

DATE IN 4/7/06	SUSPENSE 06/22/2006	DAVID CATANACH ENGINEER	LOGGED IN 6/7/06	TYPE PMX	APP NO. pTDS0615848671
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ABOVE THIS LINE FOR DIVISION USE ONLY

## NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

1220 South St. Francis Drive, Santa Fe, NM 87505



247

### ADMINISTRATIVE APPLICATION CHECKLIST

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.

Stan Wagner  
Print or Type Name

Signature

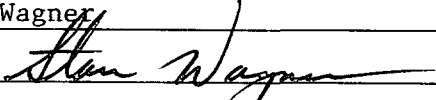
Regulatory Analyst  
Title

Date

stan\_wagner@cogresources.com  
e-mail Address

2006 JUN 7 AM 11 55

**APPLICATION FOR AUTHORIZATION TO INJECT**

- I. PURPOSE: Secondary Recovery X Pressure Maintenance Disposal Storage  
Application qualifies for administrative approval? X Yes No
- II. OPERATOR: EOG Resources, Inc.  
ADDRESS: P.O. Box 2267 Midland, TX 79702  
CONTACT PARTY: Stan Wagner PHONE: 432 686 3689
- 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? X Yes No  
If yes, give the Division order number authorizing the project: R-11388, R-11389
- 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: Stan Wagner TITLE: Regulatory Analyst  
SIGNATURE:  DATE: 6/5/06  
E-MAIL ADDRESS: stan\_wagner@egoresources.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: submitted January 1994



**EOG Resources, Inc.**  
4000 North Big Spring, Suite 500  
Midland, TX 79705  
(915) 686-3600

May 19, 2006

Mr. Mark McCloy  
P.O. Box 1076  
Jal, New Mexico 88252

Re: Application of EOG Resources, Inc. for administrative approval of  
Expansion of its Red Hills North Unit Pressure Maintenance Project, Lea  
County, New Mexico.

Mr. McCloy:

Enclosed please find a copy of the application of EOG Resources, Inc. (Oil Conservation Division Form C-108) in the above-referenced matter for approval of the expansion of its Red Hills North Unit Pressure Maintenance Project with the addition of one injection well: the Red Hills North Unit Well No. 811 located 662 feet from the South line and 509 feet from the West line of Section 8 in Township 25 South, Range 34 East, NMPM, Lea County, New Mexico. EOG proposes to re-inject water produced from the Bone Spring formation into the unitized interval of the Bone Spring formation in the Red Hills North Unit Area at a measured depth of 12644 feet to 15108 feet in Well No. 811. The injection will occur with a maximum injection pressure of 3700 psi and a maximum injection rate of 3000 barrels of water per day as fully described in the application.

This application is provided to you as owner of the surface of the land upon which the subject well is located. If you object to this application your objection must be filed in writing with the Santa Fe Office of the Oil Conservation Division located at 1220 South Saint Francis Drive, Santa Fe, New Mexico 87505 within 15 days of the date of this letter. If there is no objection, the Division Director may approve this application.

If you, as surface owner, have no objection to this application, please sign in the space provided below and return this letter to my attention at the letterhead address.

Sincerely,

EOG RESOURCES, INC.

Stan Wagner  
Regulatory Analyst

The undersigned hereby waives any objection to the Expansion of the Red Hills North Unit Pressure Maintenance Project, well no. 811 as previously described by EOG Resources, Inc.

Mark McCloy

Mark McCloy

Date: 5-22-04



**EOG Resources, Inc.**  
4000 North Big Spring, Suite 500  
Midland, TX 79705  
(915) 686-3600

May 18, 2006

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

Bureau of Land Management  
620 E. Greene  
Carlsbad, New Mexico 88220

Re: Application of EOG Resources, Inc. for administrative approval of  
Expansion of its Red Hills North Unit Pressure Maintenance Project, Lea  
County, New Mexico.


Ladies and Gentlemen,

Enclosed please find a copy of the application of EOG Resources, Inc. (Oil Conservation Division Form C-108) in the above-referenced matter for approval of the expansion of its Red Hills North Unit Pressure Maintenance Project with the addition of one injection well: the Red Hills North Unit Well No. 811 located 662 feet from the South line and 509 feet from the West line of Section 8, Township 25 South, Range 34 East, NMPM, Lea County, New Mexico. EOG proposes to re-inject water produced from the Bone Spring formation into the unitized interval of the Bone Spring formation in the Red Hills North Unit Area at a measured depth of 12644 feet to 15108 feet in Well No. 811. The injection will occur with a maximum injection pressure of 3700 psi and a maximum injection rate of 3000 barrels of water per day as fully described in the application.

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Sincerely,

EOG RESOURCES, INC.

  
Stan Wagner  
Regulatory Analyst

**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:**

Bureau of Land Management  
620 E. Greene  
Carlsbad, NM 88220

**2. Article Number**

(Transfer from service label)

7000 0520 0020 9193 9113

**COMPLETE THIS SECTION ON DELIVERY**

**A. Signature**

X *[Signature]*

☐ Agent

☐ Addressee

**B. Received by (Printed Name)**

*[Signature]*

**C. Date of Delivery**

**D. Is delivery address different from item 1? ☐ Yes**

If YES, enter delivery address below: ☐ No

**3. Service Type**

☒ Certified Mail

☐ Express Mail

☐ Registered

☐ Return Receipt for Merchandise

☐ Insured Mail

☐ C.O.D.

**4. Restricted Delivery? (Extra Fee)**

☐ Yes

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

May 20 2006  
and ending with the issue dated

May 20 2006

*Kathi Bearden*

Publisher

Sworn and subscribed to before

me this 22nd day of

May

2006

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 adver-  
tisements within the meaning of  
Section 3, Chapter 167, Laws of  
1937, and payment of fees for  
said publication has been made.

LEGAL NOTICE  
May 20, 2006

EOG Resources, Inc., P.O. Box 2267, Midland, TX 79705,  
has filed form C-108 (Application for Authorization To Inject)  
with the New Mexico Oil Conservation Division seeking  
administrative approval for a pressure maintenance water  
injection well.

The Red Hills North Unit No. 811 is located 662' FSL &  
509' FWL, Section 8, Township 25 South, Range 34 East,  
Lea County, New Mexico. Injection water will be sourced  
from area wells producing from the Bone Spring formation.  
The injection water will be injected into the Bone Springs  
formation at a measured depth of 12644' - 15108', a maxi-  
mum surface pressure of 3000 psi, and a maximum rate of  
1000 BWPD.

