

ATS-10-458

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Form 3160-3
(February 2005) APR 28 2010

FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		7 If Unit or CA Agreement, Name and No	
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		8 Lease Name and Well No. (38128) ENDURANCE 25 FED COM 1H	
2 Name of Operator EOG Resources, Inc.		9 API Well No. 30-025 39243	
3a Address P.O. Box 2267 Midland, TX 79702	3b. Phone No. (include area code) 432-686-3642	10 Field and Pool for Exploratory Undesignated: Bone Spring	
4. Location of Well (Report location clearly and in accordance with any State requirements *) At surface 330' FNL & 1850' FEL (U/L B) 25-26s-33e At proposed prod. zone 330' FSL & 1850' FEL (U/L G) 26-26s-33e		11 Sec, T R M or Blk and Survey or Area Section 25, T26S-R33E, N.M.P.M.	
14 Distance in miles and direction from nearest town or post office* Approx 22 miles SW from Jal, NM		12 County or Parish Lea	13 State NM
15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig. unit line, if any) 330'	16 No. of acres in lease 640	17 Spacing Unit dedicated to this well W/2 E/2	
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft 8,000'	19 Proposed Depth 9,800'TVD; 16720'TMD Pilot Hole 12,800'TVD	20 BLM/BIA Bond No. on file NM2308	
21 Elevations (Show whether DF, KDB, RT, GL, etc.) GL 3360.3'	22 Approximate date work will start* 05/01/2010	23 Estimated duration 30 days	

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No 1, must 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 must be filed with the appropriate Forest Service Office) | 6 Such other site specific information and/or plans as may be required by the BLM. |

25 Signature <i>Don J. Muth</i>	Name (Printed/Typed) Donny G. Glanton	Date 02/19/2010
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Title
Sr. Lease Operations ROW Representative

Approved by (Signature) /s/ Don Peterson	Name (Printed/Typed) /s/ Don Peterson	Date APR 23 2010
Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

Application approval 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 operations thereon.

Conditions of approval, if any, are attached

APPROVAL FOR TWO YEARS

Title 18 USC Section 1001 and Title 43 USC 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 page 2)

Carlsbad Controlled Water Basin

KZ

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Approval Subject to General Requirements
& 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

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State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-402
Revised October 12, 2005
Submit to Appropriate District Office
State Lease- 4 Copies
Fee Lease- 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025-39743	Pool Code 46036	Well Name Wildcat
Property Code 38128	Property Name ENDURANCE "25" FED. COM	Well Number 1H
OGRID No. 7377	Operator Name EOG RESOURCES, INC.	Elevation 3360.3'

Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	25	26 SOUTH	33 EAST, N.M.P.M.		330	NORTH	1850	EAST	LEA

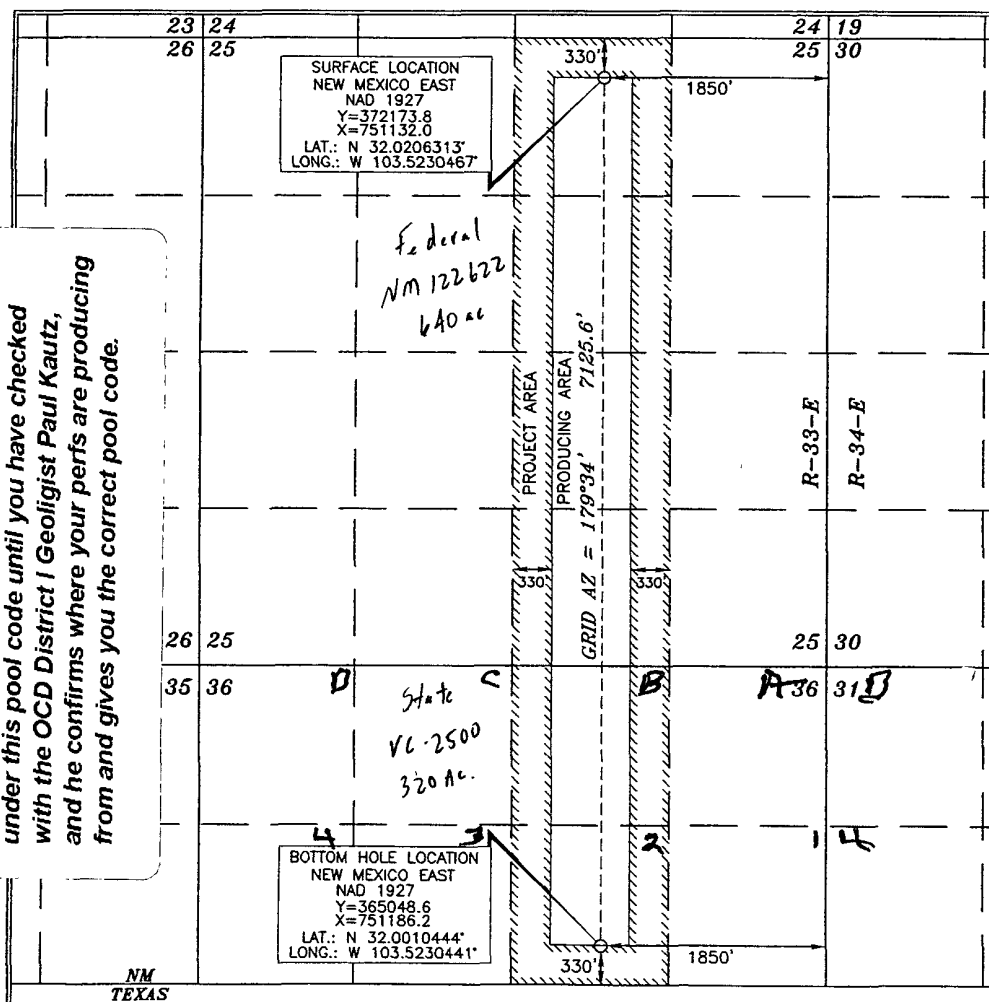
Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
G	36	26 SOUTH	33 EAST, N.M.P.M.		330	SOUTH	1850	EAST	LEA

