

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO. 1004-0136
Expires: February 28, 1995

5. LEASE DESIGNATION AND SERIAL NO.

LC 028784-C

6. IF INDIAN, ALLOTES OR TRIBE NAME

7. UNIT AGREEMENT NAME

Grayburg Deep Unit NM 70954X

8. FARM OR LEASE NAME, WELL NO.

Grayburg Deep Unit No. 16 34850

9. API WELL NO.

30-015-34141

10. FIELD AND POOL, OR WILDCAT

Unders. Sand Tank Merrow

11. SEC. T., R., M., BLOCK AND SURVEY

OR AREA

Sec. 24 T17S R29E

12. COUNTY OR PARISH

Eddy

13. STATE

NM

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

1b. TYPE OF WELL

OIL ☐

GAS ☒

SINGLE ☒

MULTIPLE ☐

WELL WELL

OTHER

ZONE

ZONE

2. NAME OF OPERATOR

Gruy Petroleum Management Co.

162683

3. ADDRESS AND TELEPHONE NO.

P.O. Box 140907 Irving TX 75014 972-401-3111

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)

855' FSL & 1330' FEL Sec. 24-17S-29E

RECEIVED

MAY 31 2005

COO-ARTESIA

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*

26 miles East of Artesia

15. DISTANCE FROM PROPOSED*
LOCATION TO NEAREST
PROPERTY OR LEASE LINE, T.O.

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

855'

16. NO. OF ACRES IN LEASE

320

17. NO. OF ACRES ASSIGNED
TO THIS WELL

E/2 320

18. DISTANCE FROM PROPOSED LOCATION*
TO NEAREST WELL, DRILLING COMPLETED,
OR APPLIED FOR, ON THIS LEASE, FT.

N/A

19. PROPOSED DEPTH

12500'

20. ROTARY OR CABLE TOOLS

Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

3606' GR

22. APPROX. DATE WORK WILL START*

06-15-05

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17-1/2"	J-55 13 3/8"	54.5 #	350' - 500' * WITNESS	490 sx circulate
12-1/4"	P-110/N-80 9 5/8"	40 #	4000'	1200 sx circulate
7-7/8"	P-110 5 1/2"	17 #	12500'	1620 sx TOC 2700'

*Set surface casing 25' into the top of the Rustler, which is estimated to be between 350' and 500'.

From the base of the surface pipe through the running of production casing, the well will be equipped with a 5000 - psi BOP system. We are requesting a variance for the 13 3/8" surface casing and BOP testing from Onshore Order No. 2, which states all casing strings below the conductor shall be pressure tested to .22 psi per foot or 1500#, whichever is greater, but not to exceed 70% of the manufacturer's stated maximum internal yield. During the running of the surface pipe and the drilling of the intermediate hole we do not anticipate any pressures greater than 1000#, and we are requesting a variance to test the 13 3/8" casing and BOP system to 1000# psi and use rig pumps instead of an independent service company.

IN ABOVE SPACE, DESCRIBE PROPOSED PROGRAM:

If proposal is to deepen, give data on present productive zone and proposed new productive zone.
If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24

SIGNED

Zeno Farris

TITLE

Mgr. Ops. Admin

DATE

04-25-05

(This space for Federal or State office use)

PERMIT No.

APPROVAL DATE

Application approval does not warrant or certify that the applicant holds legal or equitable title to those lands.

which lease which would entitle the applicant to conduct operations thereon.

CONDITIONS OF APPROVAL, IF ANY:

APPROVED BY

/s/ James Stovall

TITLE

FOR FIELD MANAGER

DATE

MAY 26 2005

*See Instructions On Reverse Side

APPROVAL FOR 1 YEAR
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS
ATTACHED

APPROVAL FOR 1 YEAR

Known Controlled Water Basin

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-144
March 12, 2004

For drilling and production facilities, submit to appropriate NMOCD District Office.
For downstream facilities, submit to Santa Fe office

Pit or Below-Grade Tank Registration or Closure

Is pit or below-grade tank covered by a "general plan"? Yes ☐ No ☒

Type of action: Registration of a pit or below-grade tank ☒ Closure of a pit or below-grade tank ☐

Operator: Gruy Petroleum Management Co. Telephone: 972-443-6489 e-mail address: zfarris@magnumhunter.com

Address: P.O. Box 140907, Irving, Tx 75014-0907

Facility or well name: Grayburg Deep Unit No. 16 API #: 30-015-3474 U/L or Qtr/Qtr O Sec 24 T 17S R 29E

County: Eddy Latitude 324854.07N Longitude 1040124.49W NAD: 1927 ☒ 1983 ☐ Surface Owner Federal ☐ State ☐ Private ☐ Indian ☐

Pit

Type: Drilling ☒ Production ☐ Disposal ☐

Workover ☐ Emergency ☐

Lined ☒ Unlined ☐

Liner type: Synthetic ☒ Thickness 12 mil Clay ☐ Volume
bbl

Below-grade tank

Volume: bbl Type of fluid:

Construction material:

Double-walled, with leak detection? Yes ☐ If not, explain why not.

RECEIVED

MAY 02 2005

BOB-ARTESIA

Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of ground water.)

Less than 50 feet

(20 points)

50 feet or more, but less than 100 feet

(10 points)

100 feet or more

(0 points)

Wellhead protection area: (Less than 200 feet from a private domestic water source, or less than 1000 feet from all other water sources.)

Yes

(20 points)

No

(0 points)

Distance to surface water: (horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses.)