All interested parties opposing the action must file objec-  
tions or requests for hearing with the Oil conservation Divi-  
sion, 1220 South St. Francis Dr., Santa Fe, New Mexico  
87505 within 15 days. Additional information may be ob-  
tained by contacting Stan Wagner at P.O. Box 2267, Mid-  
land, TX 79705, or 432-686-3600.  
#22381

01105308000 02585220

EOG RESOURCES  
4000 N. BIG SPRINGS  
MIDLAND, TX 79702

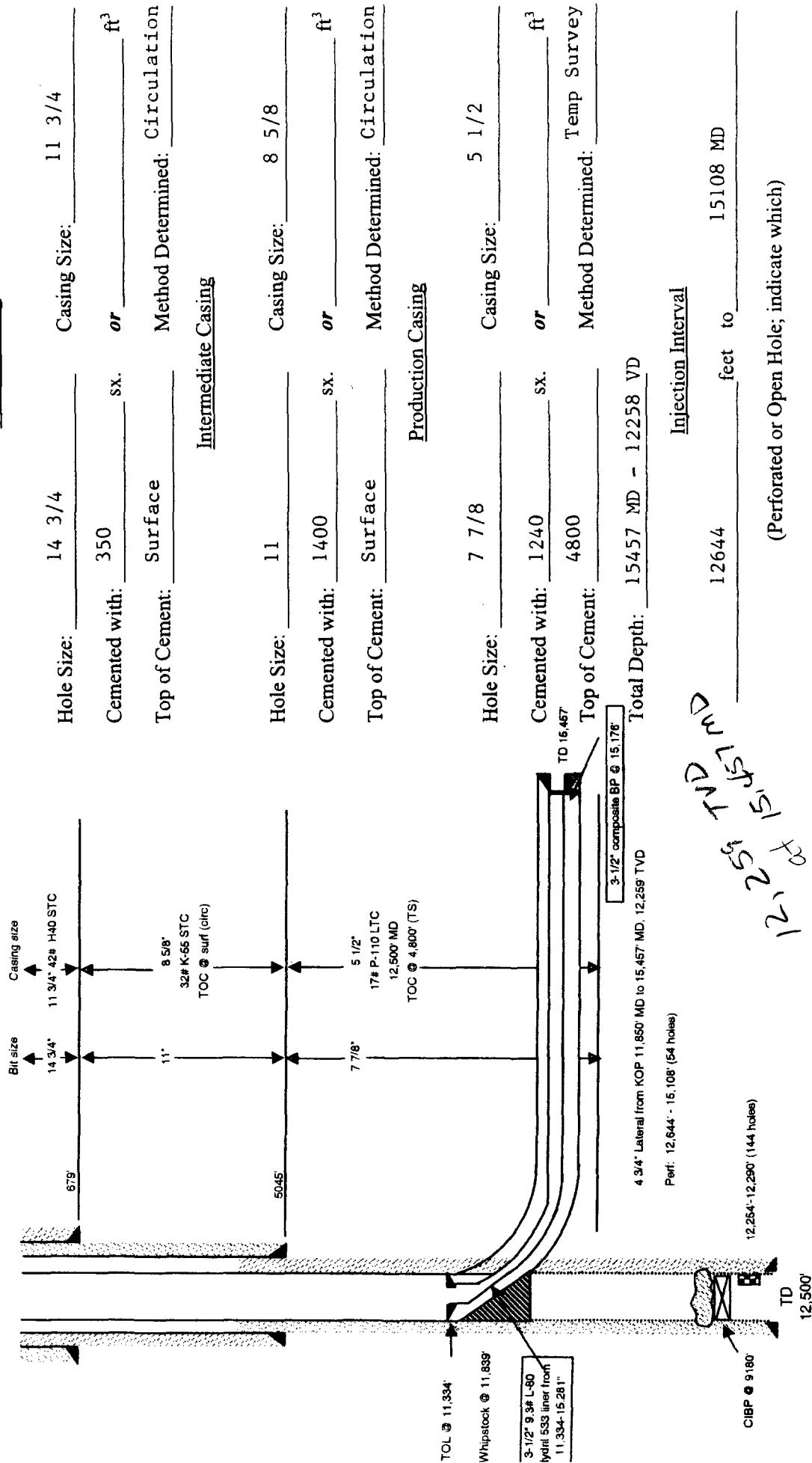
OPERATOR: EOG Resources, Inc. P.O. Box 2267 Midland, TX 79705

**WELL NAME & NUMBER:** Red Hills North Unit No. 811

WELL LOCATION:				
662' FSL & 509' FWL	M	8	25S	34E
169' FNL & 2462' FEL	B	18	25S	34E

FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE
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**WELL CONSTRUCTION DATA**  
**Surface Casing**





INJECTION WELL DATA SHEET

Tubing Size: 2 7/8 Lining Material: Plastic Coated

Type of Packer: Halliburton PLS

Packer Setting Depth: +/- 11300

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

Additional Data

1. Is this a new well drilled for injection? Yes X No  
 If no, for what purpose was the well originally drilled? Production
2. Name of the Injection Formation: Bone Spring
3. Name of Field or Pool (if applicable): Red Hills; Bone Spring
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. No
5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area:   
Next Higher; Delaware 5183' - 9260'  
Next Lower; Wolfcamp 12284' - 13800'

APPLICATION FOR AUTHORIZATION TO INJECT  
RED HILLS NORTH UNIT NO. 811

VII. PROPOSED OPERATION

- (1) Proposed Average Daily Rate and Volume : 1000 BPD  
Proposed Maximum Daily Rate and Volume: 3000 BPD
- (2) Open or Closed System: Closed
- (3) Proposed Average Injection Surface Pressure: 3000 psi  
Proposed Maximum Injection Surface Pressure: 3700 psi  
Note: Original Bone Spring formation BHP 9500 psi.
- (4) Produced Bone Spring Formation Water: 250-300 BPD from  
Red Hills Field (Bone Spring) (see attached analysis)
- (5) N/A

