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Form 3160-3

(August 1999)

OCD-ARTESIA

N.M. Oil Cons. DIV-Dist. 2
1301 W. Grand Avenue
Artesia, NM 88210FORM APPROVED
OMB No. 1004-0136
Expires November 30, 2000UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: ☒ DRILL☐ REENTERSUBJECT TO LIKE
APPROVAL BY STATE1b. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other ☐ Single Zone ☐ Multiple Zone

2. Name of Operator

EOG Resources, Inc.

3a. Address

P.O. Box 2267 Midland, TX 79702

3b. Phone No. (include area code)

432 (945) 686-3714

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

At surface 760' FSL & 760' FEL (U/L P)

At proposed prod. Zone 760' FNL & 760' FEL (U/L A)

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

2 Miles west from Artesia

15. Distance from proposed* 760'

location to nearest
property or lease line, ft.

(Also to nearest drlg. Unit line, if any) 760'

18. Distance from proposed location*
to nearest well, drilling, completed
applied for, on this lease, ft. N/A

16. No. of Acres in lease

960

19. Proposed Depth

TVD 5500' TMD 9000'

17. Spacing Unit dedicated to this well

E/2 (320)

20. BLM/BIA Bond No. on file

NM 2308

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

22. Approximate date work will start*

5/25/2003

23. Estimated duration

40 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.

ROSWELL CONTROLLED WATER BASIN

25. Signature

Mike Francis

Name (Printed/Typed)

Mike Francis

Date

3/14/2003

Title

Agent

Approved by (Signature)

/s/ Joe G. Lara

Name (Printed/Typed)

/s/ Joe G. Lara

Date

10 DEC 2003

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

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

APPROVAL FOR 1 YEAR

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

State of New Mexico

Form C-102

Energy, Minerals, and Natural Resources Department

Revised August 15, 2002

DISTRICT II

1301 W. Grand Avenue, Artesia, NM 88210

OIL CONSERVATION DIVISION

Submit to Appropriate District Office

State Lease - 4 cc

Fee Lease - 3 cc

DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410

1220 South St. Francis Dr.

Santa Fe, New Mexico 87505

DISTRICT IV

1220 S. St. Francis Dr., Santa Fe, NM 87505

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number	² Pool Code	³ Pool Name Wildcat
⁴ Property Code	⁵ Property Name THAMES "31" FEDERAL	⁶ Well Number 1
⁷ GRID No. 7377	⁸ Operator Name EOG RESOURCES, INC.	⁹ Elevation 3600'

¹⁰Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the North/South line	Feet from the East/West line	County
P	31	16 SOUTH	25 EAST, N.M.P.M.		760'	SOUTH 760'	EDDY

¹¹Bottom 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
A	31	16 SOUTH	25 EAST, N.M.P.M.		760'	NORTH 760'	EDDY

¹² Dedicated Acres 32.0	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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NO ALLOWABLE WELL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR ,
NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

<div><p>16</p><p>BOTTOM HOLE LOCATION (SCALED) LAT.: N = 32.88447 LONG.: W = 104.51812</p><p>NAD 27 NM E ZONE (SCALED) LAT.: N = 32.87404 LONG.: W = 104.51806</p></div>	<h4>¹⁷OPERATOR CERTIFICATION</h4> <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 2/14/2003 Date</p> <h4>¹⁸SURVEYOR CERTIFICATION</h4> <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 belief.</p> <p>FEBRUARY 27, 2003 Date of Survey Signature and Seal of Professional Surveyor <i>V. L. Bezner</i> Certificate Number V. L. BEZNER R.P.S. #7920 JOB #86372 / 101 NE / J.C.P.</p>
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DRILLING PROGRAM

EOG RESOURCES, INC.
Thames "31" No. 1
Eddy Co. NM

1. GEOLOGIC NAME OF SURFACE FORMATION:

Quaternary Alluvium

2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

Chalk Bluff	0-200'
San Andres	545'
Glorieta	1,750'
Tubb	3,190'
Abo Shale	3,840'
Abo	3,995'
Abo/Wolfcamp Pay	4,925'
Wolfcamp A	5,035'
TD	5,300'

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

Quaternary Alluvium	0- 200'	Fresh Water
San Andres	545'	Oil
Glorieta	1,750'	Oil/Gas
Tubb	3,190'	Oil/Gas
Abo/Wolfcamp Pay	4,925'	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 350' and circulating cement back to surface, and 9-5/8" casing will be set at 1100' with cement circulated back to surface

4. CASING PROGRAM

Hole Size	Interval	OD Casing	Weight Grade	Jt. Conn. Type
17-1/2"	0-350'	13-3/8"	48# H-40	ST&C
12-1/4"	0-1100'	9-5/8"	40# N-80	LT&C
8-3/4"	0-5,200'	7"	26#L-80	BT&C
6-1/8"	4,800'-9,000'	3-1/2"	9.2# L-80	H533 (Slotted Liner)

Cementing Program:

17-1/2" Surface Casing: Cement to surface with 250 sx Prem Plus, 3% Econolite, 25 Calcium Chloride, 0.25#/sx Flocele, 150 sx Prem Plus, 2% Calcium Chloride

WITNESS 9-5/8" Intermediate: Cement to surface with 600 sx Interfill C, .25#/sx flocele, 250 sx Premium Plus, 2% Calcium Chloride WITNESS

7" Production Cement w/100sx 50/50 POZ+ 10% gel + 120 sacks Class C + 1% CACL₂. This cement slurry is designed to bring TOC to 1100'.

3 1/2' slotted liner Will not be cemented

DRILLING PROGRAM

EOG RESOURCES, INC.

Thames "31" 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 (PPG)</u>	<u>Viscosity (sec)</u>	<u>Waterloss (cc)</u>
0-1100	Fresh Water (Spud Mud)	8.5	40-45	N.C.
1100'-5200'	Cut Brine Water	9.7	30	N.C.
5200''- TD	Cut Brine + Polymer/KCL	8.8 – 9.2	28	N.C

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.

