

N.M. Oil Cons. DIV-Dist. 2  
1301 W. Grand Avenue  
Artesia, NM 88210

FORM APPROVED  
OMB No. 1004-0136  
Expires November 30, 2000

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

RECEIVED

NOV 07 2005

OLD-ARTESIA

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. S/L NMLC 063621 BHL NMLC 048468	
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name	
2. Name of Operator EOG Resources, Inc. 7377		7. If Unit or CA Agreement, Name and No.	
3a. Address P.O. Box 2267 Midland, TX 79702		8. Lease Name and Well No. Ranger 7 Fed Com No.4H 35051	
3b. Phone No. (include area code) (432) 686-3714 Und		9. API Well No. 30-015-34418	
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 330' FSL & 660' FEL (U/L I) BHL At proposed prod. Zone 2310' FSL & 510' FEL (U/L P) SHL		10. Field and Pool, or Exploratory Sand Tank Bone Spring 96832	
14. Distance in miles and direction from nearest town or post office* 4 mi SW from Loco Hills		11. Sec., T., R., M., or Blk. And Survey or Area Sec 7 T-18-S, R-30-E	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drlg. Unit line, if any) 330		12. County or Parish Eddy	
16. No. of Acres in lease 80		13. State NM	
17. Spacing Unit dedicated to this well E/2S/E4			
18. Distance from proposed location* to nearest well, drilling, completed applied for, on this lease, ft. na		20. BLM/BIA Bond No. on file NM2308	
19. Proposed Depth TVD 8125' TMD 10,200			
21. Elevations (Show whether DF, KDB, RT, GL, etc) Gr 3507		22. Approximate date work will start* 10/25/2005	
		23. Estimated duration 30 days	

24. Attachments

The following completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

- |  |  |
|--|--|
| 1. Well plat certified by a registered surveyor.   | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above)     |
| 2. A Drilling Plan.  | 5. Operator certification.   |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office) | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

25. Signature <i>Mike Francis</i>	Name (Printed/Typed) Mike Francis	Date 8/18/2005
Title Agent		

Approved by (Signature) /s/ James Stovall	Name (Printed/Typed) /s/ James Stovall	Date NOV 04 2005
Title FORFIELD MANAGER	Office CARLSBAD FIELD OFFICE	

Application approval does not warrant or certify the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached

APPROVAL FOR 1 YEAR

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.

\*(Instructions on reverse)

Capitan Controlled Water Basin

Witness Surface Casing

APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS AND  
SPECIAL STIPULATIONS  
ATTACHED

**DISTRICT I**  
1625 N. French Dr., Hobbs, NM 88240

**DISTRICT II**  
1301 W. Grand Avenue, Artesia, NM 88210

**DISTRICT III**  
1000 Rio Brazos Rd., Aztec, NM 87410

**DISTRICT IV**  
1220 S. St. Francis Dr., Santa Fe, NM 87505

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-102

Revised August 15, 2000

Submit to Appropriate District Office

State Lease - 4 copies

Fee Lease - 3 copies

☐ AMENDED REPORT

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

<sup>1</sup> API Number	<sup>2</sup> Pool Code 96832	<sup>3</sup> Pool Name Sand Tank Bone Spring
<sup>4</sup> Property Code	<sup>5</sup> Property Name RANGER "7" FED COM	<sup>6</sup> Well Number 4H
<sup>7</sup> OGRID No. 7377	<sup>8</sup> Operator Name EOG RESOURCES, INC.	<sup>9</sup> Elevation 3507'

<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
I	7	18 SOUTH	30 EAST, N.M.P.M.		2310'	SOUTH	510'	EAST	EDDY

<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
P	7	18 SOUTH	30 EAST, N.M.P.M.		330'	SOUTH	660'	EAST	EDDY
<sup>12</sup> Dedicated Acres 80		<sup>13</sup> Joint or Infill		<sup>14</sup> Consolidation Code		<sup>15</sup> Order No.			