VIII. GEOLOGIC DATA ON INJECTION ZONE

Injection Zone: 3<sup>rd</sup> Bone Spring  
Lithologic Detail: Fine grain sandstone  
Geological Name: 3<sup>rd</sup> Bone Spring  
Thickness: Bone Spring – 3204'  
3<sup>rd</sup> Bone Spring – 384'  
Depth: Bone Spring 9260' to 12284'  
3<sup>rd</sup> Bone Spring 12644' to 15108'

Underground Sources of Drinking Water:  
Geological Name: Triassic  
Base: 600'

IX. PROPOSED STIMULATION

None at this time

X. LOGGING AND TESTING DATA ON INJECTION WELL

Logs have previously been submitted

XI. CHEMICAL ANALYSIS OF WATER FROM FRESH WATER WELLS  
WITHIN ONE MILE OF THE INJECTION WELL

A review of the State Engineers records shows a fresh water Well with an approved permit number of C-2373-S located in NE1/4, NW1/4, NW1/4 of Sec 13, T25S, R33E in Lea County, New Mexico, for the purpose of commercial oil and gas development. This well was drilled to a total depth of 642' with fresh water zone being encountered at a depth of 295' and 6 5/8"

casing set and cemented at 636'. Please see attached fresh water analysis.

XII. Available geologic and engineering data has been examined and no evidence has been found of open faults or any other hydrologic connection between the injection zone and any underground source of drinking water.

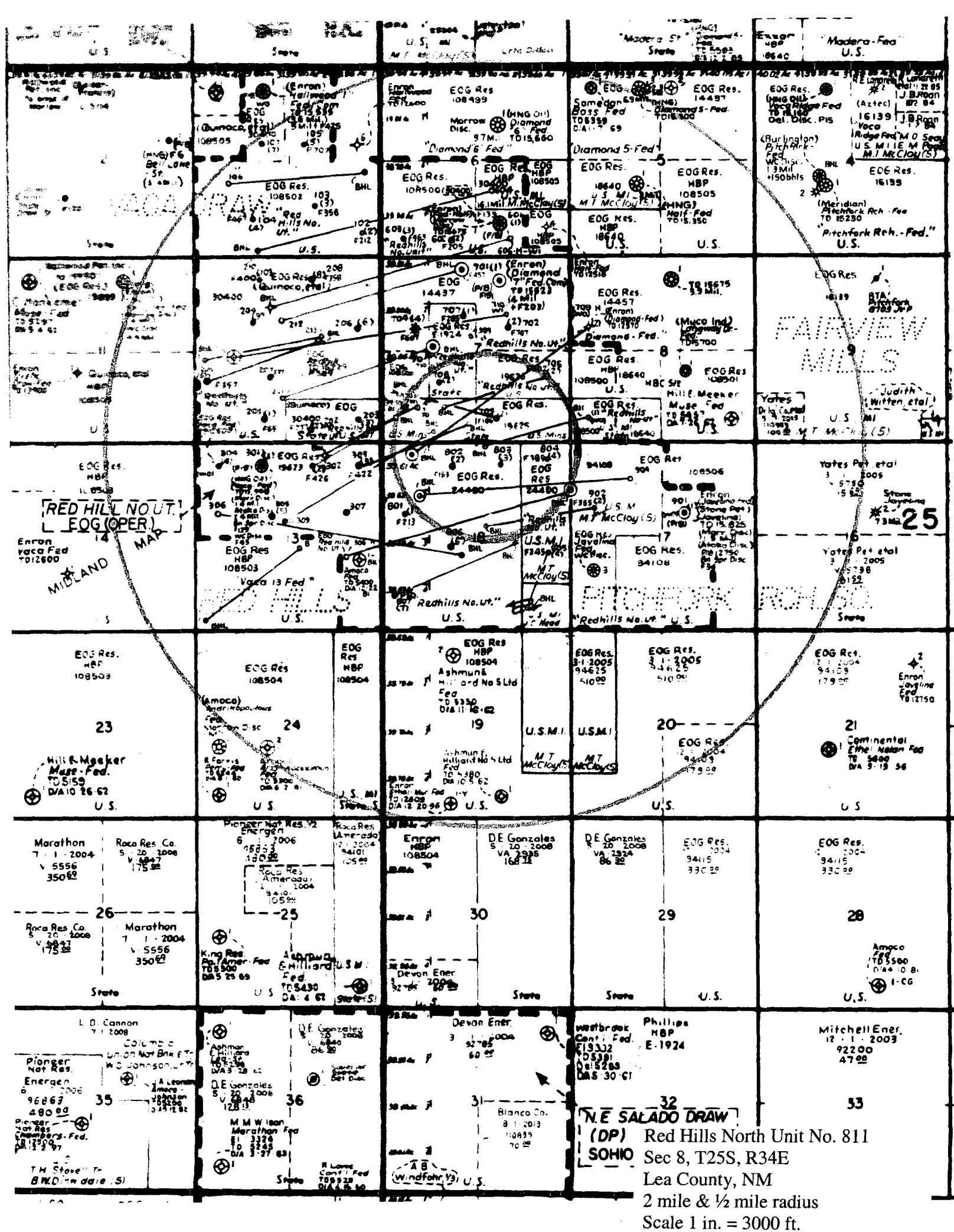
XIII. See attached "Proof of Notice".

Surface Owner:

Mark McCloy  
P.O. Box 1076  
Jal, NM 88252

Offset Operators:

EOG is only operator within a ½ mile radius of the injector.



EOG Resources, Inc  
1/2 Mile Area of Review  
Application for Authorization to Inject RHNU # 811

Operator	Lease/Well	Status	Location	Spud Date	TMD	Surface Casing			Production Casing			Producing Perfs
						Size	Depth	Cement	Size	Depth	Cement	
EOG Resources	RHNU 705	producer	Sec 07, T25S, R34E	8/26/1994	15181	11 3/4	687	350 sx Class C	5 1/2	12541	1393 sx PSL	12,472'-13,500'
EOG Resources	RHNU 706	producer	Sec 07, T25S, R34E	1/13/1995	15120	11 3/4	675	350 sx Class H	5 1/2	12533	1765 PSL / 153 Prem	12,460'-15,000'
EOG Resources	RHNU 708	producer	Sec 07, T25S, R34E	4/15/1994	12550	11 3/4	679	350 sx Prem Plus	5 1/2	12545	1232 HLC / 200 PP	12,290'-12,340'
EOG Resources	RHNU 802	producer	Sec 18, T25S, R34E	11/17/1994	12575	11 3/4	650	350 sx Prem Plus	5 1/2	12560	1505 HLP/Prem	12,260'-12,318'
EOG Resources	RHNU 803	producer	Sec 18, T25S, R34E	2/6/1995	12550	11 3/4	674	350 sx Premium	5 1/2	12547	1300 sx Premium	12,230'-12,280'
EOG Resources	RHNU 804	producer	Sec 18, T25S, R34E	4/19/1995	12550	11 3/4	671	350 sx Prem Plus	5 1/2	12550	1142 sx Prem 50:50 POZ	12,258'-12,368'



