| DATE IN 5-4-10 | SUSPENSE | ENGINEER WJ | LOGGED IN 5-4-10 | TYPE SWD 226 | APP NO. pTGW 1012442919 |
|---|---|---|---|---|---|

ABOVE THIS LINE FOR DIVISION USE ONLY

RECEIVED OCD
2010 MAY 4 A 11:41

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

Cotton Wood 36 #1

# ADMINISTRATIVE APPLICATION CHECKLIST 30-015-29560

THIS CHECKLIST 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] [NSP-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]**
**[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]**
**[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]**

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

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

Check One Only for [B] or [C]

[B] Commingling - Storage - Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

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

[D] Other: Specify _____

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

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

[B] ☒ 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] **SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.**

[4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

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

| BRIAN COLLINS | | PETROLEUM ENGINEER | 30 Apr 10 |
|---|---|---|---|
| Print or Type Name | Signature | Title | Date |

bcollins@marbob.com
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 __X__ Disposal _____ Storage
Application qualifies for administrative approval? __X__ Yes _____ No

II. OPERATOR: MARBOB ENERGY CORPORATION

ADDRESS: P O BOX 227, ARTESIA, NM 88211-0227

CONTACT PARTY: BRIAN COLLINS, PETROLEUM ENGINEER PHONE: 575-748-3303

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 __X__ 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).

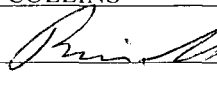
*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

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: BRIAN COLLINS TITLE: PETROLEUM ENGINEER

SIGNATURE:  DATE: 30 Apr 10

E-MAIL ADDRESS: bcollins@marbob.com

* 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: _____

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

C-108 Application for Authorization to Inject
Cottonwood 36 SWD No. 1
1980' FSL, 1980' FWL
K-36-T25S-R26E, Eddy County

Marbob Energy Corporation proposes re-enter the captioned well for salt water disposal service into the Delaware Sand from 3595-3775', 4206-4654' and 5158-5569'. We propose to tie back 5 ½" casing from 3014' to surface and cement the 5 ½" to surface with 950 CF cement slurry.

V. Map is attached.

VI. One well is located inside the ½ mile radius area of review. A wellbore schematic is attached.

VII. 1. Proposed average daily injection rate = 2000 BWPD
Proposed maximum daily injection rate = 5000 BWPD

2. Closed system

3. Proposed maximum injection pressure = 719 psi
(0.2 psi/ft. x 3595' ft.)

4. Source of injected water will be Delaware Sand and Bone Spring Sand produced water. No compatibility problems are expected. Analyses of Delaware and Bone Spring waters from analogous wells are attached. We have numerous Delaware SWD's in this area and have not encountered any compatibility issues with our Delaware and Bone Spring injected waters.

VIII. The injection zone is the Delaware Sandstone, a fine-grained sandstone from 3595-3775', 4206-4654' and 5158-5569'. Any underground water sources will be shallower than 353'.

IX. The Delaware sand injection interval will be acidized with approximately 20 gal/ft of 7 ½ % HCl acid. If necessary, the injection interval may be fraced with up to 300,000 lbs. of 20/40 mesh sand.

X. Well logs are filed with the Division. A section of the dual laterolog resistivity log showing the injection interval is attached.

XI. There are no fresh water wells within a mile of the proposed SWD well.

XII. After examining the available geologic and engineering data, no evidence was found of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.

XIII. Proof of Notice is attached.

# III.

# WELL DATA

Side 1

# INJECTION WELL DATA SHEET

OPERATOR: Marbob Energy Corp

WELL NAME & NUMBER: Cotton wood 36 SWD No. 1 (Formerly Cotton wood 36 State 1)

| WELL LOCATION: | 1980' FSL | 1980' FWL | K | 36 | 25s | 26e |
|---|---|---|---|---|---|---|
| | FOOTAGE LOCATION | | UNIT LETTER | SECTION | TOWNSHIP | RANGE |

***WELLBORE SCHEMATIC***

See Attached Before & After Schematics

***WELL CONSTRUCTION DATA***

Surface Casing

Hole Size: 17 1/2" Casing Size: 13 3/8" @ 353'

Cemented with: 390 sx. *or* - ft³

Top of Cement: Surface Method Determined: Circulated

Intermediate Casing

Hole Size: 12 1/4" Casing Size: 8 5/8" @ 1860'

Cemented with: 1000 sx. *or* - ft³

Top of Cement: Surface Method Determined: Circulated

Production Casing

Hole Size: 7 7/8" Casing Size: 5 1/2" 3014 - 5850'

Cemented with: 650 sx. *or* - ft³

Top of Cement: 3100' Method Determined: CBL

Total Depth: 5850'

Injection Interval

3595 - 3775', 4206 - 4654' feet to 5158 - 5569'

(Perforated or Open Hole; indicate which)

Side 2

## INJECTION WELL DATA SHEET

Tubing Size: 2 7/8" Lining Material: IPC or Duoline 20

Type of Packer: 10K nickel coated double grip retreivable

Packer Setting Depth: ± 3950'

Other Type of Tubing/Casing Seal (if applicable): N/A

### Additional Data

1. Is this a new well drilled for injection? ____Yes X No

   If no, for what purpose was the well originally drilled? Oil and gas.

2. Name of the Injection Formation: Delaware Sand

3. Name of Field or Pool (if applicable): Cottonwood Draw

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used.

   See attached wellbore schematics.

