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N.M. Oil Cons. DIV-Dist. 2
SUBMIT IN TRIPLICATE
1301 W. Grand Avenue
Artesia, NM 88210
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. TYPE OF WORK
DRILL ☒ DEEPEN ☐
1b. TYPE OF WELL
OIL ☐ GAS ☒
WELL WELL OTHER ZONE SINGLE ☐ MULTIPLE ☐
ZONE ZONE

2. NAME OF OPERATOR
Gruy Petroleum Management Co.

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.)

1650' FNL & 1200' FWL

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
24 miles South of Carlsbad

15. DISTANCE FROM PROPOSED*
LOCATION TO NEAREST
PROPERTY OR LEASE LINE, T.O
(Also to nearest drlg. unit line, if any) 1200'

16. NO. OF ACRES IN LEASE
480

17. NO. OF ACRES ASSIGNED
TO THIS WELL 320

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

NA

19. PROPOSED DEPTH
13000'

20. ROTARY OR CABLE TOOLS
Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
3272' GR

22. APPROX. DATE WORK WILL START*
10-15-03

PROPOSED CASING AND CEMENTING PROGRAM			CARLSBAD CONTROLLED WATER BASIN	
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 #	425'	490 sx circulate
12 1/4"	J-55 9 5/8"	40 #	3200'	1200 sx circulate
7 7/8"	N-80/P-110 5 1/2"	17 #	12500' 13,000'	1620 sx TOC 2700'

The proposed well will be drilled to a depth of 13000' and completed as a White City Penn Morrow producer.

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 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 manufactures stated maximum internal yield. Per onshore order 2 the 13 3/8" 54.5 J-55 casing should be tested at 70% of its maximum internal yield of 1730 # or 1211 #. During the running of the surface pipe we do not anticipate any pressures greater than 500 #, and are requesting a variance to test the 13 3/8" casing to 500 #

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 Farny TITLE Mgr. Ops. Admin DATE 08-19-03

(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 rights in the subject lease which would entitle the applicant to conduct operations thereon.

CONDITIONS OF APPROVAL, IF ANY
APPROVED BY Joe G. Lara ACTING FIELD MANAGER DATE 7-8 NOV 2003

*See Instructions On Reverse Side

Title 18 U.S.C. Section 1001, makes 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.

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED.

APPROVAL FOR 1 YEAR

DISTRICT I

P.O. Box 1980, Hobbs, NM 88241-1980

State of New Mexico

Energy, Minerals and Natural Resources Department

Form C-102

Revised February 10, 1994

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

DISTRICT II

P.O. Drawer DD, Artesia, NM 88211-0719

OIL CONSERVATION DIVISION

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV

P.O. Box 2088, Santa Fe, N.M. 87504-2088

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name White City; Penn (undesignated)
Property Code	Property Name LIBERTY 24 FEDERAL COM	Well Number 1
OGRID No. 162683	Operator Name GRUY PETROLEUM MANAGEMENT CO.	Elevation 3272'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	24	25-S	26-E		1650'	NORTH	1200'	WEST	EDDY