Dedicated Acres 240	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.

OPERATOR: Please do not report production under this pool code until you have checked with the OCD District I Geologist Paul Kautz, and he confirms where your perfs are producing from and gives you the correct pool code.



OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Don J. Mota 2/19/2010
Signature Date

Donny G. Glanton
Printed Name

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of past surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

Donny G. Glanton 2/19/2010
Date of Survey
Signature and Seal of Professional Surveyor
Certificate Number 15079

WO# 100202WL-b (KA)

EOG RESOURCES, INC.
ENDURANCE 25 FED COM 1H

1. GEOLOGIC NAME OF SURFACE FORMATION:

Permian

2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

Rustler	850'
Base of Salt	5,250'
Delaware	5,290'
Base Brushy Canyon	9,200'
Bone Spring Lime	9,500'
1 st Bone Spring Sand	10,450'
2 nd Bone Spring Sand	10,950'
3 rd Bone Spring Sand	11,600'
Pilot hole TD	12,800'

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

Upper Permian Sands	0- 400'	Fresh Water
Delaware	5,290'	Oil
Base Brushy Canyon	9,200'	Oil
Bone Spring Lime	9,500'	Oil
1 st Bone Spring Sand	10,450'	Oil
2 nd Bone Spring Sand	10,950'	Oil
3 rd Bone Spring Sand	11,600'	Oil

No other Formations are expected to give up oil, gas or fresh water in measurable quantities. Surface fresh water sands will be protected by setting 13.375" casing at ~~650'~~ and circulating cement back to surface.

4. CASING PROGRAM - NEW

Sep 20A →

Hole Size	Interval	Csg OD	Weight	Grade	Conn	DF _{min} Collapse	DF _{min} Burst	DF _{min} Tension
17.5"	0 - 900'	13.375"	54.5#	J55	LTC	1.10	1.25	1.60
12.25"	0-4000'	9.625"	40#	J55	LTC	1.10	1.25	1.60
12.25"	4000'-5300'	9.625"	40#	KCK55	LTC	1.10	1.25	1.60
8.75"	0'-16,720'	5.5"	17#	HCP110	LTC	1.10	1.25	1.60

EOG RESOURCES, INC.
ENDURANCE 25 FED COM 1H

Cementing Program:

