

1625 N. French Blvd  
Hobbs, NM 88240

Form 2160-3  
(August 1999)

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

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

865

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. S/L NM 19623 BHL-NM19625
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input 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.		7. If Unit or CA Agreement, Name and No.
3a. Address P.O. Box 2267, Midland, TX 79702	3b. Phone No. (include area code) (915)686-3714	8. Lease Name and Well No. Red Hills North Unit No. 307
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface 1,980' FNL & 990' FEL Sec 13 (Surface) H At proposed prod. Zone 2,100' FSL & 1,600' FEL Sec 7 (BHL)		9. API Well No. 30-025-35639
14. Distance in miles and direction from nearest town or post office*		10. Field and Pool, or Exploratory Red Hills Bone Spring
15. Distance from proposed* location to nearest property or lease line, ft. 900' (Also to nearest drlg. Unit line, if any)	16. No. of Acres in lease See Exhibit 5	11. Sec., T., R., M., or Bk. And Survey or Area 25S Sec 13, T24N, R33E (SHL) 25S Sec 7, T24N, R34E (BHL)
18. Distance from proposed location* to nearest well, drilling, completed applied for, on this lease, ft. 1450'	19. Proposed Depth TVD 12,700 TMD 17,800	12. County or Parish Lea
21. Elevations (Show whether DF, KDB, RT, GL, etc) 3351	22. Approximate date work will start* 6/1/2001	13. State NM
17. Spacing Unit dedicated to this well 30 ac.		
20. BLM/BIA Bond No. on file NM2308		
23. Estimated duration 60 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:

Carlsbad Controlled Water Basin

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|--|--|
| 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 4/18/01
Title Agent		
Approved by (Signature) <i>/s/ LESLIE A. THEISS</i>	Name (Printed/Typed) <i>/s/ LESLIE A. THEISS</i>	Date JUN 28 2001
Title FIELD 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

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)

APPROVAL FOR 1 YEAR

OPER. OGRID NO. 7377  
PROPERTY NO. 26406  
POOL CODE 51020  
EFF. DATE 7-23-01  
API NO. 30-025-35639

APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS AND  
SPECIAL STIPULATIONS  
ATTACHED

REF ID: A66666  
MAY 09 2001  
BLA  
ROSWELL

District I  
PO Box 1980, Hobbs, NM 88241-1980  
District II  
PO Drawer DD, Artesia, NM 88211-0719  
District III  
1000 Rio Brazos Rd., Artec, 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 30-025-35639		*Pool Code 51020	*Pool Name Red Hills Bone Spring	
*Property Code 26406		*Property Name RED HILLS NORTH UNIT		*Well Number 307
*OGRID No. 7377		*Operator Name EOG RESOURCES INC.		*Elevation 3351

<sup>10</sup> Surface Location

UL or lot no. H	Section 13	Township 25-S	Range 33-E	Lot Idn	Feet from the 1980	North/South line NORTH	Feet from the 990	East/West line EAST	County LEA
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<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
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*Dedicated Acres 80	*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

16		17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.  Signature: <i>Mike Francis</i> Printed Name: Mike Francis Agent Title: Agent Date: 7/19/01	
		18 SURVEYOR CERTIFICATION 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.  Date of Survey: MARCH 28, 2001 Signature and Seal of Professional Surveyor: <i>James E. Tompkins</i> Certificate Number: 14729 	

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  
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WELL LOCATION AND ACREAGE DEDICATION PLAT

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'Property Code 26406	'Property Name RED HILLS NORTH UNIT	'Well Number 307
'OGRID No. 7377	'Operator Name EOG RESOURCES INC.	'Elevation

<sup>10</sup> Surface Location

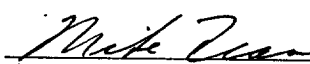
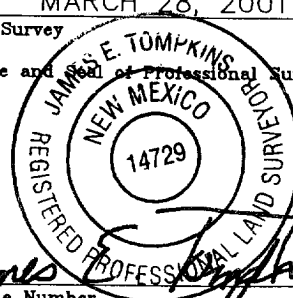
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
	18	25 S	34 E						Lea