Less than 200 feet

(20 points)

200 feet or more, but less than 1000 feet

(10 points)

1000 feet or more

(0 points)

Ranking Score (Total Points)

-0-

If this is a pit closure: (1) attach a diagram of the facility showing the pit's relationship to other equipment and tanks. (2) Indicate disposal location:

onsite ☐ offsite ☐ If offsite, name of facility (3) Attach a general description of remedial action taken including remediation start date and end date. (4) Groundwater encountered: No ☐ Yes ☐ If yes, show depth below ground surface ft. and attach sample results. (5) Attach soil sample results and a diagram of sample locations and excavations.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that the above-described pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☒ a general permit ☐ or an (attached) alternative OCD-approved plan ☐.

Date: 04-27-05

Printed Name/Title Zeno Farris Operations Administration

Signature Zeno Farris

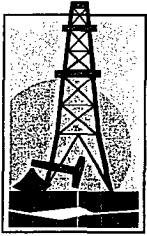
Your certification and NMOCD approval of this application/closure does not relieve the operator of liability should the contents of the pit or tank contaminate ground water or otherwise endanger public health or the environment. Nor does it relieve the operator of its responsibility for compliance with any other federal, state, or local laws and/or regulations.

Approved MAY 3 2005

Date:

Printed Name/Title

Signature



Gruy Petroleum Management Co.

600 East Las Colinas Blvd. • Suite 1100 • Irving, TX 75039 • (972) 401-3111 • Fax (972) 443-6450
Mailing Address: P.O. Box 140907 • Irving, TX 75014-0907

A wholly-owned subsidiary of Magnum Hunter Resources, Inc., an American Stock Exchange company

STATEMENT ACCEPTING RESPONSIBILITY FOR OPERATIONS

Bureau of Land Management
2909 West 2nd Street
Roswell New Mexico 88201-2019
Attn: Ms. Linda Askwig

Gruy Petroleum Management Co. accepts all applicable terms, conditions, stipulations and restrictions concerning operations conducted on the leased land, or portion thereof, as described below:

Lease No.: LC-028784-C

Legal Description: E/2 Sec 24, T17S-R29E
Containing 320.00 acres, Lea County New Mexico

Formation (S): Morrow

Bond Coverage: Nationwide BLM Bond

BLM Bond File No.: NM 2575

Authorized Signature:

Zeno Farris

Representing Gruy Petroleum Management Co.

Name: Zeno Farris

Title: Manager, Operations Administration

Date: 04/25/05

Application to Drill

Gruy Petroleum Management Co.
Grayburg Deep Unit No. 16
Unit Letter O Section 24
T17S - R29E Eddy County, NM

In response to questions asked under Section II B of Bulletin NTL-6 the following information is provided for your consideration:

- 1 Location: 855' FSL & 1330' FEL Sec. 24- 17S-29E
- 2 Elevation above sea level: GR 3606'
- 3 Geologic name of surface formation: Quaternary Alluvium Deposits
- 4 Drilling tools and associated equipment: Conventional rotary drilling rig using fluid as a circulating medium for solids removal.
- 5 Proposed drilling depth: 12500'
- 6 Estimated tops of geological markers:

Rustler	500'
San Andres	3400
Wolfcamp	8200'
Atoka	10200'
Morrow	10800'
- 7 Possible mineral bearing formation:

Grayburg/San Andres	Oil
Atoka	Gas
Morrow	Gas

8 Casing program:

Hole Size	Interval	Casing OD	Weight	Thread	Collar	Grade
17 1/2"	0-500'	13 3/8"	54.5	8-R	ST&C	J-55
12 1/4"	0-4000'	9 5/8"	40	8-R	ST&C	P-110/N-80
7 7/8"	0-12500'	5 1/2"	17	8-R	ST&C	P-110

Application to Drill

Gruy Petroleum Management Co.
Grayburg Deep Unit No. 16
Unit Letter O Section 24
T17S - R29E Eddy County, NM

9 Cementing & Setting Depth:

13 3/8"	Surface	Set 350' to 500' of 13 3/8" J-55 54.5 ST&C casing to a depth of 25' into the Rustler. Cement with 490 Sx. Of Class "C" cement + additives, circulate cement to surface.
9 5/8"	Intermediate	Set 4000' of 9 5/8" P-110/N-80 40# ST&C casing Cement in two stages, first stage cement with 1000 Sx. Of Class POZ/C Cement + additives, second stage cement with 200 Sx. Of Class "C" + additives, circulate cement to surface.
5 1/2"	Production	Set 12500' of 5 1/2" P-110 17# ST&C casing. Cement in two stages, first stage cement with 1020 Sx. of Class POZ/C Cement + additives. Second stage cement with 600 Sx of Class "C" Estimated top of cement 2700'.

10 Pressure control Equipment:

Exhibit "E". A 13 3/8" 5000 PSI working pressure B.O.P. consisting of one set of blind rams and one set of pipe rams and a 5000 # annular type preventer. A choke manifold and 120 gallon accumulator with floor and remote operating stations and auxiliary power system. Rotating head below 6000'. A kelly cock will be installed and maintained in operable condition and a drill string safety valve in the open position will be available on the rig floor. BOP unit will be hydraulically operated. BOP will be nipped up on the 9 5/8" casing and will be operated at least once a day while drilling and the blind rams will be operated when out of hole during trips. No abnormal pressure or temperature is expected while drilling.

