

N. M. Oil and Gas Division
ARTESIA, NM 88210-6814

Form 3160-3
(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

1a. Type of Work: ☒ DRILL ☐ REENTER

1b. 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)

(915)686-3714

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

At surface 660' FNL & 1,500' FEL

Unit B

POTASH

At proposed prod. Zone Same as surface

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

3 miles SE to Loco Hills

Secretary's Potash

15. Distance from proposed*
location to nearest
property or lease line, ft.

(Also to nearest drlg. Unit line, if any) 660'

16. No. of Acres in lease

760

17. Spacing Unit dedicated to this well

E/2 (320)

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

1,650'

19. Proposed Depth

12,100

20. BLM/BIA Bond No. on file

NM2308

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

GL 3555

22. Approximate date work will start*

8/1/2001

23. Estimated duration

30

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

6/8/2001

Title

Agent

Approved by (Signature) */s/ RICHARD A. WHITLEY*

Name (Printed/Typed)

/s/ RICHARD A. WHITLEY

Date

AUG 14 2001

Title ASSOC. STATE DIRECTOR

Office

NM STATE 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

Capitan Controlled Water Basin

**APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS
ATTACHED**

MINN STATE OFFICE

BUREAU OF LAND MGMT.
ROSWELL OFFICE

2001 JUN 11 AM 8:48

RECEIVED

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
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 | | Pool Code | | Pool Name Cedar Lake, Morrow | |
| Property Code | | Property Name ARENA "12" FEDERAL COM | | | Well Number 1 |
| OGRID No. 7377 | | Operator Name EOG RESOURCES INC. | | | Elevation 3555 |

¹⁰ Surface Location

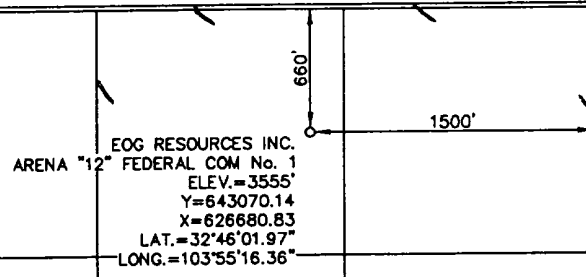

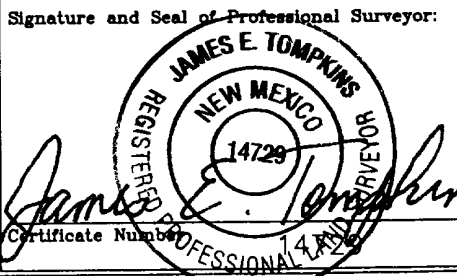
| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| B | 12 | 18-S | 30-E | | 660 | NORTH | 1500 | 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 |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| | | | | | | | | | |

| | | | |
|------------------------|-----------------|--------------------|-----------|
| Dedicated Acres 320 | Joint or Infill | Consolidation Code | Order No. |
|------------------------|-----------------|--------------------|-----------|

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 Mike Francis Printed Name Agent Title 6/8/01 Date | |
| | | 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. MAY 14, 2001 Date of Survey Signature and Seal of Professional Surveyor:  Certificate Number | |
| | | | |
| | | | |

DRILLING PROGRAM

EOG RESOURCES, INC.
ARENA "12" FED COM NO. 1
660' FNL & 1,500' FEL
SEC. 12, T18S, R30E
EDDY COUNTY, NM

1. GEOLOGIC NAME OF SURFACE FORMATION:

Permian

2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

| | |
|-----------------|--------|
| Queen | 2700' |
| San Andres | 3500' |
| Bone Spring | 5000' |
| Wolfcamp | 8900' |
| Lower Strawn | 10550' |
| Atoka | 10850' |
| Morrow Clastics | 11250' |
| Chester | 11900' |

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

| | | |
|---------------------|------------|-------------|
| Upper Permian Sands | Above 250' | Fresh Water |
| Grayburg/San Andres | 3000' | Oil |
| Strawn | 10200' | Oil |
| Atoka | 10525' | Gas |
| Morrow | 10925' | Gas |

4. 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" | 0-4000' | 8 5/8" | 32# J-55 LT&C |
| 7 7/8" | 0-12100' | 5 1/2" | 17# N80/S95 L&TC |

Cementing Program:

| | |
|-------------------------|--|
| 11 3/4" Surface Casing: | Cement to surface with 200 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 800 sx Interfill C, .25#/sx flocele, 250 sx Premium Plus, 2% Calcium Chloride |
| 5 1/2" Production: | Cement w/930 sx Premium, 3% Econolite, 5#/sx Salt (3%), 0.2% HR5, .25#/sk Flocele, 250 sx Prem 50/50 Poz mix 'A', 2% Halliburton-Gel First 2%, 0.5% Halad-322. This is designed to bring TOC to 4500'. |

