

# ILLEGIBLE

Form 3160-5  
(August 1999)  
(1 original, 5 copies)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on reverse side

FORM APPROVED  
OMB NO. 1004-0135

Expires: November 30, 2000

5	Lease Serial No. NM NM 94108
6	If Indian, Allottee or Tribe Name
7	If Unit or CA/Agreement, Name and/or No. Red Hills North Unit
8	Well Name and No. Red Hills North Unit No. 901
9	API Well No. 30-025-28003
10	Field and Pool, or Exploratory Red Hills Bone Springs
11	County or Parish, State Lea Co. NM

1. Type of well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other	
2. Name of Operator EOG Resources, Inc.	
3a. Address P.O. Box 2267, Midland, TX 79702	3b. Phone No. (include area code) (915)686-3714
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) 1980' FNL & 1980 FEL Section 17, T-25-S, R-34-E (S/L) 2900' FNL & 5' FWL Section 17, T-25-E, R-34-E (BHL)	

INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

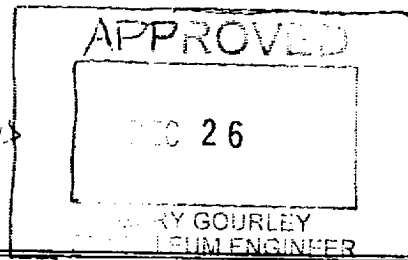
TYPE OF SUBMISSION	TYPE OF ACTION
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize <input type="checkbox"/> Deepen <input type="checkbox"/> Production (Start/Resume)
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing <input type="checkbox"/> Fracture Treat <input type="checkbox"/> Reclamation
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair <input type="checkbox"/> New Construction <input type="checkbox"/> Recomplete
	<input type="checkbox"/> Change Plans <input type="checkbox"/> Plug and Abandon <input type="checkbox"/> Temporarily Abandon
	<input type="checkbox"/> Convert to Injection <input type="checkbox"/> Plug Back <input type="checkbox"/> Water Disposal
	<input type="checkbox"/> Water Shut-Off <input type="checkbox"/> Well Integrity <input checked="" type="checkbox"/> Other: Recomplete Horizontally

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleate horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zone. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed only after testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the site is determined that the site is ready for final inspection.

Attached here to Drilling Program, Surface use and Operations Plan for Horizontal re-entry of producing well.  
Bond No. on file with BLM NM2308  
C-102 Plats enclosed.

SUBJECT TO  
LIKE APPROVAL  
BY STATE

BE SURE TO SUBMIT A 3160-4  
"Completion Report" within 30 days  
of completion and testing.



14. I hereby certify that the foregoing is true and correct  
Name (Printed/Typed)

Mike Francis	Title	Agent
Signature <i>Mike Francis</i>	Date	12/20/01

FEDERAL OR STATE OFFICE USE

Approved by	Title	Date
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct thereon.	Office	

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction

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District I  
PO Box 1980, Hobbs, NM 88241-1980  
District II  
PO Drawer DD, Artesia, NM 88211-0719  
District III  
1000 Rio Brazos Rd., Aztec, NM 87410  
District IV  
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico  
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION  
PO Box 2088  
Santa Fe, NM 87504-2088

Form C-102  
Revised February 21, 1994  
Instructions on back  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30--25-28003		*Pool Code 51020	*Pool Name Red Hills Bone Springs
*Property Code 26406	*Property Name RED HILLS NORTH UNIT		*Well Number 901
*OGRID No. 7377	*Operator Name EOG RESOURCES INC.		*Elevation 3334

<sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
G	17	25-S	34-E		1980	NORTH	1980	EAST	LEA

<sup>11</sup> Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	17	25-S	34-E		2900	NORTH	5	WEST	LEA

*Dedicated Acres 160	*Joint or Infill	*Consolidation Code	*Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