11 Proposed Mud Circulating System:

Depth	Mud Wt	Viscosity	Fluid Loss	Type Mud
0 - 500'	8.4 - 8.6	30 - 32	May lose circ.	Fresh water spud mud add paper to control seepage and high viscosity sweeps to clean hole.
500' - 4000'	9.7 - 10.0	28 - 29	May lose circ	Brine water. Add paper as needed to control seepage and add lime to control pH (9-10). Use high viscosity sweeps to clean hole.
4000' - 8300'	8.4 - 9.9	28 - 29	NC	Brine water. Paper for seepage. Lime for PH (9 - 9.5)
8300' - 10000'	8.45 - 8.9	28 - 29	NC	Cut brine. Caustic for pH control.
10000' - 12500'	8.9 - 9.7	29 - 45	NC	XCD Polymer mud system.

Sufficient mud materials will be kept on location at all times in order to combat lost circulation, or unexpected kicks. In order to run DST's, open hole logs, and casing, the viscosity and water loss may have to be adjusted in order to meet these needs. Mud system monitoring equipment with derrick floor indicators and visual/audio alarms shall be installed and operative prior to drilling into the Wolfcamp formation. This equipment will remain in use until production casing is run and cemented.

Application to Drill

Gruy Petroleum Management Co.
Grayburg Deep Unit No. 16
Unit Letter O Section 24
T17S - R29E Eddy County, NM

12 Testing, Logging and Coring Program:

- A. Mud logging program: One-man unit from 8000' to TD
- B. Electric logging program: CNL / LDT / CAL / GR, DLL / CAL / GR
- C. No DST's, or cores are planned at this time.

13 Potential Hazards:

No abnormal pressures or temperatures are expected. The area has a potential H2S hazard. An H2S drilling plan is attached. Adequate flare lines will be installed off the mud / gas separator where gas may be flared safely. All personnel will be familiar with all aspects of safe operation of equipment being used. Estimated BHP 4000 PSI, estimated BHT 175.

14 Anticipated Starting Date and Duration of Operations:

Road and location construction will begin after BLM approval of APD. Anticipated spud date as soon as approved. Drilling expected to take 35 - 45 days. If production casing is run an additional 30 days will be required to complete and construct surface facilities.

15 Other Facets of Operations:

After running casing, cased hole gamma ray neutron collar logs will be run from total depth over possible pay intervals. The Morrow pay will be perforated and stimulated. The well will be tested and potentialized as a gas well.

Hydrogen Sulfide Drilling Operations Plan

- 1 All Company and Contract personnel admitted on location must be trained by a qualified H2S safety instructor to the following:
 - A. Characteristics of H2S
 - B. Physical effects and hazards
 - C. Proper use of safety equipment and life support systems.
 - D. Principle and operation of H2S detectors, warning system and briefing
 - E. Evacuation procedure, routes and first aid.
 - F. Proper use of 30 minute pressure demand air pack.
- 2 H2S Detection and Alarm Systems
 - A. H2S detectors and audio alarm system to be located at bell nipple, end of flow line (mud pit) and on derrick floor or doghouse.
- 3 Windsock and/or wind streamers
 - A. Windsock at mudpit area should be high enough to be visible.
 - B. Windsock at briefing area should be high enough to be visible.
- 4 Condition Flags and Signs
 - A. Warning sign on access road to location.
 - B. Flags to be displayed on sign at entrance to location. Green flag, normal safe condition. Yellow flag indicates potential pressure and danger. Red flag, danger, H2S present in dangerous concentration. Only emergency personnel admitted to location
- 5 Well control equipment
 - A. See exhibit "E"
- 6 Communication
 - A. While working under masks chalkboards will be used for communication.
 - B. Hand signals will be used where chalk board is inappropriate.
 - C. Two way radio will be used to communicate off location in case of emergency help is required. In most cases cellular telephones will be available at most drilling foreman's trailer or living quarters.
- 7 Drillstem Testing not anticipated.

Hydrogen Sulfide Drilling Operations Plan

- 8 Drilling contractor supervisor will be required to be familiar with the effects H₂S has on tubular goods and other mechanical equipment.
- 9 If H₂S is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas separator will be brought into service along with H₂S scavengers if

Surface Use Plan

Gruy Petroleum Management Co.
Grayburg Deep Unit No. 16
Unit Letter O Section 24
T17S - R29E Eddy County, NM

- 1 Existing Roads: Area maps, Exhibit "B" is a reproduction of Lea Co. General Highway Map. Exhibit "C" is a reproduction of a USGS Topographic Map, showing existing roads and proposed roads. All existing roads will be maintained in a condition equal to or better than current conditions. Any new roads will be constructed to BLM specifications.
 - A. Exhibit "A" shows the proposed well site as staked.
 - B. From the intersection of Hwy 82 and General American Road West of Loco Hills go South on General American Road 0.4 miles. Turn right and go West 0.3 miles to Marbob BKU # 365 well. Proposed well is 250' North.
- 2 PLANNED ACCESS ROADS: No new access road will be constructed.
- 3 LOCATION OF EXISTING WELLS IN A ONE-MILE RADIUS EXHIBIT "A"
 - A. Water wells - None known
 - B. Disposal wells - None known
 - C. Drilling wells - None known
 - D. Producing wells - As shown on Exhibit "A"
 - E. Abandoned wells - As shown on Exhibit "A"

State of New Mexico

DISTRICT I

1625 N. FRENCH DR., HOBBS, NM 88240

Energy, Minerals and Natural Resources Department

Form C-102

Revised JUNE 10, 2003

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

DISTRICT II

1301 W. GRAND AVENUE, ARTESIA, NM 88210

OIL CONSERVATION DIVISION

1220 SOUTH ST. FRANCIS DR.

Santa Fe, New Mexico 87505

DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV

1220 S. ST. FRANCIS DR., SANTA FE, NM 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
		Empire; Morrow, South
Property Code	Property Name	Well Number
	GRAYBURG DEEP UNIT	16
OGRID No. 162683	Operator Name	Elevation
	GRUY PETROLEUM MANAGEMENT COMPANY	3606'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	24	17-S	29-E		855	SOUTH	1330	EAST	EDDY

