DATE IN	SUSPENSE	ENGINEER	LOGGED IN	TYPE	APP NO.
10-18-05	11/1/05	Catanach	10-18-05	PMX	pSEM0529147304

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 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 _____

RECEIVED
OCT 17 2005
OIL CONSERVATION DIVISION

[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	Stan Wagner	Regulatory Analyst	10/11/05
Print or Type Name	Signature	Title	Date

Stan_Wagner@eogresources.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 __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: Stan Wagner DATE: 10/11/05

E-MAIL ADDRESS: stan_wagner@eogresources.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

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.

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

September 20 2005

and ending with the issue dated

September 20 2005

Kathi Bearden

Publisher

Sworn and subscribed to before me this 20th day of September 2005

Dora Montz

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
September 20, 2005

EOG Resources, Inc., P.O. Box 2267, Midland, TX 79702, 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. 606 is located 530' FSL & 1650" FEL, Section 6, 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 Spring formation at a measured depth of 12730' - 18112', a maximum surface pressure of 3000 psi, and a maximum rate of 1000 BWPD.

The Red Hills North Unit No. 703 is located 988' FSL & 991' FWL, Section 7, 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 Spring formation at a measured depth of 12606' - 15000', a maximum surface pressure of 3000 psi, and a maximum rate of 1000 BWPD.

The Red Hills North Unit No. 706 is located 1830' FSL & 659' FEL, Section 7, 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 Spring formation at a measured depth of 12460' - 15000', a maximum surface pressure of 3000 psi, and a maximum rate of 1000 BWPD.

The Red Hills North Unit No. 710 is located 1603' FNL & 1832' FEL, Section 7, 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 Spring formation at a measured depth of 13588' - 17390', a maximum surface pressure of 3000 psi, and a maximum rate of 1000 BWPD.

All interested parties opposing the action 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. Additional information may be obtained by contacting Stan Wagner at P.O. Box 2267, Midland, TX 79702, or 432-686-3600.
#21814

01105308000 67533368

EOG RESOURCES
4000 N. BIG SPRINGS
MIDLAND, TX 79702

eog resources

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

September 19, 2005

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Bureau of Land Management
2909 West 2nd Street
Roswell, New Mexico 88201

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 four injection wells: the Red Hills North Unit Well No. 606 located 530 feet from the South line and 1650 feet from the East line of Section 6, the Red Hills North Unit Well No. 703 located 988 feet from the South line and 991 feet from the West line of Section 7, the Red Hills North Unit Well No. 706 located 1830 feet from the South line and 659 feet from the East line of Section 7, and the Red Hills North Unit Well No. 710 located 1603 feet from the North line and 1832 feet from the East line of Section 7, all 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 measured depths of 12730 feet to 18112 feet in Well No. 606, 12606 feet to 15000 feet in Well No. 703, 12460 feet to 15000 feet in Well No. 706, and 13588 feet to 17390 feet in Well No. 710. This 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 each of the subject wells 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.

Sincerely,

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
2009 West 2nd Street
Roswell, NM 88201

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* C. Date of Delivery 9/27/3

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

2. Article Number
(Transfer from service label) 7000 0520 0020 9193 9052

PS Form 3811, August 2001 Domestic Return Receipt 102595-02-M-1540

eog resources

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

October 5, 2005

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

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 four injection wells: the Red Hills North Unit Well No. 606 located 530 feet from the South line and 1650 feet from the East line of Section 6, the Red Hills North Unit Well No. 703 located 988 feet from the South line and 991 feet from the West line of Section 7, the Red Hills North Unit Well No. 706 located 1830 feet from the South line and 659 feet from the East line of Section 7, and the Red Hills North Unit Well No. 710 located 1603 feet from the North line and 1832 feet from the East line of Section 7, all 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 measured depths of 12730 feet to 18112 feet in Well No. 606, 12606 feet to 15000 feet in Well No. 703, 12460 feet to 15000 feet in Well No. 706, and 13588 feet to 17390 feet in Well No. 710. This 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 each of the subject wells 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.

Sincerely,

Stan Wagner
Regulatory Analyst

Side 1

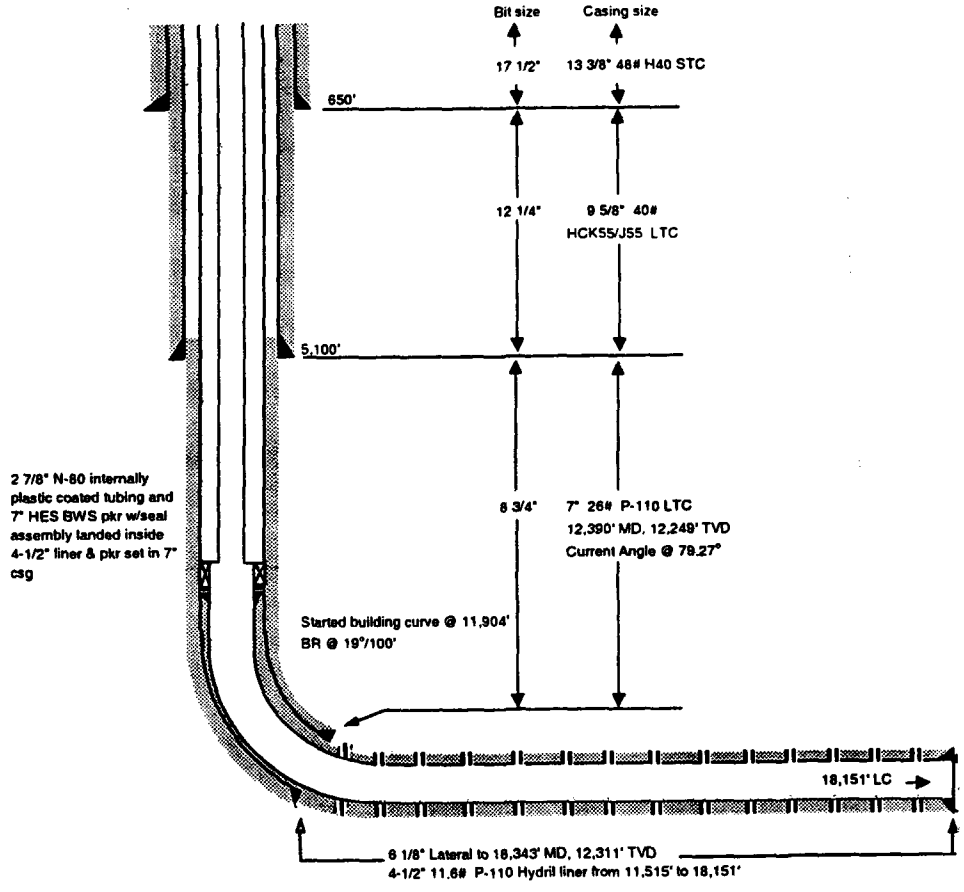
INJECTION WELL DATA SHEET

OPERATOR: EOG Resources, Inc.

WELL NAME & NUMBER: Red Hills North Unit No. 606 30-025-35901

WELL LOCATION:	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE
SL	530 FSL & 1650 FEL	O	6	25S	34E
BHL	1400 FNL & 2150 FWL	F	12	25S	33E

WELLBORE SCHEMATIC



Perforate 4 1/2" liner with 18 sets of perforations; 1st stage: 16,100', 16,385',16,670',16,950',17,240',17,530',17,820',18110' = 47 holes.
2nd stage:
12,730',13,020',13,310',13,600',14,340',14,630',14,920',15,210',15,500',15,790' = 52 holes.

DATE	BWPD	PRESS
5/16/03	1379	3225
5/17/03	1391	3100
5/18/03	1360	3250
5/19/03	1354	3260

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 17 ½ Casing Size: 13 3/8

Cemented with: 475 sx. *or* _____ ft³

Top of Cement: Surface Method Determined: CIRC

Intermediate Casing

Hole Size: 12 ¼ Casing Size: 9 5/8

Cemented with: 1375 sx. *or* _____ ft³

Top of Cement: Surface Method Determined: CIRC

Production Casing

Hole Size: 8 3/4 Casing Size: 7

Cemented with: 1030 sx. *or* _____ ft³

Top of Cement: 5100' Method Determined: Calculated

Total Depth: 18293 MD, 12309 VD

Injection Interval

12730 feet to 18112 MD

(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEET

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

Type of Packer: Halliburton PLS

Packer Setting Depth: 11508

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

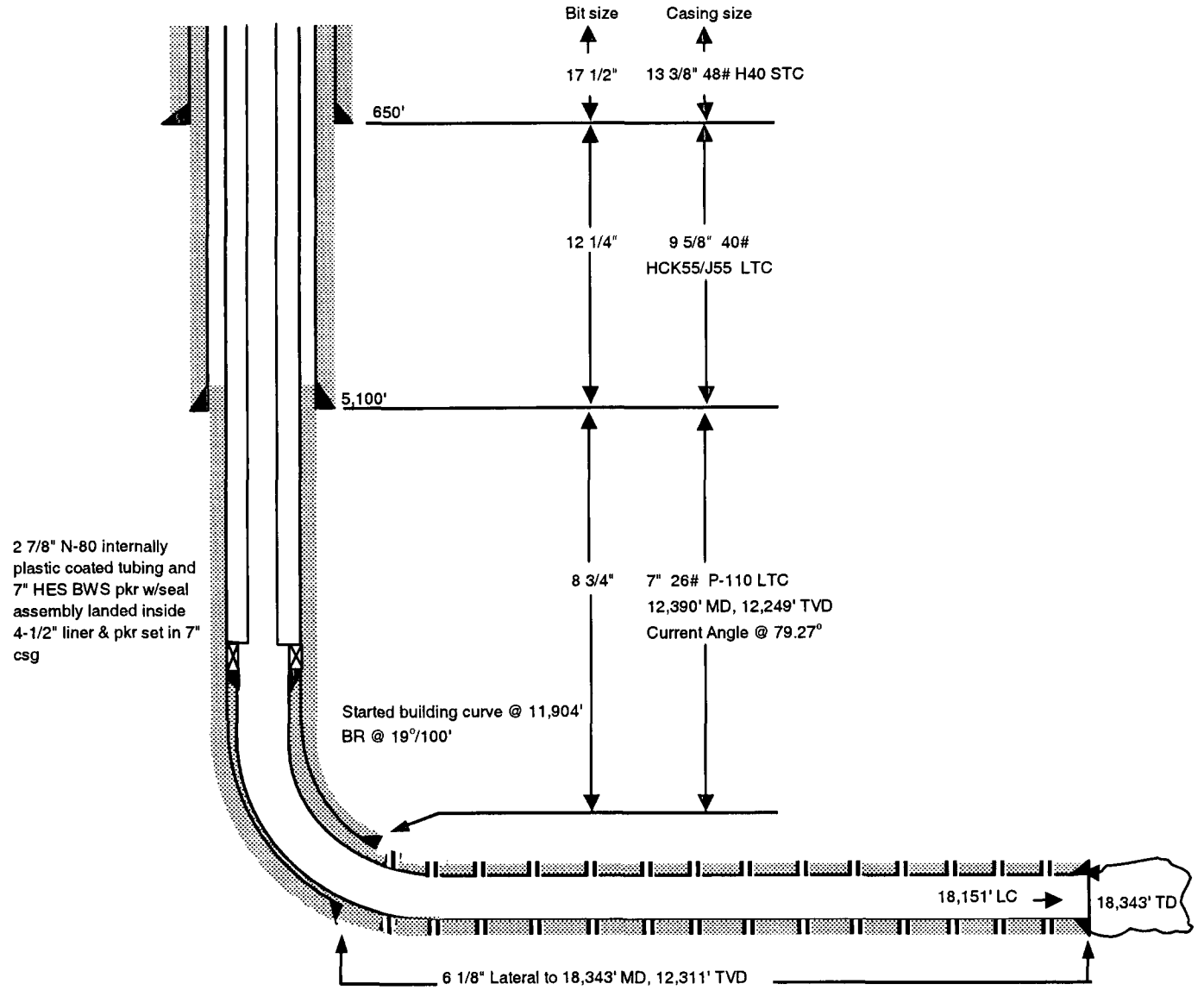
5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area:

   Next Higher; Delaware 5183'-9260'

   Next Lower; Wolfcamp 12284'-13800'

RHNU NO. 606H

530' FSL & 1,650 FEL
Sec.6-T25S-R34E
Lea County,New Mexico
PROSPECT: Red Hills



Perforate 4 1/2" liner with 18 sets of perforations; 1st stage: 16,100', 16,385',16,670',16,950',17,240',17,530',17,820',18110' = 47 holes.
2nd stage:
12,730',13,020',13,310',13,600',14,340',14,630',14,920',15,210',15,500',15,790' = 52 holes.

DATE	BWPD	PRESS
5/16/03	1379	3225
5/17/03	1391	3100
5/18/03	1360	3250
5/19/03	1354	3260

9/13/2005

APPLICATION FOR AUTHORIZATION TO INJECT
RED HILLS NORTH UNIT NO. 606

VII. PROPOSED OPERATION

(1) Proposed Average Daily Rate and Volume : 2000 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: 3rd Bone Spring
Lithologic Detail: Fine grain sandstone
Geological Name: 3rd Bone Spring
Thickness: Bone Spring – 3204'
3rd Bone Spring – 384'
Depth: Bone Spring 9260' to 12284'
3rd Bone Spring 11900' to 12284'
Underground Sources of Drinking Water:
Geological Name: Triasic
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 one fresh water well within one mile of the injection well.

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:

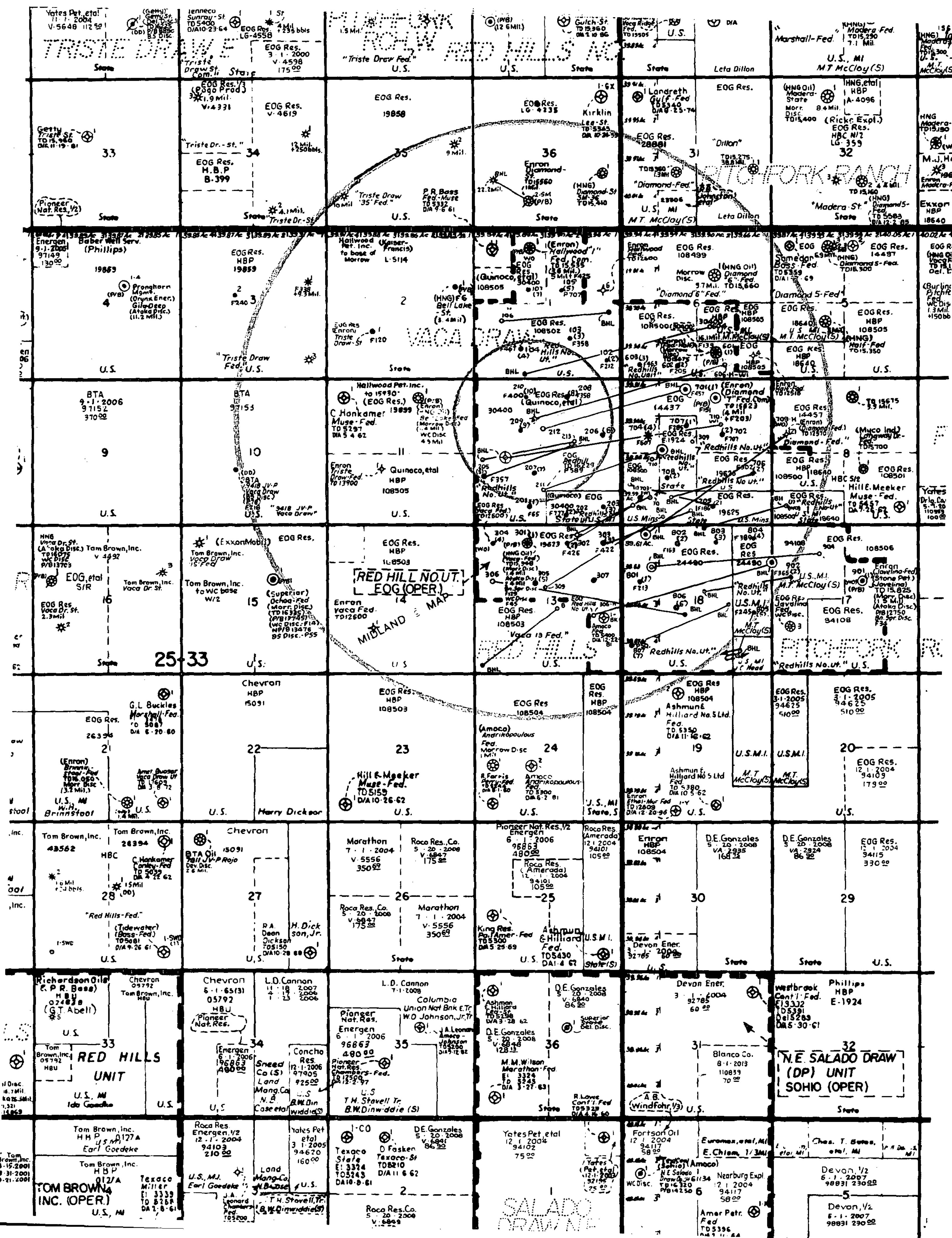
Mark McCloy
P.O. Box 1076
Jal, NM 88252

Offset Operators:

EOG is the 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 # 606

						Surface Casing			Production Casing			
Operator	Lease/Well	Status	Location	Spud Date	TMD	Size	Depth	Cement	Size	Depth	Cement	Producing Perforations
EOG Resources	RHNU 104	Producer	Sec 01, T25S, R34E	5/12/1995	12550	11 3/4	678	350 sx Prem Plus	5 1/2	12550	1391 sx Prem/POZ	12263-12303
EOG Resources	RHNU 210	Producer	Sec 12, T25S, R34E	3/27/1995	12550	11 3/4	671	350 sx Prem Plus	5 1/2	12537	1213 sx Prem/POZ	12238-12282
EOG Resources	RHNU 209	Producer	Sec 12, T25S, R34E	12/11/1994	12540	11 3/4	679	350 sx Prem Plus	5 1/2	12524	1387 sx HLP/Prem	12252-12312
EOG Resources	RHNU 211	Producer	Sec 12, T25S, R34E	8/31/2000	16229	13 3/8	652	500 sx Prem Plus	4 1/2	16229	300 sx Prem	12924-16070
EOG Resources	RHNU 212	Producer	Sec 12, T25S, R34E	3/12/2001	17382	13 3/8	653	500 sx Prem Plus	4 1/2	17296	370 sx Prem	15145-17105
EOG Resources	RHNU 207	Producer	Sec 12, T25S, R34E	7/27/1994	12600	11 3/4	681	350 sx Class C	5 1/2	12600	1446 sx HLC/Prem	12232-12262
EOG Resources	RHNU 208	Producer	Sec 12, T25S, R34E	11/16/1994	12600	11 3/4	675	300 sx Class C	5 1/2	12542	1470 sx PSL/H	12250-12320
EOG Resources	RHNU 206	Producer	Sec 12, T25S, R34E	6/6/1994	12600	11 3/4	671	350 sx Class C	5 1/2	12570	1495 sx HLC/Prem	12280-12350
EOG Resources	RHNU 213	Producer	Sec 12, T25S, R34E	3/9/2004	15185	13 3/8	650	480 sx Prem Plus	4 1/2	15165	200 sx Prem	12614-15020
EOG Resources	RHNU 205	Producer	Sec 12, T25S, R34E	2/16/1996	12550	11 3/4	650	350 sx Prem Plus	5 1/2	12452	1400 sx 50:50 POZ	12225-12240

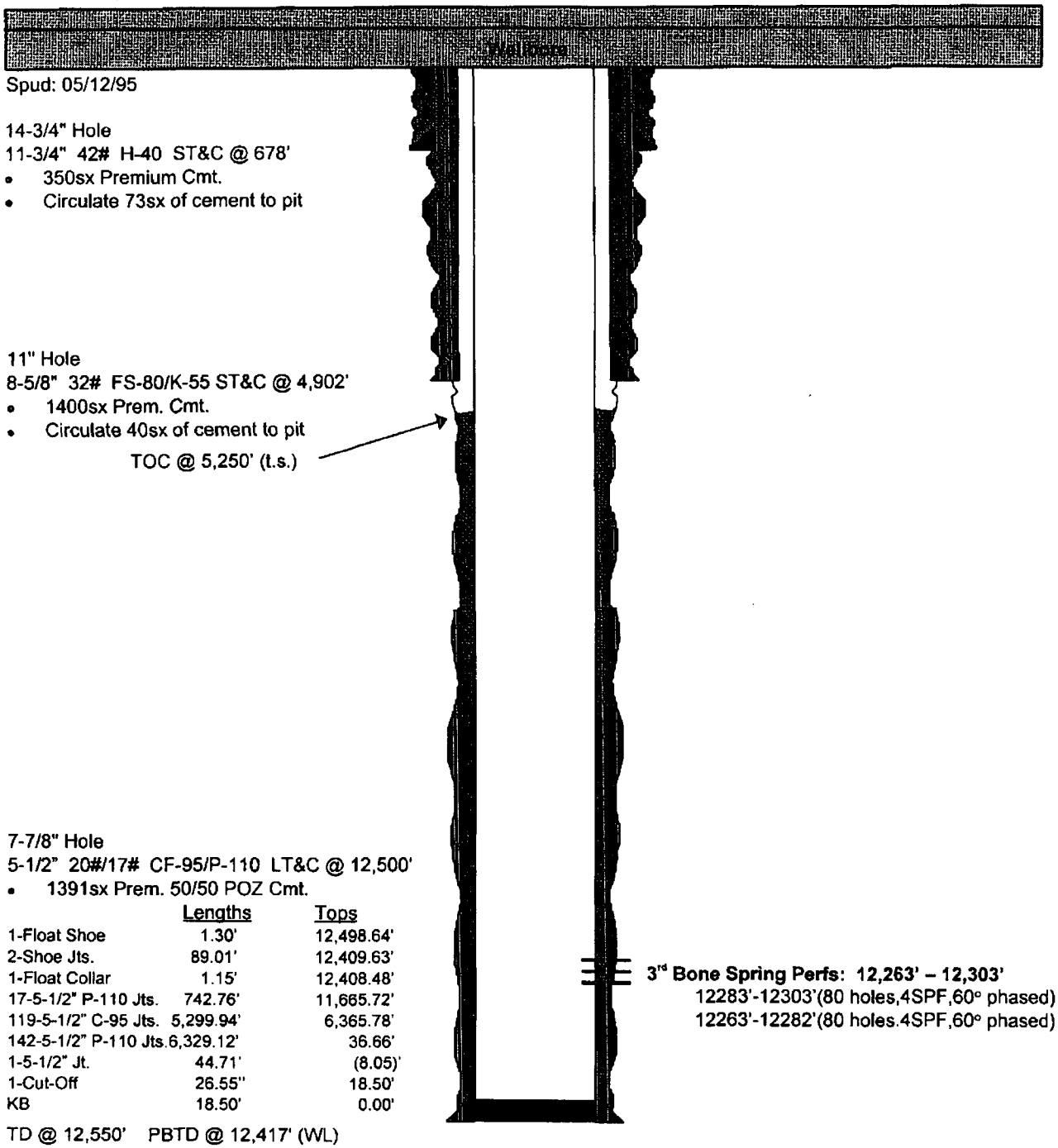


TRISTE DRAW E.
RED HILLS N.
PITCHFORK RANCH
VACA DRAW
RED HILL NO. UT.
EOG (OPER.)
MIDLAND MAP
RED HILLS
PITCHFORK
25-33
RED HILLS UNIT
TOM BROWN INC. (OPER.)
N.E. SALADO DRAW (DP) UNIT
SOHIO (OPER)
SALADO DRAW NE

EOG RESOURCES, INC.
1060' FSL & 1650' FWL
Sec.1-T25S-R33E

RHNU NO. 104
LEA CO., NEW MEXICO
DECEMBER 12, 2000

WELLBORE SCHEMATIC



Spud: 05/12/95

14-3/4" Hole
11-3/4" 42# H-40 ST&C @ 678'
- 350sx Premium Cmt.
- Circulate 73sx of cement to pit

11" Hole
8-5/8" 32# FS-80/K-55 ST&C @ 4,902'
- 1400sx Prem. Cmt.
- Circulate 40sx of cement to pit

TOC @ 5,250' (t.s.)

7-7/8" Hole
5-1/2" 20#/17# CF-95/P-110 LT&C @ 12,500'
- 1391sx Prem. 50/50 POZ Cmt.

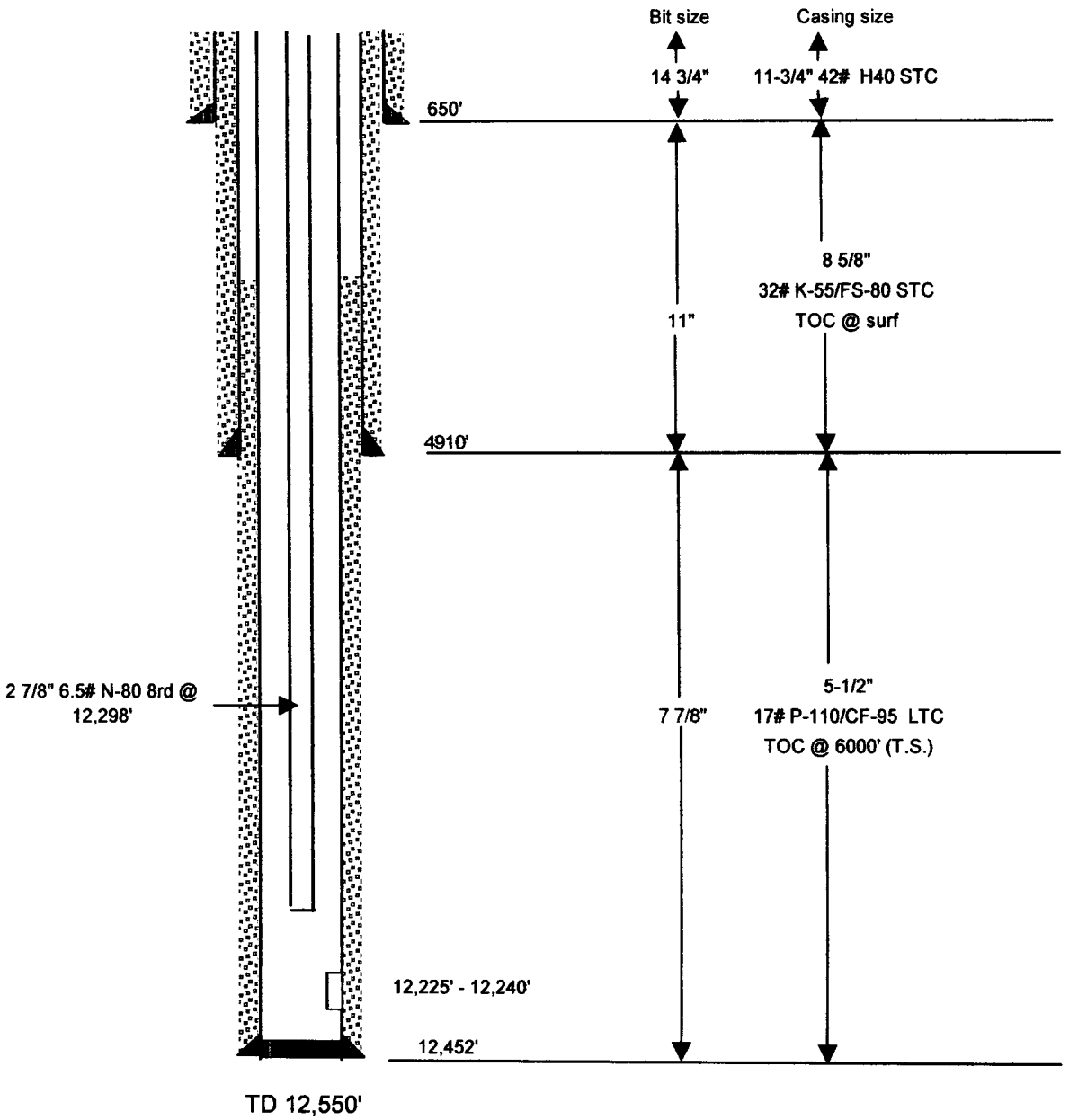
	Lengths	Tops
1-Float Shoe	1.30'	12,498.64'
2-Shoe Jts.	89.01'	12,409.63'
1-Float Collar	1.15'	12,408.48'
17-5-1/2" P-110 Jts.	742.76'	11,665.72'
119-5-1/2" C-95 Jts.	5,299.94'	6,365.78'
142-5-1/2" P-110 Jts.	6,329.12'	36.66'
1-5-1/2" Jt.	44.71'	(8.05)'
1-Cut-Off	26.55"	18.50'
KB	18.50'	0.00'

TD @ 12,550' PBTD @ 12,417' (WL)

3rd Bone Spring Perfs: 12,263' – 12,303'
12283'-12303'(80 holes,4SPF,60° phased)
12263'-12282'(80 holes.4SPF,60° phased)

eog resources

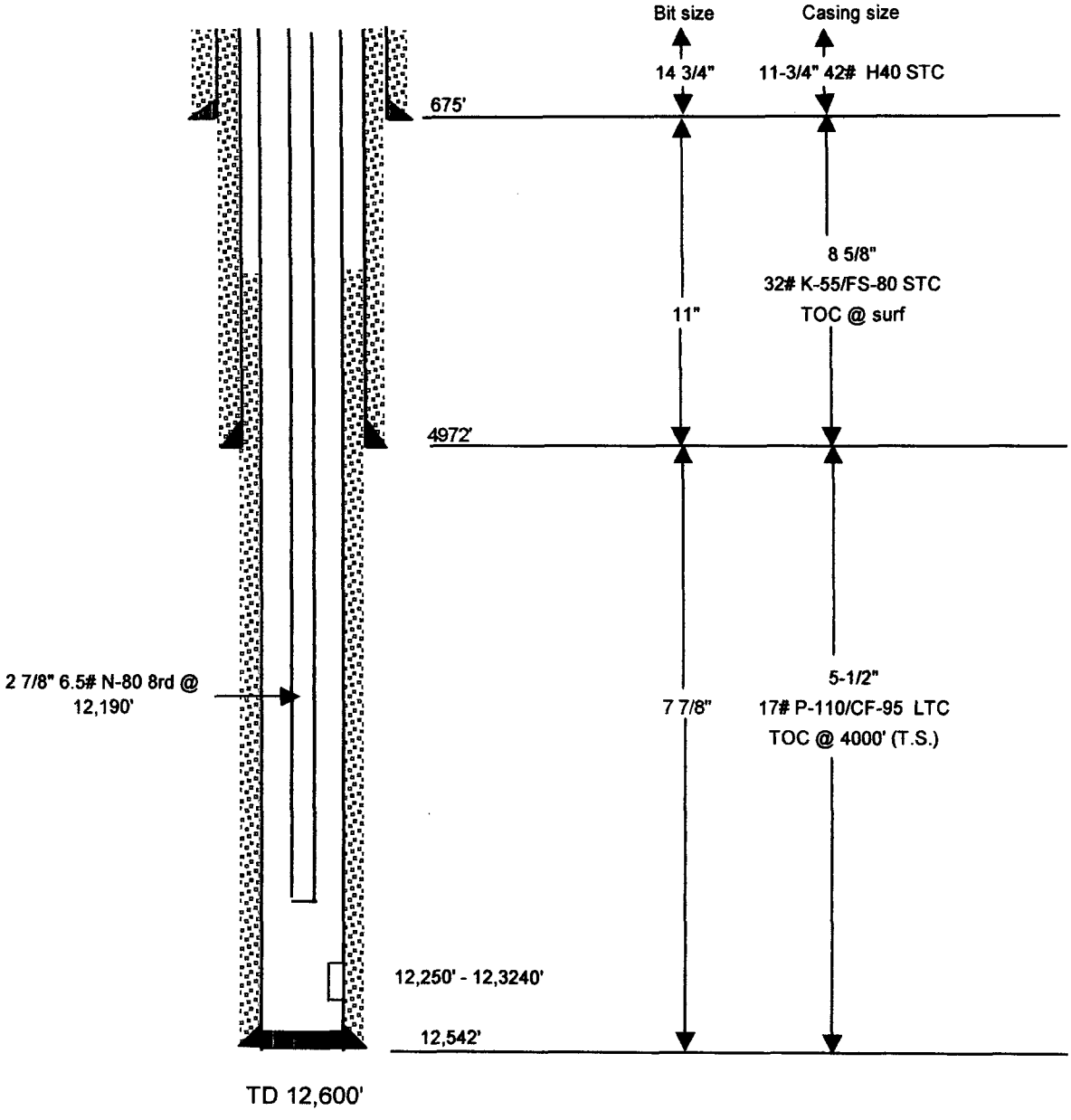
RHNU No. 205
1700' FSL & 330' FWL
Sec. 12-25S-33E
Lea County, New Mexico
API 30-025-33294



9/13/2005

eog resources

RHNU No. 208
660' FNL & 1980' FWL
Sec. 12-25S-33E
Lea County, New Mexico
API 30-025-32740

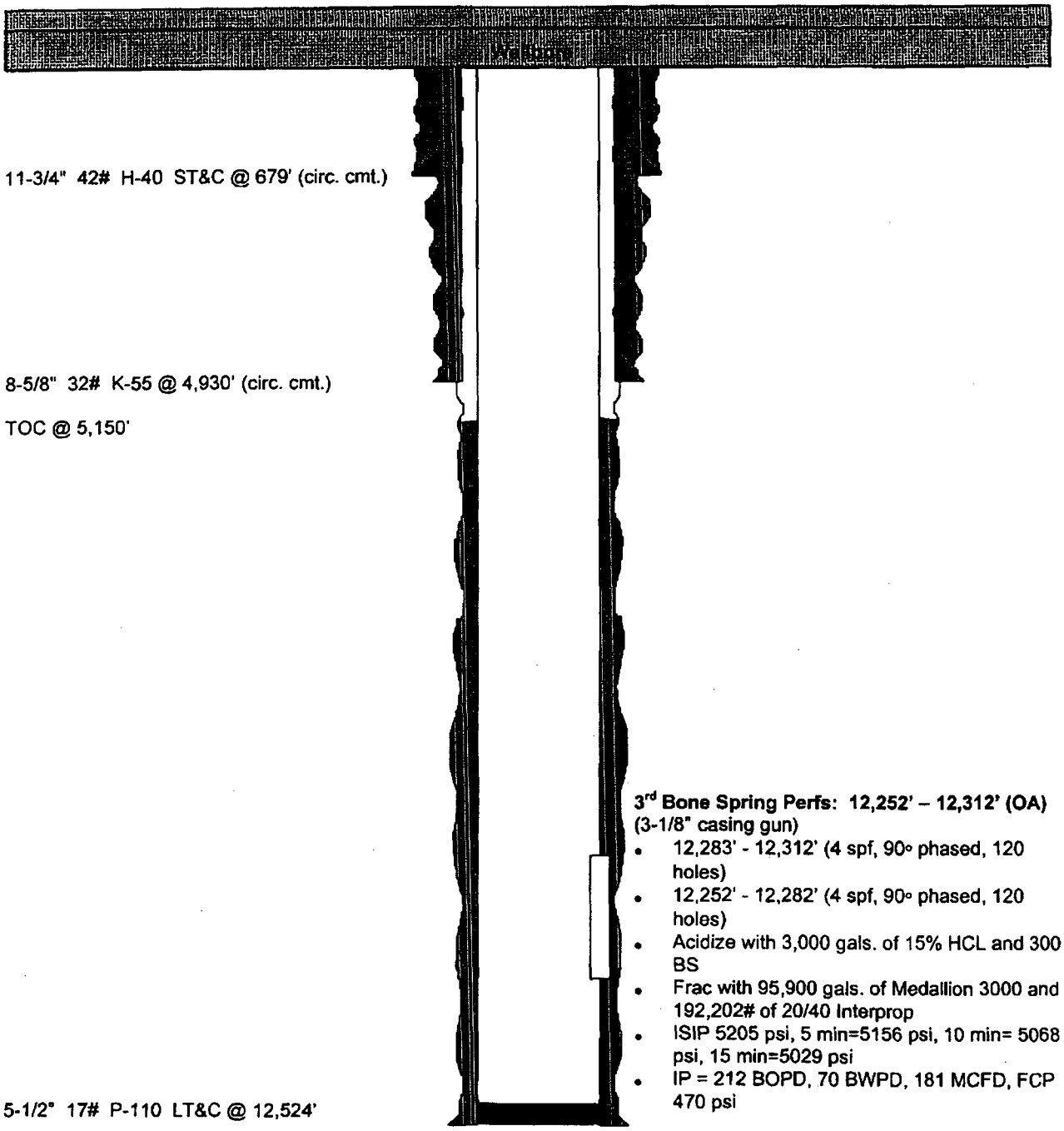


9/13/2005

EOG RESOURCES, INC.
1830' FNL & 1650' FWL
SEC. 12-T25S-R33E

RHNU NO. 209
LEA CO., NEW MEXICO
MAY 13, 199

WELLBORE SCHEMATIC



11-3/4" 42# H-40 ST&C @ 679' (circ. cmt.)

