| DATE IN 6/20/08 | SUSPENSE | ENGINEER W Jones | LOGGED IN 6/24/08 | TYPE SWD | APP NO. PKVR0817943744 |
|---|---|---|---|---|---|

Cost Notice in 9/17/08

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
**- Engineering Bureau -**
1220 South St. Francis Drive, Santa Fe, NM 87505

# ADMINISTRATIVE APPLICATION COVERSKEET

THIS COVERSHEET IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Application Acronyms:

**[NSL-Non-Standard Location] INSP-Non-Standard Proration-Unit] [SD-Simultaneous Dedication]**
**[DHC-Downhole Commingling] (CTB-Lease Commingling] [PLC-Pool/Lease Commingling]**
**[PC-Pool Commingling] (OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]**
**[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion)**
**ESWD-Salt Water Disposal] 11PI-Injection Pressure Increase]**
**EEOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]**

[I] TYPE OF APPLICATION - Check Those Which Apply for [A]

[A] Location - Spacing Unit - Simultaneous Dedication
☐ NSL ☐ NSP ☐ SD

Check One Only for [13] or [C]

[13] Commingling - Storage - Measurement
☐ DHC ☐ CTI3 ☐ PLC ☐ PC ☐ OLS ☐ OLM

✓ [C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☐ PMX ☒ SWD ☐ IPI ☐ EOR ☐ PPR

RECEIVED
2008 JUN 26 PM 3 43

[2] **NOTIFICATION REQUIRED TO:** - Check Those Which Apply, or ☐ Does Not Apply

[A] ☐ Working, Royalty or Overriding Royalty Interest Owners

[13] ☒ Offset Operators, Leaseholders or Surface Owner

[C] ☒ Application is One Which Requires Published Legal Notice

[D] ☐ Notification and/or Concurrent Approval by BLM or SLO
U-S. Bureau of Land Management - Commissioner of Public Lands, State Land Office

[E] ☐ For all of the above, Proof of Notification or Publication is Attached, and/or,

[F] ☐ Waivers are Attached

[3] **INFORMATION / DATA SUBMITTED IS COMPLETE - Certification**

I hereby certify that I, or personnel under my supervision, have reviewed the applicable Rules and Regulations of the Oil Conservation Division. Further, I assert that the attached application for administrative approval is accurate and complete to the best of my knowledge and where applicable, verify that all interest (WI, RI, ORRI) is common,

*I understand that any omission of data (including API numbers, pool codes, etc.), pertinent information and any required notification is cause to have the application package returned with no action taken.*

**Note: Statement must be completed by an individual with managerial and/or supervisory capacity.**

| Ann E. Ritchie | Ann E. Ritchie | Regulatory Agent | 6-18-08 |
|---|---|---|---|
| Print or Type Name | Signature | Title | Date |

ann.ritchie@wtor.net
e-mail Address

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

**Oil Conservation Division**
**1220 South St. Francis Dr.**
**Santa Fe, New Mexico 87505**

FORM C-108
Revised June 10, 2003

## APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: _____Secondary Recovery _____Pressure Maintenance ___XX__Disposal _____Storage
Application qualifies for administrative approval? ___XX___Yes _____No

II. OPERATOR: _AMTEX Energy Inc._____

ADDRESS: __P.O. Box 3418 Midland, Texas 79702_____

CONTACT PARTY: ___William J. Savage_____PHONE: 432-686-0847____

III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.

IV. Is this an expansion of an existing project? _____Yes ____XX____No
If yes, give the Division order number authorizing the project: _____

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.

VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.

VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected;
2. Whether the system is open or closed;
3. Proposed average and maximum injection pressure;
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).

*VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.

IX. Describe the proposed stimulation program, if any.

*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).

*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.

XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

NAME: __William J. Savage_____TITLE: _Engineer_____

SIGNATURE: _____DATE: 6-18-08

E-MAIL ADDRESS: _____

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: _X. Logging and test data originally done by Meridian and_ On file with NMOCD under API # 30-025-31653.

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

(1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.

(2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.

(3) A description of the tubing to be used including its size, lining material, and setting depth.

(4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District Offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

(1) The name of the injection formation and, if applicable, the field or pool name.

(2) The injection interval and whether it is perforated or open-hole.

(3) State if the well was drilled for injection or, if not, the original purpose of the well.

(4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.

(5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

(1) The name, address, phone number, and contact party for the applicant;

(2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;

(3) The formation name and depth with expected maximum injection rates and pressures; and,

(4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

---

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

# WELL HISTORY

C-108 Well Data

C-108: III A - Tabular Well Data

| | | | | | |
|---|---|---|---|---|---|
| **OPERATOR:** | AMTEX ENERGY, INC. | (MERIDIAN) | | | |
| **FEE:** | Dagger Lake State 5 #1 | | | | |
| **LOCATION:** | 330 FSL & 1980 FEL | | **API:** | 30-025-31653 | |
| **SEC:** | 5 (O) | **TWP:** | 22 S | **RGE:** | 33 E |
| **COUNTY:** | Lea | **STATE:** | NM | **G L Elev:** | 3646.8 |

| | | | | |
|---|---|---|---|---|
| D | C | B | A |
| E | F | G | H |
| L | K | J | I |
| M | N | O | P |
| | | | |
| | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| **TD:** | 8810 | **PBTD:** | 6028 | **EST. TOC:** | 2580 by CBL | |
| **COMPLETED:** | 08/29/1992 | **OWWO:** | | **OWWO:** | **WELL P & A:** | |
| **DRILLING MUD:** | MW:9.8 VIS: 33 | Rm: .210 | @ 70 ° F | | Rmc: 0.112 @ 137 ° F | |
| | Chl: | Rmf: .160 | @ 70 ° F | | BHT: 137 ° F | |
| | ADDITIVES: | | | | | |
| **LOGS RUN:** | Schlumberger: | CNL-FDC, DLL-MSFL, CBL | | | | |
| | (On file with the NMOCD already) | | | | | |
| **DST's / CORES:** | None Reported | (See Below) | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **SURFACE** | **HOLE:** | 17 1/2" to 622' | | | | | | | |
| **SURFACE** | **CASING:** | 13 3/8" (48#) | @ | 622 | W/ | 630 | SX; | ETOC - | Circulated |
| **INTERMEDIATE** | **HOLE:** | 12 1/4" to 4486 | | | | | | | |
| **INTERMEDIATE** | **CASING:** | 8 5/8" (28#) | @ | 4486 | W/ | 2250 | SX; | ETOC - | Circulated |
| **PRODUCTION** | **HOLE:** | 7 7/8" to 8810 | | | | | | | |
| **PRODUCTION** | **CASING:** | 5 1/2" (17#) | @ | 8810 | W/ | 1675 | SX; | ETOC - | 2580 by CBL |
| | **OTHER:** | | | | | | | | |
| **CASING** | **PULLED:** | NO | | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **ORIGINAL** | **PROD:** | P 120 BO + 120 MCFG + 380 BWPD | | | | | | |
| **(Last Prod 7/95)** | **CUM PROD:** | ( 2 / 08 ) | 8.7 MBO | + | 0.0 | MMCF | + | 95.6 MBW |
| | **PERFS:** | 4951-56, 4962-85 | | | | **INTERVAL:** | | U Delaware Sands |
| | **TREATMENT:** | ACID W/ | Natural Completion | | | | | |
| | | FRAC W/ | | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| **OWWO** | **PROD:** | No New Potential | | | | |
| **(2/93)** | **CUM PROD:** | ( / ) | MBO | + | MMCF | + MBW |
| | **PERFS:** | 4951-85 OA | | | **INTERVAL:** | U Delaware Sands |
| | **TREATMENT:** | ACID W/ | 2500 Gal 7 1/2 % + 200 Gal Toluene | | | |
| | | FRAC W/ | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| **OWWO** | **PROD:** | | | | | |
| | **CUM PROD:** | ( / ) | MBO | + | MMCF | + MBW |
| | **PERFS:** | | | | **INTERVAL:** | |
| | **TREATMENT:** | ACID W/ | | | | |
| | | FRAC W/ | | | | |

**NOTE: Well T & A 8/97**

C-108
Well Data

## COMMENTS / RECOMMENDATIONS

III A(3) Tubing to be used: 2 7/8" 6.5 # J-55 Tubing will be set at approximately 4900 feet.
No liner will be used.
III A(4) A Baker Model R Packer will be used and will be set approximately 6' below the tubing (approx 4906)
III B(1) The Upper Delaware (Ramsey sand) will be the injection formation Pool Name: Dagger Lake, Delaware
III B(2) The existing perforations from 4951-56, 4962-85 will be used.
III B(3) Well was originally drilled as an oil well.
III B(4) No other zones were perforated in this well.
III B(5)There is no shallower production within 2 miles of this well.
The next deeper production is the lower Delaware (Brushy Canyon) at approx. 8800' in the Red Tank Field (3 miles SW)
The Bone Spring produces from 9426-11551 a mile to the NW in the Amtex Energy Dagger Lake State #2 well (Sec. 6)
Nearest offset producer: 1/2 Mile NW - EOG Resources Dagger 5 State Com #1 TD: 14874
Completed 4/2006 Morrow Gas well - Perfs: 14686-724
VII 1 Proposed average and maximum daily rates of injection: Ave - 2000 BWPD Max - 3000 BWPD
VII 2 System will be closed.
VII 3 Proposed average and maximum injection pressure: Ave - 840 psi Max - 1237 psi
VII 4 Ave Chl for Upper Delaware sands: 140,000-160,000 (Analyses attached - Source: Roswell Geol. Society Fields Book)
Ave Chl for Lower Delaware sands: 140,000-160,000 (Analyses attached - Source: Roswell Geol. Society Fields Book)
VII 5 Water Analysis taken 10/7/1992 from current perfs in Dagger Lake State 5 #1 indicate Ramsey formation water -
Chlorides were 143,458 (Analysis attached) Well watered out (Cum water produced was 95.6 MBW)
VIII. Geological data on injection zone is attached for your reference
Approximately 6 miles North (Sec. 2, T-21-S, R-33-E) - Santa Rosa water @ 1150' Copy of NM WAIDS attached.
Approximately 4 miles Northwest (Sec. 18, T-21-S, R-33-E) Ogalalla water @ 150' Copy of NM WAIDS attached.
Approximately 3 miles NNE (Sec. 28, T-21-S, R-33-E) Chinle (?) water @ 224' Copy of NM WAIDS attached.
Estimated Depth to Ground Water is 350 feet - in the Santa Rosa
IX. No additional stimulation is proposed at this time.
X. Logging and test data are already on file at the NMOCD.
XI There are no water wells within 1 mile of the proposed injection well..
Water analysis from a surface stock tank approx 1/4 mile NNE is attached. (Smpl taken 6/4/2008)

AFFIDAVIT OF PUBLICATION

State of New Mexico,
County of Lea.

I, KATHI BEARDEN

PUBLISHER

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

of 1

weeks.

Beginning with the issue dated

June 13 2008

and ending with the issue dated

June 13 2008

Kathi Bearden

PUBLISHER

Sworn and subscribed to before me this 13th day of June 2008

Notary Public.

My Commission expires
February 07, 2009
(Seal)

OFFICIAL SEAL
DORA MONTZ
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires:

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

**LEGAL NOTICE**
**June 13, 2008**

**NOTICE OF COMMERCIAL DISPOSAL APPLICATION**

Amtex Energy, Inc., c/o P.O. Box 953, Midland, TX 79702 will file the New Mexico Oil Conservation Division Form C-108, Application for Authorization to Inject, with the NMOCD seeking administrative approval for commercial water injection/disposal into their Dagger Lake State 5 Well #1, located 330' FSL & 1980' FEL of Sec 5, T22S, R33E, Lea County, NM. The proposed injection interval is from 4951 to 4985. The proposed maximum surface pressure is 1237 psi, with a maximum injection rate of 3000 bbls water per day. The injection water will be sourced from the Brushy Canyon formation at 8800', Morrow at 14000', and produced water from various area operators.

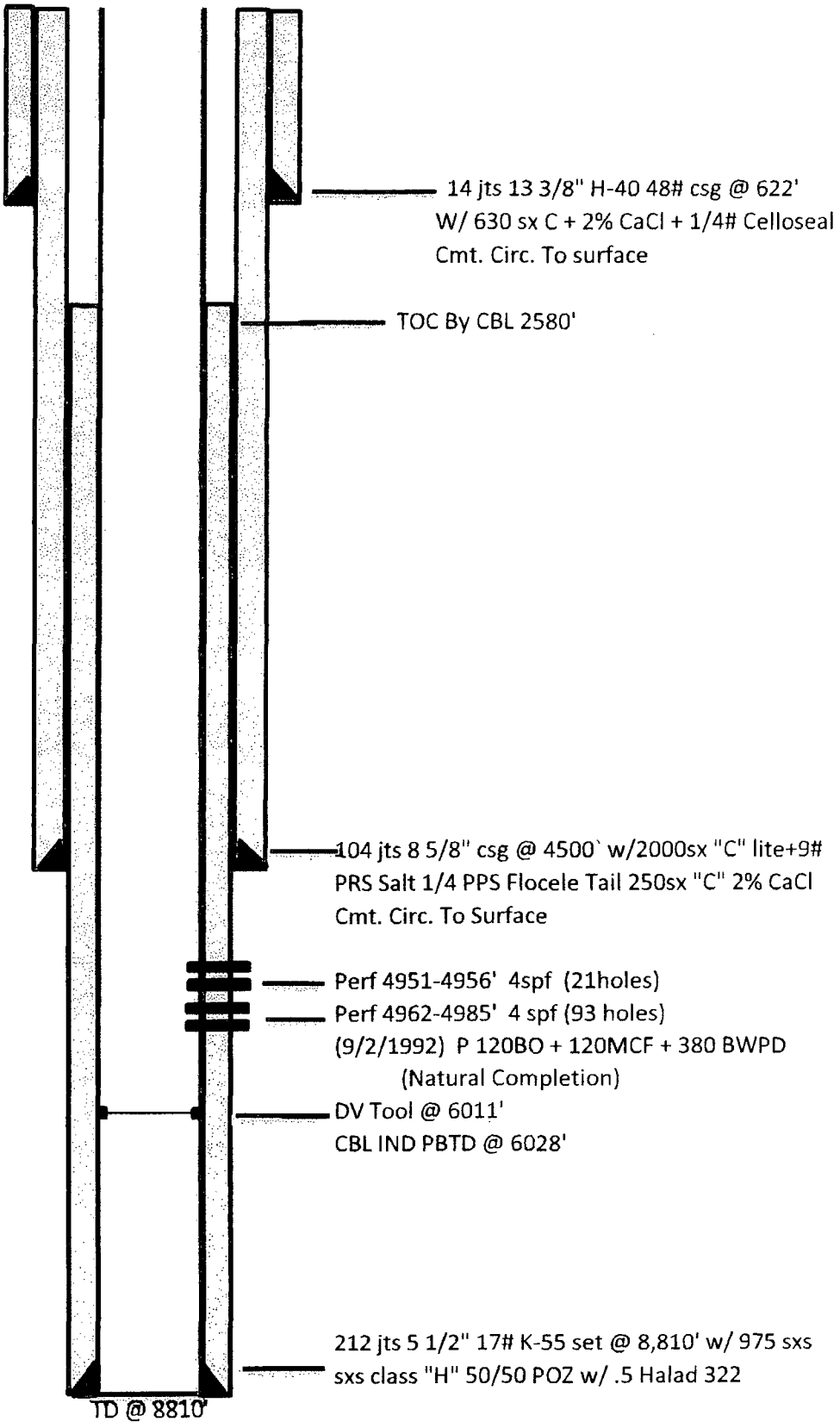
All interested parties opposing the application must file objection with the New Mexico Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, NM 87505 within 15 days of this notice. Additional information can be obtained by contacting Ann Ritchie, Regulatory Agent, Amtex Energy, Inc., c/o P.O. Box 953, Midland, TX 79702, (432) 684-6381.

#24124

67100851000 67551428

WEST TEXAS OIL REPORTS
PO BOX 953
MIDLAND, TX 79702

| OPERATOR: Amtex Energy | NAME OF LEASE: Dagger Lake "5" State | WELL: No. 1 |
|---|---|---|
| LOCATION: 330' FSL & 1980' FEL Sec. 6, T-22-S. R-33-E, Lea County, New Mexico | | |



Submit to Appropriate
District Office
State Lease - 4 copies
Fee Lease - 3 copies

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised 1-1-89

# OIL CONSERVATION DIVISION

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

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240

DISTRICT II
P.O. Drawer DD, Artesia, NM 88210

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

## WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

| Operator | Lease | Well No. |
|---|---|---|
| MERIDIAN OIL, INC. | DAGGER LAKE STATE | 1 |

| Unit Letter | Section | Township | Range | County |
|---|---|---|---|---|
| O | 5 | 22 SOUTH | 33 EAST NMPM | LEA |

Actual Footage Location of Well:
330 feet from the SOUTH line and 1980 feet from the EAST line

| Ground Level Elev. | Producing Formation | Pool | Dedicated Acreage: |
|---|---|---|---|
| 3646.8' | Delaware | Wildcat | 40 Acres |

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.