DRILLING PROGRAM

EOG RESOURCES, INC.

Thames "31" No. 1

Eddy Co. NM

8. LOGGING, TESTING AND CORING PROGRAM:

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.

Thames "31" 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:

8881' of new road is required. (3448' on Federal Lands) Exhibit #2a(1) (2) (3) (4) (5)

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.

Thames "31" 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.

Thames "31" No. 1

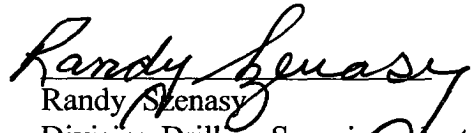
Eddy Co. NM

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.


Randy Stenasy
Division Drilling Superintendent

Date: 3/14/2003

DRILLING PROGRAM

EOG RESOURCES, INC.

Thames "31" 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.

DRILLING PROGRAM

EOG RESOURCES, INC.

Thames "31" No. 1

Eddy Co. NM

EOG Resources, Inc.

Thames 31 No.1 Federal

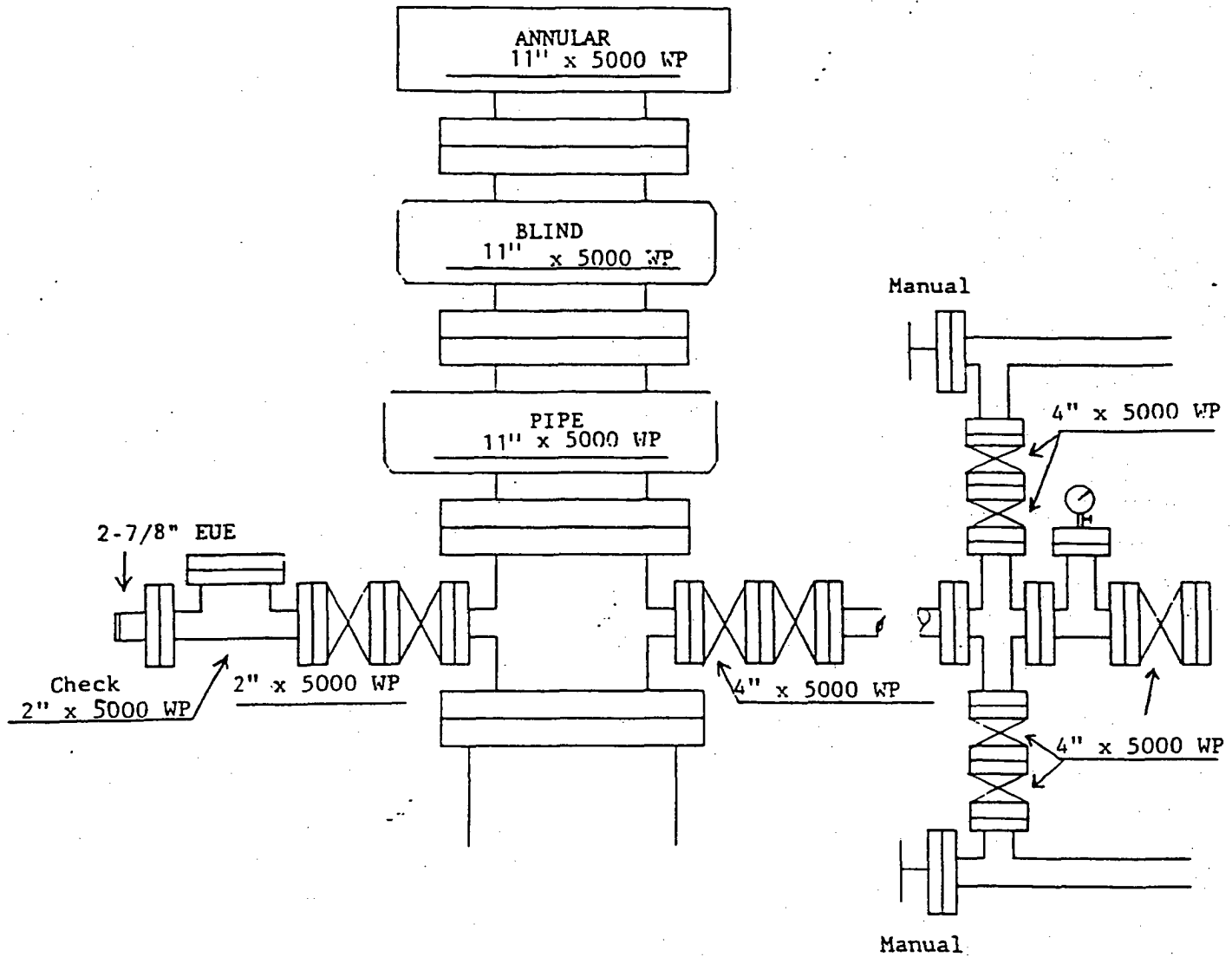
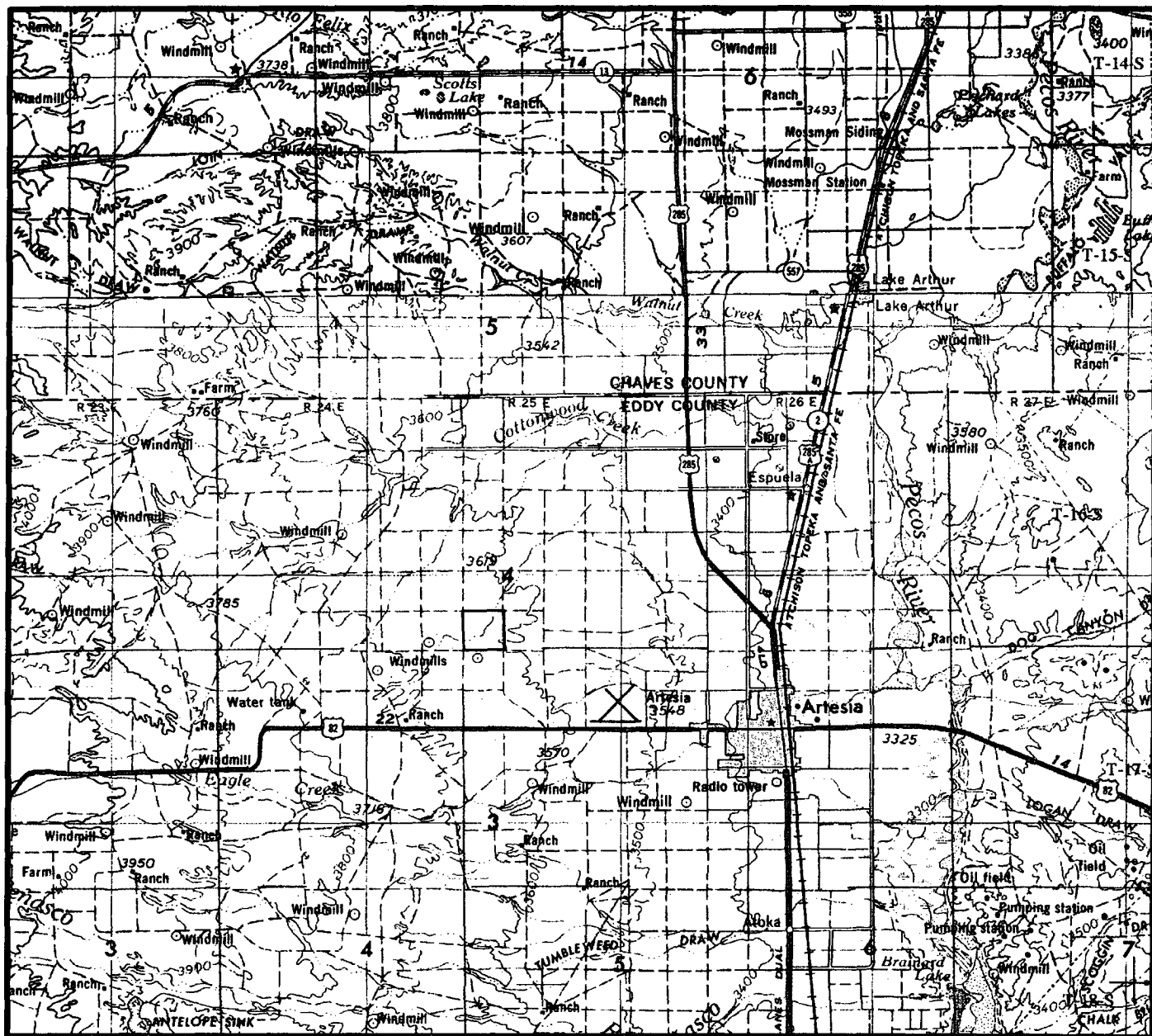