<p>16</p> <p>N 89°35'00" E (GRID)</p> <p>HORIZONTAL DRILLING DIRECTION S 73°57'54" W (GRID)</p> <p>EOG RESOURCES INC. RED HILLS NORTH UNIT No. 901 BOTTOM HOLE LOCATION Y=411908.16 X=757968.13</p> <p>N 00°27'35" W (GRID)</p> <p>S 89°32'54" W (GRID)</p>	<p>EOG RESOURCES INC. RED HILLS NORTH UNIT No. 901 Y=412852.07 X=761252.37 LAT.=32°07'56.04" LONG.=103°29'21.73"</p> <p>RECEIVED Hobbs OCD</p>	<p><sup>17</sup> OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><i>Mike Francis</i> Signature Mike Francis Printed Name Agent Title 12/20/01 Date</p>
		<p><sup>18</sup> SURVEYOR CERTIFICATION</p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to best of my belief.</p> <p>NOVEMBER 30, 2001 Date of Survey Signature and Seal of Professional Land Surveyor: <i>James E. Tompkins</i> JAMES E. TOMPKINS NEW MEXICO REGISTERED PROFESSIONAL LAND SURVEYOR 14729 Certificate Number 14729</p>

DRILLING PROGRAM/HORIZONTAL RE-ENTRY

EOG RESOURCES, INC.  
RED HILLS NORTH UNIT NO. 901  
LEA COUNTY, NM

1. GEOLOGIC NAME OF SURFACE FORMATION:

Permian

2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

Delaware Mt. Group 5320'  
Bone Spring Lime 9305'  
3<sup>rd</sup> Bone Spring Sand 12250'  
TVD 12350'  
TMD 15550'

3. ESTIMATED DEPTHS OF ANTICIPATED FRESH WATER, OIL OR GAS:

Upper Permian Sands	100'	Fresh Water
3 <sup>rd</sup> Bone Spring Sand	12250'	Oil

No other formations are expected to give up oil, gas or fresh water in measurable quantities. The surface fresh water sands are protected by setting 13 3/8" casing at 588' and cement circulated back to surface.

4. CASING PROGRAM: (Existing Casing)

<u>Hole Size</u>	<u>Interval</u>	<u>OD Casing</u>	<u>Weight Grade Jt. Cond. Type</u>
17 1/2"	0-588'	13 3/8"	54.5# J55 ST&C
12 1/4"	0-5172'	10 3/4"	45.5# LT&C
9 1/2"	8757-13,600'	7 5/8"	33.7, LT&C
7 7/8"	0'-12,170'	5 1/2"	17# TAC95 & P-110
7 7/8 "	13099-15820'	5 1/2" LINER	17# P-110

CASING PROGRAM : (Proposed)

<u>Hole Size</u>	<u>Interval</u>	<u>OD Casing</u>	<u>Weight Grade Jt. Cond. Type</u>
4 3/4"	11,700-15550'	3 1/2"	9.2 HCP-110, HYD 513

CEMENTING PROGRAM: (Existing Casing)

13 3/8" Surface Casing: Circulated cement to surface w/500 Sx.

10 3/4" 1<sup>st</sup> Intermediate: Circulated cement to surface w/2825 Sx. RECEIVED  
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DRILLING PROGRAM/HORIZONTAL RE-ENTRY

EOG RESOURCES, INC.  
RED HILLS NORTH UNIT NO. 901  
LEA COUNTY, NM

7 5/8" 2<sup>nd</sup> Intermediate: Cemented with 795 sx. TOC @ 8757'

5 1/2" Production Casing: Cemented with 85 sx. Premium Plus.  
TOC @ 11090' by Temperature log.

5 1/2" Liner: NR

CEMENTING PROGRAM: (Proposed)

3 1/2" Production Liner: 160 sxs Acid Soluble Cement,  
0.6% Halad 344, 0.7% Econolite, 0.2% SCR-100

5. Re-ENTRY PROCEDURE:

The RHNU #901 well will be re-entered. The existing perforations are in the Third Bone Springs @ 12,264' – 12,290'. A 5 1/2" CIBP will be set @ 12,150' and 35' of cement placed on top.

A 5 1/2" mechanical whipstock will be set @ 11,700', window cut, and a 4 3/4" hole drilled horizontally to approximately 15,550' MD. A 3 1/2" production liner will be run and cemented in from 15,550 to 11,500'.

See Exhibit 4(a), 4(b).

5. MINIMUM SPECIFICATIONS FOR PRESSURE CONTROL:

The blowout preventer equipment (BOP) shown in Exhibit #1 will consist of a double ram-type (5000 psi WP) preventer and an annular preventer (5000 psi WP). Units will be hydraulically operated and the ram-type will be equipped with blind rams on top and drill pipe rams on bottom. All will be installed on the 5 1/2" production casing and used continuously until TD is reached. Before drilling out of the 5 1/2" casing, the ram-type BOP and accessory equipment will be tested to 5000 psi and the annular to 70% of rated working pressure (3500 psi).