DRILLING PROGRAM

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ARENA "12" FED COM NO. 1
660' FNL & 1,500' FEL
SEC. 12, T18S, R30E
EDDY COUNTY, 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> |
|--------------|-------------------------|---------------------|----------------------------|---------------------------|
| 0-650' | Fresh Water (spud) | 8.5 | 40-45 | N.C. |
| 650'-4000' | Brine Water | 10.0 | 30 | N.C. |
| 4000'- TD | Cut Brine + Polymer/KCL | 8.8 - 9.2 | 32 | 10 |

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.
ARENA "12" FED COM NO. 1
660' FNL & 1,500' FEL
SEC. 12, T18S, R30E
EDDY COUNTY, NM**

8. LOGGING, TESTING AND CORING PROGRAM:

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 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.
ARENA "12" FED COM NO. 1
660' FNL & 1,500' FEL
SEC. 12, T18S, R30E
EDDY COUNTY, 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:

3568.2 of new road is required. Exhibit #2A(1), 2A(2)

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.

DRILLING PROGRAM

**EOG RESOURCES, INC.
ARENA "12" FED COM NO. 1
660' FNL & 1,500' FEL
SEC. 12, T18S, R30E
EDDY COUNTY, NM**

6. PLANS FOR RESTORATION OF THE SURFACE:

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 wellpad 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.
ARENA "12" FED COM NO. 1
660' FNL & 1,500' FEL
SEC. 12, T18S, R30E
EDDY COUNTY, 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



Jeff Gordon
Project Drilling Engineer

Date: 6-8-01

DRILLING PROGRAM

**EOG RESOURCES, INC.
ARENA "12" FED COM NO. 1
660' FNL & 1,500' FEL
SEC. 12, T18S, R30E
EDDY COUNTY, 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.

