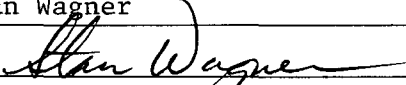


APPLICATION FOR AUTHORIZATION TO INJECT

- I. PURPOSE: Secondary Recovery ☒ Pressure Maintenance Disposal Storage
Application qualifies for administrative approval? ☒ 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? ☒ 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: 3/29/05
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



April 5, 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 is 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 two injection wells: the Red Hills North Unit Well No. 106 located 2000 feet from the North line and 900 feet from the West line of Section 1, and the Red Hills North Unit Well No. 302 located 660 feet from the North line and 1980 feet from the East Line of Section 13, both in Township 25 North, Range 33 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 12695 feet to 16730 feet. This injection will occur with a maximum injection pressure of 3000 pounds and a maximum injection rate of 2000 barrels of water per day as fully described in the application.

This application is provided to you as the 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 within 15 days of the date of this letter. If there is no objection, the Division Director may approve this application.

Very truly yours,

William F. Carr
Attorney for EOG Resources, Inc.
Enclosure
cc: Mr. Patrick Tower

HOLLAND & HART ^{LLP}



William F. Carr
wcarr@hollandhart.com

April 5, 2005

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mark McCloy
Post Office 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.

Dear Mr. McCloy:

Enclosed is 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 two injection wells: the Red Hills North Unit Well No. 106 located 2000 feet from the North line and 900 feet from the West line of Section 1, and the Red Hills North Unit Well No. 302 located 660 feet from the North line and 1980 feet from the East Line of Section 13, both in Township 25 North, Range 33 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 12695 feet to 16730 feet. This injection will occur with a maximum injection pressure of 3000 pounds and a maximum injection rate of 2000 barrels of water per day as fully described in the application.

This application is provided to you as the 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 within 15 days of the date of this letter. If there is no objection, the Division Director may approve this application.

Very truly yours,

William F. Carr
Attorney for EOG Resources, Inc.
Enclosure
cc: Mr. Patrick Tower

Holland & Hart ^{LLP}

Phone [505] 988-4421 Fax [505] 983-6043 www.hollandhart.com

110 North Guadalupe Suite 1 Santa Fe, NM 87501 Mailing Address P.O. Box 2208 Santa Fe, NM 87504-2208

Aspen Billings Boise Boulder Cheyenne Colorado Springs Denver Denver Tech Center Jackson Hole Salt Lake City Santa Fe Washington, D.C.

**STATE OF NEW MEXICO
DEPARTMENT OF ENERGY, MINERALS AND NATURAL RESOURCES
OIL CONSERVATION DIVISION**

**IN THE MATTER OF THE APPLICATION OF EOG RESOURCES FOR
ADMINISTRATIVE APPROVAL OF EXPANSION OF ITS RED HILLS NORTH UNIT
PRESSURE MAINTENANCE PROJECT, LEA COUNTY, NEW MEXICO.**

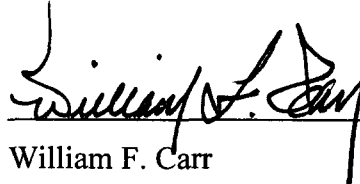
AFFIDAVIT

STATE OF NEW MEXICO)

) ss.

COUNTY OF SANTA FE)

William F. Carr, attorney in fact and authorized representative of EOG Resources, Inc. , the Applicant herein, being first duly sworn, upon oath, states that the attached letter providing notice of the above-referenced application was mailed to the owner of the surface of the land upon which each of the subject injection wells is located pursuant to Rule 701 C, D, and F and that this surface owner was advised that the application had been filed and that the surface owner had 15 days from that date to file its written objection with the Division's Santa Fe office located 1220 South Saint Francis Drive, Santa Fe, New Mexico 87505. EOG Resources, Inc. is the only lease hold interest owners within one-half mile of either proposed pressure maintenance injection well.

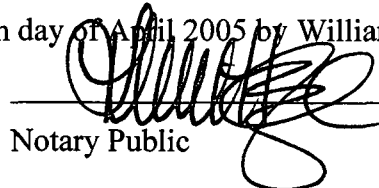


William F. Carr

SUBSCRIBED AND SWORN to before me this 5th day of April 2005 by William F. Carr.



OFFICIAL SEAL
LISAMARIE ORTIZ
NOTARY PUBLIC-STATE OF NEW MEXICO
My commission expires 1/14/07



Notary Public

My Commission Expires:

January 14, 2007

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

March 12 2005

and ending with the issue dated

March 12 2005

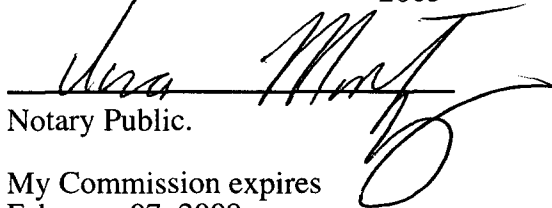


Publisher

Sworn and subscribed to before

me this 14th day of

March 2005



Notary Public.

My Commission expires
February 07, 2009
(Seal)

LEGAL NOTICE
March 12, 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. 106 is located 2000' FNL & 900' FWL, Section 1, Township 25 South, Range 33 East, Lea County, New Mexico. The Red Hills North Unit No. 302 is located 660' FNL & 1980' FEL, Section 13, Township 25 South, Range 33 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 12695'-16730', a maximum surface pressure of 3000 psi, and a maximum rate of 2000 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.
#21356

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.

01105308000 67528646
EOG Resources
4000 N. Big Springs
MIDLAND, TX 79702

4.5.05 DATE IN	SUSPENSE	Cafanach ENGINEER	4.6.05 LOGGED IN	PMX TYPE	PSEM0509628173 APP NO.
-------------------	----------	----------------------	---------------------	-------------	---------------------------

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

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



2005

PM 2 35

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

3/29/05
 Date

stan_wagner@eogresources.com
 e-mail Address

Side 1

INJECTION WELL DATA SHEET

OPERATOR: EOG Resources, Inc.

30-025-32182

WELL NAME & NUMBER: Red Hills North Unit No. 302

WELL LOCATION: 660' FNL & 1980' FEL

FOOTAGE LOCATION

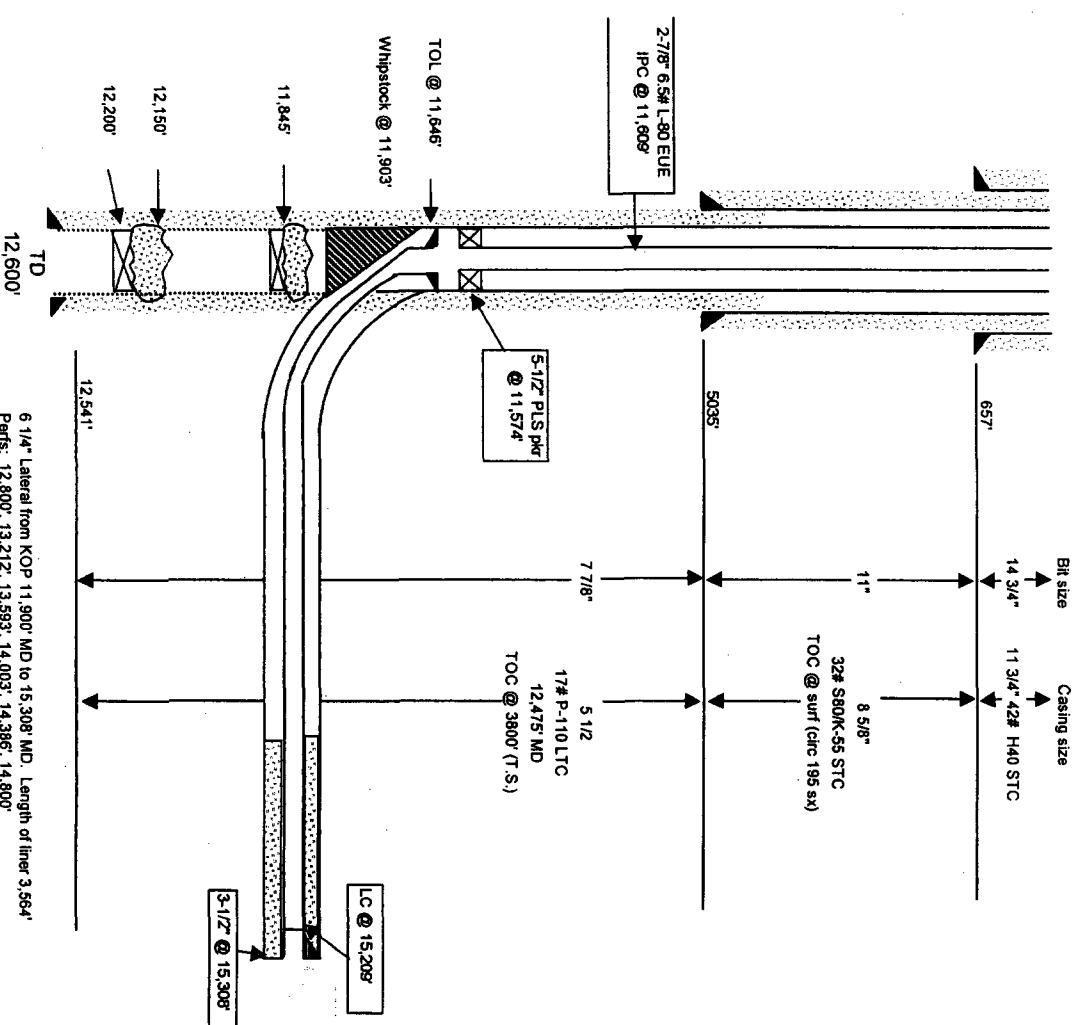
UNIT LETTER B

SECTION 13

TOWNSHIP 25 South

RANGE 33 East

WELLBORE SCHEMATIC

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'

WELL CONSTRUCTION DATA

Surface Casing

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

Cemented with: 351 SX. or ft³

Top of Cement: Surface Method Determined: Circulation

Intermediate Casing

Hole Size: 11" Casing Size: 8 5/8"

Cemented with: 1487 SX. or ft³

Top of Cement: Surface Method Determined: Circulation

Production Casing

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

Cemented with: 1990 SX. or ft³

Top of Cement: 3800 Method Determined: Temp Survey

Total Depth: 15308' MD; 12242' VD

Injection Interval

12800 feet to 14800 MD

(Perforated or Open Hole; indicate which)

APPLICATION FOR AUTHORIZATION TO INJECT
RED HILLS NORTH UNIT NO. 302

VII. PROPOSED OPERATION

- (1) Proposed Average Daily Rate and Volume : 600 BPD
Proposed Maximum Daily Rate and Volume: 1000 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: 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".