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. A 2" kill line and 4" choke line will be included in the drilling spool located below the ram-type BOP. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold with 5000 psi WP rating.

6. TYPES AND CHARACTERISTICS OF THE PROPOSED MUD SYSTEM:

DRILLING PROGRAM/HORIZONTAL RE-ENTRY

EOG RESOURCES, INC.  
RED HILLS NORTH UNIT NO. 901  
LEA COUNTY, NM

The well will be drilled to TD with a polymer/KCL mud system. The applicable depths and properties of this system are as follows:

<u>Depth</u>	<u>Type</u>	<u>Wt</u> <u>(ppg)</u>	<u>Viscosity</u> <u>(sec)</u>	<u>Waterloss</u> <u>(cc)</u>
11,700' to 15,550'	Fresh water/gel	8.33	28-40	N.C. - 10

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept at the wellsite at all times.

7. Auxillary Well Control and Monitoring Equipment:

- (A) A kelly cock will be kept in the drill string at all times.
- (B) A full opening drill pipe stabbing valve (inside BOP) with proper drill pipe connections will be on the rig floor at all times.
- (C) A mud logging unit complete with H2S detector will be continuously monitoring drilling penetration rate and hydrocarbon shows.

8. LOGGING, TESTING AND CORING PROGRAM:

- (A) The electric logging program will consist of a LWD GR from 11,700' to TD.

10. ABNORMAL CONDITIONS, PRESSURES, TEMPERATURES AND POTENTIAL HAZARDS:

No abnormal pressures or temperatures are anticipated. The estimated bottom hole temperature (BHT) at TD is 175 degrees F with an estimated maximum bottom-hole pressure (BHP) at TD of 5000 psig. No hydrogen sulfide or other hazardous gases or fluids have been encountered, reported or are known to exist at this depth in this area. No major loss circulation zones have been reported in offsetting wells.

11. ANTICIPATED STARTING DATE AND DURATION OF OPERATIONS:

Road and location work will not begin until approval has been received from the BLM. Anticipated spud date is within 30 days after approval at the present time. Once drilling has commenced, the drilling operation should be finished in approximately 60 days. If the well is productive, an additional 30 to 45 days will be required for the completion and testing before a decision is made to install permanent facilities.

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DRILLING PROGRAM/HORIZONTAL RE-ENTRY

EOG RESOURCES, INC.  
RED HILLS NORTH UNIT NO. 901  
LEA COUNTY, NM

**SURFACE USE AND OPERATIONS PLAN**

1. EXISTING ROADS:

Access to location will be made on existing roads.

Routine grading and maintenance of existing roads will be conducted as necessary to maintain their condition as long as any operations continue on this lease.

2. LOCATION OF EXISTING WELLS:

Exhibit #2 shows all existing wells within a one-mile radius of this well.

3. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES:

Existing production facilities and roads located within Red Hills North Unit (Exhibit 3) Flow lines are already in place for existing production.

4. LOCATION AND TYPE OF WATER SUPPLY:

Water for drilling will be purchased from commercial sources and transported to the well site over existing roads.

DRILLING PROGRAM/HORIZONTAL RE-ENTRY

EOG RESOURCES, INC.  
RED HILLS NORTH UNIT NO. 901  
LEA COUNTY, NM

5. PLANS FOR RESTORATION OF THE SURFACE:

After completion of drilling and/or completion operations, all equipment and other material not needed for operations will be removed. Location will be cleaned of all trash and junk to leave the well in an aesthetically pleasing condition as possible.

Any unguarded pits containing fluid will be fenced until they are dry and back filled.

After abandonment of the well, surface restoration will be in accordance with current federal laws and regulations. Location will be cleaned, and the well pad removed to promote vegetation. Reseeding will be as per BLM specifications

6. METHODS OF HANDLING WASTE DISPOSAL:

A small reserve pit will be utilized. Reserve pit will be evacuated of drilling fluid within 10 days after the well is completed.

Drill cuttings will be encapsulated in plastic and buried 2' below ground level.

Water produced during tests and waste water will be saved and hauled to a disposal well. Oil produced during tests will be in test tanks until sold.

Current laws and regulations pertaining to the disposal of human waste will be complied with.

Trash, waste paper, garbage and junk will be hauled to an approved disposal site in an enclosed trash trailer.

All trash and debris will be removed from the well site within 30 days after finishing drilling and/or completion operations.