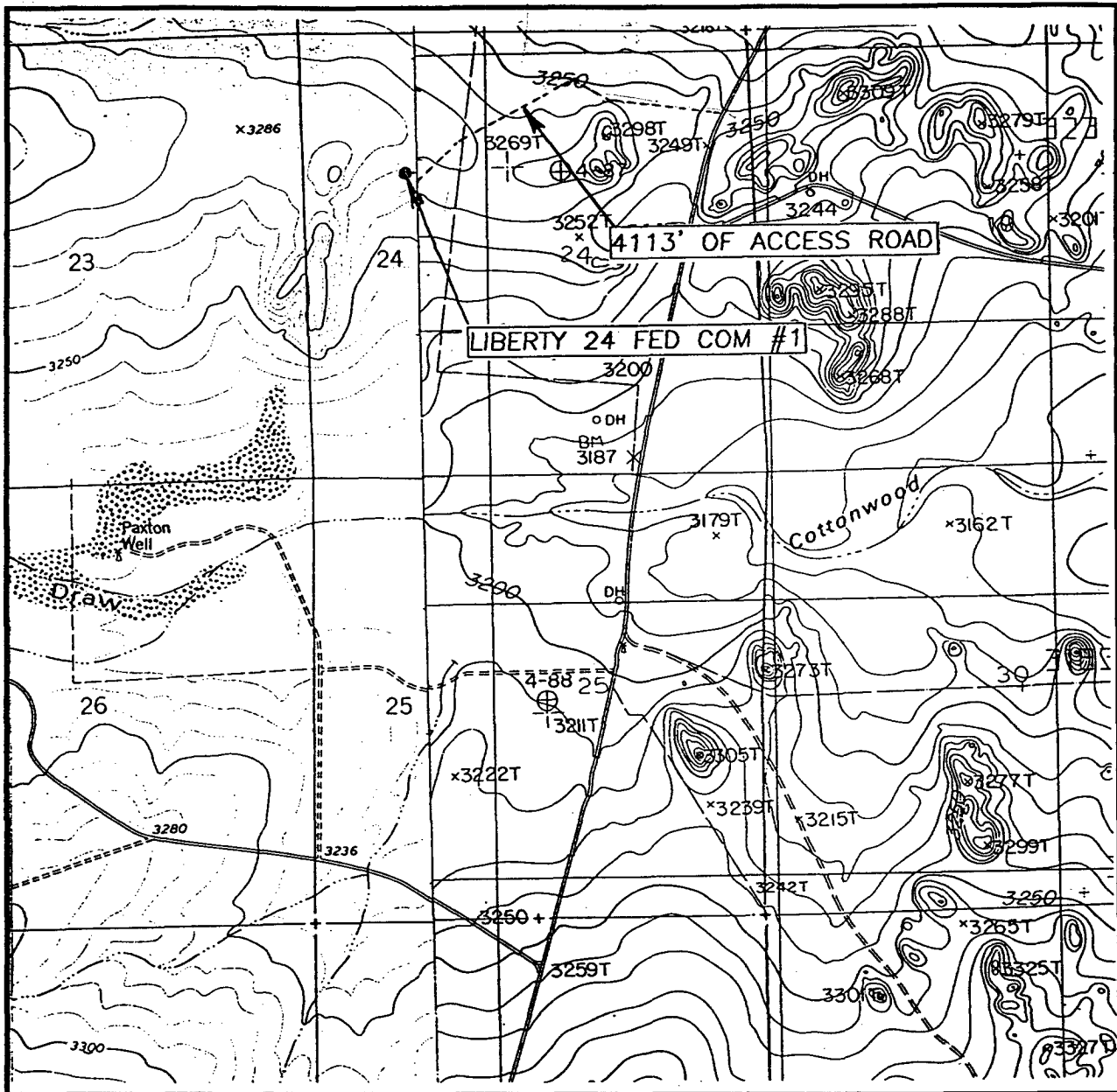
Bottom Hole Location If Different From Surface

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

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

	GEODETC COORDINATES NAD 27 NME Y= 406672.2 N X= 525639.3 E LAT.= 32°07'04.91"N LONG.= 104°15'01.86"W	OPERATOR CERTIFICATION I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief. Signature Zeno Farris Printed Name Manager Operations, Admin Title August 18, 2003 Date
	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 the best of my belief. August 07, 2003	Date Surveyed Signature & Seal of Professional Surveyor Certificate No. RONALD J. EDSON 3236 GARY EDSON 12841

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL: 10'
COTTONWOOD HILLS, N.M.
JUMPING SPRING, N.M.

SEC. 24 TWP. 25-S RGE. 26-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 1650' FNL & 1200' FWL

ELEVATION 3272'

OPERATOR GRUY PETROLEUM MANAGEMENT CO.