RHNU No.811H R/E

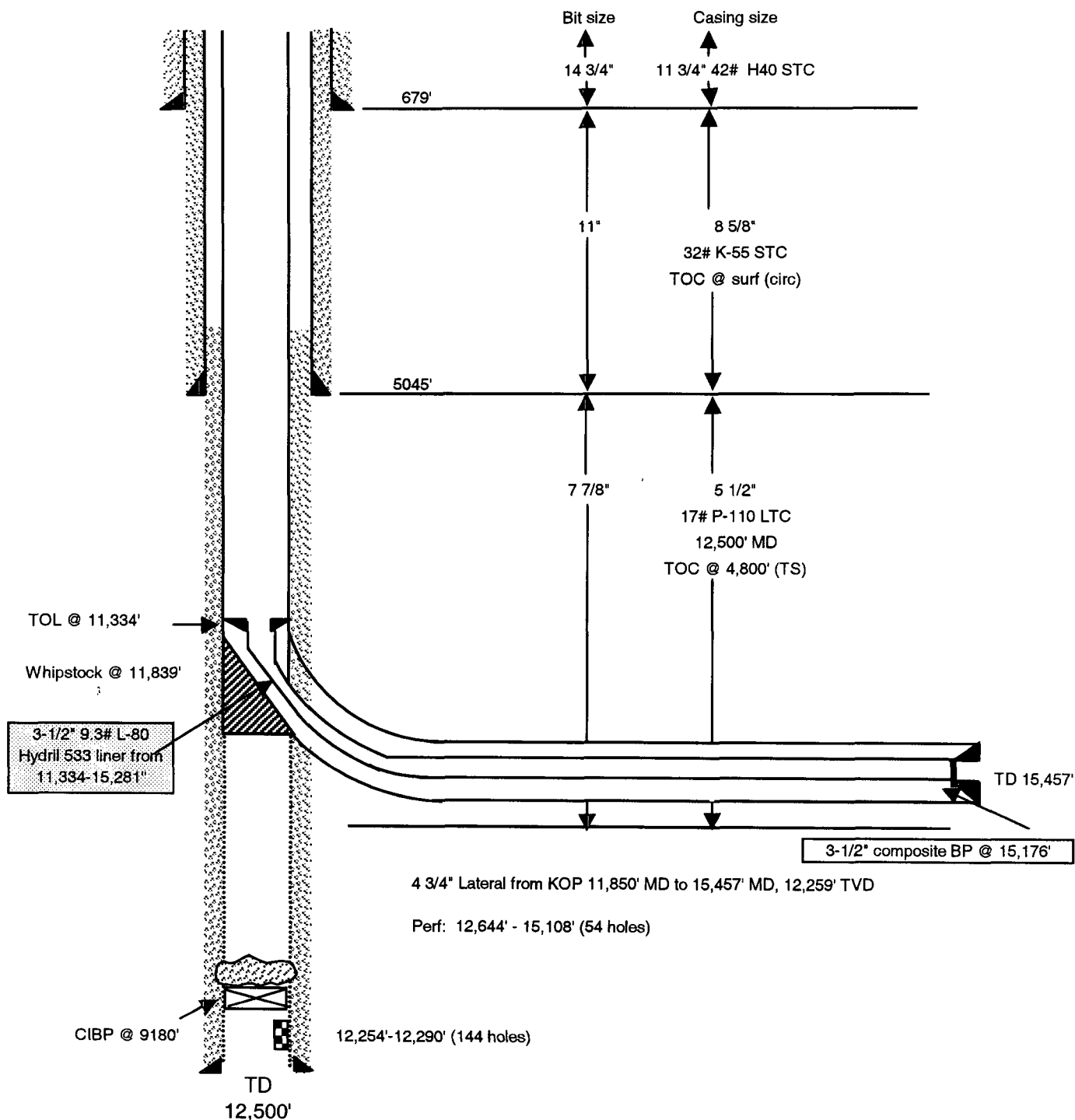
509' FWL & 662' FSL

Sec. 8-25S-34E

Lea County, New Mexico

API 30-025-32980

102571