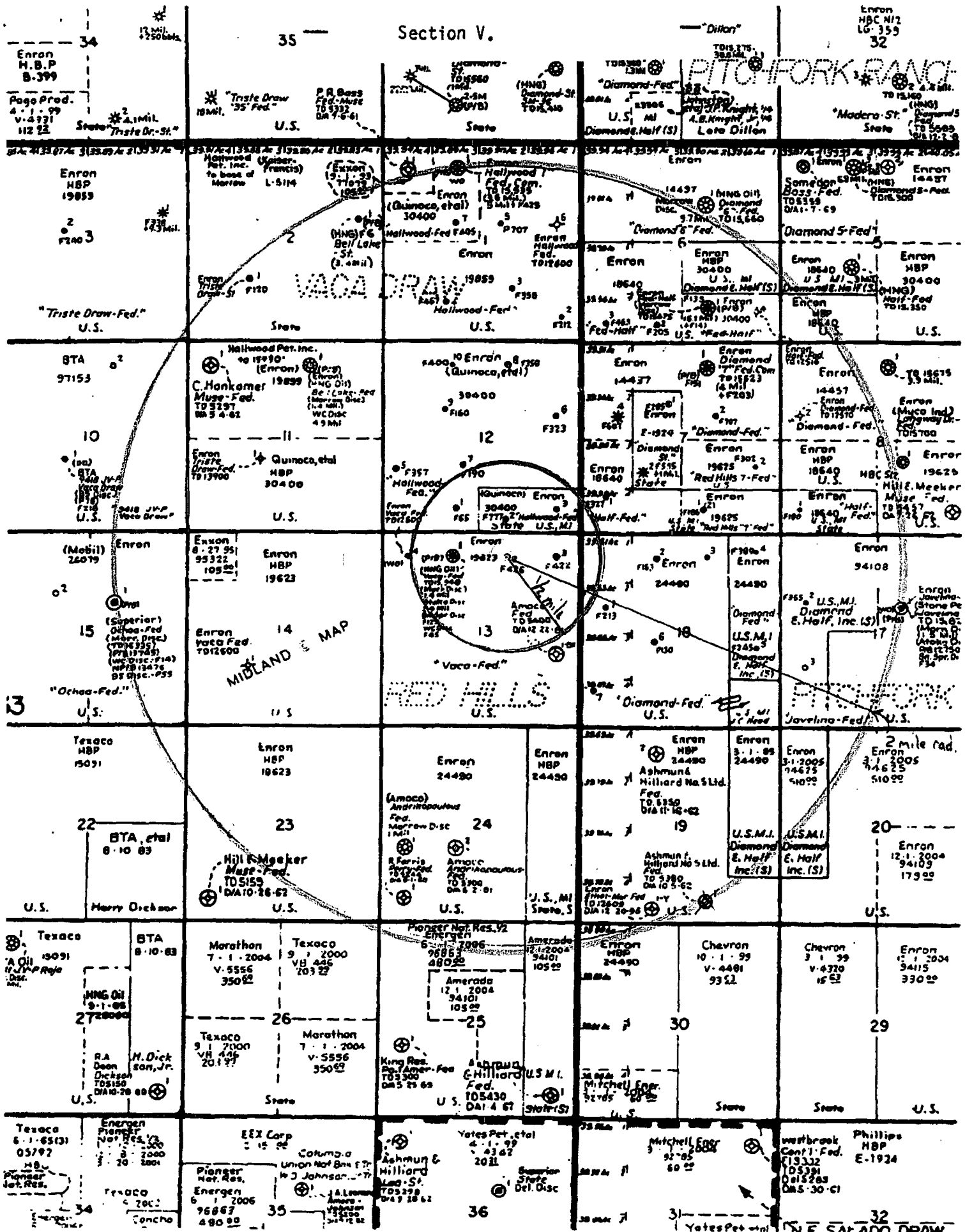
Surface Owner:

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

Offset Operators:

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

Section V.



EOG Resources, Inc.
Tabulation of Data on Wells In Review Area
Application for Authorization to Inject

VI.

Operator	Lease/Well	Status	Location	Spud Date	Drilled TD PBD	Surface Casing			Production Casing			Producing Perforations
						Size	Depth	Cement	Size	Depth	Cement	
EOG Resources, Inc.	Vaca 13 Fed. No.1	Prod.Oil	Sec.13-T25S-R33E	7/31/83	15948'	13-3/8"	624'	515sx	7"	13500'	1250sx	12230'-12356'
EOG Resources, Inc.	Vaca 13 Fed. No.2	Prod.Oil	Sec.13-T25S-R33E	2/16/93	12362'	11-3/4"	657'	351sx	5-1/2"	12475'	2225sx	12240'-12284'
EOG Resources, Inc.	Vaca 13 Fed. No.3	Prod.Oil	Sec.13-T25S-R33E	5/12/94	12415'	11-3/4"	883'	351sx	5-1/2"	12505'	1791sx	12245'-12290'
EOG Resources, Inc.	Vaca 13 Fed. No.4	Prod.Oil	Sec.13-T25S-R33E	9/9/93	12353'	11-3/4"	645'	351sx	5-1/2"	12480'	1497sx	12216'-12254'
EOG Resources, Inc.	Hallwood 12 Fed. No.1	Prod.Oil	Sec.12-T25S-R33E	7/17/93	13245'	11-3/4"	646'	351sx	5-1/2"	13400'	1581sx	12230'-12340'
EOG Resources, Inc.	Hallwood 12 Fed. No.2	Prod.Oil	Sec.12-T25S-R33E	11/10/93	12358'	11-3/4"	655'	351sx	5-1/2"	12514'	1569sx	12160'-12304'
EOG Resources, Inc.	Hallwood 12 Fed. No.3	Prod.Oil	Sec.12-T25S-R33E	2/16/94	12459'	11-3/4"	678'	351sx	5-1/2"	12600'	1867sx	12270'-12324'

