

8095
N.M. Oil Cons. DIV-Dist. 2
1301 W. Grand Avenue
Artesia, NM 88210

Form 3160-3
(August 1999)

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

0256
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

JAN 27 2004

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: ☒ DRILL ☐ REENTER

OCD-ARTESIA

5. Lease Serial No.

nm 92757

6. If Indian, Allottee or Tribe Name

7. If Unit or CA Agreement, Name and No.

8. Lease Name and Well No.

Willow Lake Federal 20 No. 20 Federal #20

9. APL Well No.

30-015-33209

2. Name of Operator

EOG Resources, Inc.

7377

3a. Address

P.O. Box 2267 Midland, TX 79702

3b. Phone No. (include area code)

432 686-3714

10. Field and Pool, or Exploratory

Willow Lake, Bone Spring

4. Location of Well (Report location clearly and in accordance with any State requirements.)*

At surface

1,910' FNL & 1,838' FEL (U/L G) ✓

At proposed prod. Zone

Same as Surface

11. Sec., T., R., M., or Blk. And Survey or Area

Sec 20 T-24-S;R-28-E

14. Distance in miles and direction from nearest town or post office*

2 Mi. SW from Malaga

12. County or Parish

Eddy Co

13. State

NM

15. Distance from proposed*

location to nearest

442

property or lease line, ft.

(Also to nearest drlg. Unit line, if any)

442

16. No. of Acres in lease

240

17. Spacing Unit dedicated to this well

40 ac SW/4 NE/4

18. Distance from proposed location*

to nearest well, drilling, completed

applied for, on this lease, ft.

na

19. Proposed Depth

7,000'

20. BLM/BIA Bond No. on file

NM2308

21. Elevations (Show whether DF, KDB, RT, GL, etc)

GL 3067

22. Approximate date work will start*

2/15/2004

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.

2. A Drilling Plan.

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)

4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above)

5. Operator certification.

6. Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature

Mike Francis

Name (Printed/Typed)

Mike Francis

Date

12/18/2003

Title Agent

Approved by (Signature)

/s/ Joe G. Lara

Name (Printed/Typed)

/s/ Joe G. Lara

Date

26 JAN 2004

Title ACTING

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

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)

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

CARLSBAD CONTROLLED WATER BASIN

Witness Surface Casing

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

¹ API Number		² Pool Code		³ Pool Name Willow Lake, Bone Spring	
⁴ Property Code		⁵ Property Name Willow Lake Federal 20			⁶ Well Number 1
⁷ OGRID No. 7377		⁸ Operator Name EOG RESOURCES, INC.			⁹ Elevation 3063'