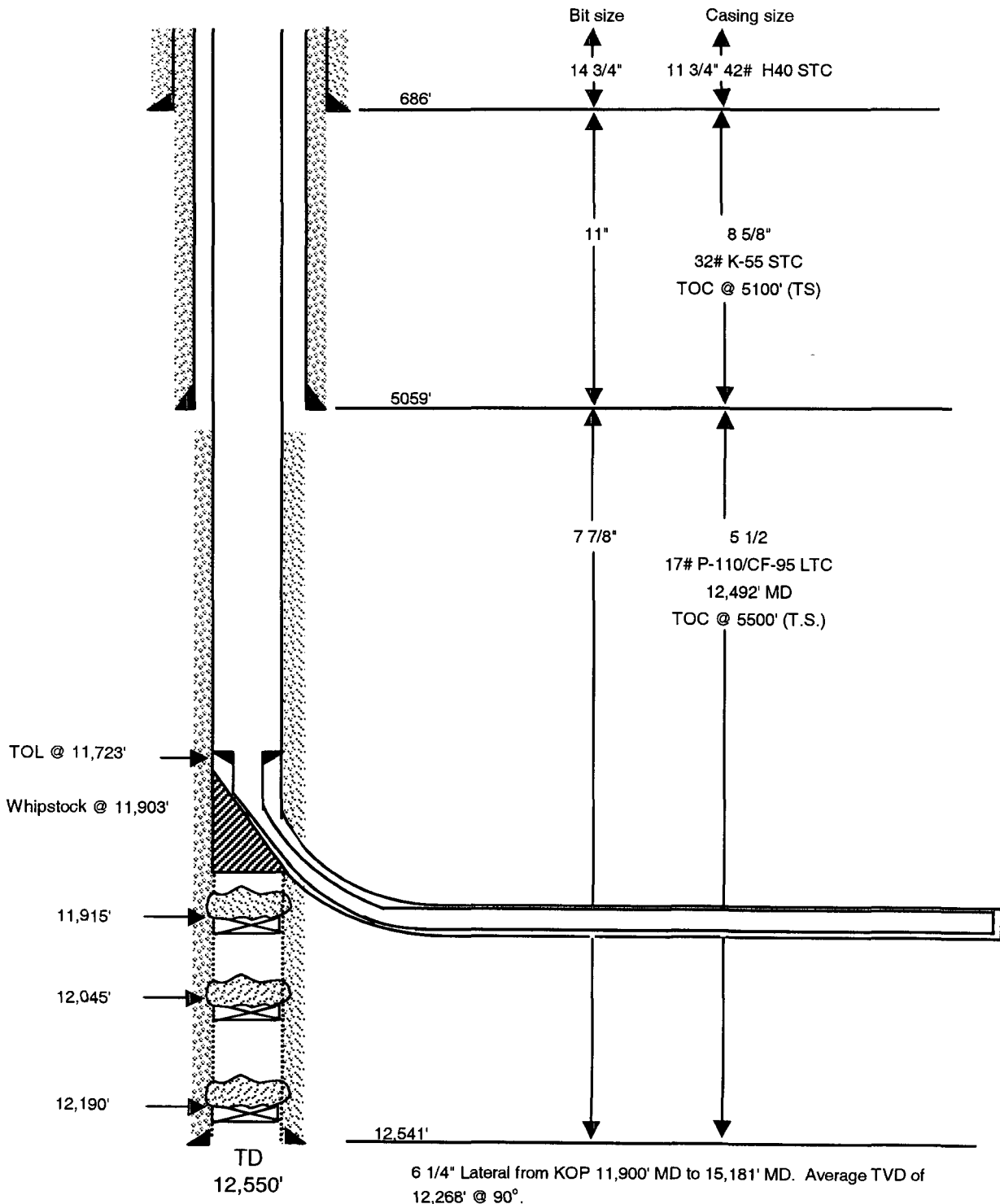


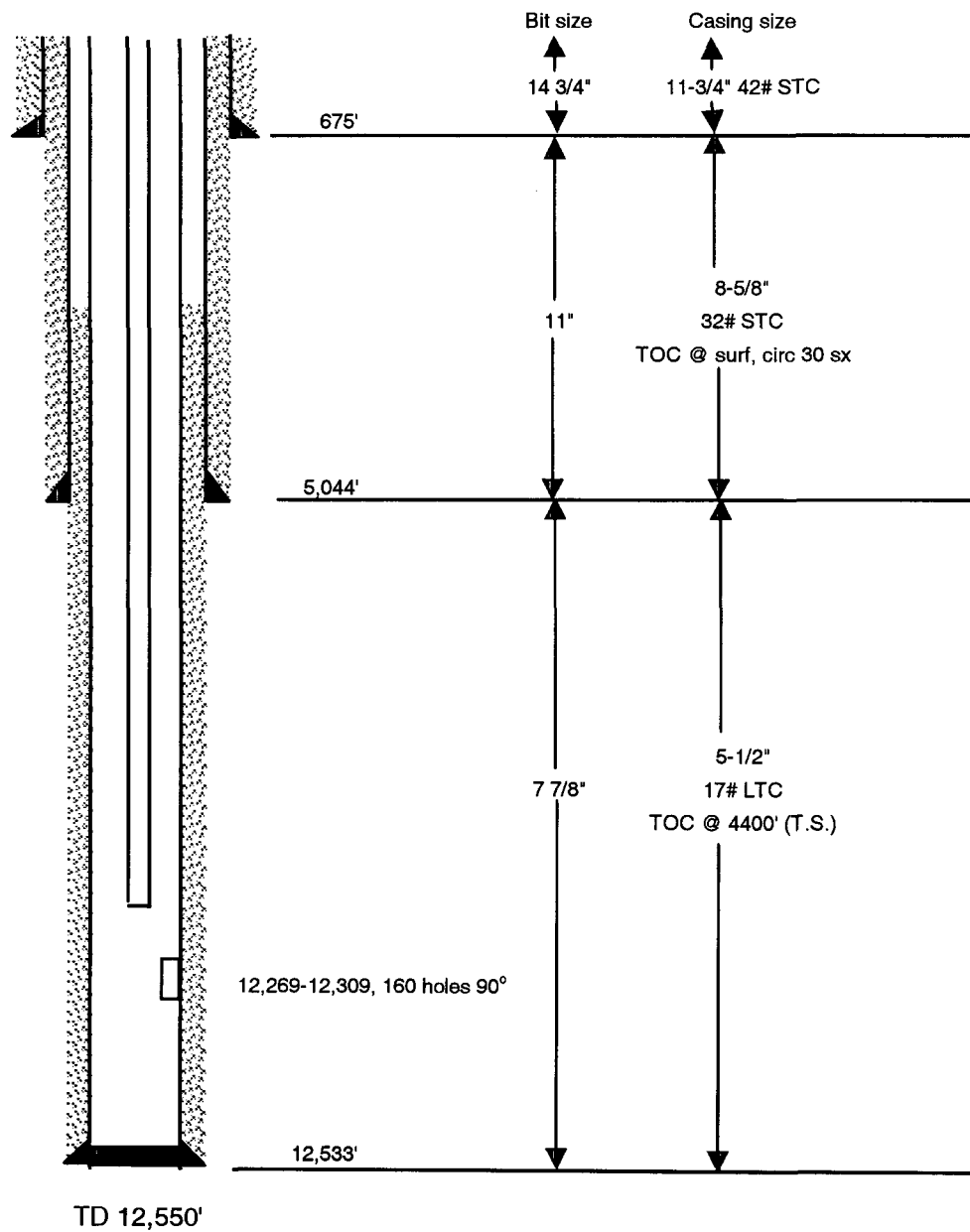
5/17/2006



# Red Hills North Unit No. 705 R/E

660' FSL & 2110' FEL  
Sec. 7-25S-34E  