Arena "12" Fed Com No. 1

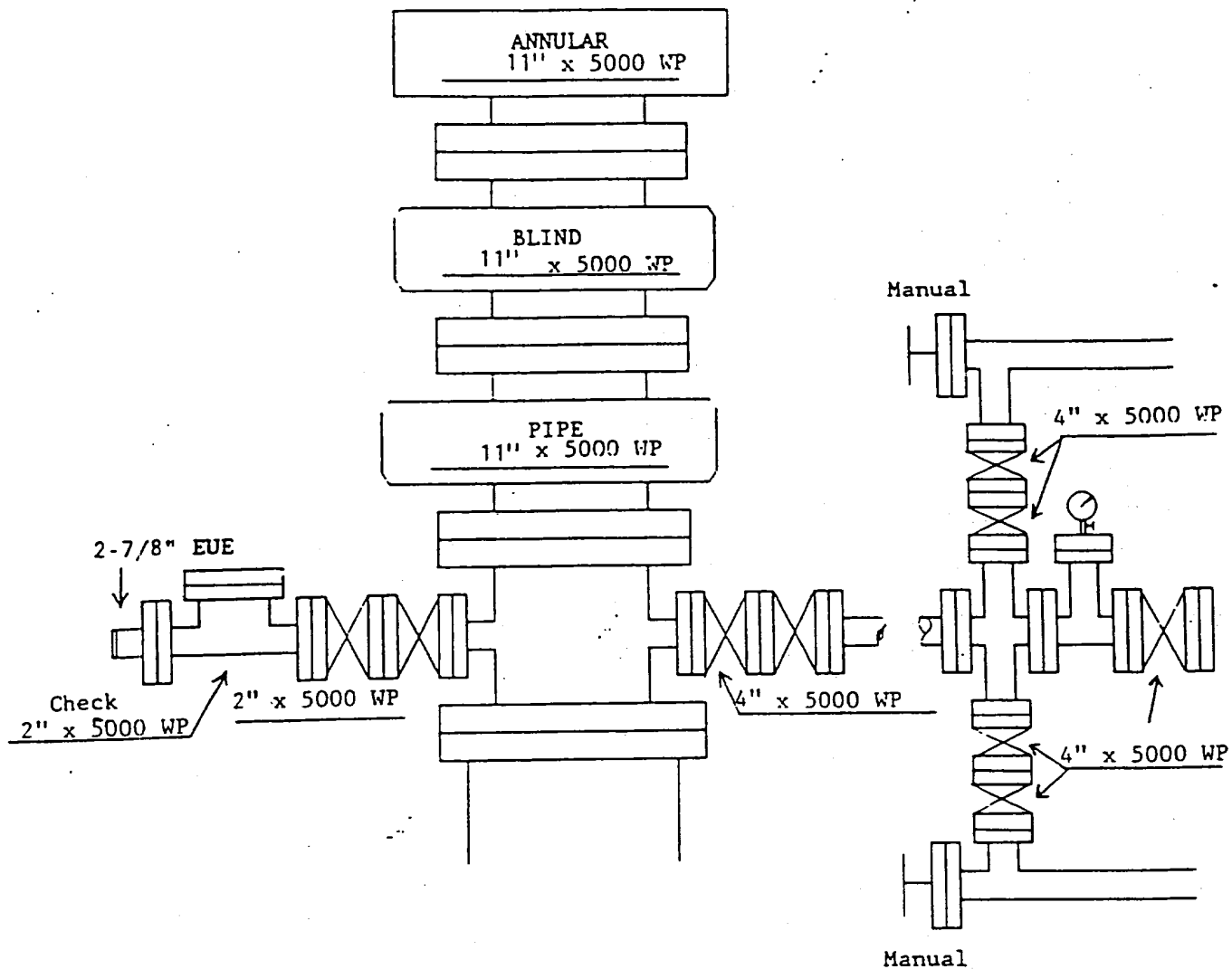
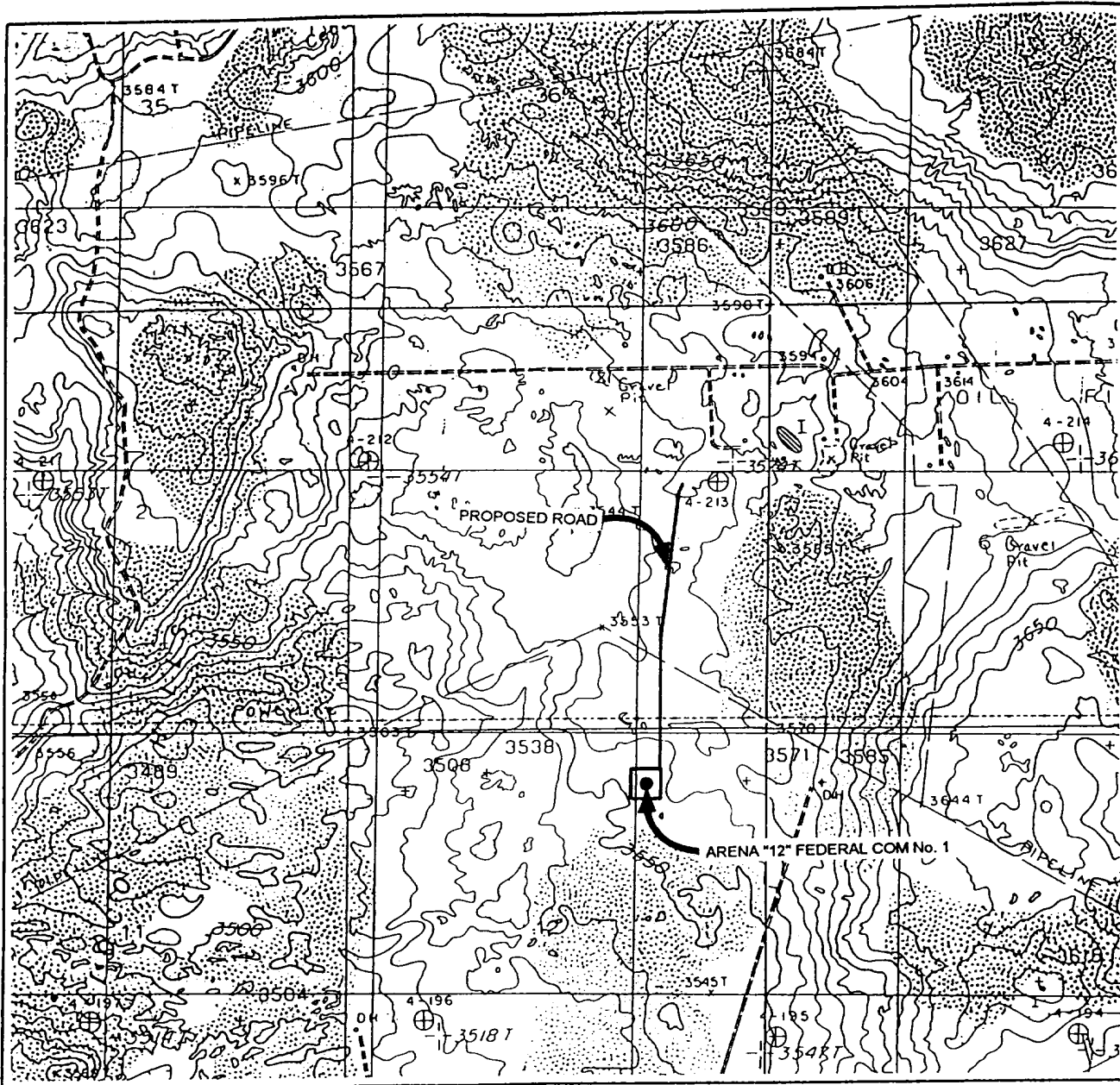


Exhibit 1

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'
WTC 46260

CONTOUR INTERVAL 10'

SEC. 12 TWP. 18-S RGE. 30-E

SURVEY N.M.P.M

COUNTY EDDY STATE NM

DESCRIPTION 660' FNL & 1500' FEL

ELEVATION 3555'

OPERATOR EOG RESOURCES, INC.