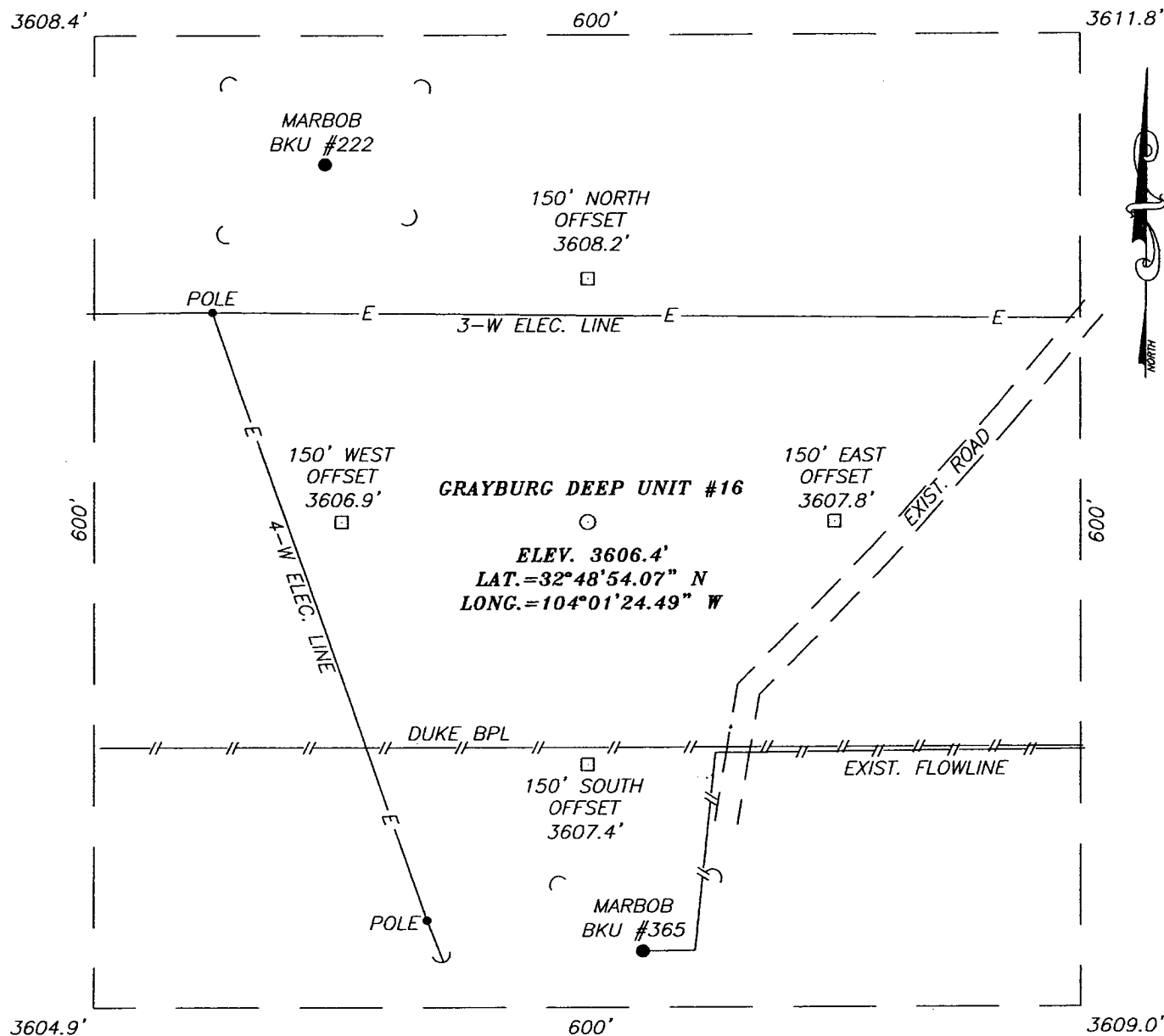
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres	Joint or Infill	Consolidation Code	Order No.						
320	Y								

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

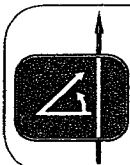
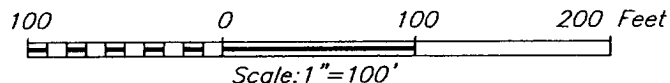
<p>Grayburg Deep Unit No. 18</p> <p>580'</p> <p>460'</p> <p>GEODETIC COORDINATES NAD 27 NME BOTTOM HOLE Y=660809.8 N X=595215.4 E</p>		<p>OPERATOR CERTIFICATION</p> <p>I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><u>Zeno Farris</u></p> <p>Signature</p> <p>Zeno Farris</p> <p>Printed Name</p> <p>Manager Operations Admin.</p> <p>Title</p> <p>April 27, 2005</p> <p>Date</p>	
<p>GEODETIC COORDINATES NAD 27 NME SURF. LOCATION Y=660354.7 N X=595197.3 E</p> <p>LAT.=32°48'54.07" N LONG.=104°01'24.49" W</p>		<p>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>MARCH 31, 2005</p> <p>Date Surveyed</p> <p>LA</p> <p>Signature</p> <p>Professional Surveyor</p> <p>GARY EDSON</p> <p>NEW MEXICO</p> <p>05.11.0508</p> <p>Certificate No. GARY EDSON 12841</p>	
<p>Grayburg Deep Unit No. 16</p> <p>3608.4'</p> <p>3611.8'</p> <p>600'</p> <p>600'</p> <p>3604.9'</p> <p>3609.0'</p> <p>1330'</p> <p>855'</p> <p>SURF. LOCATION SEE DETAIL</p>			

SECTION 24, TOWNSHIP 17 SOUTH, RANGE 29 EAST, N.M.P.M.,
 EDDY COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF U.S. HIGHWAY #82 AND GENERAL AMERICAN ROAD WEST OF LOCO HILLS GO SOUTH ON GENERAL AMERICAN ROAD 0.4 MILES. TURN RIGHT AND GO WEST 0.3 MILES TO THE MARBOB BKU #365 WELL. PROPOSED WELL IS 250' NORTH.