Exhibit 1

VICINITY MAP



SECTION 31 TWP 16-S RGE 25-E
 SURVEY NEW MEXICO PRINCIPAL MERIDIAN
 COUNTY LEA STATE NM
 DESCRIPTION 760' FSL & 760' FEL
 OPERATOR EOG RESOURCES, INC.
 LEASE THAMES "31" FEDERAL #1
 DISTANCE & DIRECTION FROM JCT. OF U.S. 82 & U.S. 285 @
ARTESIA, GO WEST 5.9 MILES ON U.S. 82, THENCE NORTH 0.5 MILE
ON COUNTY ROAD, CONTINUE NORTH 0.5 MILE ON LEASE ROAD TO
A POINT NEAR SOUTHEAST MILE ON LEASE ROAD TO A POINT NEAR
SOUTHEAST CORNER SECTION 5 AND A POINT FOR BEGINNING OF
PROPOSED ROAD TO THE LOCATION.

Exhibit 2

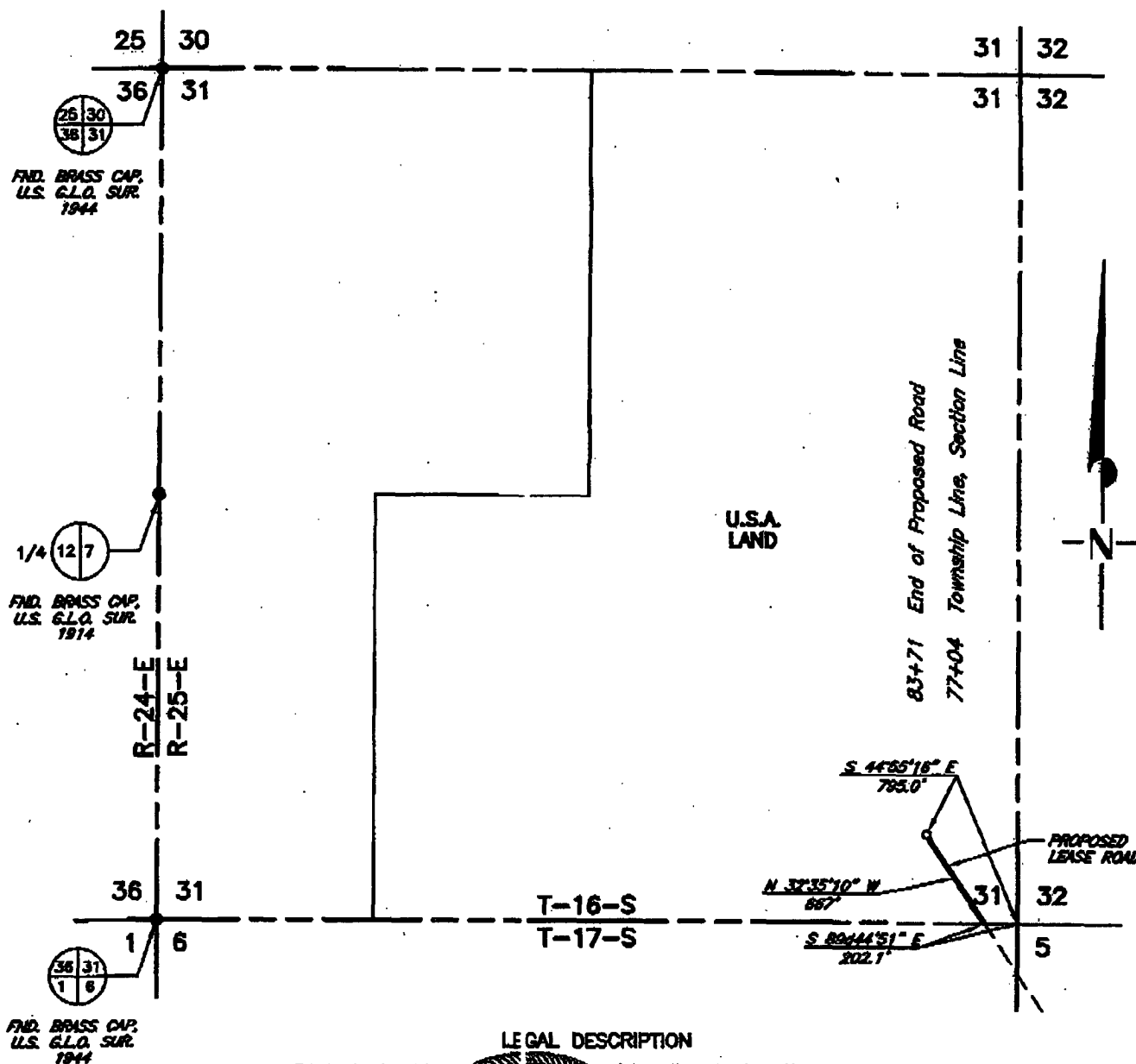


TOPOGRAPHIC LAND SURVEYORS

Surveying & Mapping for the Oil & Gas Industry

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

SECTION 31, TOWNSHIP 16 SOUTH, RANGE 25 EAST, N.M.P.M., EDDY COUNTY NEW MEXICO

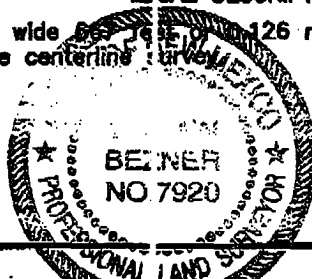


LEGAL DESCRIPTION

A strip of land 30.0 feet wide 66.16 feet 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 Beglar



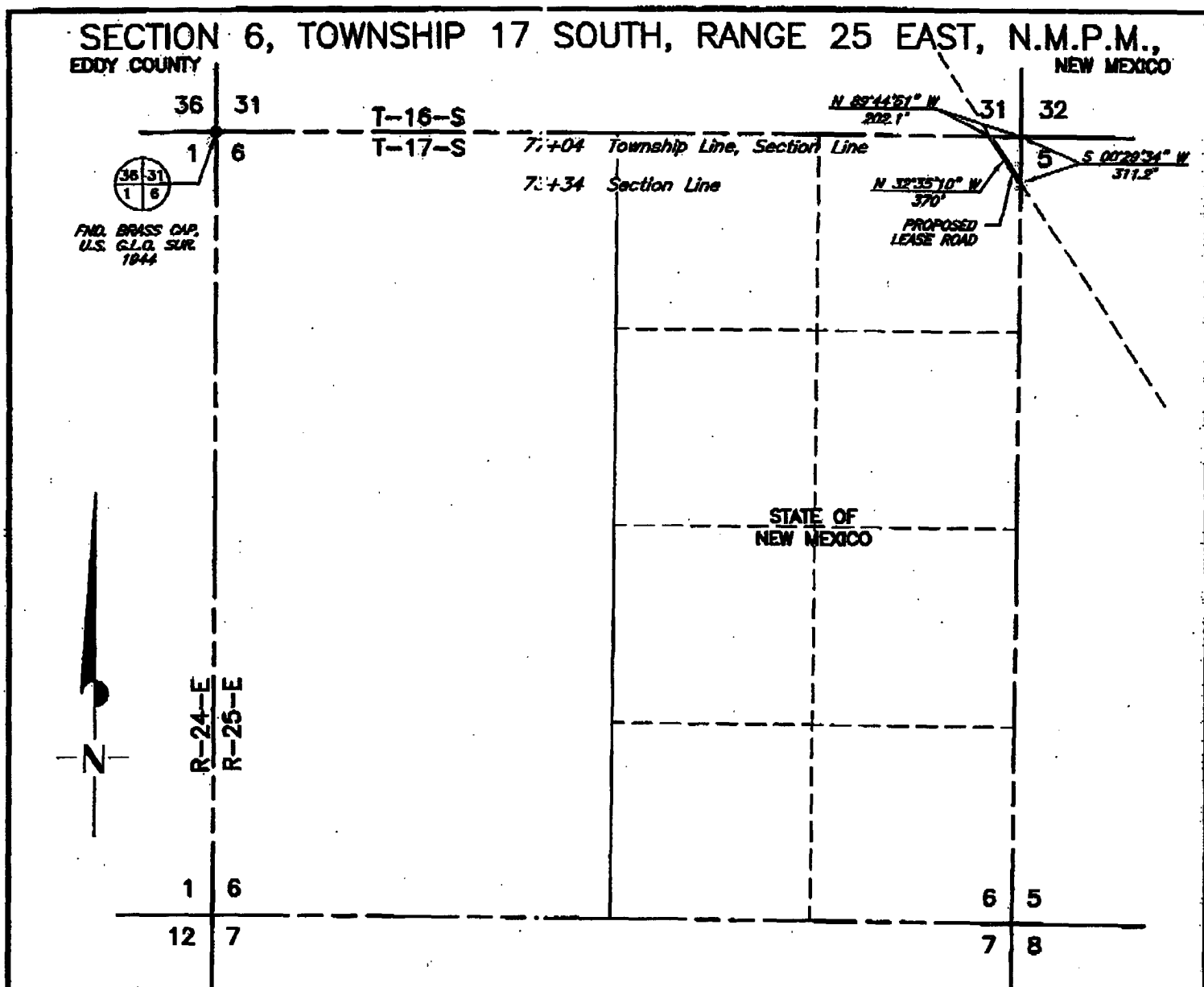
EOG RESOURCES, INC.