8-5/8" 32# K-55 @ 4,930' (circ. cmt.)

TOC @ 5,150'

3rd Bone Spring Perfs: 12,252' – 12,312' (OA)
(3-1/8" casing gun)

- 12,283' - 12,312' (4 spf, 90° phased, 120 holes)
- 12,252' - 12,282' (4 spf, 90° phased, 120 holes)
- Acidize with 3,000 gals. of 15% HCL and 300 BS
- Frac with 95,900 gals. of Medallion 3000 and 192,202# of 20/40 Interprop
- ISIP 5205 psi, 5 min=5156 psi, 10 min= 5068 psi, 15 min=5029 psi
- IP = 212 BOPD, 70 BWPD, 181 MCFD, FCP 470 psi

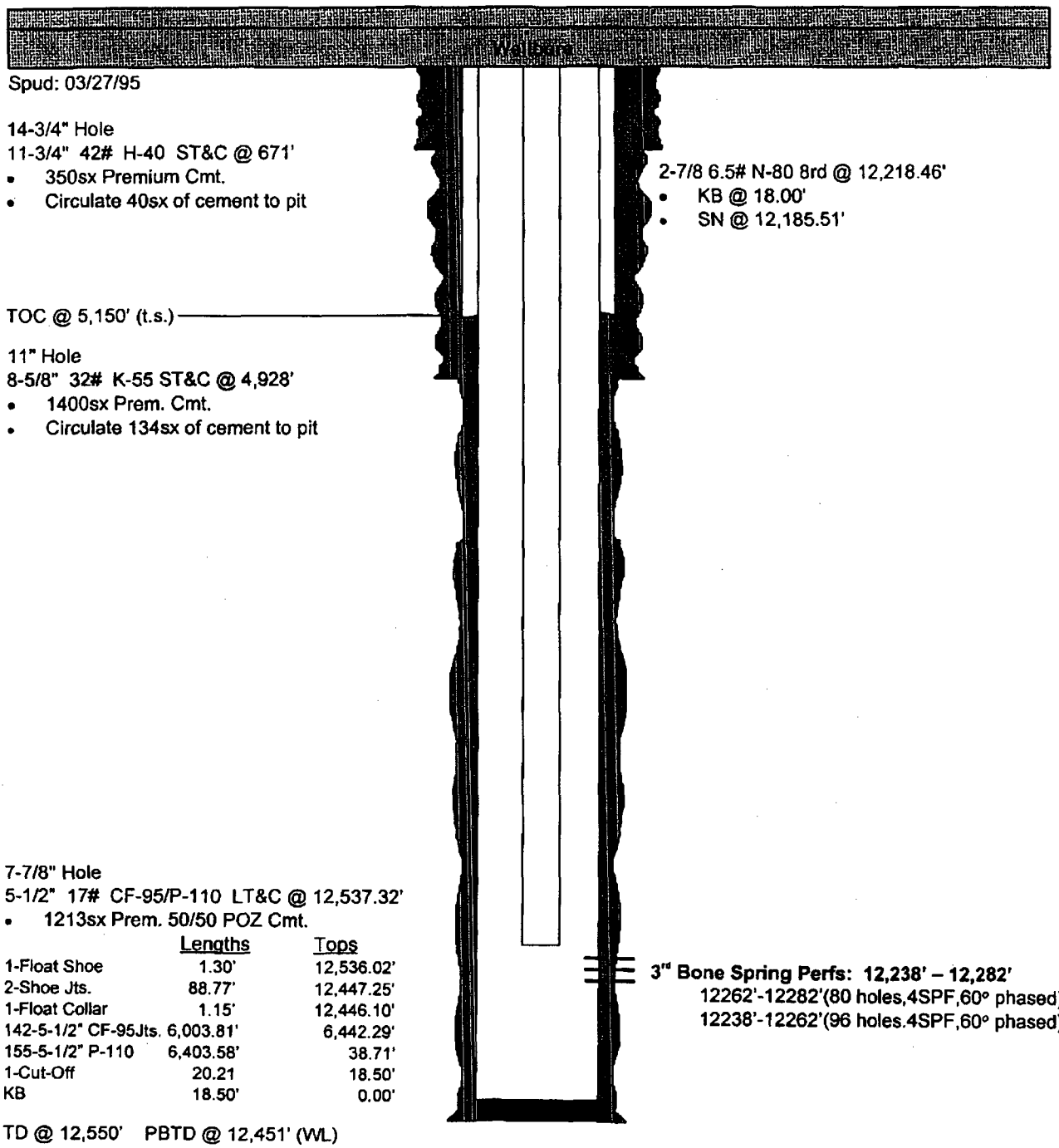
5-1/2" 17# P-110 LT&C @ 12,524'

TD @ 12,540'

EOG RESOURCES, INC.
660' FNL & 1880' FWL
Sec.12-T25S-R33E

RHNU NO. 210 / HALLWOOD "12" FEDERAL NO. 10
LEA CO., NEW MEXICO
DECEMBER 11, 2000

WELLBORE SCHEMATIC



Spud: 03/27/95

14-3/4" Hole
11-3/4" 42# H-40 ST&C @ 671'
- 350sx Premium Cmt.
- Circulate 40sx of cement to pit

TOC @ 5,150' (t.s.)

11" Hole
8-5/8" 32# K-55 ST&C @ 4,928'
- 1400sx Prem. Cmt.
- Circulate 134sx of cement to pit

2-7/8 6.5# N-80 8rd @ 12,218.46'
- KB @ 18.00'
- SN @ 12,185.51'

7-7/8" Hole
5-1/2" 17# CF-95/P-110 LT&C @ 12,537.32'
- 1213sx Prem. 50/50 POZ Cmt.

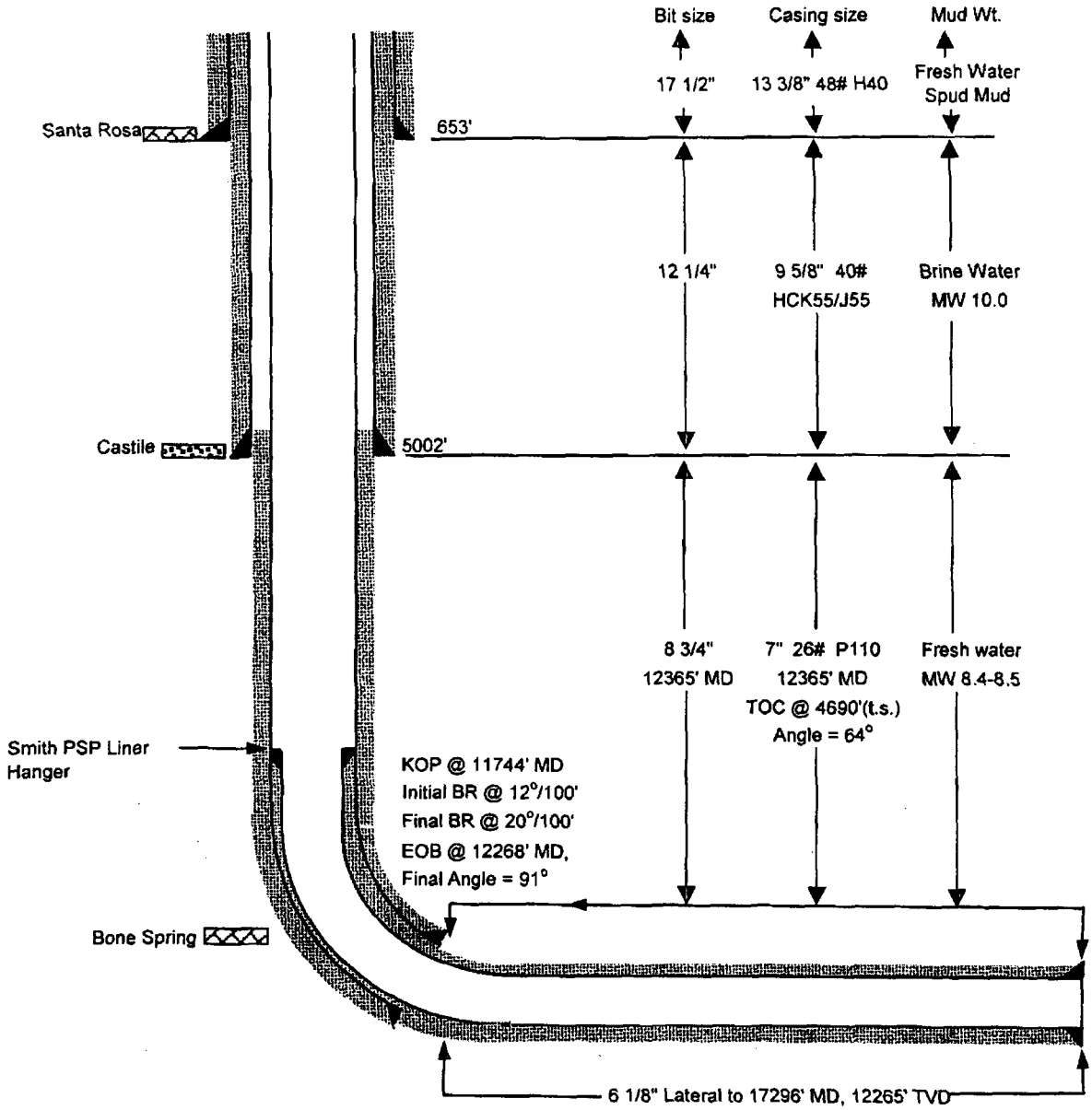
	Lengths	Tops
1-Float Shoe	1.30'	12,536.02'
2-Shoe Jts.	88.77'	12,447.25'
1-Float Collar	1.15'	12,446.10'
142-5-1/2" CF-95Jts.	6,003.81'	6,442.29'
155-5-1/2" P-110	6,403.58'	38.71'
1-Cut-Off	20.21	18.50'
KB	18.50'	0.00'

TD @ 12,550' PBTD @ 12,451' (WL)

3rd Bone Spring Perfs: 12,238' – 12,282'
12262'-12282'(80 holes,4SPF,60° phased)
12238'-12262'(96 holes.4SPF,60° phased)

RHNU NO.212
EOG Reosurces, Inc.
PROSPECT: Red Hills

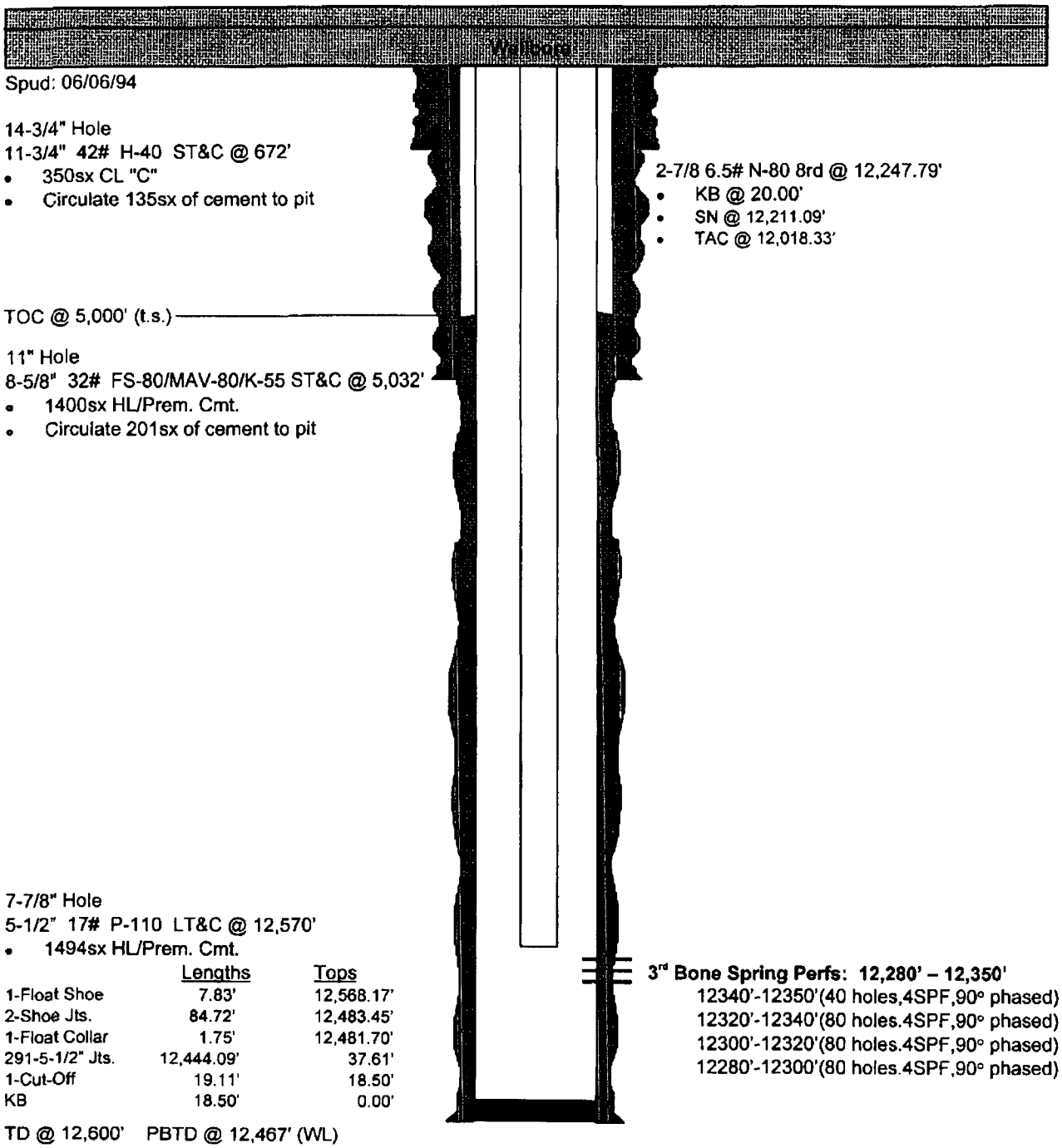
1,750' FNL & 2,475' FWL
Sec.7-T25S-R23E
Lea County,New Mexico



EOG RESOURCES, INC.
1980' FNL & 660' FEL
Sec.12-T25S-R33E

RHNU NO. 206 / HALLWOOD "12" FEDERAL NO. 6
LEA CO., NEW MEXICO
DECEMBER 11, 2000

WELLBORE SCHEMATIC



Spud: 06/06/94

14-3/4" Hole
11-3/4" 42# H-40 ST&C @ 672'
- 350sx CL "C"
- Circulate 135sx of cement to pit

TOC @ 5,000' (t.s.)

11" Hole
8-5/8" 32# FS-80/MAV-80/K-55 ST&C @ 5,032'
- 1400sx HL/Prem. Cmt.
- Circulate 201sx of cement to pit

2-7/8 6.5# N-80 8rd @ 12,247.79'
- KB @ 20.00'
- SN @ 12,211.09'
- TAC @ 12,018.33'

7-7/8" Hole
5-1/2" 17# P-110 LT&C @ 12,570'
- 1494sx HL/Prem. Cmt.

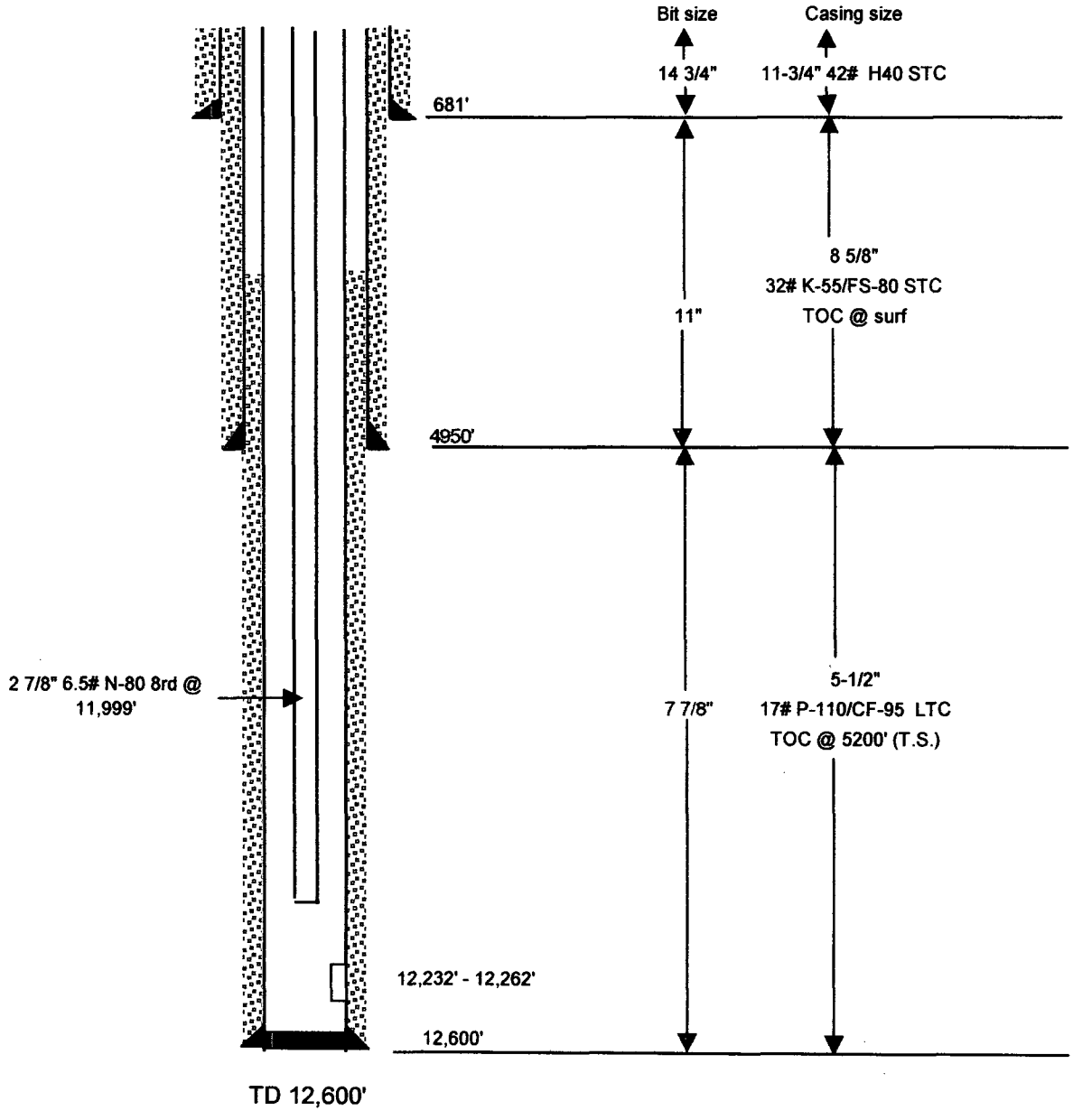
	Lengths	Tops
1-Float Shoe	7.83'	12,568.17'
2-Shoe Jts.	84.72'	12,483.45'
1-Float Collar	1.75'	12,481.70'
291-5-1/2" Jts.	12,444.09'	37.61'
1-Cut-Off	19.11'	18.50'
KB	18.50'	0.00'

TD @ 12,600' PBTD @ 12,467' (WL)

3rd Bone Spring Perfs: 12,280' – 12,350'
12340'-12350'(40 holes,4SPF,90° phased)
12320'-12340'(80 holes.4SPF,90° phased)
12300'-12320'(80 holes.4SPF,90° phased)
12280'-12300'(80 holes.4SPF,90° phased)

eog resources

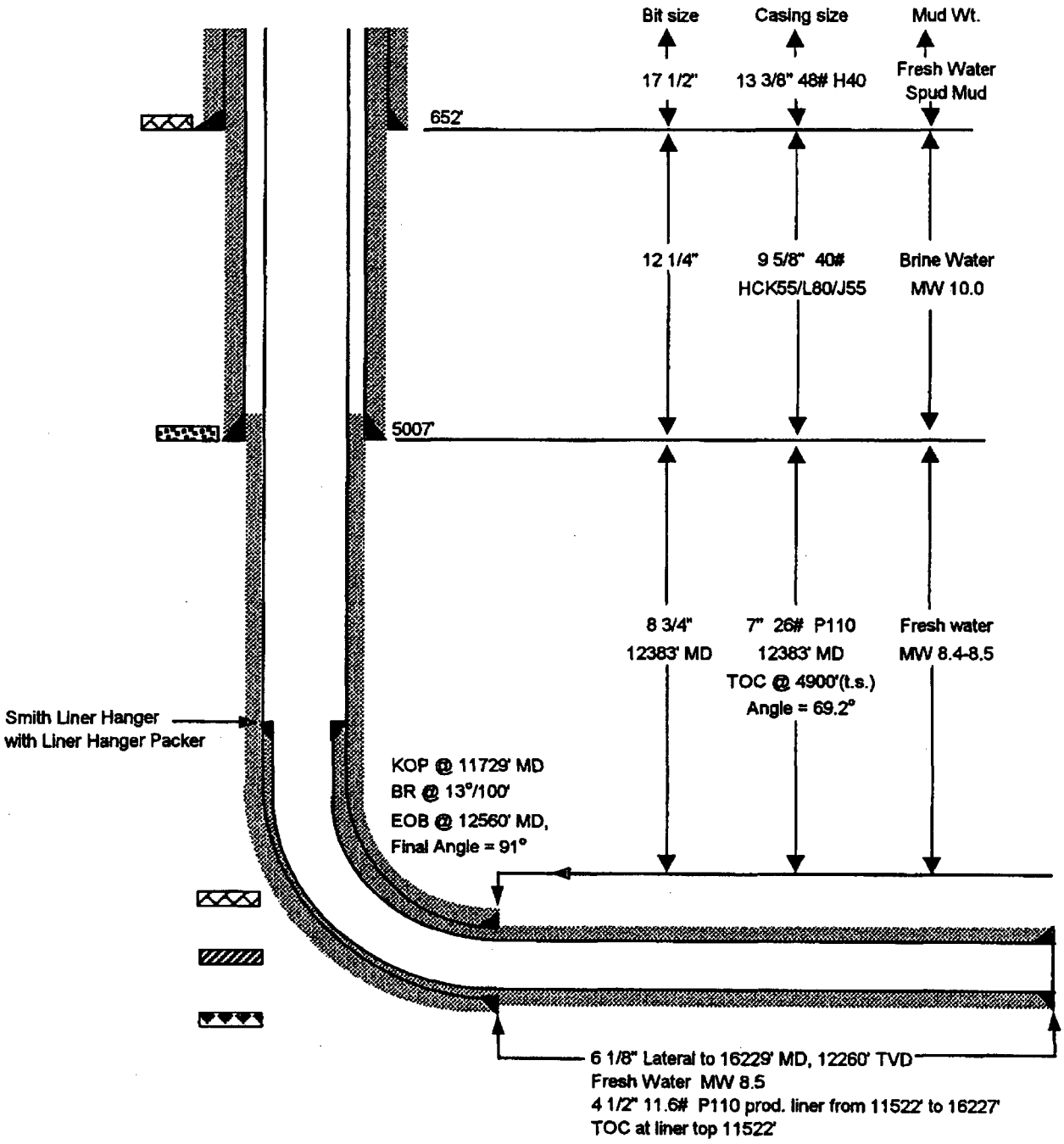
RHNU No. 207
1830' FSL & 2130' FWL
Sec. 12-25S-33E
Lea County, New Mexico
API 30-025-32584



9/13/2005

RHNU NO.211
PROSPECT: Red Hills

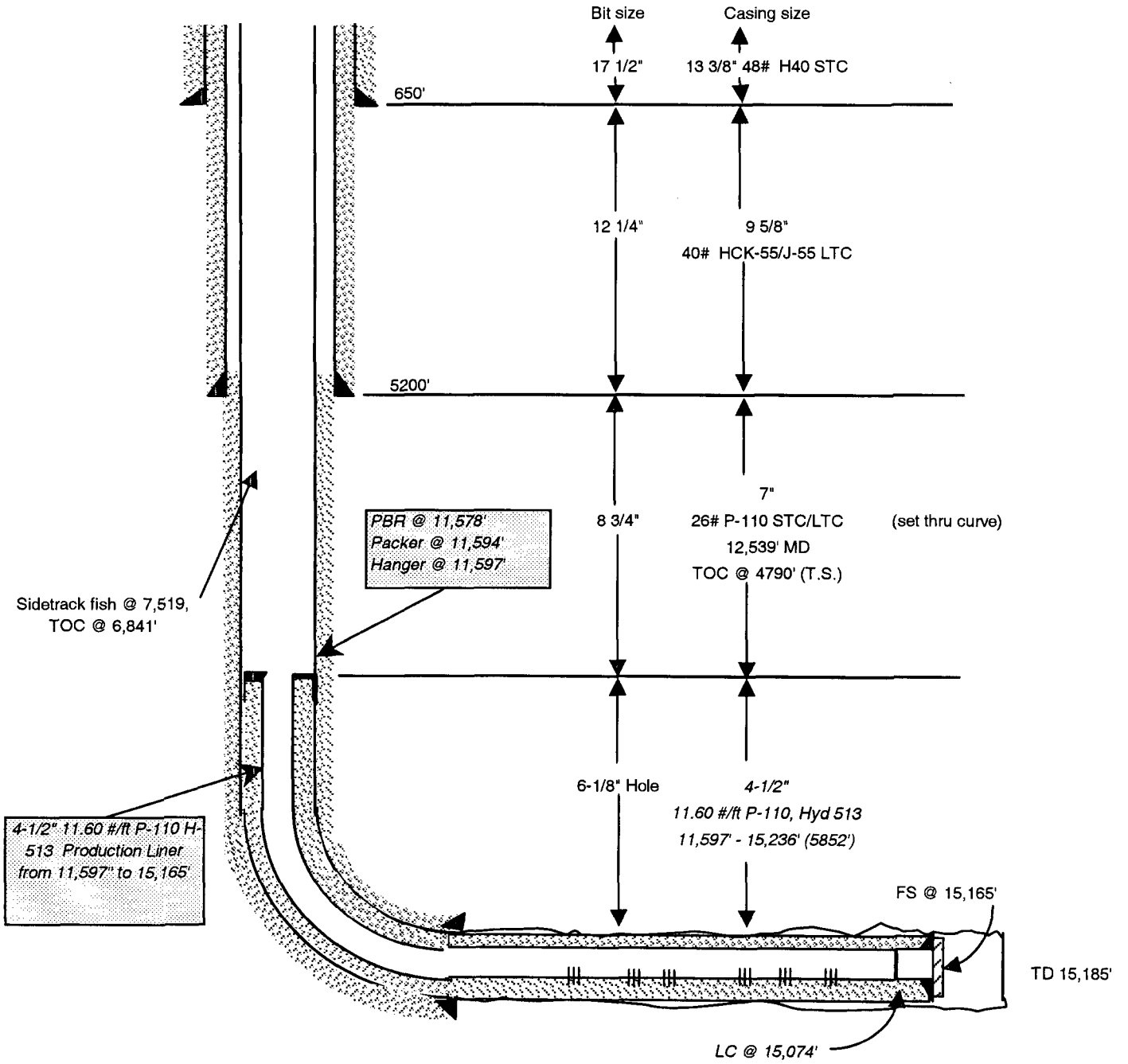
1296' FSL & 2592' FWL
Sec.12-T25S-R23E
Lea County,New Mexico



Red Hills North Unit No. 213

2213' FNL & 1920' FEL
Sec. 12-25S-33E
Lea County, New Mexico
API 30-025-36584
AFE 102825

eog resources



6 1/8" Lateral from KOP 11,800' MD to 15,160' MD.

Perfs: 12,614' - 5 ; 13,034' - 6 ; 13,418' - 7 ; 14,219' - 9 ; 14,633' - 10 ; 15,020' - 11

9/13/2005

New Mexico Office of the State Engineer
Well Reports and Downloads

Township: 25S Range: 33E Sections: 13

NAD27 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

(acre ft per annum)

DB File Nbr	Use	Diversion	Owner	Well Number	Source	(quarters are 1= (quarters are bi
C 02336	PRO	3	ENRON OIL & GAS COMPANY	C 02336	Shallow	
C 02373	COM	25	ENRON OIL & GAS COMPANY	C 02373 S	Shallow	

Record Count: 2

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

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

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

COMPANY EOG Resources, Inc. LEASE Vaca 13 Federal
FIELD OR POOL
SECTION 13 BLOCK SURVEY T-25S&R-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_3	88			
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	4,300			
Calcium as Ca	980			
Magnesium as Mg	450			
Sodium and/or Potassium	485			
Sulfate as SO_4	458			
Chloride as Cl	3,409			
Iron as Fe	11.2			
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	5,869			
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen,				
Hydrogen Sulfide	0.0			
Resistivity, ohms/m at 77° F.	0.920			
Suspended Oil				
Filtrable 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.