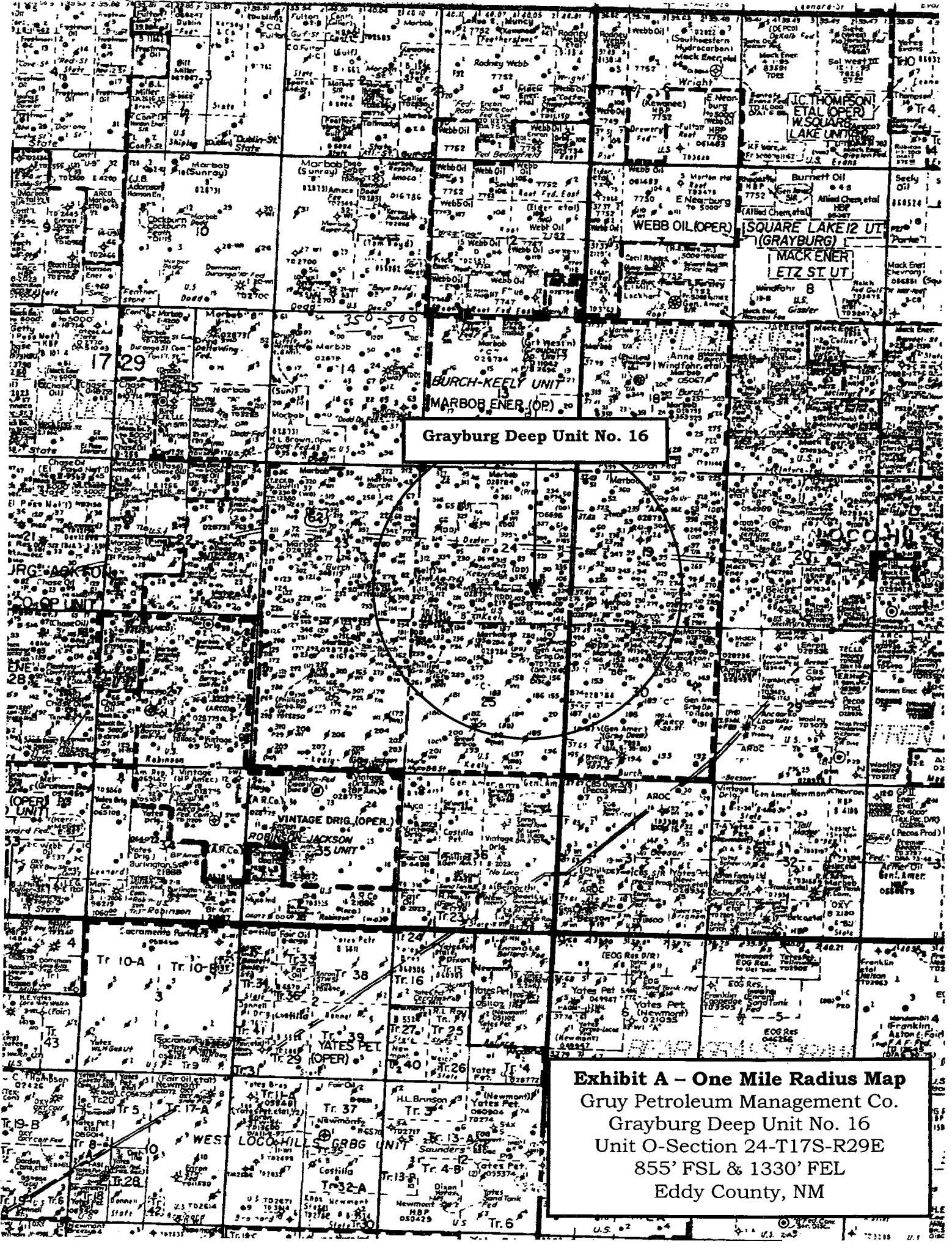


PROVIDING SURVEYING SERVICES
 SINCE 1948
JOHN WEST SURVEYING COMPANY
 412 N. DAL PASO
 HOBBS, N.M. 88240
 (505) 383-3117

GRUY PETROLEUM MANAGEMENT COMPANY

GRAYBURG DEEP UNIT #16 WELL
 LOCATED 855 FEET FROM THE SOUTH LINE
 AND 1330 FEET FROM THE EAST LINE OF SECTION 24,
 TOWNSHIP 17 SOUTH, RANGE 29 EAST, N.M.P.M.,
 EDDY COUNTY, NEW MEXICO.