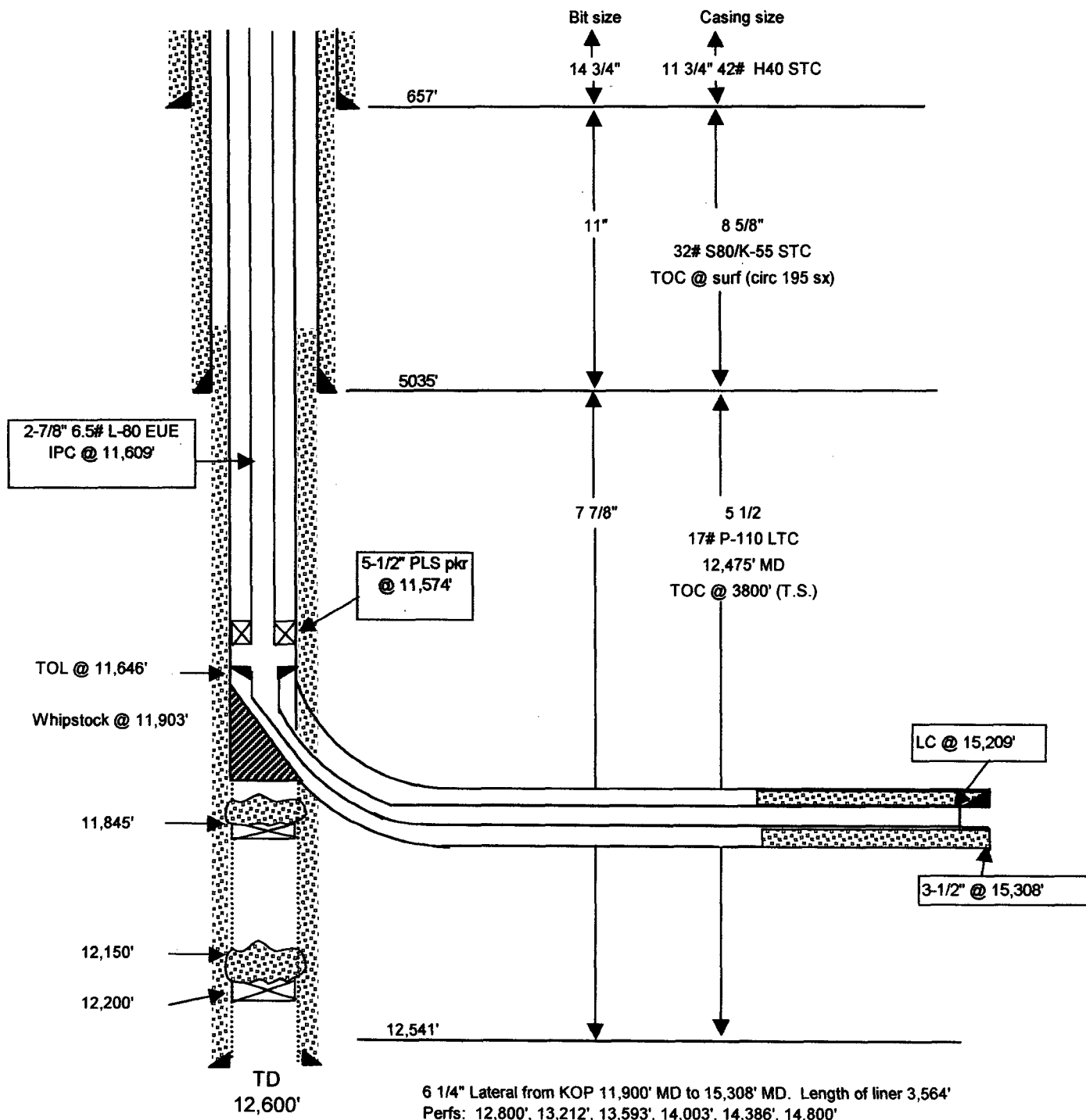


Red Hills North Unit No. 302 R/E

660' FNL & 1980' FEL

Sec. 13-25S-33E

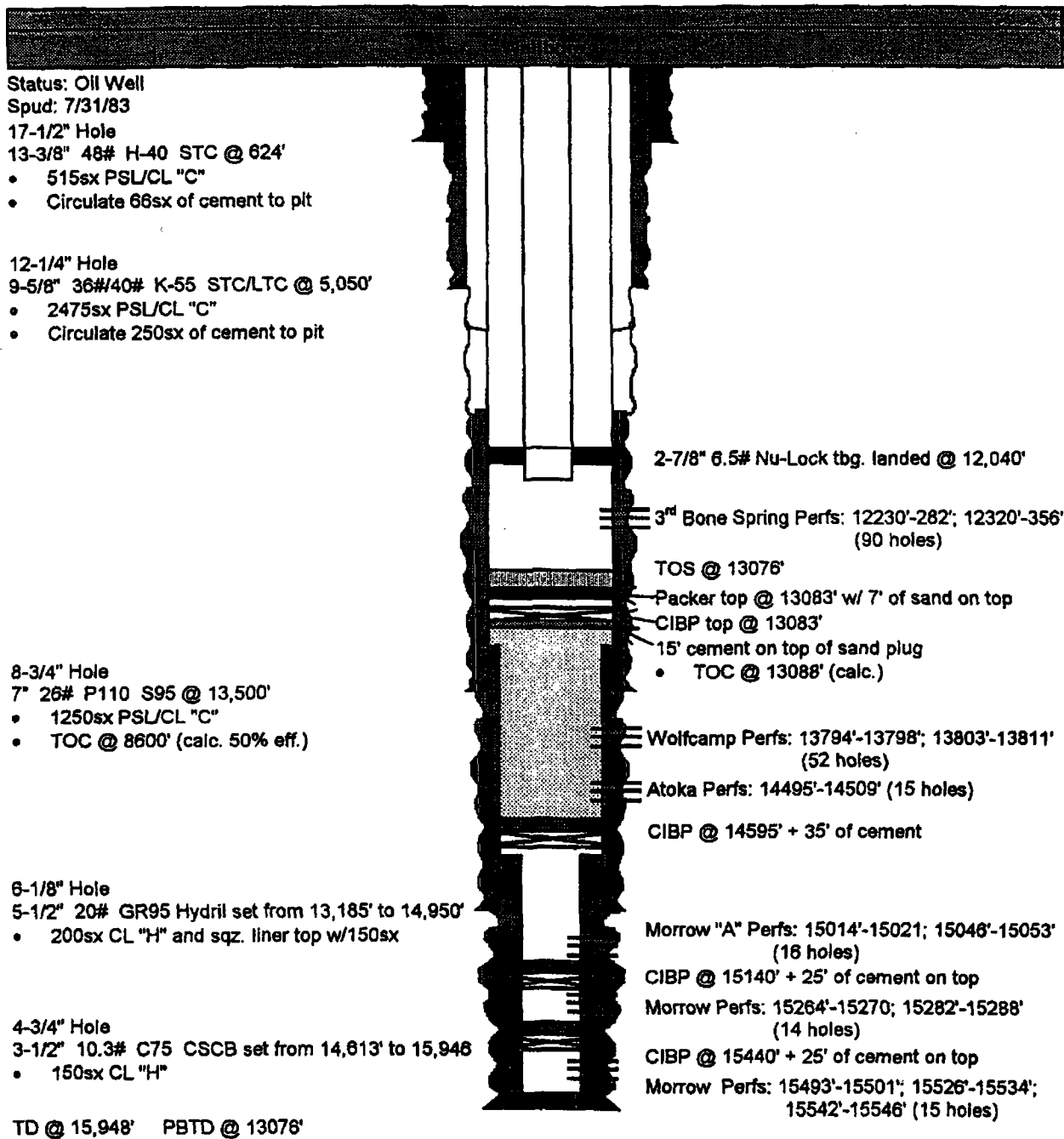
Lea County, New Mexico



EOG RESOURCES, INC.
 660' FNL & 1880' FEL
 Sec.13-T25S-R33E
 VI.

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

WELLBORE SCHEMATIC



EOG RESOURCES, INC.
 660' FNL & 1980' FEL
 Sec.13-T25S-R33E
 VI.

VACA "13" FEDERAL NO. 2
 LEA CO., NEW MEXICO
 MARCH 31, 2000

WELLBORE SCHEMATIC

Status: Oil Well

Spud: 2/16/93

14-3/4" Hole

11-3/4" 42# H-40 ST&C @ 657'

- 351sx CL "C"
- Circulate 52sx of cement to pit

11" Hole

8-5/8" 32# S-80/K-55 ST&C @ 5,035'

- 1487sx PSL/CL "C"
- Circulate 195sx of cement to pit

7-7/8" Hole

5-1/2" 17# P-110 LT&C @ 12,475'

- 2225sx 50/50 POZ/CL "H"
- TOC @ 3800' (ts.)

TD @ 12,600' PBD @ 12,362' (W.L.)

2-7/8 6.5# N-80 EUE @ 12268.56'

	Footage	Tops
1-ft.	31.75'	12236.81'
370-ft.	11727.58'	509.23'
1-Baker TAC	3.73'	505.50'
4-ft.	126.78'	378.72'
1-SN	1.10'	377.62'
10-ft.	318.96'	60.66'
1-Perf sub	3.97'	56.69'
1-ft.	31.69'	25.00'
KB	25.00'	0.00'

Rods:

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

3rd Bone Spring Perfs: 12,240' - 12,264'
 (96 holes)

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

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

WELLBORE SCHEMATIC

Status: Oil Well

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.)

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

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

WELLBORE SCHEMATIC

Status: Oil Well

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

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.)

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

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

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

WELLBORE SCHEMATIC

Status: Oil Well

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

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

WELLBORE SCHEMATIC

Status: Oil Well

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' (ts.)
 - 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'
8-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)

EOG RESOURCES, INC.
 660' FSL & 660' FEL
 Sec.12-T2SS-R33E
 VI.

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

WELLBORE SCHEMATIC

Status: Oil Well

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'

	<u>Footage</u>	<u>Tops</u>
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)

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

Martin Water Laboratories, Inc.

708 W. INDIANA
MIDLAND, TEXAS 79701
PHONE 683-4321

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-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 80° 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, ohmcm 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.

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

Martin Water Laboratories, Inc.

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

RESULT OF WATER ANALYSES

TO: Mr. Randy Cate LABORATORY NO. 202-123
P.O. Box 2267, Midland, Texas 79702 SAMPLE RECEIVED 2/14/02
RESULTS REPORTED 2/20/02

COMPANY EOG Resources, Inc. LEASE _____

FIELD OR POOL _____

SECTION _____ BLOCK _____ SURVEY _____ COUNTY _____ STATE _____

SOURCE OF SAMPLE AND DATE TAKEN:

NO. 1 Raw water - taken from fresh water station. 2/13/02
NO. 2 Produced water - taken from Red Hills North Unit #302 SWD. 2/13/02
NO. 3 Produced water - taken from Triste Draw SWD. 2/13/02
NO. 4 Produced water - taken from Vaca #30 SWD. 2/13/02

REMARKS:

CHEMICAL AND PHYSICAL PROPERTIES				
	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0022	1.0660	1.1786	1.0116
pH When Sampled				
pH When Received	7.64	6.47	4.84	3.64
Bicarbonate as HCO ₃	283	854	68	0
Supersaturation as CaCO ₃				
Undersaturation as CaCO ₃				
Total Hardness as CaCO ₃	420	15,800	74,000	3,700
Calcium as Ca	104	4,240	23,200	840
Magnesium as Mg	39	1,264	3,888	389
Sodium and/or Potassium	222	34,154	76,620	6,317
Sulfate as SO ₄	318	217	174	586
Chloride as Cl	241	63,207	170,446	11,931
Iron as Fe	2.8	1.112	74.1	642
Barium as Ba			0	
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	1,208	103,935	274,396	20,063
Temperature °F.				
Carbon Dioxide, Calculated	12	564	1,768	0
Dissolved Oxygen				
Hydrogen Sulfide	0.0	0.0	0.0	0.0
Resistivity, ohm-cm at 77° F.	5.68	0.091	0.048	0.390
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Calcium Sulfate Scaling Tendency	None	None	None	None

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks The objective herein is to evaluate compatibility between these four waters. Our greatest concern is that the Red hills North Unit SWD water had black precipitation, and we assume this was due to iron sulfide although there was no residual hydrogen sulfide present. This would be the only concern because if the Red Hills North Unit SWD does have hydrogen sulfide, it would be incompatible with the water from the other SWD wells since they both have soluble iron. However, it should be noted that a previous record of composite produced water from the Red Hills North Unit battery (laboratory #1201-119 reported 12/18/01) did not indicate the presence of hydrogen sulfide. Also, we would be concerned about the possibility of oxygen in the fresh water. If there was oxygen in the fresh water, it would have to be removed chemically or physically before being mixed with any of these waters.