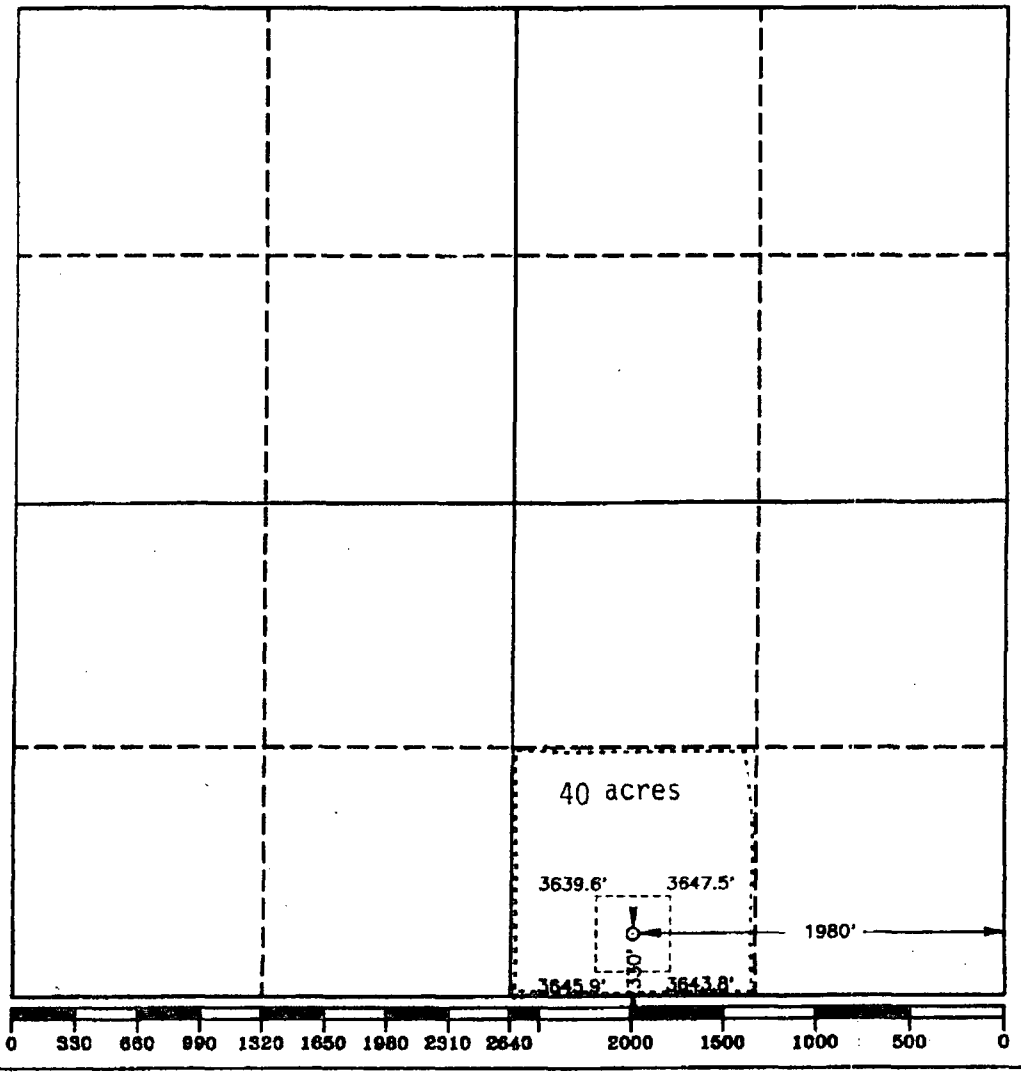
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

3. If more than one lease of different ownership is dedicated to the well, have the interest of all owners been consolidated by communitization, unitization, force-pooling, etc.?

☐ Yes ☐ No If answer is "yes" type of consolidation _____

If answer is "no" list of owners and tract descriptions which have actually been consolidated. (Use reverse side of this form necessary. _____

No allowable will be assigned to the well unit all interests have been consolidated (by communitization, unitization, forced-pooling, otherwise) or until a non-standard unit, eliminating such interest, has been approved by the Division.




### OPERATOR CERTIFICATION

*I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.*

Signature: Roxann Scholz
Printed Name: Roxann Scholz
Position: Prod Asst
Company: Meridian Oil Inc
Date: 7/20/92

### SURVEYOR CERTIFICATION

*I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervison, and that the same is true and correct to the best of my knowledge and belief.*

Date Surveyed: JULY 11, 1992

Signature & Seal of Professional Surveyor

Ronald J. Eidson

Certificate No. JOHN W. WEST, 676
RONALD J. EIDSON, 3239
GARY L. JONES, 7977

Submit to Appropriate District Office
State Lease – 6 copies
Fee Lease – 5 copies
DISTRICT I
P.O. Box 1980, Hobbs, NM 88240
DISTRICT II
P.O. Drawer DD, Artesia, NM 88210
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

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

Form C-105
Revised 1-1-89

WELL API NO.
30-025-31653

5. Indicate Type of Lease STATE [X] FEE [ ]

6. State Oil & Gas Lease No.
V-2387

## WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. Type of Well: OIL WELL [X] GAS WELL [ ] DRY [ ] OTHER

b. Type of Completion: NEW WELL [X] WORK OVER [ ] DEEPEN [ ] PLUG BACK [ ] DIFF RESVR [ ] OTHER

7. Lease Name or Unit Agreement Name
DAGGER LAKE STATE

2. Name of Operator
MERIDIAN OIL INC.

8. Well No.
1

3. Address of Operator
P.O. Box 51810, Midland, TX 79710-1810

9. Pool name or Wildcat
WILDCAT

4. Well Location
Unit Letter O : 330 Feet From The SOUTH Line and 1980 Feet From The EAST Line
Section 5 Township 22-S Range 33-E NMPM LEA County

| 10. Date Spudded | 11. Date T.D. Reached | 12. Date Compl. (Ready to Prod.) | 13. Elevations (DF & RKB, RT, GR, etc.) | 14. Elev. Casinghead |
|---|---|---|---|---|
| 7-30-92 | 8-26-92 | 8-29-92 | 3646.8'GR | |

| 15. Total Depth | 16. Plug Back T.D. | 17. If Multiple Compl. How Many Zones? | 18. Intervals Drilled By | Rotary Tools | Cable Tools |
|---|---|---|---|---|---|
| 8810' | 8763' | | | 0-TD | |

19. Producing Interval(s), of this completion - Top, Bottom, Name
4951-4985 DELAWARE

20. Was Directional Survey Made
NO

21. Type Electric and Other Logs Run
DLL/MSFL-CNL/LDT

22. Was Well Cored
NO - ROTARY SIDEWALL CORES ONLY

23. CASING RECORD (Report all strings set in well)

| CASING SIZE | WEIGHT LB./FT. | DEPTH SET | HOLE SIZE | CEMENTING RECORD | AMOUNT PULLED |
|---|---|---|---|---|---|
| 13-3/8" | 48# | 622' | 17-1/2" | 630SXS "C" | 200SXS |
| 8-5/8" | 28# | 4486' | 12-1/4" | 2250SXS "C" | 300SXS |
| 5-1/2" | 17# | 8810' | 7-7/8" | 1675SXS "H" 50-50POZ | TOC@2580' |
| | | | | | CBL |
| | | | | | |

24. LINER RECORD

| SIZE | TOP | BOTTOM | SACKS CEMENT | SCREEN |
|---|---|---|---|---|
| | | | | |
| | | | | |

25. TUBING RECORD

| SIZE | DEPTH SET | PACKER SET |
|---|---|---|
| 2-7/8" | 5080' | |
| | | |

26. Perforation record (interval, size, and number)
4951 - 4956', 4 SPF, 21 HOLES
4962 - 4985', 4 SPF, 93 HOLES

27. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC.

| DEPTH INTERVAL | AMOUNT AND KIND MATERIAL USED |
|---|---|
| | NONE |
| | |
| | |

28. PRODUCTION

| Date First Production | Production Method (Flowing, gas lift, pumping - Size and type pump) | Well Status (Prod. or Shut-in) |
|---|---|---|
| 9/2/92 | 2-1/2"X2-1/4"X20' TBG. PUMP | PROD |

| Date of Test | Hours Tested | Choke Size | Prod'n For Test Period | Oil - Bbl. | Gas - MCF | Water - Bbl. | Gas - Oil Ratio |
|---|---|---|---|---|---|---|---|
| 10/6/92 | 24HRS | | | 120 | 120 | 380 | 1000/1 |

| Flow Tubing Press. | Casing Pressure | Calculated 24-Hour Rate | Oil - Bbl. | Gas - MCF | Water - Bbl. | Oil Gravity - API - (Corr.) |
|---|---|---|---|---|---|---|
| | | | | | | 42° |

29. Disposition of Gas (Sold, used for fuel, vented, etc.)
Vented

Test Witnessed By

30. List Attachments
C-103, C-104, inclination report, 2-sets of logs

31. I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief

Signature Maria L. Perez Printed Name MARIA PEREZ Title PROD. ASST. Date 10/21/92

# INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Division not later than 20 days after the completion of any newly-drilled or deepened well. It shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, Items 25 through 29 shall be reported for each zone. The form is to be filed in quintuplicate except on state land, where six copies are required. See Rule 1105.

## INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

| Southeastern New Mexico | | Northwestern New Mexico | |
|---|---|---|---|
| T. Anhy 1130' | T. Canyon | T. Ojo Alamo | T. Penn. "B" |
| T. Salt 1265' | T. Strawn | T. Kirtland-Fruitland | T. Penn. "C" |
| B. Salt 3525' | T. Atoka | T. Pictured Cliffs | T. Penn. "D" |
| T. Yates | T. Miss | T. Cliff House | T. Leadville |
| T. 7 Rivers | T. Devonian | T. Menefee | T. Madison |
| T. Queen | T. Silurian | T. Point Lookout | T. Elbert |
| T. Grayburg | T. Montoya | T. Mancos | T. McCracken |
| T. San Andres | T. Simpson | T. Gallup | T. Ignacio Otzte |
| T. Glorieta | T. McKee | Base Greenhorn | T. Granite |
| T. Paddock | T. Ellenburger | T. Dakota | T. |
| T. Blinebry | T. Gr. Wash | T. Morrison | T. |
| T. Tubb | T. Delaware Sand 4910' | T. Todilto | T. |
| T. Drinkard | T. Bone Springs 8745' | T. Entrada | T. |
| T. Abo | T. | T. Wingate | T. |
| T. Wolfcamp | T. | T. Chinle | T. |
| T. Penn | T. | T. Permain | T. |
| T. Cisco (Bough C) | T. | T. Penn "A" | T. |

## OIL OR GAS SANDS OR ZONES

No. 1, from.....to..... No. 3, from.....to.....

No. 2, from.....to..... No. 4, from.....to.....

## IMPORTANT WATER SANDS

Include data on rate of water inflow and elevation to which water rose in hole.

No. 1, from.....to.....feet.....

No. 2, from.....to.....feet.....

No. 3, from.....to.....feet.....

## LITHOLOGY RECORD (Attach additional sheet if necessary)

| From | To | Thickness in Feet | Lithology | From | To | Thickness in Feet | Lithology |
|---|---|---|---|---|---|---|---|
| 0 | 1130 | 1130 | RED BEDS | | | | |
| 1130 | 1265 | 135 | ANHY. | | | | |
| 1265 | 3525 | 2260 | SALT & ANHY. | | | | |
| 3525 | 4635 | 1110 | ANHY. | | | | |
| 4635 | 4910 | 275 | LIMESTONE & DOLOMITE | | | | |
| 4910 | 8745 | 3835 | SANDSTONE | | | | |
| 8745 | TD 8810' | 65' | LIMESTONE & SHALE | | | | |

RECEIVED

OCT 2 6 1992

OCD HOBBS

Submit 3 Copies To Appropriate District Office
District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 South First, Artesia, NM 87210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-103
Revised March 25, 1999

WELL API NO. 30-025-31653
5. Indicate Type of Lease STATE [X] FEE [ ]
6. State Oil & Gas Lease No. 19207

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

7. Lease Name or Unit Agreement Name: Dagger Lake 5 State

1. Type of Well: Oil Well [X] Gas Well [ ] Other
2. Name of Operator: Amtex Energy, Inc.
8. Well No. 1
3. Address of Operator: P. O. Box 3418, Midland, Texas 79702
9. Pool name or Wildcat: Dagger Lake Delaware
4. Well Location
Unit Letter O : 330 feet from the South line and 1980 feet from the East line
Section 5 Township 22S Range 33E NMPM County Lea
10. Elevation (Show whether DR, RKB, RT, GR, etc.) KB 3661'

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

| NOTICE OF INTENTION TO: | | SUBSEQUENT REPORT OF: | |
|---|---|---|---|
| PERFORM REMEDIAL WORK [ ] | PLUG AND ABANDON [ ] | REMEDIAL WORK [ ] | ALTERING CASING [ ] |
| TEMPORARILY ABANDON [ ] | CHANGE PLANS [ ] | COMMENCE DRILLING OPNS. [ ] | PLUG AND ABANDONMENT [ ] |
| PULL OR ALTER CASING [ ] | MULTIPLE COMPLETION [ ] | CASING TEST AND CEMENT JOB [ ] | |
| OTHER: [ ] | | OTHER: Temporarily Abandon [X] | |

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

1. MIRU Black Warrior Wireline Corp's Wireline Truck.
2. RIH and set CIBP @ 4910' and cap with 35' of cement.
3. RD Wireline Truck x MIRU Maclaskey kill truck.
4. Load casing with water and pressure test to 500 psi and record on a chart recorder for 30 minutes (see attached chart).
5. Temporarily abandonment complete and Well Shut-In.

This Approval of Temporary Abandonment Expires 8/14/09

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

SIGNATURE William J. Savage TITLE President DATE 8/16/04

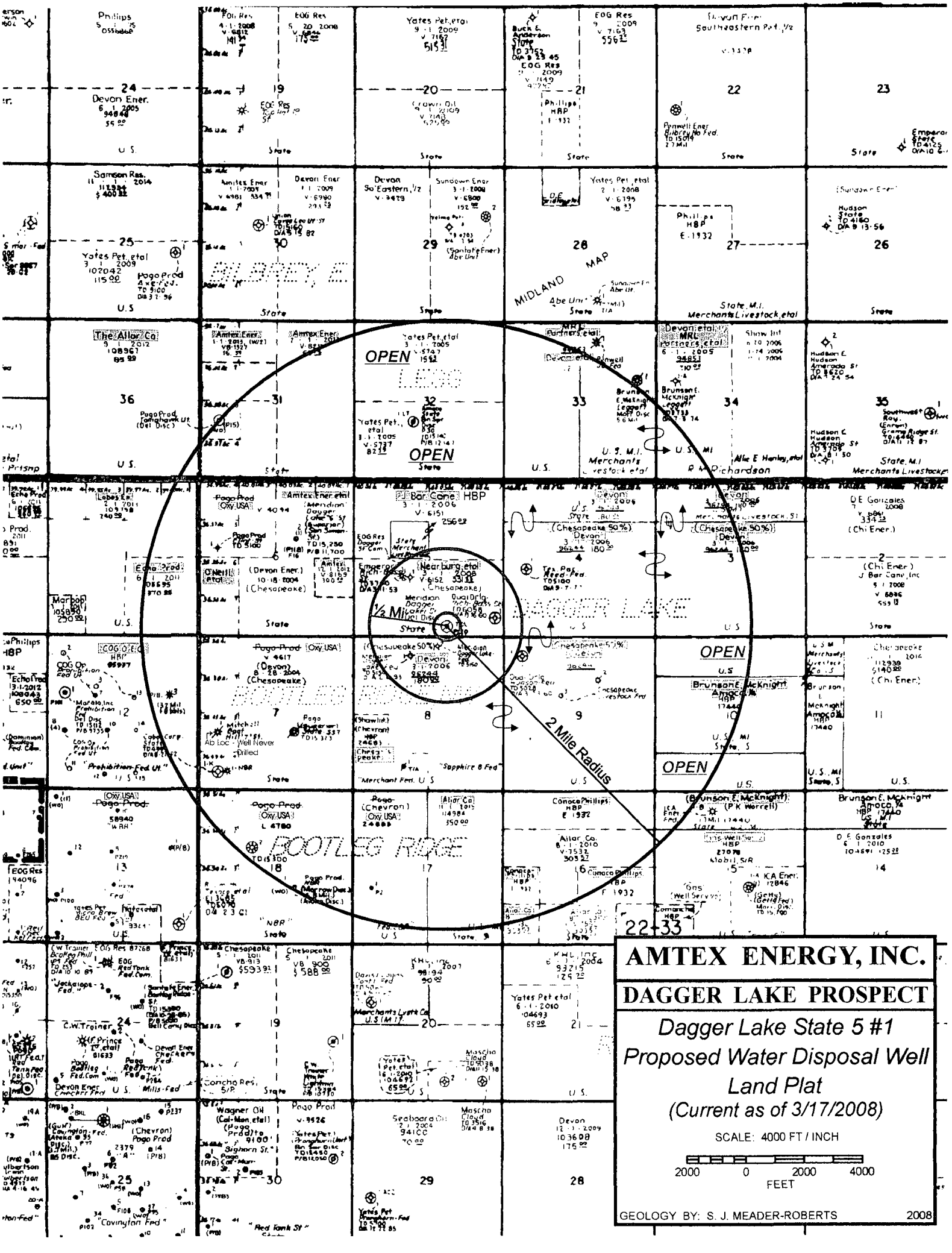
Type or print name William J. Savage Telephone No. 432/686-0847