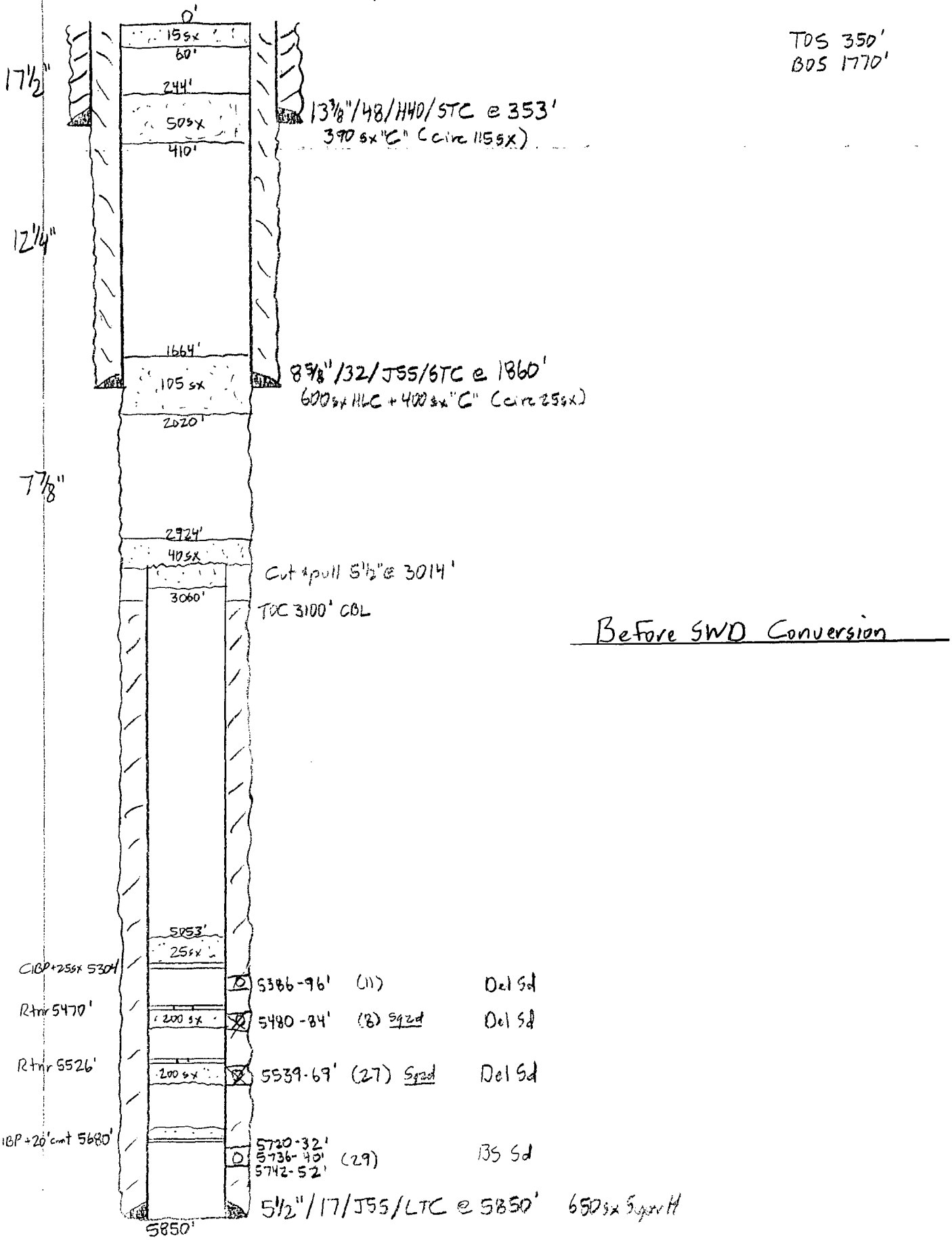
5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area:

   Overlying: Delaware 1880' - 4975' (Most wells in 1883-3884' range 2 miles + away, Well in P-35-25s-26e 4758-4973' ; Well in E-6-26s-27e 4864-4924', 4050'-4060')

   Underlying: Bone Spring 6050'-6500', Wolfcamp 9240-9935', U. Penn/Strawn 10236-10556' Atoka 11342-11354', Morrow 11483-12263'

30-015-29560 (Formerly Cottonwood 36 St. 1)
1980' FSL, 1980' FWL
K-36-25s-26e
Eddy NM

Zero:
KB:
GL: 3322'




TOS 350'
BOS 1770'

Before SWD Conversion

# Co Hanwood 36 SWD No. 1

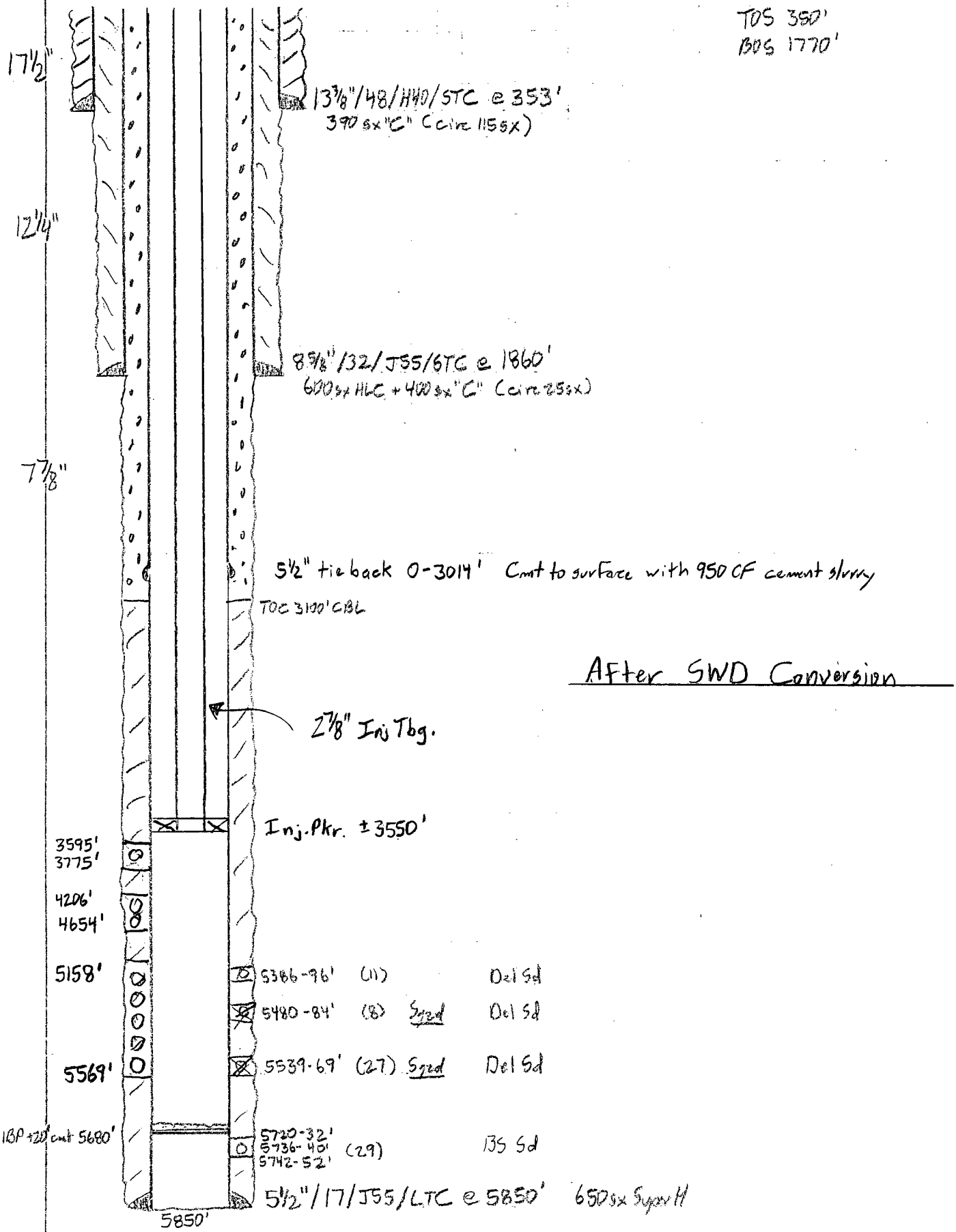
(Formerly Cottonwood 36 St. 1)