LEASE ARENA "12" FEDERAL COM No. 1

USGS TOPO MAP LOCO HILLS, NEW MEXICO.

WEST TEXAS CONSULTANTS, INC.

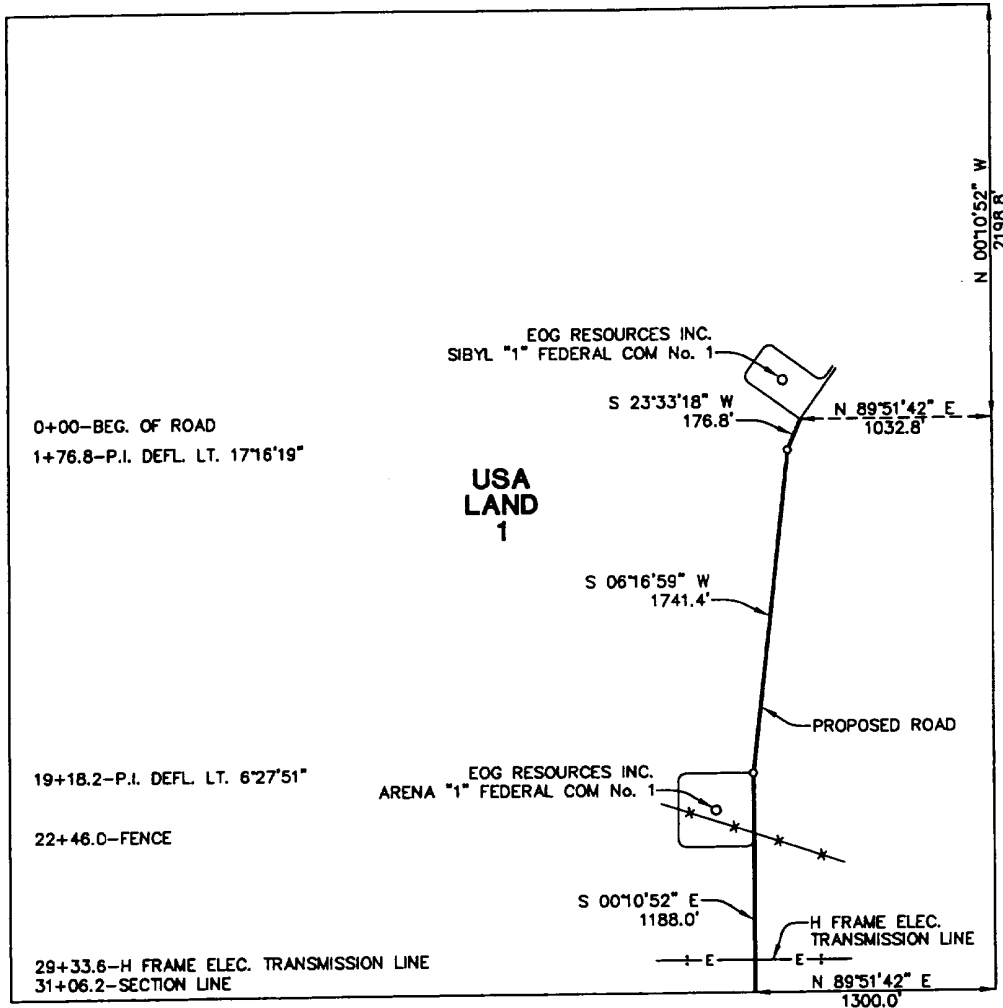
ENGINEERS-PLANNERS-SURVEYORS

MIDLAND, TEXAS

915-685-3800

Exhibit 2

**SECTION 1, TOWNSHIP 18 SOUTH, RANGE 30 EAST, N.M.P.M.
EDDY COUNTY, NEW MEXICO**



CENTERLINE DESCRIPTION OF A PROPOSED ROAD:

Exhibit 2(a)1

BEGINNING at a point in the south corner of a well pad for EOG Resources, Inc. SIBYL "1" FEDERAL COM No. 1, from which point the northeast corner of Section 1, T-18-S, R-30-E, N.M.P.M., Eddy County, New Mexico, bears N 89° 51' 42" E, 1032.8 feet and N 00° 10' 52" W, 2198.8 feet;

THENCE with the centerline of proposed road as follows: S 23° 33' 18" W, 176.8 feet; S 06° 16' 59" W, 1741.4 feet; and S 00° 10' 52" E, 1188.0 feet to a point in the south line of said Section 1, for the end of this road, from which point the southeast corner of said Section 1 bears N 89° 51' 42" E, 1300.0 feet.