NO.	REVISION	DATE	BY

SURVEYED BY: R.J.O.
DRAWN BY: J.C.P.
APPROVED BY: V.L.B.

SURVEYING AND MAPPING BY
TOPOGRAPHIC LAND SURVEYORS
MIDLAND, TEXAS

SCALE: 1" = 1000'
DATE: MARCH 19, 2003
JOB NO.: 86372-NR6
QUAD NO.: 101NE
SHEET: 1 OF 1



LEGAL DESCRIPTION

A strip of land 30.0 feet wide crossing State of New Mexico Land in Section 6, Township 17 South, Range 25 East, N.M.P.M., Eddy County, New Mexico and being 15.0 feet left and 15.0 feet right of the following described centerline survey.

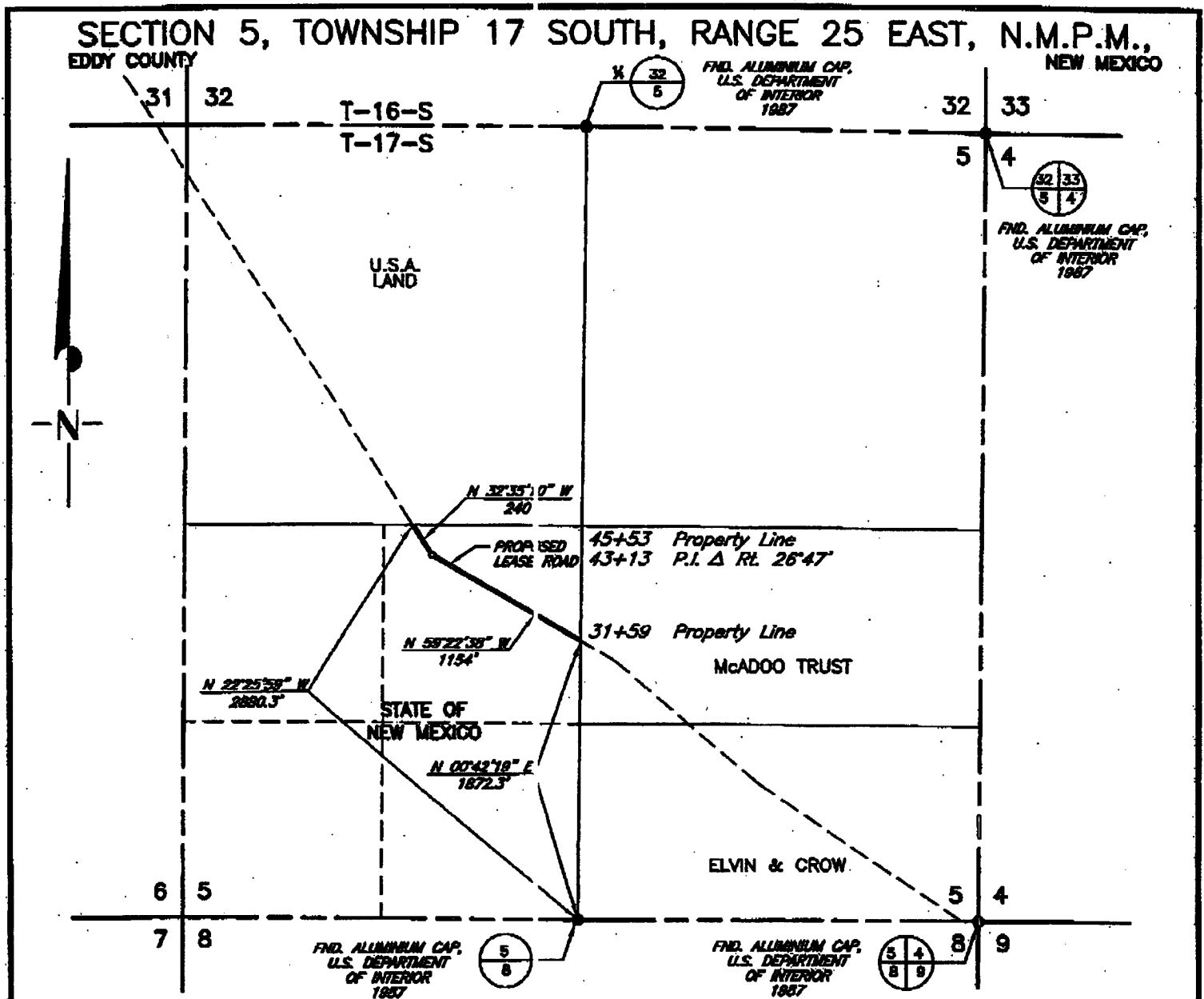
BEGINNING at a point on the East line of said Section 6 which lies S 00°29'34\" W, 311.2 feet from the Northeast corner of said Section 6; Thence N 32°35'10\" W, a distance of 370 feet to a point on the North line of said Section 6 which lies N 89°44'51\" W, 202.1 feet from the Northeast corner of said Section 6. Said strip of land being 370 feet or 22.42 Rods and containing 0.255 Acres more or less and being allocated by forties as follows:

NE/4 NE4 --- 22.42 RODS --- 0.255 ACRES

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 Ogner

				EOG RESOURCES, INC.		SCALE: 1" = 1000'	
						DATE: MARCH 19, 2003	
NO.	REVISION	DATE	BY	SURVEYING AND MAPPING BY TOPOGRAPHIC LAND SURVEYORS MIDLAND, TEXAS		JOB NO.: 86372-NR5	
SURVEYED BY: R.J.O.						QUAD NO.: 101NE	
DRAWN BY: J.C.P.						SHEET: 1 OF 1	
APPROVED BY: V.L.B.							

