*See Instruction on Reverse Side

Form 3160-5
(June 1990)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

N.M. OIL CONS
P.O. BOX 1980
HOBBS, NEW MEXICO 88240

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

## SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals

5. Lease Designation and Serial No.
NMNM17238

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE

7. If Unit or CA, Agreement Designation

1. Type of Well
Oil [X] Well Gas [ ] Well [ ] Other

8. Well Name and No.
SMITH RANCH FEDERAL #1

2. Name of Operator
SAMSON RESOURCES COMPANY

9. API Well No.
30-025-26810

3. Address and Telephone No.
TWO WEST SECOND STREET TULSA, OK 74103 (918) 583-1791

10. Field and Pool, or Exploratory Area
TEAS

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
1980' FNL & 660' FWL SEC. 11-20S-33E

11. County or Parish, State
LEA, NEW MEXICO

12 CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

| TYPE OF SUBMISSION | TYPE OF ACTION | |
|---|---|---|
| [X] Notice of Intent | [ ] Abandonment | [ ] Change of Plans |
| [ ] Subsequent Report | [ ] Recompletion | [ ] New Construction |
| [ ] Final Abandonment Notice | [ ] Plugging Back | [ ] Non-Routine Fracturing |
| | [ ] Casing Repair | [ ] Water Shut-Off |
| | [ ] Altering Casing | [ ] Conversion to Injection |
| | [X] Other APPROVAL FOR DISPOSAL OF WATER | [ ] Dispose Water |

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13 Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

## NOTICE OF INTENT - FOR DISPOSAL OF WATER

1. Name(s) of all formation(s) producing water on the lease. Bone Springs
2. Amount of water produced from all formations in barrels per day. 2 barrels per day
3. A CURRENT water analysis of produced water from all zones showing at least the total dissolved solids, ph, and the concentrations of chlorides and sulfates. Per attached
4. How water is stored on the lease. 210 barrel fiberglass tank
5. How water is moved to the disposal facility. Trucked by Gandy Corporation
6. Identify the disposal Facility by:
   A.) Operators name. L & B Oil Company
   B.) Well Name. State AJ Well #1
   C.) Well Type and well number. SWDW #1
   D.) Location by 1/4 1/4, Section, Township, & Range. SW NE Sec. 33-18S-36E
7. A copy of the Underground Injection Control Permit - issued for the injection well by the Environmental Protectection Agency or New Mexico Oil Conservation Division where the State has achieved primacy Per attached

RECEIVED
3 53 AM '94
LAND MGMT.
S, N.M.

14. I hereby certify that the foregoing is true and correct
Signed [signature] Title District Engineer Date July 1, 1994

(This space for Federal or State office use)
Approved by (ORIG. SGD.) JOE G. LARA Title Petroleum Engineer Date 8/4/94
Conditions of approval, if any: See attached.

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*See Instruction on Reverse Side

Champion Technologies, Inc.

P.O.BOX 2187
HOBBS, N.M. 88240

PHONE: (505) 393-7726



# WATER ANALYSIS REPORT

Report for: Frank Gardner
cc: Alan Childs
cc:
cc:
Company: Sampson Resources
Address:
Service Engineer: Frank Gardner

Date sampled: 06/17/94
Date reported: 06/21/94
Lease or well # : Smith #1-11
County: State:
Formation:
Depth:
Submitted by: Frank Gardner

| CHEMICAL COMPOSITION : | mg/L | meq/L |
|---|---|---|
| Chloride (Cl) | 114000 | 3216 |
| Iron (Fe) (total) | 34.0 | |
| Total hardness | 21600 | |
| Calcium (Ca) | 6817 | 340 |
| Magnesium (Mg) | 1117 | 90 |
| Bicarbonates (HCO3) | 122 | 2 |
| Carbonates (CO3) | 0 | |
| Sulfates (SO4) | 1507 | 31 |
| Hydrogen sulfide (H2S) | 85 | |
| Carbon dioxide (CO2) | 702 | |
| Sodium (Na) | 64843 | 2819 |
| Total dissolved solids | 188407 | |
| Barium (Ba) | n/a | |
| Strontium (Sr) | n/a | |

| | |
|---|---|
| Specific Gravity | 1.134 |
| Density (#/gal.) | 9.450 |
| pH | 5.600 |
| IONIC STRENGTH | 3.46 |

Stiff-Davis (CaCO3) Stability Index :
SI = pH - pCa - pAlk - K

SI @ 86 F = -0.67
104 F = -0.44
122 F = -0.18
140 F = +0.11
158 F = +0.43

This water is 220 mg/l ( -9.34%) under ITS CALCULATED CaSO4 saturation value at 82 F.
SATURATION= 2356 mg/L PRESENT= 2136 mg/L



REPORTED BY ROBERT C MIDDLETON
TECHNICAL SERVICES REPRESENTATIVE

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION



IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION DIVISION FOR THE PURPOSE OF CONSIDERING:

CASE NO. 8817
Order No. R-8166

APPLICATION OF POLLUTION CONTROL, INC. FOR SALT WATER DISPOSAL, LEA COUNTY, NEW MEXICO

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on February 5 1986, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 7th day of March, 1986, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS THAT:

(1) Due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) The applicant, Pollution Control, Inc., is the owner and operator of the L & B Oil Company Inc. State "AJ" Well No. 1, located 2310 feet from the North and East lines (Unit G), of Section 33, Township 18 South, Range 36 East, NMPM, Lea County New Mexico.

