groundwater Monitor Well Diagram

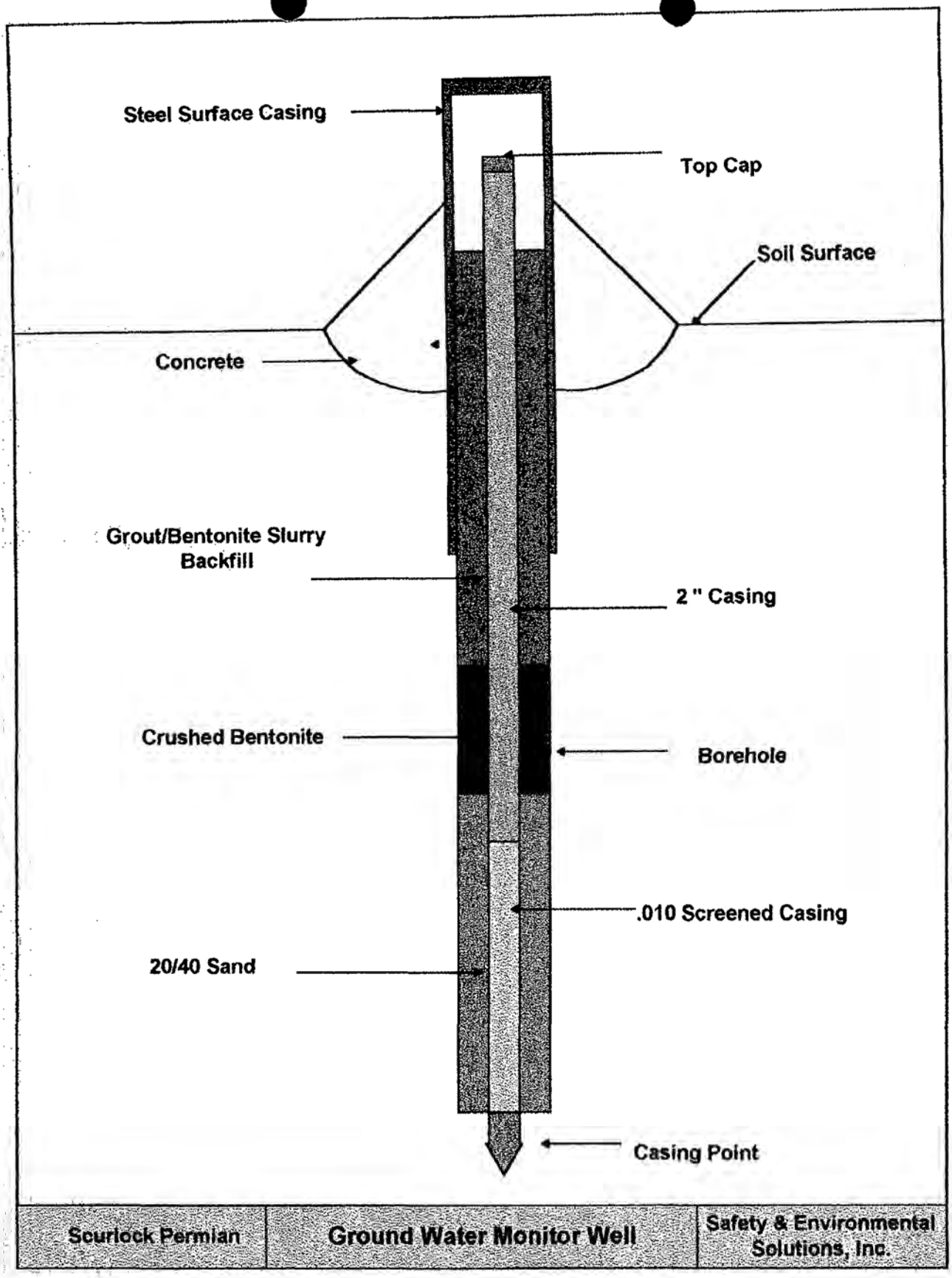


SCURLOCK PERMIAN CORP.
BRINE PRODUCTION
FACILITY BW-12
VICINITY MAP

Hobbs West, New Mexico
Quadrangle
1969
Photorevised 1979



Scurlock Permian Corporation	**Brine Facility BW-12 Site Plan**	*Safety & Environmental Solutions, Inc. Hobbs, NM*



Scurlock Permian	Ground Water Monitor Well	Safety & Environmental Solutions, Inc.