Form No. 3

By
Waylan C. Martin, M.A.

Side I

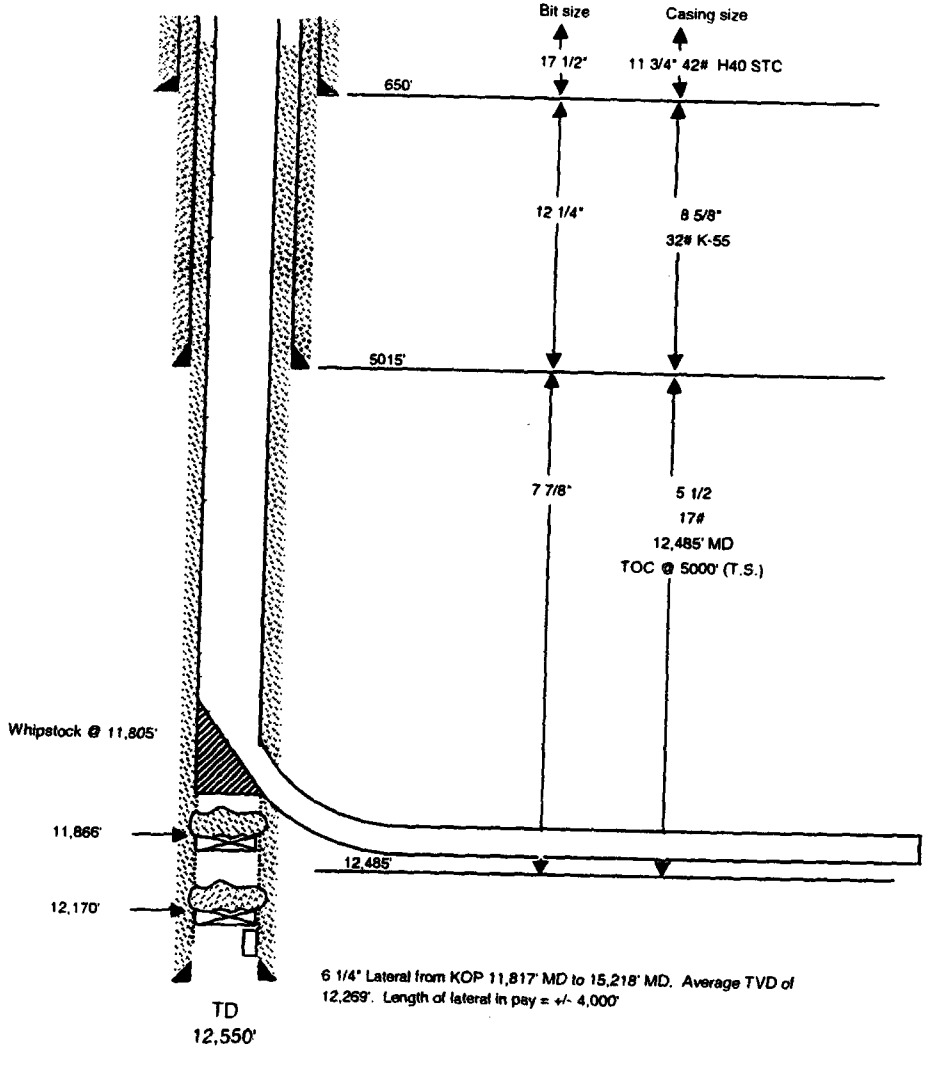
INJECTION WELL DATA SHEET

OPERATOR: EOG Resources, Inc.

WELL NAME & NUMBER: Red Hills North Unit No. 703 988 FSL 980 FWL 30-025-32577

WELL LOCATION:	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE
	SL 988 FSL & 991 FWL	M	7	25S	34E
	BHL 450 FNL & 1625 FEL	B	13	25S	33E

WELLBORE SCHEMATIC



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 17 1/2 Casing Size: 11 3/4

Cemented with: 350 sx. *or* _____ ft³

Top of Cement: Surface Method Determined: CIRC

Intermediate Casing

Hole Size: 12 1/4 Casing Size: 8 5/8

Cemented with: 1600 sx. *or* _____ ft³

Top of Cement: Surface Method Determined: CIRC

Production Casing

Hole Size: 7 7/8 Casing Size: 5 1/2

Cemented with: 1491 sx. *or* _____ ft³

Top of Cement: 5000 Method Determined: Temp Survey

Total Depth: 15218 MD, 12269 VD

Injection Interval

12606 feet to 15000 MD

(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEET

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

Type of Packer: Halliburton PLS

Packer Setting Depth: 11536

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:

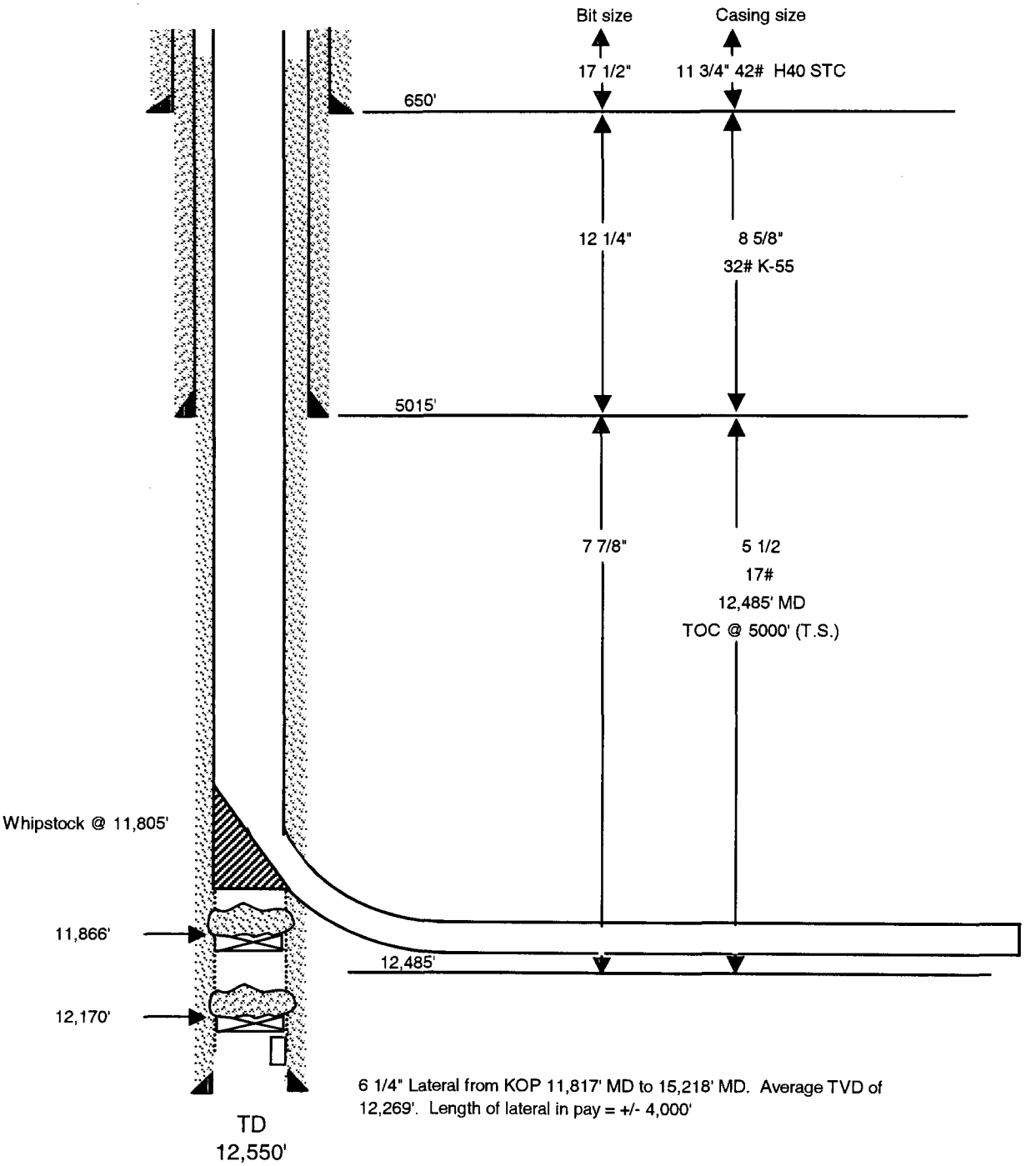
   Next Higher; Delaware 5183'-9260'

   Next Lower; Wolfcamp 12284'-13800'

eog resources

Red Hills North Unit No. 703

990' FSL & 990' FWL
Sec. 7-25S-34E
Lea County, New Mexico



6 1/4" Lateral from KOP 11,817' MD to 15,218' MD. Average TVD of 12,269'. Length of lateral in pay = +/- 4,000'

9/12/2005

APPLICATION FOR AUTHORIZATION TO INJECT
RED HILLS NORTH UNIT NO. 703

VII. PROPOSED OPERATION

(1) Proposed Average Daily Rate and Volume : 2000 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: 3rd Bone Spring
Lithologic Detail: Fine grain sandstone
Geological Name: 3rd Bone Spring
Thickness: Bone Spring – 3204'
3rd Bone Spring – 384'
Depth: Bone Spring 9260' to 12284'
3rd Bone Spring 11900' to 12284'
Underground Sources of Drinking Water:
Geological Name: Triasic
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 one fresh water well within one mile of the injection well.

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:

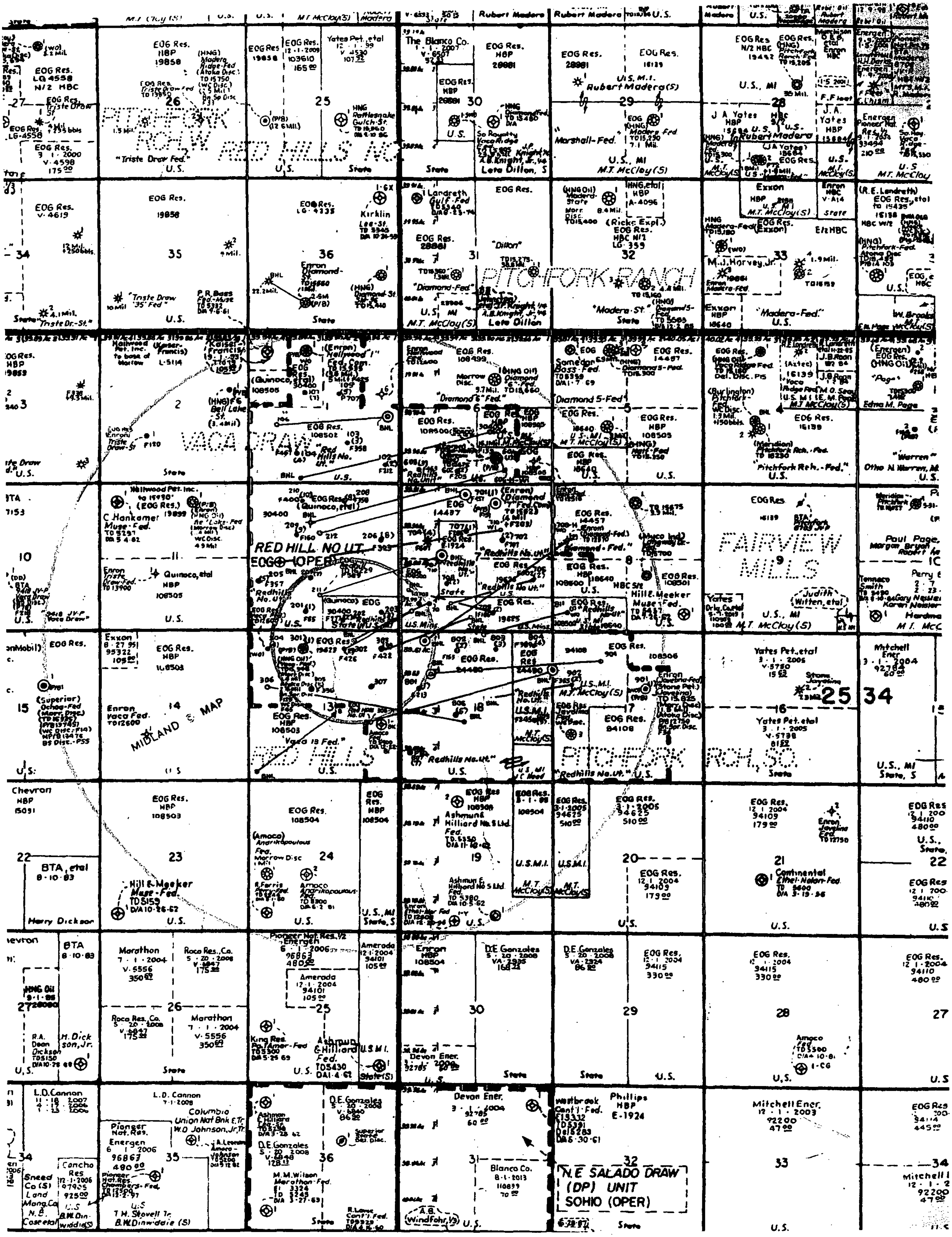
Mark McCloy
P.O. Box 1076
Jal, NM 88252

Offset Operators:

EOG is the 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 # 703

						Surface Casing			Production Casing			
Operator	Lease/Well	Status	Location	Spud Date	TMD	Size	Depth	Cement	Size	Depth	Cement	Producing Perforations
EOG Resources	RHNU 201	Producer	Sec 12, T25S, R34E	7/17/1993	13900	11 3/4	646	351 sx Class C	3 1/2	12059	1581 sx Class C	12230-12340
EOG Resources	RHNU 202	Producer	Sec 12, T25S, R34E	11/10/1993	12600	11 3/4	655	351 sx Class C	5 1/2	12514	1585 sx POZ/H	12160-12304
EOG Resources	RHNU 203	Producer	Sec 12, T25S, R34E	2/16/1994	12600	11 3/4	678	351 sx Class C	5 1/2	12600	1867 sx PSL/H	12270-12324
EOG Resources	RHNU 207	Producer	Sec 12, T25S, R34E	7/27/1994	12600	11 3/4	681	350 sx Class C	5 1/2	12600	1446 sx HLC/Prem	12232-12262
EOG Resources	RHNU 211	Producer	Sec 12, T25S, R34E	8/31/2000	16229	13 3/8	652	500 sx Prem Plus	4 1/2	16229	300 sx Prem	12924-16070
EOG Resources	RHNU 301	Producer	Sec 13, T25S, R34E	8/5/1983	15935	13 3/8	624	515 sx Lite/C	3 1/2	15946	150 sx Class H	12230-12356
EOG Resources	RHNU 302	Injector	Sec 13, T25S, R34E	12/16/1993	12600	11 3/4	657	351 sx Class C	5 1/2	12475	1990 sx 50:50 POZ	12240-12264
EOG Resources	RHNU 303	Producer	Sec 13, T25S, R34E	8/12/1994	12525	11 3/4	663	351 sx Class C	5 1/2	12505	1791 sx PSL/G	12245-12290
EOG Resources	RHNU 305	Producer	Sec 13, T25S, R34E	11/26/2000	14600	11 3/4	675	575 sx Prem	5 1/2	13026	1125 sx Prem	12246-12266
EOG Resources	RHNU 306	Producer	Sec 13, T25S, R34E	11/17/2001	16430	13 3/8	670	500 sx Class C	7	12752	1050 sx Prem	15437-19323
EOG Resources	RHNU 307	Producer	Sec 13, T25S, R34E	8/12/2001	13930	13 3/8	674	500 sx Prem Plus	4 1/2	13930	NR	12758-13840
EOG Resources	RHNU 801	Producer	Sec 18, T25S, R34E	7/29/1995	15636	11 3/4	676	350 sx Prem	3 1/2	14615	110 sx H	12510-14480
EOG Resources	Vaca 13 #8	Producer	Sec 13, T25S, R34E	8/30/2002	15580	13 3/8	675	500 sx Prem	4 1/2	15580	260 sx Prem	12520-15350



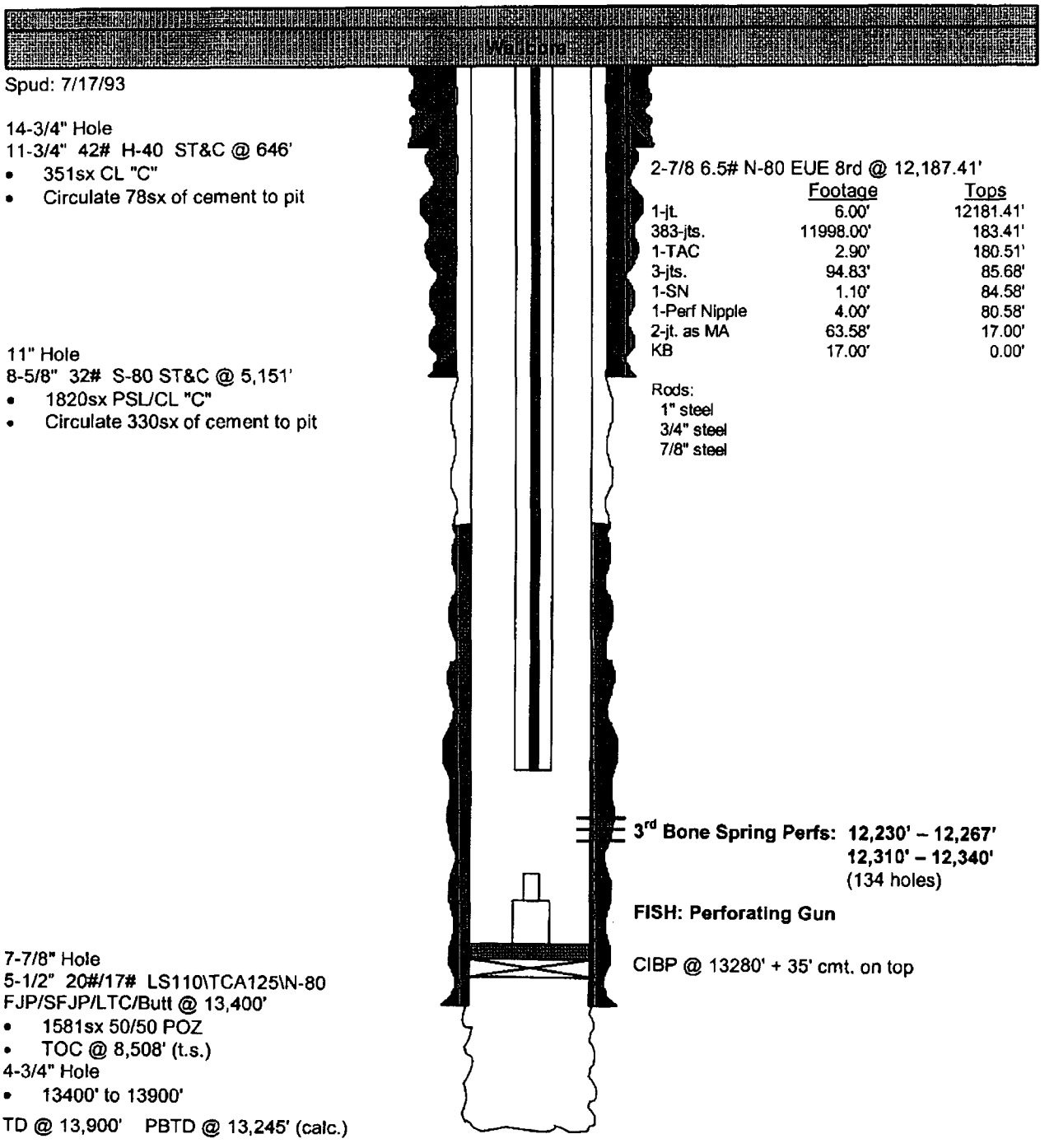
PITCHFORK RCH. N.
RED HILLS N.
PITCHFORK RANCH
VACA DRAW
RED HILL NO UT.
EOG (OPER)
FAIRVIEW MILLS
MIDLAND S. MAP
RED HILLS
PITCHFORK RCH. SO.
N.E SALADO DRAW
(DP) UNIT
SOHIO (OPER)
EOG Res.
Rubert Madera
M.T. McCloy (S)
Lete Dillon
"Triste Draw Fed."
"Diamond-Fed."
"Madera-St."
"Madera-Fed."
"Diamond 5-Fed"
"Redhills No.Ut."
"Vaca 13 Fed."
Pitchfork Rch.-Fed.
Yates Pet., etal
Mitchell Ener.
Continental Ethel-Nalon-Fed.
Ashmun & Hilliard No. 5 Ltd. Fed.
Marathon
Roca Res. Co.
Pioneer Nat. Res.
D.E. Gonzales
Devon Ener.
Blanco Co.
L.D. Cannon
Hill & Meeker Muse-Fed.
BTA, etal
Harry Dickson
Chevron
Enron
Exxon
U.S.
State

RHNU No. 201

EOG RESOURCES, INC.
660' FSL & 1980' FWL
Sec.12-T25S-R33E

HALLWOOD "12" FEDERAL NO. 1
LEA CO., NEW MEXICO
APRIL 3, 2000

WELLBORE SCHEMATIC



Spud: 7/17/93

14-3/4" Hole
11-3/4" 42# H-40 ST&C @ 646'
- 351sx CL "C"
- Circulate 78sx of cement to pit

11" Hole
8-5/8" 32# S-80 ST&C @ 5,151'
- 1820sx PSL/CL "C"
- Circulate 330sx of cement to pit

7-7/8" Hole
5-1/2" 20#/17# LS110\TCA125\N-80
FJP/SFJP/LTC/Butt @ 13,400'
- 1581sx 50/50 POZ
- TOC @ 8,508' (t.s.)

4-3/4" Hole
- 13400' to 13900'

TD @ 13,900' PBTD @ 13,245' (calc.)

2-7/8 6.5# N-80 EUE 8rd @ 12,187.41'

	Footage	Tops
1-jt.	6.00'	12181.41'
383-jts.	11998.00'	183.41'
1-TAC	2.90'	180.51'
3-jts.	94.83'	85.68'
1-SN	1.10'	84.58'
1-Perf Nipple	4.00'	80.58'
2-jt. as MA	63.58'	17.00'
KB	17.00'	0.00'

Rods:
1" steel
3/4" steel
7/8" steel

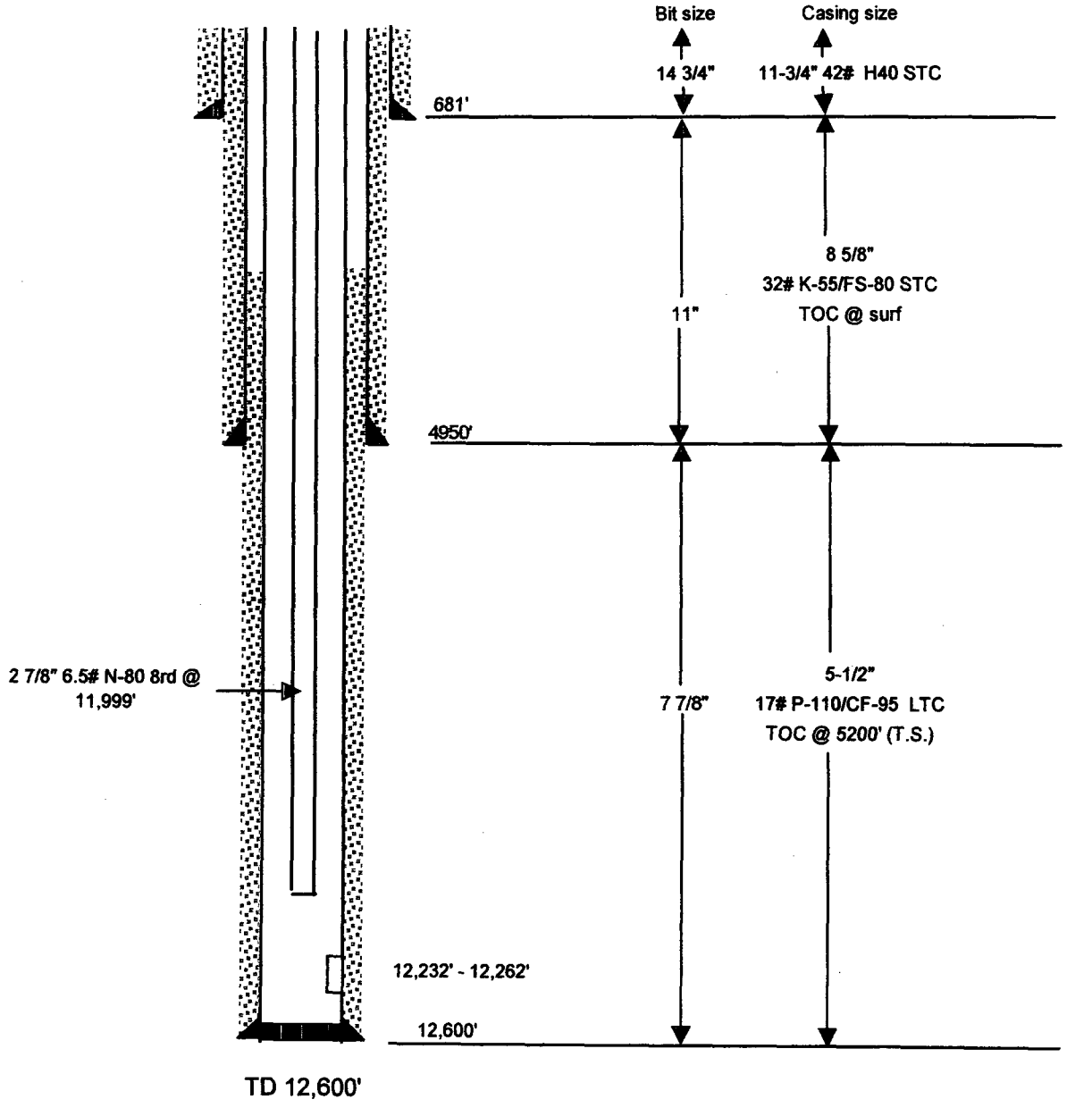
3rd Bone Spring Perfs: 12,230' – 12,267'
12,310' – 12,340'
(134 holes)

FISH: Perforating Gun

CIBP @ 13280' + 35' cmt. on top

eog resources

RHNU No. 207
1830' FSL & 2130' FWL
Sec. 12-25S-33E
Lea County, New Mexico
API 30-025-32584



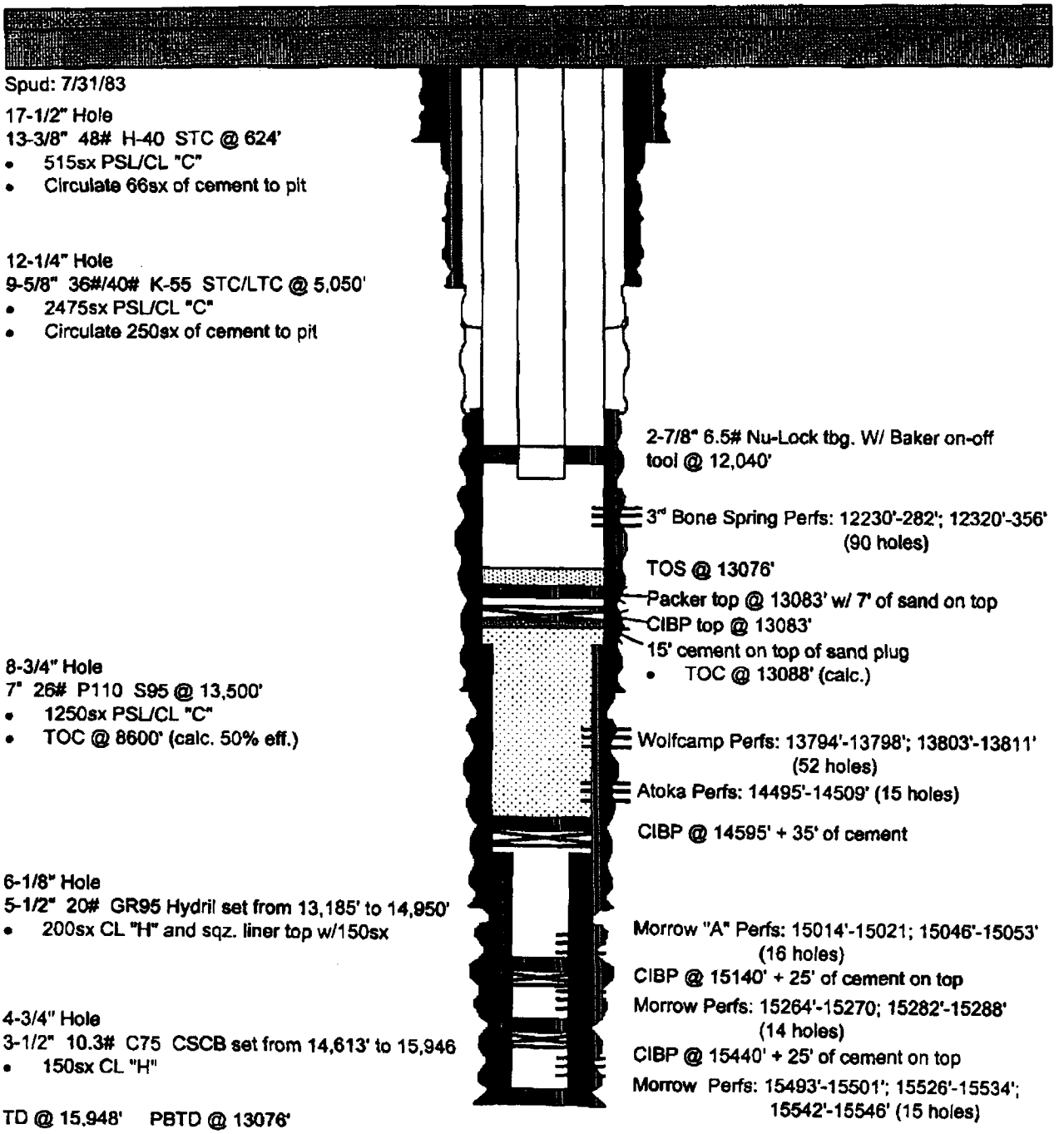
9/13/2005

RHNU No. 301

EOGRESOURCES, INC.
660' FNL & 1880' FEL
Sec.13-T25S-R33E

VACA "13" FEDERAL NO. 1
LEA COUNTY, NEW MEXICO
APRIL 4, 2000

WELL SCHEMATIC



Spud: 7/31/83

17-1/2" Hole
13-3/8" 48# H-40 STC @ 624'
- 515sx PSL/CL "C"
- Circulate 66sx of cement to pit

12-1/4" Hole
9-5/8" 36#/40# K-55 STC/LTC @ 5,050'
- 2475sx PSL/CL "C"
- Circulate 250sx of cement to pit

8-3/4" Hole
7" 26# P110 S95 @ 13,500'
- 1250sx PSL/CL "C"
- TOC @ 8600' (calc. 50% eff.)

6-1/8" Hole
5-1/2" 20# GR95 Hydril set from 13,185' to 14,950'
- 200sx CL "H" and sqz. liner top w/150sx

4-3/4" Hole
3-1/2" 10.3# C75 CSCB set from 14,613' to 15,946
- 150sx CL "H"

TD @ 15,948' PBTD @ 13076'

2-7/8" 6.5# Nu-Lock tbg. W/ Baker on-off tool @ 12,040'

3rd Bone Spring Perfs: 12230'-282'; 12320'-356' (90 holes)

TOS @ 13076'

Packer top @ 13083' w/ 7' of sand on top

CIBP top @ 13083'

15' cement on top of sand plug
- TOC @ 13088' (calc.)