Survey Date: 3/31/05	Sheet 1 of 1 Sheets
W.O. Number: 05.11.0508	Dr By: LA
Date: 4/06/05	Disk: CD#4
05110508	Scale: 1"=100'



Grayburg Deep Unit No. 16

BURCH-KEELY UNIT
MARBOR ENER (OP)

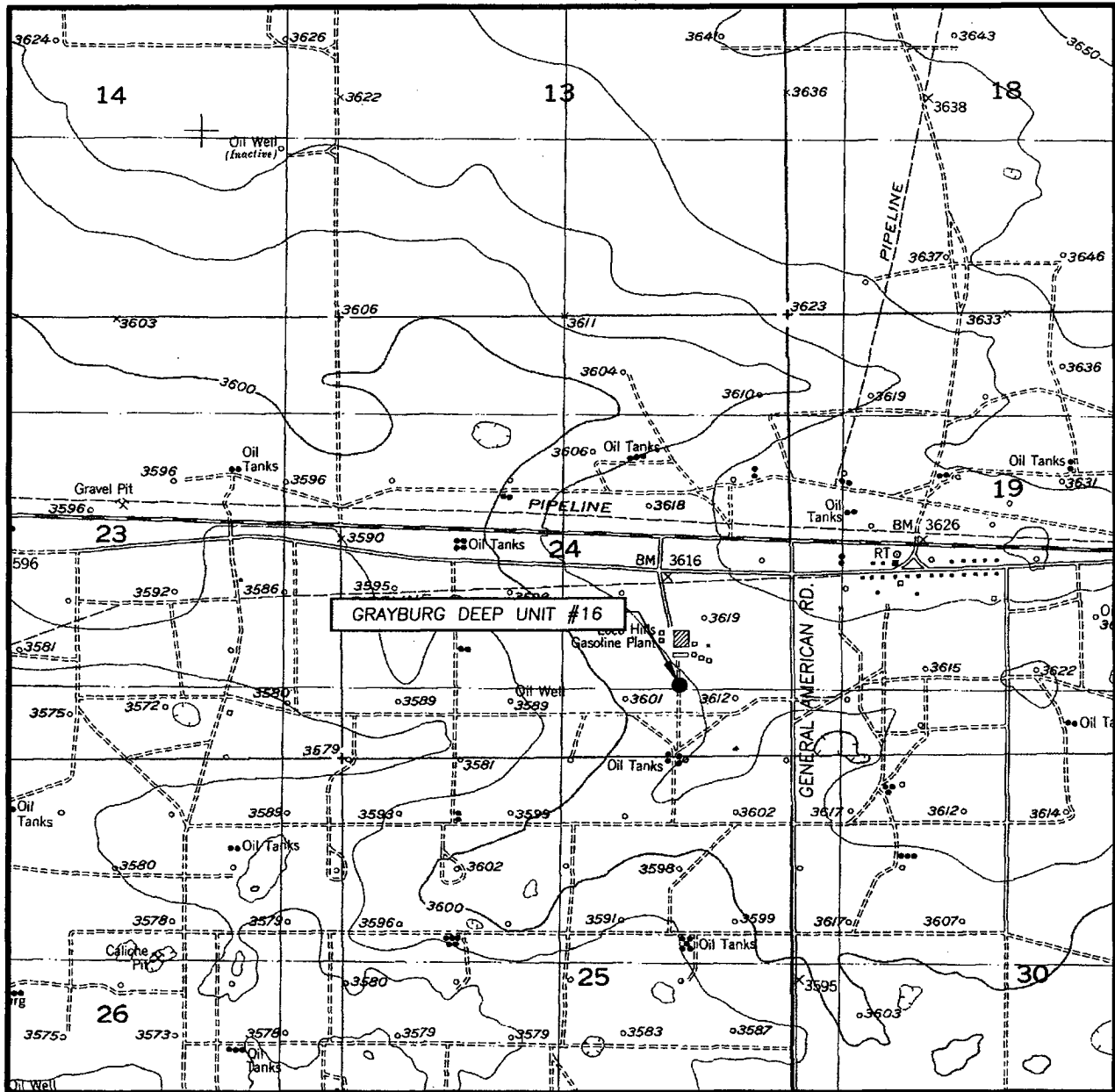
VINTAGE DRIG (OPER)
ROBINSON-JACKSON UNIT

YATES PET

LOCOMIL
GRBG UNIT

Exhibit A - One Mile Radius Map
Gruy Petroleum Management Co.
Grayburg Deep Unit No. 16
Unit O-Section 24-T17S-R29E
855' FSL & 1330' FEL
Eddy County, NM

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
REDLAKE SE, N.M. - 10'

SEC. 24 TWP. 17-S RGE. 29-E

SURVEY N.M.P.M.