NO ALLOWABLE WELL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

<div><p><sup>16</sup></p><p>NAD 27 NME ZONE X = 601279 Y = 640724 LAT.: N 32.7810108 LONG.: W 104.0038733</p><p>LC 063621</p><p>510'</p><p>2310'</p><p>660'</p><p>330'</p><p>LC 048468</p><p>BOTTOM HOLE LOC. X = 601135 Y = 638744 LAT.: N 32.7555895 LONG.: W 104.0043591</p></div>	<p><b><sup>17</sup> OPERATOR CERTIFICATION</b></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 1/20/2005 Date</p> <p><b><sup>18</sup> SURVEYOR CERTIFICATION</b></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 the best of my belief.</p> <p>MAY 18, 2005 Date of Survey Signature and Seal of Registered Surveyor  Certificate Number V. L. BEZNER R.P.S. #7920 JOB # 103601 / 98SW / J.C.P.</p>
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## DRILLING PROGRAM

EOG RESOURCES, INC.  
Ranger 7 Fed Com No 4 H

### 1. GEOLOGIC NAME OF SURFACE FORMATION:

Permian

### 2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

Rustler	500'
San Andres	3400'
1st Bone Spring	7600'
2 <sup>nd</sup> Bone Spring	8150
TD	81250

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

Upper Permian Sands	Above 250'	Fresh Water
Grayburg/San Andres	3000'	Oil
1st Bone Spring	7600	Oil
2 <sup>nd</sup> Bone Spring	8125	Oil

## CASING PROGRAM

<u>Hole Size</u>	<u>Interval</u>	<u>OD Casing</u>	<u>Weight Grade Jt. Cond. Type</u>
14 3/4"	0-650'	11 3/4"	42# H-40 ST&C
11"	0-3400'	8 5/8"	32# J-55 LT&C
7 7/8"	0- 10,200	5 1/2"	7# N80/S95 LT&C

### Cementing Program:

11 3/4" Surface Casing:	Cement to surface with 200 sx Prem Plus, 3% Econolite, 1% Calcium Chloride, 0.25#/sx Flocele, 150 sx Prem Plus, 2% Calcium Chloride
8 5/8" Intermediate:	Cement to surface with 650 sx Interfill C, .25#/sx flocele, 230 sx Premium Plus, 1% Calcium Chloride
5 1/2" Production:	Cement w/450 sx Premium, 3% Econolite, 1#/sx Salt, 0.2% HR5, .25#/sk Flocele, 200sx 50/50 Poz with retarders.. This is designed to bring TOC to 3000'.

### 5. MINIMUM SPECIFICATIONS FOR PRESSURE CONTROL:

(SEE EXHIBIT #1)

## **DRILLING PROGRAM**

**EOG RESOURCES, INC.**  
**Ranger 7 Fed Com No 4 H**

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 BOP's and accessory equipment will be tested in accordance with Onshore Oil & Gas order No. 2. EOG request authorization to use a 2M system, providing for an annular preventer to be used prior to the surface casing shoe and while drilling the intermediate section. Before drilling out of 1st intermediate casing, the ram-type BOP and accessory equipment will be tested to 5000/1000 psi and the annular to 3500/5000-psig pressure.

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.

### **6. TYPES AND CHARACTERISTICS OF THE PROPOSED MUD SYSTEM:**

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

<u>Depth</u>	<u>Type</u>	<u>Wt (PPG)</u>	<u>Viscosity (sec)</u>	<u>Waterloss (cc)</u>
0-650'	Fresh Water /Gel	8.6-8.8	28-34	N.C.
650'-3400'	Brine Water	10.0-10.2	28-34	N.C.
3400'- TD	Cut Brine + Polymer/KCL	8.9-9.6	34-40	10-25

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. AUXILIARY 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 from 5000' to TD.

### **8. LOGGING, TESTING AND CORING PROGRAM:**

## **DRILLING PROGRAM**

**EOG RESOURCES, INC.**  
**Ranger 7 Fed Com No 4 H**

Electric logging will consist of GR-Dual Induction Focused and GR-Compensated Density-Neutron from TD to intermediate casing with a GR-Compensated Neutron run from intermediate casing to surface and optional Sonic from TD to Intermediate casing.

Possible sidewall cores based on shows.

### **9. ABNORMAL CONDITIONS, PRESSURES, TEMPERATURES AND POTENTIAL HAZARDS:**

The estimated bottom hole temperature (BHT) at TD is 175 degrees F with an estimated maximum bottom-hole pressure (BHP) at TD of 3500 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.

### **10. ANTICIPATED STARTING DATE AND DURATION OF OPERATIONS:**

The drilling operation should be finished in approximately one month. If the well is productive, an additional 30-60 days will be required for completion and testing before a decision is made to install permanent facilities.