Mark Ashley

From: Price, Wayne
Sent: Tuesday, April 07, 1998 8:39 AM
To: Mark Ashley
Cc: Chris Williams
Subject: Scurlock-Permian Brine Well BW-012

Re: Monitor Well Placement

Dear Mark,

I met Bob Allen with SES and we spotted a location Approximately 100' SE of the Brine well for an exploratory Monitor Well to check the ground water quality. Please note I instructed Bob Allen to submit a plan to you before they actually perform the work.

The location was selected because it lies in-between imaginary lines drawn from the Brine well to Nowsco's & Reef Chemical yard and is down gradient.

Please note there is an old pit located east of this location. They will check the ownership of this pit.

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

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

May 13, 1998

CERTIFIED MAIL
RETURN RECEIPT NO. P-288-259-065

Mr. James C. Ephraim II
Scurlock Permian Corporation
P.O. Box 4648
Houston, Texas 77210-4648

RE: Ground Water Investigation Work Plan Approval
Discharge Plan BW-12
Hobbs Facility
Lea County, New Mexico

Dear Mr. Ephraim:

The New Mexico Oil Conservation Division (OCD) has reviewed the Scurlock Permian Corporation (SP) work plan dated April 6, 1998 for the installation of a ground water monitor well and the determination of the extent of potential ground water contamination within the area of the brine production facility. The brine production facility is located in the SW/4 SW/4 of Section 36, Township 18 South, Range 37 East, Lea County, New Mexico. Based on information provided, the work plan is approved with the following conditions:

1. The monitor well will be constructed with:

   a. A minimum of fifteen feet of well screen, with at least five feet of well screen above the water table and ten feet of well screen below the water table.

   b. An appropriately sized gravel pack will be set around the well screen from the bottom of the hole to 2-3 feet above the top of the well screen.

   c. A 2-3 foot bentonite plug will be placed above the gravel pack.

   d. The remainder of the hole will be grouted to the surface with cement containing 5% bentonite.

2. All soils generated from drilling activities will be characterized for hazardous constituents and disposed of at an OCD approved site.

3. Ground water from the monitor well will be sampled and analyzed for concentrations of major cations and anions, TDS, heavy metals, polynuclear aromatic hydrocarbons, and

aromatic and halogenated organics using EPA approved methods.

4. The existing ground water supply well used for brine production activities will be sampled for the constituents listed in number 3. above.

5. SP will submit a report on the investigation to the OCD by August 13, 1998. The report will include a description of the actions performed and the results of all sampling activities. The report will also include a ground water depth and gradient map as well as recommendations for future actions based on the results of investigation activities.

6. SP will notify the OCD at least 72 hours in advance of all activities.

7. All original documents will be submitted to the OCD Santa Fe Office with copies to the OCD Hobbs District Office.

Please be advised that OCD approval does not relieve SP of liability if contamination exists which is beyond the scope of the closure plan or if the activities fail to adequately determine the extent of contamination related to SP's activities. In addition, OCD approval does not relieve SP of responsibility for compliance with any other federal, state or local laws and/or regulations.

If SP has any further questions or comments please contact me at (505)-827-7155.

Sincerely,

Mark Ashley

Mark Ashley
Geologist

xc: OCD Hobbs Office

P 288 259 065

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PS Form **3800**, April 1995

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

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

April 28, 1998

CERTIFIED MAIL
RETURN RECEIPT NO. P-288-259-060

Mr. James C. Ephraim II
Scurlock Permian Corporation
P.O. Box 4648
Houston, Texas 77210-4648

RE: Quarterly Reports
Saline #1 Brine Station (BW-012) and Carlsbad Brine Station (BW-027)

Dear Mr. Ephraim:

As a condition of discharge plan approval, all brine facilities are required to submit quarterly reports listing, by month, the volumes of fluids injected and produced, The New Mexico Oil Conservation Division had not received any quarterly reports for the above mention brine facilities. Please update all delinquent quarterly reports by June 29, 1998.

If Scurlock Permian has any questions, please contact me at (505) 827-7155.

Sincerely,

Mark Ashley
Geologist

xc: OCD Hobbs Office
OCD Artesia Office

PS Form **3800**, April 1995

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