(3) The applicant proposes to utilize said well to commercially dispose of produced salt water into the Abo, Wolfcamp and Devonian formations, with injection into the open hole interval from approximately 5,000 feet to 12,164 feet.





leak detection device should be attached to the annulus in order to determine leakage in the casing, tubing, or packer.

(6) The injection well or system should be equipped with a pressure limiting switch or other acceptable device which will limit the wellhead pressure on the injection well to no more than 1000 psi.

(7) Prior to commencing injection operations, the casing in the subject well should be pressure-tested throughout the interval from the surface down to the proposed packer setting depth to assure the integrity of such casing.

(8) After commencing injection into the well, the operator should run an injection tracer survey in order to determine which formations are receiving the injected fluid.

(9) Should the injection well ever cease to take water on a vacuum, the operator should be required to run an additional injection tracer survey after notifying the supervisor of the Division's district office in Hobbs of the date and time of the test.

(10) The Director of the Division should be authorized to administratively approve an increase in the injection pressure upon a proper showing by the operator that such higher pressure will not result in migration of the injected waters from the Abo, Wolfcamp and Devonian formations.

(11) The operator should notify the supervisor of the Hobbs district office of the Division of the date and time of the installation of disposal equipment and of the date and time of the mechanical integrity test and the injection tracer survey so that the same may be inspected and witnessed.

(12) The operator should take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other

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Case No. 8817
Order No. R-8166

tubing, casing, or packer, in said well or the leakage of wate from or around said well and shall take such steps as may be timely and necessary to correct such failure or leakage.

(10) The applicant shall conduct disposal operations and submit monthly reports in accordance with Rules 702, 703, 704, 705, 706, 708, and 1120 of the Division Rules and Regulations.

(11) Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

R. L. STAMETS,
Director

S E A L

(6) Copies of such tracer surveys shall be filed with both the Santa Fe and Hobbs offices of the Division.

(7) The Director of the Division may authorize an increase in injection pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the injected fluid from the Abo, Wolfcamp and Devonian formations.

(8) The operator shall notify the supervisor of the Hobbs district office of the Division of the date and time of the installation of disposal equipment and of the date and time of the mechanical integrity test and the injection tracer survey so that the same may be inspected and witnessed.

(9) The operator shall immediately notify the supervisor of the Division's Hobbs district office of the failure of the

Lea County, New Mexico, to dispose of produced salt water into the Abo, Wolfcamp and Devonian formations, injection to be accomplished through 2 7/8-inch tubing installed in a packer set at approximately 4,950 feet, with injection into the open hole interval from approximately 5,000 feet to 12,164 feet.

PROVIDED HOWEVER THAT, the tubing shall be plastic-lined; the casing-tubing annulus shall be filled with an inert fluid; and a pressure gauge shall be attached to the annulus or the annulus shall be equipped with an approved leak detection device in order to determine leakage in the casing, tubing or packer.

(2) The injection well or system shall be equipped with a pressure limiting switch or other acceptable device which will limit the wellhead pressure on the injection well to no more than 1000 psi.

(3) Prior to commencing injection operations, the casing in the subject well shall be pressure tested throughout the interval from the surface down to the proposed packer setting depth to assure the integrity of such casing.

(4) After commencing injection into the well, the operator shall run an injection tracer survey in order to determine which formations are receiving the injected fluid.

(5) Should the injection well ever cease to take water on a vacuum, the operator shall be required to run an additional injection tracer survey after notifying the supervisor of the Division's Hobbs district office of the data and time of such test.

TO:

Jeff Ross

BUREAU OF LAND MANAGEMENT
CARLSBAD RESOURCE AREA

## Disposal of Produced Water From Federal Wells

## Conditions of Approval

Approval of the produced water disposal methodology is subject to the following conditions of approval:

1. This agency be notified of any change in your method or location of disposal.

2. Compliance with all provisions of Onshore Oil and Gas Order No. 7.

3. This agency shall be notified of any spill or discharge as required by NTL-3A.

4. This agency reserves the right to modify or rescind approval whenever it determines continued use of the approved method may adversely affect the surface or subsurface environments.

5. All aboveground structures on the lease shall be painted sandstone brown, Federal Std. 595-20318, or 30318, within 90 days if you have not already done so.

6. Any on lease open top storage tanks or pits shall be covered with a wire screen or plastic/nylon netting to prevent entry by birds and other wildlife.

7. This approval does not constitute right-of-way approval for any off lease activities. If water is transported via a pipeline that extends beyond the lease boundary, you need to submit within 30 days an application for right-of-way approval to the Realty Section in this office if you have not already done so.