7. ANCILLARY FACILITIES:

No airstrip, campsite, or other facilities will be built.

8. WELL SITE LAYOUT:

Exhibit #3 shows the relative location and dimensions of the well pad, steel mud pits, and location of major rig components. Pad area has been staked and flagged.

10. OTHER INFORMATION:

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DRILLING PROGRAM/HORIZONTAL RE-ENTRY

EOG RESOURCES, INC.  
RED HILLS NORTH UNIT NO. 901  
LEA COUNTY, NM

The area around the well site is grassland and the top soil is duned and sandy. The vegetation is native scrub grasses with abundant sagebrush, yucca, and prickly pear.

There is no permanent or live water in the immediate area.

Cultural resources examination has been completed.

11. OPERATORS REPRESENTATIVE:

The field representative responsible for assuring compliance with the approved surface-use and operations plan is as follows:

Mr. Tom Young

Phone: Business 1/505/390/2903  
Home 1/915/697-5639

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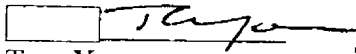


DRILLING PROGRAM/HORIZONTAL RE-ENTRY

EOG RESOURCES, INC.  
RED HILLS NORTH UNIT NO. 901  
LEA COUNTY, NM

12. CERTIFICATION:

I HEREBY CERTIFY that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by EOG Resources, Inc. and its contractors and sub-contractors in conformity with this plan and the terms and conditions under which it is approved.

  
Tom Young  
Drilling Manager

Date: 12/20/01

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DRILLING PROGRAM/HORIZONTAL RE-ENTRY

EOG RESOURCES, INC.  
RED HILLS NORTH UNIT NO. 901  
LEA COUNTY, NM

ATTACHMENT TO EXHIBIT #1

1. Blow out preventer and all fittings must be in good condition, 5000 psi W.P. minimum.
2. All fittings to be flanged.
3. Safety valve must be available on rig floor at all times with proper connections, valve to be full bore 5000 psi W.P. minimum.
4. All choke and fill lines to be securely anchored, especially ends of choke lines.
5. Equipment through which bit must pass shall be at least as large as the diameter of the casing being drilled through.
6. Kelly cock on kelly.
7. Extension wrenches and hand wheels to be properly installed.
8. Blow out preventer control to be located as close to driller's position as feasible.
9. Blow out preventer closing equipment to include minimum 40-gallon accumulator, two independent sources of pump power on each closing unit installation, and meet all API specifications.