Wolfcamp Perfs: 13794'-13798'; 13803'-13811' (52 holes)

Atoka Perfs: 14495'-14509' (15 holes)

CIBP @ 14595' + 35' of cement

Morrow "A" Perfs: 15014'-15021; 15046'-15053' (16 holes)

CIBP @ 15140' + 25' of cement on top

Morrow Perfs: 15264'-15270; 15282'-15288' (14 holes)

CIBP @ 15440' + 25' of cement on top

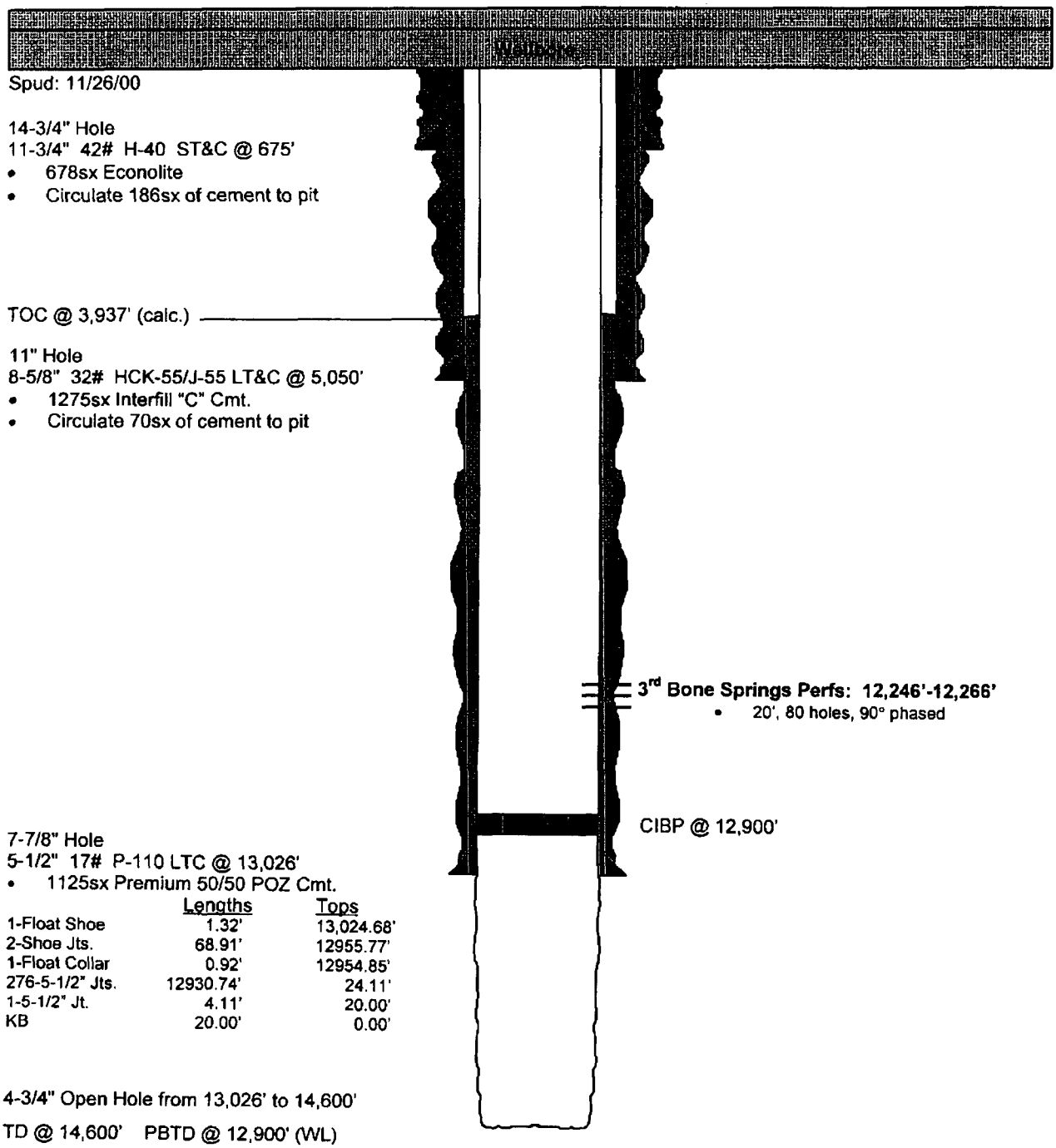
Morrow Perfs: 15493'-15501'; 15526'-15534'; 15542'-15546' (15 holes)

RHNU 305

EOG RESOURCES, INC.
1980' FNL & 1980' FWL
Sec.13-T25S-R33E

VACA "13" FEDERAL NO. 5
LEA CO., NEW MEXICO
FEBRUARY 14, 2001

WELLBORE SCHEMATIC



Spud: 11/26/00

14-3/4" Hole
11-3/4" 42# H-40 ST&C @ 675'
- 678sx Econolite
- Circulate 186sx of cement to pit

TOC @ 3,937' (calc.)

11" Hole
8-5/8" 32# HCK-55/J-55 LT&C @ 5,050'
- 1275sx Interfill "C" Cmt.
- Circulate 70sx of cement to pit

3rd Bone Springs Perfs: 12,246'-12,266'
- 20', 80 holes, 90° phased

CIBP @ 12,900'

7-7/8" Hole
5-1/2" 17# P-110 LTC @ 13,026'
- 1125sx Premium 50/50 POZ Cmt.

	Lengths	Tops
1-Float Shoe	1.32'	13,024.68'
2-Shoe Jts.	68.91'	12955.77'
1-Float Collar	0.92'	12954.85'
276-5-1/2" Jts.	12930.74'	24.11'
1-5-1/2" Jt.	4.11'	20.00'
KB	20.00'	0.00'

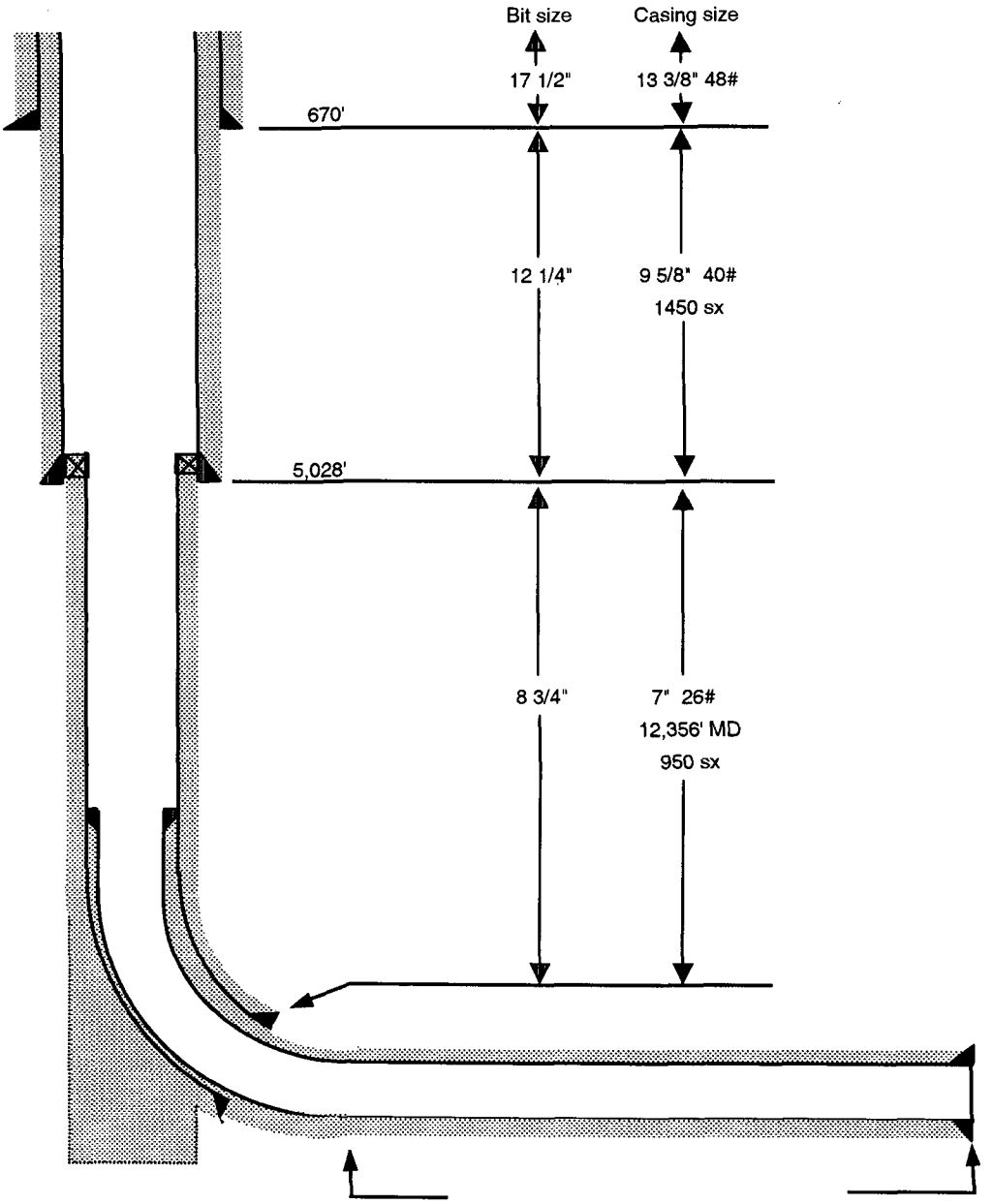
4-3/4" Open Hole from 13,026' to 14,600'

TD @ 14,600' PBTD @ 12,900' (WL)

eog resources

RHNU NO.307

1980' FNL & 990' FEL
Sec.13-T25S-R33E
Lea County,New Mexico
API 30-025-35039

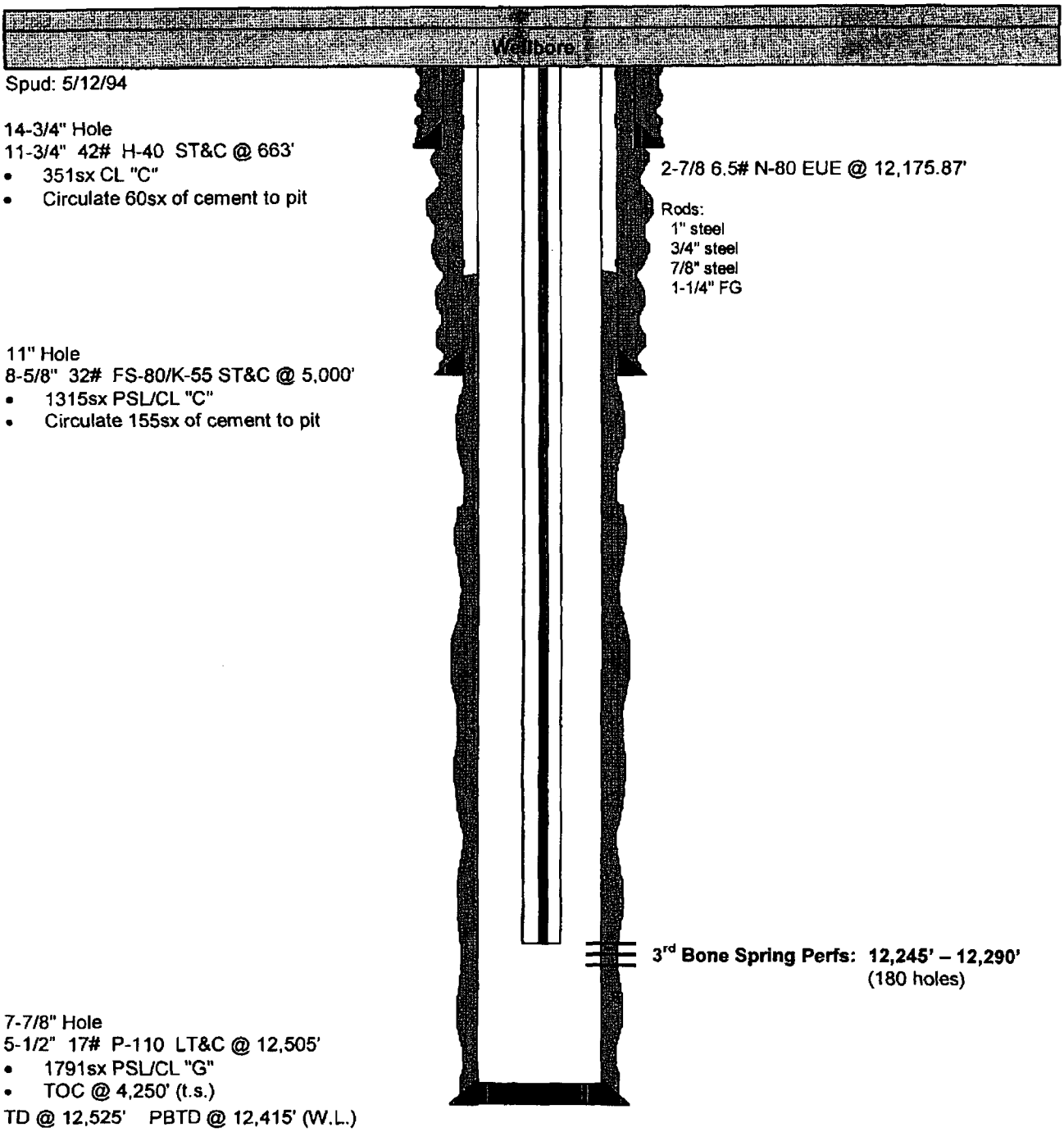


6 1/8" Lateral to 16430' MD, 12265' TVD
4 1/2" 11.6# HCP HC513 prod. liner from 11,670' to 13,840'. Perfs 12,758-13,840' OA.
Frac 180,000# 20/40 econoprop.

EOG RESOURCES, INC.
660' FNL & 660' FEL
Sec.13-T25S-R33E

RHNU No. 303
LEA CO., NEW MEXICO
APRIL 3, 2000

WELLBORE SCHEMATIC



Spud: 5/12/94

14-3/4" Hole
11-3/4" 42# H-40 ST&C @ 663'
- 351sx CL "C"
- Circulate 60sx of cement to pit

11" Hole
8-5/8" 32# FS-80/K-55 ST&C @ 5,000'
- 1315sx PSL/CL "C"
- Circulate 155sx of cement to pit

7-7/8" Hole
5-1/2" 17# P-110 LT&C @ 12,505'
- 1791sx PSL/CL "G"
- TOC @ 4,250' (t.s.)

TD @ 12,525' PBTD @ 12,415' (W.L.)

2-7/8 6.5# N-80 EUE @ 12,175.87'

Rods:
1" steel
3/4" steel
7/8" steel
1-1/4" FG

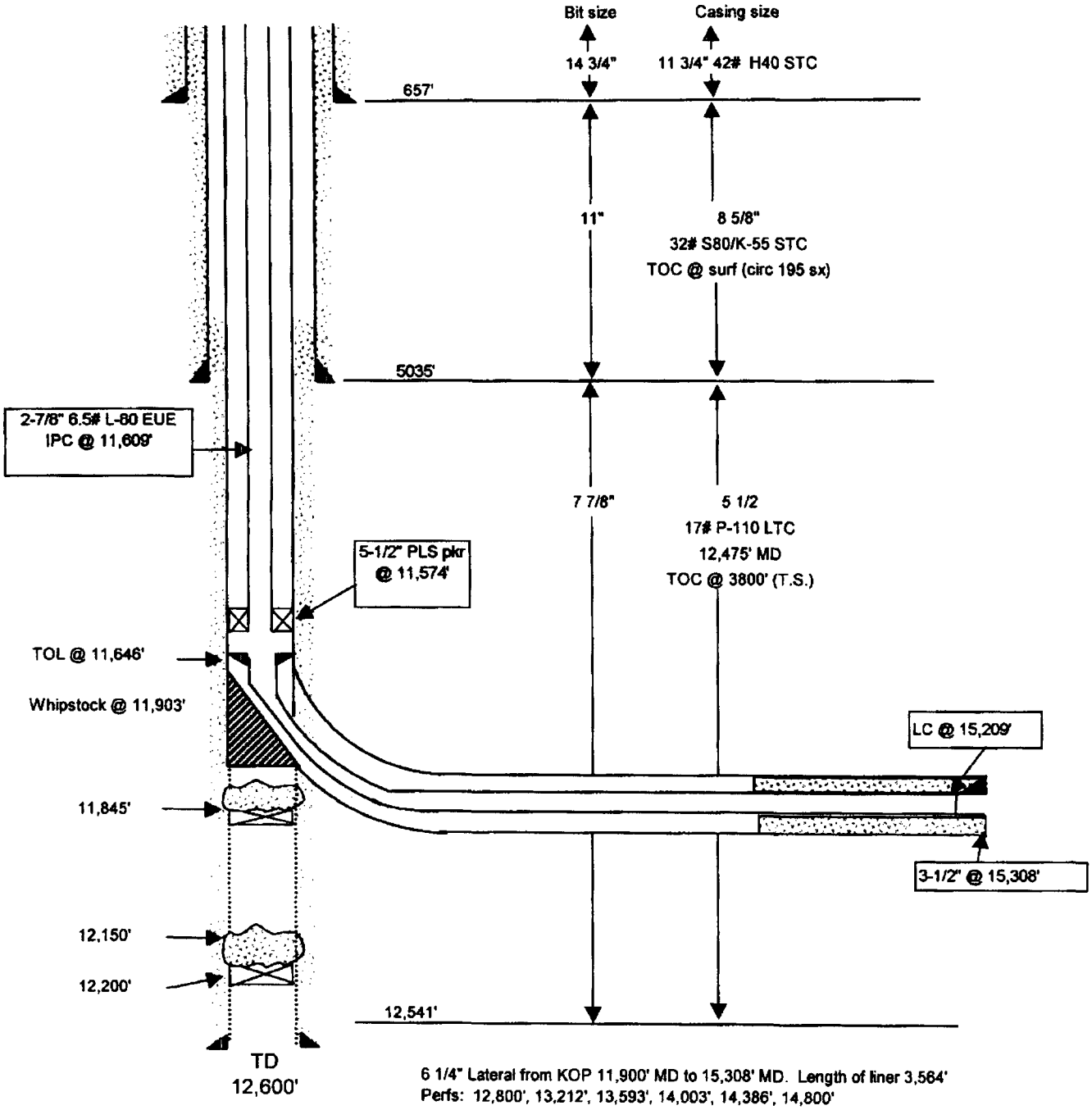
3rd Bone Spring Perfs: 12,245' – 12,290'
(180 holes)

N:\SCHEMATICS\LEA\VACA 13 FEDERAL NO.3\COMP.DOC

Red Hills North Unit No. 302 R/E

660' FNL & 1980' FEL
Sec. 13-25S-33E
Lea County, New Mexico

eog resources

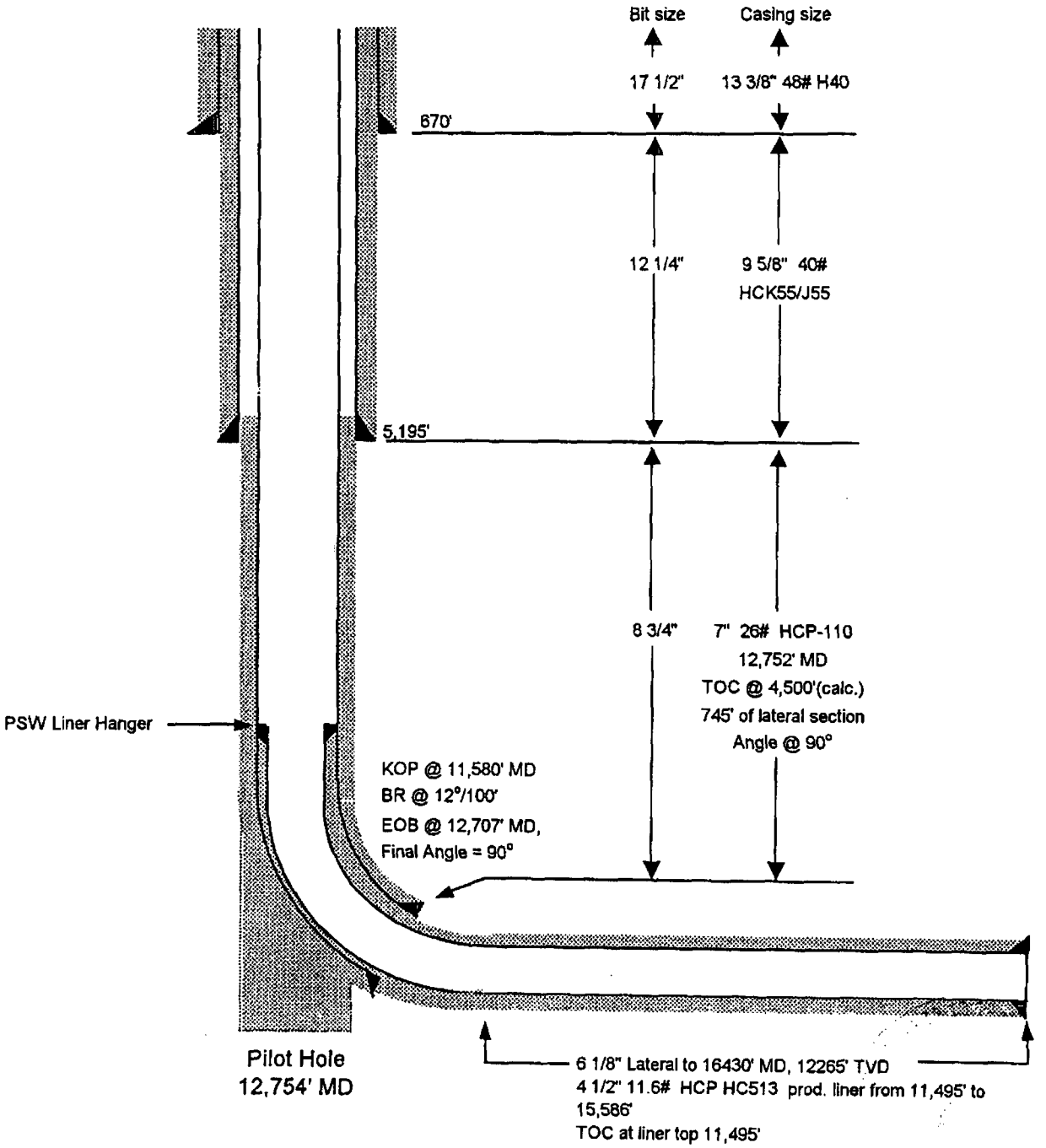


6 1/4" Lateral from KOP 11,900' MD to 15,308' MD. Length of liner 3,564'
Perfs: 12,800', 13,212', 13,593', 14,003', 14,386', 14,800'

2/11/2004

RHNU NO.306
EOG Resources, Inc.
PROSPECT: Red Hills

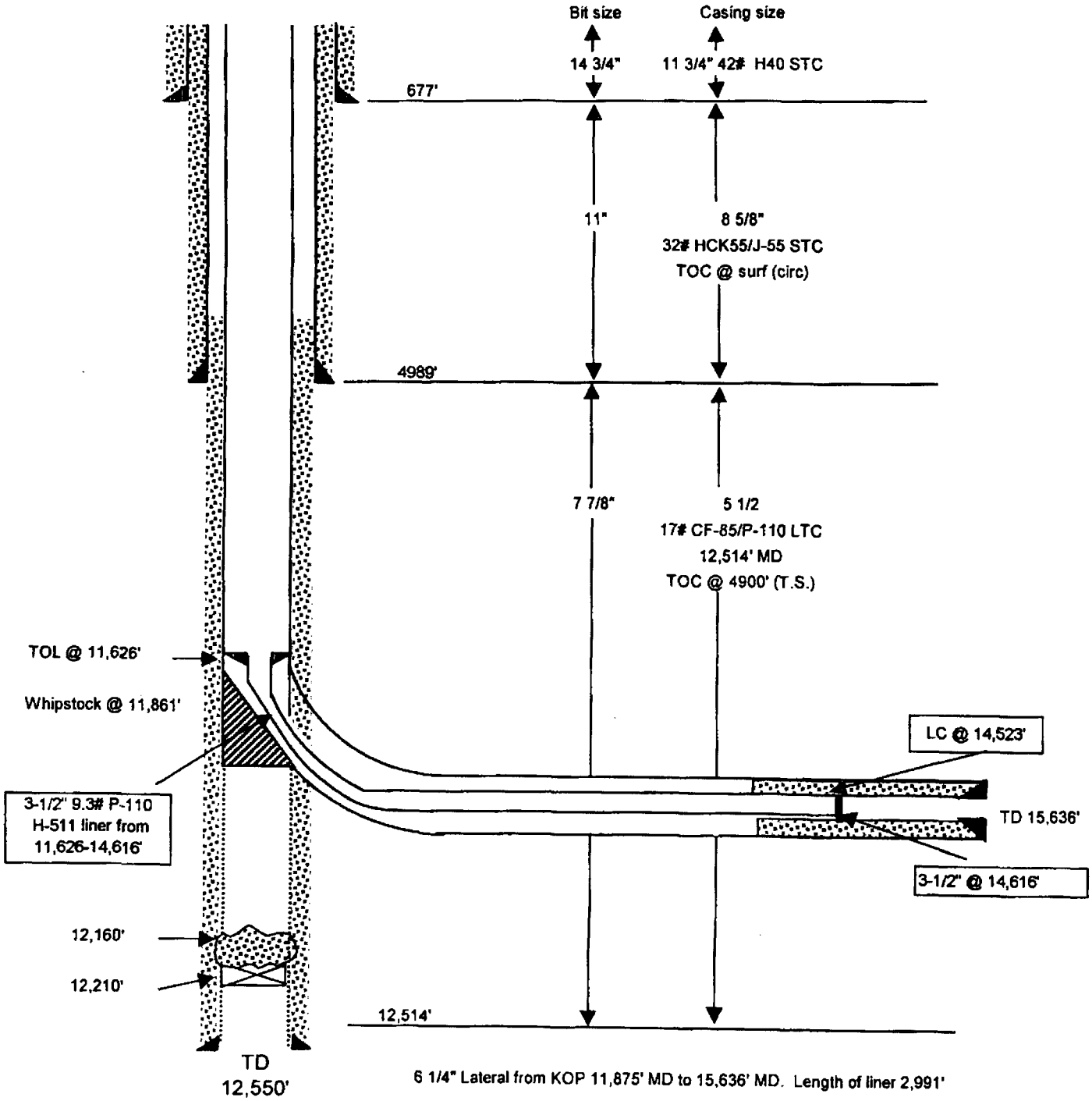
990' FEL & 2,080' FSL
Sec.13-T25S-R33E
Lea County,New Mexico



eog resources

Red Hills North Unit No. 801 R/E

1827' FNL & 660' FWL
Sec. 18-25S-34E
Lea County, New Mexico



6 1/4" Lateral from KOP 11,875' MD to 15,636' MD. Length of liner 2,991'

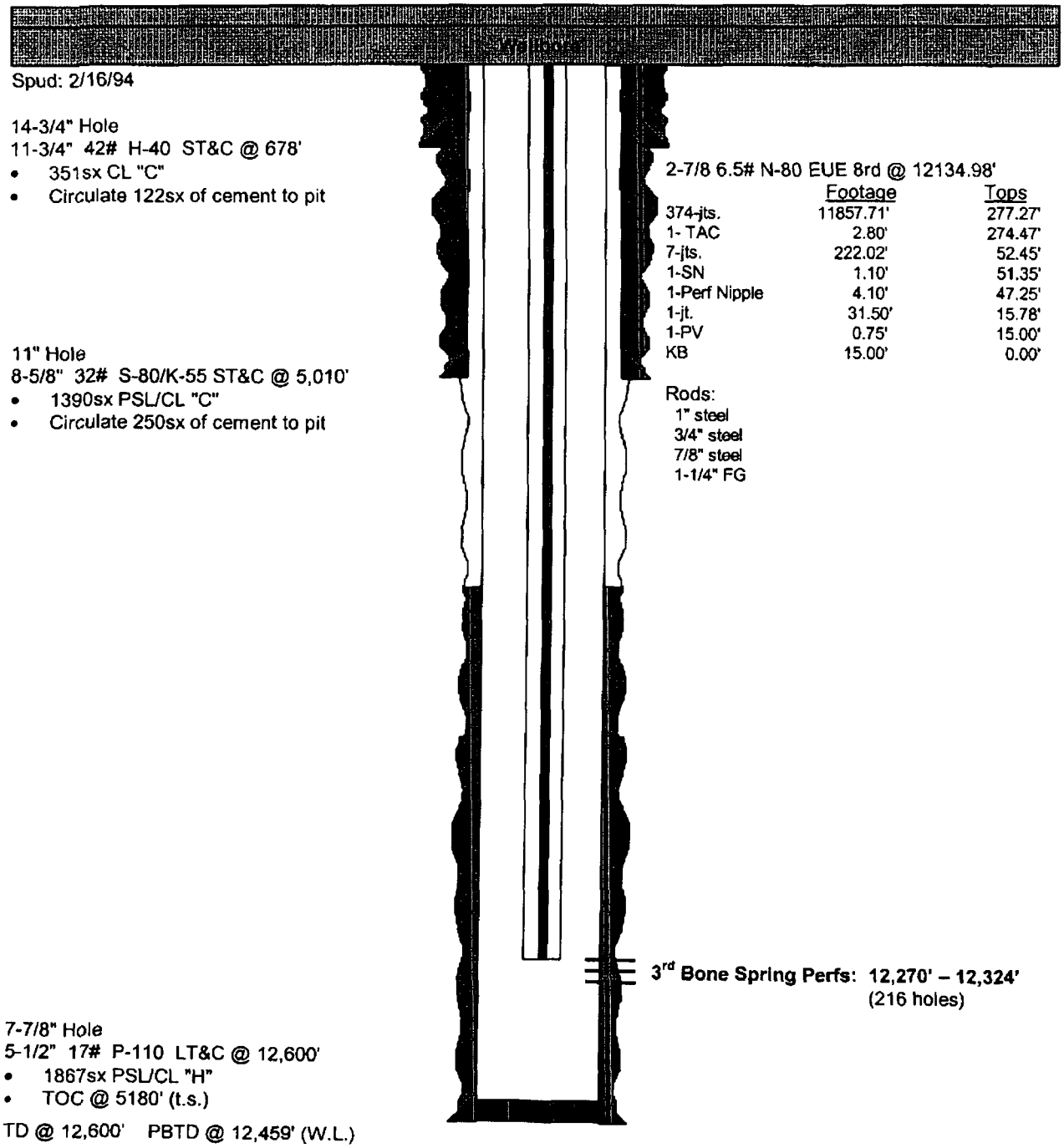
3/15/2004

RHNU No. 203

EOG RESOURCES, INC.
660' FSL & 660' FEL
Sec.12-T25S-R33E

HALLWOOD "12" FEDERAL NO. 3
LEA CO., NEW MEXICO
APRIL 3, 2000

WELLBORE SCHEMATIC



Spud: 2/16/94

14-3/4" Hole
11-3/4" 42# H-40 ST&C @ 678'
- 351sx CL "C"
- Circulate 122sx of cement to pit

11" Hole
8-5/8" 32# S-80/K-55 ST&C @ 5,010'
- 1390sx PSL/CL "C"
- Circulate 250sx of cement to pit

7-7/8" Hole
5-1/2" 17# P-110 LT&C @ 12,600'
- 1867sx PSL/CL "H"
- TOC @ 5180' (t.s.)

TD @ 12,600' PBTD @ 12,459' (W.L.)