30-015-29560

1980' FSL, 1980' FWL
K-36-25s-26e
Eddy NM

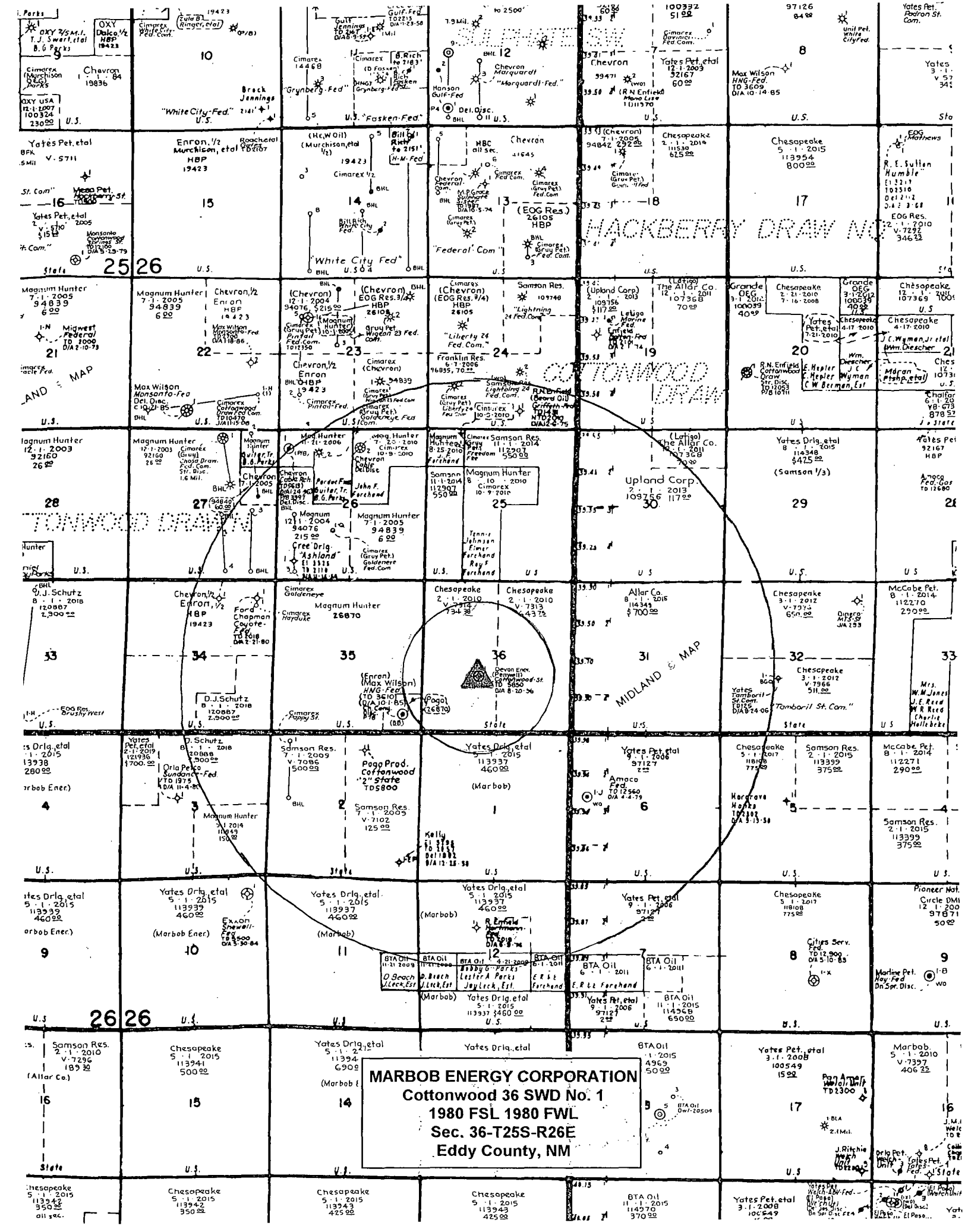
Zero: 12' AGL
KB: 3334'
GL: 3322'

TOS 350'
BOS 1770'



# V.

# MAP


MARBOB ENERGY CORPORATION
Cottonwood 36 SWD No. 1
1980 FSL 1980 FWL
Sec. 36-T25S-R26E
Eddy County, NM
COTTONWOOD DRAW
HACKBERRY DRAW
MIDLAND MAP

# VI.

# Wells Penetrating Proposed Disposal Interval Within Half Mile Area of Review

30-015-37466

# Craig St Com. 1H

Zero: 17' AGL
KB: 3362'
GL: 3345'

SurF: 380' FSL, 330' FWL, Unit M
EDL: 414' FSL, 394' FEL, Unit P

36-25s-26e
Eddy NM

| Size | wt. | Grade | Conn | Depth |
|---|---|---|---|---|
| 13 3/8" | 48 | H40 | STC | 363' |
| 9 5/8" | 36 | J55 | BTC | 1898' |
| 5 1/2" | 17 | N80 | LTC | 10396' |
| | | | | |
| | | | | |
| 2 7/8" | 6.5 | J55 | EUE | |
| | | | | |

17 1/2"

13 3/8" @ 363'
400 sx "C" Circ 137 sx)

12 1/4"

9 5/8" @ 1898'
500 sx "C" 4% gel + 250 sx "C" Circ 138 sx)

7 7/8"

DV 5390'

KOP 5520'

5 1/2" @ 10396'

FCE 10354'

10396' MD

50 sx "H"
250 sx "H"
2900'

Horz @: 6325' MD (±4070' length)
TVD: 6035-6166' (6100')
Lateral: West to East

1st: 475 sx Acid Sol (Circ 85 sx)
2nd: 300 sx HLC + 100 sx "C" (Circ 15 sx)

# VII.

# Water Analysis Produced and Receiving Formation Water

# Water Analysis Produced Water

----- Forwarded by Bill Polk/BJS/BJSERVICES on 02/11/2010 07:56 AM -----

| Analytical Laboratory Report for: | BJ Chemical Services |
|---|---|
| MARBOB ENERGY CORPORATION | Account Representative: William D Polk |