## **DRILLING PROGRAM**

**EOG RESOURCES, INC.  
Ranger 7 Fed Com No 4 H**

### **ATTACHMENT TO EXHIBIT #1**

1. Wear ring to be properly installed in head.
2. Blow out preventer and all fittings must be in good condition, 5000 psi W.P. minimum. Exhibit #1.
3. All fittings to be flanged
4. Safety valve must be available on rig floor at all times with proper connections, valve to be full bore 5000 psi W.P. minimum.
5. All choke and fill lines to be securely anchored especially ends of choke lines.
6. Equipment through which bit must pass shall be at least as large as the diameter of the casing being drilled through.
7. Kelly cock on kelly.
8. Extension wrenches and hand wheels to be properly installed.
9. Blow out preventer control to be located as close to driller's position as feasible.
10. 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.

EOG Resources, Inc.

Ranger Fed com No. 4

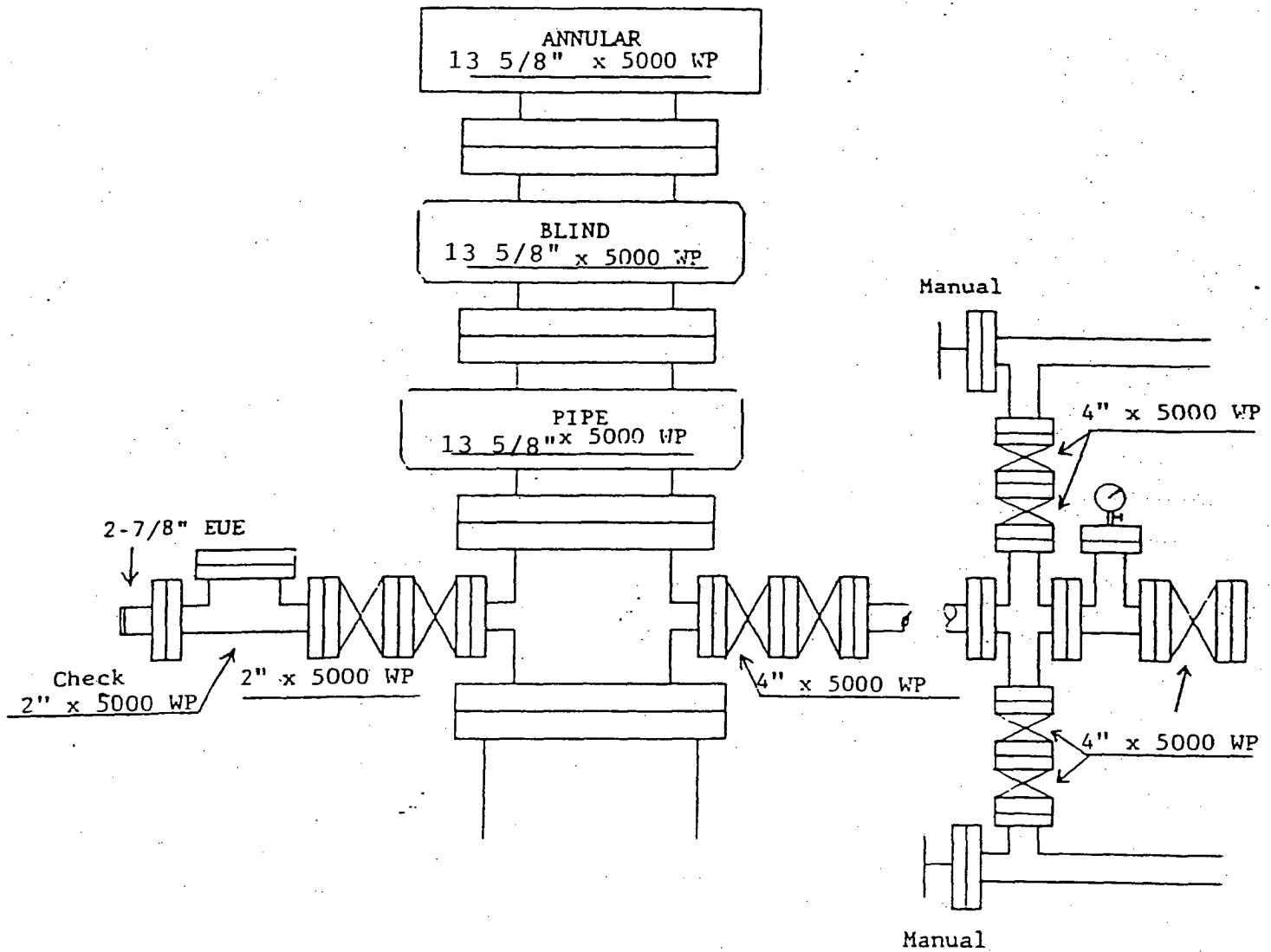
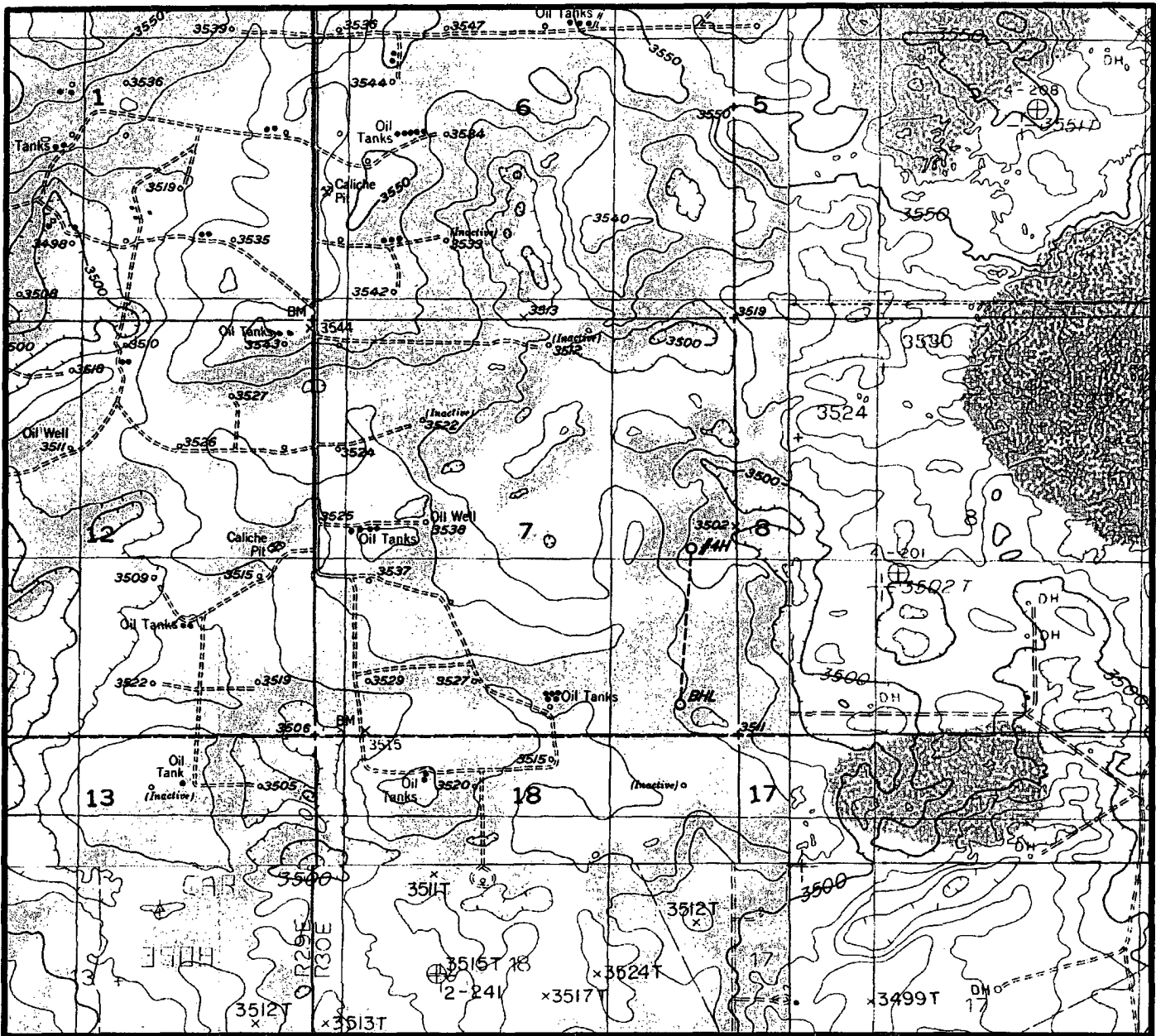


Exhibit 1

# LOCATION & ELEVATION VERIFICATION MAP



SCALE : 1" = 2000'

CONTOUR INTERVAL 20'

SECTION 7 TWP 18-S RGE 30-E

SURVEY NEW MEXICO PRINCIPAL MERIDIAN

COUNTY EDDY STATE NM

DESCRIPTION 2310' FSL & 510' FEL

ELEVATION 3507'

OPERATOR EOG RESOURCES, INC.