Depth	No. Sacks	Wt. lb/gal	Yld Ft ³ /ft	Slurry Description
900'	375	13.5	1.74	Lead: Class 'C' + 4.00% Bentonite + 2.00% CaCl ₂
	200	14.8	1.35	Tail: Class 'C' + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate + 2.0% KCl (1.06 lb/sk)
5,300'	1100	12.7	2.01	Lead: Class 'C' + 2.00% SMS + 1.50% R-3 + 0.25 lb/sk Cello Flake + 0.005 lb/sk Static Free
	200	14.8	1.32	Tail: Class 'C' + 0.25 lb/sk Cello Flake + 0.005 lb/sk Static Free
12,800	125	18.0	0.90	250' Btm Hole Plug - Class 'H' + 1.20% CD-31 + 0.20% R-3 + 5.00% Salt (1.252 lb/sk)
9,322'	300	18.0	0.90	600' Sidetrack Plug - Class 'H' + 1.20% CD-31 + 0.20% R-3 + 5.00% Salt (1.252 lb/sk)
16,720'	975	11.8	2.37	Lead: 50:50:10 Class 'H' + 0.80% FL-52A + 0.30% ASA-301 + 0.30% SMS + 2.00% Salt (2.259 lb/sk) + 0.20% R-21 + 0.25 lb/sk Cello Flake
	1250	14.2	1.30	Tail: 50:50:2 Class 'H' + 0.30% FL-52A + 0.20% CD-32 + 0.35% SMS + 5.00% Salt (2.454 lb/sk) + 0.45% R-3 + 0.005 lb/sk Static Free

5. MINIMUM SPECIFICATIONS FOR PRESSURE CONTROL:

(SEE EXHIBIT #1)

*See
COA*

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 bottom and drill pipe rams on top. All BOP's and accessory equipment will be tested in accordance with Onshore Oil & Gas order No. 2. EOG Resources request authorization to use a 2M system, providing for an annular preventer to be used prior to drilling out of the surface casing shoe and while drilling the intermediate section. Before drilling out of the intermediate casing, the ram-type BOP and accessory equipment will be tested to ~~5000~~ 250 psig and the annular preventer to ~~2500~~ 250 psig.

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.

Hydraulically operated choke will not be installed prior to the setting and cementing of the intermediate casing string, but will be installed prior to drilling out of the intermediate casing shoe.

EOG RESOURCES, INC.
ENDURANCE 25 FED COM 1H

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 mud system. The applicable depths and properties of this system are as follows:

See CoA

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0 – 900' 1150	Fresh - Gel	8.6-8.8	28-34	N/c
900' – 5,300'	Brine	10.0-10.2	28-34	N/c
5,300' – 8,500'	Fresh Water	8.4-8.6	28-34	N/c
8,500' – 12,800'	Cut Brine - XCD	9.0-9.5	40-42	8-10
Pilot hole				
9,322' – 16,720'	Cut Brine - XCD	9.0-9.5	40-42	8-10
Lateral				

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 will be continuously monitoring drill penetration rate and hydrocarbon shows from 650' to TD.
- (D) H₂S monitoring and detection equipment will be utilized from 650' to TD.

8. LOGGING, TESTING AND CORING PROGRAM: *See CoA*

Open-hole logging is anticipated in the 8-3/4" hole section. The logging suites for this hole section are listed below:

NGT–CNL–LDT w/ Pe	From TD to previous casing shoe. At casing pull GR – Neutron to surface.
HR Laterolog Array	From TD to previous casing shoe.
FMI	Possible in the production hole

EOG RESOURCES, INC.
ENDURANCE 25 FED COM 1H

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

The estimated bottom hole temperature (BHT) at TD is 185 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:

The drilling operation should be finished in approximately two months. 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.

Permit Information:

Well Name: Endurance 25 Fed Com No. 1H

Location:

SL: 330' FNL & 1850' FEL, Section 25, T-26-S, R-33-E, Lea Co., N.M.

BHL: 330' FSL & 1850' FEL, Section 25, T-26-S, R-33-E, Lea Co., N.M.

Casing Program:

Casing	Setting Depth	Hole Size	Casing Size	Casing Weight	Casing Grade	Desired TOC
Surface	900'	17-1/2"	13-3/8"	54.5#	J-55	Surface
Intermediate	4,000'	12-1/4"	9-5/8"	40#	J-55	Surface
	5,300'	12-1/4"	9-5/8"	40#	HCK-55	
Production	16,720'	8-3/4"	5-1/2"	17#	HCP-110	4800'

Cement Program:

Depth	No. Sacks	Wt. lb/gal	Yld Ft ³ /ft	Slurry Description
900'	375	13.5	1.74	Lead: Class 'C' + 4.00% Bentonite + 2.00% CaCl ₂
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Mud Program:

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900' - 5,300'	Brine	10.0-10.2	28-34	N/c
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Pilot hole				
9,322' - 16,720'	Cut Brine - XCD	9.0-9.5	40-42	5-10
Lateral				

Endurance 25 Fed Com #1H
Red Hills
Lea County, New Mexico

330' FNL
1850' FEL
Section 25
T-26-S, R-33-E

Proposed Wellbore

API: 30-025-

KB: 3,390.3'
GL: 3,360.3'