2-7/8 6.5# N-80 EUE 8rd @ 12134.98'

	Footage	Tops
374-jts.	11857.71'	277.27'
1- TAC	2.80'	274.47'
7-jts.	222.02'	52.45'
1-SN	1.10'	51.35'
1-Perf Nipple	4.10'	47.25'
1-jt.	31.50'	15.78'
1-PV	0.75'	15.00'
KB	15.00'	0.00'

Rods:
1" steel
3/4" steel
7/8" steel
1-1/4" FG

3rd Bone Spring Perfs: 12,270' – 12,324'
(216 holes)

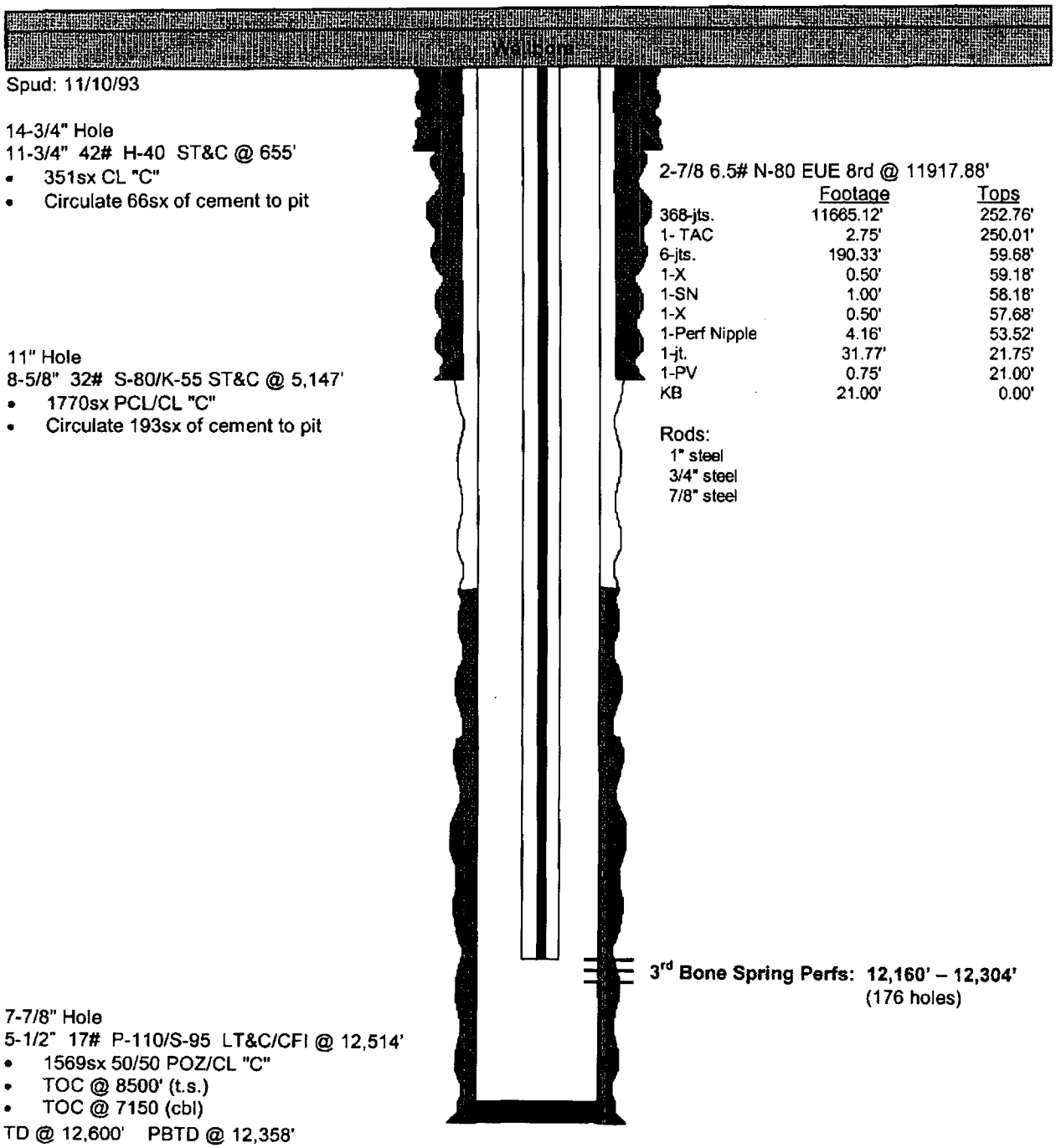
N:\SCHEMATICS\LEA\HALLWOOD 12 FEDERAL NO.3\COMP.DOC

RHNU No. 202

EOG RESOURCES, INC.
330' FSL & 1980' FEL
Sec.12-T25S-R33E

HALLWOOD "12" FEDERAL NO. 2
LEA CO., NEW MEXICO
APRIL 3, 2000

WELLBORE SCHEMATIC



Spud: 11/10/93

14-3/4" Hole
11-3/4" 42# H-40 ST&C @ 655'
- 351sx CL "C"
- Circulate 66sx of cement to pit

11" Hole
8-5/8" 32# S-80/K-55 ST&C @ 5,147'
- 1770sx PCL/CL "C"
- Circulate 193sx of cement to pit

7-7/8" Hole
5-1/2" 17# P-110/S-95 LT&C/CFI @ 12,514'
- 1569sx 50/50 POZ/CL "C"
- TOC @ 8500' (t.s.)
- TOC @ 7150 (cbl)

TD @ 12,600' PBTD @ 12,358'

2-7/8 6.5# N-80 EUE 8rd @ 11917.88'

	Footage	Tops
368-jts.	11665.12'	252.76'
1- TAC	2.75'	250.01'
6-jts.	190.33'	59.68'
1-X	0.50'	59.18'
1-SN	1.00'	58.18'
1-X	0.50'	57.68'
1-Perf Nipple	4.16'	53.52'
1-jt.	31.77'	21.75'
1-PV	0.75'	21.00'
KB	21.00'	0.00'

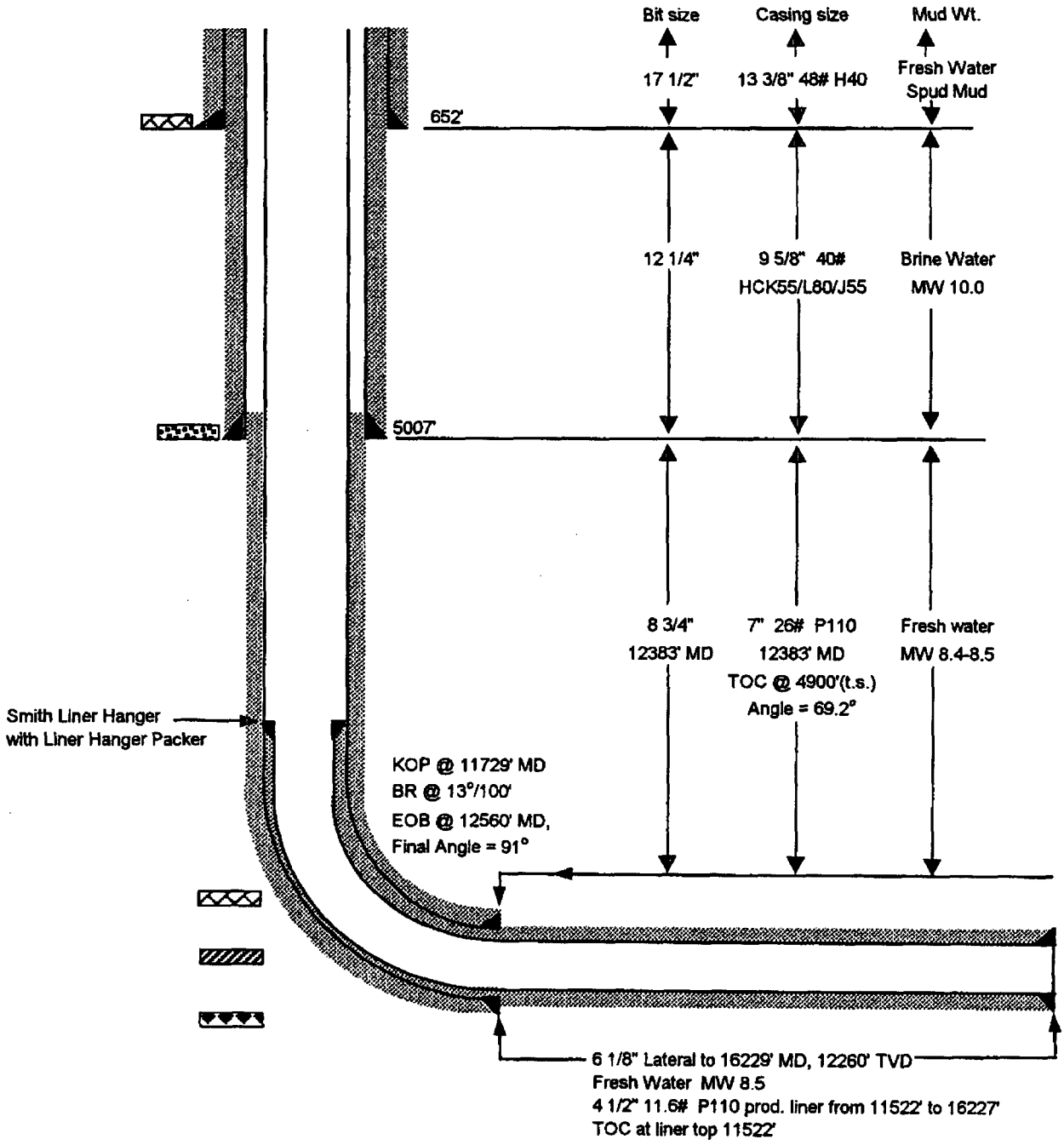
Rods:
1" steel
3/4" steel
7/8" steel

3rd Bone Spring Perfs: 12,160' – 12,304'
(176 holes)

N:\SCHEMATICS\LEA\HALLWOOD 12 FEDERAL NO.2\COMP.DOC

RHNU NO.211
PROSPECT: Red Hills

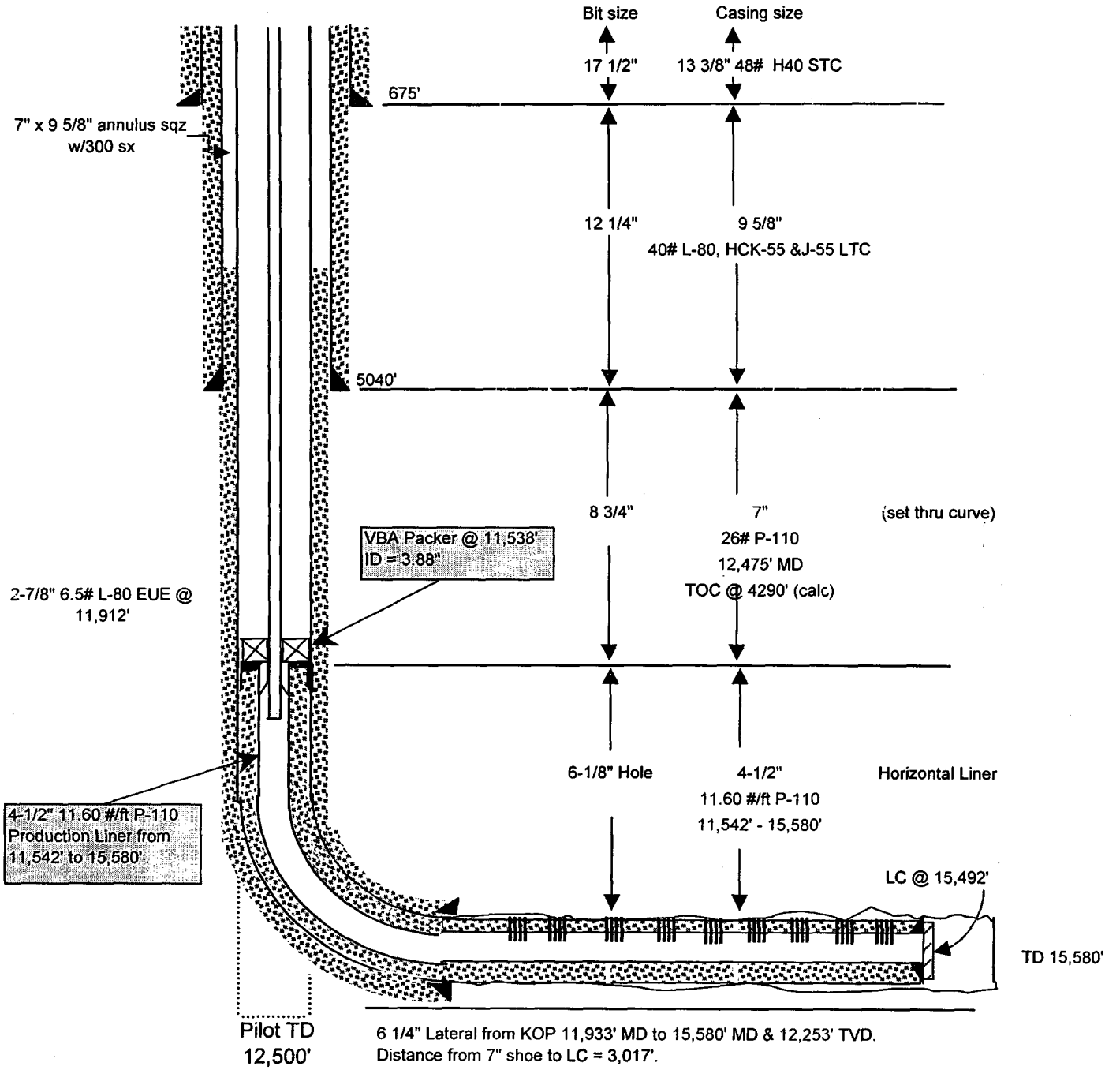
1296' FSL & 2592' FWL
Sec.12-T25S-R23E
Lea County,New Mexico



Vaca 13 Fed No. 8H

2310' FSL 2310' FEL
Sec. 13-25S-33E
Lea County, New Mexico
API 30-025-35846
AFE 102398

eog resources



6 1/4" Lateral from KOP 11,933' MD to 15,580' MD & 12,253' TVD.
Distance from 7" shoe to LC = 3,017'.

Perfs: 12,520 (3), 12,870' (4), 13,220' (4), 13,570' (5), 13,920' (5), 14,270' (6), 14,600' (6), 15,000' (7), 15,350' (7) = 47 holes.

9/12/2005

New Mexico Office of the State Engineer
Well Reports and Downloads

Township: 25S Range: 33E Sections: 13

NAD27 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 Nbr	Use	(acre ft per annum) Diversion	Owner	Well Number	(quarters are 1= (quarters are bi Source	1
C 02336	PRO	3	ENRON OIL & GAS COMPANY	C 02336	Shallow	2
C 02373	COM	25	ENRON OIL & GAS COMPANY	C 02373 S	Shallow	2

Record Count: 2

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

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

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

COMPANY EOG Resources, Inc. LEASE Vaca 13 Federal
FIELD OR POOL
SECTION 13 BLOCK SURVEY T-25S&R-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_3	88			
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	4,300			
Calcium as Ca	980			
Magnesium as Mg	450			
Sodium and/or Potassium	485			
Sulfate as SO_4	458			
Chloride as Cl	3,409			
Iron as Fe	11.2			
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	5,869			
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen,				
Hydrogen Sulfide	0.0			
Resistivity, ohmsm at 77° F.	0.920			
Suspended Oil				
Filtrable 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.

Form No. 3

By
Waylan C. Martin, M.A.

Side 1

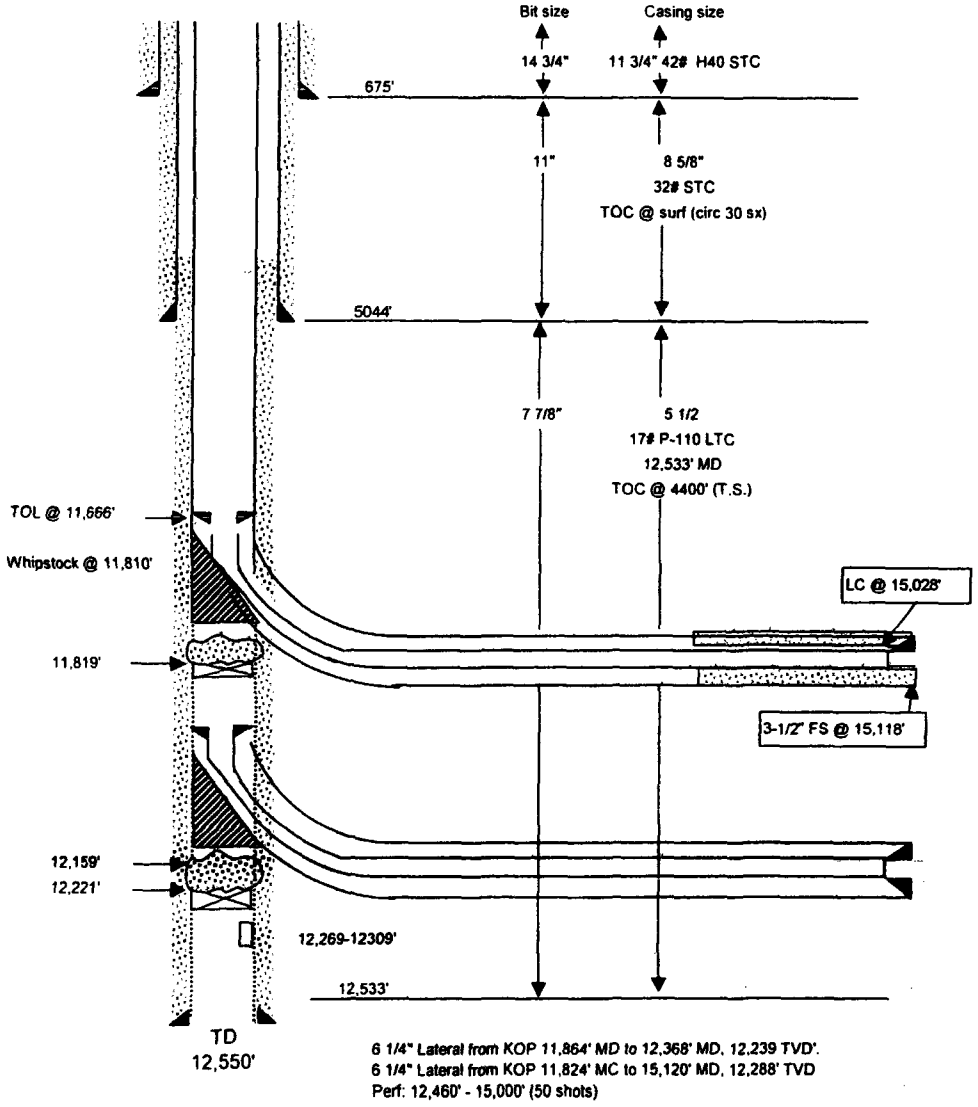
INJECTION WELL DATA SHEET

OPERATOR: EOG Resources, Inc.

WELL NAME & NUMBER: Red Hills North Unit No. 706 30-025-32814

WELL LOCATION:	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE
	SL 1830 FSL & 659 FEL 660	I	7	25S	34E
	BHL 1030 FSL & 1730 FWL	N			

WELLBORE SCHEMATIC



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 14 3/4 Casing Size: 11 3/4

Cemented with: 350 sx. *or* _____ ft³

Top of Cement: Surface Method Determined: CIRC

Intermediate Casing

Hole Size: 11 Casing Size: 8 5/8

Cemented with: 1400 sx. *or* _____ ft³

Top of Cement: Surface Method Determined: CIRC

Production Casing

Hole Size: 7 7/8 Casing Size: 5 1/2

Cemented with: 1918 sx. *or* _____ ft³

Top of Cement: 4400 Method Determined: Temp Survey

Total Depth: 15120 MD, 12288 VD

Injection Interval

12460 feet to 15000 MD

(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEET

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

Type of Packer: Halliburton PLS

Packer Setting Depth: 11600

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:

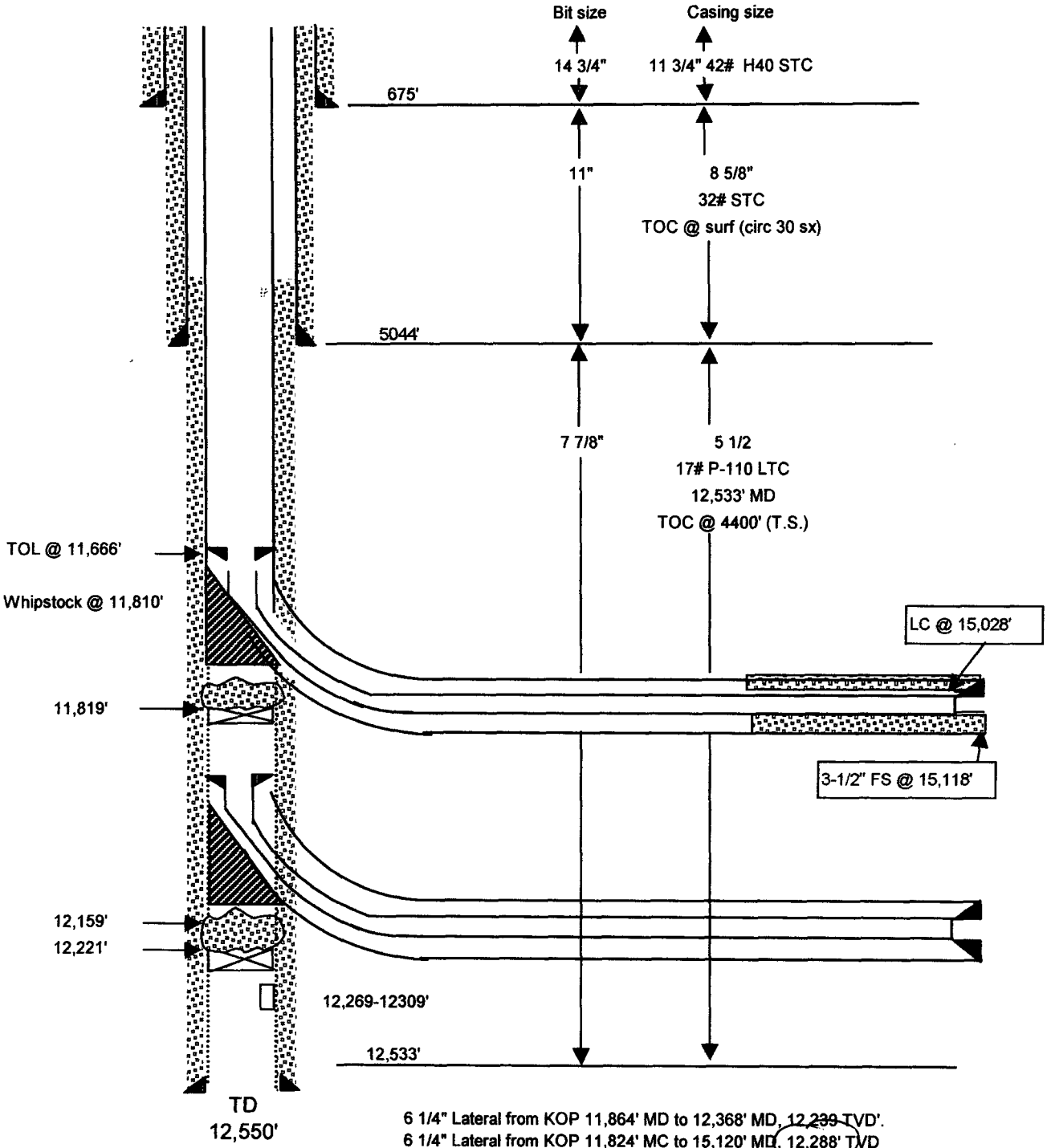
   Next Higher; Delaware 5183'-9260'

   Next Lower; Wolfcamp 12284'-13800'

Red Hills North Unit No. 706 R/E

1860' FSL & 660' FEL
Sec. 7-25S-34E
Lea County, New Mexico

eog resources



6 1/4" Lateral from KOP 11,864' MD to 12,368' MD, ~~12,239~~ TVD'.
6 1/4" Lateral from KOP 11,824' MC to 15,120' MD, 12,288' TVD
Perf: 12,460' - 15,000' (50 shots)

9/21/2005

APPLICATION FOR AUTHORIZATION TO INJECT
RED HILLS NORTH UNIT NO. 706

VII. PROPOSED OPERATION

(1) Proposed Average Daily Rate and Volume : 2000 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: 3rd Bone Spring
Lithologic Detail: Fine grain sandstone
Geological Name: 3rd Bone Spring
Thickness: Bone Spring – 3204'
3rd Bone Spring – 384'
Depth: Bone Spring 9260' to 12284'
3rd Bone Spring 11900' to 12284'
Underground Sources of Drinking Water:
Geological Name: Triasic
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 one fresh water well within one mile of the injection well.

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:

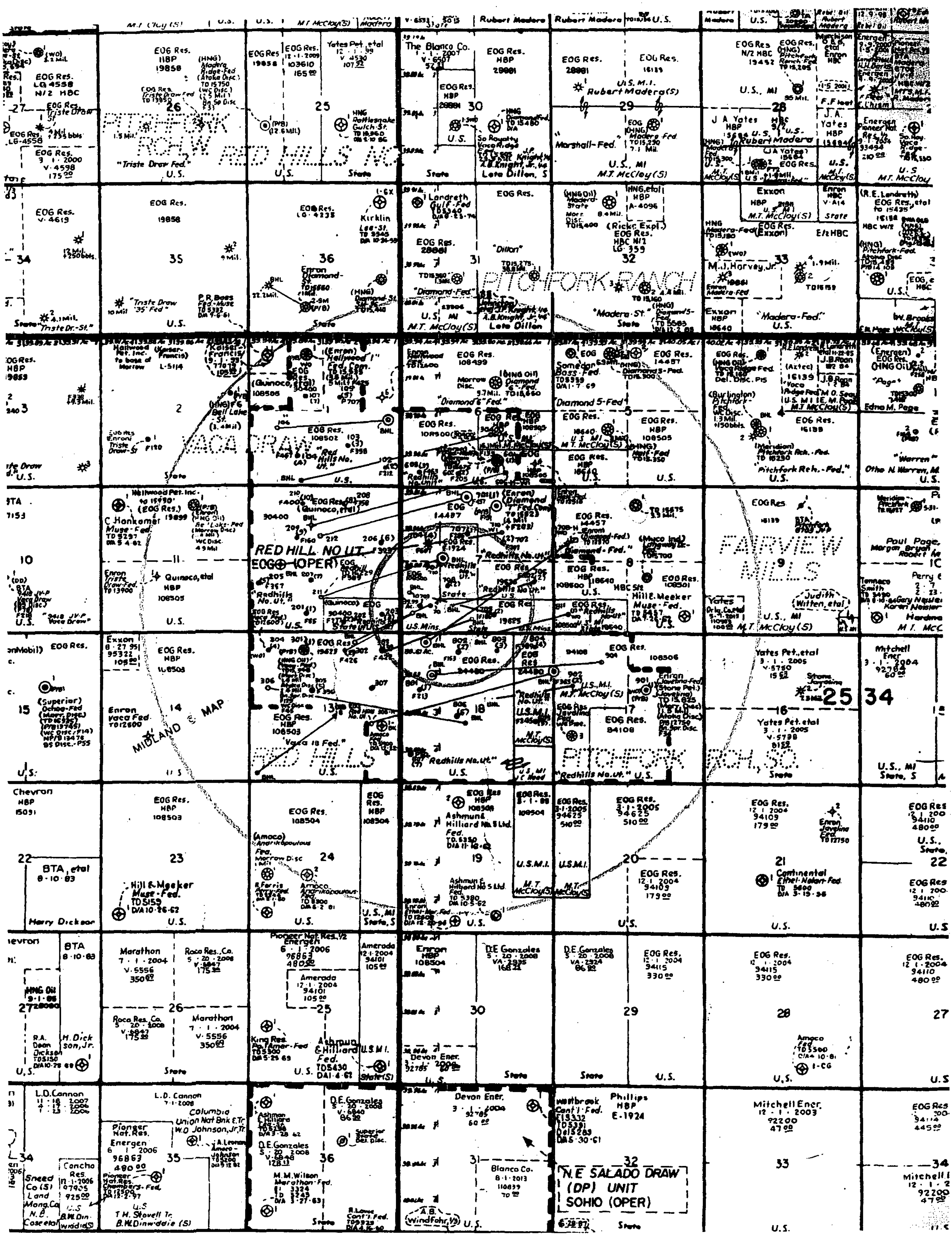
Mark McCloy
P.O. Box 1076
Jal, NM 88252

Offset Operators:

EOG is the 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 # 706

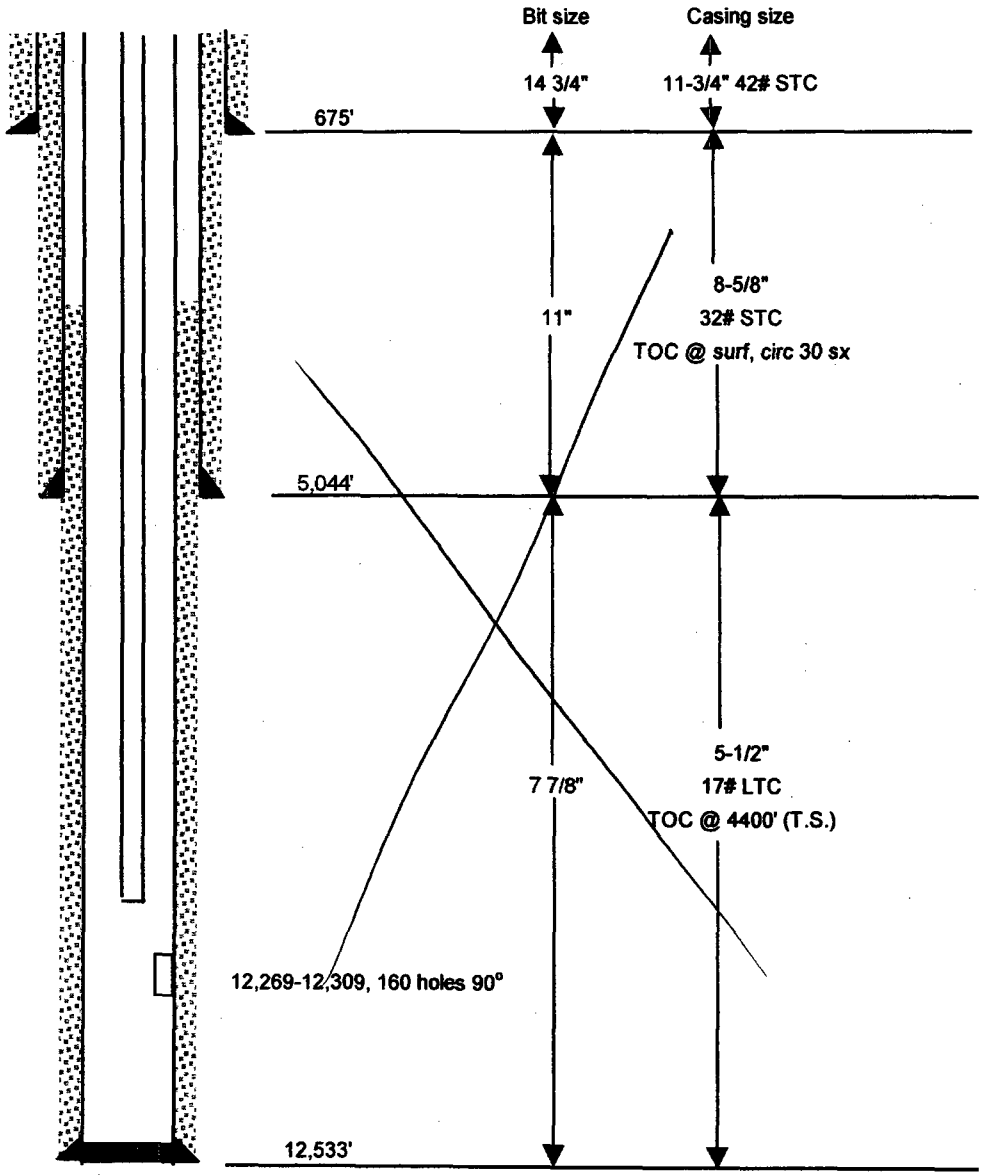
						Surface Casing			Production Casing			
Operator	Lease/Well	Status	Location	Spud Date	TMD	Size	Depth	Cement	Size	Depth	Cement	Producing Perforations
EOG Resources	707	ACT - Oil	Sec 7, T25S, R34E	1/16/1994	12550	11 3/4	650	351 sx Class C	5 1/2	12428	1656 sx PSL/Class C	12,203'-12,250'
EOG Resources	704	ACT - Oil	Sec 7, T25S, R34E	3/16/1994	12600	11 3/4	657	351 sx Class C	5 1/2	12573	1824 sx PSL/Class H	12,248'-12,298'
EOG Resources	710	SI-Inj	Sec 7, T25S, R34E	5/3/2003	17622	13 3/8	660	575 sx Class C	4 1/2	12485	700 sx Class H	13,588'-17,390'
EOG Resources	708	ACT - Oil	Sec 7, T25S, R34E	4/15/1994	12550	11 3/4	679	350 sx Prem Plus	5 1/2	12545	1432 HLC/prem Plus	12,290'-12,340'
EOG Resources	705	ACT - Oil	Sec 7, T25S, R34E	8/26/1994	12550	11 3/4	686	350 sx Class C	5 1/2	12541	1590 sx PSL/Class H	12,236'-12,353'
EOG Resources	703	ACT - Oil	Sec 7, T25S, R34E	7/2/1994	15218	11 3/4	650	350 sx Class C	5 1/2	12485	1491 sx HL/Prem	12,220'-12,280'
EOG Resources	203	ACT - Oil	Sec 12, T25S, R34E	2/16/1994	12600	11 3/4	678	351 sx Class C	5 1/2	12600	1867 sx PSL/Class H	12,270'-12,324'
EOG Resources	303	ACT - Oil	Sec 13, T25S, R34E	5/12/1994	12525	11 3/4	663	351 sx Class C	5 1/2	12505	1791 sx PSL/Class G	12,245'-12,290'
EOG Resources	702	ACT - Oil	Sec 7, T25S, R34E	10/9/1993	12600	11 3/4	662	351 sx Class C	5 1/2	12598	1526 sx H/Microseal	12,267'-12,371'
EOG Resources	802	ACT - Oil	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	803	ACT - Oil	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'