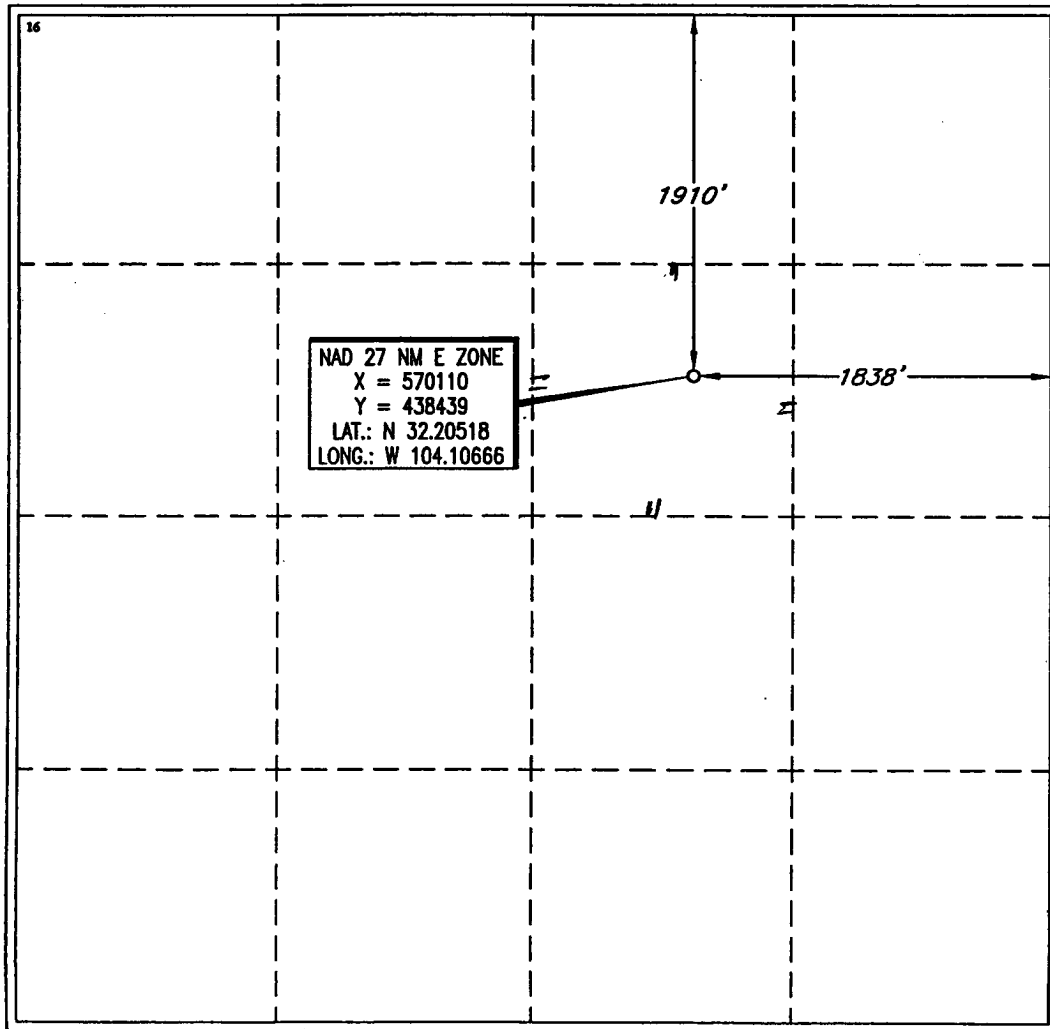
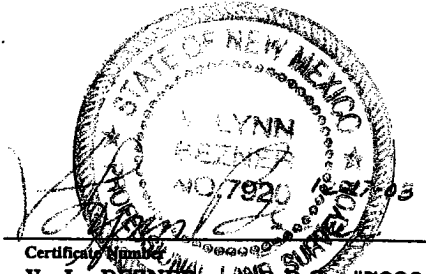
¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
G	20	24 SOUTH	28 EAST, N.M.P.M.		1910'	NORTH	1838'	EAST	EDDY

¹¹ 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
¹² Dedicated Acres		¹³ Joint or Infill		¹⁴ Consolidation Code		¹⁵ 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>¹⁶</p></div>	<p>¹⁷ 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></p> <p>Signature</p> <p>Mike Francis</p> <p>Printed Name</p> <p>Agent</p> <p>Title</p> <p>12/18/2003</p> <p>Date</p>
	<p>¹⁸ 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 the best of my belief.</p> <p>DECEMBER 11, 2003</p> <p>Date of Survey</p> <p>Signature and Seal of Professional Surveyor</p>
	 <p>Certificate Number</p> <p>V. L. BEZNER, LAND SURVEYOR #7920</p> <p>JOB #91883 / 24 NE / J.C.P.</p>

DRILLING PROGRAM

EOG RESOURCES, INC.
Willow Lake Federal "20" No. 1
Eddy Co. NM

1. GEOLOGIC NAME OF SURFACE FORMATION:

Quaternary Alluvium

2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

Lamar Limestone	2,510'
Bell Canyon Sandstone	2,550'
Cherry Canyon	3,325'
Manzanita Marker	3,450'
Brushy Canyon	4,475'
Bone Spring Lime	6,090'

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

Quaternary Alluvium	0-300'	Fresh Water
Bell Canyon Sandstone	2,550'	Oil/Gas
Cherry Canyon	3,325'	Oil/Gas
Manzanita Marker	3,450'	Oil/Gas
Brushy Canyon	4,475'	Oil/Gas
Bone Spring Lime	6,090'	Oil/Gas

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 13-3/8" casing at 425' and circulating cement back to surface, and 8-5/8" casing will be set at 2,525' with cement circulated back to surface.

4. CASING PROGRAM

Hole Size	Interval	OD Casing	Weight Grade Jt. Conn. Type
17-1/2"	0-425'	13-3/8"	48# H-40 ST&C WITNESS
11"	0-2,525'	8-5/8"	32# J-55
7-7/8"	0-6,800'	5-1/2"	15.5# J-55

Cementing Program

13-3/8" Surface Casing:

WITNESS

Cement to surface with 425 sx Prem Plus, 3% Econolite, 25 Calcium Chloride, 0.25#/sx Flocele, 150 sx Prem Plus, 2% Calcium Chloride

8-5/8" Intermediate:

Cement to surface with 850 sx Interfill C, .25#/sx flocele, 250 sx Premium Plus, 2% Calcium Chloride

5-1/2" Production:

Cement with 1,800 sx Cement Slurry determined by borehole volume log calculations to bring TOC to 2,000'