10/10/2010  
10/10/2010  
10/10/2010

EOG Resources, Inc.  
Red Hills North Unit No. 90/well

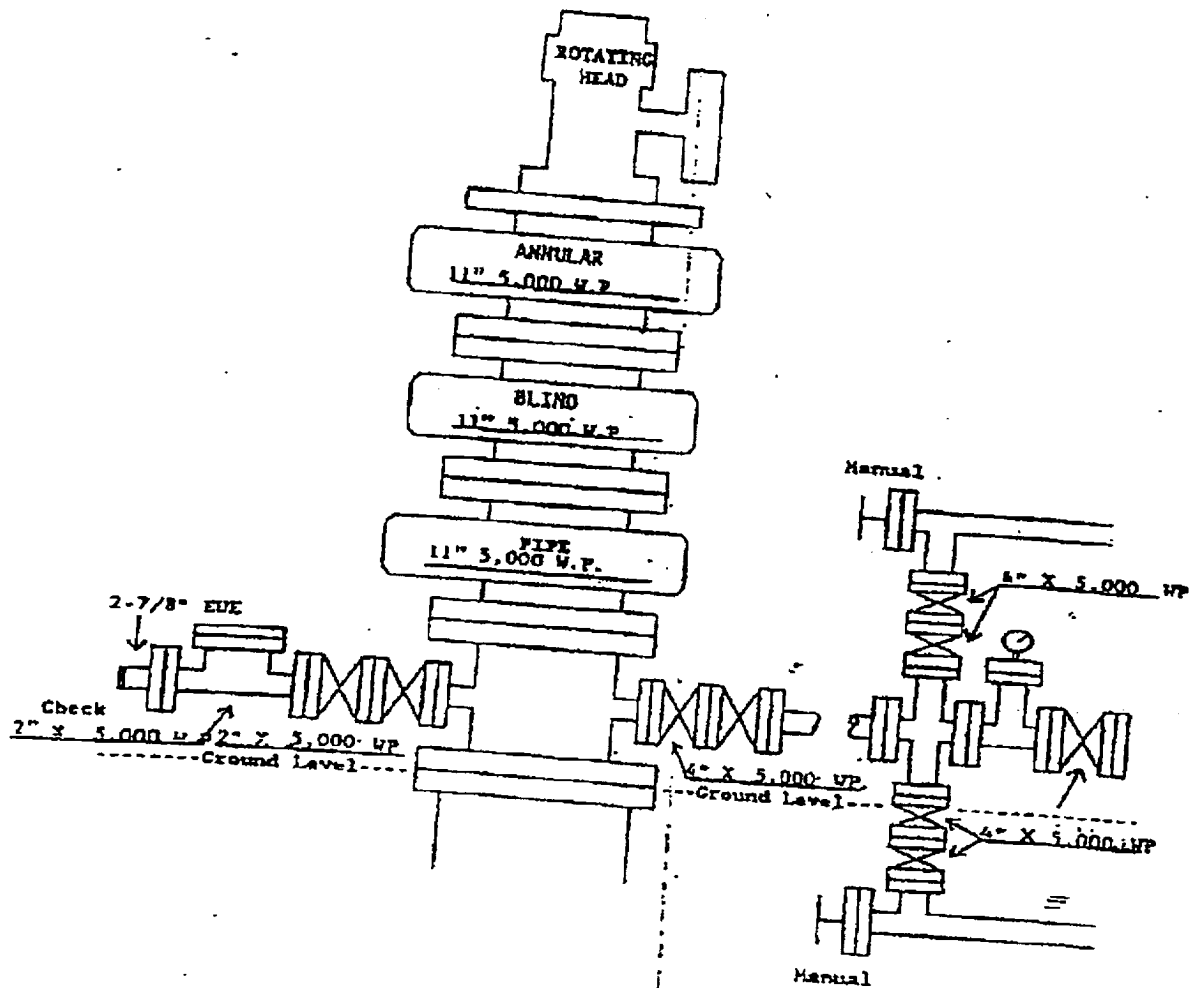
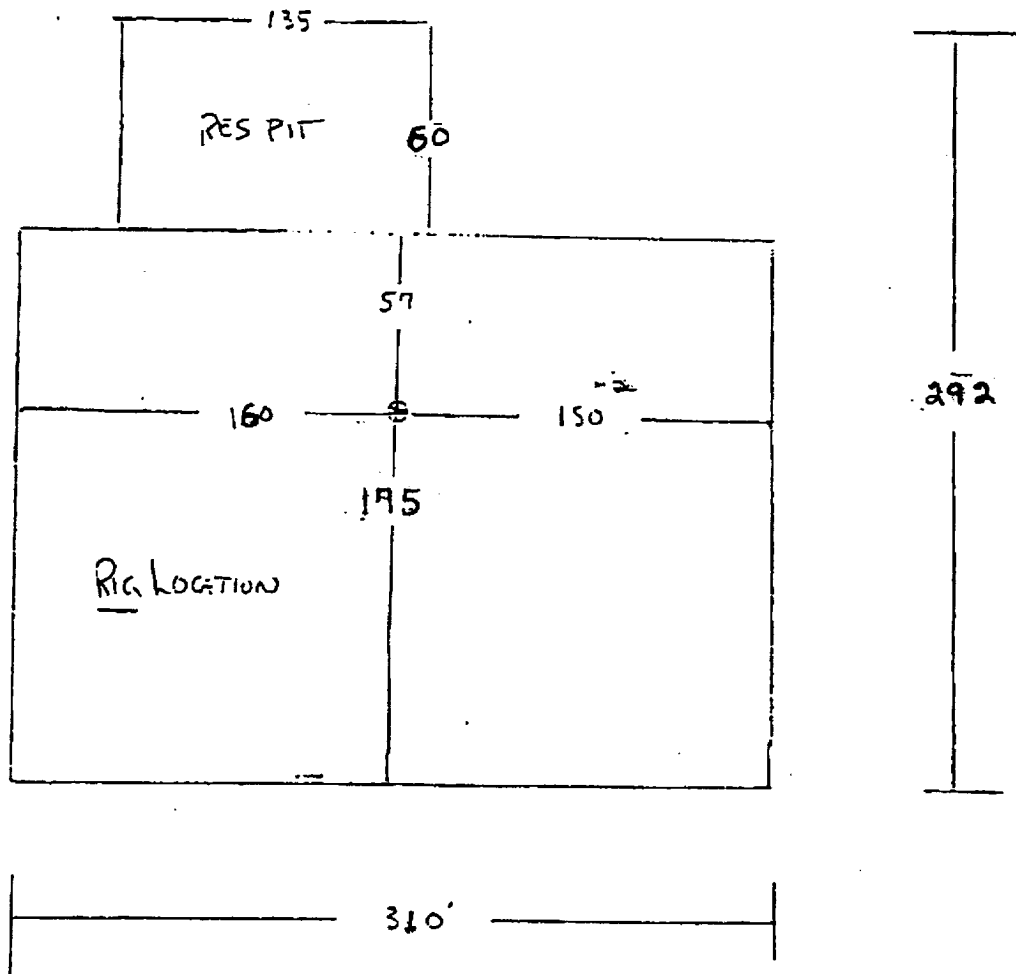