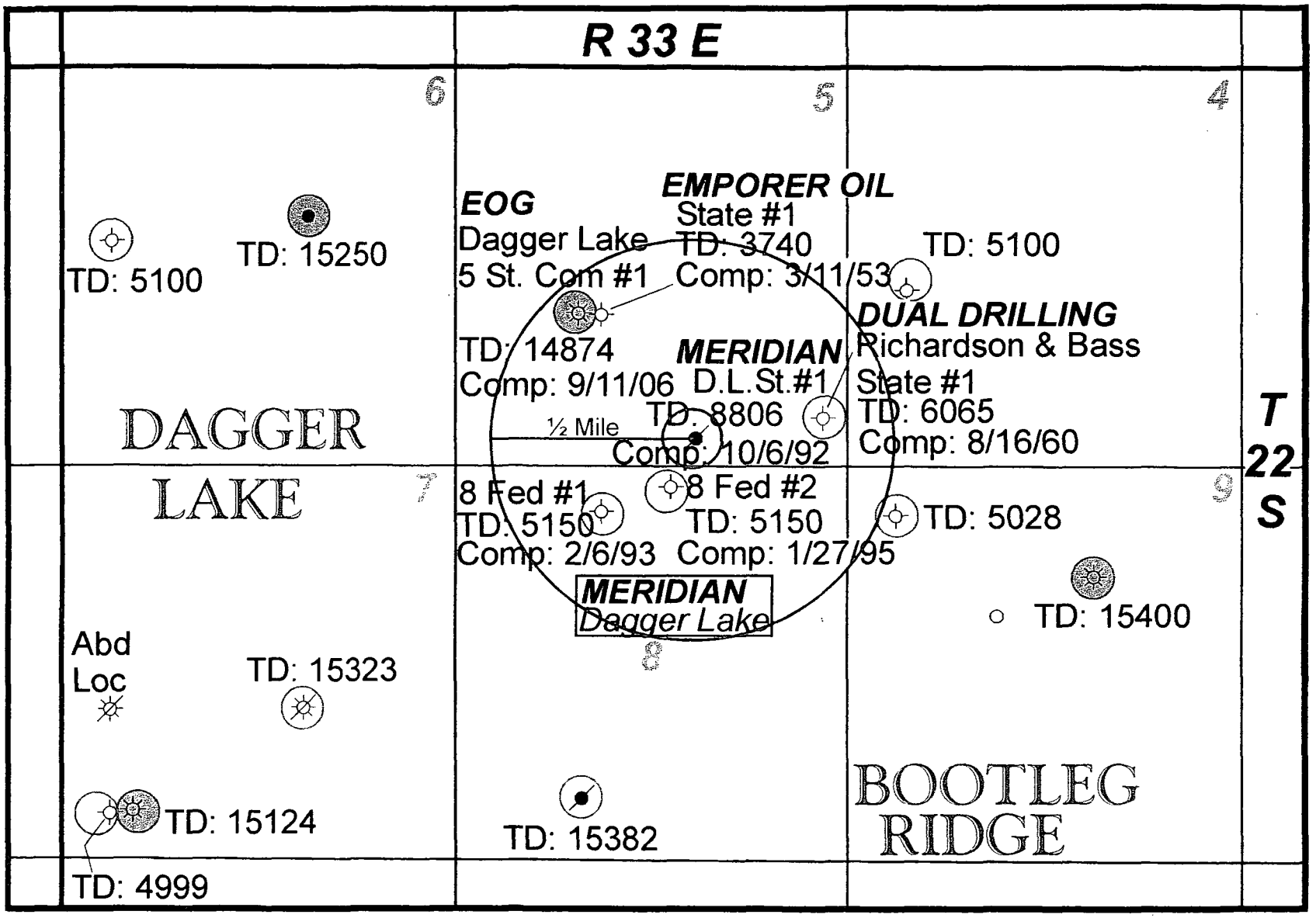
(This space for State use)

APPPROVED BY Gary W. Wink FIELD REPRESENTATIVE II/STAFF MANAGER DATE AUG 19 2004

Conditions of approval,

RECEIVED AUG 2004 Hobbs OCD


DAGGER LAKE
OPEN
OPEN
OPEN
MIDLAND MAP
½ Mile Disc.
2 Mile Radius
22-33
AMTEX ENERGY, INC.
DAGGER LAKE PROSPECT
Dagger Lake State 5 #1
Proposed Water Disposal Well
Land Plat
(Current as of 3/17/2008)
SCALE: 4000 FT / INCH
2000 0 2000 4000
FEET
GEOLOGY BY: S. J. MEADER-ROBERTS 2008




WELL STATUS

| PROD | P&A | TYPE |
|---|---|---|
| ● | ● | OIL |
| ☼ | ☼ | GAS |
| ✸ | ✸ | O & G |

- ⊹ DRY
- ⊙ SALT WATER
- ⊘ INJECTION
- ○ LOCATION

**PRODUCTION**

- DELAWARE
- BONE SPRING
- ATOKA
- MORROW

○ Wells That Penetrate the U. Delaware

**AMTEX ENERGY, INC.**

**DAGGER LAKE AREA**

*WELL IDENTIFICATION MAP*

*½ Mile Radius*

*Proposed SWD Well*

SCALE: 2000 FT / INCH

1000 0 FEET 1000 2000

GEOLOGY BY: S. J. MEADER-ROBERTS 2008

C 108 - VI

# PROPOSED WATER DISPOSAL WELL

## *AMTEX ENERGY, INC*

**DAGGER LAKE STATE 5 #1**
**330 FSL & 1980 FEL**
**Sec. 5, T-22-S, R-33-E**
**Lea County, New Mexico**

**Wells Within The Area Of Review That Penetrated The Proposed Injection Zone**

**EOG Resources** **API: 30-025-37630** **Bootleg Ridge, Morrow**
Dagger Lake 5 State Com #1
1980 FSL & 1650 FWL
Sec 5(K), T-22-S, R-33-E
TD: 14874 (Morrow)
Type: Morrow Gas Well
Completed: 9/11/2006
IP: F 418 MCFGPD Perfs: 14686-724
Construction: 17" Hole drilled to 1390
13 3/8" 54.5# J55 Casing set @ 1390 w/ 740 sacks - cement circulated
12 1/4" hole drilled to 5440
9 5/8" 40# J55 and HCK 55 Casing set @ 5440 w/ 1700 sacks - cement circulated
8 3/4" hole drilled to 12180
7" 26# HCP 110 Casing set @ 12180 w/ 1178 sacks - cement ciruclated to surface
4 1/2" 13.5# P110 Liner set @ 14850 w/ 450 sacks - TOL @ 11882

**AMTEX Energy, Inc. (Meridian)** **API: 30-025-31653** **Dagger Lake, Delaware**
***Proposed Injection Well***
Dagger Lake State 5 #1
330 FSL & 1980 FEL
Sec. 5 (O), T-22-S, R-33-E
TD: 8810 (Delaware)
Type: Upper Delaware Oil Well
Completed: 8/29/1992
IP: P120 BO + 120 MCFG + 380 BWPD
Well T & A 8/1997
Construction: See attached Tabular Well Data.
(See attached Schematic)

**Dual Drilling Company** **API: 30-025-01794** **Wildcat**
Richardson and Bass State #1
660 FSL & 330 FEL
Sec. 5 (P), T-22-S, R-33-E
TD: 6065 (Delaware)
Type: Dry Hole
Completed: 8/19/1960
(continued next page)

Construction: Surface hole size not reported
8 5/8" Casing Set @ 324' w/ 350 Sacks - ETOC - circulated
Open hole size not reported - drilled to 6065
Subsequently plugged back to 4150'
4 1/2" Casing Set @ 4150 w/100 sacks - ETOC-3150
(See attached Schematic)

**Meridian Oil Company** **API: 30-025-32830** **Dagger Lake, Delaware**
Dagger Lake 8 Federal #2
330 FNL & 2310 FEL
Sec. 8 (B), T-22-S, R-33-E
TD: 5150 (Upper Delaware)
Type: Dry Hole
Completed: 1/27/1995
Construction: 12 1/4" Surface hole drilled to 622'
8 5/8" 28# Casing set @ 622' w/375 sacks - circulated to surface
Size of hole from 8 5/8" casing - not reported
Well was TD'd at 5150'
No long string casing was run as well was a dry hole.
(See attached Schematic)

P

**Meridian Oil Company** **API: 30-025-31885** **Dagger Lake, Delaware**
Dagger Lake 8 Federal #1
660 FNL & 1980 FWL
Sec. 8 (C), T-22-S, R-33-E
TD: 5150 (Upper Delaware)
Type: Dry Hole
Completed: 1/27/1993
Construction: 12 1/4" Surface hole drilled to 633'
8 5/8" 28# Casing set @ 633' w/ 375 sacks - circulated to surface
7 7/8" hole drilled to 5150
No long string casing was run as well was a dry hole.
(See attached Schematic)

P

# PROPOSED WATER DISPOSAL WELL

***AMTEX ENERGY, INC***

**DAGGER LAKE STATE 5 #1**

**330 FSL & 1980 FEL**

**Sec. 5, T-22-S, R-33-E**

**Lea County, New Mexico**

**Lessees Within A 2 Mile Radius of The Proposed Disposal Well**

Section 5, T-22-S, R-33-E (State Land - Minerals and Surface)

S/2 Nearburg, et al (HBP) - See attached data from State Land Office

N/2 J Bar Cane (HBP) - See attached data from State Land Office

Surface lease - Merchant Livestock, Inc -- See attached data from State Land Office

Section 32, T-21-S, R-33-E (State Land - Minerals and Surface)

All Verified Open - See attached data from State Land Office

Section 33, T-21-S, R-33-E (Federal Land - Minerals; Merchants Livestock, et all - Surface)

All MRL Partners, et al - Mailing address from State Land Office attached

Devon, et al - Mailing address from State Land Office attached

Section 34, T-21-S, R-33-E (Federal Land - Minerals; R. M. Richardson - Surface)

SW/4 Devon, et al

MRL Partners, et al

Section 4, T-22-S, R-33-E (Federal Lands - Minerals; State Lands - Surface for N/2 N/2)

N/2 N/2 Devon - Mailing address from State Land Office attached

S/2 N/2 and all S/2 Chesapeake Mailing address from State Land Office attached

Devon

Section 3, T-22-S, R-33-E (Federal Lands - Minerals; Merchant Livestock - Surface)

N/2 N/2 Devon

S/2 N/2 and all S/2 Chesapeake and Devon

Section 9, T-22-S, R-33-E (Federal Lands - Minerals)

All Chesapeake and Devon

Section 10, T-22-S, R-33-E (Federal Lands - Minerals, State - Surface)

N/2 N/2 Open Acreage

S/2 N/2 and N/2 S/2 Brunson & McKnight - Mailing address from State Land Office attached

Amoco (1/4) - but Amoco has since been bought out

(Possibly BP America - Mailing address attached)

S/2 S/2 Open Acreage

Section 15, T-22-S, R-33-E (Federal Lands - Minerals, State - Surface)

N/2 NW/4 Brunson & McKnight

SW/NW Gas Well Services, Inc - Mailing address from State Land Office attached

Section 16, T-22-S, R-33-E (State Lands - Minerals)

| | | |
|---|---|---|
| N/2 N/2, NW/SE, and NW/SW | | Conoco-Phillips - Mailing address from SLO attached |
| S/2 N/2, NE/SW, and S/2 SW | | Allar Company - Mailing address from SLO attached |

Section 17, T-22-S, R-33-E (Federal Lands - Minerals; State Lands - Surface)

| | |
|---|---|
| E/2 | Allar Company |
| W/2 | Oxy, USA (Bought Pogo's Properties) - Mailing address from SLO attached |

Section 18, T-22-S, R-33-E (State Lands - Minerals)

| | |
|---|---|
| All | Oxy USA |

Section 8, T-22-S, R-33-E (Federal Lands - Minerals; Merchant Farms - Surface Lease)

| | |
|---|---|
| N/2, SE/4, and NE/SW | Devon and Chesapeake |
| NW/SW and S/2 SW/4 | Chesapeake |

Section 7, T-22-S, R-33-E (State Lands - Minerals)

| | |
|---|---|
| All | Oxy USA |

Section 13, T-22-S, R-33-E (Federal Lands - Minerals)

| | |
|---|---|
| NE/NE | Oxy USA |

Section 12, T-22-S, R-33-E (Federal Lands - Minerals)

| | | |
|---|---|---|
| E/2 | COG Oil and Gas | Mailing address from State Land Office attached |

Section 1, T-22-S, R-33-E (Federal Lands - Minerals)

| | | |
|---|---|---|
| SE/4 | Echo Production | Mailing address from State Land Office attached |
| NE/4 | Lobos Energy | Mailing address from State Land Office attached |

Section 6, T-22-S, R-33-E (State Lands - Minerals and Surface)

NOTE: Surface Leased to Merchant Farms, Inc. Mailing address from SLO attached

NW/4 Oxy USA

E/2 and SW/4 Amtex Energy, Inc. (see attached data from SLO)

Section 36, T-21-S, R-32-E (Federal Lands - Minerals)

| | | |
|---|---|---|
| All | The Allar Companies | Mailing address from State Land Office Attached |

Section 31, T-21-S, R-33-E (State Lands - Minerals)

| | |
|---|---|
| All | Amtex Energy, Inc. |

Form 3160-5
(June 1990)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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.
NM-70343

6. If Indian, Allottee or Tribe Name

*SUBMIT IN TRIPLICATE*

7. If Unit or CA, Agreement Designation

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

8. Well Name and No.
Dagger Lake "8" Fed. #1

2. Name of Operator
Meridian Oil Inc.

9. API Well No.
30-025-31885

3. Address and Telephone No.
P.O. Box 51810, Midland, TX 79710-1810 915-688-6800

10. Field and Pool, or Exploratory Area
Dagger Lake Delaware

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
C, 660' FNL & 1980' FWL
Sec. 8, T22S, R33E

11. County or Parish, State
Lea

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

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

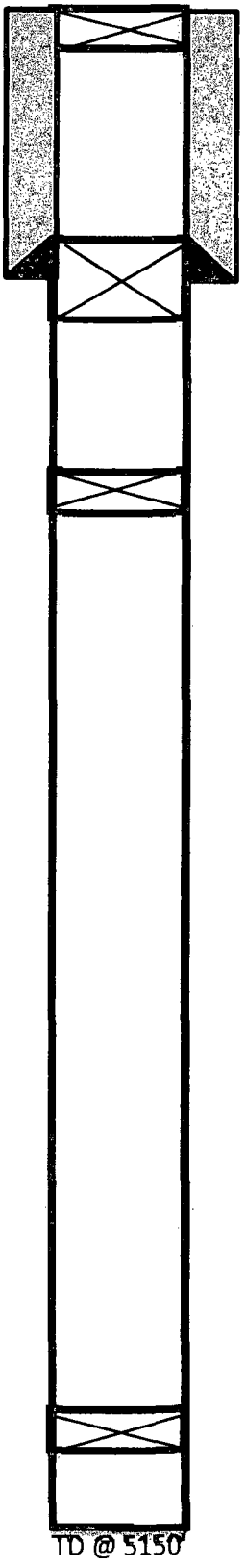
2-6-93 - Set first plug, btm @4911', 58 sxs class "C" w/2% CaCl.
woc 4.25 hrs.
tag plug top @4736'
set second plug from 1160'-1060', 42 sxs class "C" w/2% CaCl.
pump 3rd plug from 682'-500' w/42 sxs class "C" w/2% CaCl.
WOC 4 hrs.
tag top of 3rd plug @584'
pump surf. plug @60' w/17' sxs. class "C"

14. I hereby certify that the foregoing is true and correct
Signed _____ Title Production Assistant Date 2-17-93

(This space for Federal or State office use)
Approved by Orig. Signed by Adam Salamon Title PETROLEUM ENGINEER Date 3/1/93
Conditions of approval, if any:

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.

| **OPERATOR:** Meridian Oil Inc. | **NAME OF LEASE:** Dagger Lake '8' FED **Well:** No. 1 |
|---|---|
| **LOCATION:** 660' FNL & 1980' FWL, Sect. 8, T-22-S, R-33-E Lea County, New Mexico | |




60'-SURF 17 sx class "C" cmt.