PITCHFORK RCH. N.
RED HILLS N.
PITCHFORK RANCH
VACA DRAW
FAIRVIEW MILLS
RED HILLS
PITCHFORK RCH. S.
MIDLAND MAP
RED HILL NO UT.
EOG (OPER)
N.E SALADO DRAW
(DP) UNIT
SOHIO (OPER)
EOG Res.
U.S.
State
Robert Madera
M.T. McCloy (S)
"Triste Draw Fed."
"Diamond-Fed."
"Madera-St."
"Madera-Fed."
"Diamond 5-Fed."
"Redhills No. Ut."
"Vaca 18 Fed."
Pitchfork Rch.-Fed.
C. Hankamer
Muse-Fed.
Hill & Meeker
Muse-Fed.
Paul Page
Edna M. Page
Otho N. Warren
Exxon
Enron
Yates Pet., etal
Mitchell Ener.
Chevron
Marathon
Roca Res., Co.
Amerada
Pioneer Nat. Res.
Energen
D.E Gonzales
Devon Ener.
Blanco Co.
L.D. Cannon
Continental
Amoco
Lete Dillon
Harry Dickson
Phillips
Westbrook
M.M. Wilson
T.H. Stovell Tr.
B.W. Dinwiddie (S)

eog resources

RHNU No. 706
1860' FSL & 660' FEL
Sec. 7-25S-34E
Lea County, New Mexico



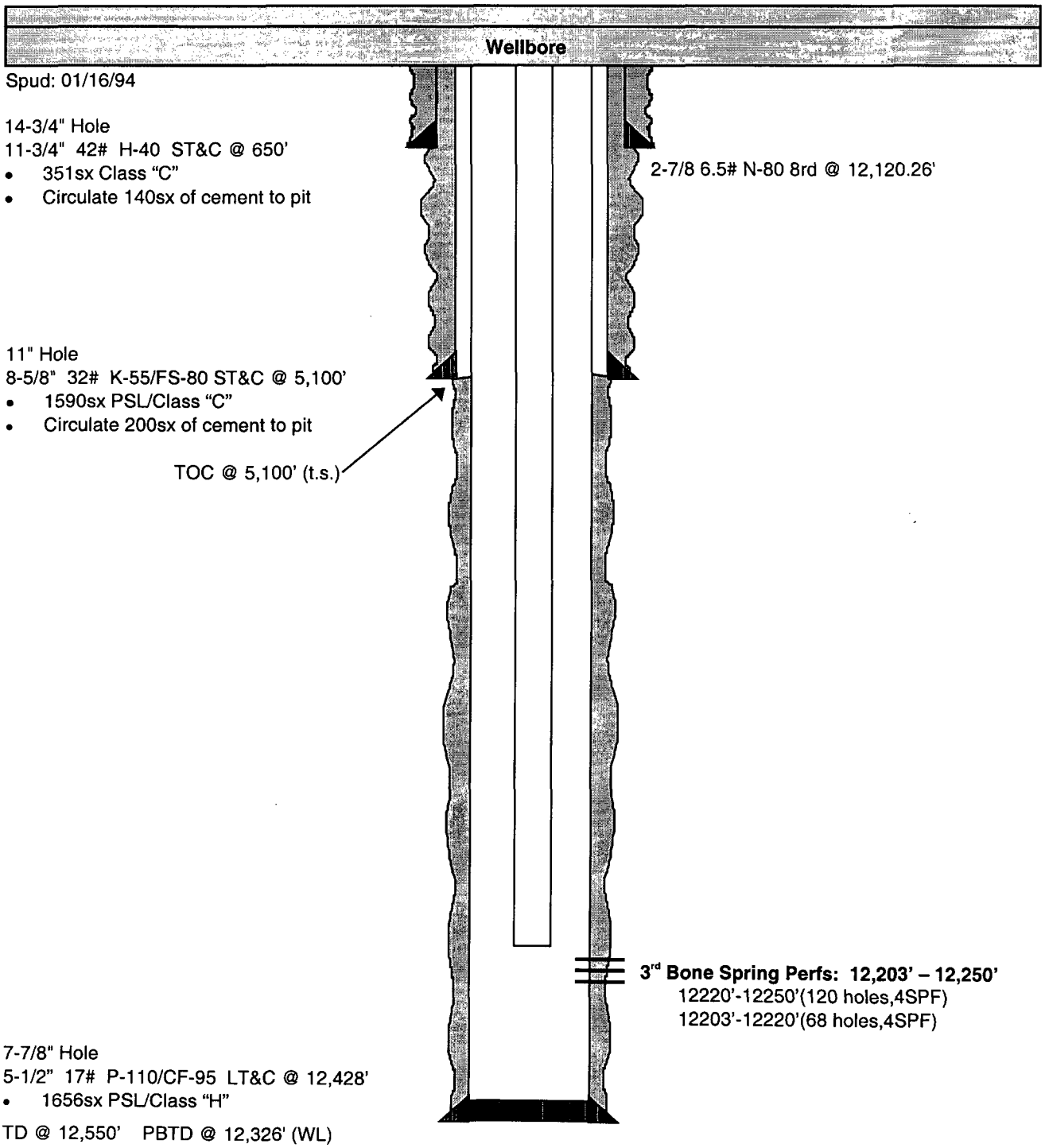
9/12/2005

RHNU # 707

EOG RESOURCES, INC.
1650' FNL & 2310' FWL
Sec.7-T25S-R34E

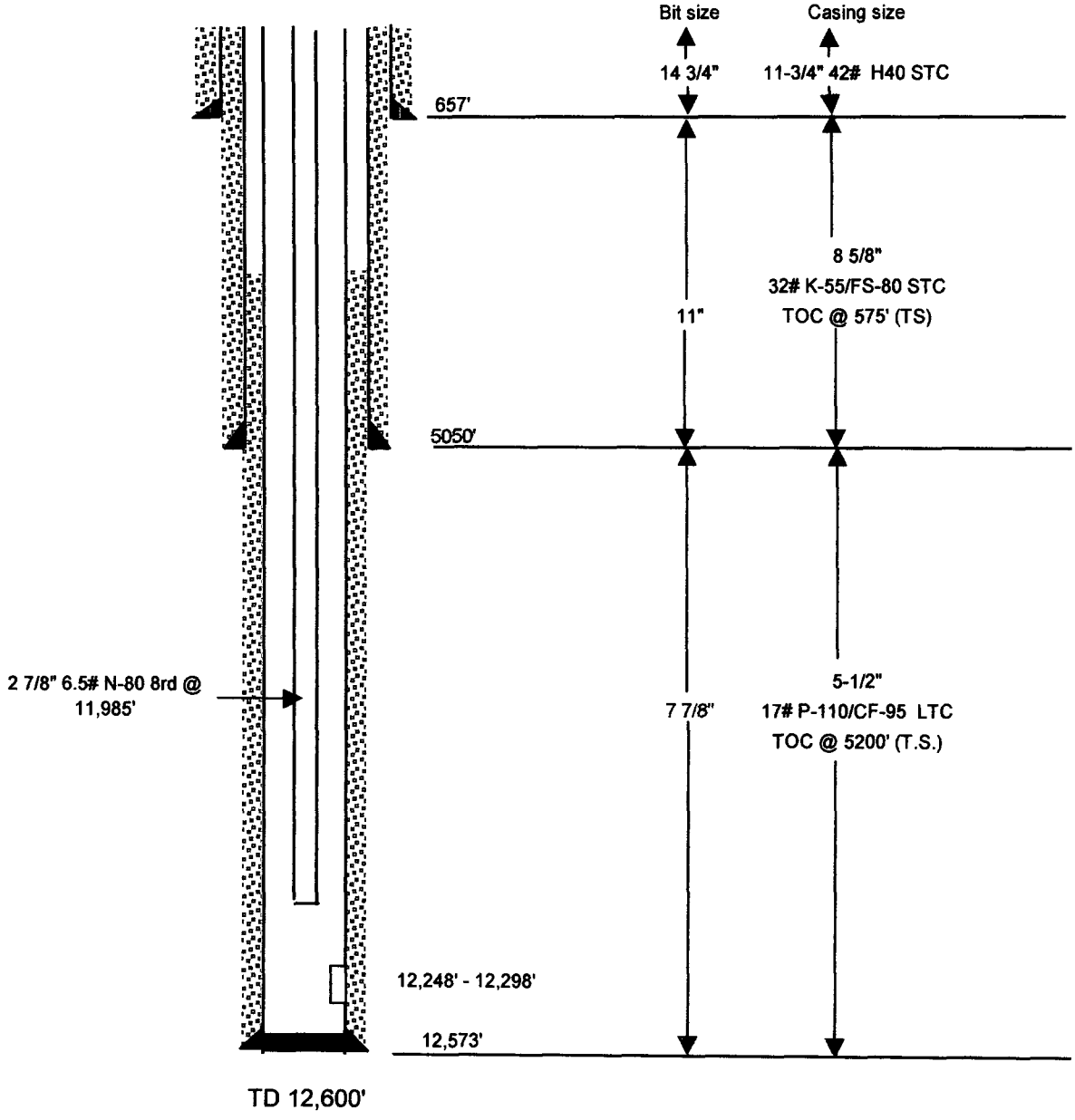
DIAMOND "7" STATE NO. 1
LEA CO., NEW MEXICO
AUGUST 01, 2000

WELLBORE SCHEMATIC



eog resources

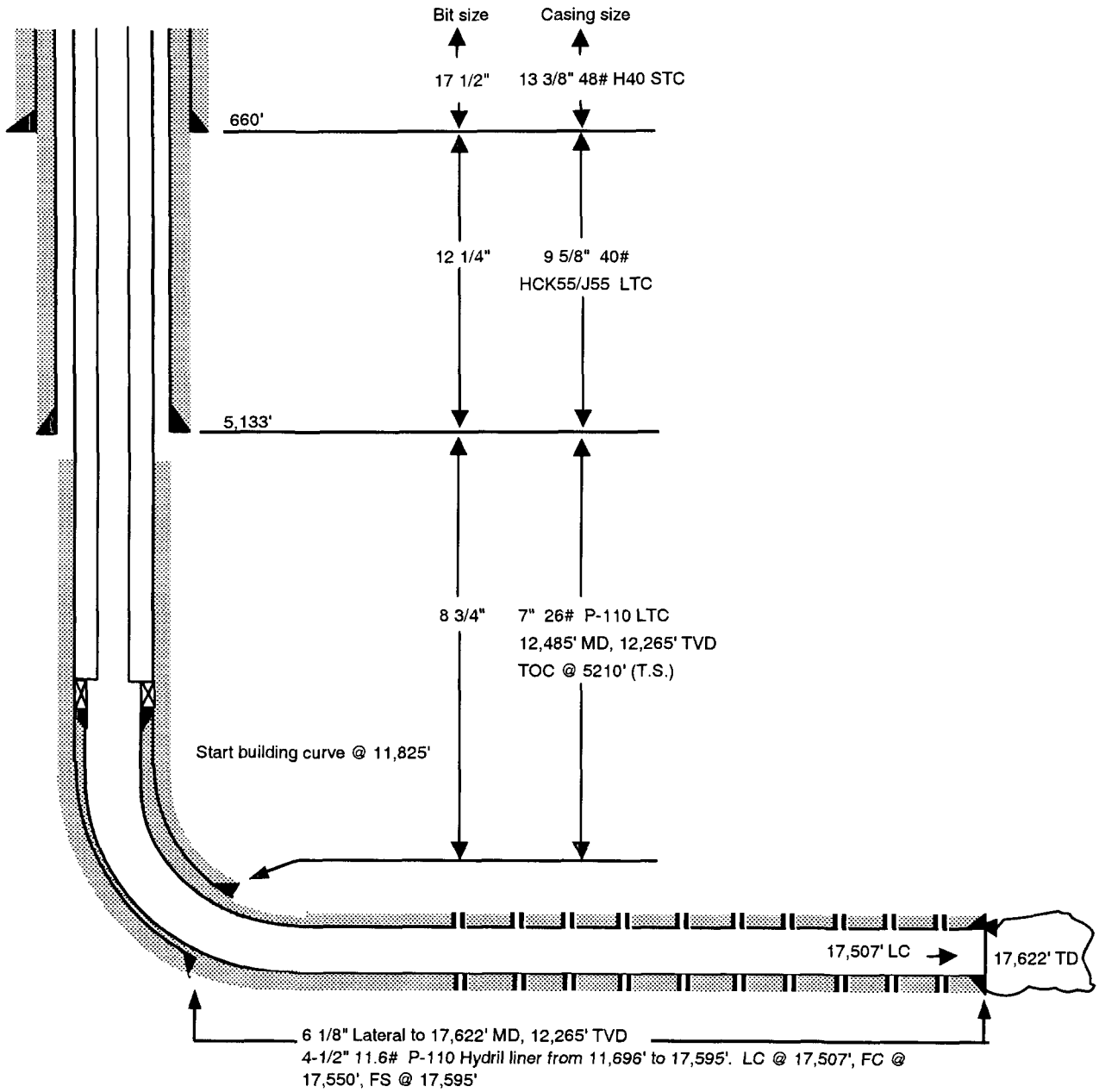
RHNU No. 704
2080' FNL & 560' FWL
Sec. 7-25S-34E
Lea County, New Mexico
API 30-025-32433



9/13/2005

RHNU NO. 710W

1603' FNL & 1,832 FEL
Sec.7-T25S-R34E
Lea County,New Mexico
PROSPECT: Red Hills



Perfs:

13,600' = 2 holes	15,600' = 5 holes
14,000' = 3 holes	16,000' = 5 holes
14,400' = 4 holes	16,400' = 6 holes
14,800' = 4 holes	16,900' = 6 holes
15,200' = 4 holes	17,400' = 7 holes

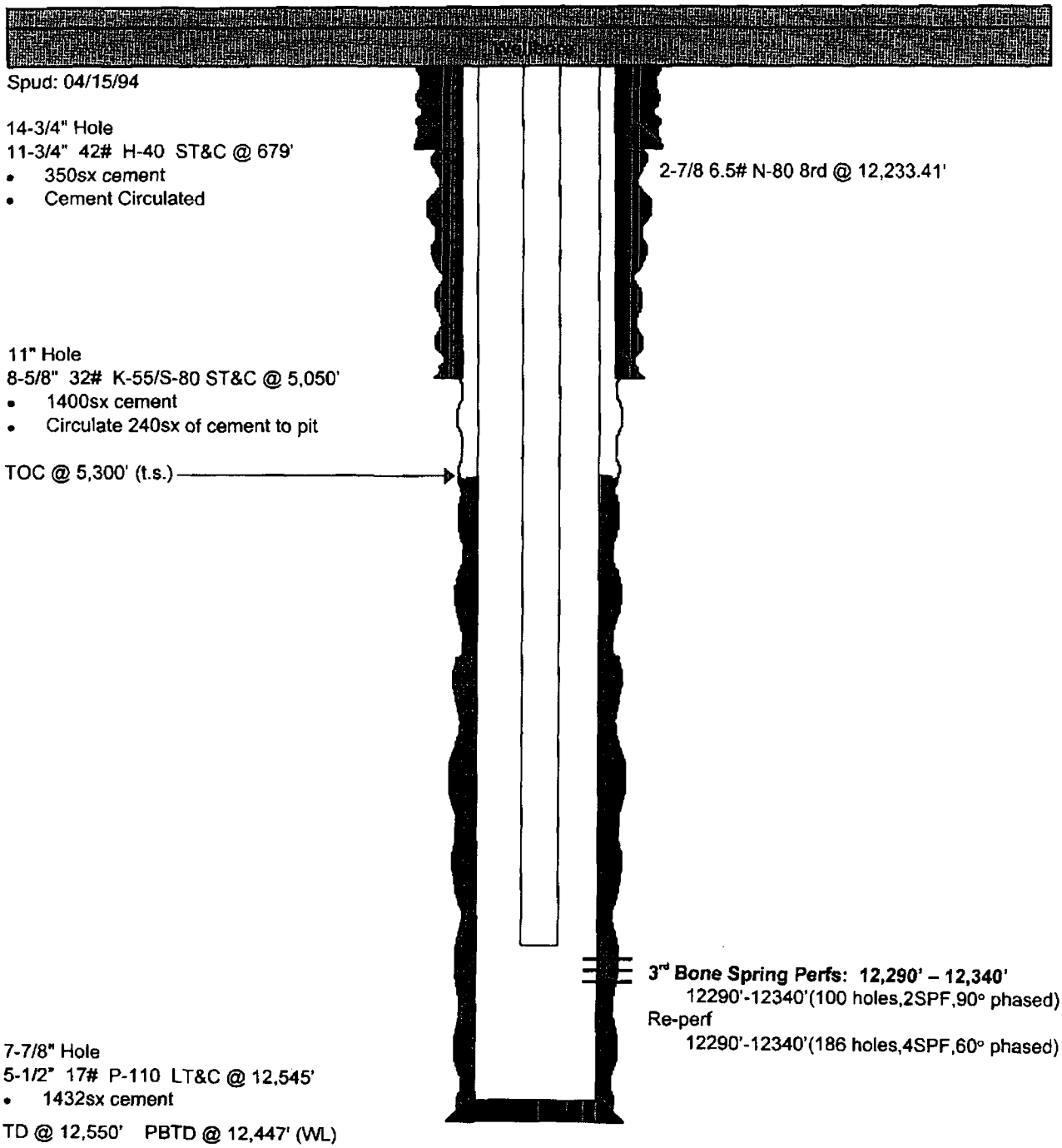
9/12/2005

RHNU # 708

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

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

WELLBORE SCHEMATIC

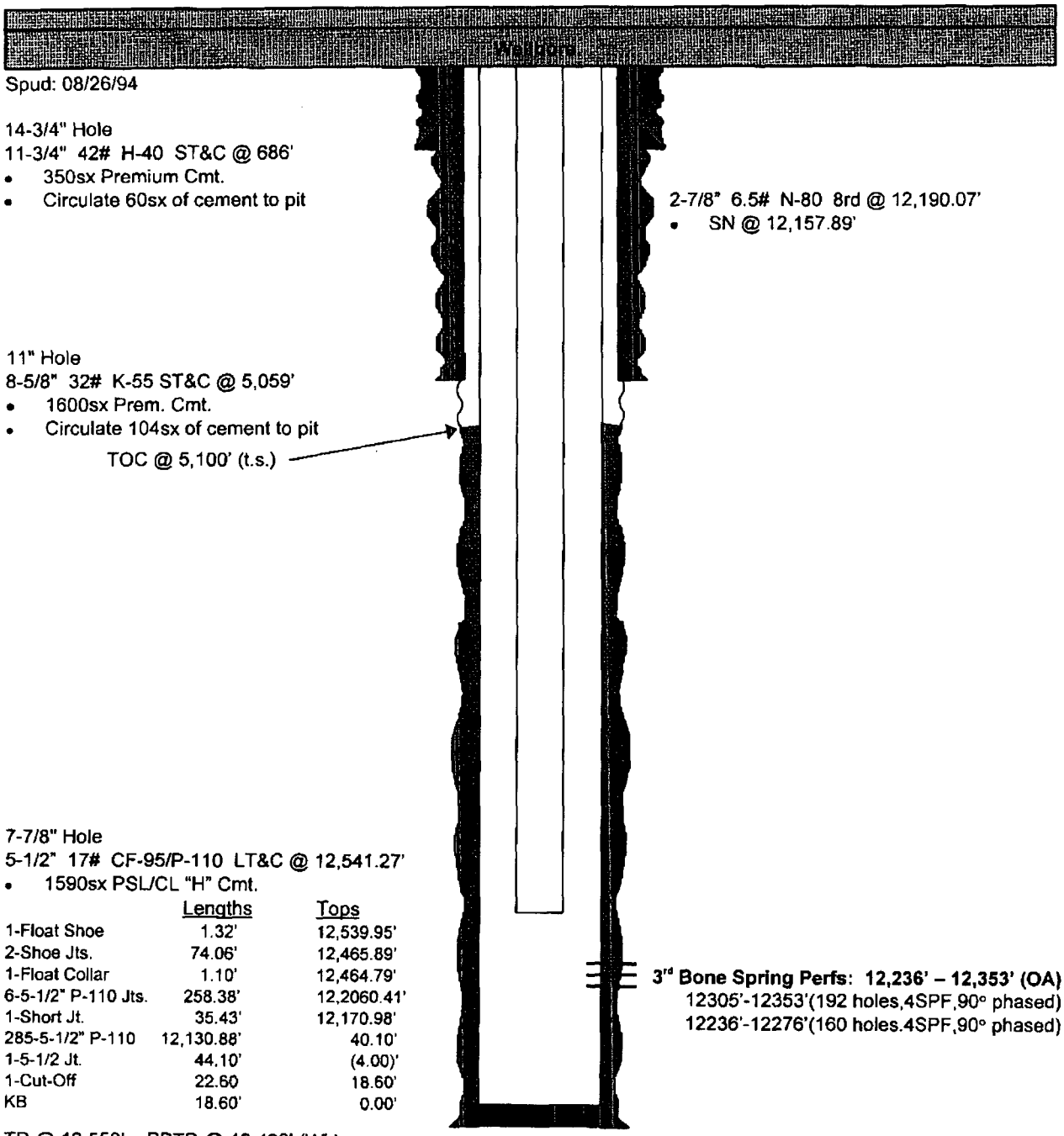


N:\SCHEMATICS\LEA\DIAMOND '7' STATE NO.2\COMP.DOC

EOG RESOURCES, INC.
660' FSL & 2110' FEL
Sec.7-T25S-R34E

RHNU NO. 705 / RED HILLS "7" FEDERAL NO. 1
LEA CO., NEW MEXICO
DECEMBER 12, 2000

WELLBORE SCHEMATIC



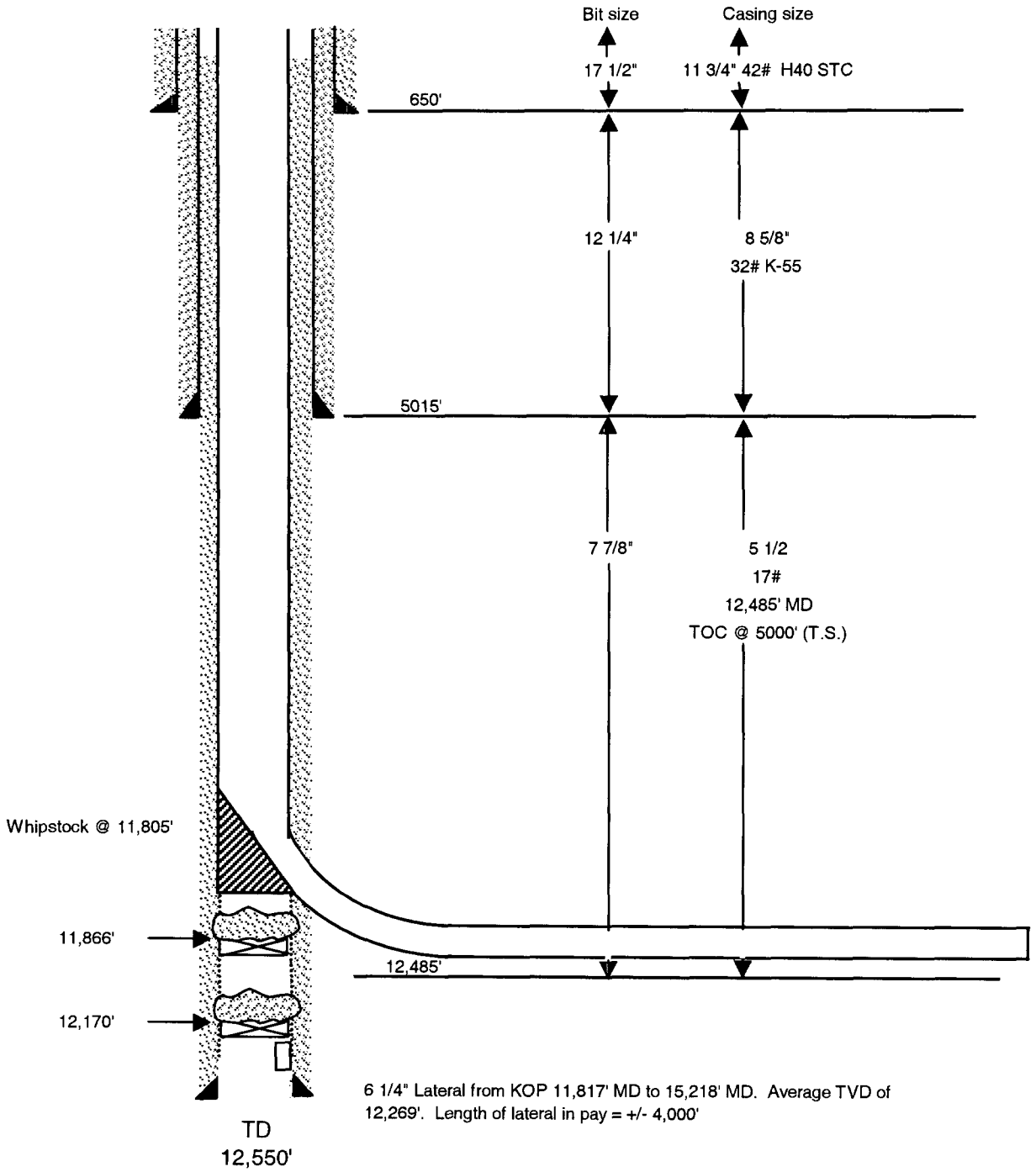
	Lengths	Tops
1-Float Shoe	1.32'	12,539.95'
2-Shoe Jts.	74.06'	12,465.89'
1-Float Collar	1.10'	12,464.79'
6-5-1/2" P-110 Jts.	258.38'	12,2060.41'
1-Short Jt.	35.43'	12,170.98'
285-5-1/2" P-110	12,130.88'	40.10'
1-5-1/2 Jt.	44.10'	(4.00)'
1-Cut-Off	22.60	18.60'
KB	18.60'	0.00'

TD @ 12,550' PBTD @ 12,422' (WL)

eog resources

Red Hills North Unit No. 703

990' FSL & 990' FWL
Sec. 7-25S-34E
Lea County, New Mexico



6 1/4" Lateral from KOP 11,817' MD to 15,218' MD. Average TVD of 12,269'. Length of lateral in pay = +/- 4,000'

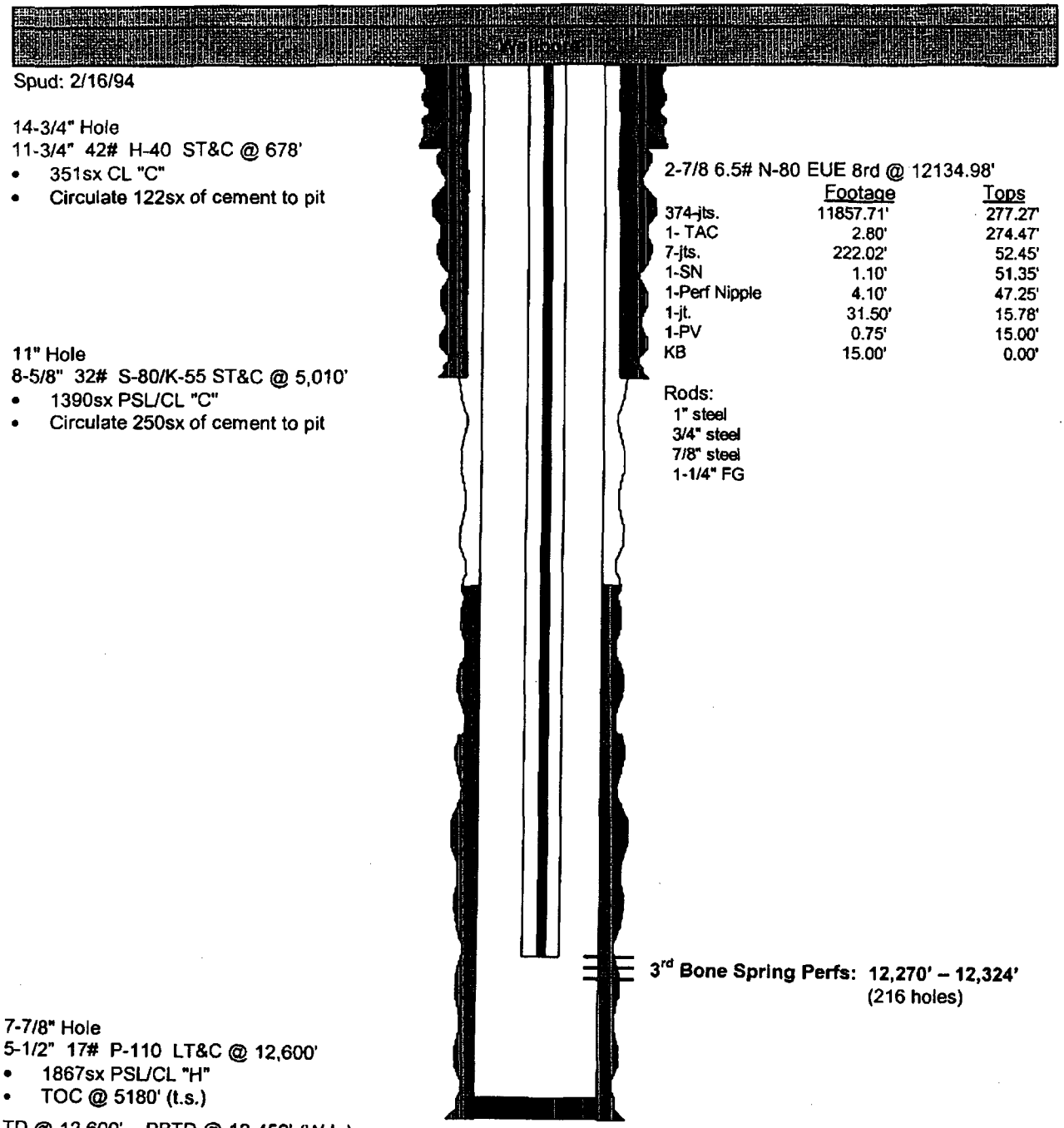
9/12/2005

RHNU No. 203

EOG RESOURCES, INC.
660' FSL & 660' FEL
Sec.12-T25S-R33E

HALLWOOD "12" FEDERAL NO. 3
LEA CO., NEW MEXICO
APRIL 3, 2000

WELLBORE SCHEMATIC



Spud: 2/16/94

14-3/4" Hole
11-3/4" 42# H-40 ST&C @ 678'
- 351sx CL "C"
- Circulate 122sx of cement to pit

11" Hole
8-5/8" 32# S-80/K-55 ST&C @ 5,010'
- 1390sx PSL/CL "C"
- Circulate 250sx of cement to pit

7-7/8" Hole
5-1/2" 17# P-110 LT&C @ 12,600'
- 1867sx PSL/CL "H"
- TOC @ 5180' (t.s.)

TD @ 12,600' PBTD @ 12,459' (W.L.)