EXHIBIT #1

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Exhibit 3

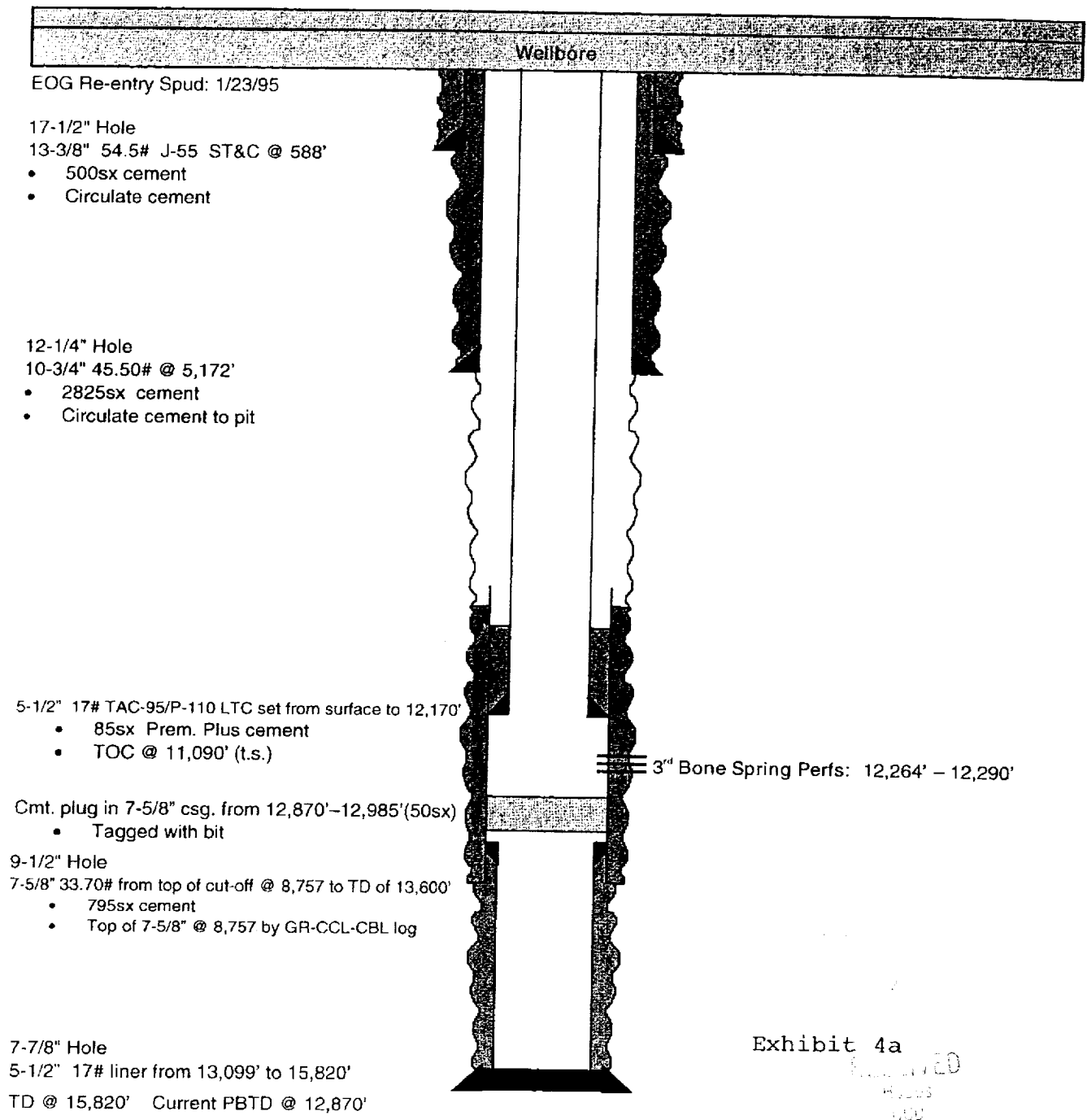


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EOG RESOURCES, INC.  
1,980' FNL & 1,980' FEL  
Sec.17-T25S-R34E