14 jts. 8 5/8 csg set @ 633'
cmt. W/375 sx class "C" w/2% CaCl2. circ. 115 sx
682-584' 42 sx class "C"

1160-1060' 42 sx class "C"

4911-4736' 58 sx class "C"

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

Form 3160-5
(June 1990)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

**SUBMIT IN TRIPLICATE**

5. Lease Designation and Serial No.: NM 70343
6. If Indian, Allottee or Tribe Name:
7. If Unit or CA, Agreement Designation:

1. Type of Well: [ ] Oil Well [ ] Gas Well [X] Other
2. Name of Operator: MERIDIAN OIL INC.
3. Address and Telephone No.: P.O. Box 51810, Midland, TX 79710-1810 915-688-6943
4. Location of Well (Footage, Sec., T., R., M., or Survey Description): ~~B.C. 660' FNL & 1980' FWL~~ 330/N & 23O/E
SEC. 8, T22S, R33E

8. Well Name and No.: DAGGER LAKE '8' NO. 2 FEDERAL
9. API Well No.: 30-025-32839
10. Field and Pool, or exploratory Area: DAGGER LAKE DELAWARE
11. County or Parish, State: LEA NM

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

| TYPE OF SUBMISSION | TYPE OF ACTION | |
|---|---|---|
| [X] Notice of Intent | [X] 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 PLUG AND ABANDON | [ ] 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.)*

WELL WAS A DRY HOLE. REQUESTED APPROVAL ON JANUARY 27, 1995 TO PLUG AND ABANDON THE WELL. NOTICE OF INTENT (3160-5) WAS FAXED TO ADAM SALAMEH AND THE BELOW LISTED PROCEDURES WAS APPROVED.

| | | |
|---|---|---|
| TOPS: | 4910' | DELAWARE |
| | 3535' | BASE OF SALT |
| | 1215' | TOP OF SALT/SALADO |
| | 1080' | RUSTLER |
| | 622' | SURF. CSG SHOE |

| | | |
|---|---|---|
| PLUGS: | 40 SXS | 4860'-4960' (TAG) |
| | 49 SXS | 3585'-3485 |
| | 43 SXS | 1265'-1165' |
| | 30 SXS | 672'-572' (TAG) |
| | 10 SXS | 50' - SURF. |

RECEIVED
APR 4 11 38 AM '95
CARLSBAD, NEW MEXICO

14. I hereby certify that the foregoing is true and correct
Signed _____ Title REGULATORY ASSISTANT Date 3/31/95

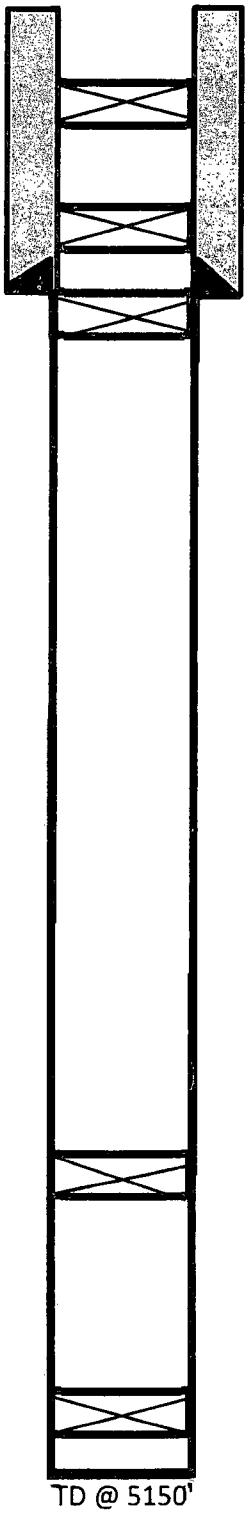
(This space for Federal or State office use)
Approved by Orig. Signed by Adam Salameh Title Petroleum Engineer Date 6/6/95
Conditions of approval, if any:

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

NSL

| **OPERATOR:** Meridian Oil Inc. | **NAME OF LEASE:** Dagger Lake '8' FED **Well:** No. 2 |
|---|---|
| **Location:** 330' FNL & 2310' FEL Sec. 8 T-22-S, R-33-E Lea County, New Mexico | |



CMT Plug (16 sx) @ 63'

Tag Plug @ 510'

8 5/8 28# csg @ 622' CMTED W/375 sx
class "C" + 2% CaCl2 + .25 PPS Celloflake Circ.

CMT Plug (35sx) @ 661'

CMT Plug (50sx) @ 3580'

CMT Plug (50 sx) @ 4969'

TD @ 5150'

DUPLICATE

# NEW MEXICO OIL CONSERVATION COMMISSION

FORM C-103
(Rev 3-55)

## MISCELLANEOUS REPORTS ON WELLS

*(Submit to appropriate District Office as per Commission Rule 1106)*

| | | | | | | |
|---|---|---|---|---|---|---|
| Name of Company: DUAL DRILLING COMPANY | | | Address: 606 City Nat'l Bldg. Wichita Falls, Tex. | | | |
| Lease: Richardson & Bass St. | Well No.: 1 | Unit Letter: P | Section: 5 | Township: 22S | Range: 33E | |
| Date Work Performed: 8/19/60 | Pool: Wildcat | | County: Lea | | | |

THIS IS A REPORT OF: *(Check appropriate block)*

- ☐ Beginning Drilling Operations
- ☐ Casing Test and Cement Job
- ☐ Other *(Explain)*:
- ☒ Plugging
- ☐ Remedial Work

Detailed account of work done, nature and quantity of materials used, and results obtained.

P&A 8/19/60 Cut and recovered 3150' 4-1/2" csg (left 100' 3150-4150')

Plugs as follows:

5 sx from 3670-80'
25 sx across stub of 4-1/2" at 3150'
25 sx 1537-1650'
25 sx 324-390' across surface csg
10 sx in surface w/regulation marker

Location will be cleaned and levelled and Commission notified

| Witnessed by | Position | Company |
|---|---|---|
| S. O. Lamb | Toolpusher | Dual Drilling Company |

FILL IN BELOW FOR REMEDIAL WORK REPORTS *ONLY*

ORIGINAL WELL DATA

| D F Elev. | T D | P B T D | Producing Interval | Completion Date |
|---|---|---|---|---|
| | | | | |

| Tubing Diameter | Tubing Depth | Oil String Diameter | Oil String Depth |
|---|---|---|---|
| | | | |

| Perforated Interval(s) | |
|---|---|
| Open Hole Interval | Producing Formation(s) |
| | |

RESULTS OF WORKOVER

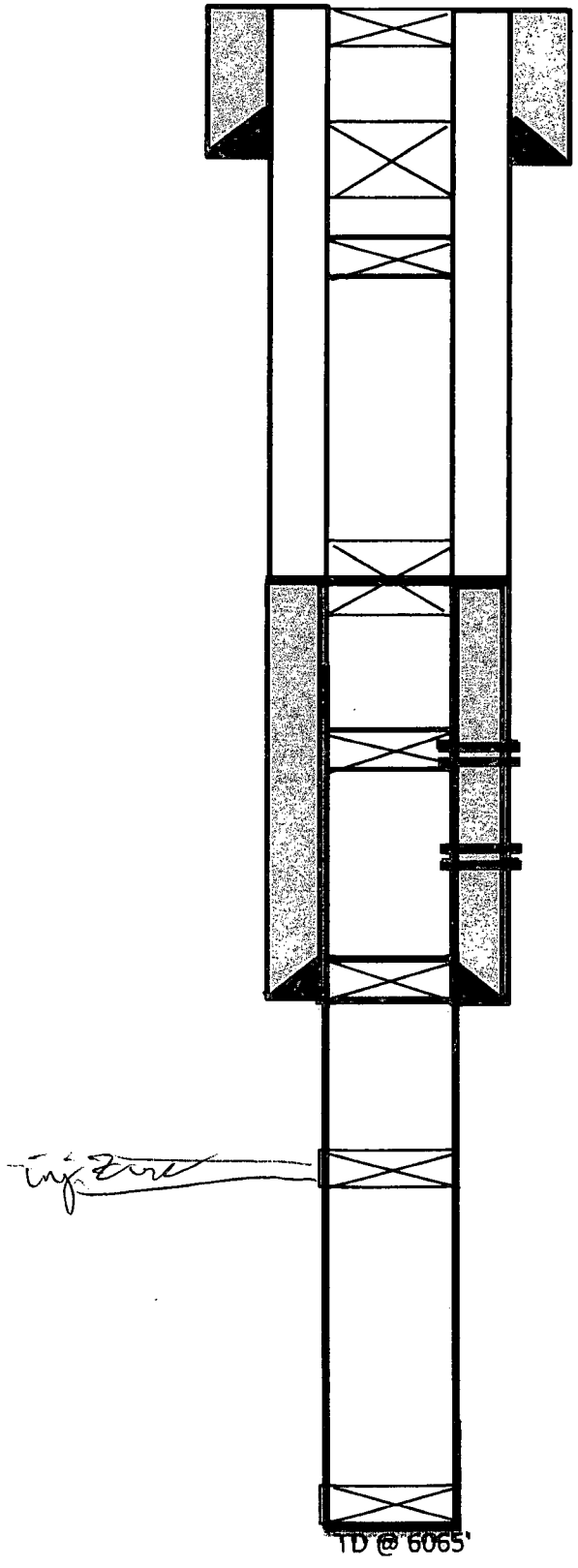
| Test | Date of Test | Oil Production BPD | Gas Production MCFPD | Water Production BPD | GOR Cubic feet/Bbl | Gas Well Potential MCFPD |
|---|---|---|---|---|---|---|
| Before Workover | | | | | | |
| After Workover | | | | | | |

OIL CONSERVATION COMMISSION

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

| | |
|---|---|
| Approved by: Leslie A. Clements | Name: Agent |
| Title: Oil & Gas Inspector | Position: |
| Date: OCT 10 1960 | Company: DUAL DRILLING COMPANY |

| | |
|---|---|
| **OPERATOR:** Dual Drilling Company | **NAME OF LEASE:** Richard and Bass St. Well: No.1 |
| **LOCATION:** Sec. 5, T-22-S, R-33-E, Lea County, New Mexico | |




10sx in surface w/regulation marker

8 5/8 @ 324' W/ 350 sx-Circ.
Plug- 25sx from 324-350' across surface csg

25sx from 1537-1650'

Cut csg @ 3150'
25sx across stub

5 sx from 3670-80'
Perfs 3669-78' (18 holes)
(8/10/60)

Perfs 3784-94' (20 holes)
NSOG (8/17/60)

4 1/2" csg 9.5# at PBTC @ 4150' w/100
sx cmt, cmt. past base of salt (ETOC-3150')
Plug-50 sx from 4350-4150 Total PBTD 4150'

25sx 4990-4577'

25sx 6065-5988'

Submit to Appropriate District Office
State Lease - 6 copies
Fee Lease - 5 copies
District I
1625 N. French, Hobbs, NM 88240
District II
811 South First, Artesia, NM 87210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-105
Revised March 25, 1999

WELL API NO. 30-025-37630
5. Indicate Type Of Lease STATE [X] FEE [ ]
6. State Oil & Gas Lease No.

# WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. Type of Well: OIL WELL [ ] GAS WELL [X] DRY [ ] OTHER

b. Type of Completion: NEW WELL [X] WORK OVER [ ] DEEPEN [ ] PLUG BACK [ ] DIFF. RESVR. [ ] OTHER

7. Lease Name or Unit Agreement Name: Dagger 5 State Com

2. Name of Operator: EOG Resources Inc.

8. Well No.: 1

3. Address of Operator: P.O. Box 2267 Midland, Texas 79702

9. Pool name or Wildcat: Bootleg Ridge; Morrow (Gas)

4. Well Location
Unit Letter K : 1980 Feet From The South Line and 1650 Feet From The West Line
Section 5 Township 22S Range 33E NMPM Lea County

| 10. Date Spudded | 11. Date T.D. Reached | 12. Date Compl. (Ready to Prod.) | 13. Elevations (DF & RKB, RT, GR, etc.) | 14. Elev. Casinghead |
|---|---|---|---|---|
| 2/7/06 | 3/24/06 | 9/11/06 | 3649 GR | |

| 15. Total Depth | 16. Plug Back T.D. | 17. If Multiple Compl. How Many Zones? | 18. Intervals Drilled By | Rotary Tools | Cable Tools |
|---|---|---|---|---|---|
| 14874 | 14822 | | | X | |

19. Producing Interval(s), of this completion - Top, Bottom, Name: 14686 - 14724 Morrow

20. Was Directional Survey Made: No

21. Type Electric and Other Logs Run

22. Was Well Cored: No

## 23. CASING RECORD (Report all strings set in well)

| CASING SIZE | WEIGHT LB./FT. | DEPTH SET | HOLE SIZE | CEMENTING RECORD | AMOUNT PULLED |
|---|---|---|---|---|---|
| 13 3/8 | 54.50 | 1390 | 17 1/2 | 740 POZ; 285 C | |
| 9 5/8 | 40 | 5440 | 12 1/4 | 1700 POZ, 200 C | |
| 7 | 26 | 12180 | 8 3/4 | 853 Litecrete | |
| | | | | 325 Lightweight | |
| | | | | | |

## 24. LINER RECORD

| SIZE | TOP | BOTTOM | SACKS CEMENT | SCREEN |
|---|---|---|---|---|
| 4 1/2 | 11882 | 14850 | 450 | |
| | | | | |

## 25. TUBING RECORD

| SIZE | DEPTH SET | PACKER SET |
|---|---|---|
| ~~2.378~~ 2 1/8 per SW | 11867 | |
| ~~3.172~~ 2 3/8 | 14624 | 14624 |

26. Perforation record (interval, size, and number)
14686 - 14724

27. ACID, SHOT, FRACTURE, CEMENT, SQEEZE, ETC.

| DEPTH INTERVAL | AMOUNT AND KIND MATERIAL USED |
|---|---|
| 14684 - 14724 | Frac w/ 1516 bbls slick water; |
| | 44600 lbs 20/40 Interprop; |
| | 155 Tons CO2 |

## 28. PRODUCTION

| Date First Production | Production Method (Flowing, gas lift, pumping - Size and type pump) | Well Status (Prod. or Shut-in) |
|---|---|---|
| 9/11/06 | Flowing | Producing |

| Date of Test | Hours Tested | Choke Size | Prod'n For Test Period | Oil - Bbl. | Gas - MCF | Water - Bbl. | Gas - Oil Ratio |
|---|---|---|---|---|---|---|---|
| 9/13/06 | 24 | Open | | 0 | 418 | 0 | |

| Flow Tubing Press. | Casing Pressure | Calculated 24-Hour Rate | Oil - Bbl. | Gas - MCF | Water - Bbl. | Oil Gravity - API - (Corr.) |
|---|---|---|---|---|---|---|
| 510 | | | | | | |

29. Disposition of Gas (Sold, used for fuel, vented, etc.): Sold

Test Witnessed By

30. List Attachments

31. I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief

Signature Stan Wagner Printed Name Stan Wagner Title Regulatory Analyst Date 9/14/06

Amtex Energy, Inc.

Dagger Lake State 5, Well #1
Section 5, T22S, R33E, Lea County, NM

Surface Owner:
Merchant Livestock, Inc. P.O. Box 1166, Carlsbad, NM 88220

Offset Operators:

Nearburg Exploration Company, LLC,3300 North A St., Bldg 2, Suite 120, Midland, TX 79705
Chesapeake Exploration, LP, Box 18496, Oklahoma City, OK 73154
Devon Energy Production Co., LP, 20 N. Broadway, Oklahoma City, OK 73102
Oxy USA, Inc., Box 4294, Houston, TX 77210
J Bar Cane, Box 16, Stanley, NM 87056

Copies of the Form C-108, Well Data Sheets and map have been sent to the above stated parties on this the 20th of June, 2008, by certified mail. aer

Ann E. Ritchie, Regulatory Agent
Amtex Energy, Inc.

Amtex Energy, Inc.
Dagger Lake State 5, Well #1
Section 5, T22S, R33E, Lea County, NM

Oil Conservation Division
Form C-108

Geological Statement

Dagger Lake State 5 #1
330 FSL & 1980 FEL
Section 5, T-22-S, R-33-E
Lea County, New Mexico

C-108 Application for Water Disposal Well

XII. I, William J. Savage, as Engineer and Owner of Amtex Energy, Inc., affirm that I have examined available geological and engineering data and find no evidence of open faults or any hydrologic connection between the disposal zone and any underground sources of drinking water.

Name: William J. Savage

Signature: William J. Savage

Date: June 10, 2008

Amtex Energy, Inc.
Dagger Lake State 5, Well #1
Section 5, T22S, R33E, Lea County, NM

Oil Conservation Division
Form C-108

Water Analysis

C 108 - XI - Surface WATER

Martin Water Laboratories, Inc.

P.O. BOX 98
MIDLAND, TX. 79702
PHONE (432) 683-4521

708 W. INDIANA
MIDLAND, TEXAS 79701
FAX (432) 682-8819

**RESULT OF WATER ANALYSES**

LABORATORY NO. 608-56
SAMPLE RECEIVED 6-4-08
RESULTS REPORTED 6-9-08

TO: ATTN: Sergio O Jaeda
PO Box 3418, Midland, TX 79702

COMPANY Amtex Energy, Inc. LEASE Dagger Lake #5
FIELD OR POOL Dagger Lake
SECTION 5 BLOCK T22S SURVEY R 33E COUNTY Lea STATE NM
SOURCE OF SAMPLE AND DATE TAKEN:
NO. 1 Submitted water sample - taken 6-4-08.
NO. 2
NO. 3
NO. 4

REMARKS:

| CHEMICAL AND PHYSICAL PROPERTIES | NO. 1 | NO. 2 | NO. 3 | NO. 4 |
|---|---|---|---|---|
| Specific Gravity at 60° F. | 1.0015 | | | |
| pH When Sampled | | | | |
| pH When Received | 7.85 | | | |
| Bicarbonate as $HCO_3$ | 488 | | | |
| Supersaturation as $CaCO_3$ | | | | |
| Undersaturation as $CaCO_3$ | | | | |
| Total Hardness as $CaCO_3$ | 520 | | | |
| Calcium as Ca | 120 | | | |
| Magnesium as Mg | 53 | | | |
| Sodium and/or Potassium | 39 | | | |
| Sulfate as $SO_4$ | 71 | | | |
| Chloride as Cl | 92 | | | |
| Iron as Fe | 4.9 | | | |
| Barium as Ba | 0 | | | |
| Turbidity, Electric | | | | |
| Color as Pt | | | | |
| Total Solids, Calculated | 863 | | | |
| Temperature °F. | | | | |
| Carbon Dioxide, Calculated | | | | |
| Dissolved Oxygen, | | | | |
| Hydrogen Sulfide | 0.0 | | | |
| Resistivity, ohms/m at 77° F. | 9.710 | | | |
| Suspended Oil | | | | |
| Filtrable Solids as mg/l | | | | |
| Volume Filtered, ml | | | | |

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks

The undersigned certifies the above to be true and correct to the best of his knowledge and belief.