I hereby certify that this plat was prepared from an actual survey made on the ground and meets or exceeds all requirements for land surveys as specified by the state of New Mexico.

James E. Tompkins

JAMES E. TOMPKINS
Registered Professional Surveyor
New Mexico Certificate No. 14729

**PROPOSED ROAD TO SERVE
ARENA "12" FEDERAL COM No. 1**

EOG RESOURCES INC.

3106.2 feet of proposed road in
Section 1, T-18-S, R-30-E, N.M.P.M.,
Eddy County, New Mexico

WEST TEXAS CONSULTANTS, INC.

ENGINEERS-PLANNERS-SURVEYORS

MIDLAND, TEXAS

| | | |
|----------------------|---------------|-------------------|
| Survey Date: 5-14-01 | Date: 5-15-01 | Scale: 1" = 1000' |
| WTC No.: 46260 | Drawn By: JWD | Sheet 1 of 2 |

**SECTION 12, TOWNSHIP 18 SOUTH, RANGE 30 EAST, N.M.P.M.
EDDY COUNTY,
NEW MEXICO**

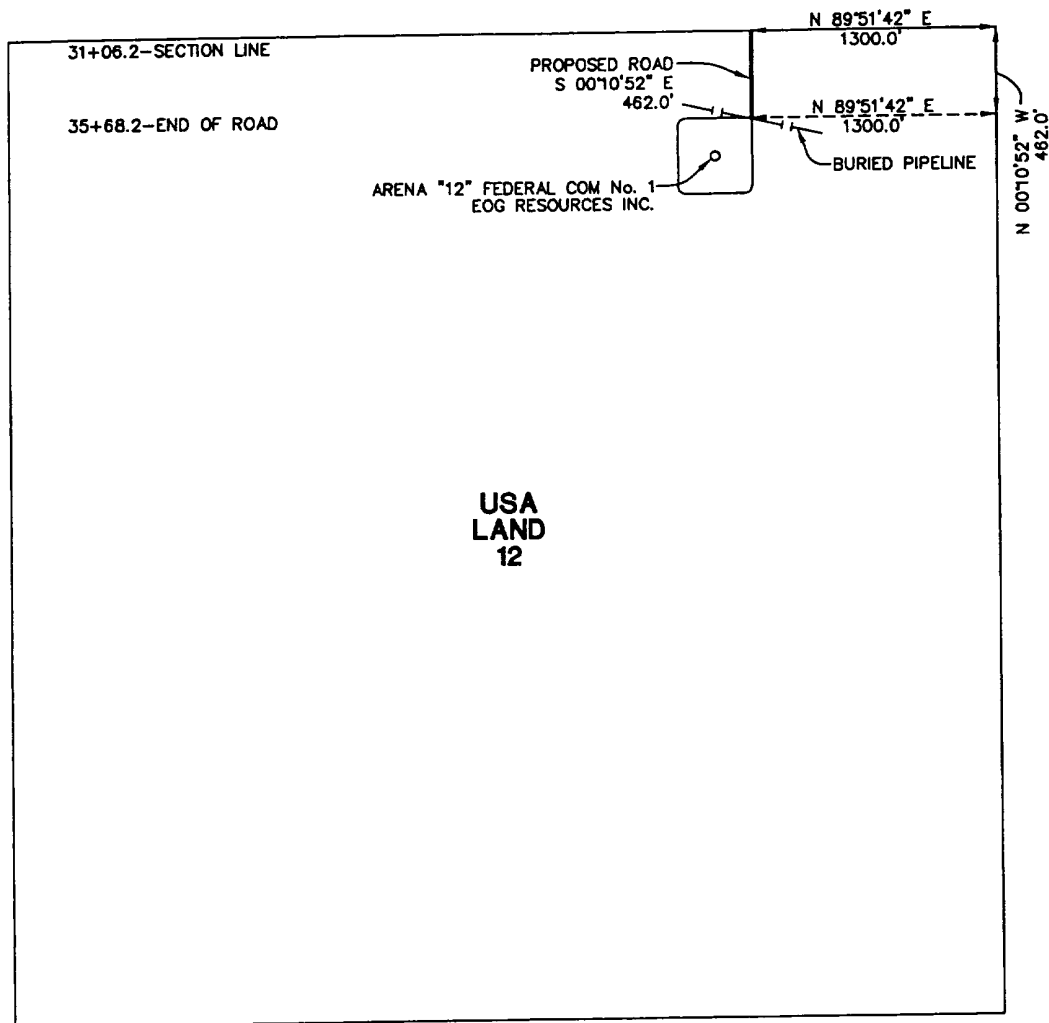


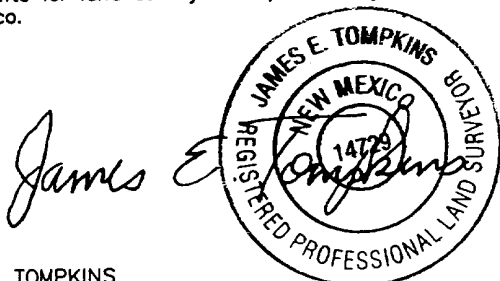
Exhibit 2(a)2

CENTERLINE DESCRIPTION OF A PROPOSED ROAD:

BEGINNING at a point in the north line of Section 12, T-18-S, R-30-E, N.M.P.M., Eddy County, New Mexico, from which point the northeast corner of said Section 12 bears N 89° 51' 42" E, 1300.0 feet;

THENCE S 00° 10' 52" E, with the centerline of proposed road, 462.0 feet to a point in the northeast corner of a well pad for EOG Resources, Inc. ARENA "12" FEDERAL COM No. 1, for the end of this road, from which point the northeast corner of said Section 12 bears N 89° 51' 42" E, 1300.0 feet and N 00° 10' 52" W, 462.0 feet.

I hereby certify that this plat was prepared from an actual survey made on the ground and meets or exceeds all requirements for land surveys as specified by the state of New Mexico.



JAMES E. TOMPKINS
Registered Professional Surveyor
New Mexico Certificate No. 14729

**PROPOSED ROAD TO SERVE
ARENA "12" FEDERAL COM No. 1**

EOG RESOURCES INC.

462.0 feet of proposed road in
Section 12, T-18-S, R-30-E, N.M.P.M.,
Eddy County, New Mexico

WEST TEXAS CONSULTANTS, INC.

ENGINEERS-PLANNERS-SURVEYORS

MIDLAND, TEXAS

Survey Date: 5-14-01

Date: 5-15-01

Scale: 1" = 1000'