RHNU NO. 901  
LEA CO., NEW MEXICO  
DECEMBER 14, 2001

**CURRENT  
WELLBORE SCHEMATIC**



EOG RESOURCES, INC.  
1,980' FNL & 1,980' FEL  
Sec.17-T25S-R34E

RHNU NO. 901  
LEA CO., NEW MEXICO  
DECEMBER 14, 2001

**PROPOSED  
WELLBORE SCHEMATIC**

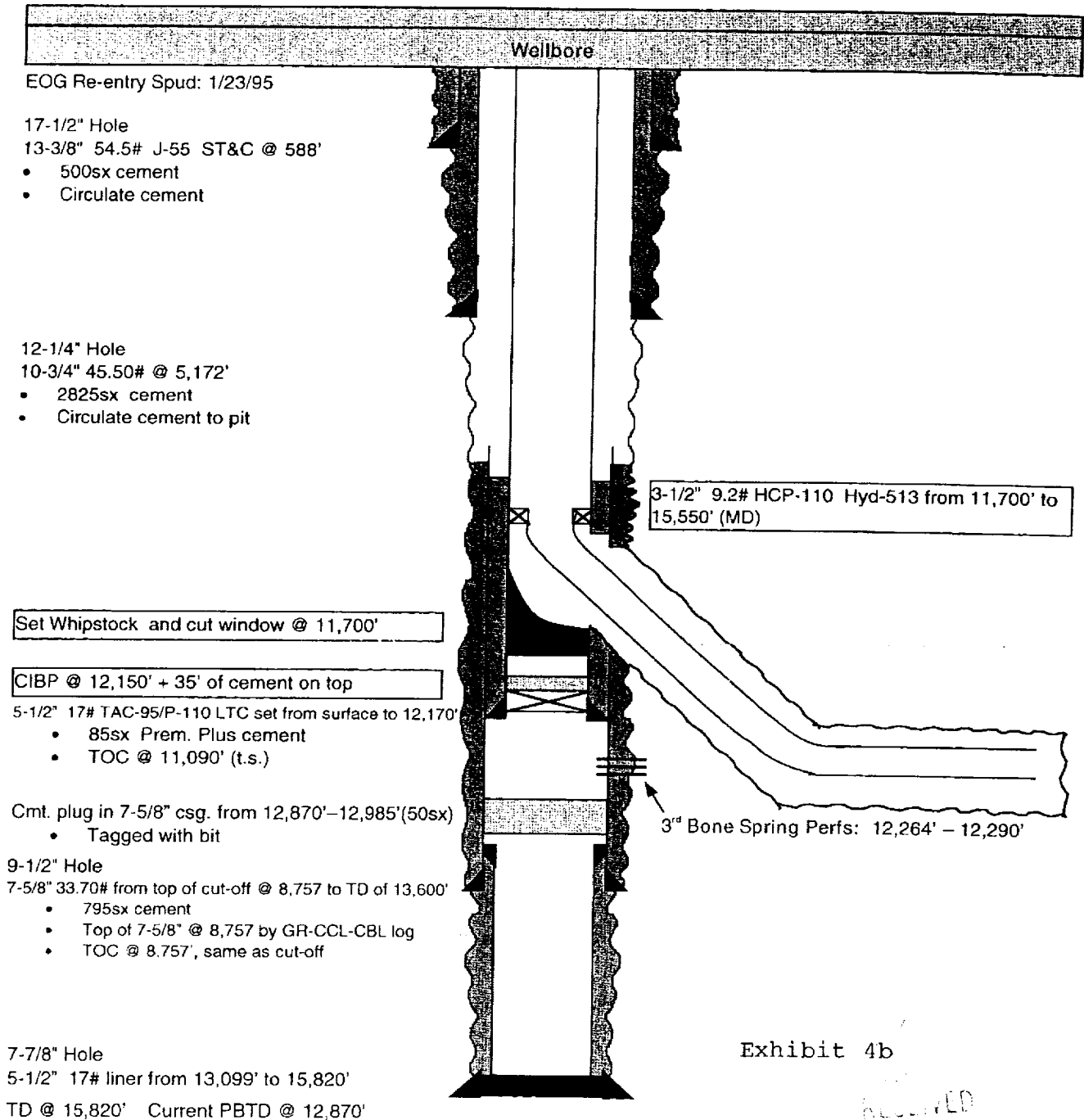


Exhibit 4b