Lea County, New Mexico



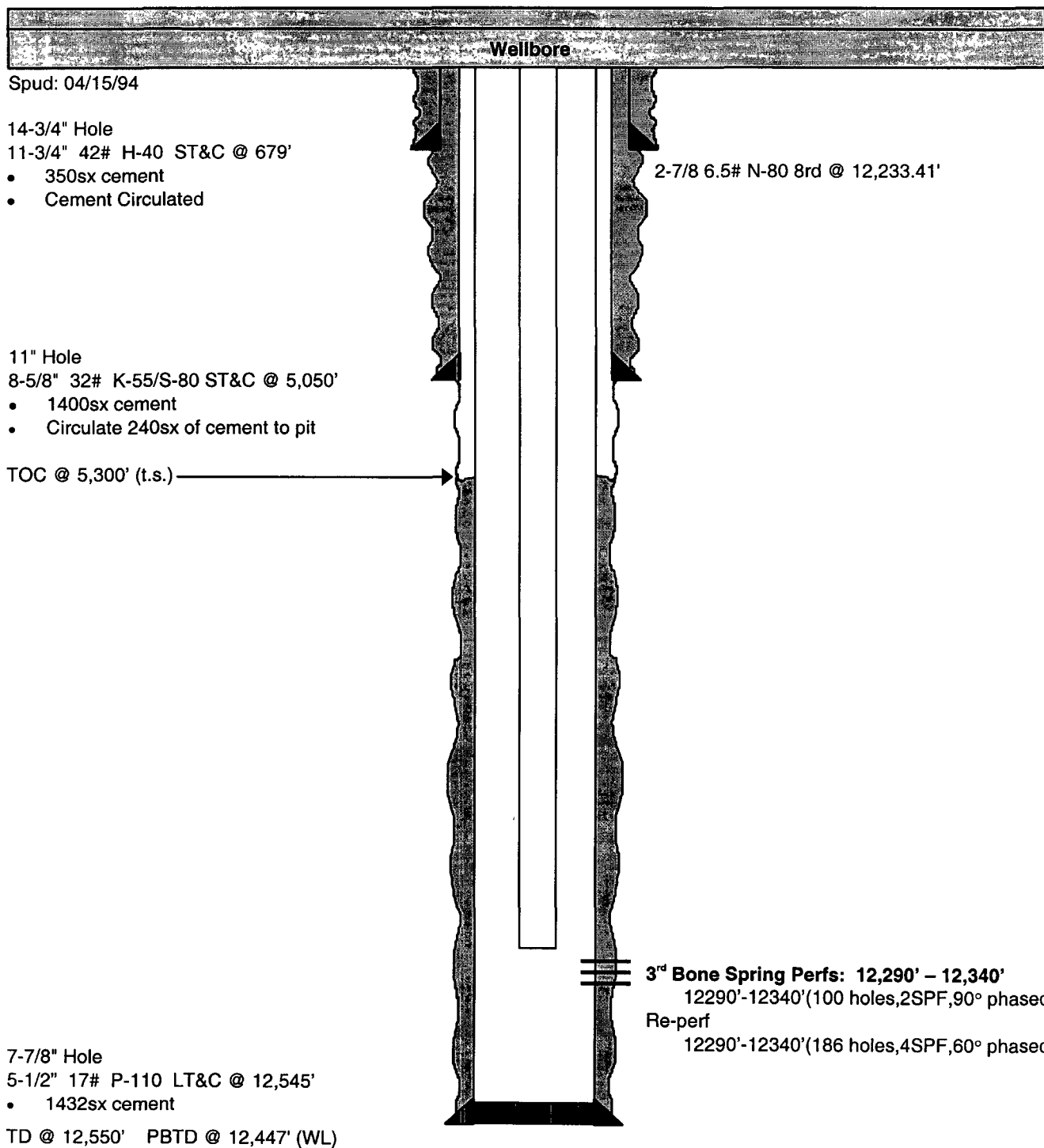




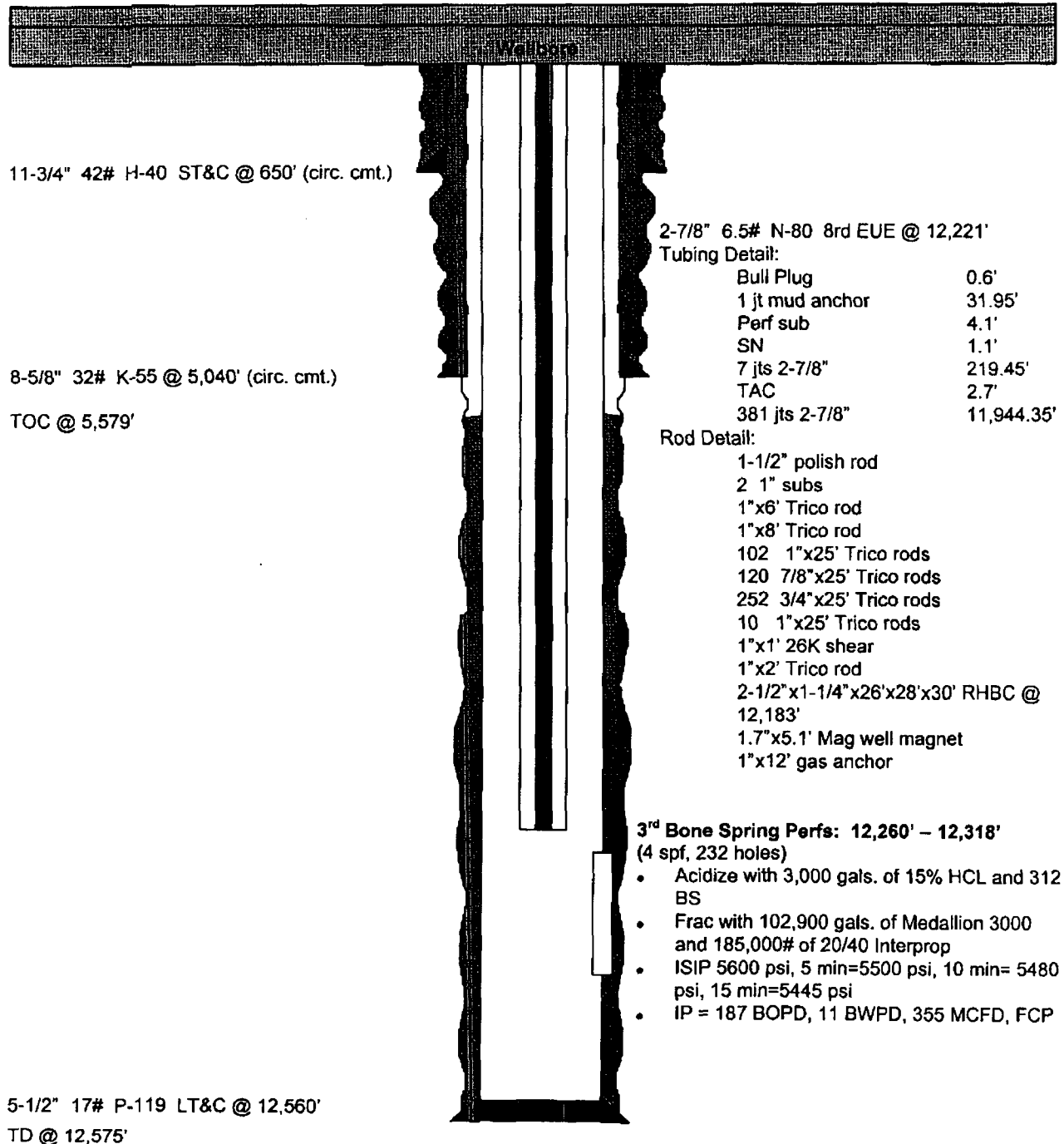
EOG RESOURCES, INC.  
1650' FSL & 1650' FWL  
Sec.7-T25S-R34E