## Production Water Analysis

Listed below please find water analysis report from: Sro, State Unit Com Well #2

| | | | |
|---|---|---|---|
| Lab Test No: | 2010106750 | Sample Date: | 02/01/2010 |
| Specific Gravity: | 1.135 | | |
| TDS: | 207535 | | |
| pH: | 6.25 | | |
| Resistivity: | .095@73F | ohms/M | |

| Cations: | mg/L | as: |
|---|---|---|
| Calcium | 3281 | ($Ca^{++}$) |
| Magnesium | 1376 | ($Mg^{++}$) |
| Sodium | 75076 | ($Na^{+}$) |
| Iron | 22.44 | ($Fe^{++}$) |
| Potassium | 1592.0 | ($K^{+}$) |
| Barium | 3.51 | ($Ba^{++}$) |
| Strontium | 975.00 | ($Sr^{++}$) |
| Manganese | 1.21 | ($Mn^{++}$) |
| Anions: | mg/L | as: |
| Bicarbonate | 708 | ($HCO_3^{-}$) |
| Sulfate | 500 | ($SO_4^{=}$) |
| Chloride | 124000 | ($Cl^{-}$) |
| Gases: | | |
| Carbon Dioxide | 410 | ($CO_2$) |
| Hydrogen Sulfide | 0 | ($H_2S$) |

MARBOB ENERGY CORPORATION
Lab Test No: 2010106750

DownHole SAT™
Scale Prediction
@ 100 deg. F

COPY

Water Analysis Receiving Formation

Analytical Laboratory Report for:

MARBOB ENERGY CORPORATION

BJ Chemical Services

Account Representative:
Polk, Bill

# Partial Water Analysis

Listed below please find water analysis report from: WILLOW STATE, 2

Lab Test No: 2008125125 Sample Date: 06/24/2008

| Cations: | mg/L | as: |
|---|---|---|
| Calcium | 30900.00 | ($Ca^{++}$) |
| Magnesium | 4910.00 | ($Mg^{++}$) |
| Sodium | 60300 | ($Na^{+}$) |
| Iron | 23.00 | ($Fe^{++}$) |
| Potassium | 1260.0 | ($K^{+}$) |
| Barium | 1.76 | ($Ba^{++}$) |
| Strontium | 981.00 | ($Sr^{++}$) |
| Manganese | 10.50 | ($Mn^{++}$) |
| **Anions:** | **mg/L** | **as:** |
| Sulfate | 0 | ($SO_4^{=}$) |
| Chloride | 229000 | ($Cl^{-}$) |
| **Gases:** | | |
| Carbon Dioxide | | ($CO_2$) |
| Hydrogen Sulfide | | ($H_2S$) |

# X.

# Resistivity Log Across Proposed Delaware Sand Injection Interval

COMPANY: Penwell Energy Incorporated
WELL: Cottonwood '36' State #1
FIELD: Cottonwood Draw - Delaware
COUNTY: Eddy STATE: New Mexico

Field: Cottonwood Draw - Delaware
Location: 1980' FWL and 1980' FSL
Well: Cottonwood '36' State #1
Company: Penwell Energy Incorporated

91982.1

Schlumberger

Platform Express - Azimuthal Laterolog MCFL / Gamma Ray

LOCATION

API Serial No: 30-015-25560
SECTION: 36
TOWNSHIP: 25S
RANGE: 28E

1980' FWL and 1980' FSL

Permanent Datum: Ground Level
Log Measured From: Kelly Bushing
Drilling Measured From: Kelly Bushing

Elev.: 3322 F above Perm. Datum
K.B. 3334 F
G.L. 3322 F
D.F. 3333 F

| | Run 1 | Run 2 | Run 3 | Run 4 |
|---|---|---|---|---|
| Logging Date | 31-May-1997 | | | |
| Run Number | One | | | |
| Depth Driller | 9856 F | | | |
| Schlumberger Depth | 9852 F | | | |
| Bottom Log Interval | 9850 F | | | |
| Top Log Interval | 1861 F | | | |
| Casing Driller Size @ Depth | 8.625 IN @ 1861 F | | | |
| Casing Schlumberger | @ | | | |
| Bit Size | 7.875 IN | | | |
| Type Fluid In Hole | Cut Brine - Starch | | | |
| Density / Viscosity | 9.3 LB/G 29 S | | | |
| Fluid Loss / PH | 16 C3 10 | | | |
| Source Of Sample | Circulation Tank | | | |
| RM @ Measured Temperature | 0.078 OHMM @ 75 DEGF | | | |
| RMF @ Measured Temperature | 0.075 OHMM @ 75 DEGF | | | |
| RMC @ Measured Temperature | @ | | | |
| Source RMF / RMC | | | | |
| RM @ MRT | Measured @ 110 | @ | @ | @ |
| RMF @ MRT | 0.055 @ 110 | @ | @ | @ |
| Maximum Recorded Temperatures | 113 DEGF | @ | @ | @ |
| Circulation Stopped / Time | 31-May-1997 0530 | | | |
| Logger On Bottom / Time | 31-May-1997 1045 | | | |
| Unit Number / Location | 3005 Roswell, NM | | | |
| Recorded By | Tony DePupels | | | |
| Witnessed By | Cody Stewart | | | |

RECEIVED
OCD - ARTESIA

ALL INTERPRETATIONS ARE OPINIONS BASED ON INFERENCES FROM ELECTRICAL OR OTHER MEASUREMENTS AND WE CANNOT, AND DO NOT GUARANTEE THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATIONS, AND WE SHALL NOT, EXCEPT IN THE CASE OF GROSS OR WILLFUL NEGLIGENCE ON OUR PART, BE LIABLE OR RESPONSIBLE FOR ANY LOSS, COSTS, DAMAGES OR EXPENSES INCURRED OR SUSTAINED BY ANYONE RESULTING FROM ANY INTERPRETATION MADE BY ANY OF OUR OFFICERS, AGENTS OR EMPLOYEES. THESE INTERPRETATIONS ARE ALSO SUBJECT TO CLAUSE 4 OF OUR GENERAL TERMS AND CONDITIONS AS SET OUT IN OUR CURRENT PRICE SCHEDULE.

| OTHER SERVICES1 | OTHER SERVICES2 |
|---|---|
| OS1: PEX w/ HALS | OS1: |
| OS2: | OS2: |
| OS3: | OS3: |
| OS4: | OS4: |
| OS5: | OS5: |
| REMARKS: RUN NUMBER 1 | REMARKS: RUN NUMBER 2 |
| Operator today is Greg Molyneaux. | |