<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

"Dedicated Acres 120	"Joint or Infill	"Consolidation Code	"Order No.
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<div>16</div> <div>HORIZONTAL DRILLING DIRECTION</div>					<div>17 OPERATOR CERTIFICATION</div> <div>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</div> <div></div> <div>Signature</div> <div>Mike Francis</div> <div>Printed Name</div> <div>Agent</div> <div>Title</div> <div>7/19/01</div> <div>Date</div>	
					<div>18 SURVEYOR CERTIFICATION</div> <div>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.</div> <div>MARCH 28, 2001</div> <div>Date of Survey</div> <div>Signature and Seal of Professional Surveyor:</div> <div></div> <div>James E. Tompkins</div> <div>Certificate Number</div> <div>14729</div>	

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WELL LOCATION AND ACREAGE DEDICATION PLAT

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*Property Code 26406	*Property Name RED HILLS NORTH UNIT		*Well Number 307
*OGRID No. 7377	*Operator Name EOG RESOURCES INC.		*Elevation

<sup>10</sup> Surface Location

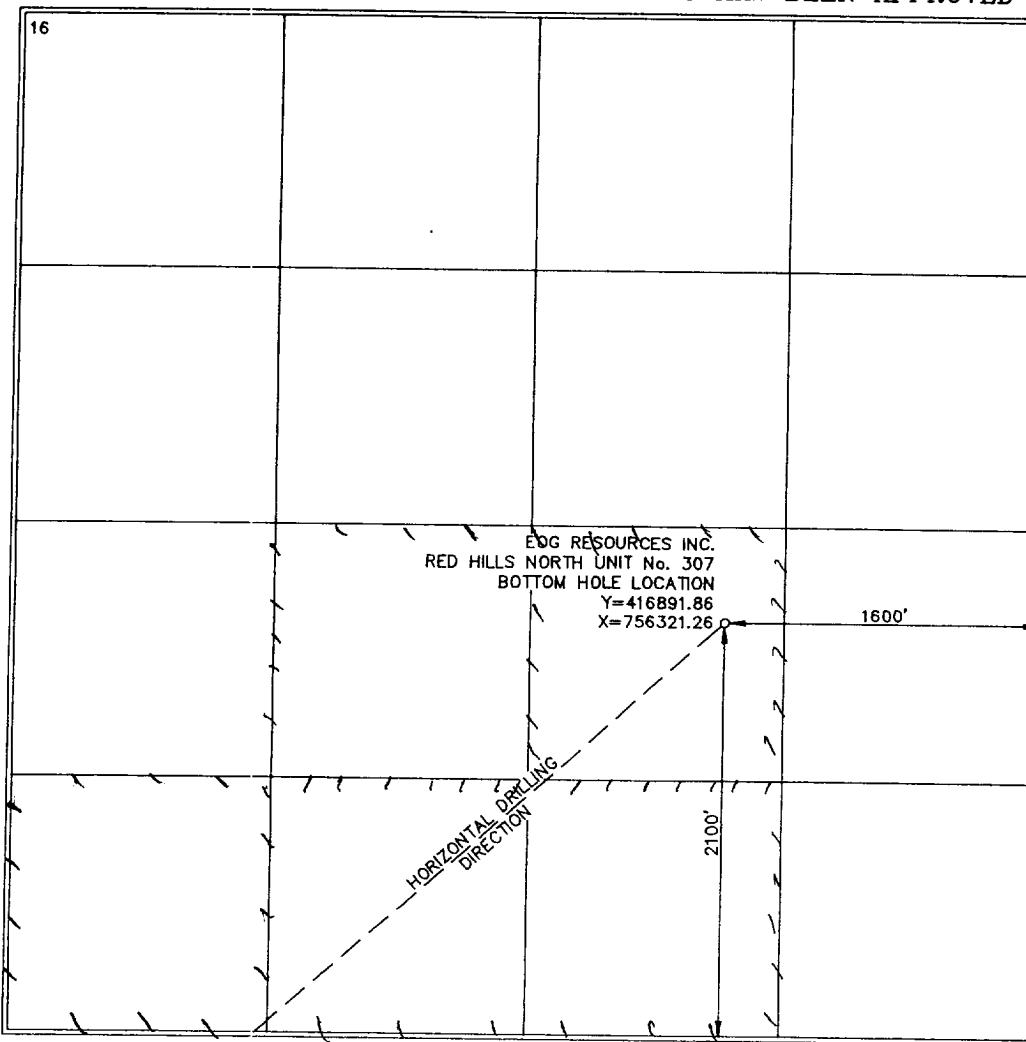
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