RHNU # 708  
DIAMOND "7" STATE NO. 2  
LEA CO., NEW MEXICO  
AUGUST 01, 2000

### WELLBORE SCHEMATIC



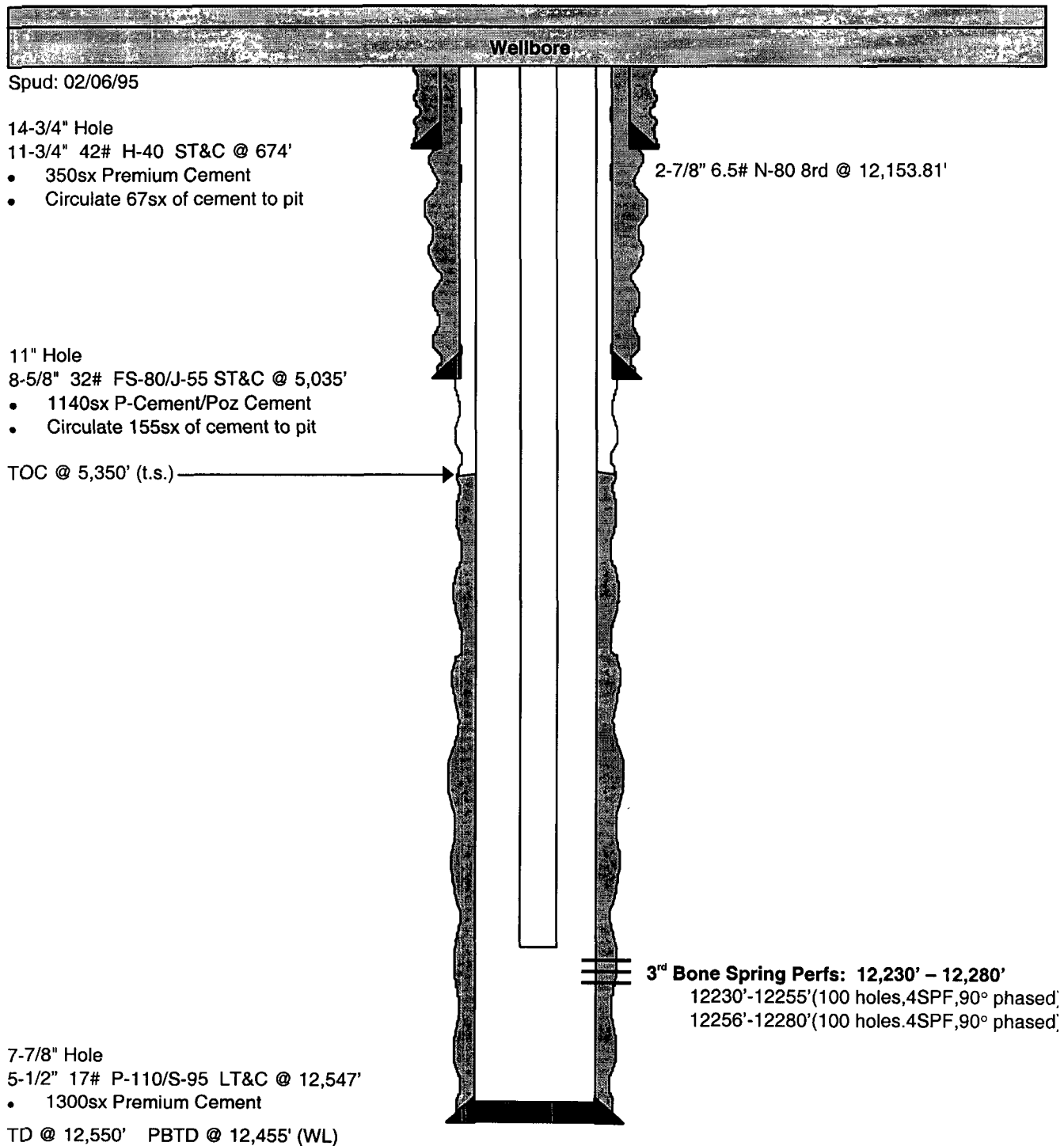
**WELLBORE SCHEMATIC**



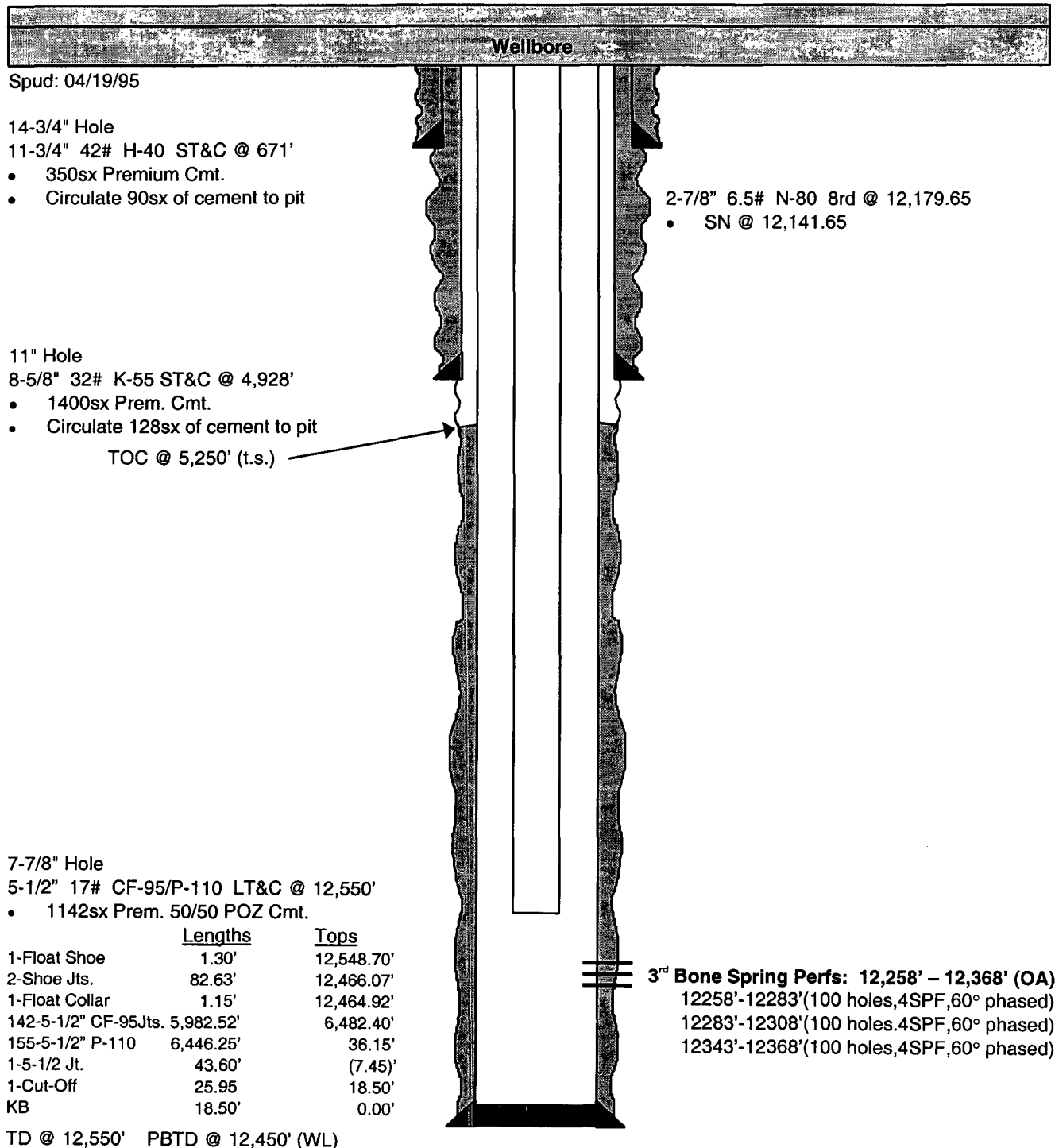
EOG RESOURCES, INC.  
660' FNL & 1980' FEL  
Sec.18-T25S-R34E

RHNU # 803  
DIAMOND '18' FEDERAL NO. 3  
LEA CO., NEW MEXICO  
JULY 31, 2000

### WELLBORE SCHEMATIC



WELLBORE SCHEMATIC



New Mexico Office of the State Engineer  
Well Reports and DownloadsTownship: 25S Range: 33E Sections: 13NAD27 X:            Y:            Zone:            Search Radius:           County: LE Basin:            Number:            Suffix:           Owner Name: (First)            (Last)            ☐ Non-Domestic ☐ Domestic ☒ All

Well / Surface Data Report

Avg Depth to Water Report

Water Column Report

[Clear Form](#) [WATERS Menu](#) [Help](#)

## WELL / SURFACE DATA REPORT 09/15/2005

DB File Mbr	Use	Diversion	Owner	Well Number	Source
C 02336	PRO	3	ENRON OIL & GAS COMPANY	C 02336	Shallow
C 02373	COM	25	ENRON OIL & GAS COMPANY	C 02373 S	Shallow

(quarters are 1-4)  
(quarters are 1-4)

Record Count: 2

P. O. BOX 1488  
MIDLAND, TEXAS 79701  
PH. 943-3234 OR 943-1040

Martin Water Laboratories, Inc.

709 W. MIDLAND  
MIDLAND, TEXAS 79701  