LEASE RANGER "7" FED #4H

U.S.G.S. TOPOGRAPHIC MAP

RED LAKE SE, NEW MEXICO

SCALED LAT. LAT.: N 32.7610108

LONG. LONG.: W 104.0038733

Exhibit2



**TOPOGRAPHIC LAND SURVEYORS**

*Surveying & Mapping for the Oil & Gas Industry*

2903 N. BIG SPRING  
MIDLAND, TX. 79705  
(800) 767-1653



SECTION 7, TOWNSHIP 18 SOUTH, RANGE 30 EAST, N.M.P.M.,  
EDDY COUNTY NEW MEXICO

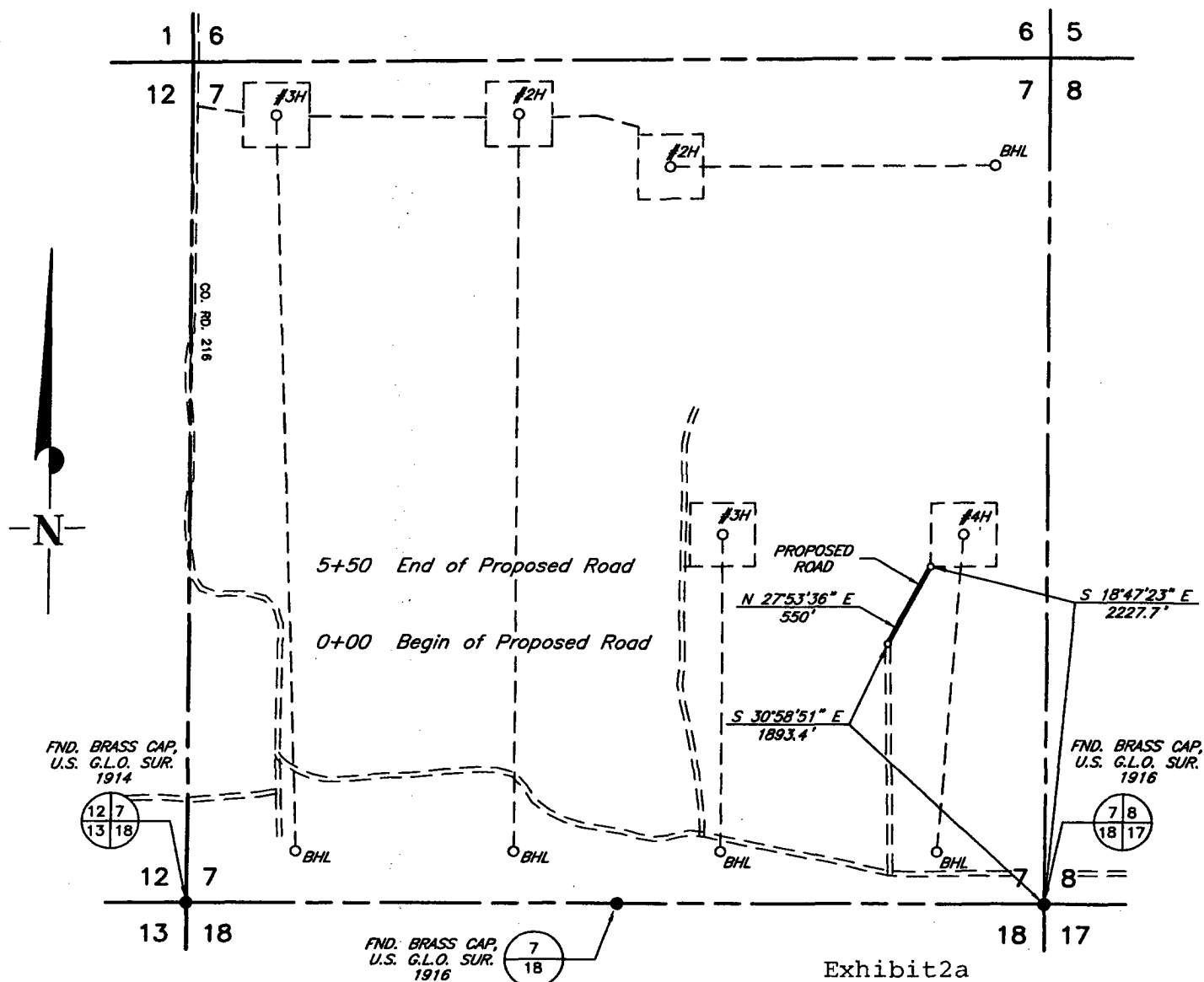


Exhibit2a

LEGAL DESCRIPTION

A strip of land 30.0 feet wide 550 feet or 0.104 miles in length and being 15.0 feet Left and 15.0 feet Right of the above centerline survey.

I HEREBY CERTIFY THAT I DIRECTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.

V. Lynn Bezner

EOG RESOURCES, INC.

SURVEYING AND MAPPING BY  
TOPOGRAPHIC LAND SURVEYORS  
MIDLAND, TEXAS

SCALE: 1" = 1000'

DATE: MAY 18, 2005

JOB NO.: 103601-RD1

QUAD NO.: 98SW

SHEET : 1 OF 1

NO.	REVISION	DATE	BY

SURVEYED BY: R.M.

DRAWN BY: J.C.P.

APPROVED BY: V.L.B.

## CONDITIONS OF APPROVAL - DRILLING

Operator's Name: EOG Resources, Inc.  
Well Name & No. Ranger 7 Federal Com #4H  
Surface Location: 2310' FSL, 510' FEL, Section 7, T. 18 S., R.30 E., Eddy County, New Mexico  
Bottom Location: 330' FSL, 660' FEL, Section 7, T. 18 S., R.30 E., Eddy County, New Mexico  
Lease: LC-048468

### I. DRILLING OPERATIONS REQUIREMENTS:

1. The Bureau of Land Management (BLM) is to be notified at the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (505) 361-2822, for wells in Eddy County in sufficient time for a representative to witness:

- A. Well Spud
- B. Cementing casing: 11-3/4 inch 8-5/8 inch 5-1/2 inch
- C. BOP tests

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

3. Submit a Sundry Notice (Form 3160-5, one original and five copies) for each casing string, describing the casing and cementing operations. Include pertinent information such as; spud date, hole size, casing (size, weight, grade and thread type), cement (type, quantity and top), water zones and problems or hazards encountered. The Sundry shall be submitted within 15 days of completion of each casing string. The reports may be combined into the same Sundry if they fall within the same 15 day time frame.