Form No. 3

By _____

Waylan C. Martin, M.A.

Fax: Dirk Ellyson, Carlsbad (505-390-2907)

INJECTION WELL DATA SHEET

OPERATOR: EOG Resources, Inc.

30-025-36310

WELL NAME & NUMBER: Red Hills North Unit No. 106

WELL LOCATION: 2000' FWL & 900' FWL

FOOTAGE LOCATION

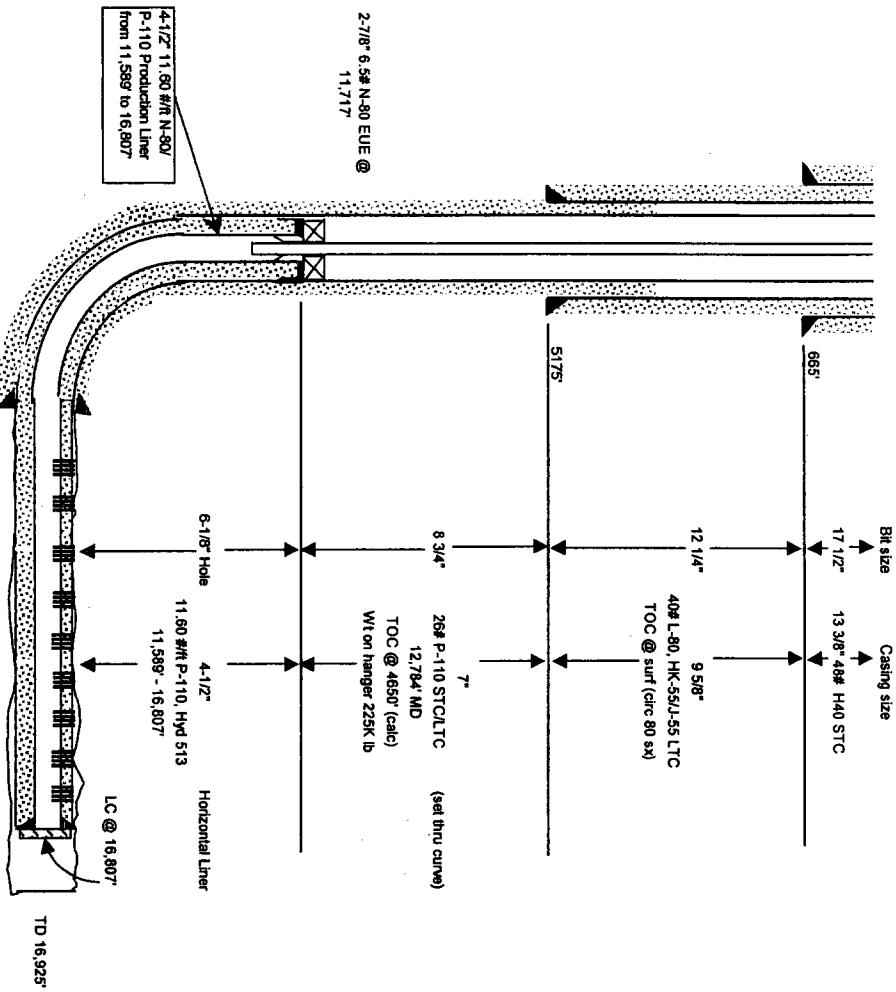
UNIT LETTER

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: Circulation

Intermediate Casing

Hole Size: 12 1/4

Casing Size: 9 5/8

Cemented with: 1560

SX. or ft³

Top of Cement: Surface

Method Determined: Circulation

Production Casing

Hole Size: 8 3/4

Casing Size: 7

Cemented with: 1250

SX. or ft³

Top of Cement: 4650

Method Determined: Calculation

Total Depth: 16925 MD; 12276 VD

Injection Interval

12695 feet to 16730

(Perforated or Open Hole; indicate which)

3/14/2005

INJECTION WELL DATA SHEETTubing Size: 2 7/8 Lining Material: Plastic coatedType of Packer: Halliburton PLS 7" 26#Packer Setting Depth: 11574

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

Additional Data

1. Is this a new well drilled for injection? _____ Yes ☒ 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. 106

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: 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 show no fresh water
wells 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.

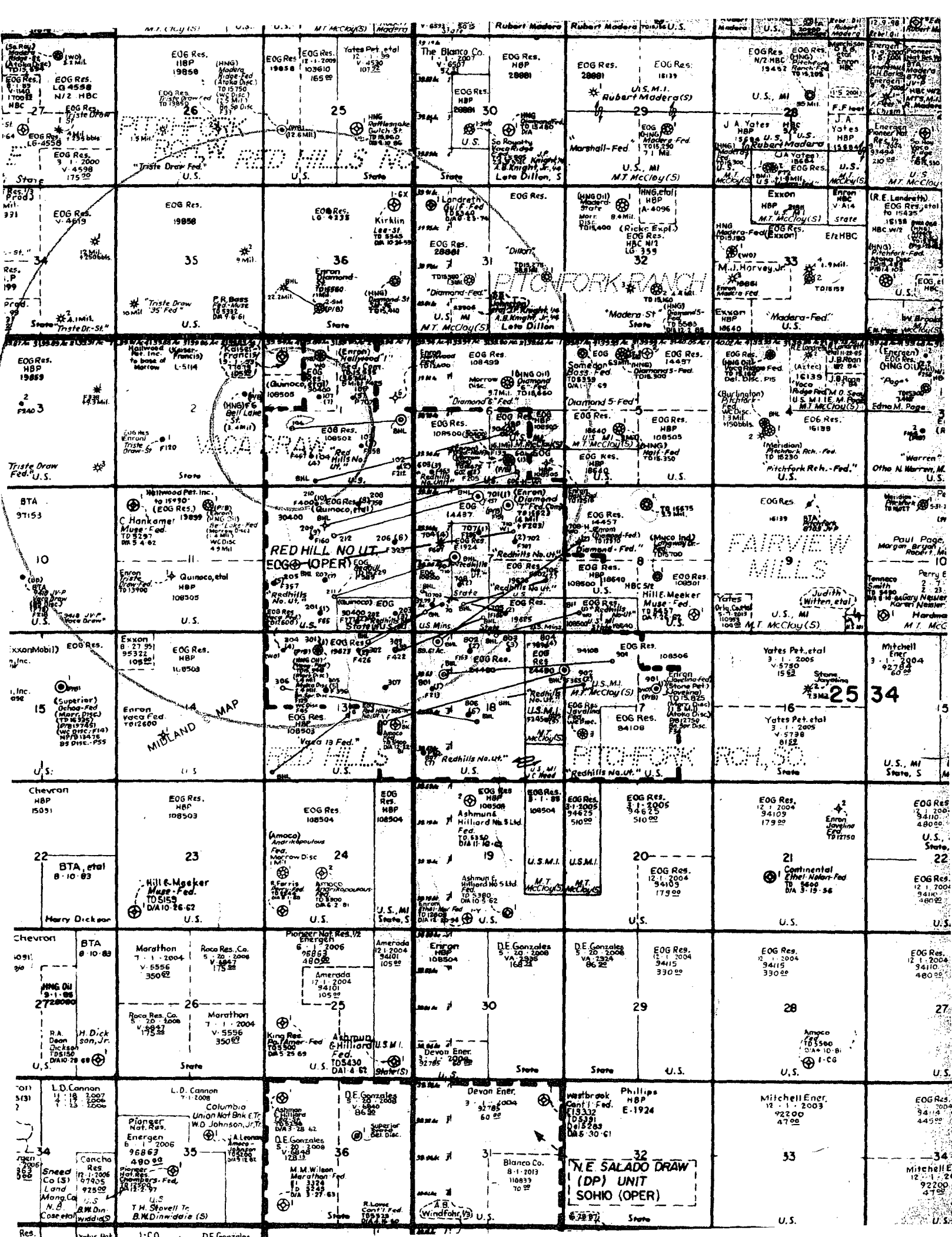
XIII. See attached “Proof of Notice”.

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.