Form No. 3

By Greg Ogden, B.S.

LATHAM PRINTING CO. - 333-1292

P. O. BOX 1468
MONAHANS, TEXAS 79756
PH. 943-3234 OR 563-1040

# Martin Water Laboratories, Inc.

709 W. INDIANA
MIDLAND, TEXAS 79701
PHONE 683-4521

## RESULT OF WATER ANALYSES

TO: Mr. Joe Small
P. O. Box 51810, Midland, TX 79710

LABORATORY NO. 99293
SAMPLE RECEIVED 9-16-92
RESULTS REPORTED 9-18-92

COMPANY Meridian Oil Company LEASE Dagger Lake #1
FIELD OR POOL Wildcat
SECTION 5 BLOCK T22S SURVEY R 33E COUNTY Lea STATE NM
SOURCE OF SAMPLE AND DATE TAKEN:
NO. 1 Recovered water - taken from Dagger Lake #1. 9-9-92
NO. 2
NO. 3
NO. 4
REMARKS: Delaware

**CHEMICAL AND PHYSICAL PROPERTIES**

| | NO. 1 | NO. 2 | NO. 3 | NO. 4 |
|---|---|---|---|---|
| Specific Gravity at 60° F. | 1.1462 | | | |
| pH When Sampled | | | | |
| pH When Received | 6.26 | | | |
| Bicarbonate as $HCO_3$ | 146 | | | |
| Supersaturation as $CaCO_3$ | | | | |
| Undersaturation as $CaCO_3$ | | | | |
| Total Hardness as $CaCO_3$ | 50,500 | | | |
| Calcium as Ca | 18,000 | | | |
| Magnesium as Mg | 1,336 | | | |
| Sodium and/or Potassium | 68,483 | | | |
| Sulfate as $SO_4$ | 947 | | | |
| Chloride as Cl | 140,618 | | | |
| Iron as Fe | 90.0 | | | |
| Barium as Ba | | | | |
| Turbidity, Electric | | | | |
| Color as Pt | | | | |
| Total Solids, Calculated | 229,531 | | | |
| Temperature °F. | | | | |
| Carbon Dioxide, Calculated | | | | |
| Dissolved Oxygen, | | | | |
| Hydrogen Sulfide | 0.0 | | | |
| Resistivity, ohms/m at 77° F. | 0.053 | | | |
| Suspended Oil | | | | |
| Filtrable Solids as mg/l | | | | |
| Volume Filtered, ml | | | | |
| Total Dissolved Solids @ 180°C. | 184,361 | | | |
| | | | | |
| | | | | |

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks We see a substantial change in the characteristics of water being recovered from this well as compared to the sample taken 9-2-92 and reported on laboratory #99210. Based on a comparison with our Delaware records in the general area of this well, the above water is indicated to be predominantly Delaware.

Form No. 3

By
Waylan C. Martin, M.A.

P. O. BOX 1468
MONAHANS, TEXAS 79756
PH. 943-3234 OR 563-1040

# Martin Water Laboratories, Inc.

709 W. INDIANA
MIDLAND, TEXAS 79701
PHONE 683-4521

## RESULT OF WATER ANALYSES

TO: Mr. Joe Small
P. O. Box 51810, Midland, TX 79710

LABORATORY NO. 109237
SAMPLE RECEIVED 10-7-92
RESULTS REPORTED 10-9-92

COMPANY Meridian Oil Company LEASE Dagger Lake
FIELD OR POOL Wildcat
SECTION 5 ~~BLOCK~~ T22S ~~SURVEY~~ R33E COUNTY Lea STATE NM
SOURCE OF SAMPLE AND DATE TAKEN:
NO. 1 Recovered water - taken from Dagger Lake #1. 10-2-92
NO. 2
NO. 3
NO. 4
REMARKS: Delaware

**CHEMICAL AND PHYSICAL PROPERTIES**

| | NO. 1 | NO. 2 | NO. 3 | NO. 4 |
|---|---|---|---|---|
| Specific Gravity at 60° F. | 1.1500 | | | |
| pH When Sampled | | | | |
| pH When Received | 5.08 | | | |
| Bicarbonate as $HCO_3$ | 49 | | | |
| Supersaturation as $CaCO_3$ | | | | |
| Undersaturation as $CaCO_3$ | | | | |
| Total Hardness as $CaCO_3$ | 57,500 | | | |
| Calcium as Ca | 17,400 | | | |
| Magnesium as Mg | 3,402 | | | |
| Sodium and/or Potassium | 66,920 | | | |
| Sulfate as $SO_4$ | 636 | | | |
| Chloride as Cl | 143,458 | | | |
| Iron as Fe | 120 | | | |
| Barium as Ba | | | | |
| Turbidity, Electric | | | | |
| Color as Pt | | | | |
| Total Solids, Calculated | 231,865 | | | |
| Temperature °F. | | | | |
| Carbon Dioxide, Calculated | | | | |
| Dissolved Oxygen, | | | | |
| Hydrogen Sulfide | 0.0 | | | |
| Resistivity, ohms/m at 77° F. | 0.052 | | | |
| Suspended Oil | | | | |
| Filtrable Solids as mg/l | | | | |
| Volume Filtered, ml | | | | |
| Total Dissolved Solids @ 180°C. | 205,580 | | | |
| | | | | |
| | | | | |

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks: As compared to water recovered from this well on 9-9-92 and reported on laboratory #99293, we see a slight variation in salt levels (particularly magnesium). However, the water has basically the same characteristics as previously seen, indicating this to be predominantly Delaware water.

Form No. 3

By Waylan C. Martin, M.A.

9 miles SSW
UPPER Delaware

# ROSWELL GEOLOGICAL SOCIETY SYMPOSIUM

Author: G. E. Harrington
Affiliation: John Trigg Company
Date: October 15, 1966

Field Name: Triste Draw
Location: Secs. 26, 34, 35, T-23-S, R-32-E
County & State: Sec. 2, T-24-S, R-32-E
Lea County, New Mexico

Discovery Well: P—M Drilling Company and Texaco, Inc. #1 Federal James, NE/4 NE/4
Section 35, T-24-S, R-32-E
Completed 2/14/61

Exploration Method Leading to Discovery: Subsurface

Pay Zone: 5062-5066
Formation Name: Delaware Ramsey sd Depth & Datum Discovery Well: 5062 (-1359)
Lithology Description: Sandstone, gray, very fine grained, clean, friable, calcareous, with dark gray to black shale stringers and random fractures

Approximate average pay: _____ gross 7.5 net Productive Area 480 acres

Type Trap: Stratigraphic - sand build-up with surrounding permeability barrier, possible hydrodynamic entrapment.

Reservoir Data:
25 % Porosity, 80 Md Permeability, 48 % Sw, 12 % So
Oil: API Gravity 40° @ 60° F
Gas: Specific gravity - 0.85
Water: 75,562 Na+K, 21,200 Ca, 2912 Mg, 159,000 Cl, 625 $SO_4$, 18 $HCO_3$, 34 Fe
Specific Gravity 1.160 Resistivity _____ ohms @ _____ °F
Initial Field Pressure: NA psi @ _____ datum Reservoir Temp. 106° °F
Type of Drive: solution gas

← original Chlorides 159,000

Normal Completion Practices: Wells are drilled and pay is cored with rotary tools. The production string of casing is set through the pay and cemented. The casing is selectively perforated, and wells are swabbed in for flowing potentials.

Type completion: Natural - flowing wells Normal Well Spacing 40 Acres
are subsequently converted to pump after first few months of production.
Deepest Horizon Penetrated & Depth: Devonian 17,280 (-13,589)

Other Producing Formations in Field: Delaware "Olds" sand

Production Data: * Complete through June 1966

| YEAR | TYPE | No. of wells @ yr. end | | PRODUCTION OIL IN BARRELS GAS IN MMCF | | YEAR | TYPE | No. of wells @ yr. end | | PRODUCTION OIL IN BARRELS GAS IN MMCF | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Prod. | S.I.or Abd. | ANNUAL | CUMULATIVE | | | Prod. | S.I.or Abd. | ANNUAL | CUMULATIVE |
| 1961 | OIL | 4 | | 34,006 | 34,006 | 1965 | OIL | 12 | | 40,642 | 288,416 |
| | GAS | | | 33,688 | 33,688 | | GAS | | | 57,288 | 200,159 |
| 1962 | OIL | 9 | | 93,582 | 127,588 | 1966* | OIL | 12 | | 18,109 | 306,525 |
| | GAS | | | 47,159 | 80,847 | | GAS | | | 24,573 | 224,732 |
| 1963 | OIL | 9 | | 72,993 | 200,581 | | OIL | | | | |
| | GAS | | | 29,362 | 110,209 | | GAS | | | | |
| 1964 | OIL | 9 | | 47,193 | 247,774 | | OIL | | | | |
| | GAS | | | 32,722 | 142,931 | | GAS | | | | |

# RED TANK, WEST

Lee Catalano
Meridian Oil

2-3 miles SW
LOWER DELAWARE

**FIELD LOCATION:** Secs 14, 22, 23, 26, 27, 28, 34, 35, T-22-S, R-32-E, Lea County, New Mexico

**EXPLORATION METHODS LEADING TO DRILLING OF DISCOVERY WELL:** Subsurface Geology

**PRESENT STATUS OF FIELD:** Primary Production

**DISCOVERY WELL:** POGO, Federal "27" #1, SESW Sec 27, T-22-S, R-32-E

Completion Date 8/23/92 Total Depth 8850' Producing Interval 8330-8391'

Initial Production 50 BOPD + 64 MCFGPD + 200 BWPD

Producing Formation Delaware (Brushy Canyon)

**OLDEST FORMATION PENETRATED:** Morrow

**FLUID DATA:**

Oil: Type Sweet Gravity 42.3° @ °F G.O.R. 1060

Gas: Analysis (percent) Methane _____ Gravity .830 BTU 1.39 /cu.ft.

Original Water: ppm Na + K 55,634 Cl 140,870 Other _____ ← ORIGINAL CHLORIDES 140,870

Resistivity .050 Ohms @ 75 ° F Rw .030 @ BHT

**RESERVOIR DATA:**

Nature of trap: Porous submarine lobe SS draped over pre-Permian structure.

Average Pay _____ Gross ft 35-40 Net ft

Lithology: Mass to laminated, very fine grained, well-sorted, arkosic, SS

Porosity 2.5 % to 19 % Permeability .01 md to 23 md

Average Porosity 14.5 % Average Permeability 6.5 md Reservoir Sw 55-65 %

Reservoir Drive Solution Gas Initial BHP 3617 @ 8385'

Btm Hole Temp 120-130 ° F

Original O/W Contact _____ Original G/W Contact _____ Hydrocarbon Column, Ft. _____

**COMPLETION DATA:**

Well Spacing 40 acres Proven area 1680 acres

Other producing reservoirs in field: Atoka, 1st Bone Spring SS, Delaware (Ramsey)

Normal Completion Program: Perf pay w/4 SPF 120 ° spinal phasing. Acidize w/45 gal per ft 7-1/2% NEFE HCl + RCNBS. Frac w/27,000 gal 35# Borate gel plus 100,000# 20/40 Northern white sand @ 25 BPM.

**PRODUCTION DATA:**

Best Well in Field: MERIDIAN OIL, Red Tank Federal #6, 29,128 BO + 28,614 MCFG in 5 months

| | #WELLS @ YR-END | | | |
|---|---|---|---|---|
| YEAR | PROD | SI/ABN | BBLS | MMCF |
| 1991 | | | | |
| 1992 | 1 | | 8,210 | 8,328 |
| 1993 | 7 | | 85,874 | 91,351 |
| EST 1994 | 36 | | 631,921 | 724,027 |
| **TOTAL** | **36** | | **726,005** | **873,296** |

C 108 - VIII

# FORMATION SENSITIVITY ANALYSIS:
# BELL CANYON DELAWARE
# (RAMSEY) SANDSTONE
# MERIDIAN OIL INC.
# DAGGER LAKE STATE NO. 1 WELL
# LEA COUNTY, NEW MEXICO

Report Prepared For:

Mr. Joseph M. Small
Meridian Oil Inc.
3300 North A Street
Midland, Texas
79705

September 9, 1992


*David K. Davies & Associates, Inc.*
1410 Stonehollow Drive
Kingwood, Texas 77339
(713) 358-2662

## SUMMARY

The Ramsey sandstone reservoir zone in the Dagger Lake State No. 1 Well consists of very fine grained (0.08-0.10 mm), well sorted, moderately quartzose sandstones. The rocks contain 10 to 11 percent total cement by volume. The most abundant cementing agents in the sandstones are dolomite (non-ferroan, 4-6% by volume) and pore-lining authigenic clay (3-4% by volume). X-ray diffraction analysis reveals that the clay component of the rocks consists exclusively of the mixed layer clay corrensite (chlorite-smectite, 15% expandable smectite layers).

The sandstones have porosities in the range of 20 to 23 percent, virtually all of that is intergranular macroporosity. Microporosity is well developed within pore-lining corrensite clay coats. Despite dolomite and clay cementation, the rocks retain sufficient porosity (19-23% core porosity) and permeability (46.9-151 md) to contribute to fluid production at high rates.

The pore systems of the sandstones are capable of supporting high irreducible water saturations by capillary effects, a factor that could result in some induction log suppression and calculation of anomalously high Sw values over the Ramsey sand body.

Ramsey sandstones have minimal susceptibility to damage from clay swelling and clay particle migration effects promoted by rock contact with fresh water based or high pH fluids or from high fluid turbulence. Thus, it will be possible to successfully drill through this zone with either fresh water or brine based mud systems. Cements may be made up in fresh water. It will be possible to select completion and working fluids on the basis of fluid density rather than the ability of

the fluid to inhibit clay swelling or clay migration effects. Filtered (2 μm filtration recommended) brines such as potassium, calcium, and sodium chloride water are all compatible with the formation and could be used for these purposes.

Due to the lack of migratable clay fines, it will be possible to perforate underbalanced with a differential pressure in the range of 500-1000 psi without damaging the formation. Any residual cement, mud, or perforating damage may be removed by acidizing. As the reservoir rocks contain extensive pore-lining corrensite clay coats (rich in iron-bearing chlorite) care should be taken in acidizing to minimize problems associated with re-precipitation of secondary iron hydroxide compounds from spent acid. If acidization is performed for this purpose, we recommend use of 7.5 to 10% HCl acid containing nonionic surfactant, iron chelating, and mutual solvent additives. It will be desirable to recover the acid from the formation prior to complete spending if possible.

Richard K. Vessell, Ph.D.
Vice President-Operations

David K. Davies, D.Sc., Ph.D.
President
Certified Professional
Geologist No. 4188

Amtex Energy, Inc. Closest fresh water well

C-108
Dagger Lake
State 5 #1

# NM WAIDS

DATA | MAPS | HOME | SCALE | CORROSION

| General Information About: Sample 2532 | | | |
|---|---|---|---|
| Section/ Township/Range | 28 / 21 S / 33 E | Lat/Long | 32.4506 / -103.5778 |
| Elevation | 3688 | Depth | 224 |
| Date Collected | 11/2/1995 | Chlorides | 176 |
| Collector / Point of Collection | SEO / DP | Use | Stock |
| Formation | CHINLE | TDS | 0 |

New Mexico Tech | NMPRRC

3 miles NNE

Amtex Energy, Inc.
Dagger Lake State 5, Well #1
Section 5, T22S, R33E, Lea County, NM

Oil Conservation Division
Form C-108

Data for operators/leaseholds within 2 mile radius

## Jones, William V., EMNRD

**From:** Jones, William V., EMNRD

**Sent:** Thursday, July 17, 2008 5:31 PM

**To:** 'Ann Ritchie'

**Cc:** Ezeanyim, Richard, EMNRD; Kautz, Paul, EMNRD; Warnell, Terry G, EMNRD; Kautz, Paul, EMNRD

**Subject:** Injection application from AMTEX Energy Inc.: Dagger Lake 5 State #1 30-025-31653 Unit O, Sec 5, T22S, R33E, Lea County

Hello Ann:
Your application seems complete - sans the certified receipts from the notices (Please Send) - also the newspaper notice uses the wrong PO Box for Amtex (This is OK).

The issue here is this well is very near the Reef and the operator is proposing to use it as a Commercial Disposal well. The offsetting well to the east has the Reef marked on the log - yet all the lithology logs show this interval to be anhydrite - it looks very similar in the proposed well - although it is uphole.

Please ask the operator how it intends to ensure injection waters stay in the Ramsey sand and do not migrate into the Reef uphole and to the east?

Any permit issued here would likely be limited in injection pressure (no future increases allowed) require annual reporting to the engineering bureau in Santa Fe - an analyzed Falloff Test, Injection Rate and Pressure vs Time plot, and a Hall Plot. Please ask them if they are prepared to do this annual reporting?