4. The API No. assigned to the well by NMOCD shall be included on the subsequent report of setting the first casing string.

### II. CASING:

1. The 11-3/4 inch surface casing shall be set at approximately 360 feet and cement circulated to the surface. If cement does not circulate to the surface the appropriate BLM office shall be notified and a temperature survey or cement bond log shall be run to verify the top of the cement. Remedial cementing shall be completed prior to drilling out that string.

2. The minimum required fill of cement behind the 8-5/8 inch intermediate casing is to be circulated to the surface.

3. The minimum required fill of cement behind the 5-1/2 inch production casing is to be sufficient to reach at least 500 feet above the top of the uppermost hydrocarbon productive interval.

### III. PRESSURE CONTROL:

1. All BOP systems and related equipment shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2. The BOP and related equipment shall be installed and operational before drilling below the 11-3/4 inch casing shoe and shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.

2. Minimum working pressure of the blowout preventer and related equipment (BOPE) required for drilling the surface and intermediate hole shall be 2000 psi.

3. Minimum working pressure of the blowout preventer and related equipment (BOPE) required for drilling below the 8-5/8 inch first intermediate casing shall be 3000 psi.

4. The appropriate BLM office shall be notified in sufficient time for a representative to witness the tests.

- The tests shall be done by an independent service company.
- The results of the test shall be reported to the appropriate BLM office.
- Testing fluid must be water or an appropriate clear liquid suitable for sub-freezing temperatures. Use of drilling mud for testing is not permitted since it can mask small leaks.
- Testing must be done in a safe workman-like manner. Hard line connections shall be required.

8/25/2005

acs