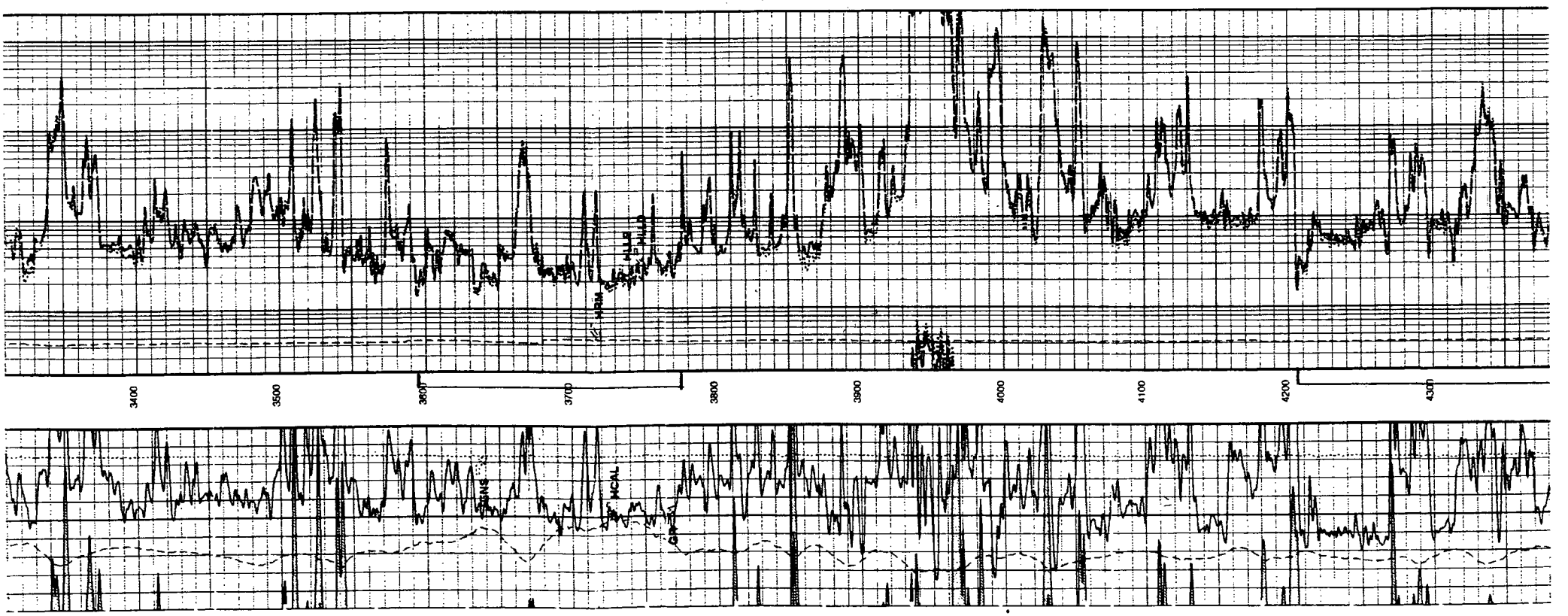
| RUN 1 | | RUN 2 | |
|---|---|---|---|
| SERVICE ORDER #: | 534886 | SERVICE ORDER #: | |
| PROGRAM VERSION: | 7C0-713 | PROGRAM VERSION: | |
| FLUID LEVEL: | | FLUID LEVEL: | |
| LOGGED INTERVAL | START / STOP | LOGGED INTERVAL | START / STOP |

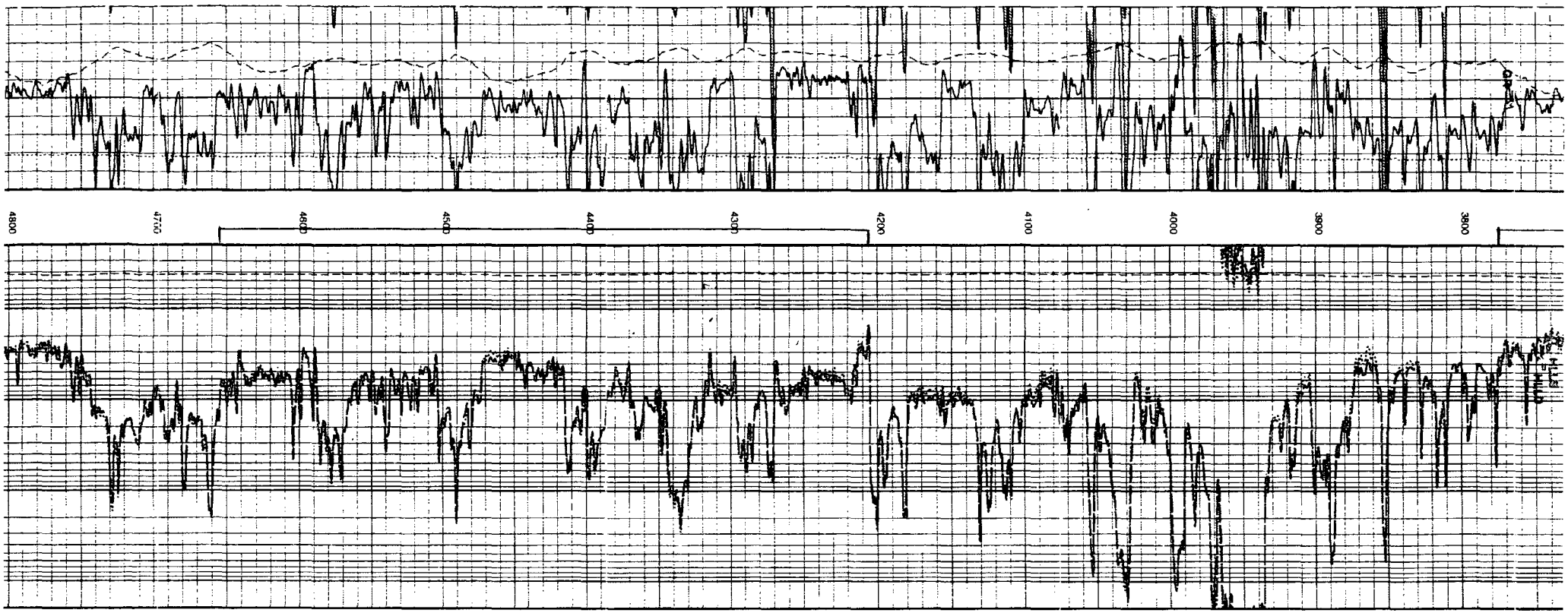
## EQUIPMENT DESCRIPTION

| RUN 1 | RUN 2 |
|---|---|
| SURFACE EQUIPMENT | |
| TCM-AB 1269 NCS-VB<br>GSR-D/Y 11 LCM-AA<br>NCT-B<br>CNB-AB | |
| DOWNHOLE EQUIPMENT | |

3595- 3775'