WTC No.: 46260

Drawn By: JWD

Sheet 2 of 2

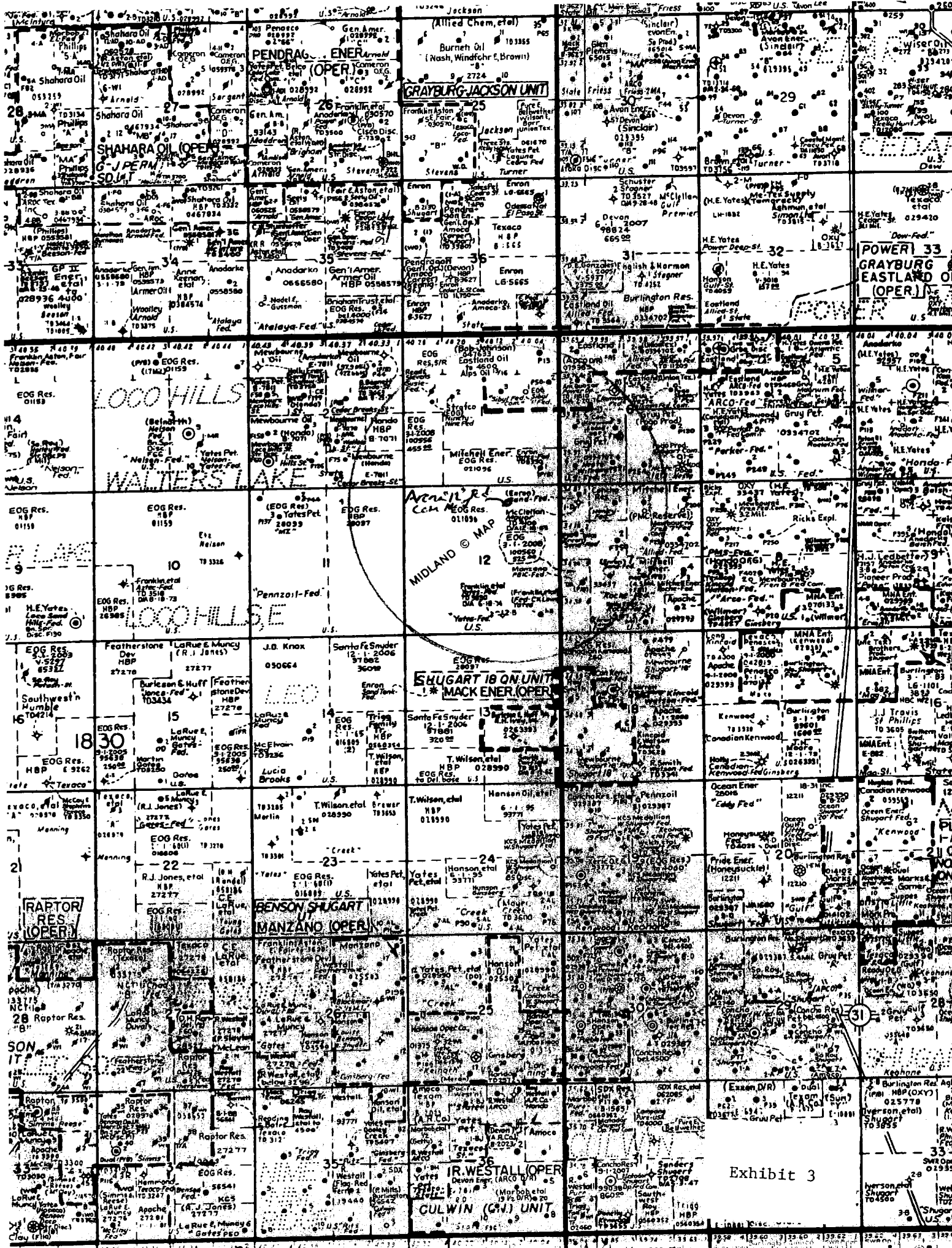
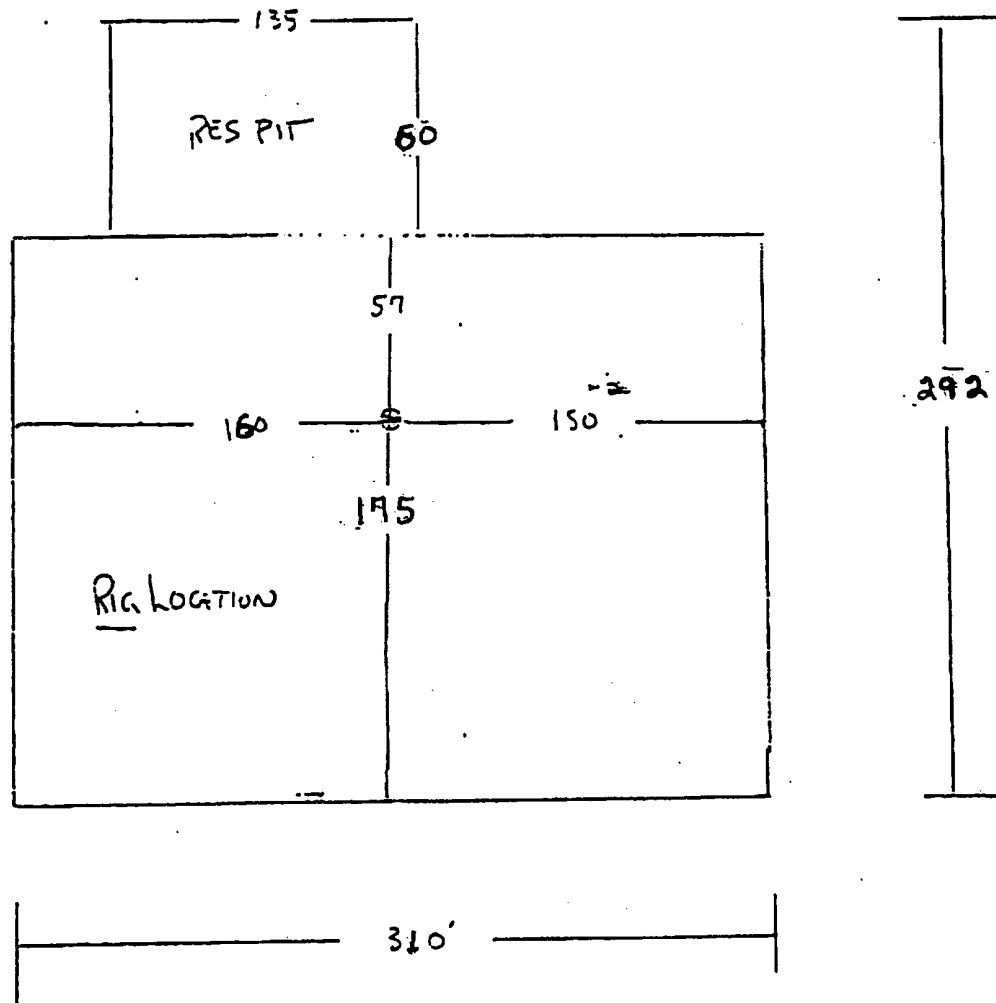