<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
J	7	25-S	34-E		2100	SOUTH	1600	EAST	LEA

*Dedicated Acres 200	*Joint or Infill	*Consolidation Code	*Order No.
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	<div>18 SURVEYOR CERTIFICATION</div> <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>MARCH 28, 2001 Date of Survey Signature and Seal of Professional Surveyor: <i>James E. Tompkins</i> Certificate Number 14729</p>

DRILLING PROGRAM

EOG RESOURCES, INC.  
RED HILLS NORTH UNIT NO. 307

LEA COUNTY, NM

1. GEOLOGIC NAME OF SURFACE FORMATION:

Permian

2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

Rustler	1100'
Delaware Mt. Group	5150'
Bone Spring Lime	9275'
3 <sup>rd</sup> Bone Spring Sand	12225'
TVD	12,700'
TMD	17,800'

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

Upper Permian Sands	100'	Fresh Water
3 <sup>rd</sup> Bone Spring Sand	12400'	Oil

No other formations are expected to give up oil, gas or fresh water in measurable quantities. The surface fresh water sands will be protected by setting 13-3/8" casing at 650' and circulating cement back to surface, and 9-5/8" casing will be set at 5200' with cement circulated back to surface.

4. CASING PROGRAM:

<u>Hole Size</u>	<u>Interval</u>	<u>OD Casing</u>	<u>Weight Grade Jt. Cond. Type</u>	
17 1/2"	0-650'	13 3/8"	48# H-40 A ST&C	<b>WITNESS</b>
12 1/4"	0-5200'	9 5/8"	40# N-80 LT&C	
8 3/4"	0-12700'	7"	26# P-110 LT&C	
6 1/8"	0'-17800'	4 1/2"	11.6# P-110 Hydrill	

Cementing Program:

17 1/2" Surface Casing: Cement to surface with 325 sx Premium Plus + 3% Econolite + 2% Calcium Chloride + .25 lb/sk Flocele + 150 sx Premium Plus + 2% Calcium Chloride.

9 5/8" 1<sup>st</sup> Intermediate: Cement to surface with 1100 sx Interfill C + .25 lb/sk Flocele + 250 sx Premium Plus + 2% Calcium Chloride

## DRILLING PROGRAM

EOG RESOURCES, INC.  
RED HILLS NORTH UNIT NO. 307

LEA COUNTY, NM

- 7" 2<sup>nd</sup> Intermediate: Cement with 800 sx Premium + 3% Econolite + 5 lb/sk Salt (3%) + .25 lb/sk Flocele + 250 sx Premium 50/50 Pozmix 'A' + 2% Halliburton-Gel First 2% + 0.5% Halad-322 + 0.2% HR-5.
- 4-1/2" Production: 520 sx Premium + 0.3% Halad-344 + .3% Halad-413 + .3% Super CBL + .3% SCR-100. This cement slurry is designed to bring TOC to 11,800'.

### 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 ~~11 3/4"~~ <sup>13 3/8"</sup> surface casing and used continuously until TD is reached. All BOP's and accessory equipment will be tested to 600 psi before drilling out of surface casing. Before drilling out of intermediate 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).

EOG Resources, Inc. requests a variance for testing surface casing and BOP prior to drilling out surface casing. Surface casing and BOP will be tested to ~~600~~ <sup>1000</sup> 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:

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:

Depth	Type	Wt (ppg)	Viscosity (sec)	Waterloss (cc)
0-1000'	Fresh Water (spud mud)	8.5	40-45	N.C.
1000'-5200'	Brine Water	10.0	30	N.C.
5200'- 12700'	Cut Brine & Polymer/KCL	8.8-9.2	28	N.C.
12700'-17800'		8.33	28	N.C.

## DRILLING PROGRAM

EOG RESOURCES, INC.  
RED HILLS NORTH UNIT NO. 307

LEA COUNTY, NM

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 H<sub>2</sub>S detector will be continuously monitoring drilling penetration rate and hydrocarbon shows from 2000' to TD.