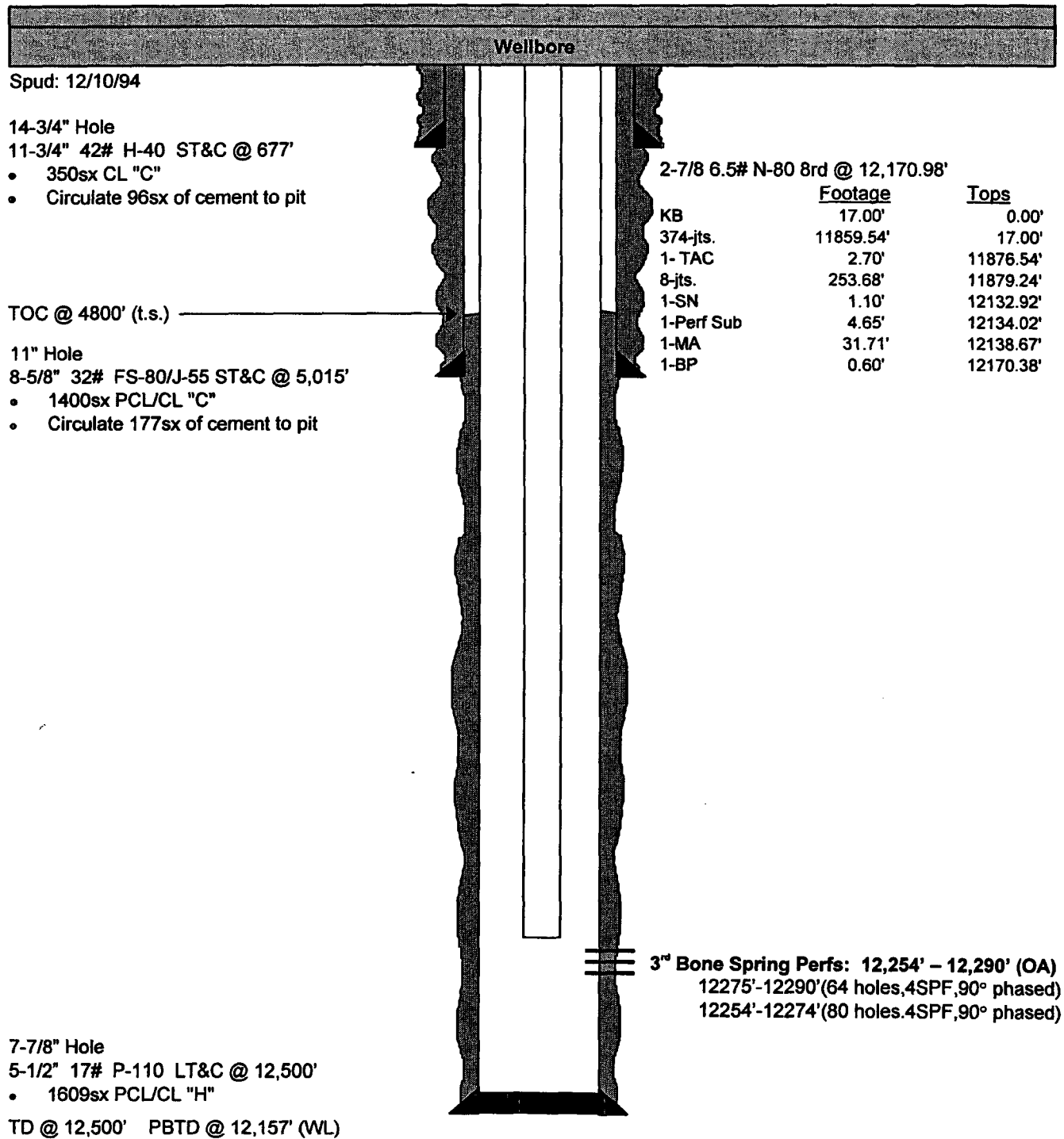


EOG Resources, Inc.
Tabulation of Data on Wells in Review Area
Application for Authorization to Inject

VI.

Operator	Lease/Well	Status	Location	Spud Date	Drilled TD PBD	Surface Casing			Production Casing			Producing Perforations
						Size	Depth	Cement	Size	Depth	Cement	
EOG Resources, Inc.	Red Hills North Unit #102	ACT-Oil	Sec. 1-T25S-R33E	12/10/1994	12500' 12157'	11-3/4"	677'	350sx	5-1/2"	12500'	1609sx	12254'-12290'
EOG Resources, Inc.	Red Hills North Unit #103	ACT-Oil	Sec. 1-T25S-R33E	3/5/1995	12550' 12440'	11-3/4"	672'	350sx	5-1/2"	12538'	1141sx	12286'-12336'
EOG Resources, Inc.	Red Hills North Unit #104	ACT-Oil	Sec. 1-T25S-R33E	5/12/1995	12550' 12417'	11-3/4"	678'	350sx	5-1/2"	12500'	1391sx	12262'-12282'
EOG Resources, Inc.	Red Hills North Unit #105	ACT-Oil	Sec. 1-T25S-R33E	8/24/1995	12550' 12450'	11-3/4"	668'	350sx	5-1/2"	12550'	1322sx	12266'-12360'
EOG Resources, Inc.	Red Hills North Unit #106	ACT-Oil	Sec. 1-T25S-R33E	8/25/2003	16925' 16807'	13-3/8"	665'	575sx	7"	12784'	1250sx	12695'-16730'
EOG Resources, Inc.	Red Hills North Unit #107	ACT-Oil	Sec. 1-T25S-R33E	1/21/1996	12550' 12290'	11-3/4"	659'	350sx	5-1/2"	12497'	1540sx	12278'-12301'
EOG Resources, Inc.	Hallwood 1 Fed Com #1	INA-Gas	Sec. 1-T25S-R33E	8/9/1992	15535' 14492'	16"	659'	625sx	3-1/2"	15525'	82sx	14775'-15385'
HEC Petroleum Inc.	Bell Lake 2 State #1	ACT-Gas	Sec. 2-T25S-R33E	12/14/1980	15810' 15620'	13-3/8"	576'	550sx	7"	13280'	1050sx	15157'-15456'
Perry R. Bass	Federal Muse #1	D&A	Sec. 1-T25S-R33E	9/4/1961	5100'	NA 7-5/8"	397'	350sx	NA	NA	NA	NA