Regards,

William V. Jones PE
New Mexico Oil Conservation Division
1220 South St. Francis
Santa Fe, NM 87505
505-476-3448

Amtex Energy, Inc.
Dagger Lake State 5, Well #1
Sec. 5, T22S, R33E, Lea County, TX

30-025-31653

Received 7/24/08

7007 2560 0003 3757 3294

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| Return Receipt Fee (Endorsement Required) | |
| Restricted Delivery Fee (Endorsement Required) | |
| Total Postage & Fees | $ 3.12 |

MIDLAND TX DOWNTOWN STA 79701 USPS JUN 26 2008 Postmark Here

Sent To: Devon Energy Prod. Co., LP
Street, Apt. No.; or PO Box No.: 20 N. Broadway
City, State, ZIP+4: Oklahoma City, OK 73102

PS Form 3800, August 2006 See Reverse for Instructions

7007 2560 0003 3757 3300

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|---|---|
| Postage | $ .42 |
| Certified Fee | 2.70 |
| Return Receipt Fee (Endorsement Required) | |
| Restricted Delivery Fee (Endorsement Required) | |
| Total Postage & Fees | $ 3.12 |

DOWNTOWN STA 79701 USPS JUN 26 2008 Postmark Here

Sent To: Oxy USA, Inc.
Street, Apt. No.; or PO Box No.: P.O. Box 4294
City, State, ZIP+4: Houston, TX 77210

PS Form 3800, August 2006 See Reverse for Instructions

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|---|---|
| Postage | $ .42 |
| Certified Fee | 2.70 |
| Return Receipt Fee (Endorsement Required) | |
| Restricted Delivery Fee (Endorsement Required) | |
| Total Postage & Fees | $ 3.12 |

MIDLAND TX DOWNTOWN STA 79701 USPS JUN 26 2008 Postmark Here

Sent To: J Bar Cane
Street, Apt. No.; or PO Box No.: P.O. Box 16
City, State, ZIP+4: Stanley, NM 87056

PS Form 3800, August 2006 See Reverse for Instructions

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| Total Postage & Fees | $ 3.12 |

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Sent To: Merchant Livestock, Inc.
Street, Apt. No.; or PO Box No.: P.O. Box 1166
City, State, ZIP+4: Carlsbad, NM 88220

PS Form 3800, August 2006 See Reverse for Instructions

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| Total Postage & Fees | $ 3.12 |

MIDLAND TX DOWNTOWN STA 79701 USPS JUN 26 2008 Postmark Here

Sent To: Nearburg Exploration Co., LLC
Street, Apt. No.; or PO Box No.: 3300 N. "A" St. Bldg. 2, Ste. 120
City, State, ZIP+4: Midland, TX 79705

7007 2560 0003 3757 3287

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|---|---|
| Postage | $ .42 |
| Certified Fee | 2.70 |
| Return Receipt Fee (Endorsement Required) | |
| Restricted Delivery Fee (Endorsement Required) | |
| Total Postage & Fees | $ 3.12 |

MIDLAND TX DOWNTOWN STA 79701 USPS JUN 26 2008 Postmark Here

Sent To: Chesapeake Exploration, LP
Street, Apt. No.; or PO Box No.: P.O. Box 18496
City, State, ZIP+4: Oklahoma City, OK 73154

## Jones, William V., EMNRD

**From:** Ann Ritchie [ann.ritchie@wtor.net]
**Sent:** Tuesday, July 29, 2008 3:11 PM
**To:** Jones, William V., EMNRD
**Subject:** Re: Injection application from AMTEX Energy Inc.: Dagger Lake 5 State #1 30-025-31653 Unit O, Sec 5, T22S, R33E, Lea County

Will,
I sent your message on to Bill Savage with Amtex and thought he had gotten in touc with you.
I will let him know this will need to go to hearing, if he wants to continue.
Thanks,
Ann
WEST TEXAS OIL REPORTS
P.O. Box 953
Midland, TX 79702
ann.ritchie@wtor.net
432 684-6381;682-1458-fax

----- Original Message -----
**From:** Jones, William V., EMNRD
**To:** Ann Ritchie
**Cc:** Ezeanyim, Richard, EMNRD
**Sent:** Tuesday, July 29, 2008 2:49 PM
**Subject:** RE: Injection application from AMTEX Energy Inc.: Dagger Lake 5 State #1 30-025-31653 Unit O, Sec 5, T22S, R33E, Lea County

Hello Ann:
Have not heard anything from you on the data request below:

Please advise this applicant for commercial injection that this application is being denied.
AMTEX Energy Inc. is welcome to present a case at hearing for injection into this well at these depths near the Capitan Reef.

Regards,

William V. Jones PE
New Mexico Oil Conservation Division
1220 South St. Francis
Santa Fe, NM 87505
505-476-3448

---

**From:** Jones, William V., EMNRD
**Sent:** Thursday, July 17, 2008 5:31 PM
**To:** 'Ann Ritchie'
**Cc:** Ezeanyim, Richard, EMNRD; Kautz, Paul, EMNRD; Warnell, Terry G, EMNRD; Kautz, Paul, EMNRD
**Subject:** Injection application from AMTEX Energy Inc.: Dagger Lake 5 State #1 30-025-31653 Unit O, Sec 5, T22S, R33E, Lea County

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The issue here is this well is very near the Reef and the operator is proposing to use it as a Commercial Disposal well. The offsetting well to the east has the Reef marked on the log - yet all the lithology logs show this interval to be anhydrite - it looks very similar in the proposed

well - although it is uphole.

Please ask the operator how it intends to ensure injection waters stay in the Ramsey sand and do not migrate into the Reef uphole and to the east?

Any permit issued here would likely be limited in injection pressure (no future increases allowed) require annual reporting to the engineering bureau in Santa Fe - an analyzed Falloff Test, Injection Rate and Pressure vs Time plot, and a Hall Plot. Please ask them if they are prepared to do this annual reporting?

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New Mexico Oil Conservation Division
1220 South St. Francis
Santa Fe, NM 87505
505-476-3448

## Jones, William V., EMNRD

**From:** Jones, William V., EMNRD
**Sent:** Monday, September 15, 2008 4:14 PM
**To:** 'Ann Ritchie'
**Subject:** RE: Injection application from AMTEX Energy Inc.: Dagger Lake 5 State #1 30-025-31653 Unit O, Sec 5, T22S, R33E, Lea County

Hey Ann:
Getting ready to release this permit - but would you please send a copy of the proof of notice to the State land office?

Thanks,

William V. Jones PE
New Mexico Oil Conservation Division
1220 South St. Francis
Santa Fe, NM 87505
505-476-3448

---

**From:** Ann Ritchie [mailto:ann.ritchie@wtor.net]
**Sent:** Wednesday, August 20, 2008 7:28 AM
**To:** Jones, William V., EMNRD
**Cc:** Bill Savage
**Subject:** Re: Injection application from AMTEX Energy Inc.: Dagger Lake 5 State #1 30-025-31653 Unit O, Sec 5, T22S, R33E, Lea County

Will,
I will submit by certified mail to SLO today.
We really appreciate your help on this well.
Thank you,
Ann
WEST TEXAS OIL REPORTS
P.O. Box 953
Midland, TX 79702
ann.ritchie@wtor.net
432 684-6381;682-1458-fax

> ----- Original Message -----
> **From:** Jones, William V., EMNRD
> **To:** Ann Ritchie
> **Cc:** Ezeanyim, Richard, EMNRD ; Warnell, Terry G, EMNRD
> **Sent:** Tuesday, August 19, 2008 6:05 PM
> **Subject:** FW: Injection application from AMTEX Energy Inc.: Dagger Lake 5 State #1 30-025-31653 Unit O, Sec 5, T22S, R33E, Lea County
>
> Hello Ann:
> I received wonderful supporting data from Amtex pertaining to my questions about the Reef and today have this application ready to release. However our database says the surface and minerals under this location is owned by the State of New Mexico instead of by "Merchant Livestock" as the application says - and the returned receipts you sent did not include the State Land Office.
>
> Please send the receipt from the notice to the SLO - and the date they were notified. Alternately, If you can get a signed waiver from them, send it and I will release this earlier. Mr. Savage has notified me that this injection well will not be for use by other

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| Return Receipt Fee (Endorsement Required) | $2.20 | |
| Restricted Delivery Fee (Endorsement Required) | $0.00 | |
| Total Postage & Fees | $ 3.32 | 08/25/2008 |

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

PS Form 3800, August 2006 — See Reverse for Instructions

# INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Division not later than 20 days after the completion of any newly-drilled or deepened well. It shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, Items 25 through 29 shall be reported for each zone. The form is to be filed in quintuplicate except on state land, where six copies are required. See Rule 1105.

## INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

| Southeastern New Mexico | | Northwestern New Mexico | |
|---|---|---|---|
| T. Anhy 1130' | T. Canyon | T. Ojo Alamo | T. Penn. "B" |
| T. Salt 1265' | T. Strawn | T. Kirtland-Fruitland | T. Penn. "C" |
| B. Salt 3525' | T. Atoka | T. Pictured Cliffs | T. Penn. "D" |
| T. Yates | T. Miss | T. Cliff House | T. Leadville |
| T. 7 Rivers | T. Devonian | T. Menefee | T. Madison |
| T. Queen | T. Silurian | T. Point Lookout | T. Elbert |
| T. Grayburg | T. Montoya | T. Mancos | T. McCracken |
| T. San Andres | T. Simpson | T. Gallup | T. Ignacio Otzte |
| T. Glorieta | T. McKee | Base Greenhorn | T. Granite |
| T. Paddock | T. Ellenburger | T. Dakota | T. |
| T. Blinebry | T. Gr. Wash | T. Morrison | T. |
| T. Tubb | T. Delaware Sand 4910' | T. Todilto | T. |
| T. Drinkard | T. Bone Springs 8745' | T. Entrada | T. |
| T. Abo | T. | T. Wingate | T. |
| T. Wolfcamp | T. | T. Chinle | T. |
| T. Penn | T. | T. Permain | T. |
| T. Cisco (Bough C) | T. | T. Penn "A" | T. |

## OIL OR GAS SANDS OR ZONES

No. 1, from.....to..... No. 3, from.....to.....

No. 2, from.....to..... No. 4, from.....to.....

## IMPORTANT WATER SANDS

Include data on rate of water inflow and elevation to which water rose in hole.

No. 1, from.....to.....feet.....

No. 2, from.....to.....feet.....

No. 3, from.....to.....feet.....

## LITHOLOGY RECORD (Attach additional sheet if necessary)

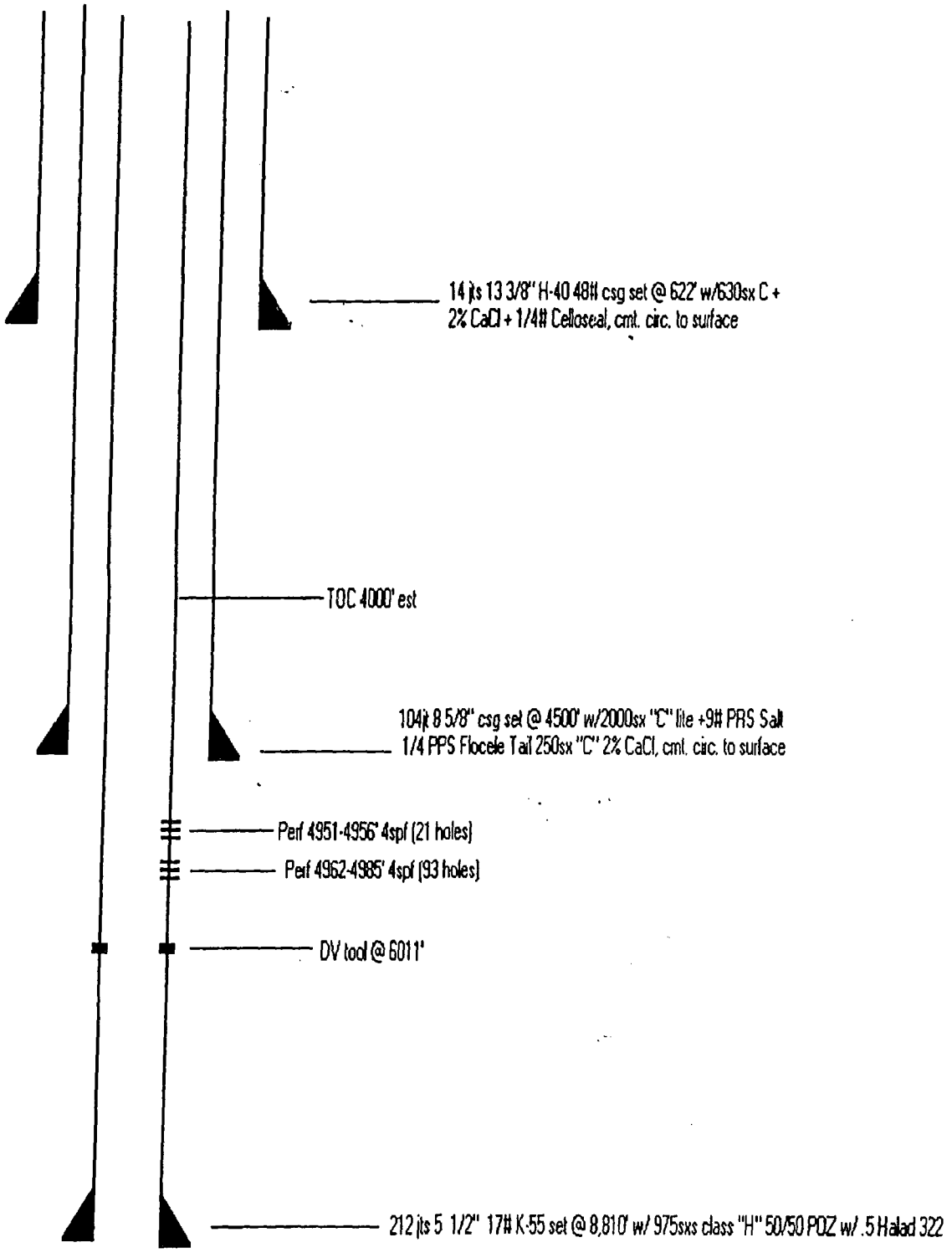
| From | To | Thickness in Feet | Lithology | From | To | Thickness in Feet | Lithology |
|---|---|---|---|---|---|---|---|
| 0 | 1130 | 1130 | RED BEDS | | | | |
| 1130 | 1265 | 135 | ANHY. | | | | |
| 1265 | 3525 | 2260 | SALT & ANHY. | | | | |
| 3525 | 4635 | 1110 | ANHY. | | | | |
| 4635 | 4910 | 275 | LIMESTONE & DOLOMITE | | | | |
| 4910 | 8745 | 3835 | SANDSTONE | | | | |
| 8745 | TD 8810 | 65' | LIMESTONE & SHALE | | | | |

RECEIVED

OCT 2 6 1992

OCD HOBBS

| OPERATOR: | NAME OF LEASE: | WELL: |
|---|---|---|
| AMTEX ENERGY | Dagger Lake "5" State | No. 1 |
| **LOCATION:** 330' FSL & 1980' FEL Sec. 6,T 22-S, R 33-E Lea County, New Mexico | | |




3400
3500
3600
3700

## Injection Permit Checklist (7/8/08)

Case _____ R- (SWD) 1139 WFX _____ PMX _____ IPI _____ Permit Date 8/19/08 UIC Qtr (July August Sept)

# Wells ___ Well Name: DAGGER LAKE STATE #1

API Num: (30-) 025-31653 Spud Date: 7/30/92 New/Old: N (UIC primacy March 7, 1982)

Footages 330 FSL / 1980 FEL Unit O Sec 5 Tsp 22S Rge 33E County Lea

Operator: AMTEX Energy Inc. Contact WILLIAM J. SAVAGE

OGRID: 785 RULE 40 Compliance (Wells) i/10 OK (Finan Assur) OK

Operator Address: P.O. BOX 3418, MIDLAND, TX, 79702

Current Status of Well: TAED 8/97 CIBP @ 4910

Planned Work to Well: Conv in Same Zone Planned Tubing Size/Depth: 2 7/8 @ 4900

| | Sizes Hole.....Pipe | Setting Depths | Cement Sx or Cf | Cement Top and Determination Method |
|---|---|---|---|---|
| Existing ✓ Surface | 17 1/2 13 3/8 | 622 | 630 | CIRC |
| Existing ✓ Intermediate | 12 1/4 8 5/8 | 4486 | 2250 | CIRC |
| Existing ✓ Long String | 7 7/8 5 1/2 | 8810 | 1675 | 2580 CBL |

DV Tool 6011 Liner — Open Hole — Total Depth 8810 PBTD 6028

Well File Reviewed ✓

Diagrams: Before Conversion ✓ After Conversion ✓ Elogs in Imaging File: CNL/FDC/DIL/MSFL/CBL

| Intervals: | Depths | Formation | Producing (Yes/No) | |
|---|---|---|---|---|
| Above (Name and Top) | | | | |
| Above (Name and Top) | 4910 | Del Top | | |
| Injection..... Interval TOP: | 4951 | Ramsey Dol SD | NO | 990 PSI Max. WHIP |
| Injection..... Interval BOTTOM: | 4985 | " " " | NO | NO Open Hole (Y/N) |
| Below (Name and Top) | 6060 — 8745 | Cherry Canyon BS | NO | NO Deviated Hole? |

4951 / 1 / 990 2

**Sensitive Areas:** Capitan Reef EDGE of Reef Cliff House Salt Depths 1265-3525

.... Potash Area (R-111-P) _____ Potash Lessee _____ Noticed? ___

**Fresh Water:** Depths: 150-1150 S. Rosa Wells(Y/N) NO Analysis Included (Y/N): Yes Affirmative Statement ✓

**Salt Water:** Injection Water Types: Brushy C / Morrow / COMMERCIAL Analysis? Yes

**Injection Interval**.....Water Analysis: Yes Hydrocarbon Potential _____

**Notice:** Newspaper(Y/N) ✓ Surface Owner SLO Mineral Owner(s) _____

RULE 701B(2) Affected Parties: Nearby / Chev / Devon / OXY / J Bar Cone

**Area of Review:** Adequate Map (Y/N) ✓ and Well List (Y/N) ✓

Active Wells 1 Num Repairs 0 Producing in Injection Interval in AOR NO

1/4 ..P&A Wells 3 Num Repairs 0 All Wellbore Diagrams Included? yes

1/4 well is within 1/2 mile of Reef

**Questions to be Answered:**

What is FROM 3525 TO 4630? ANHY

& FROM 4630 TO 4910 ? (LS/DOL)

**Required Work on This Well:** Periodic Falloff Tests Request Sent _____ Reply: _____

**AOR Repairs Needed:** _____ Request Sent _____ Reply: _____

_____ Request Sent _____ Reply: _____

## Jones, William V., EMNRD

**From:** Jones, William V., EMNRD
**Sent:** Tuesday, August 19, 2008 5:06 PM
**To:** 'Ann Ritchie'
**Cc:** Ezeanyim, Richard, EMNRD; Warnell, Terry G, EMNRD
**Subject:** FW: Injection application from AMTEX Energy Inc.: Dagger Lake 5 State #1 30-025-31653 Unit O, Sec 5, T22S, R33E, Lea County

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Please send the receipt from the notice to the SLO - and the date they were notified. Alternately, If you can get a signed waiver from them, send it and I will release this earlier. Mr. Savage has notified me that this injection well will not be for use by other operators - only Amtex's operations. Please make that clarification prior to sending to the SLO.