**LEGAL DESCRIPTION**

A strip of land 30.0 feet wide crossing State of New Mexico Land in Section 5, Township 17 South, Range 25 East, N.M.P.M., Eddy County, New Mexico and being 15.0 feet Left and 15.0 feet Right of the following described centerline survey.

and being 18.0 feet left and 18.0 feet right of the following easement: General survey.
BEGINNING at a point in said Section 5 which lies N 0°42'10" E, 1872.3 feet from the South quarter corner of said Section 5; Thence N 59°22'38" W, a distance of 1154 feet to an angle point; Thence N 32°35'10" W, a distance of 240 feet to a point on the North line of the South half of said Section 5 which lies N 27°25'59" W, 2800.3 feet from the South quarter corner of said Section 5. Said strip of land being 1384 feet or 84.48 rods and containing 0.980 Acres more or less and being allocated by lot as follows:

NE/4 SW4 - - 84.48 RODS - - 0.980 ACRES

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 PLAN MEET THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.

V. Lynn Byrner 8-20-03
V. Lynn Byrner

EOG RESOURCES, INC.

SURVEYING AND MAPPING BY
TOPOGRAPHIC LAND SURVEYORS
MIDLAND, TEXAS

SCALE: 1" = 1000'

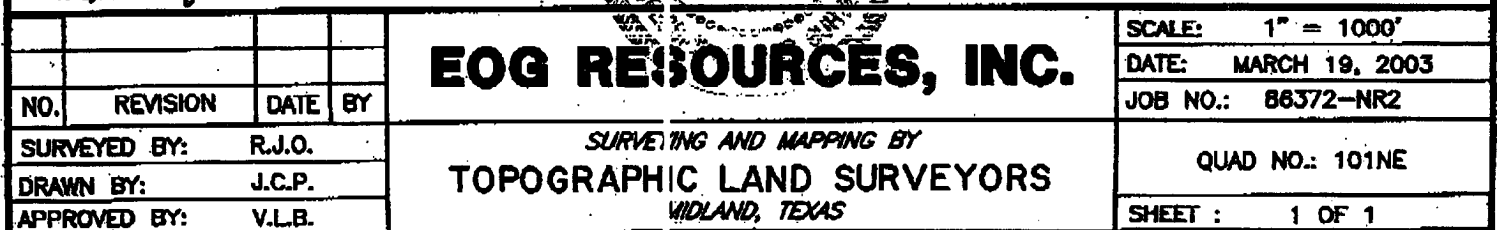
DATE: MARCH 19, 2003

JOB NO.: 86372-NR3

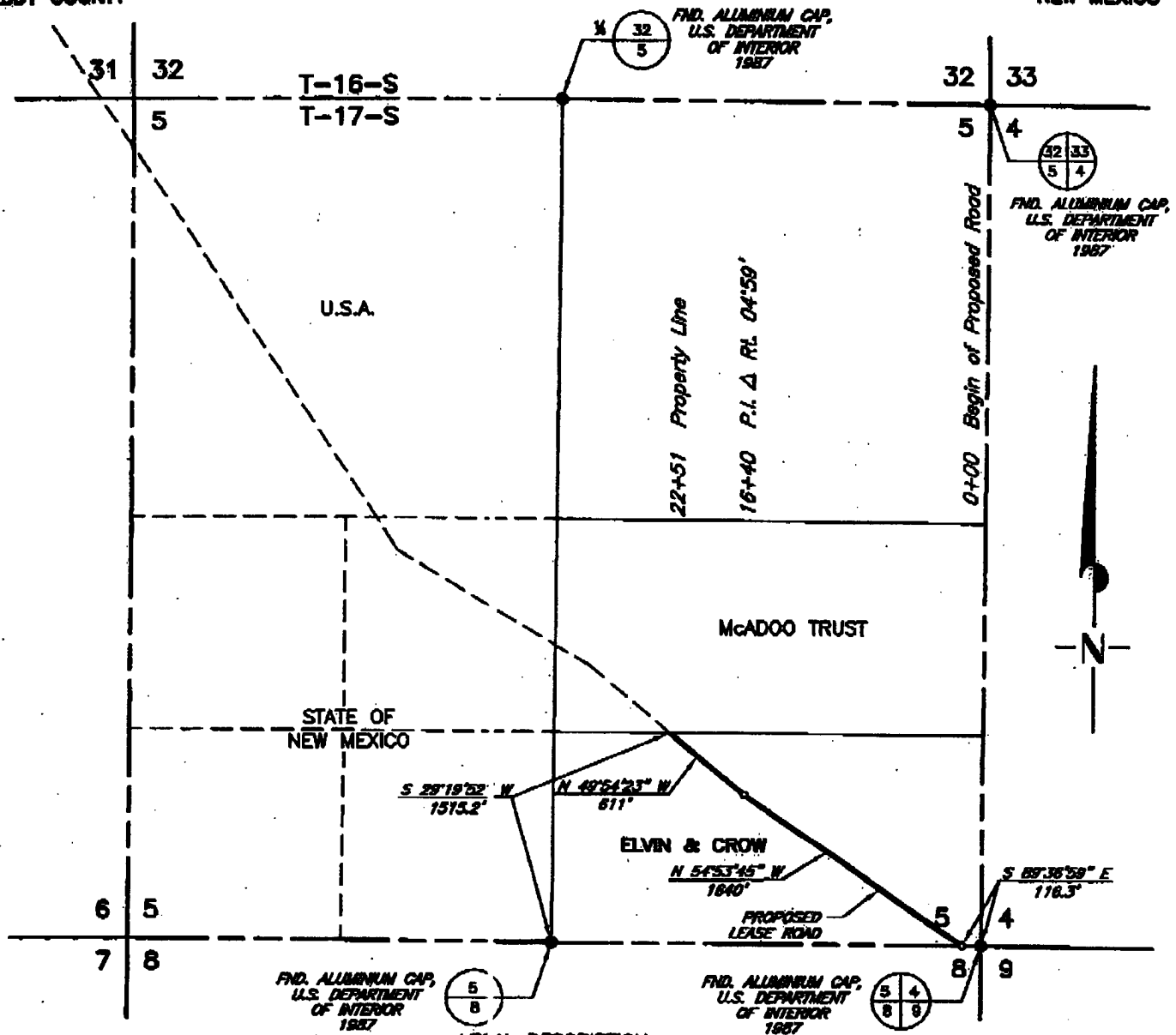
QUAD NO.: 101NE

SHEET : 1 OF 1

NO.	REVISION	DATE	BY
SURVEYED BY:		R.J.O.	
DRAWN BY:		J.C.P.	
APPROVED BY:		V.L.B.	



SECTION 5, TOWNSHIP 17 SOUTH, RANGE 25 EAST, N.M.P.M., EDDY COUNTY NEW MEXICO



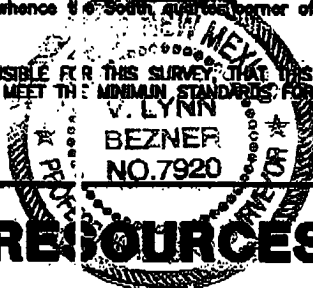
LEGAL DESCRIPTION

A strip of land in Section 5, Township 17 South, Range 25 East, N.M.P.M., Eddy County, New Mexico, and the centerline being described as follows:

BEGINNING at a point in said Section 5 from whence its Southeast corner bears S 89°36'39" E, a distance of 116.3 feet; Thence N 54°53'45" W a distance of 1840 feet; Thence N 48°54'23" W a distance of 811 feet; Thence S 29°19'52" W a distance of 1515.2 feet to the End of this DESCRIPTION from whence its South quarter corner of said Section 5 bears S 29°19'52" W, a distance of 1515.2 feet and containing 2251 feet or 135.42 Rods.

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 Beznar 3-20-03
V. Lynn Beznar



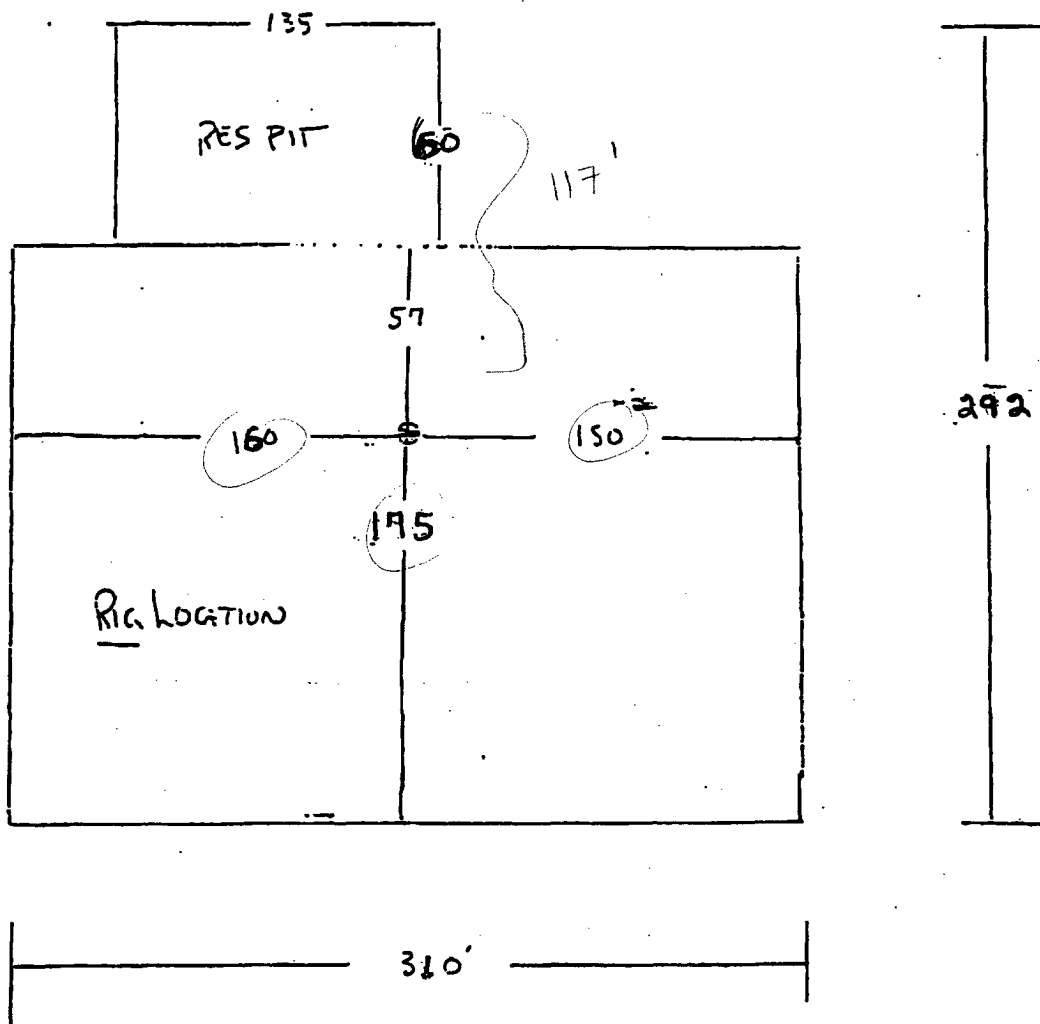
EOG RESOURCES, INC.