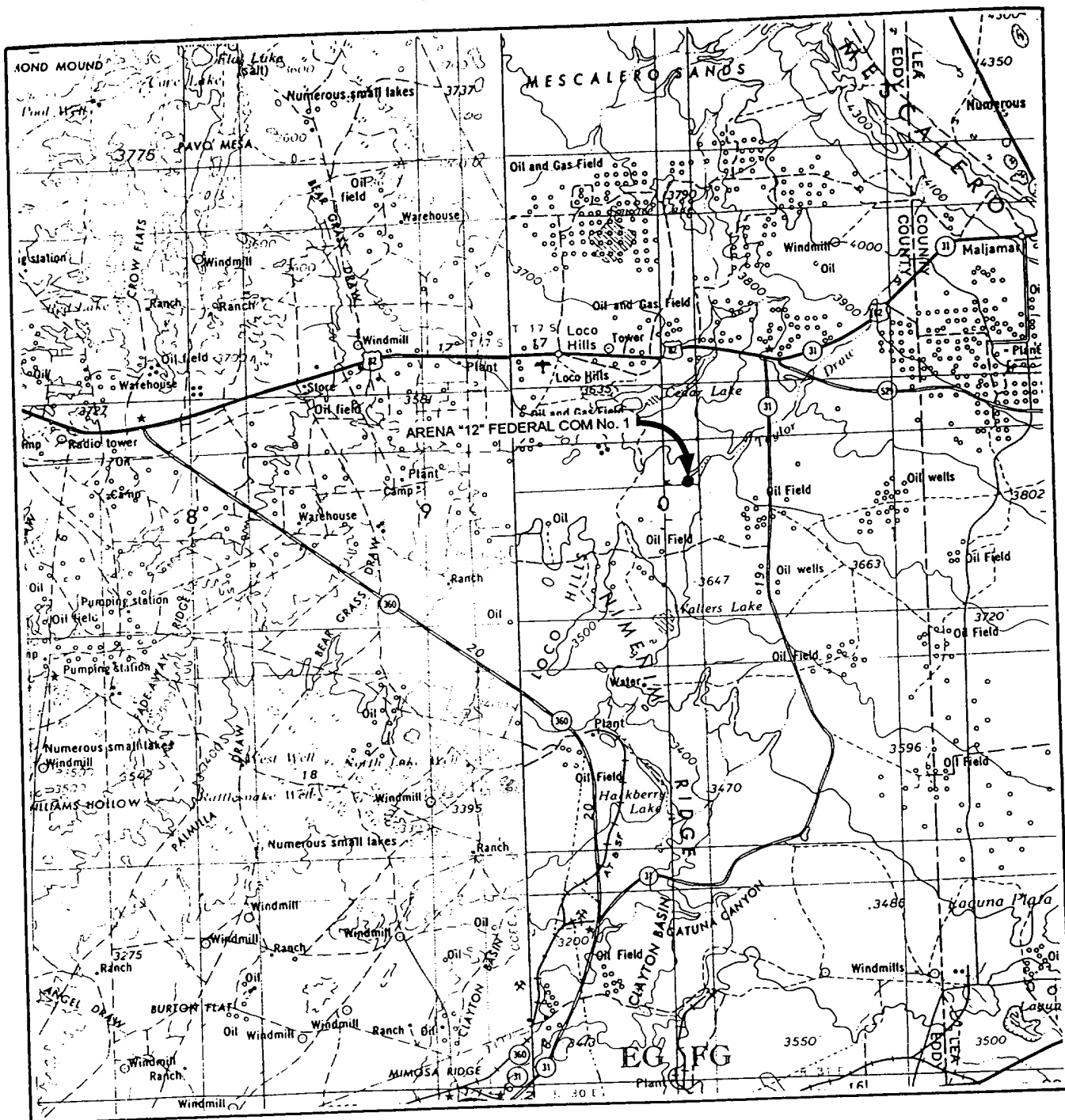
Exhibit 3

Exhibit 4

Arena 12 Fed Com No. 1



VICINITY MAP



SCALE: 1" = 4 MILES

WTC 46260

SEC. 12 TWP. 18-S RGE. 30-E

SURVEY N.M.P.M.

COUNTY EDDY STATE NM

DESCRIPTION 660' FNL & 1500' FEL

ELEVATION 3555'

OPERATOR EOG RESOURCES, INC.

LEASE ARENA "12" FEDERAL COM No. 1

WEST TEXAS CONSULTANTS, INC.

ENGINEERS-PLANNERS-SURVEYORS

MIDLAND, TEXAS

915-685-3800

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.: NM021096

Legal Description of Land: Section 12 T18S, R30E, NMPM
Eddy Co., NM

Formation(s) (if applicable):

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

BLM Bond File No.: MT-0748 with endorsement to State of NM

Authorized Signature: 

Mike Francis

Title: Agent

Date: 6/8/01