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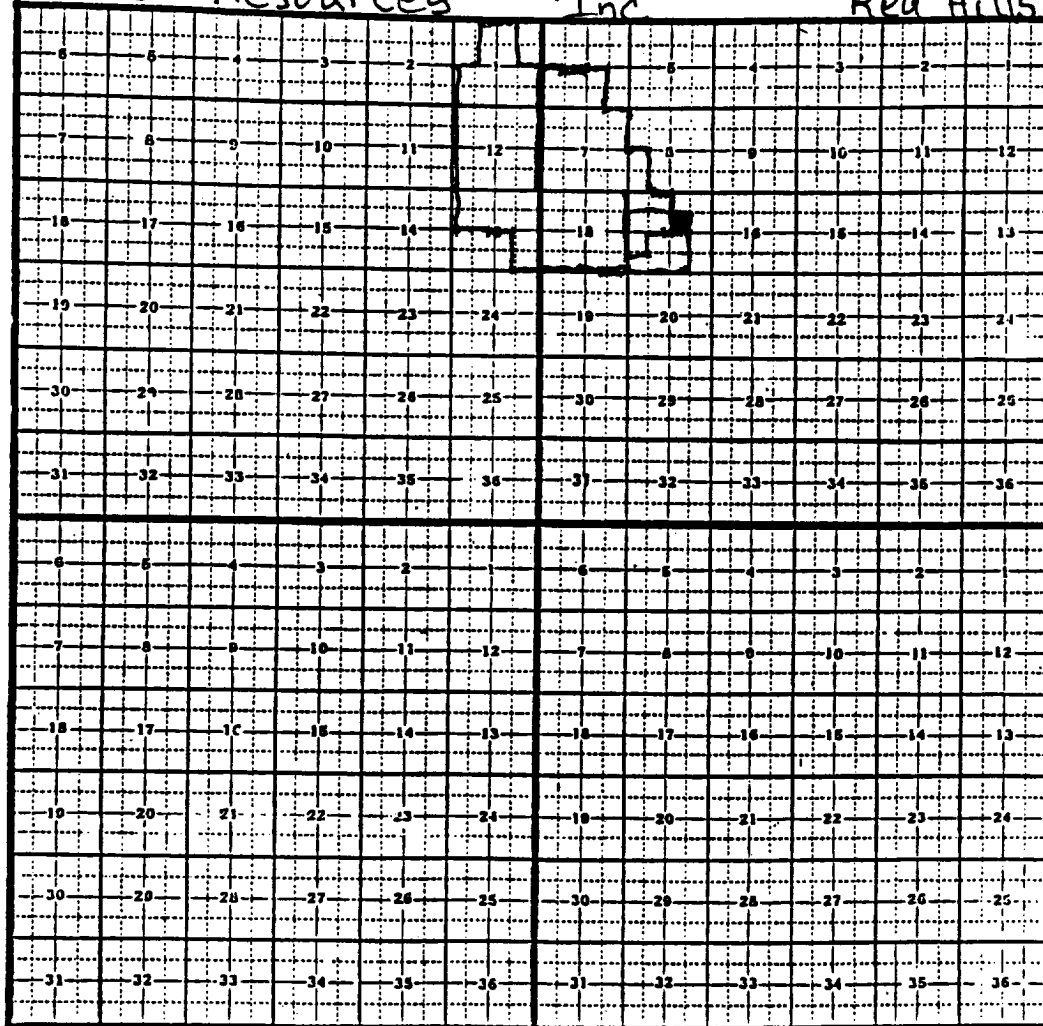




Red Hills Bone Spring Lea  
County, Lea  
Township 25 Range 33 Township 25 Range 34  
Township \_\_\_\_\_ Range \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_

EOG Resources Inc

Red Hills North Unit



R-11388 Unit Agreement  
R-11389 Pilot Waterflood Project