NO.	REVISION	DATE	BY
SURVEYED BY:	R.J.O.		
DRAWN BY:	J.C.P.		
APPROVED BY:	V.L.B.		

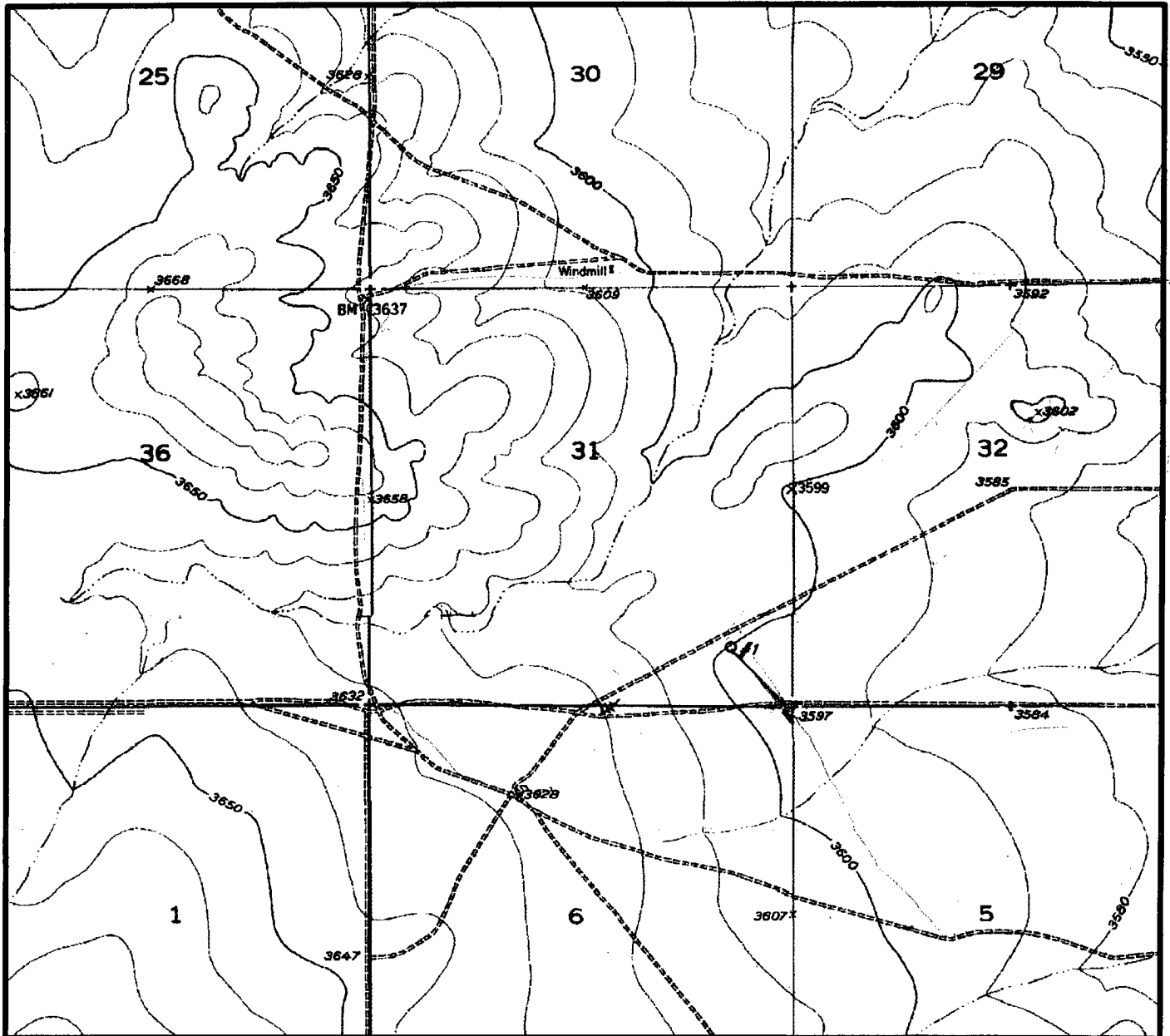
SURVEYING AND MAPPING BY
TOPOGRAPHIC LAND SURVEYORS
MIDLAND, TEXAS

SCALE:	1" = 1000'
DATE:	MARCH 19, 2003
JOB NO.:	86372-NR1
	101NE
SHEET :	1 OF 1

Exhibit 4



LOCATION & ELEVATION VERIFICATION MAP



SCALE : 1" = 2000'

CONTOUR INTERVAL 10 FEET

SECTION 31 TWP 16-S RGE 25-E

SURVEY NEW MEXICO PRINCIPAL MERIDIAN

COUNTY EDDY STATE NM

DESCRIPTION 760' FSL & 760' FEL

ELEVATION 3600'

OPERATOR EOG RESOURCES, INC.

LEASE THAMES "31" FEDERAL #1

U.S.G.S. TOPOGRAPHIC MAP

HOPE NE, NEW MEXICO

SCALED LAT. (SCALED) N 32.87404

LONG. W 104.51806



TOPOGRAPHIC LAND SURVEYORS

Surveying & Mapping for the Oil & Gas Industry

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MIDLAND, TX. 79705
(800) 767-1653