PHONE 943-4521

RESULT OF WATER ANALYSES

TO: Mr. Randy Cate  
P.O. Box 2267, Midland, TX 79702

LABORATORY NO. 50094  
SAMPLE RECEIVED 5-16-00  
RESULTS REPORTED 5-16-00

COMPANY EOG Resources, Inc. LEASE Vaca 13 Federal

FIELD OR POOL  
SECTION 13 BLOCK SURVEY T-25S6R-33E COUNTY Lea STATE NM

SOURCE OF SAMPLE AND DATE TAKEN:

NO. 1 Raw water - taken from fresh water well located in NW/4 of Section 13.

NO. 2

NO. 3

NO. 4

REMARKS:

CHEMICAL AND PHYSICAL PROPERTIES

	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0062			
pH When Sampled				
pH When Received	6.54			
Bicarbonate as HCO <sub>3</sub>	88			
Supersaturation as CaCO <sub>3</sub>				
Undersaturation as CaCO <sub>3</sub>				
Total Hardness as CaCO <sub>3</sub>	4,300			
Calcium as Ca	980			
Magnesium as Mg	450			
Sodium and/or Potassium	485			
Sulfate as SO <sub>4</sub>	458			
Chloride as Cl	3,409			
Iron as Fe	11.2			
Barium as Ba				
Turbidity, Nephelometric				
Color as Pt				
Total Solids, Calculated	5,869			
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen				
Hydrogen Sulfide	0.0			
Resistivity, ohm-cm at 77° F.	0.920			
Suspended Oil				
Filterable Solids as mg/l				
Volume Filtered, ml				
Nitrate, as N	1.0			

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.