DRILLING PROGRAM

EOG RESOURCES, INC.
Willow Lake Federal "20" No. 1
Eddy Co. NM

5. MINIMUM SPECIFICATIONS FOR PRESSURE CONTROL:

(SEE EXHIBIT #1)

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 drilling the surface casing shoe before drilling out of surface casing. 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</u> <u>(PPG)</u>	<u>Viscosity</u> <u>(sec)</u>	<u>Waterloss</u> <u>(cc)</u>
0-425'	Fresh Water	8.5	40	N.C.
425-2,525'	Cut Brine	9.7	30	N.C.
2,525'-TD	Cut Brine/Polymer	9.4	30	N.C.-15

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.
Willow Lake Federal "20" No. 1
Eddy Co. NM

Electric logging will consist of GR-Dual Laterlog-MSFL and GR-Compensated Density-Neutron from TD to intermediate casing with a GR-Compensated Neutron ran from Intermediate casing to surface...

Possible sidewall cores based on shows.

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

The estimated bottom hole temperature (BHT) at TD is 125 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 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.
Willow Lake Federal "20" No. 1
Eddy Co. NM

SURFACE USE AND OPERATIONS PLAN

1. EXISTING ROADS:

Access to location will be made as shown on Exhibit #2

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. PROPOSED ACCESS ROAD:

4355' of new road will be necessary
See Exhibits 2a, 2b, 2c,

No turnouts necessary.

No culverts, cattleguards, gates, low-water crossings are necessary.

Surfacing material consists of native caliche to be obtained from the nearest BLM-approved caliche pit. Any additional materials required will be purchased from the dirt contractor.

3. LOCATION OF EXISTING WELLS:

Exhibit #3 shows all existing wells within a one-mile radius of this well.

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES:

There are no existing production facilities. If production is encountered, a temporary facility will be established on the drill pad, and if warranted, a production facility would be built at a later date in the immediate area of the drill pad location. If the well is productive, the flowline would also be located on the drill-pad site and no additional disturbance will occur.

5. LOCATION AND TYPE OF WATER SUPPLY:

Fresh water and brine water for drilling will come from commercial sources and transported to the well site over the roads as shown on Exhibit #2.

6. PLANS FOR RESTORATION OF THE SURFACE:

DRILLING PROGRAM

EOG RESOURCES, INC.
Willow Lake Federal "20" No. 1
Eddy Co. NM

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 and 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.

ANCILLARY FACILITIES:

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

WELL SITE LAYOUT:

Exhibit #4 shows the relative location and dimensions of the well pad.

DRILLING PROGRAM

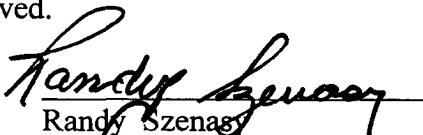
EOG RESOURCES, INC.
Willow Lake Federal "20" No. 1
Eddy Co. NM

OTHER INFORMATION:

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

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.

 DATE: 12-19-2003
Randy Szenas
Division Drilling Superintendent

DRILLING PROGRAM

**EOG RESOURCES, INC.
Willow Lake Federal "20" No. 1
Eddy Co. NM**

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.