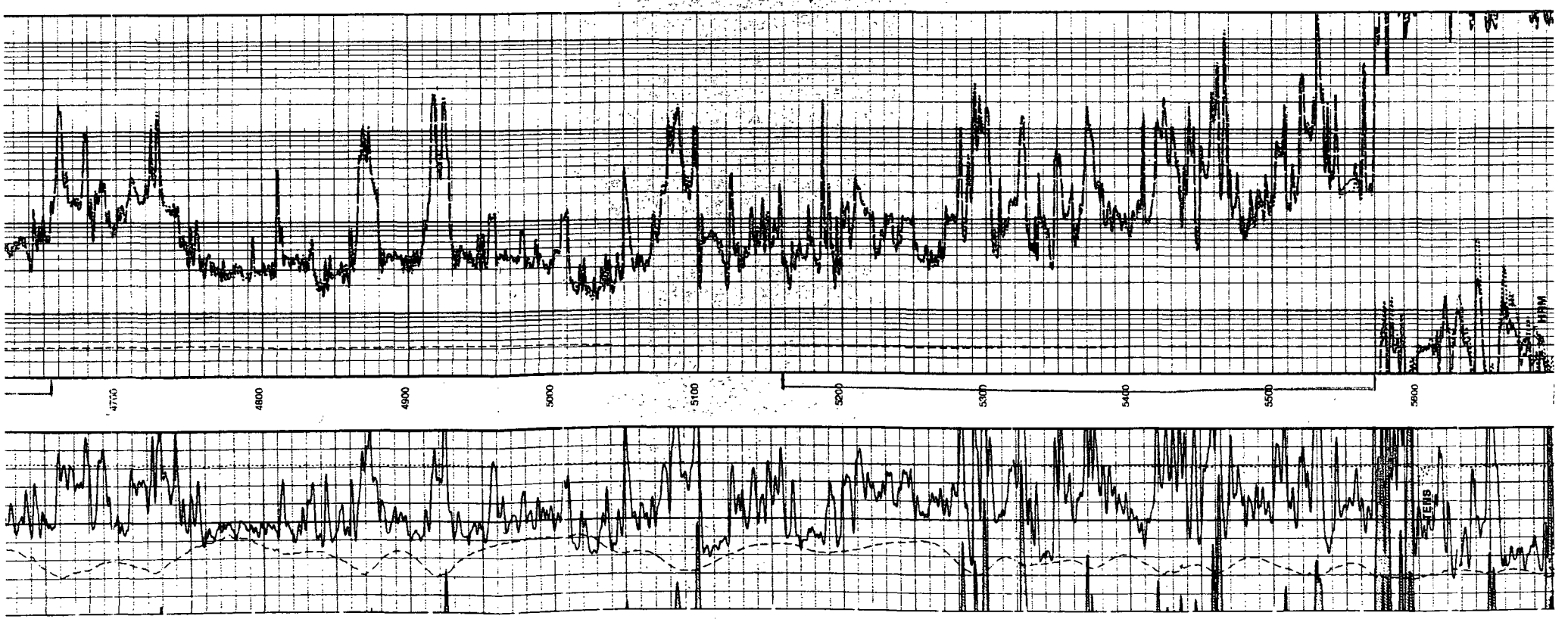
4206






4206- 4654'

5158 - 5569'



# New Mexico Office of the State Engineer

# Point of Diversion by Location

## (with Owner Information)

(acre ft per annum) (quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) (NAD83 UTM in meters)

| WR File Nbr | Sub basin | Use | Diversion | Owner | County | POD Number | Grant | Source | q q q 6416 4 | Sec | Tws | Rng | X | Y |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C 02220 | | STK | 3 | FOREHAND RANCHES INC. | ED | C 02220 | | | 3 1 2 | 26 | 25S | 26E | 569598 | 3552352* |
| C 02221 | | STK | 3 | OGDEN FARMS & CATTLE CO. | ED | C 02221 | | | 4 3 2 | 25 | 25S | 26E | 571412 | 3551961* |

**Record Count:** 2

**PLSS Search:**

Section(s): 25, 26, 35, 36 Township: 25S Range: 26E

**Sorted by:** File Number

These wells greater than 1 mile away from proposed SWD...

***UTM location was derived from PLSS - see Help**

# New Mexico Office of the State Engineer

# Point of Diversion by Location

**(with Owner Information)**

No PODs found.

**PLSS Search:**

Section(s): 1, 2 Township: 26S Range: 26E

# *New Mexico Office of the State Engineer*

# Point of Diversion by Location

**(with Owner Information)**

No PODs found.

**PLSS Search:**

Section(s): 30, 31 Township: 25S Range: 27E

# *New Mexico Office of the State Engineer*

# Point of Diversion by Location

**(with Owner Information)**

No PODs found.

**PLSS Search:**

Section(s): 6 Township: 26S Range: 27E

**Marbob**

**From:** "Debora Wilbourn" <geology@marbob.com>
**To:** "Artesia Daily Press Legals" <legals@artesianews.com>
**Sent:** Friday, April 30, 2010 3:47 PM
**Attach:** Legal Notice.doc
**Subject:** Cottonwood 36 SWD No. 1 SWD Application - Legal Notice

Thanks!

Debora L Wilbourn, GeoTech
geology@marbob.com
Marbob Energy Corporation
PH 575-748-3303

**ARTESIA DAILY PRESS**
**LEGAL NOTICES**

Marbob Energy Corporation, Post Office Box 227, Artesia, New Mexico, 88211-0227, has filed Form C-108 (Application for Authorization to Inject) with the New Mexico Oil Conservation Division seeking administrative approval for a salt water disposal well. The proposed well, the Cottonwood 36 SWD #1, is located 1980' FSL 1980' FWL, Sec. 36, Township 25 South, Range 26 East, Eddy County, New Mexico. Disposal water will be sourced from area wells producing from the Delaware and Bone Spring formations. The disposal water will be injected into the Delaware formation at depths of 3595-3775', 4206-4654' and 5158-5569'at a maximum surface pressure of 719 psi and a maximum rate of 5000 BWPD. Any interested party who has an objection to this must give notice in writing to the Oil Conservation Division, 1220 South Saint Francis Street, Santa Fe, New Mexico, 87505, within fifteen (15) days of this notice. Any interested party with questions or comments may contact Brian Collins at Marbob Energy Corporation, Post Office Box 227, Artesia, New Mexico 88211-0227, or call 575-748-3303.

Published in the Artesia Daily Press, Artesia, New Mexico
_____, 2010.