WELLBORE SCHEMATIC





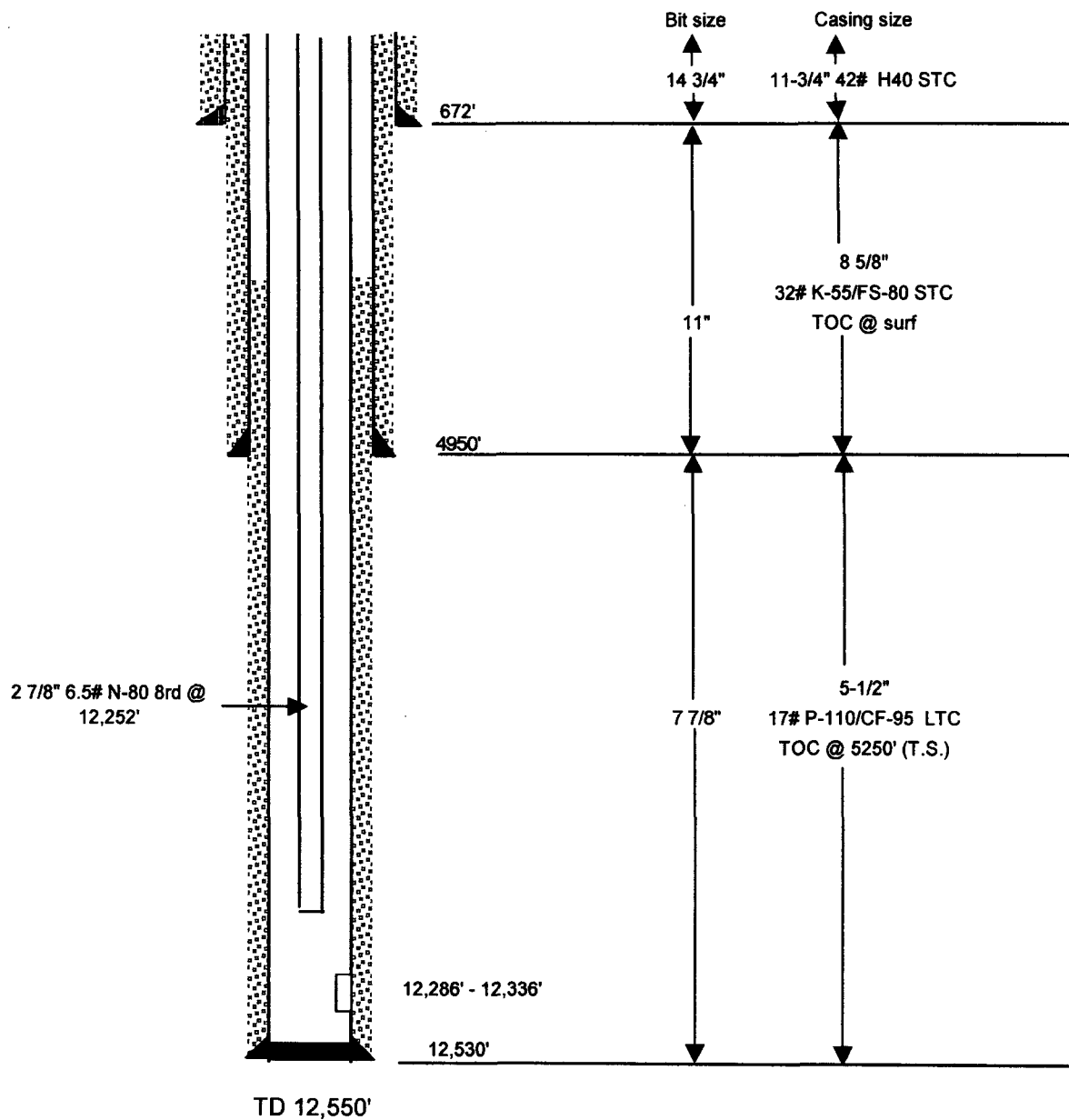
RHNU No. 103

1430' FSL & 1830' FEL

Sec. 1-25S-33E

Lea County, New Mexico

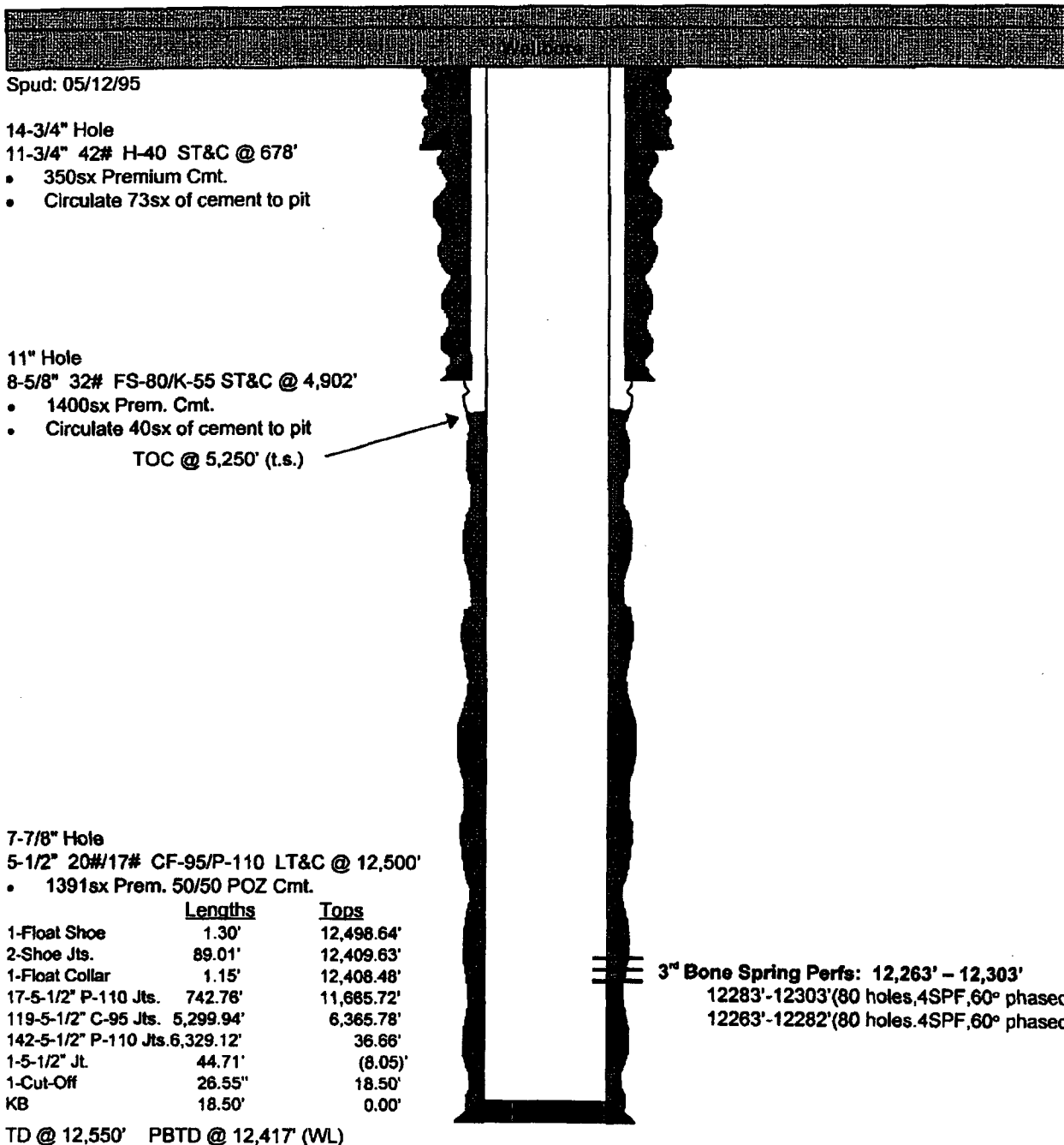
API 30-025-32886



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

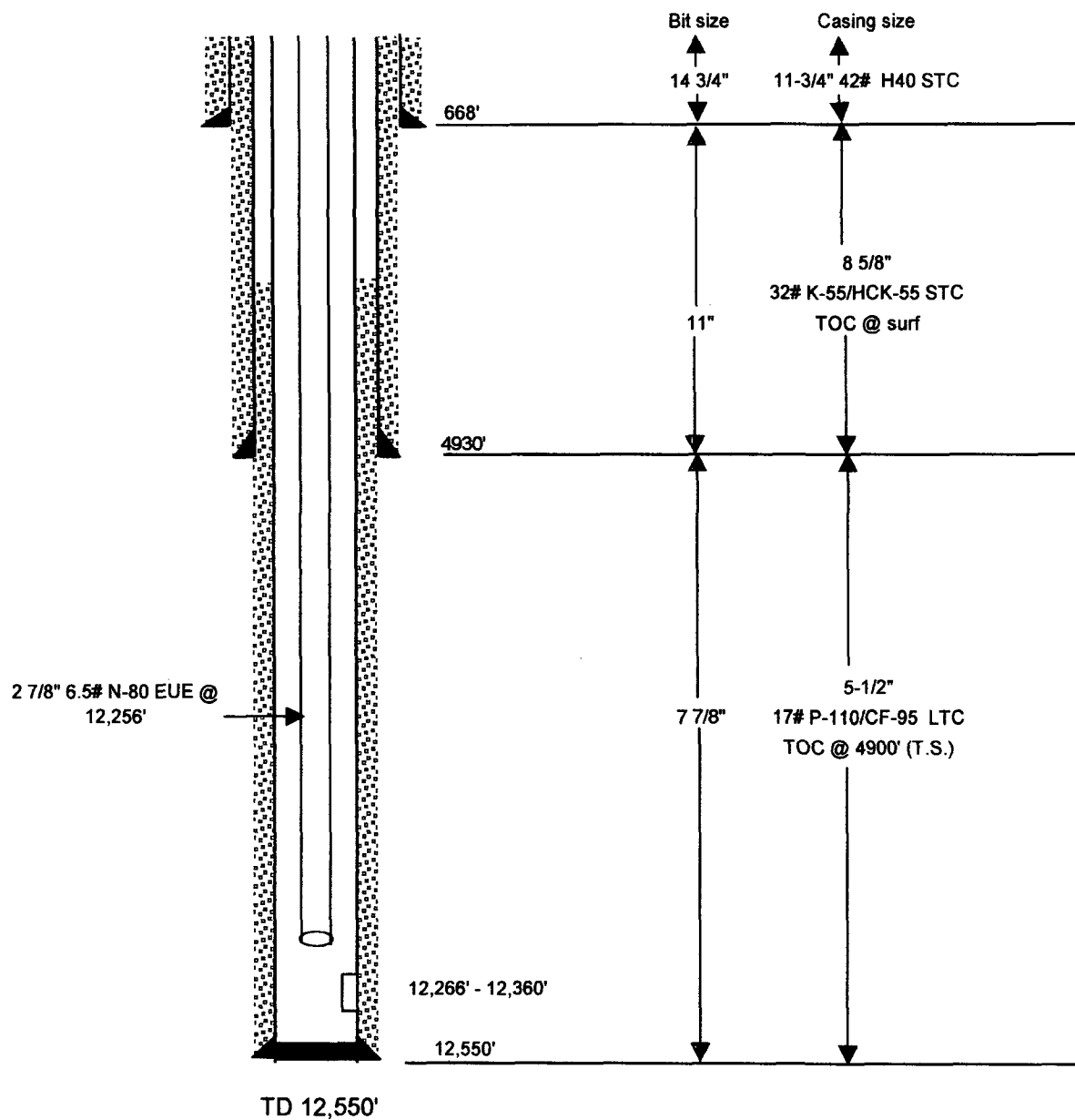
RHNU NO. 104
LEA CO., NEW MEXICO
DECEMBER 12, 2000

WELLBORE SCHEMATIC





RHNU No. 105
2130' FNL & 2130' FEL
Sec. 1-25S-33E
Lea County, New Mexico
API 30-025-33070