Willow Lake Federal 20 No.1

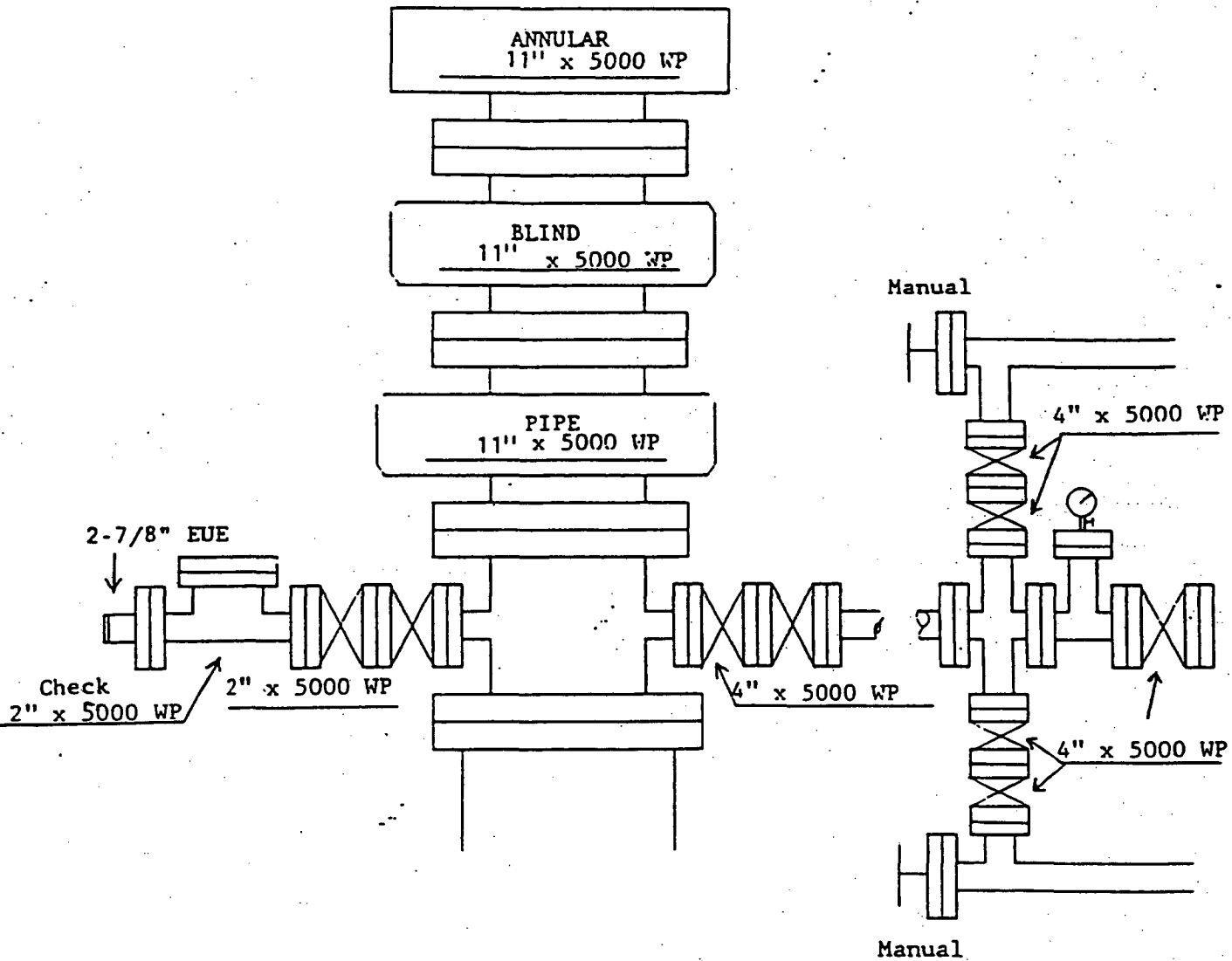


Exhibit 1

[illegible]