8. LOGGING, TESTING AND CORING PROGRAM:

- (A) The electric logging program will consist of a GR-Compensated Neutron from 12,300' to Surface. LWD GR from 12,300' to 13,800'.

9. 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.

10. 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 unknown 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.



EOG Resources, Inc.  
Red Hills North Unit No. 307 well

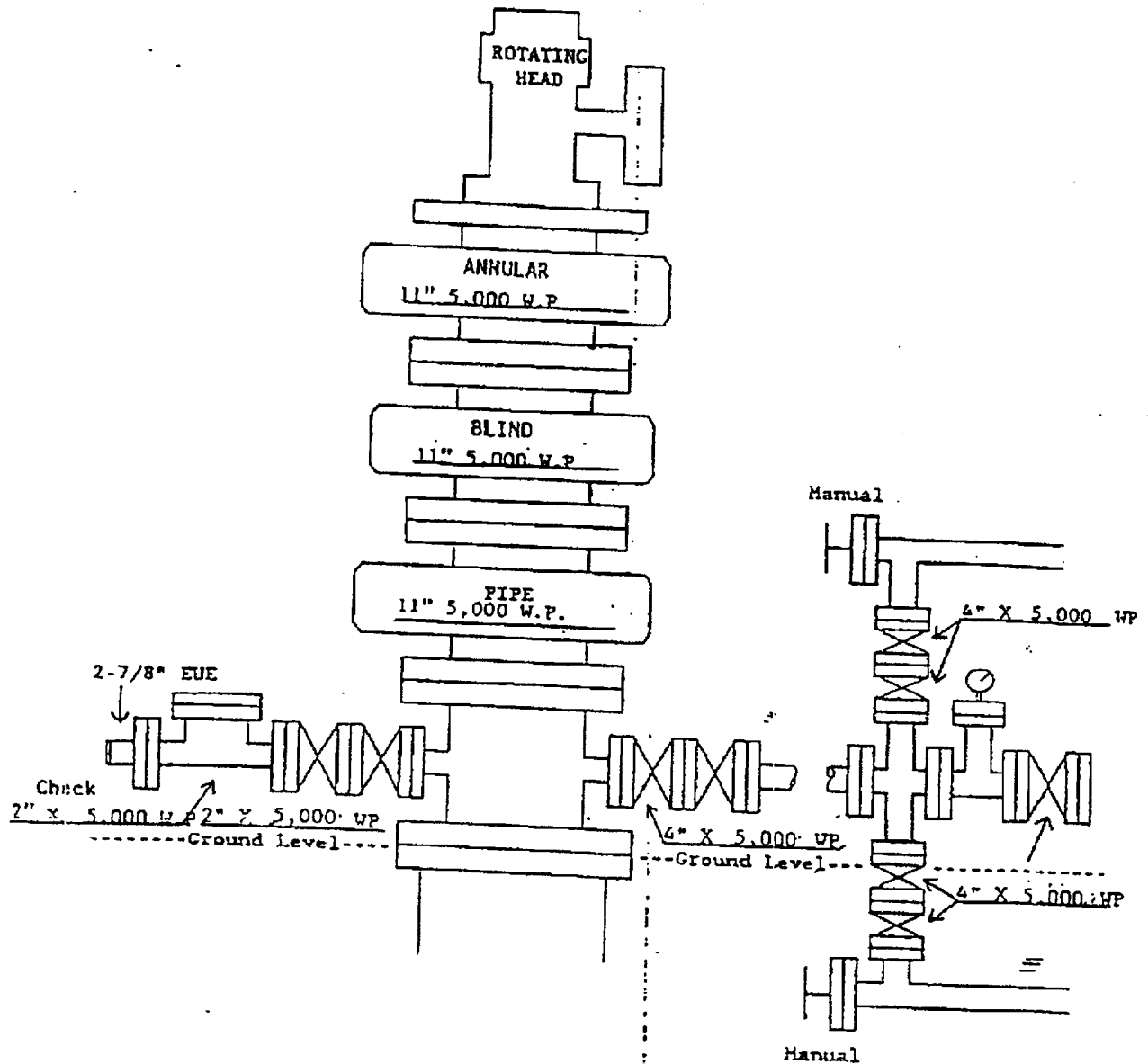


EXHIBIT #1