Red Hills North Unit No. 106

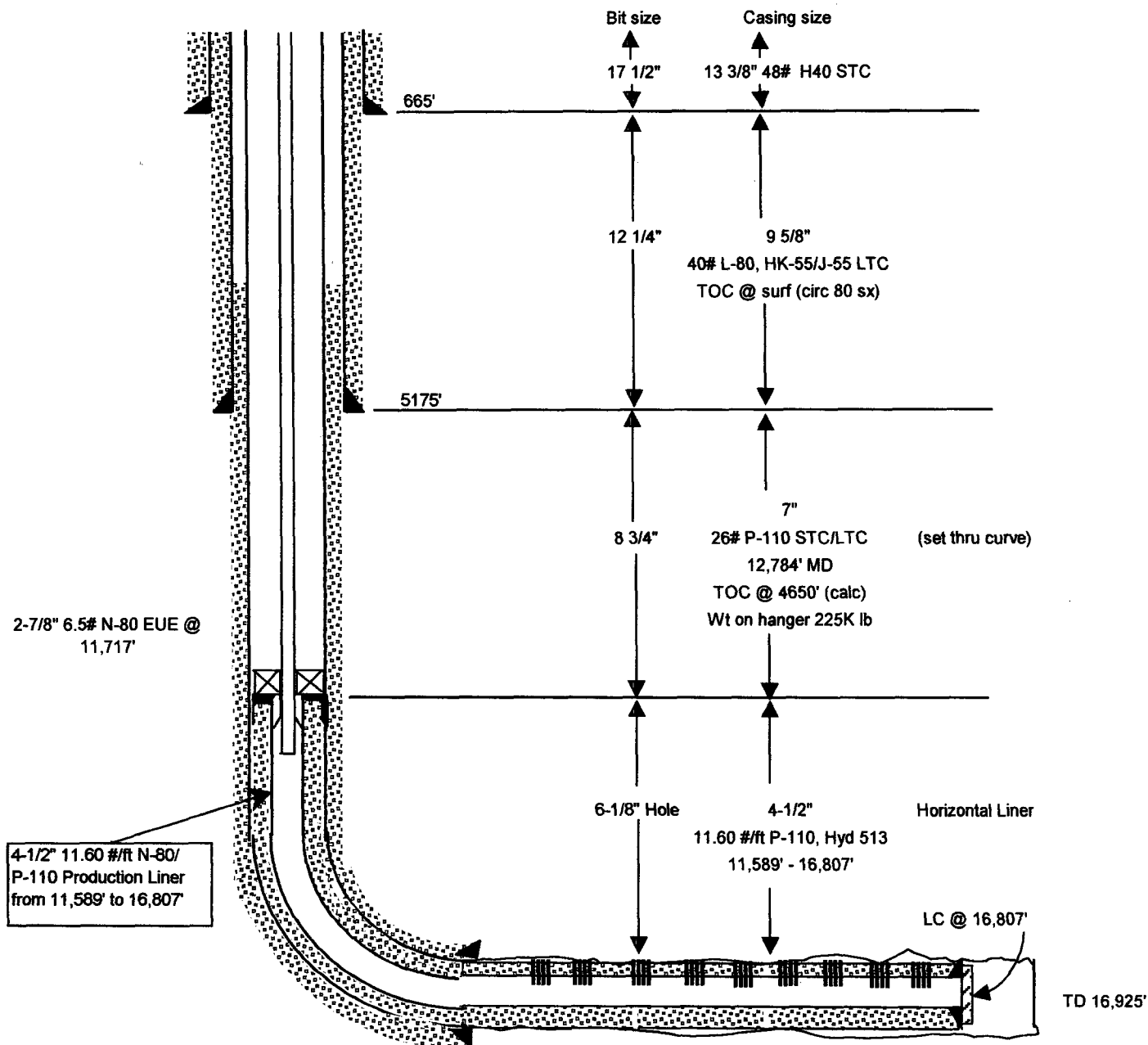
2000' FSL & 900' FWL

Sec. 1-25S-33E

Lea County, New Mexico

API 30-025-36310

AFE 102598



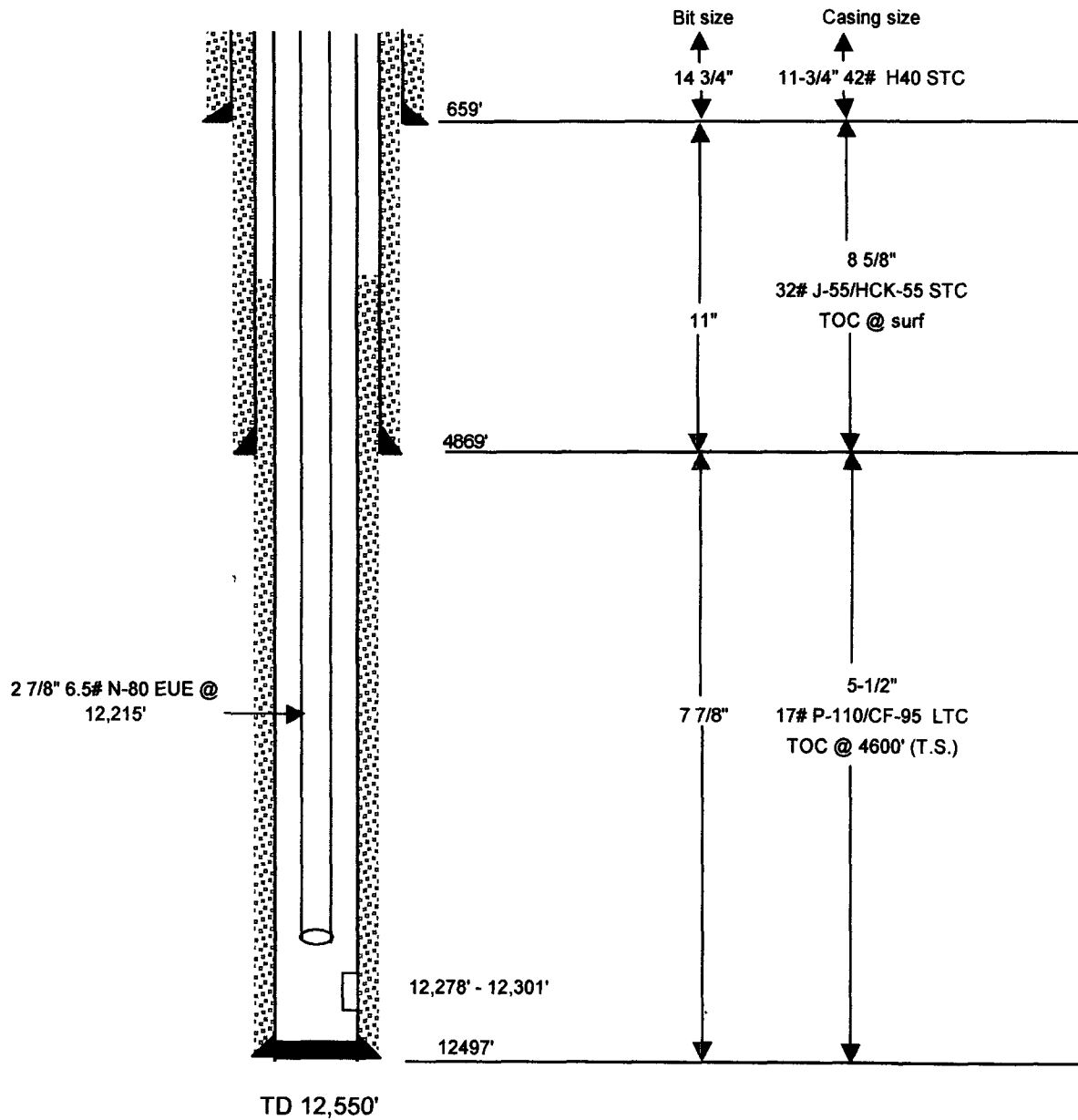
6 1/8" Lateral from KOP 11,700' MD to 16,925' MD. Average TVD of 12,275'.
Gross lateral length of 4,500', treatable 4,100'.

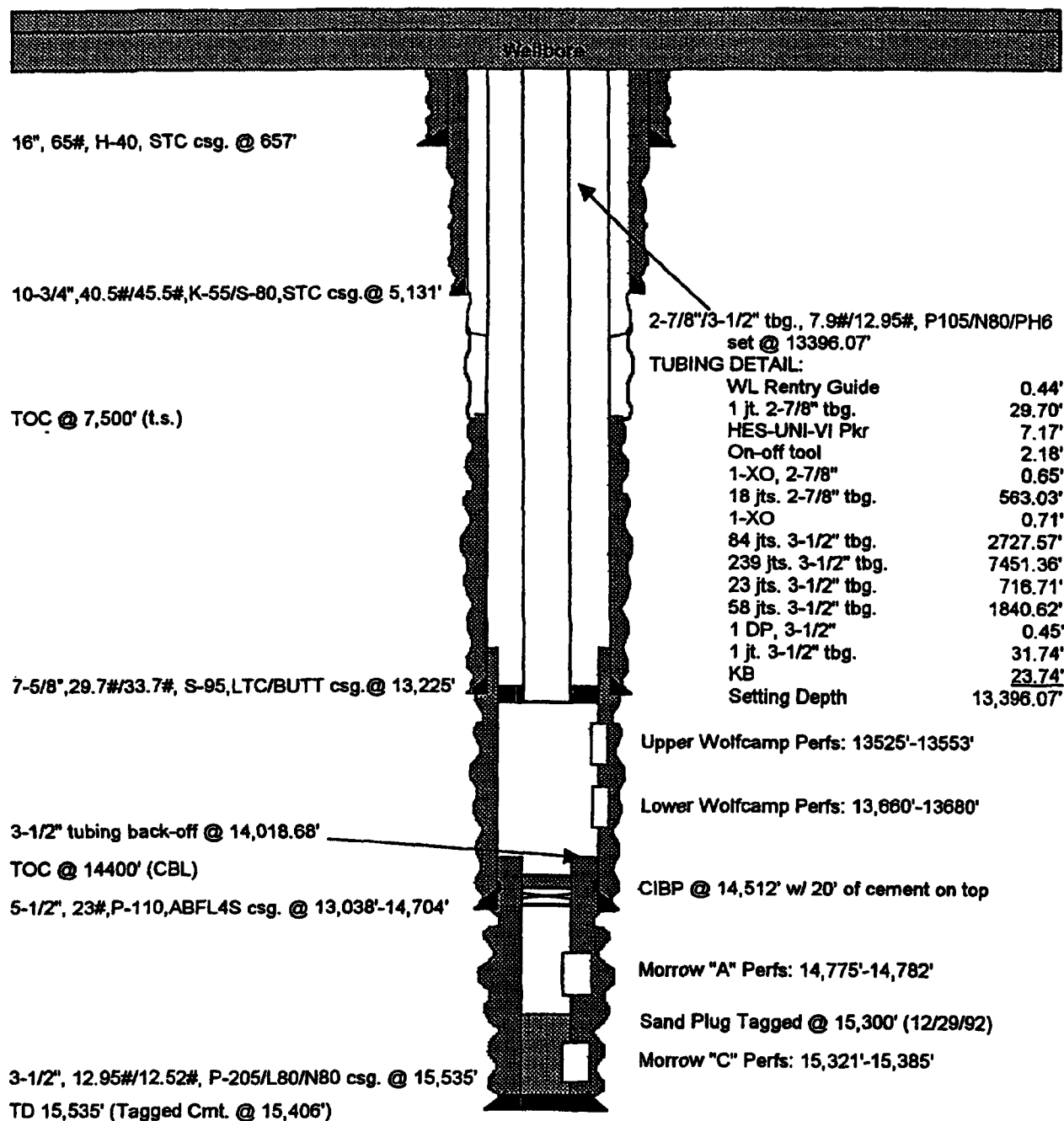
Perfs: 12,695', 13,113', 13,531', 13,92', 14,346', 15,080', 15,497', 15,917', 16,313',
16,730' = 55 shots