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

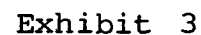
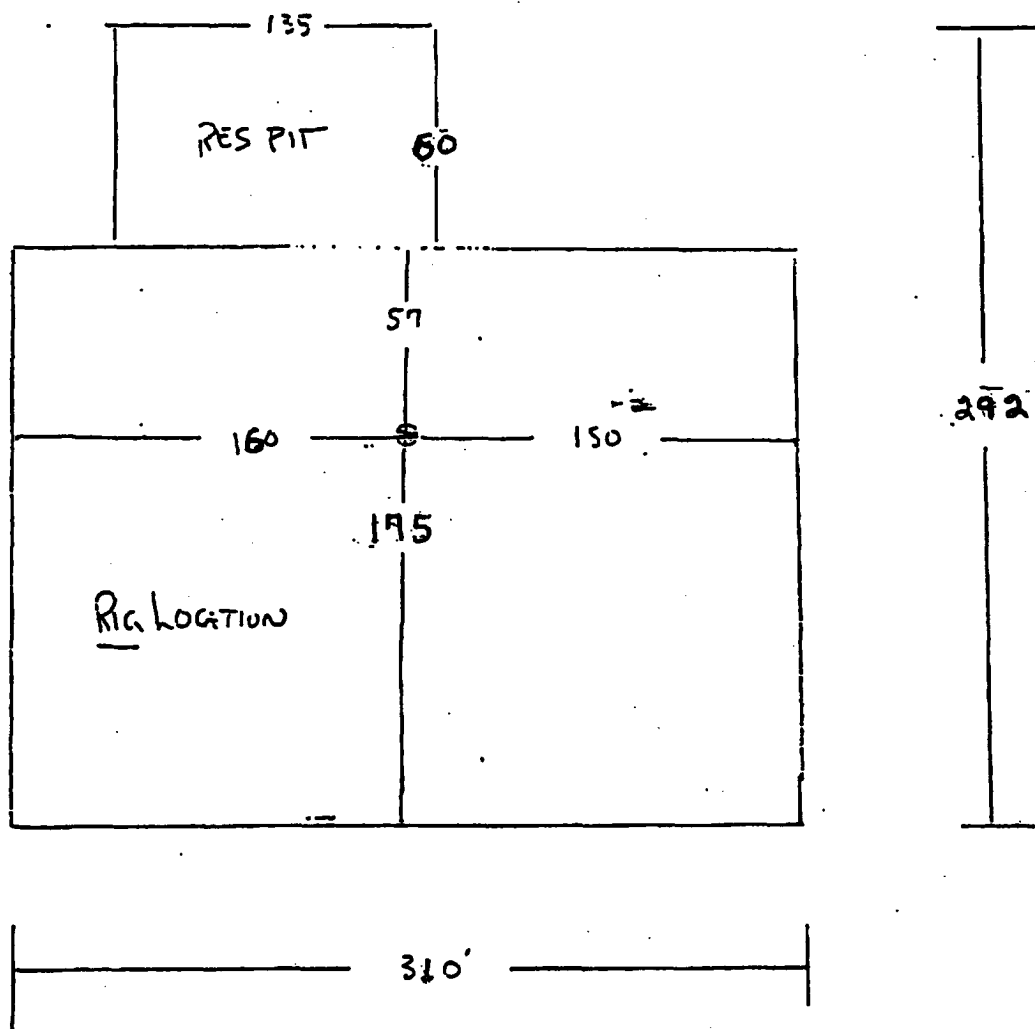
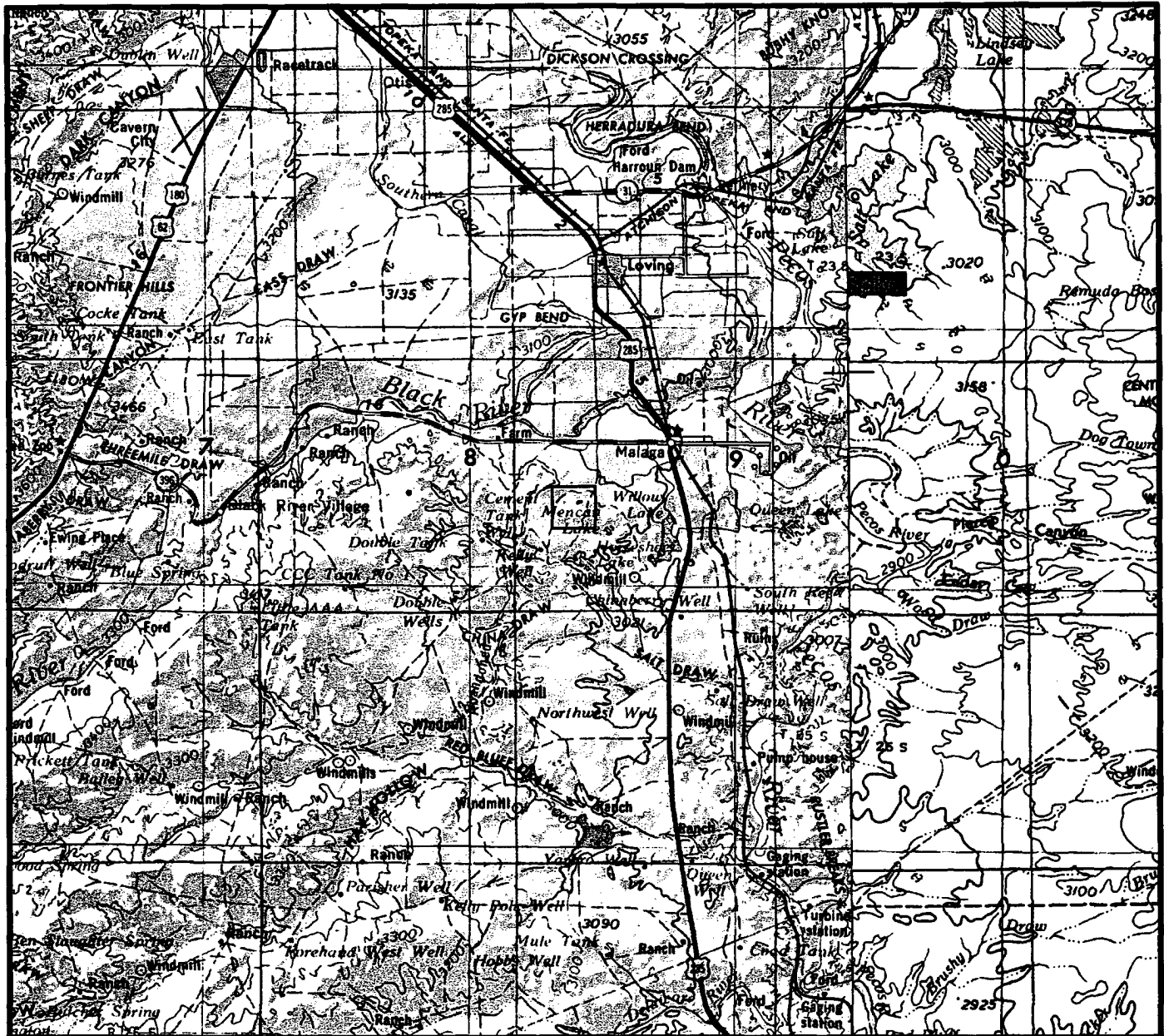