COUNTY EDDY

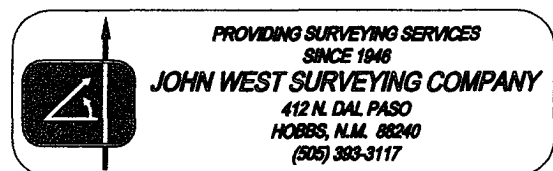
DESCRIPTION 855' FSL & 1330' FEL

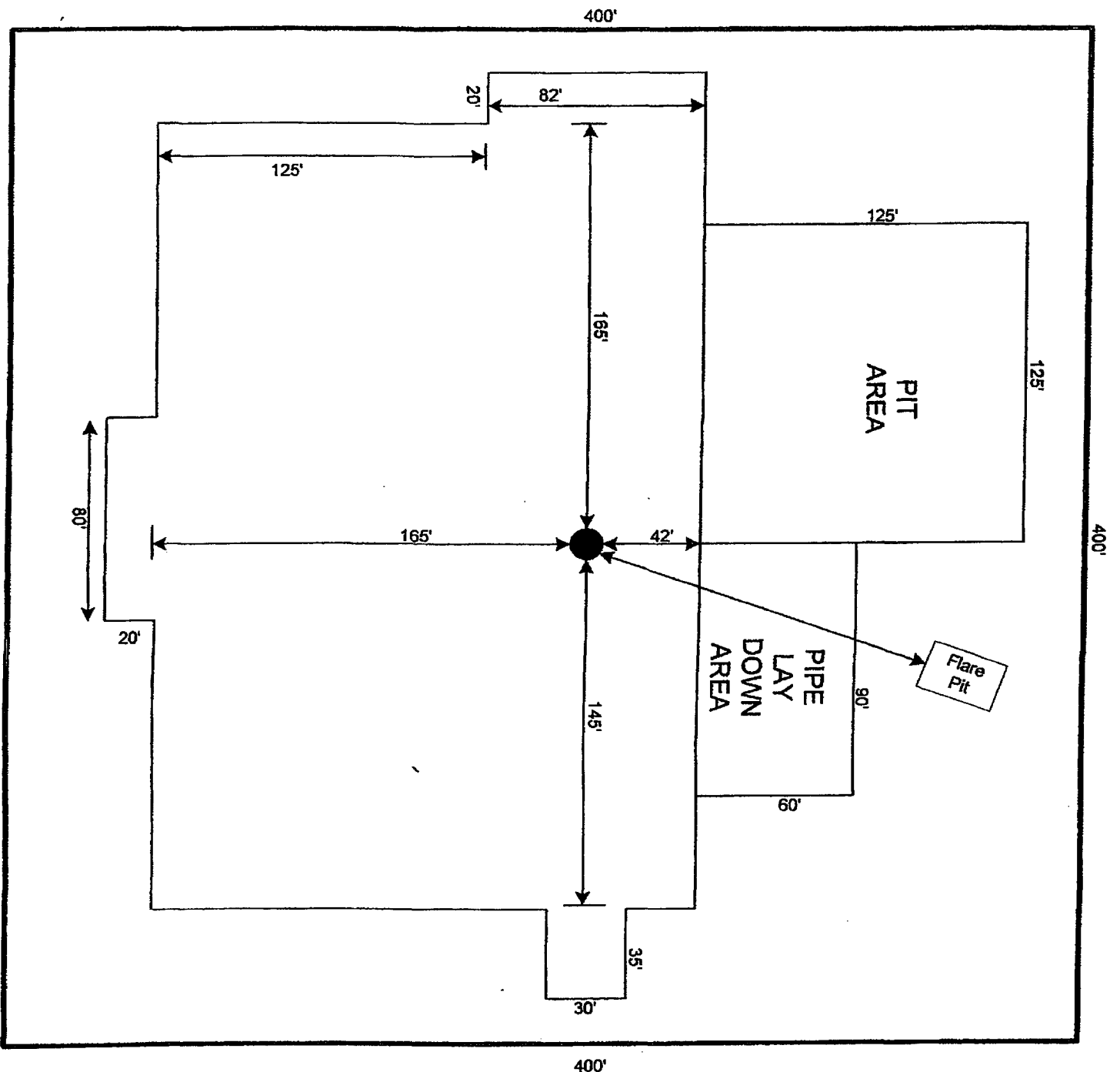
ELEVATION 3606'

GRUY PETROLEUM
OPERATOR MANAGEMENT COMPANY

LEASE GRAYBURG DEEP UNIT

U.S.G.S. TOPOGRAPHIC MAP
REDLAKE SE, N.M.





RIG 122

GRUY PETROLEUM
MANAGEMENT COMPANY
IRVING TEXAS

SCALE 1"=60'

Exhibit D - Rig Layout - Cactus Rig 122
Gruy Petroleum Management Co.
Grayburg Deep Unit No. 16
Unit O-Section 24-T17S-R29E
855' FSL & 1330' FEL
Eddy County, NM