2-7/8 6.5# N-80 EUE 8rd @ 12134.98'

	Footage	Tops
374-jts.	11857.71'	277.27'
1- TAC	2.80'	274.47'
7-jts.	222.02'	52.45'
1-SN	1.10'	51.35'
1-Perf Nipple	4.10'	47.25'
1-jt.	31.50'	15.78'
1-PV	0.75'	15.00'
KB	15.00'	0.00'

Rods:
1" steel
3/4" steel
7/8" steel
1-1/4" FG

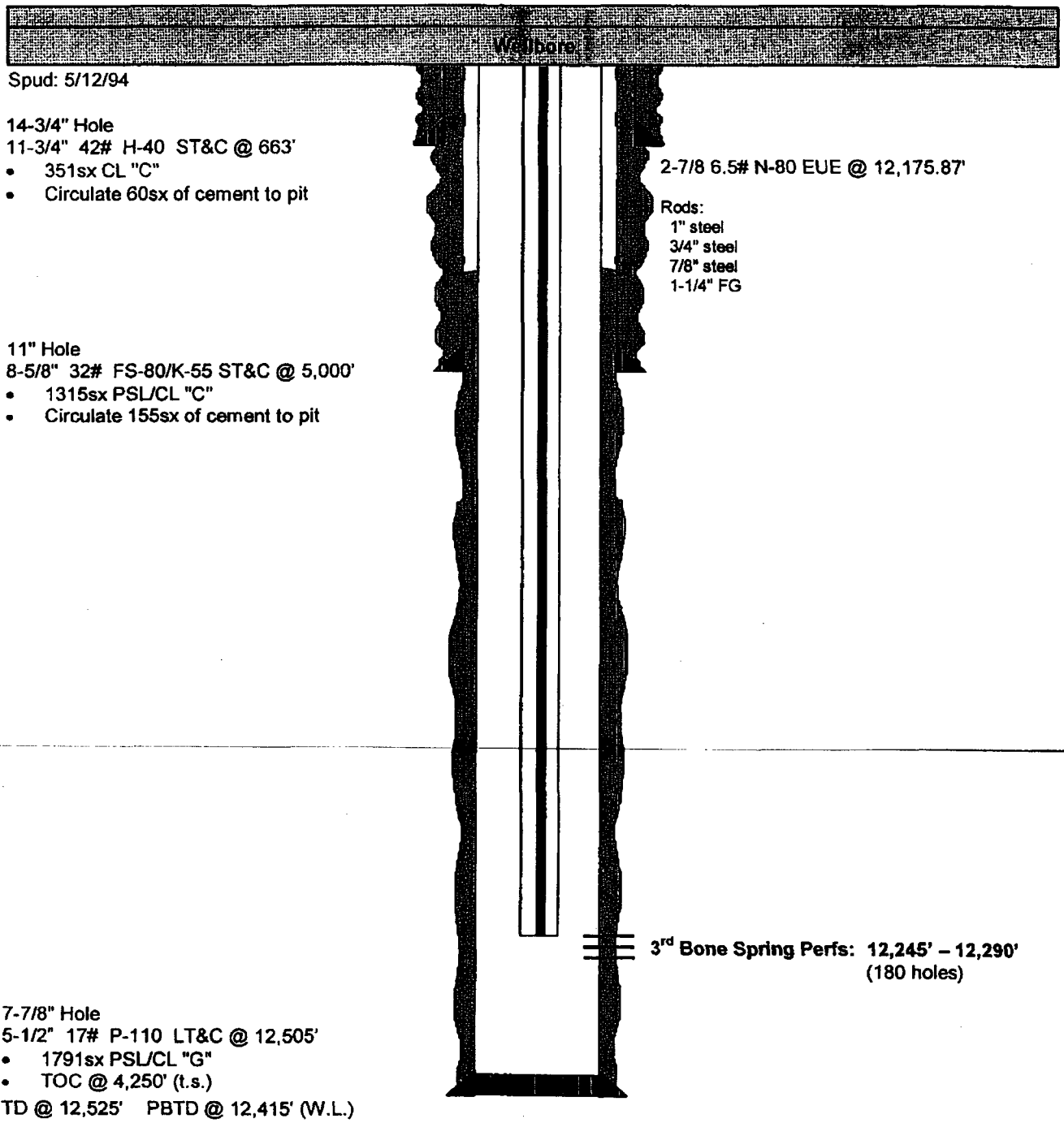
3rd Bone Spring Perfs: 12,270' – 12,324'
(216 holes)

N:\SCHEMATICS\LEA\HALLWOOD 12 FEDERAL NO.3\COMP.DOC

EOG RESOURCES, INC.
660' FNL & 660' FEL
Sec.13-T25S-R33E

RHNU No. 303
LEA CO., NEW MEXICO
APRIL 3, 2000

WELLBORE SCHEMATIC



Spud: 5/12/94

14-3/4" Hole
11-3/4" 42# H-40 ST&C @ 663'
- 351sx CL "C"
- Circulate 60sx of cement to pit

11" Hole
8-5/8" 32# FS-80/K-55 ST&C @ 5,000'
- 1315sx PSL/CL "C"
- Circulate 155sx of cement to pit

2-7/8 6.5# N-80 EUE @ 12,175.87'

Rods:
1" steel
3/4" steel
7/8" steel
1-1/4" FG

3rd Bone Spring Perfs: 12,245' – 12,290'
(180 holes)

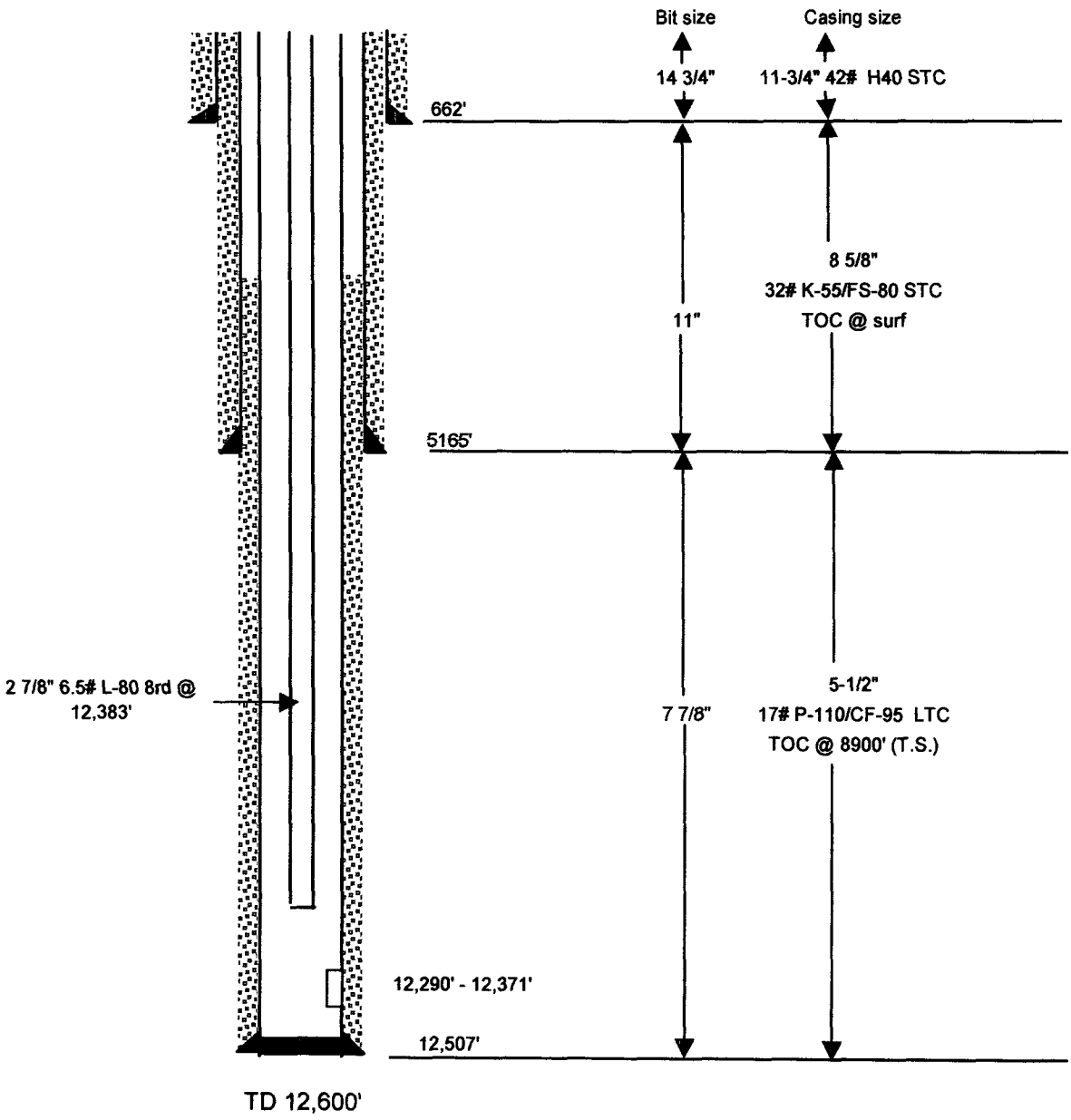
7-7/8" Hole
5-1/2" 17# P-110 LT&C @ 12,505'
- 1791sx PSL/CL "G"
- TOC @ 4,250' (t.s.)

TD @ 12,525' PBTD @ 12,415' (W.L.)

N:\SCHEMATICS\LEA\VACA 13 FEDERAL NO.3\COMP.DOC

eog resources

RHNU No. 702
1980' FNL & 1780' FEL
Sec. 7-25S-34E
Lea County, New Mexico
API 30-025-32248



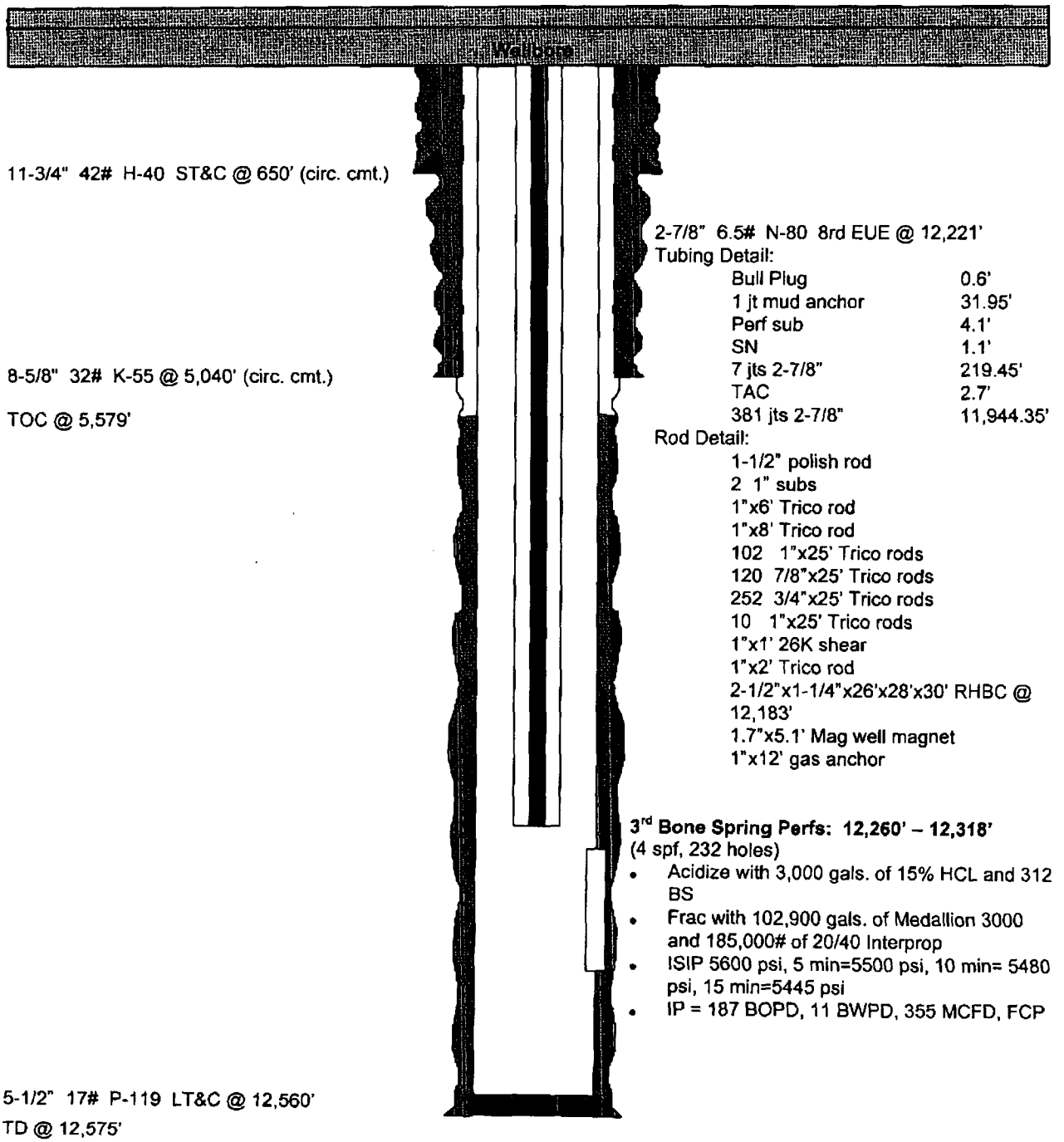
9/13/2005

RHNU # 802

ENRON OIL & GAS COMPANY

DIAMOND "18" FEDERAL NO. 2
LEA CO., NEW MEXICO
MAY 13, 1998

WELLBORE SCHEMATIC



11-3/4" 42# H-40 ST&C @ 650' (circ. cmt.)

8-5/8" 32# K-55 @ 5,040' (circ. cmt.)

TOC @ 5,579'

2-7/8" 6.5# N-80 8rd EUE @ 12,221'

Tubing Detail:

Bull Plug	0.6'
1 jt mud anchor	31.95'
Perf sub	4.1'
SN	1.1'
7 jts 2-7/8"	219.45'
TAC	2.7'
381 jts 2-7/8"	11,944.35'

Rod Detail:

1-1/2" polish rod
2 1" subs
1"x6' Trico rod
1"x8' Trico rod
102 1"x25' Trico rods
120 7/8"x25' Trico rods
252 3/4"x25' Trico rods
10 1"x25' Trico rods
1"x1' 26K shear
1"x2' Trico rod
2-1/2"x1-1/4"x26'x28'x30' RHBC @ 12,183'
1.7"x5.1' Mag well magnet
1"x12' gas anchor

3rd Bone Spring Perfs: 12,260' – 12,318'
(4 spf, 232 holes)

- Acidize with 3,000 gals. of 15% HCL and 312 BS
- Frac with 102,900 gals. of Medallion 3000 and 185,000# of 20/40 Interprop
- ISIP 5600 psi, 5 min=5500 psi, 10 min= 5480 psi, 15 min=5445 psi
- IP = 187 BOPD, 11 BWPD, 355 MCFD, FCP

5-1/2" 17# P-119 LT&C @ 12,560'
TD @ 12,575'

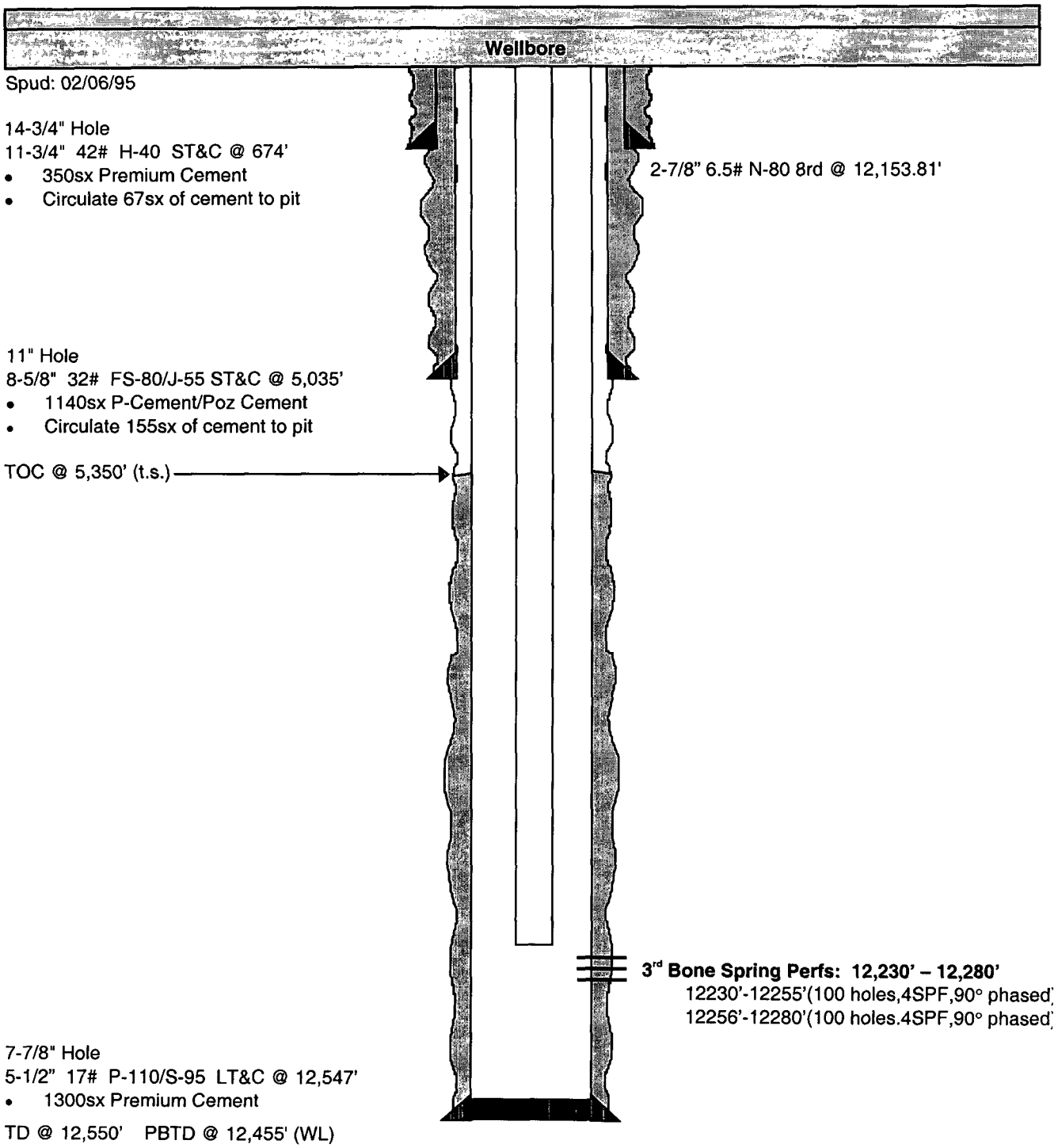
N:\SCHEMATICS\LEA\D18F2\COMP.DOC

RHNU # 803

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

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

WELLBORE SCHEMATIC



New Mexico Office of the State Engineer
Well Reports and Downloads

Township: 25S Range: 33E Sections: 13

NAD27 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 Nbr	Use	(acre ft per annum) Diversion	Owner	Well Number	Source	(quarters are 1= (quarters are bi
C 02336	PRO	3	ENRON OIL & GAS COMPANY	C 02336	Shallow	2
C 02373	COM	25	ENRON OIL & GAS COMPANY	C 02373 S	Shallow	2

Record Count: 2

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

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

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

COMPANY EOG Resources, Inc. LEASE Vaca 13 Federal
FIELD OR POOL
SECTION 13 BLOCK SURVEY T-25S&R-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_3	88			
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	4,300			
Calcium as Ca	980			
Magnesium as Mg	450			
Sodium and/or Potassium	485			
Sulfate as SO_4	458			
Chloride as Cl	3,409			
Iron as Fe	11.2			
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	5,869			
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen,				
Hydrogen Sulfide	0.0			
Resistivity, ohmsm at 77° F.	0.920			
Suspended Oil				
Filtrable 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.

Form No. 3

By
Waylan C. Martin, M.A.

Side 1

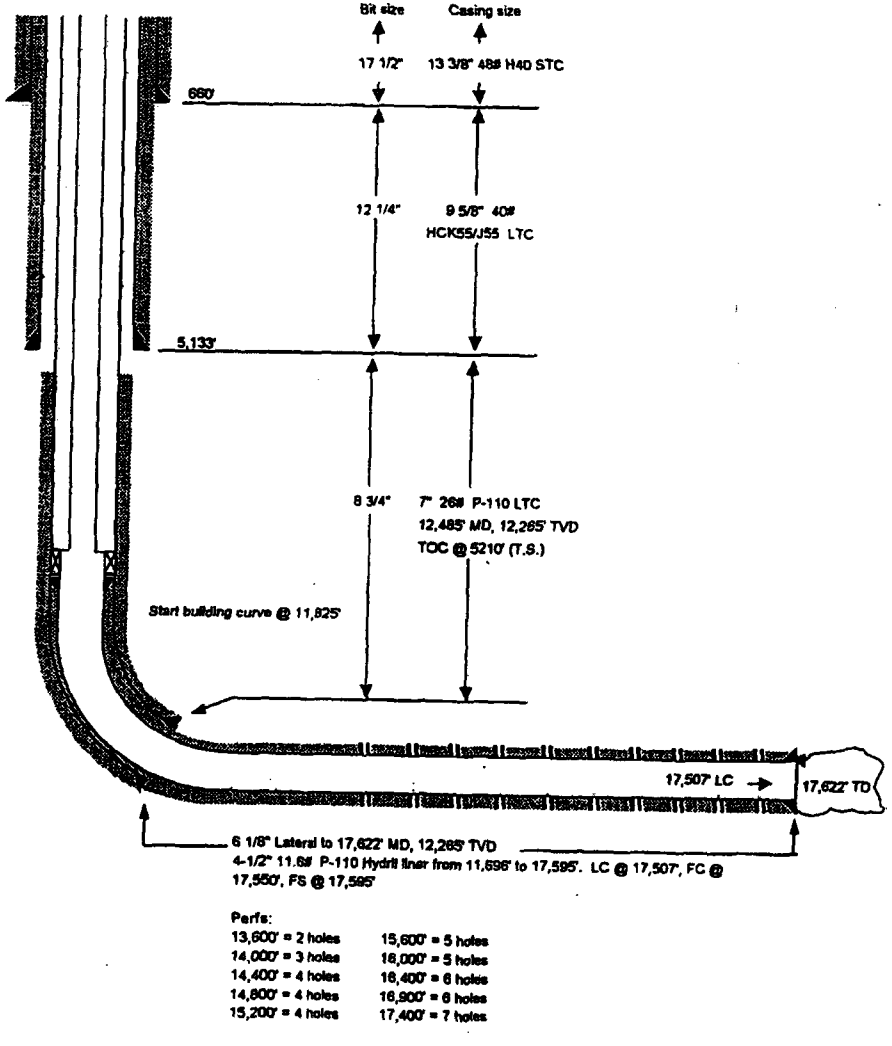
INJECTION WELL DATA SHEET

OPERATOR: EOG Resources, Inc.

WELL NAME & NUMBER: Red Hills North Unit No. 710 30-025- 36217

WELL LOCATION:	SL 1603 FNL & 1832 FEL BHL 2380 FSL & 1100 FWL	G L	7	25S	34E
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 17 1/2 Casing Size: 13 3/8

Cemented with: 575 sx. *or* _____ ft³

Top of Cement: Surface Method Determined: CIRC

Intermediate Casing

Hole Size: 12 1/4 Casing Size: 9 5/8

Cemented with: 1860 sx. *or* _____ ft³

Top of Cement: Surface Method Determined: CIRC

Production Casing

Hole Size: 8 3/4 Casing Size: 7

Cemented with: 450 sx. *or* _____ ft³

Top of Cement: 5210 Method Determined: Temp Survey

Total Depth: 17622 MD, 12265 VD

Injection Interval

13588 feet to 17390 MD

(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEET

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

Type of Packer: Halliburton PLS

Packer Setting Depth: 11623

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

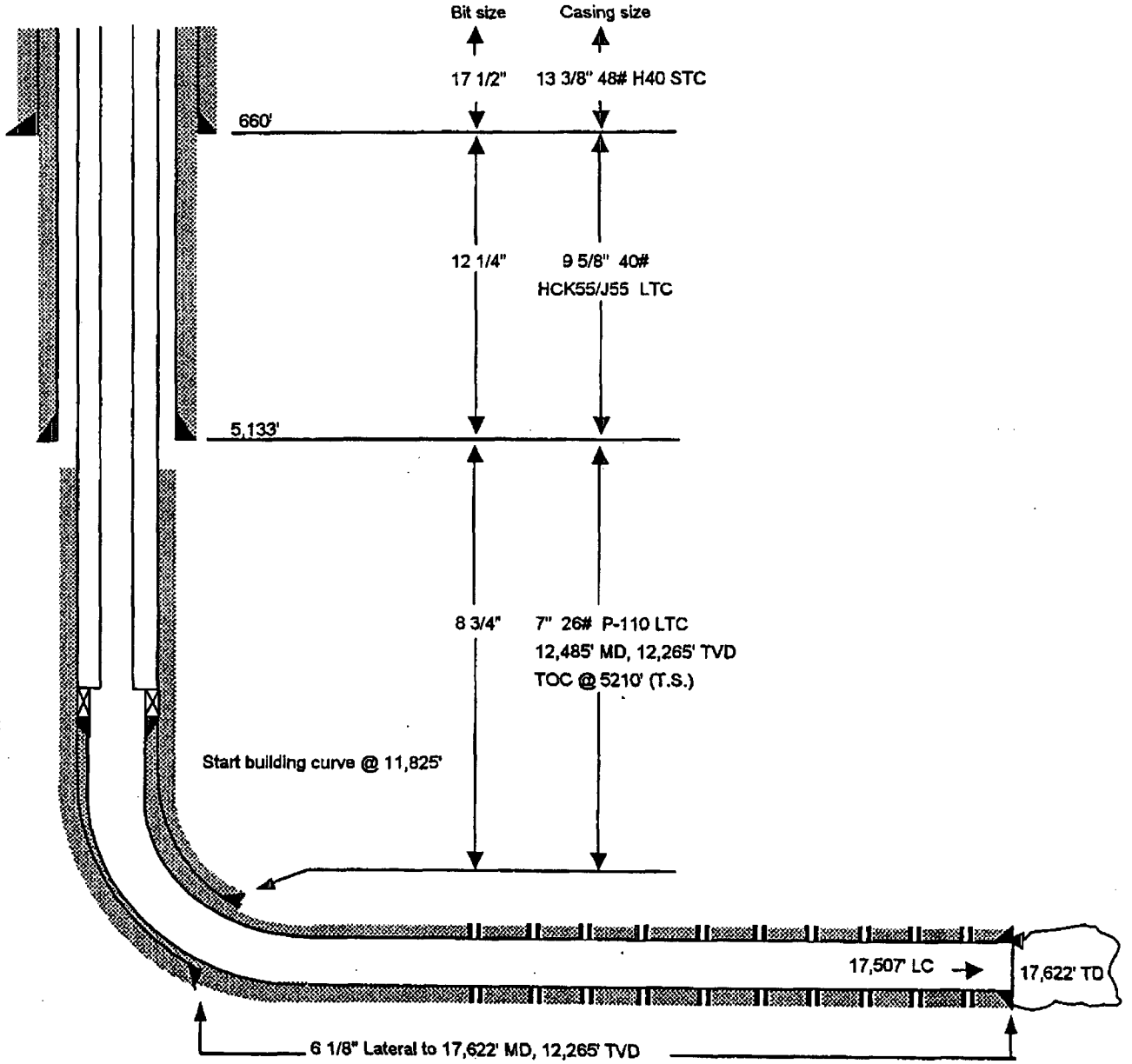
5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area:

   Next Higher; Delaware 5183'-9260'

   Next Lower; Wolfcamp 12284'-13800'

RHNU NO. 710W

1603' FNL & 1,832 FEL
Sec.7-T25S-R34E
Lea County,New Mexico
PROSPECT: Red Hills



Perfs:

13,600' = 2 holes	15,600' = 5 holes
14,000' = 3 holes	16,000' = 5 holes
14,400' = 4 holes	16,400' = 6 holes
14,800' = 4 holes	16,900' = 6 holes
15,200' = 4 holes	17,400' = 7 holes

8/13/2003

APPLICATION FOR AUTHORIZATION TO INJECT
RED HILLS NORTH UNIT NO. 710

VII. PROPOSED OPERATION

(1) Proposed Average Daily Rate and Volume : 2000 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: 3rd Bone Spring
Lithologic Detail: Fine grain sandstone
Geological Name: 3rd Bone Spring
Thickness: Bone Spring – 3204'
3rd Bone Spring – 384'
Depth: Bone Spring 9260' to 12284'
3rd Bone Spring 11900' to 12284'
Underground Sources of Drinking Water:
Geological Name: Triasic
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 one fresh water well within one mile of the injection well.

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:

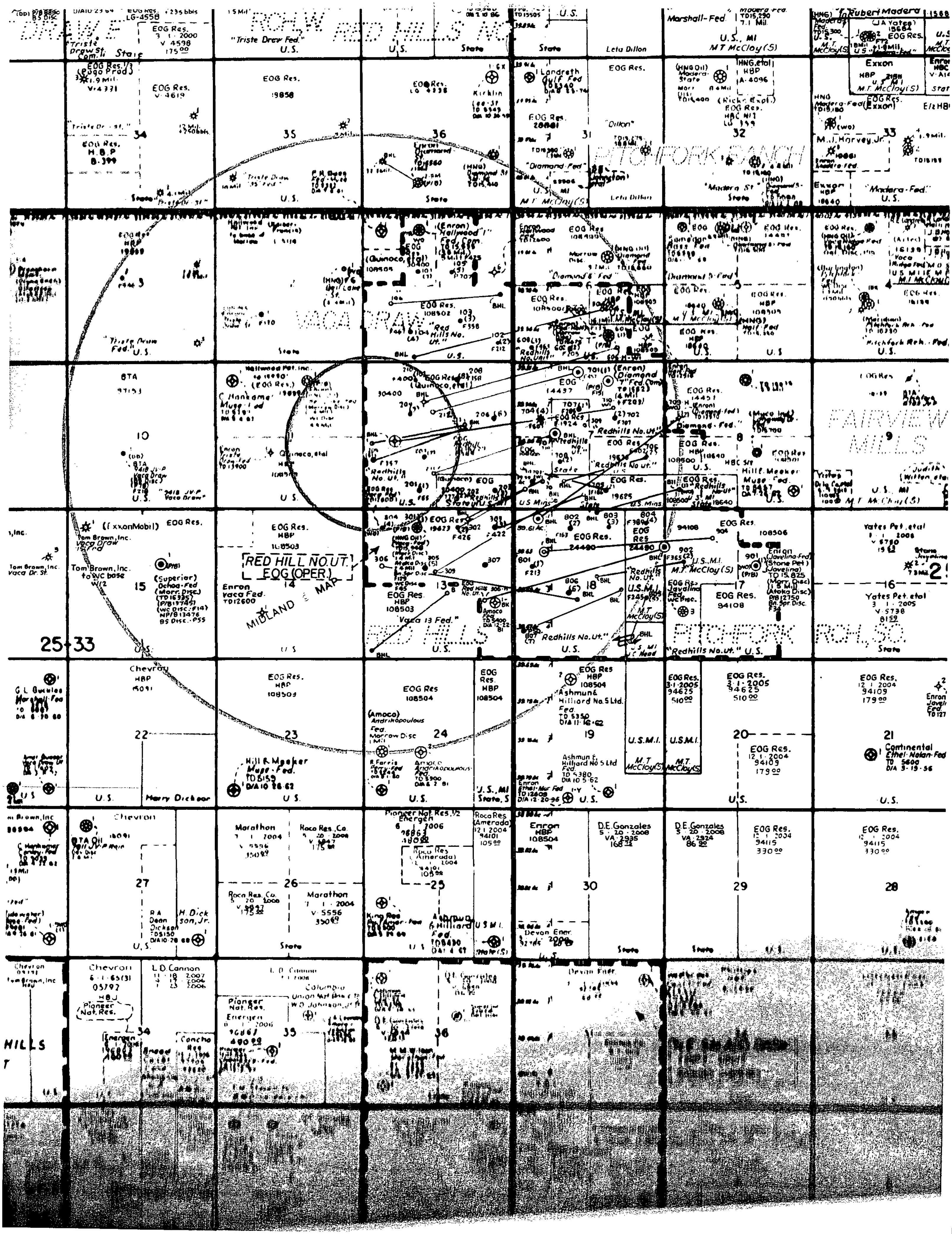
Mark McCloy
P.O. Box 1076
Jal, NM 88252

Offset Operators:

EOG is the 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 # 710

						Surface Casing			Production Casing			
Operator	Lease/Well	Status	Location	Spud Date	TMD	Size	Depth	Cement	Size	Depth	Cement	Producing Perforations
EOG Resources	RHNU 201	Producer	Sec 12, T25S, R34E	7/17/1993	13900	11 3/4	646	351 sx Class C	3 1/2	12059	1581 sx Class C	12230-12340
EOG Resources	RHNU 203	Producer	Sec 12, T25S, R34E	2/16/1994	12600	11 3/4	678	351 sx Class C	5 1/2	12600	1867 sx PSL/H	12270-12324
EOG Resources	RHNU 209	Producer	Sec 12, T25S, R34E	12/11/1994	12540	11 3/4	679	350 sx Prem Plus	5 1/2	12524	1387 sx HLP/Prem	12252-12312
EOG Resources	RHNU 210	Producer	Sec 12, T25S, R34E	3/27/1995	12550	11 3/4	671	350 sx Prem Plus	5 1/2	12537	1213 sx Prem/POZ	12238-12282
EOG Resources	RHNU 212	Producer	Sec 12, T25S, R34E	3/12/2001	17382	13 3/8	653	500 sx Prem Plus	4 1/2	17296	370 sx Prem	15145-17105
EOG Resources	RHNU 304	Producer	Sec 13, T25S, R34E	9/9/1993	12600	11 3/4	645	351 sx Class C	5 1/2	12480	1497 sx PSL	12216-12254