Exhibit 4
Willow Lake Federal 20 No.1 Well



VICINITY MAP



SECTION 20 TWP 24-S RGE 28-E
 SURVEY NEW MEXICO PRINCIPAL MERIDIAN
 COUNTY EDDY STATE NM
 DESCRIPTION 1,910' FNL & 1,838' FEL

OPERATOR EOG RESOURCES, INC.
 LEASE Willow Lake Federal 20 No.1

DISTANCE & DIRECTION FROM JCT. OF U.S. 285 & COUNTY
ROAD 396, @ MALAGA, GO WEST 2.0 MILE ON COUNTY ROAD
396, THENCE SOUTH 1.0 MILE ON COUNTY ROAD, CONTINUE
SOUTHWEST 0.5 MILE ON TRAIL ROAD, THENCE SOUTHEAST 0.2
MILE ALONG PIPELINE TO POINT THE LOCATION.



TOPOGRAPHIC LAND SURVEYORS

Surveying & Mapping for the Oil & Gas Industry

This location has been very carefully staked on the ground according to the best official survey records, maps, and other data available to us.

Review this plat and notify us immediately of any possible discrepancy.

1307 N. HOBART
 PAMPA, TX. 79065
 (800) 658-6382

6709 N. CLASSEN BLVD.
 OKLAHOMA CITY, OK. 73116
 (800) 654-3219

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

Statement Accepting Responsibility For Operations

Operator Name: EOG Resources, Inc.
Street or Box: P.O. Box 2267
City, State: Midland, TX
Zip Code: 79702

The undersigned accepts all applicable terms, conditions, stipulations, and restrictions concerning operations conducted on the leased land or portion thereof, as described below:

Lease No.: NM 92757

Legal Description of Land: S/2NE/4; SE/4 Section 20
T-24-S; R-28-E
Lea Co. NM

Formation(s) (if applicable):

Bond Coverage: *(State if individually bonded or another's bond)* Individually

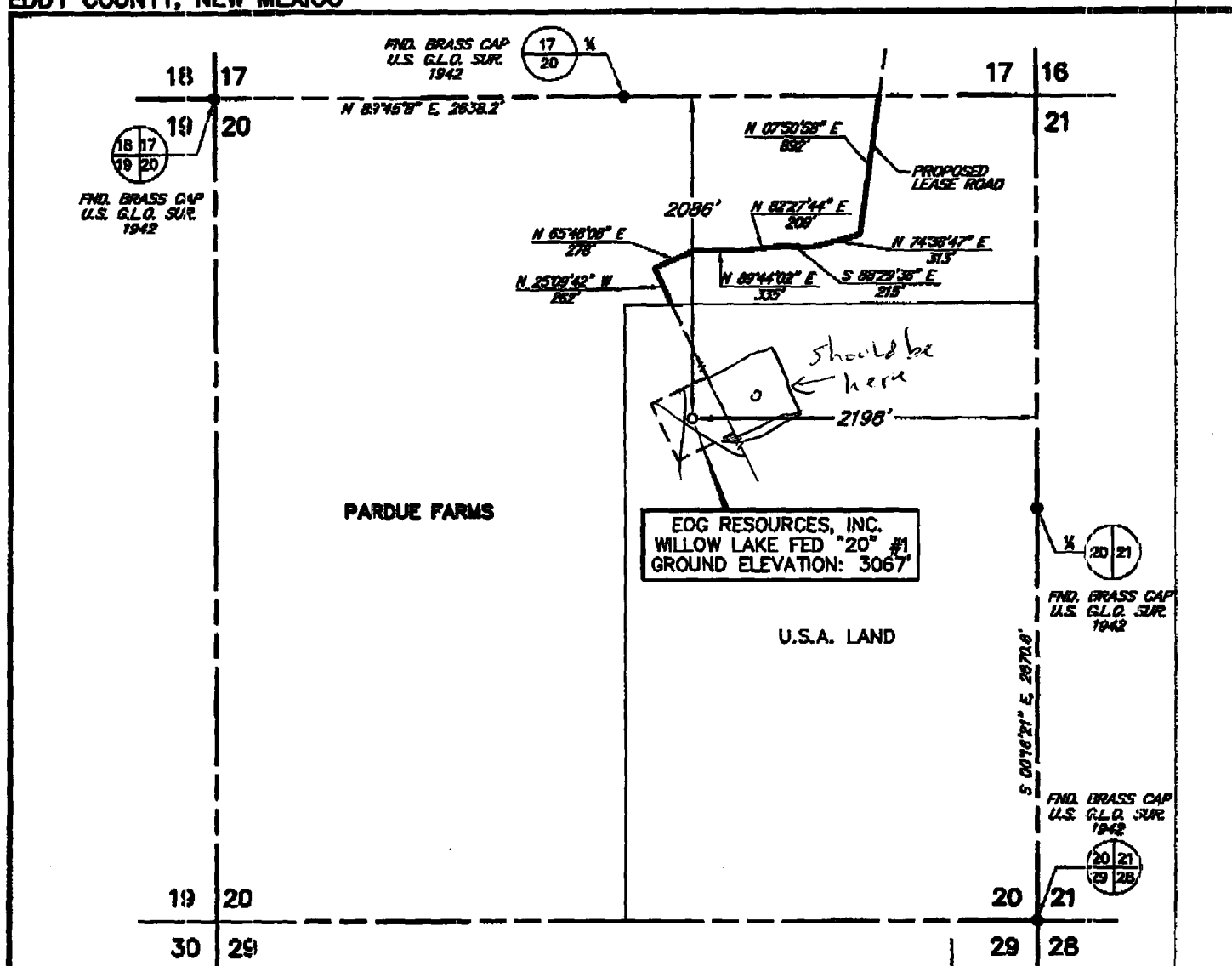
BLM Bond File No. NM2308 with endorsement to State of NM