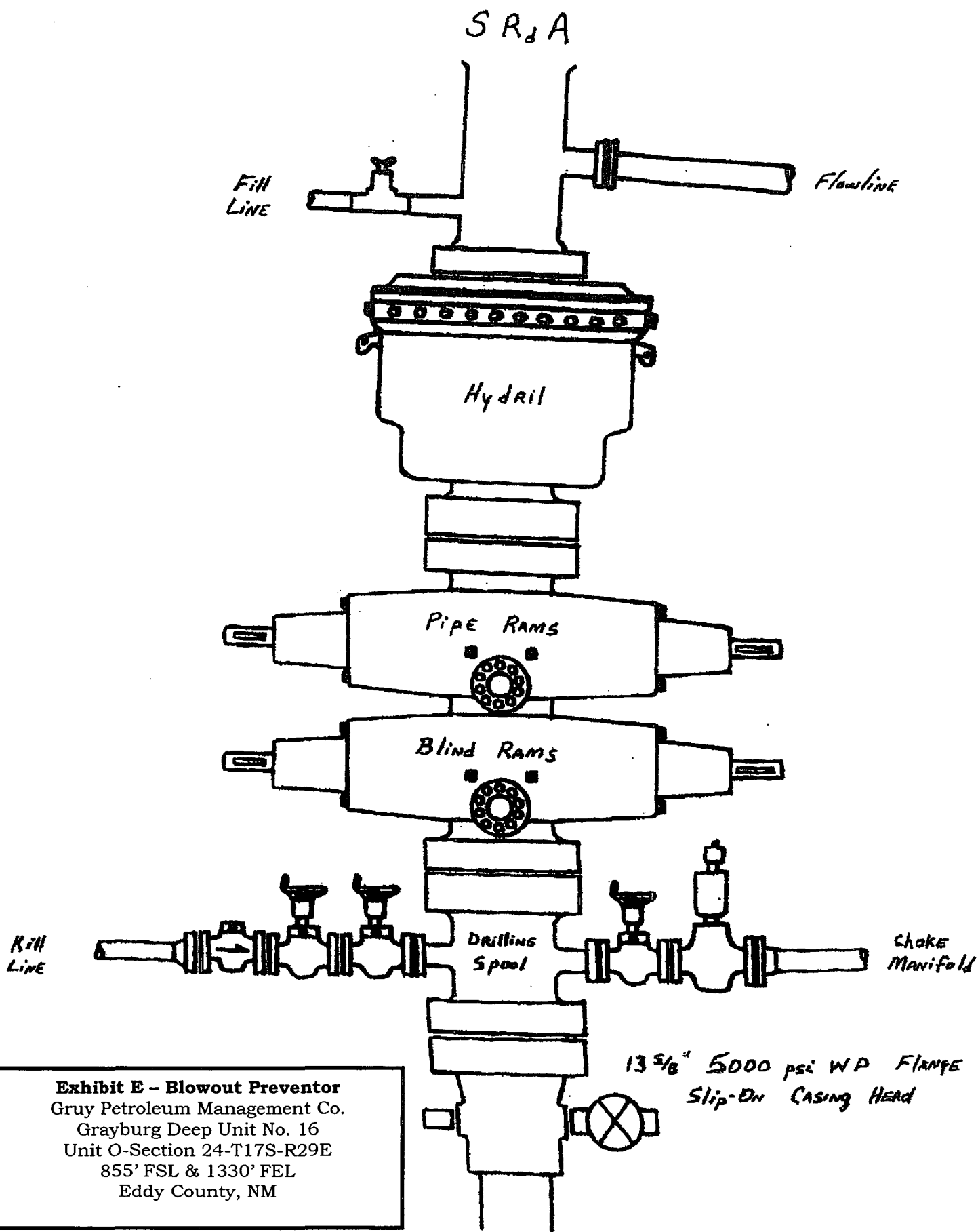


Exhibit E - Blowout Preventor
 Gruy Petroleum Management Co.
 Grayburg Deep Unit No. 16
 Unit O-Section 24-T17S-R29E
 855' FSL & 1330' FEL
 Eddy County, NM

DRILLING OPERATIONS
CHOKE MANIFOLD
5M SERVICE

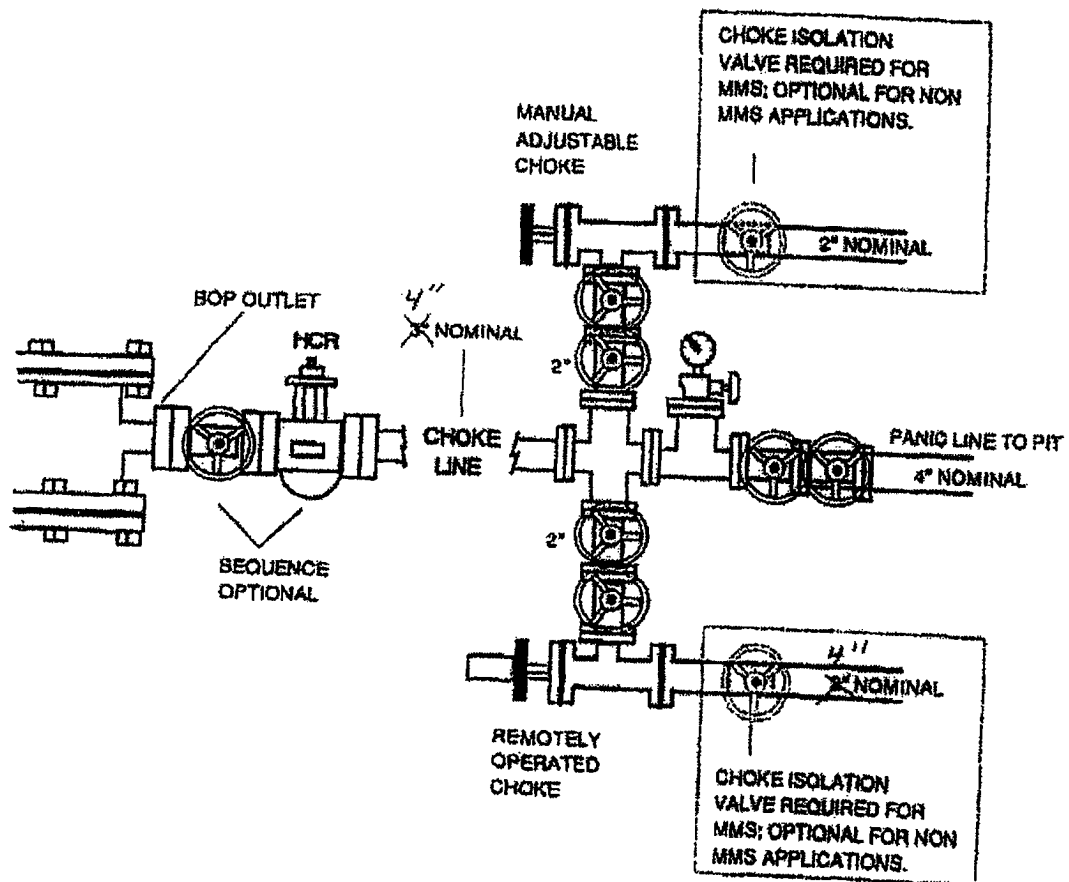


Exhibit E Cont'd - Choke Manifold Diagram

Gruy Petroleum Management Co.
Grayburg Deep Unit No. 16
Unit O-Section 24-T17S-R29E
855' FSL & 1330' FEL
Eddy County, NM