I have no email contact info from Mr. Savage or Ms. Roberts - please forward this to Mr. Savage at Amtex so he will know when to expect his permit and that he may need to answer some questions concerning a possible business license from the SLO.

Thank You and Regards,

William V. Jones PE
New Mexico Oil Conservation Division
1220 South St. Francis
Santa Fe, NM 87505
505-476-3448

---

**From:** Jones, William V., EMNRD
**Sent:** Thursday, July 17, 2008 5:31 PM
**To:** 'Ann Ritchie'
**Cc:** Ezeanyim, Richard, EMNRD; Kautz, Paul, EMNRD; Warnell, Terry G, EMNRD; Kautz, Paul, EMNRD
**Subject:** Injection application from AMTEX Energy Inc.: Dagger Lake 5 State #1 30-025-31653 Unit O, Sec 5, T22S, R33E, Lea County

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Any permit issued here would likely be limited in injection pressure (no future increases allowed) require annual reporting to the engineering bureau in Santa Fe - an analyzed Falloff Test, Injection Rate and Pressure vs Time plot, and a Hall Plot. Please ask them if they are prepared to do this annual reporting?

Regards,

8/19/2008

CMD :
OG5SEC2

ONGARD
VIEW LAND BY ULSTR

08/19/08 16:47:31
OGOWVJ -TQVP
PAGE NO: 3

Sec : 5 Twp : 22S Rng : 33E Cnty1 : Lea
Cnty2 : Cnty3 :

| U L | Lot/ Trct | Qtr Qtr | ACREAGE | SRF OWNER | SUB | ACTIVE LEASE # | Bene | REMARKS (may show restrictions codes) |
|---|---|---|---|---|---|---|---|---|
| K | | NE4SW4 | 40.00 | ST | ST | V0 6152 0001 | | |
| L | | NW4SW4 | 40.00 | ST | ST | GT 2533 0000 | CS | |
| | | | | | | V0 6152 0001 | | |
| M | | SW4SW4 | 40.00 | ST | ST | GT 2533 0000 | CS | |
| | | | | | | V0 6152 0001 | | |
| N | | SE4SW4 | 40.00 | ST | ST | GT 2533 0000 | CS | |
| | | | | | | V0 6152 0001 | | |
| O | | SW4SE4 | 40.00 | ST | ST | GT 2533 0000 | CS | |
| | | | | | | V0 6152 0001 | | |
| P | | SE4SE4 | 40.00 | ST | ST | GT 2533 0000 | CS | |
| | | | | | | V0 6152 0001 | | |

PF01 HELP PF02 PREV PF03 EXIT PF04 GoTo PF05 PF06
PF07 BKWD PF08 FWD PF09 PRINT PF10 SDIV PF11 PF12

**AMTEX ENERGY, INC.**
P. O. BOX 3418
MIDLAND, TEXAS 79702
(432) 686-0847 Office
(432) 686-0994 – Fax

August 13, 2008

Mr. William V. Jones, PE
New Mexico Oil Conservation Division
1220 South St. Francis
Santa Fe, NM 87505
505-476-3448

RE: Amtex Energy, Inc.
Application for Authorization to Inject
Form C-108
Dagger Lake 5 State #1
330' FSL 1980' FEL
Section 5(O), T-22-S, R-33-E
Lea County, New Mexico

Dear Mr. Jones,

Pursuent to our phone conversation on Tuesday, August 5, 2008, Amtex Energy, Inc., is requesting that this application remain open for Administrative approval. Amtex Energy, Inc., would also like to remove the "commercial" request from this application. Amtex Energy, Inc., will be using the Dagger Lake 5 State #1 well to only dispose of water produced on Amtex Energy, Inc., operated leases.

The Ramsey sand gave up over 100,000 barrels of fluid (over 95% water) with only a small acid job. It is anticipated that the zone will take fluid without major additional stimulation. After initial tests, fluids and pressures will be tested every 2 years provided surface injection pressures exceed 1000 psi. Below 1000 psi surface injection pressures, injectivity tests will be run every 5 years. Please contact me if these periods do not comply with NMOCD regulations and I will adjust the testing accordingly.

Amtex Energy, Inc., is also including copies of all wells within the ½ mile radius of the Dagger Lake 5 State #1 well with the basal Capitan Reef, top of the Delaware Mountain Group, and Ramsey Sand (proposed injection zone) marked on all copies. Additionally, NW-SE and SW-NE cross-sections to scale and a composite E-logs/Mud Log with perforations marked for the Dagger Lake 5 State #1are enclosed for your reference along with a brief Geological Summary.

Should you have any additional questions or require any additional data, please do not hesitate to give me a call at 432-770-0913. Additionally, Sally Meader-Roberts, Independent Geologist, has done the Geological work in this area for Amtex Energy, Inc., and can answer any Geological questions you may have. She can be reached at 432-559-3971.

Respectfully,

William J. Savage

William J. Savage, President
Amtex Energy, Inc.

# *AMTEX ENERGY, INC.*
# PROPOSED INJECTION WELL
## DAGGER LAKE 5 STATE #1
## 330 FSL & 1980 FEL
## SECTION 5(O), T-22-S, R-33-E
## LEA COUNTY, NEW MEXICO

### *GEOLOGICAL REVIEW*

The Amtex Energy, Inc., (Meridian) Dagger Lake 5 State #1 well, located 330 FSL & 1980 FEL, Section 5, T-22-S, R-33-E, Lea County, New Mexico, was drilled on the fore reef edge of the Capitan Reef complex (see attached copy of the Capitan Reef Map by the USGS, red arrow). The main Capitan Reef complex lies to the North of the proposed injection well. As can be seen on the accompanying composite electric logs / mud log of the Dagger Lake 5 State #1 well, the lower 150 feet of the basal Capitan Reef beds are tight anhydrite. The accompanying SW-NE and NW-SE Stratigraphic Cross-Sections further show that the Ramsey sand (proposed injection zone) is between 150 and 280 feet below the base of the Capitan Reef. The Lamar limestone overlies the Ramsey sand. As can be seen on the composite log, the Lamar limestone is fairly tight. There is a porous and permeable dolomite wedge within the Lamar interval of the uppermost Delaware Mountain Group in the Dagger Lake 5 State #1. This dolomite appears to thicken to the Southeast, in the Dual Production Hudson Federal #1 well located 660' FN & WL, Section 9, T-22-S, R-33-E. However, the dolomite pinches out to the West, North, and Northeast (see SW-NE and NW-SE Cross-Sections) and is approximately 135 feet above the Ramsey sand (proposed injection zone). Approximately 105 feet of tight Lamar limestone are between the Ramsey sand and the dolomite wedge in the Dagger Lake 5 State #1. Additionally, approximately 350 feet of tight anhydrite lie between the porous dolomite wedge and the lower most porosity of the Capitan Reef (see both cross-sections). The dolomite is not present in any of the updip wells.

Based on subsurface mapping in the area, there are no faults within several miles of the Dagger Lake 5 State #1 well. There are several faults approximately 4-6 miles Northwest of the area but these are deep seated faults (Cisco/Canyon age) that do not effect the overlying Bone Spring and Delaware intervals. Other than faulting there is no geological way for the Ramsey sand to be in lateral juxtaposition with the Capitan Reef.

The Ramsey sand does pinch out approximately 3-4 miles North of the Dagger Lake 5 State #1 well. However, it pinches out against the upper Delaware Mountain Group carbonate slope deposits, not against the Capitan Reef.

Based on the fact that the Ramsey sand is some 280 feet below the base of the Capitan Reef, which is anhydrite in this area, and approximately 600 feet below the closest porosity in the Capitan Reef in the Dagger Lake 5 State #1 well, there does not appear to be a viable path for fluids injected into the Ramsey sand to vertically reach the porosity within the Capitan Reef.

Respectfully Submitted

Sally J. Meader-Roberts
Geologist CPG 2690

**Jones, William V., EMNRD**

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**Sent:** Wednesday, August 20, 2008 7:28 AM
**To:** Jones, William V., EMNRD
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Thank You and Regards,

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New Mexico Oil Conservation Division
1220 South St. Francis
Santa Fe, NM 87505
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Regards,

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1220 South St. Francis
Santa Fe, NM 87505
505-476-3448

Published by
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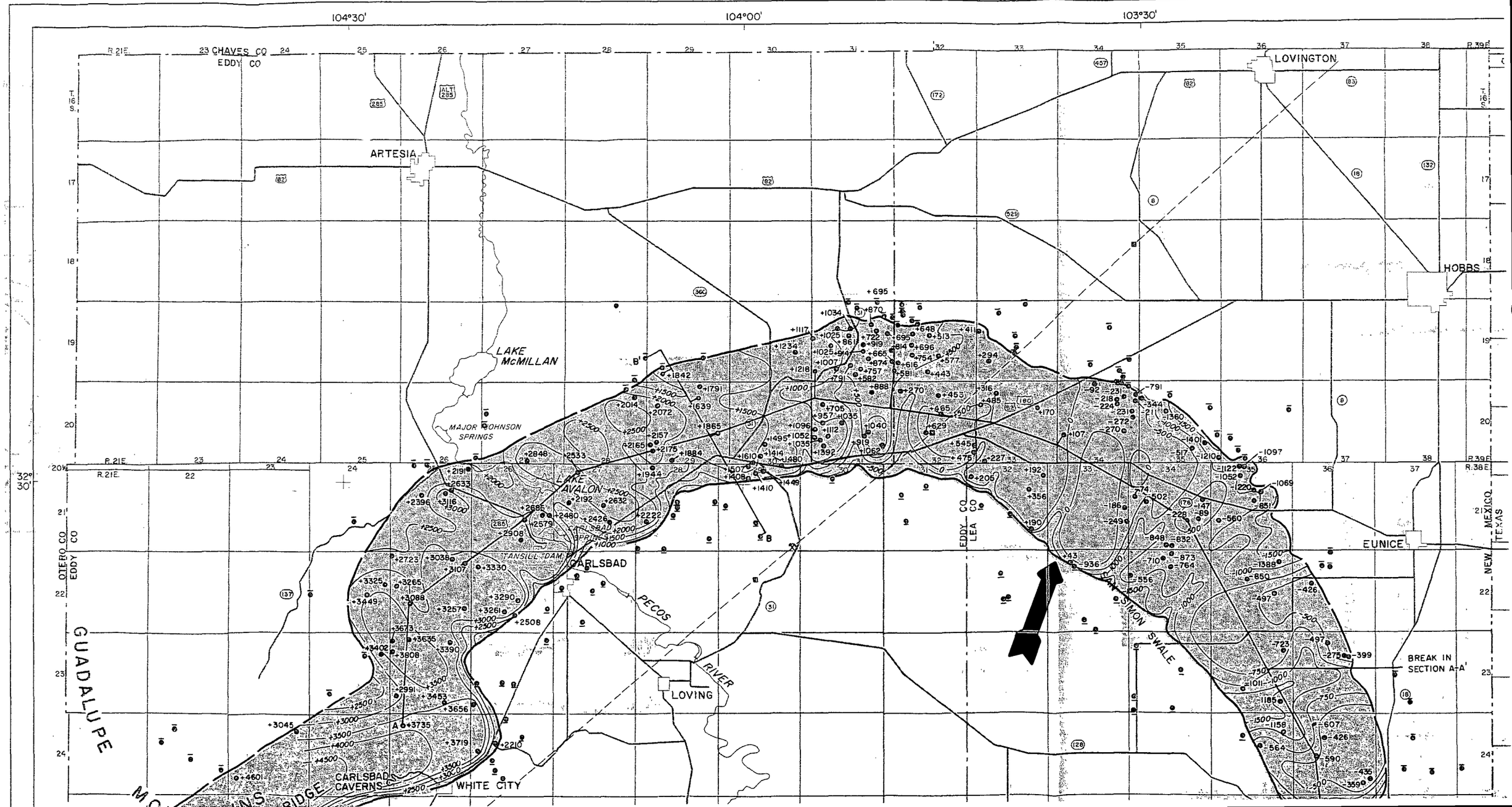
A DIVISION OF NEW MEXICO INSTITUTE OF MINING AND TECHNOLOGY
1976

Prepared by
UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
In cooperation with
NEW MEXICO STATE ENGINEER



D-9-T22S-R33E 660FN 660FW

DUAL DRILLING CO

HUDSON FEDERAL #1

30-025-01797

FIELD WILDCAT

BERGER WELL SURVEYING CORPORATION

Sonic Log

COMPANY DUAL PRODUCTION COMPANY

WELL HUDSON FEDERAL # 1

FIELD WILDCAT

LOCATION SEC. 9-22S-33E

COUNTY LEA

STATE NEW MEXICO

Other Surveys LL-3

Location of Well 660' FROM [illegible] N & W

Elevation: K.B.: 3643 D.F.: 3642 G.L.: 3632

Log Depths Measured From KB 11 Ft. above G.L.

| | |
|---|---|
| RUN No. | ONE |
| Date | 3-22-60 |
| First Reading | 5028 |
| Last Reading | 0 |
| Feet Measured | 5028 |
| Csg. Schlum. | - |
| Csg. Driller | 339 |
| Depth Reached | 5032 |
| Bottom Driller | 5029 |
| Mud Nat. | SAL-7 |
| Visc. | 41 |
| Mud Resist. | .055 @ 59 °F |
| Res. BHT | .038 @ 95 °F |
| pH | @ °F |
| Wtr. Loss | 16 cc 30 min |
| Rmf | @ °F |
| Rmf Rmf | @ °F |
| Bit Size | 6¾" |
| Depth: | 3' CSG To 3400 |
| | 3400 To TD |
| Opr. Rig Time | 3 HOURS |
| Truck No. | 2526-HOBBS |
| Recorded By | DAVIS |
| Witness | LAMB |

ROSWELL OFFICE COPY

FOLD HERE

REMARKS VLC No.: 22
VLS No.: 16
VLP No.: 12

GR B: 40 504 100 SENS: 500 T.C. 6 SENS: 300 T.C. 1
SPEED: 3000 FT./HOUR

CENTRALIZERS NOT USED 15 6¾" HOLE

Velocity (feet per second) = 1,000,000 / Interval Transit Time (microseconds per foot)

SPONTANEOUS-POTENTIAL millivolts

GAMMA RAY

0 6 12

DEPTHS

INTERVAL TRANSIT TIME
microseconds per foot
← Increases
T. 3 R. 3 R.
100 70 40

9D T22S R33E

4300 4400 4500 4600 4700 4800 4900 5000

.29 .30 .31 .32

B/Capitan Reef

T/Delaware Mountain Group

Gamma Ray

Sonic Curve

Lamar Limestone

T/Bell Canyon

Ramsey Sand

GAMMA RAY FIRST READING

FR 5028

TD 5032

GR Zero

Schlumberger

EOG Resources, Inc
Dagger "6" State Com #1
Bootleg Ridge, Morrow (Gas)
Lea
New Mexico

PLATFORM EXPRESS
Three Detector Litho Density
Compensated Neutron / HNGS

County: Lea
Field: Bootleg Ridge, Morrow (Gas)
Location: 1980' FSL & 1650 FWL
Well: Dagger "6" State Com #1
Company: EOG Resources, Inc