Authorized Signature: Mike Francis
Mike Francis

Title: Agent

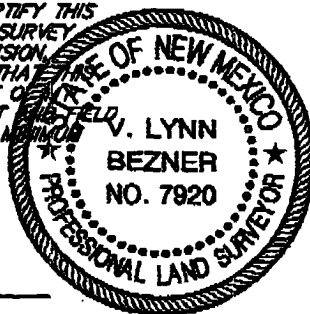
Date: 12/18/2003

**PLAT SHOWING PROPOSED
WELL LOCATION AND LEASE ROAD IN
SECTION 20, T-24-S, R-28-E, N.M.P.M.
EDDY COUNTY, NEW MEXICO**



I, V. L. BEZNER, A PROFESSIONAL SURVEYOR IN THE STATE OF NEW MEXICO AND AUTHORIZED AGENT OF TOPOGRAPHIC LAND SURVEYORS, HEREBY CERTIFY THIS PLAT TO BE A TRUE REPRESENTATION OF A SURVEY PERFORMED IN THE FIELD UNDER MY SUPERVISION, THAT I AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND THAT THIS PLAT AND FIELD SURVEY UPON WHICH IT IS BASED MEET THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO. (RULE 500.6 EASEMENT SURVEYING)

V. L. Bezner
V. L. BEZNER, P.S. NO. 7828



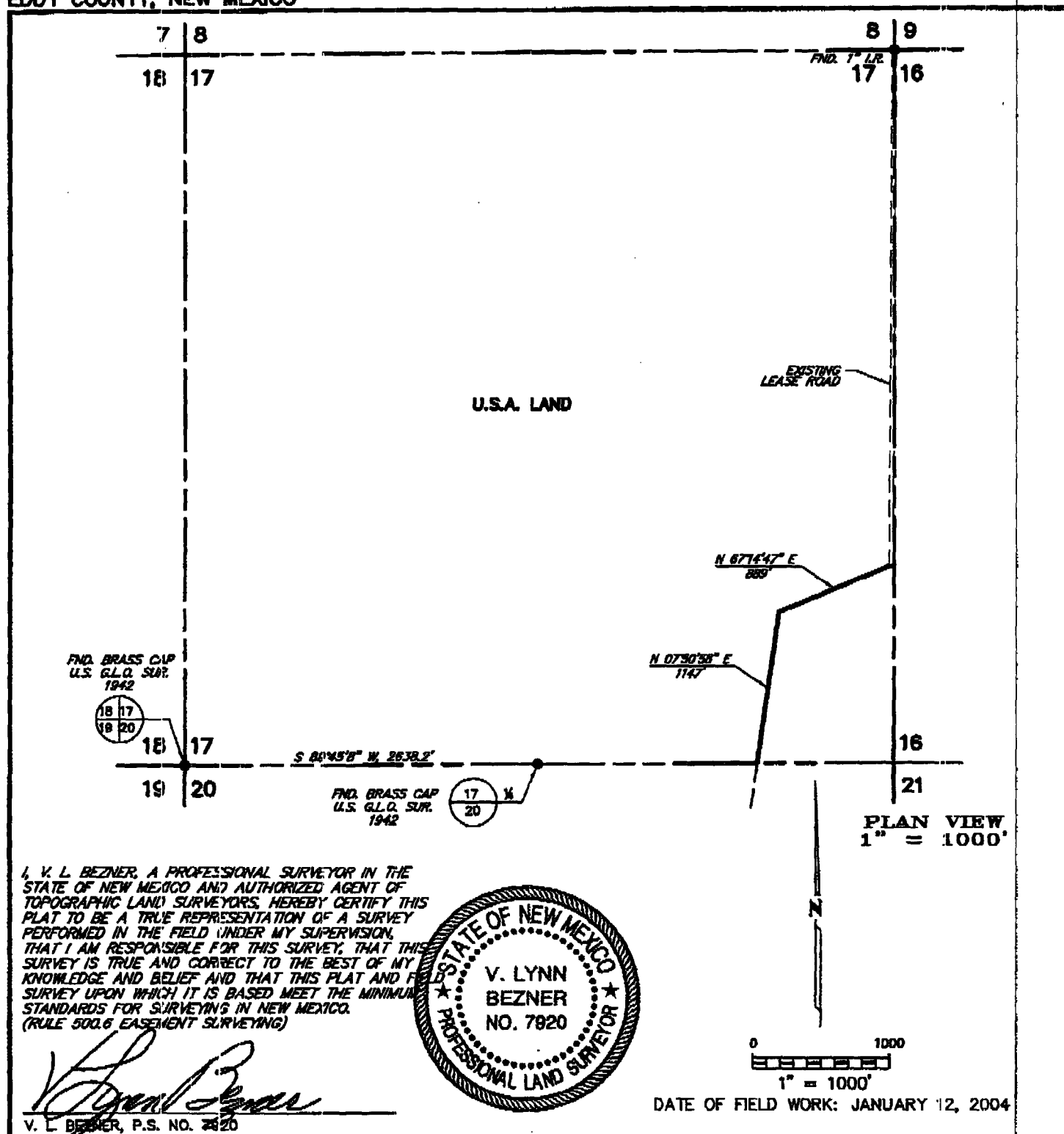
PLAN VIEW
1" = 1,000'

0 1000
1" = 1000'

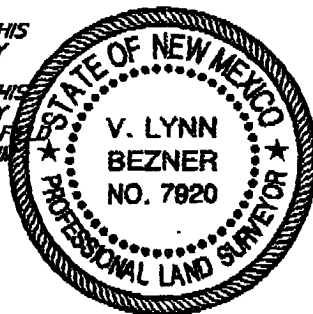
DATE OF FIELD WORK: JANUARY 12, 2004

				EOG RESOURCES, INC.		SCALE: AS SHOWN
NO.	REVISION	DATE	BY			DATE: JANUARY 12, 2004