## Jones, William V., EMNRD

**From:** Jones, William V., EMNRD
**Sent:** Tuesday, June 08, 2010 3:38 PM
**To:** 'Debora Wilbourn'; 'Brian Collins'
**Subject:** Disposal application from Marbob: Cottonwood 36 SWD #1 30-015-29560

Brian and Debora:

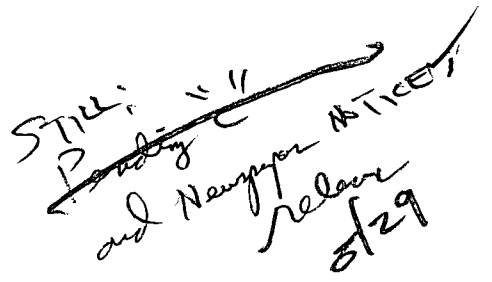
a. Would you please mail or email a copy of the actual newspaper notice as posted in the paper for this well only?

b. Is it true that Oxy and Marbob are the only owners in this area and have the Delaware rights controlled?

c. The subject well was tested non-productive in the Brushy Canyon. There is a well SW of this location that makes 3 to 6 Bopd from the Cherry Canyon. What does the subject well's structural location compare to this? In otherwords, is it lower on structure and therefore likely water bearing? The resistivity log appears lower resistivity - I believe. Does Marbob intend to swab test these new upper Cherry Canyon intervals?

Thanks again,

William V Jones, P.E.
Engineering, Oil Conservation Division
1220 South St. Francis Drive, Santa Fe, NM 87505
Tel 505.476.3448 ~ Fax 505.476.3462



## Jones, William V., EMNRD

**From:** Debora Wilbourn [geology@marbob.com]
**Sent:** Wednesday, June 09, 2010 11:11 AM
**To:** Jones, William V., EMNRD
**Subject:** Re: Lusk 32 SWD #1 & Cottonwood 36 SWD #1

Will,
I have been trying all morning to figure out what happened on this Cottonwood well. Although I submitted this to our newspaper on 04/30/10, they apparently never printed the publication. I still don't know how I got the SRO 5 SWD affidavit of publication scanned into the Cottonwood folder - I guess my "blonde" and "old" collided somehow! Anyway, I re-sent the legal notice for the Cottonwood to our paper today and they are supposed to run it ASAP.

June 9

Debora L Wilbourn, GeoTech
geology@marbob.com
Marbob Energy Corporation
PH 575-748-3303

----- Original Message -----
**From:** Jones, William V., EMNRD
**To:** Debora Wilbourn
**Sent:** Tuesday, June 08, 2010 4:00 PM
**Subject:** RE: Lusk 32 SWD #1 & Cottonwood 36 SWD #1

Debora:
The attached application is a year old and for a different well?

Will Jones
New Mexico
Oil Conservation Division
Images Contacts

**From:** Debora Wilbourn [mailto:geology@marbob.com]
**Sent:** Tuesday, June 08, 2010 3:43 PM
**To:** Jones, William V., EMNRD
**Subject:** Fw: Lusk 32 SWD #1 & Cottonwood 36 SWD #1

Brian will have to address your other items.

Debora L Wilbourn, GeoTech
geology@marbob.com
Marbob Energy Corporation
PH 575-748-3303

----- Original Message -----
**From:** Debora Wilbourn
**To:** Will Jones
**Sent:** Tuesday, May 11, 2010 1:43 PM
**Subject:** Lusk 32 SWD #1 & Cottonwood 36 SWD #1

Will here are copies of the certified receipts for the referenced SWD wells, along with a copy of the Affidavit of Publication for the Cottonwood well. I haven't received the Affidavit for the Lusk well yet, but as soon as I do, I will e-mail it to you.

Debora L Wilbourn, GeoTech
geology@marbob.com
Marbob Energy Corporation
PH 575-748-3303

## Jones, William V., EMNRD

**From:** Brian Collins [bcollins@marbob.com]
**Sent:** Monday, June 28, 2010 7:46 AM
**To:** Jones, William V., EMNRD
**Subject:** Re: Disposal application from Marbob: Cottonwood 36 SWD #1 30-015-29560

Will:

Sorry I'm so late replying to your questions on the captioned well. It's been pretty hectic around here and I just now got back to this well. Hopefully I'll answer you questions here.

a. Debbie is in Brazil right now--I hope she sent you the newspaper notice. If she didn't let me know.

b. Our land department looked at lease ownership and came up with Oxy and Marbob as the Delaware rights owners. We have a deal with Chesapeake making us the operator in Section 36 where the well is.

c. The proposed well in K-36-25s-26e is 57' low in the Cherry Canyon to the Oxy producer in P-35-25s-26e. The proposed injection interval in our well is 160' above and 100' below the stratigraphic equivalent to the pay in the Oxy well. I intentionally left the Oxy pay zone out of our proposed injection interval. We can certainly put a little more vertical distance from the Oxy pay zone if you want us to.

Thanks!

Brian Collins
Marbob Energy

----- Original Message -----
**From:** Jones, William V., EMNRD
**To:** Debora Wilbourn ; Brian Collins
**Sent:** Tuesday, June 08, 2010 3:38 PM
**Subject:** Disposal application from Marbob: Cottonwood 36 SWD #1 30-015-29560

Brian and Debora:

a. Would you please mail or email a copy of the actual newspaper notice as posted in the paper for this well only?

b. Is it true that Oxy and Marbob are the only owners in this area and have the Delaware rights controlled?

c. The subject well was tested non-productive in the Brushy Canyon. There is a well SW of this location that makes 3 to 6 Bopd from the Cherry Canyon. What does the subject well's structural location compare to this? In otherwords, is it lower on structure and therefore likely water bearing? The resistivity log appears lower resistivity - I believe. Does Marbob intend to swab test these new upper Cherry Canyon intervals?

Thanks again,

William V Jones, P.E.
Engineering, Oil Conservation Division
1220 South St. Francis Drive, Santa Fe, NM 87505
Tel 505.476.3448 ~ Fax 505.476.3462

marbob
energy corporation

April 30, 2010

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

Re: Application to Inject
Cottonwood 36 SWD No. 1
Township 25 South, Range 26 East, NMPM
Section 36: 1980 FSL, 1980 FWL, Unit K
Eddy County, New Mexico

Ladies and Gentlemen:

Enclosed for your review is a copy of Marbob Energy Corporation's application to convert the referenced well to salt water disposal. As a requirement of the New Mexico Oil Conservation Division, we are notifying you because you have been identified as an operator or surface owner. Any objections must be submitted in writing to NMOCD, 1220 S. St. Francis Drive, Santa Fe, New Mexico 87505. Objections must be received within fifteen (15) days of receipt of this letter.

Please do not hesitate to contact us should you have any questions.