3/14/2005



RHNU No. 107
2130' FNL & 1980' FWL
Sec. 1-25S-33E
Lea County, New Mexico
API 30-025-33214



CURRENT
 WELL SCHEMATIC


HEC Petroleum, Inc.

Bell Lake 2 State No. 1

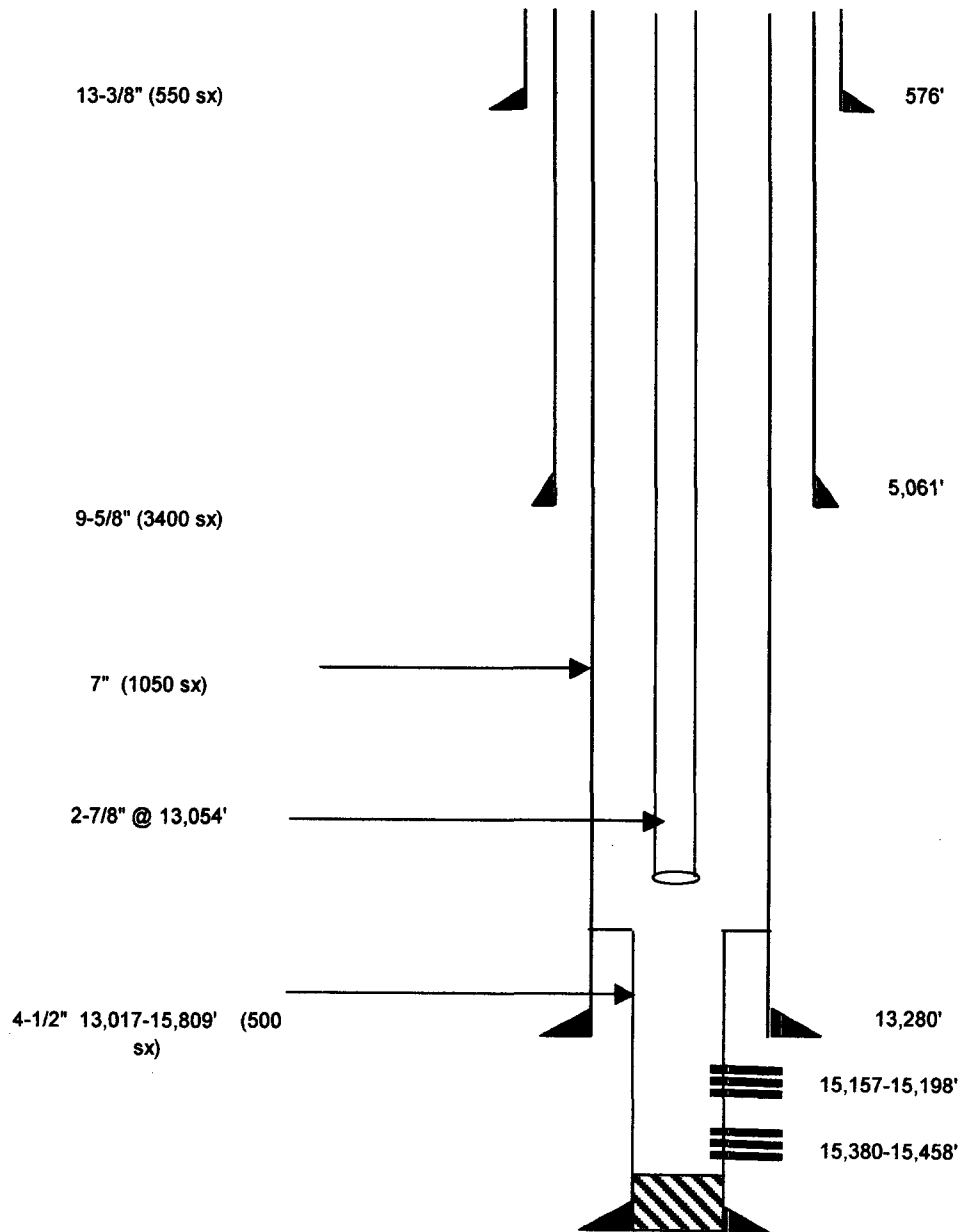
1980' FNL & 660' FEL

Sec. 2-25S-33E

Vaca Draw Field

Lea County, New Mexico

API 30-025-27178



3/14/2005

Federal-Muse No. 1

660' FNL & 660' FWL

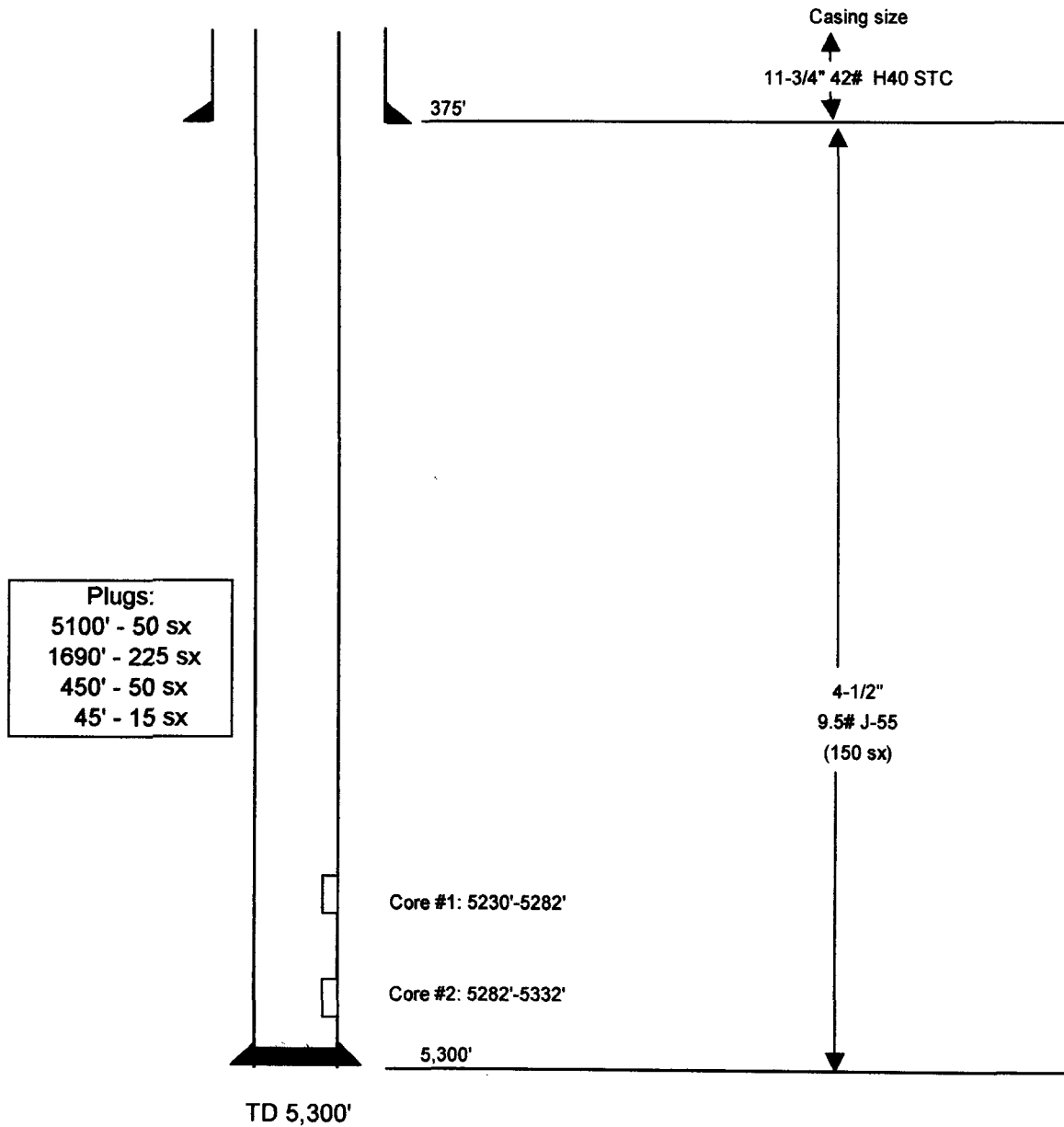
Sec. 1-25S-33E

Lea County, New Mexico

API 30-025-08379

Perry R. Bass

D&A



3/14/2005