SURVEYED BY: R.J.O.						JOB NO.: 92294-AF2
DRAWN BY: J.C.P.						QUAD NO.: 24 NE
APPROVED BY: V.L.B.						SHEET: 2 OF 3
				SURVEYING AND MAPPING BY TOPOGRAPHIC LAND SURVEYORS MIDLAND, TEXAS		

**PLAT SHOWING PROPOSED LASE ROAD IN
SECTION 17, T-24-S, R-28-E, N.M.P.M.
EDDY COUNTY, NEW MEXICO**



I, V. L. BEZNER, A PROFESSIONAL SURVEYOR IN THE STATE OF NEW MEXICO AND AUTHORIZED AGENT OF TOPOGRAPHIC LAND SURVEYORS, HEREBY CERTIFY THIS PLAT TO BE A TRUE REPRESENTATION OF A SURVEY PERFORMED IN THE FIELD UNDER MY SUPERVISION, THAT I AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND THAT THIS PLAT AND FIELD SURVEY UPON WHICH IT IS BASED MEET THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO. (RULE 500.6 EASEMENT SURVEYING)



0 1000
1" = 1000'

				EOG RESOURCES, INC.		SCALE: AS SHOWN
						DATE: JANUARY 12, 2004
NO.	REVISION	DATE	BY			JOB NO.: 92294-F3
SURVEYED BY: R.J.O.						QUAD NO.: 24 NE
DRAWN BY: J.C.P.						SHEET: 3 OF 3
APPROVED BY: V.L.B.						