Sincerely,

Brian Collins
Petroleum Engineer

BC/dlw
enclosure

Post Office Box 227 • Artesia, New Mexico 88211-0227 • (575) 748-3303 • Fax (575) 746-2523

marbob
energy corporation

April 30, 2010

OXY USA, Inc.
P. O. Box 4294
Houston, TX 77210

Re: Application to Inject
Cottonwood 36 SWD No. 1
Township 25 South, Range 26 East, NMPM
Section 36: 1980 FSL, 1980 FWL, Unit K
Eddy County, New Mexico

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Please do not hesitate to contact us should you have any questions.

Sincerely,

Brian Collins
Petroleum Engineer

BC/dlw
enclosure

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

**NM STATE LAND OFFICE**
**P O BOX 1148**
**SANTA FE NM 87504-1148**

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature
X
☐ Agent
☐ Addressee

B. Received by (Printed Name) | C. Date of Delivery

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

MAY 10 2010

3. Service Type
☑ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7006 0810 0000 8979 7138

PS Form 3811, February 2004 DW Domestic Return Receipt Cottonwood SWD 102595-02-M-1540

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**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

**OXY USA INC**
**P O BOX 4294**
**HOUSTON TX 77210**

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature
X
☐ Agent
☐ Addressee

B. Received by (Printed Name) MAY 2010 C. Date of Delivery

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

MAY 1 1 2010

3. Service Type
☑ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7006 0810 0000 8979 7121

PS Form 3811, February 2004 DW Domestic Return Receipt Cottonwood SWD 102595-02-M-1540

# Affidavit of Publication

NO. 21225

STATE OF NEW MEXICO

County of Eddy:

**Gary D. Scott**

being duly sworn, says that he is the **Publisher**

of the Artesia Daily Press, a daily newspaper of general circulation, published in English at Artesia, said county and state, and that the hereto attached

**Legal Notice**

was published in a regular and entire issue of the said Artesia Daily Press, a daily newspaper duly qualified for that purpose within the meaning of Chapter 167 of the 1937 Session Laws of the state of New Mexico for

1 Consecutive weeks/days on the same day as follows:

First Publication June 11, 2010

Second Publication

Third Publication

Fourth Publication

Fifth Publication

Subscribed and sworn to before me this

29th day of June 2010

OFFICIAL SEAL
Walter L. Green
NOTARY PUBLIC-STATE OF NEW MEXICO
My commission expires: 3/18/2014

Walter L. Green

Walter L. Green
Notary Public, Eddy County, New Mexico

# Copy of Publication:

**LEGAL NOTICE**

Marbob Energy Corporation, Post Office Box 227, Artesia, New Mexico, 88211-0227, has filed Form C-108 (Application for Authorization to Inject) with the New Mexico Oil Conservation Division seeking administrative approval for a salt water disposal well. The proposed well, the Cottonwood 36 SWD #1, is located 1980' FSL 1980' FWL, Sec. 36, Township 25 South, Range 26 East, Eddy County, New Mexico. Disposal water will be sourced from area wells producing from the Delaware and Bone Spring formations. The disposal water will be injected into the Delaware formation at depths of 3595-3775', 4206-4654' and 5158-5569'at a maximum surface pressure of 719 psi and a maximum rate of 5000 BWPD. Any interested party who has an objection to this must give notice in writing to the Oil Conservation Division, 1220 South Saint Francis Street, Santa Fe, New Mexico, 87505, within fifteen (15) days of this notice. Any interested party with questions or comments may contact Brian Collins at Marbob Energy Corporation, Post Office Box 227, Artesia, New Mexico 88211-0227, or call 575-748-3303. Published in the Artesia Daily Press, Artesia, New Mexico, June 11, 2010. Legal No. 21225.

# Injection Permit Checklist (03/15/2010)

Case ____ R-____ SWD 1226 WFX____ PMX____ IPI____ Permit Date 6/11/10 29 UIC Qtr (A M J)

# Wells 1 Well Name: Cottonwood 36 SWD #1 (was Cottonwood 36 State #1)

API Num: (30-) 015-29560 Spud Date: 5/18/97 New/Old: N (UIC primacy March 7, 1982)

Footages 1980FSL/1980FWL Unit K Sec 36 Tsp 25S Rge 26E County EDDY

Operator: Mobil Energy Corp. Contact Brian Collins

OGRID: 14049 RULE 5.9 Compliance (Wells) ~~4/1380~~ (Finan Assur) OK IS 5.9 OK? OK

Operator Address: P.O. Box 227, Artesia, NM, 88211-0227

Current Status: PEA

Planned Work to Well: Recomplete in 5½" Planned Tubing Size/Depth: 2 7/8 @ ~~3850~~ 5850'

| | Sizes Hole.....Pipe | Setting Depths | Cement Sx ~~or Cf~~ | Cement Top and Determination Method |
|---|---|---|---|---|
| Existing ✓ Surface | 17½ 13 3/8 | 353' | 390 | CIRC |
| Existing ✓ Intermediate | 12¼ 8 5/8 | 1860' | 1000 | CIRC |
| ~~Existing~~ Long String | 7 7/8 5½ | 3614-5850 | | 3100 CBL |

new

~~DV Tool~~ ~~Liner~~ ~~Open Hole~~ Total Depth 5850

Well File Reviewed ✓

Diagrams: Before Conversion ✓ After Conversion ✓ Elogs in Imaging File: ____

| Intervals: | Depths | Formation | Producing (Yes/No) |
|---|---|---|---|
| Above (Name and Top) | | | |
| Above (Name and Top) | | | |
| Injection..... Interval TOP: | 3595 | Lower Del Cherry Cn | No |
| Injection..... Interval BOTTOM: | 5569 | Lower Del Brushy Cn | No |
| Below (Name and Top) | 5595 — | BS. Top. | |

GENERAL LOCATION SE of WHITE CITY

719 PSI Max. WHIP

~~Open Hole (Y/N)~~

~~Deviated Hole?~~

**Sensitive Areas:** ~~Capitan Reef~~ Cliff House Salt Depths 350 — 1770

~~Potash Area (R-111-P)~~ ~~Potash Lessee~~ ~~Noticed?~~

**Fresh Water:** Depths: 0-150' Wells none Analysis? Affirmative Statement ✓

**Disposal Fluid** Sources: Del/BS. Analysis?

**Disposal Interval** Production Potential/Testing/Analysis Analysis: not in the area Tested Delin Lower DEL.

? o

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

RULE 26.7(A) Affected Parties: OXY ✓

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

Active Wells 10 Num Repairs — Producing in Injection Interval in AOR —

P&A Wells 0 Num Repairs — All Wellbore Diagrams Included? —

**Questions/Required Work:**

Swab Test Upper Perf Salt.

Request Sent ____ Reply: ____

Request Sent ____ Reply: ____

Request Sent ____ Reply: ____