LOCATION
1980' FSL & 1650 FWL
Section 6, Township 22S Range 33E

Permanent Datum: Ground Level — Elev.: K.B. 3567 ft
Log Measured From: Kelly Bushing — 16.0 ft above Perm. Datum — D.F. 3565 ft
Drilling Measured From: Kelly Bushing — G.L. 3549 ft

| | |
|---|---|
| API Serial No. 30-025-37630 | Section 6 |
| Township 22S | Range 33E |
| Logging Data | 1-Mar-2006 |
| Run Number | One |
| Depth Driller | 12180 ft |
| Depth Logger | 12185 ft |
| Schlumberger Depth | 12181 ft |
| Bottom Log Interval | 12181 ft |
| Top Log Interval | 2001 ft |
| Casing Driller Size @ Depth | 9.625 in @ 5440 ft |
| Casing Schlumberger | |
| Bit Size | 8.750 in |
| Type Fluid In Hole | Starch |
| Density | 8.3 lbm/gal |
| Viscosity | 34 s |
| PH | 9 |
| Fluid Loss | 16 cm3 |
| Source Of Sample | Circulation Tank |
| Rm @ Measured Temperature | 0.075 ohm.m @ 80 degF |
| Rmf @ Measured Temperature | 0.057 ohm.m @ 80 degF |
| Rmc @ Measured Temperature | @ @ |
| Source Rmf / Rmc | Calculated |
| Rm @ BHT / Rmf @ BHT / Rmc | 0.041 @ 155 / 0.031 @ 155 |
| Maximum Recorded Temperatures | 155 degF |
| Circulation Stopped | Time 1-Mar-2006 10:30 |
| Logger On Bottom | Time 1-Mar-2006 18:00 |
| Unit Number | Location 3076 Hobbs, New Mexico |
| Recorded By | Esteban Peralta |
| Witnessed By | Mr. Richard Freeman, Doug Young |

MUD

Integrated Annulus Volume Every 100 Ft

Time Mark Every 60 S

HNGS Spectroscopy Gamma Ray (HSGR) 0 (GAPI) 100

Uranium Indicator From HCGR to HSGR

Cable Tension (TENS) 10000 (LBF) 0

5K T22S R33E

Sidewall Thermal Neutron Porosity [Limestone] (TNPH) 0.9 (V/V) -0.1

Cable Stretch (Tocstring not moving) (STIT) 0 (F) 50

HNGS Computed Gamma Ray (HCGR) 0 (GAPI) 100

Bulk Rho Formation Density (RHOZ) 2 (G/C3) 3

Stuck Tool Indicator, Adjusted (STIA) 0 (F) 50

HNGS Caliper (HCAL) 6 (IN) 16

HRDD Density Correction (HDRA) -0.05 (G/C3) 0.45

4400
4500
4600
4700
4800
4900
5000
5100
5200
5300
5400

B/Capitan Reef
T/Delaware Mountain Group
Lamar Limestone
T/Bell Canyon Interval
Ramsey Sand
Ford Limestone
Olds Sand
Marker
TENS
TNPH
STIA
STIT
9 5/8" @ 5440

KEEP CONFIDENTIAL

MERIDIAN OIL
DAGGER LAKE ST. #1
WILDCAT
LEA STATE: NEW MEXICO

FINAL PRINT
Schlumberger

COMPENSATED NEUTRON
LITHO-DENSITY

COUNTY: LE
Field: W
Location: 33
Well: DA
Company: ME

O- 6-T22S-R33E 330FS 1980FE
ANTEX ENERGY INC
DAGGER LAKE 5 STATE # 1
30-025-31683

330 FSL & 1980 FEL
S5 225 33E

Permanent Datum: GROUND LEVEL Elev.: K.B. 3951 F
Log Measured From: KB 14.0 F above Perm. Datum G.L. 3947 F
Drilling Measured From: KB D.F. 3950 F

| | | | |
|---|---|---|---|
| Logging Date | 26-AUG-92 | | |
| Run Number | 1 | | |
| Depth Driller | 8804 F | | |
| Schlumberger Depth | 8800 F | | |
| Bottom Log Interval | 8797 F | | |
| Top Log Interval | 200 F | | |
| Casing Driller Size @ Depth | 8.625 IN @ 4500 F | | |
| Casing Schlumberger | | | |
| Bit Size | 7.875 IN | | |
| Type Fluid in Hole | BRINE GEL | | |
| MUD Density | 9.8 LB/G | | |
| MUD Viscosity | 33 S | | |
| MUD Fluid Loss | 9 | | |
| Source Of Sample | FLT | | |
| RMF @ Measured Temperature | 0.210 OHMM @ 70 DEGF | | |
| RMC @ Measured Temperature | 0.150 OHMM @ 70 DEGF | | |
| RM @ Measured Temperature | 0.240 OHMM @ 70 DEGF | | |
| Source RMF RMC | PRESS CALC | | |
| RM @ BHT | 0.112 @ 137 DEGF | | |
| Maximum Recorded Temperatures | 137 DEGF | | |
| Circulation Stopped | 26-AUG-1992 13:44 | | |
| Logger On Bottom | 26-AUG-92 12:00 | | |
| Unit Number | 2030 | HOBBS | |
| Recorded By | BLANKEN/BURGESS/INGSLEY | | |
| Witnessed By | CATLANNON/SZANTAY | | |

| SECTION | TOWNSHIP | RANGE |
|---|---|---|
| 5 | 22S | 33E |

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MUD

From T1 to GM1

5O T22S R33E

Tension (TENS) 10000.0 (LBF) 0.0
Gamma Ray 1 (GR) 100.0 (GAPI) 200.0
Gamma Ray (GR) 0.0 (GAPI) 100.0
Caliper (CALI) 6.0 (IN) 16.0

Bulk Density (RHOB) 2.0 (G/C3) 3.0
PhotoElectric Factor (PEF) 0.0 (---) 10.0
Neutron Porosity (NPHI) 0.2 (V/V) -0.1
Bulk Density Correction (DRHO) -0.05 (G/C3) 0.45

4100
4200
4300
4400
4500
4600
4700
4800
4900
5000
5100
5200

TENS
GR
CALI
RHOB
NPHI
PEF
DRHO

Porosity Behind Casing and Cement

8 5/8" Casing

Mud Log Indicates Anhydrite

B/Capitan Reef

T/Delaware Mountain Group

Dolomitic Limestone

Porous Dolomite

Lamar Limestone

T/Bell Canyon

Perfs:
4951-56
4962-85

Ramsey Sand

Ford Limestone

Olds Sand

Marker

P-8-T22S-R33E 660FSL 330FEL
DUAL DRILLING CO
RICHARDSON & BASS STATE #1
30-025-01764

WELLS SIMULTANEOUS Acoustilog DUAL SPACED

COMPANY DUAL PRODUCTION COMPANY
WELL RICHARDSON-BASS STATE NO.1
FIELD WILDCAT
COUNTY LEA STATE NEW MEXICO
LOCATION 660'FSL & 330'FEL
SEC 5 TWP 22-S RGE 33-E

| | | | |
|---|---|---|---|
| Date | 7-26-60 | 8-1-60 | |
| Run No. | 1 | 2 | |
| Depth—Driller | 4700 | 5510 | |
| Depth—Logger | 4702 | 5511 | |
| Bottom logged interval | 4698 | 5507 | |
| Top logged interval | Surface | 4698 | |
| Casing—Driller | 8 5/8" 326 | 8 5/8" 326 | |
| Casing—Logger | | | |
| Bit Size | 6 3/4" | 6 3/4" | |
| Type Fluid in Hole | Salt Gel. | Salt Gel. | |
| Density and Viscosity | 10.5 36 cc | 10.2 40 cc | |
| pH and Fluid loss | 5.5 25 cc | | |
| Source of Sample | Flow Line | Circ. | |
| Rm @ Meas. Temp. | .06 @ 82 F | .044 @ 88 F | |
| Rmf @ Meas. Temp. | .045 @ 82 F | .040 @ 88 F | |
| Rmc @ Meas. Temp. | .07 @ 82 F | .051 @ 88 F | |
| Source of Rmf and Rmc | Meas. | Meas. | Meas. |
| Rm @ BHT | .05 @ 96 F | .040 @ 103 F | |
| Time Since Circ. | 2 Hours | 2 Hours | |
| Max. Rec. Temp. Deg. F. | 96 F | 103 F | |
| Equip. No. and Location | 4596 Hobbs | 4596 Hobbs | |
| Recorded By | Glenn & Mark | Glenn & Mark | |
| Witnessed By | Mr. Miller | Mr. Miller & Mr. Lough | |

Drilling Measured from K.D.B.
GROUND LEVEL Elev. 3650
9 Ft. Above Permanent Datum
K.B. Elevation 3659
D.F. Elevation
G.L. 3650
Other Services CALIPER R F/L

5P T22S R33E

GAMMA RAY
Radiation Intensity Increases
5 RU/CD
0RU 50RU

DEPTH

ACOUSTILOG
T 4 R. I R 3 R
Velocity—1000s ft/sec
10 11 13 15 20 25
SPECIFIC ACOUSTIC TIME
Micro Seconds Per Foot
100 85 70 55 40
1'Spacing ------ 3'Spacing ——

4200
4300
4400
4500
4600
4700
4800
4900
5000
5100
5200
5300
5400

RUN 1
RUN 2

Cement Plug
4990-4577

Porosity in Reef

B/ Capitan Reef

T/Delaware Mountain Group

Lamar LS

T/Bell Canyon

Ramsey Sand

Ford Limestone

Olds Sand

Marker

FEDERAL #2

# SPECTRAL DENSITY DUAL SPACED NEUTRON LOG

B- 8-T22S-R33E 330FN 2310FE
MERIDIAN OIL INC
DAGGER LAKE 8 FEDERAL # 2
30-025-32830

6/95/9.2

| | |
|---|---|
| COMPANY | MERIDIAN OIL INC. |
| WELL | DAGGER LAKE -8- FEDERAL NO. 2 |
| FIELD | DAGGER LAKE (DELAWARE) |
| COUNTY | LEA STATE NM |
| API NO | NA |
| LOCATION | 330 FNL AND 2310 FEL OTHER SERVICES |
| | HRI-GR |
| PERMANENT DATUM | G.L. ELEV. 3634 |
| LOG MEASURED FROM | K.B. 10.5 FT ABOVE PERM DATUM ELEV.: K.B. 3644.5 |
| | D.F. 3643.5 |
| DRILLING MEASURED FROM | K.B. G.L. 3634.0 |
| DATE | 01/26/95 |
| RUN NO. | ONE |
| DEPTH-DRILLER | 5150 |
| DEPTH-LOGGER | 5147 |
| BTM. LOG INTER. | 5104 |
| TOP LOG INTER. | SURFACE |
| CASING-DRILLER | 8.625@522 |
| CASING-LOGGER | 517 |
| BIT SIZE | 7.875 INCH |
| TYPE FLUID IN HOLE | FRESH MUD |
| DENS.; VISC. | 10.3 ; 37 |
| PH ; FLUID LOSS | 10 ; 14.5 |
| SOURCE OF SAMPLE | MUD PIT |
| RM @ MEAS. TEMP. | 0.16 @ 75 |
| RMF @ MEAS. TEMP. | 0.14 @ 75 |
| RMC @ MEAS. TEMP. | 0.22 @ 75 |
| SOURCE RMF; RMC | MEAS.; MEAS. |
| RM @ BHT | 0.13 @95 |
| TIME SINCE CIRC. | 4 HOURS |
| TIME ON BOTTOM | 18:45 HOURS |
| MAX. REC. TEMP. | 95 @10 |
| EQUIP.; LOCATION | 5254SS;HOBBS |
| RECORDED BY | M.L. MING |
| WITNESSED BY | L. CATALANO |

8B T22S R33E

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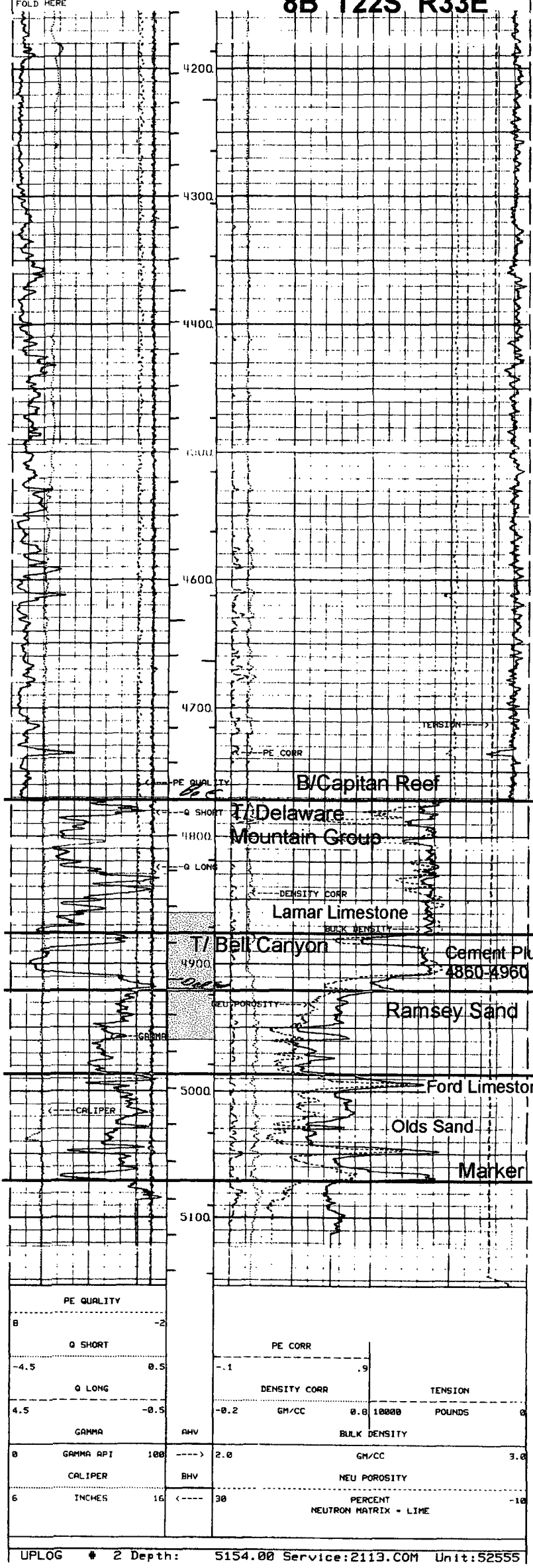


UPLOG # 2 Depth: 5154.00 Service:2113.COM Unit:52555

OIL INC.
EE "8" FEDERAL #1

# MERIDIAN OIL, INC.

## DAGGER LAKE "8" FEDERAL # 1

## DAGGER LAKE (DELAWARE)

EA STATE: NEW MEXICO

**FINAL PRINT**

Schlumberger

**COMPENSATED NEUTRON**
**LITHO-DENSITY**
**GAMMA RAY**

C-6-T22S-R33E 660FN 1980FW
BURLINGTON RESOURCES OIL & GAS CO
DAGGER LAKE 8 FEDERAL # 1

30-025-31885

| | |
|---|---|
| COUNTY: | |
| Field: | |
| Location: | |
| Well: | |
| Company: | |

695' @ 3

| | | | | | |
|---|---|---|---|---|---|
| Permanent Datum | GROUND LEVEL | Elev.: | K.B. | 3632 F |
| | | | G.L. | 3623 F |
| Log Measured From | K.B. | 10.0 F above Perm. Datum | D.F. | 3631 F |
| Drilling Measured From | K.B. | | | |

| | | | | |
|---|---|---|---|---|
| API Serial No. | SECTION | TOWNSHIP | RANGE |
| N/A | 8 | 22 S | 33-E |

| | |
|---|---|
| Logging Date | FEBRUARY 4, 1993 |
| Run Number | 1 |
| Depth Driller | 5150 F |
| Schlumberger Depth | 5151 F |
| Bottom Log Interval | 5150 F |
| Top Log Interval | 200 F |
| Casing Driller Size @ Depth | 8.625 IN @ 633 F |
| Casing Schlumberger | |
| Bit Size | 7.875 IN |
| Type Fluid in Hole | BRINE/STARCH |
| Density | 10.1 LB/G |
| Viscosity | 31 S |
| PH | 9 |
| Fluid Loss | |
| Source Of Sample | FLOWLINE |
| RM @ Meas. Temperature | 0.070 OHM @ 72 DEGF |
| RMF @ Meas. Temperature | 0.054 OHM @ 72 DEGF |
| RMC @ Measured Temperature | |
| Source RMF | RMC |
| RM @ BHT | MEAS |
| Maximum Recorded BHT | 91 DEGF |
| Circulation Stopped | FEB 4, 1993 01:00 |
| Logger On Bottom | FEBRUARY 4, 1993 SLT LOC |
| Unit Number | 2033 HOBBS, NMC |
| Recorded By | CHRIS DAVIS |
| Witnessed By | LISE CATALANO, R. HIGBY |

ENERGY, MINERALS & NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
P.O. BOX 1980
HOBBS, NM. 88241-1980

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# 8C T22S R33E

MUD

GR

CALI

NPHI

DRHO

RHOB

PEF

TENS

4200
4300
4400
4500
4600
4700
5000
5100

B/Capitan Reef

T/Delaware Mountain Group

Cement Plug
4911-4736

Lamar Limestone

T/Bell Canyon

Ramsey Sand

Ford Limestone

Olds Sand

Marker

Caliper (CALI) 6.0 (IN) 16.0

Gamma Ray (GR) 0.0 (GAPI) 100.0

Gamma Ray 1 (GR) 100.0 (GAPI) 200.0

Tension (TENS) 0000.0 (LBF) 0.0

Bulk Density Correction (DRHO) -0.05 (G/C3) 0.45

Neutron Porosity (NPHI) 0.3 (V/V) -0.1

PhotoElectric Factor (PEF) 0.0 (----) 10.0

Bulk Density (RHOB) 2.0 (G/C3) 3.0