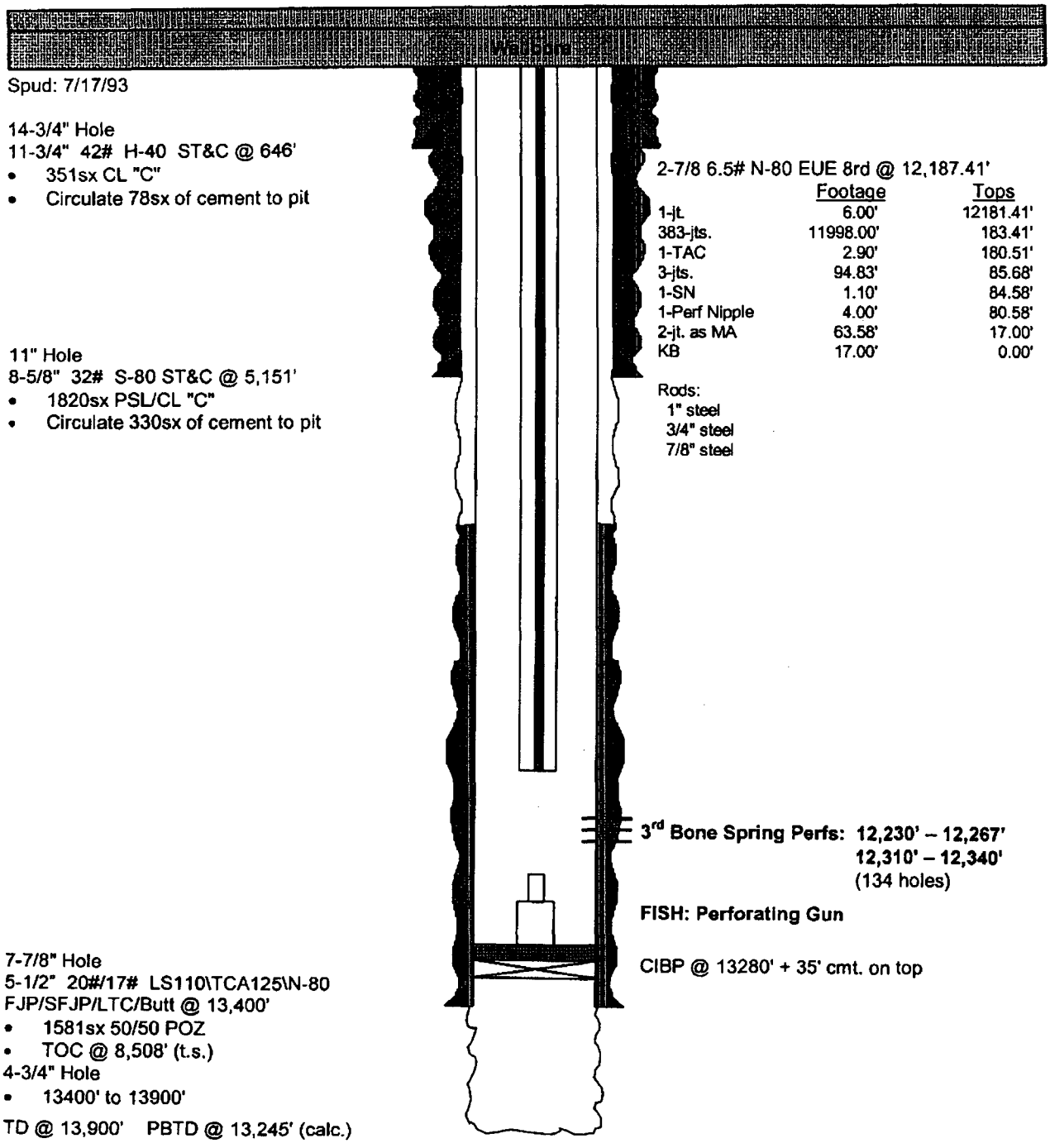
RED HILL NO.UT.
EOG (OPER.)
MIDLAND MAP
VACA DRAW
RED HILLS
PITCHFORK RANCH
PITCHFORK RCH.SO.
FAIRVIEW MILLS
25 33
"Triste Draw Fed."
"Redhills No.Ut."
"Diamond 7 Fed."
"Diamond 'T' Fed."
"Vaca 13 Fed."
"Madera St."
"Madera-Fed."
Pitchfork Rch.-Fed.
EOG Res.
EOG Res. HBP 108503
EOG Res. 108504
EOG Res. 19625
EOG Res. 24490
EOG Res. 94108
EOG Res. 19858
EOG Res. V-4619
EOG Res. 3-1-2000 V-4598 175.00
E.O.G. Res. H.B.P. B-399
M.T. McCloy (S)
U.S.
U.S. M.I.
State
Leta Dillon
Tom Brown, Inc. to WC base W/2
Tom Brown, Inc. Vaca Draw
(ExxonMobil)
Chevron HBP 15091
Chevron 6-1-65(3) 05792 HBJ
Enron Vaca Fed. TD12600
Marathon 7-1-2004 V-5556 350.00
Roca Res. Co. 5-20-2006
Ashmun & Hilliard No.5 Ltd.
Ashmun & Hilliard No.5 Ltd. TD 5380 D/A 10 5 62
Hill & Meeker Muse-Fed. TD6159 D/A 10 26 62
Hill & Meeker Muse-Fed.
(Amoco) Andrikopoulous Fed. Morrow Disc 1 Mil
Amoco Andrikopoulous Fed.
D.E. Gonzales 5-20-2008 VA-2935 168.75
D.E. Gonzales 5-20-2008 VA-2924 86.00
EOG Res. 12-1-2004 94115 330.00
EOG Res. 12-1-2004 94109 179.00
EOG Res. 3-1-2005 94625 510.00
Continental Ethel-Nolan-Fed TD 5600 D/A 3-15-56
Yates Pet. etal 3-1-2005 V-5738 81.59
Yates Pet. etal 1-1-2006 V-5780 15.62
Enron HBP 108504
Roca Res (Amerada) 12-1-2004 94101 105.00
Pioneer Nat. Res. 1/2 Energen 6-1-2006 98863 460.00
Pioneer Nat. Res.
Devon Ener.
L.D. Cannon
BTA 97153
C. Hankamer Muse-Fed
Quinoco, etal
Hallwood Pet. Inc.
Landreth Gulf Fed
Exxon HBP M.T. McCloy(S)
Marshall-Fed
M.J. Harvey, Jr.
U.S., MI M.T McCloy(S)
H. Dickson, Jr.
R.A. Dean Dickson TD5150 D/A 10-28-68
Harry Dickson
G.L. Buckles
BHL
34 35 36 31 32 33
3 4 5 6 10 9 8 7
15 14 13 18 17 16
22 23 24 19 20 21
27 26 25 30 29 28
34 35 36

RHNU No. 201

EOG RESOURCES, INC.
660' FSL & 1980' FWL
Sec.12-T25S-R33E

HALLWOOD "12" FEDERAL NO. 1
LEA CO., NEW MEXICO
APRIL 3, 2000

WELLBORE SCHEMATIC



Spud: 7/17/93

14-3/4" Hole
11-3/4" 42# H-40 ST&C @ 646'
- 351sx CL "C"
- Circulate 78sx of cement to pit

11" Hole
8-5/8" 32# S-80 ST&C @ 5,151'
- 1820sx PSL/CL "C"
- Circulate 330sx of cement to pit

7-7/8" Hole
5-1/2" 20#/17# LS110\TCA125\N-80
FJP/SFJP/LTC/Butt @ 13,400'
- 1581sx 50/50 POZ
- TOC @ 8,508' (t.s.)

4-3/4" Hole
- 13400' to 13900'

TD @ 13,900' PBTD @ 13,245' (calc.)

2-7/8 6.5# N-80 EUE 8rd @ 12,187.41'

	Footage	Tops
1-jt.	6.00'	12181.41'
383-jts.	11998.00'	183.41'
1-TAC	2.90'	180.51'
3-jts.	94.83'	85.68'
1-SN	1.10'	84.58'
1-Perf Nipple	4.00'	80.58'
2-jt. as MA	63.58'	17.00'
KB	17.00'	0.00'

Rods:
1" steel
3/4" steel
7/8" steel

3rd Bone Spring Perfs: 12,230' – 12,267'
12,310' – 12,340'
(134 holes)

FISH: Perforating Gun

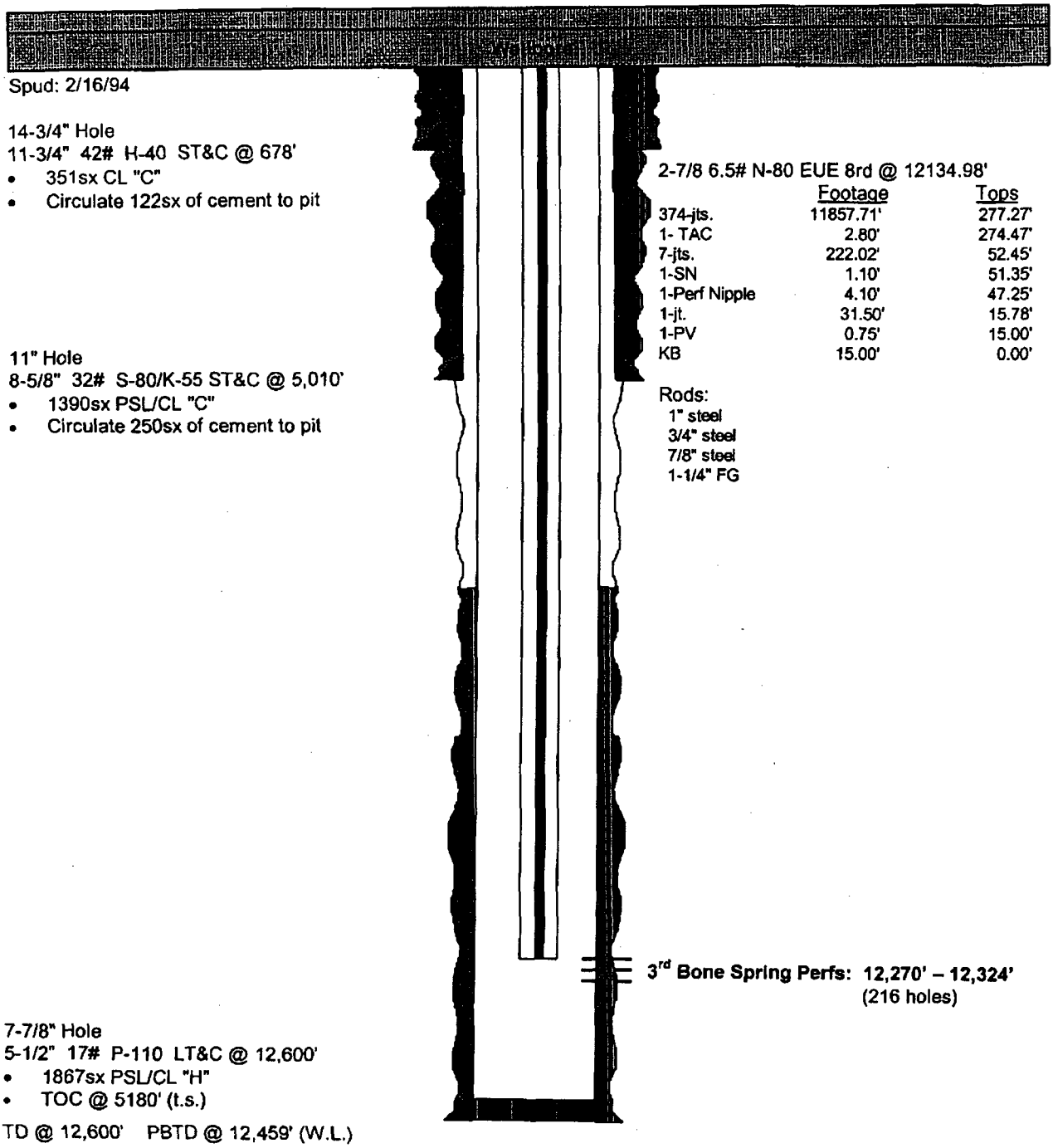
CIBP @ 13280' + 35' cmt. on top

RHNU No. 203

EOG RESOURCES, INC.
660' FSL & 660' FEL
Sec.12-T25S-R33E

HALLWOOD "12" FEDERAL NO. 3
LEA CO., NEW MEXICO
APRIL 3, 2000

WELLBORE SCHEMATIC



Spud: 2/16/94

14-3/4" Hole
11-3/4" 42# H-40 ST&C @ 678'
- 351sx CL "C"
- Circulate 122sx of cement to pit

11" Hole
8-5/8" 32# S-80/K-55 ST&C @ 5,010'
- 1390sx PSL/CL "C"
- Circulate 250sx of cement to pit

7-7/8" Hole
5-1/2" 17# P-110 LT&C @ 12,600'
- 1867sx PSL/CL "H"
- TOC @ 5180' (t.s.)

TD @ 12,600' PBTD @ 12,459' (W.L.)

2-7/8 6.5# N-80 EUE 8rd @ 12134.98'

	Footage	Tops
374-jts.	11857.71'	277.27'
1- TAC	2.80'	274.47'
7-jts.	222.02'	52.45'
1-SN	1.10'	51.35'
1-Perf Nipple	4.10'	47.25'
1-jt.	31.50'	15.78'
1-PV	0.75'	15.00'
KB	15.00'	0.00'

Rods:
1" steel
3/4" steel
7/8" steel
1-1/4" FG

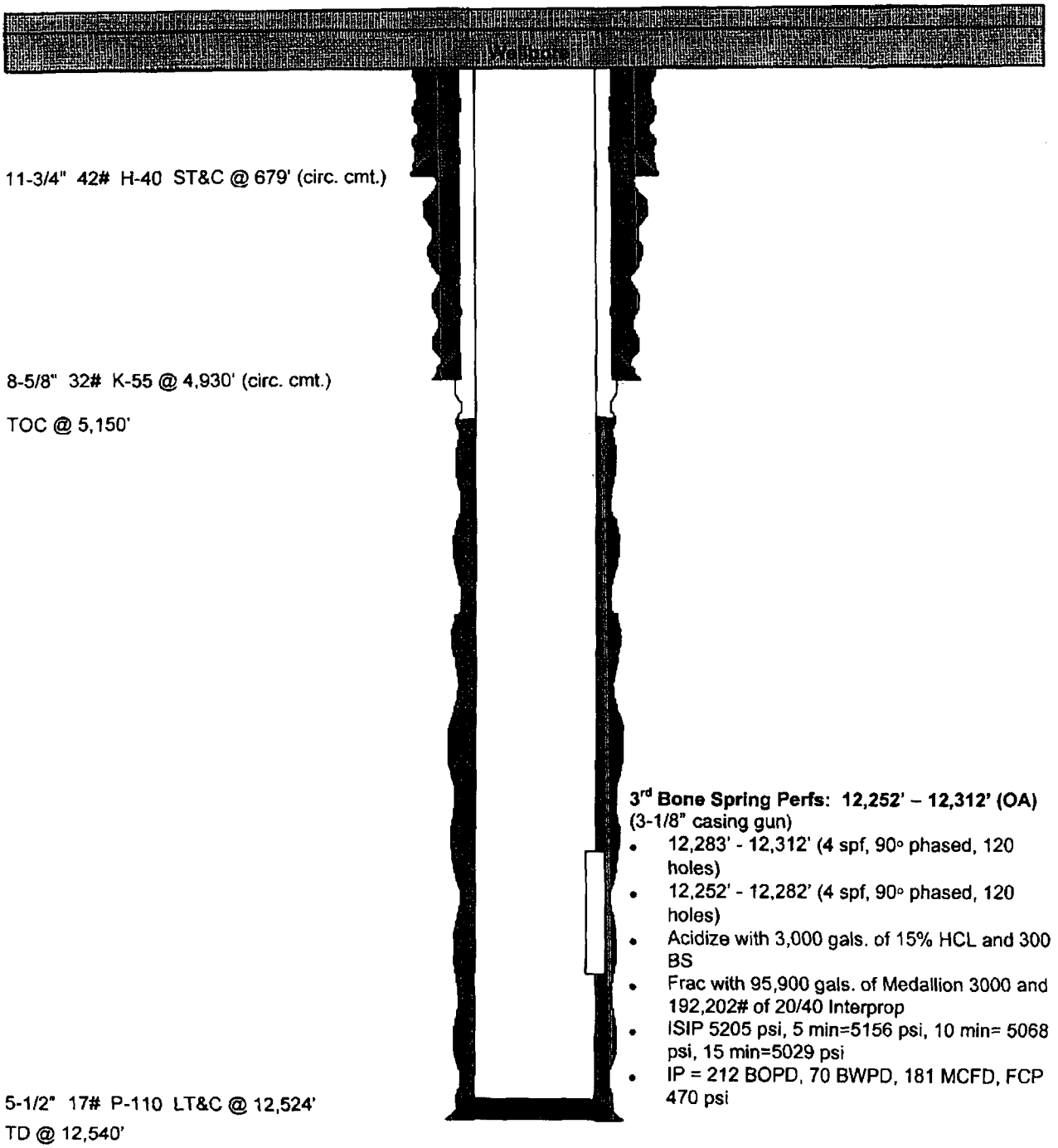
3rd Bone Spring Perfs: 12,270' – 12,324'
(216 holes)

N:\SCHEMATICS\LEA\HALLWOOD 12 FEDERAL NO.3\COMP.DOC

EOG RESOURCES, INC.
1830' FNL & 1650' FWL
SEC. 12-T25S-R33E

RHNU NO. 209
LEA CO., NEW MEXICO
MAY 13, 199

WELLBORE SCHEMATIC



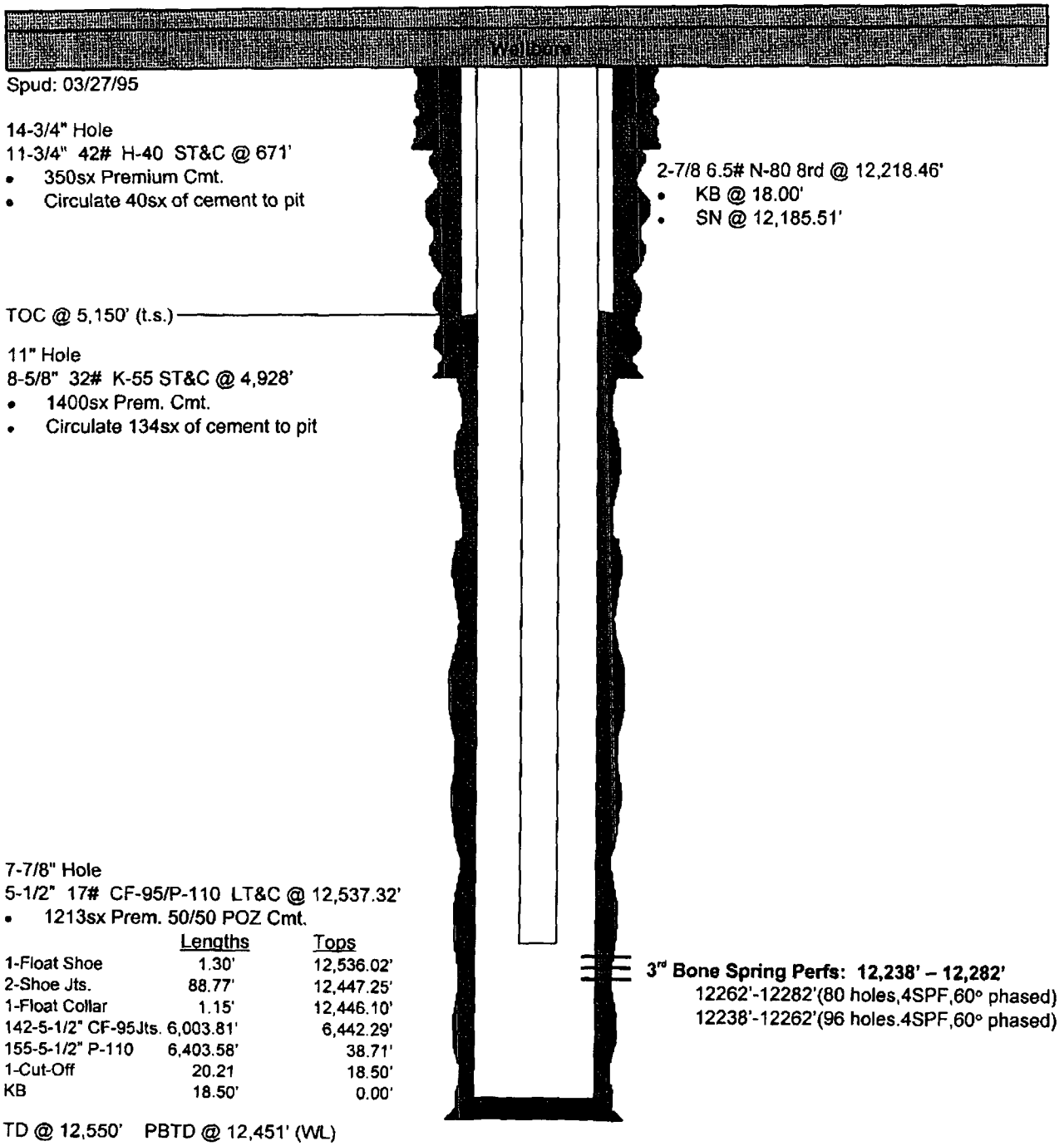
3rd Bone Spring Perfs: 12,252' – 12,312' (OA)
(3-1/8" casing gun)

- 12,283' - 12,312' (4 spf, 90° phased, 120 holes)
- 12,252' - 12,282' (4 spf, 90° phased, 120 holes)
- Acidize with 3,000 gals. of 15% HCL and 300 BS
- Frac with 95,900 gals. of Medallion 3000 and 192,202# of 20/40 Interprop
- ISIP 5205 psi, 5 min=5156 psi, 10 min= 5068 psi, 15 min=5029 psi
- IP = 212 BOPD, 70 BWPD, 181 MCFD, FCP 470 psi

EOG RESOURCES, INC.
660' FNL & 1880' FWL
Sec.12-T25S-R33E

RHNU NO. 210 / HALLWOOD "12" FEDERAL NO. 10
LEA CO., NEW MEXICO
DECEMBER 11, 2000

WELLBORE SCHEMATIC



Spud: 03/27/95

14-3/4" Hole
11-3/4" 42# H-40 ST&C @ 671'
- 350sx Premium Cmt.
- Circulate 40sx of cement to pit

TOC @ 5,150' (t.s.)

11" Hole
8-5/8" 32# K-55 ST&C @ 4,928'
- 1400sx Prem. Cmt.
- Circulate 134sx of cement to pit

2-7/8 6.5# N-80 8rd @ 12,218.46'
- KB @ 18.00'
- SN @ 12,185.51'

7-7/8" Hole
5-1/2" 17# CF-95/P-110 LT&C @ 12,537.32'
- 1213sx Prem. 50/50 POZ Cmt.

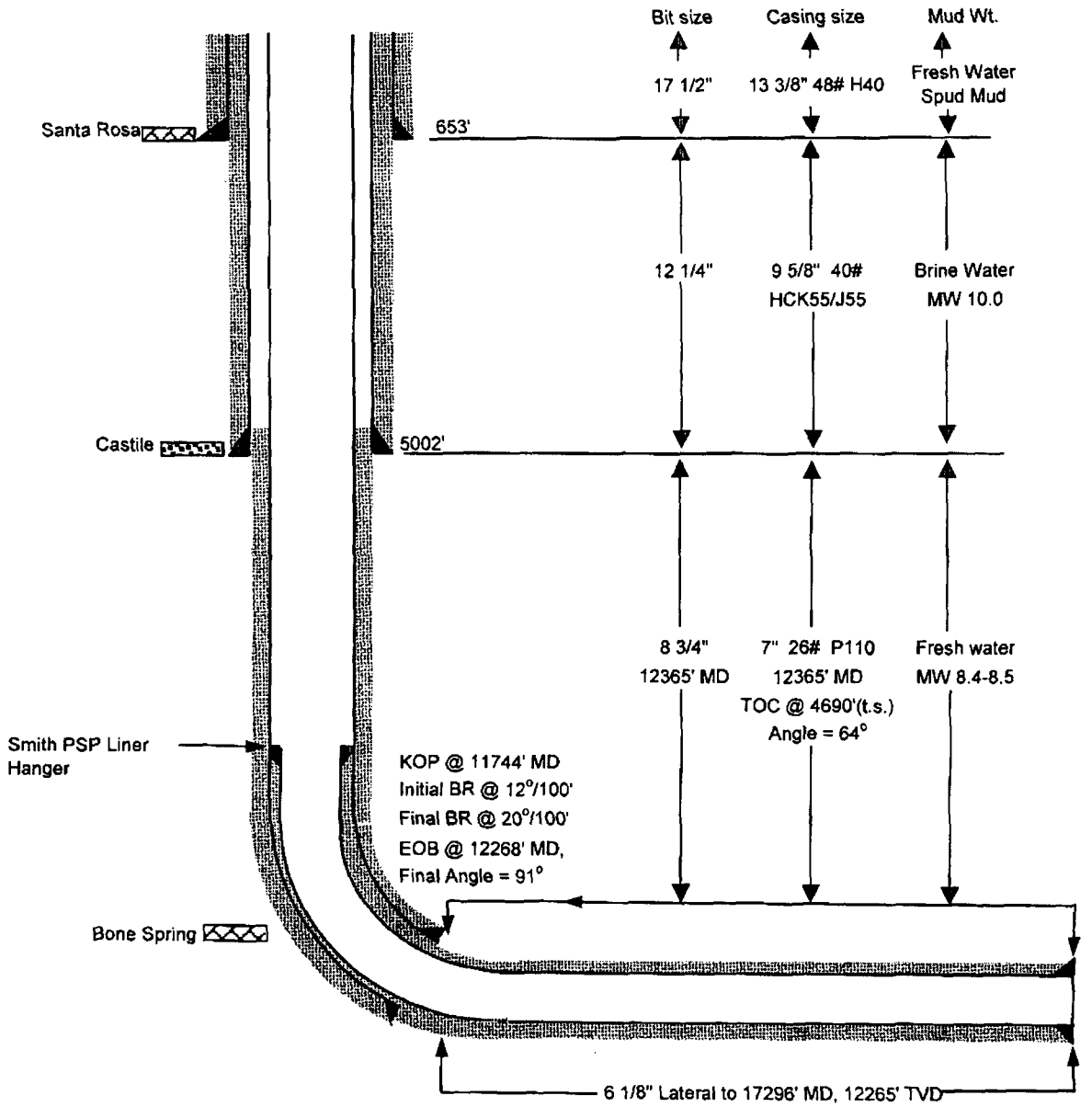
	Lengths	Tops
1-Float Shoe	1.30'	12,536.02'
2-Shoe Jts.	88.77'	12,447.25'
1-Float Collar	1.15'	12,446.10'
142-5-1/2" CF-95Jts.	6,003.81'	6,442.29'
155-5-1/2" P-110	6,403.58'	38.71'
1-Cut-Off	20.21	18.50'
KB	18.50'	0.00'

TD @ 12,550' PBTD @ 12,451' (WL)

3rd Bone Spring Perfs: 12,238' – 12,282'
12262'-12282'(80 holes,4SPF,60° phased)
12238'-12262'(96 holes.4SPF,60° phased)

RHNU NO.212
EOG Reosurces, Inc.
PROSPECT: Red Hills

1,750' FNL & 2,475' FWL
Sec.7-T25S-R23E
Lea County,New Mexico

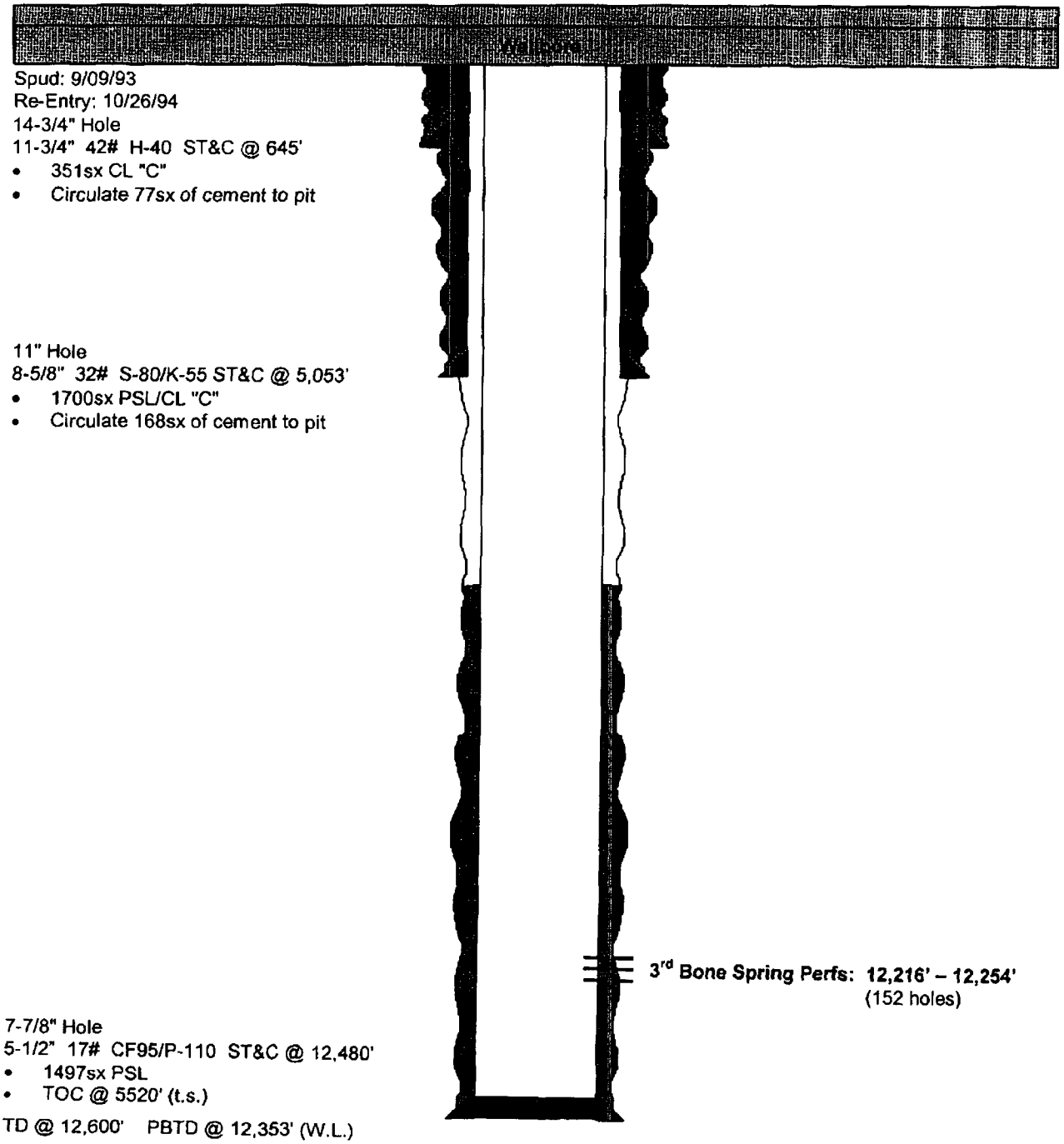


PHNU# 304

EOG RESOURCES, INC.
660' FNL & 660' FWL
Sec.13-T25S-R33E

VACA "13" FEDERAL NO. 4
LEA CO., NEW MEXICO
APRIL 3, 2000

WELLBORE SCHEMATIC



Spud: 9/09/93
Re-Entry: 10/26/94
14-3/4" Hole
11-3/4" 42# H-40 ST&C @ 645'
- 351sx CL "C"
- Circulate 77sx of cement to pit

11" Hole
8-5/8" 32# S-80/K-55 ST&C @ 5,053'
- 1700sx PSL/CL "C"
- Circulate 168sx of cement to pit

3rd Bone Spring Perfs: 12,216' – 12,254'
(152 holes)

7-7/8" Hole
5-1/2" 17# CF95/P-110 ST&C @ 12,480'
- 1497sx PSL
- TOC @ 5520' (t.s.)

TD @ 12,600' PBTD @ 12,353' (W.L.)

N:\SCHEMATICS\LEA\VACA 13 FEDERAL NO.4\COMP.DOC

New Mexico Office of the State Engineer
Well Reports and Downloads

Township: 25S Range: 33E Sections: 13

NAD27 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 Nbr	Use (acre ft per annum)	Diversion	Owner	Well Number	Source (quarters are 1= (quarters are bi	T
C 02336	PRO	3	ENRON OIL & GAS COMPANY	C 02336	Shallow	2
C 02373	COM	25	ENRON OIL & GAS COMPANY	C 02373 S	Shallow	2

Record Count: 2

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

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

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

COMPANY EOG Resources, Inc. LEASE Vaca 13 Federal
FIELD OR POOL
SECTION 13 BLOCK SURVEY T-25S&R-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_3	88			
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	4,300			
Calcium as Ca	980			
Magnesium as Mg	450			
Sodium and/or Potassium	485			
Sulfate as SO_4	458			
Chloride as Cl	3,409			
Iron as Fe	11.2			
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	5,869			
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen,				
Hydrogen Sulfide	0.0			
Resistivity, ohms/m at 77° F.	0.920			
Suspended Oil				
Filtrable 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.

Form No. 3

By
Waylan C. Martin, M.A.

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:

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

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Annette McCloy ☐ Agent ☐ Addressee

B. Received by (Printed Name) | C. Date of Delivery 10/14/05

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

2. Article Number
(Transfer from service label) 7000 0520 0020 9193 9069

PS Form 3811, August 2001 Domestic Return Receipt 102595-02-M-1540