LEASE LIBERTY 24 FEDERAL COM

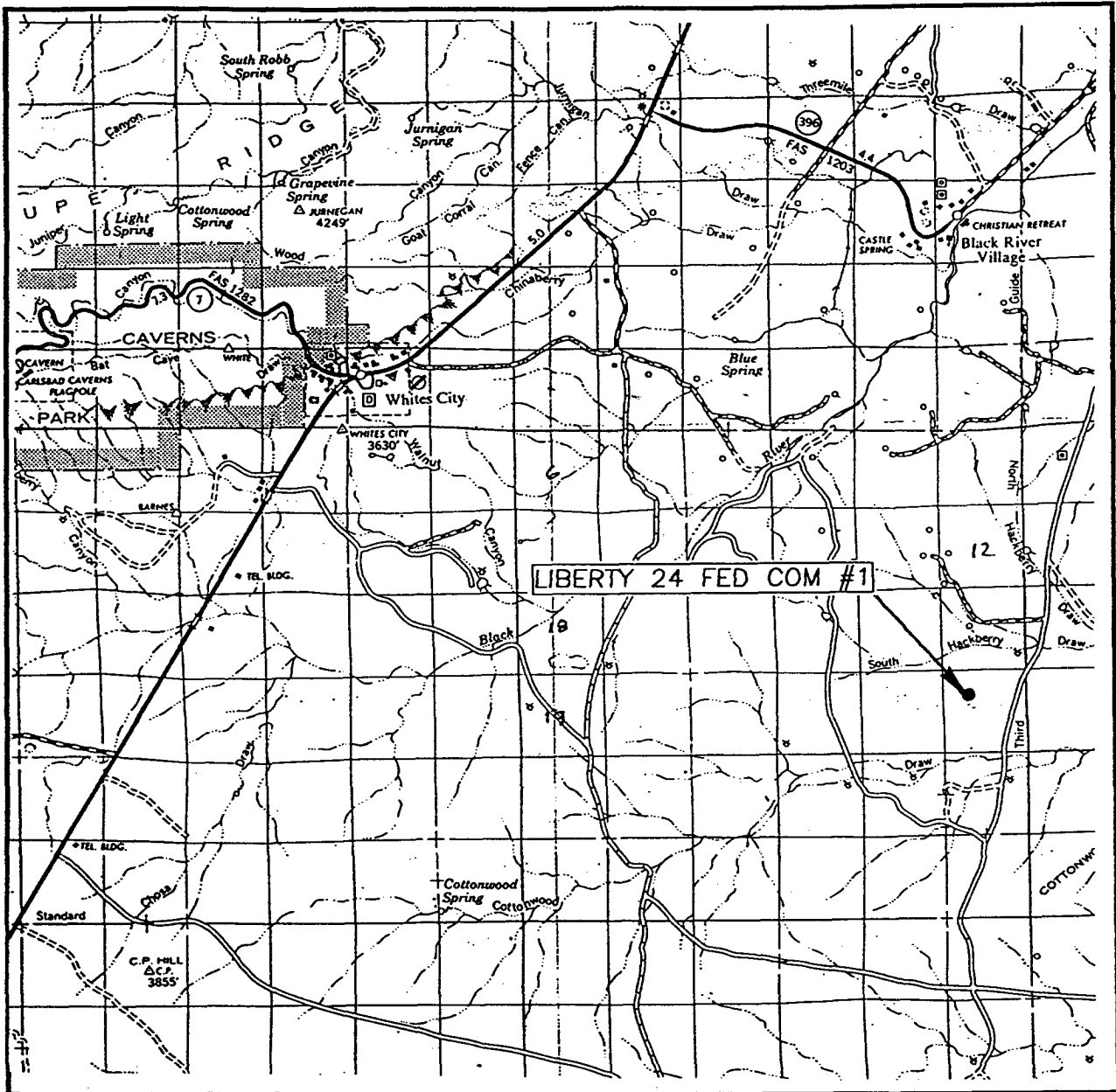
U.S.G.S. TOPOGRAPHIC MAP

COTTONWOOD HILLS & JUMPING SPRING, N.M.

JOHN WEST SURVEYING
HOBBS, NEW MEXICO
(505) 393-3117

Exhibit "B"

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 24 TWP. 25-S RGE. 26-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 1650' FNL & 1200' FWL

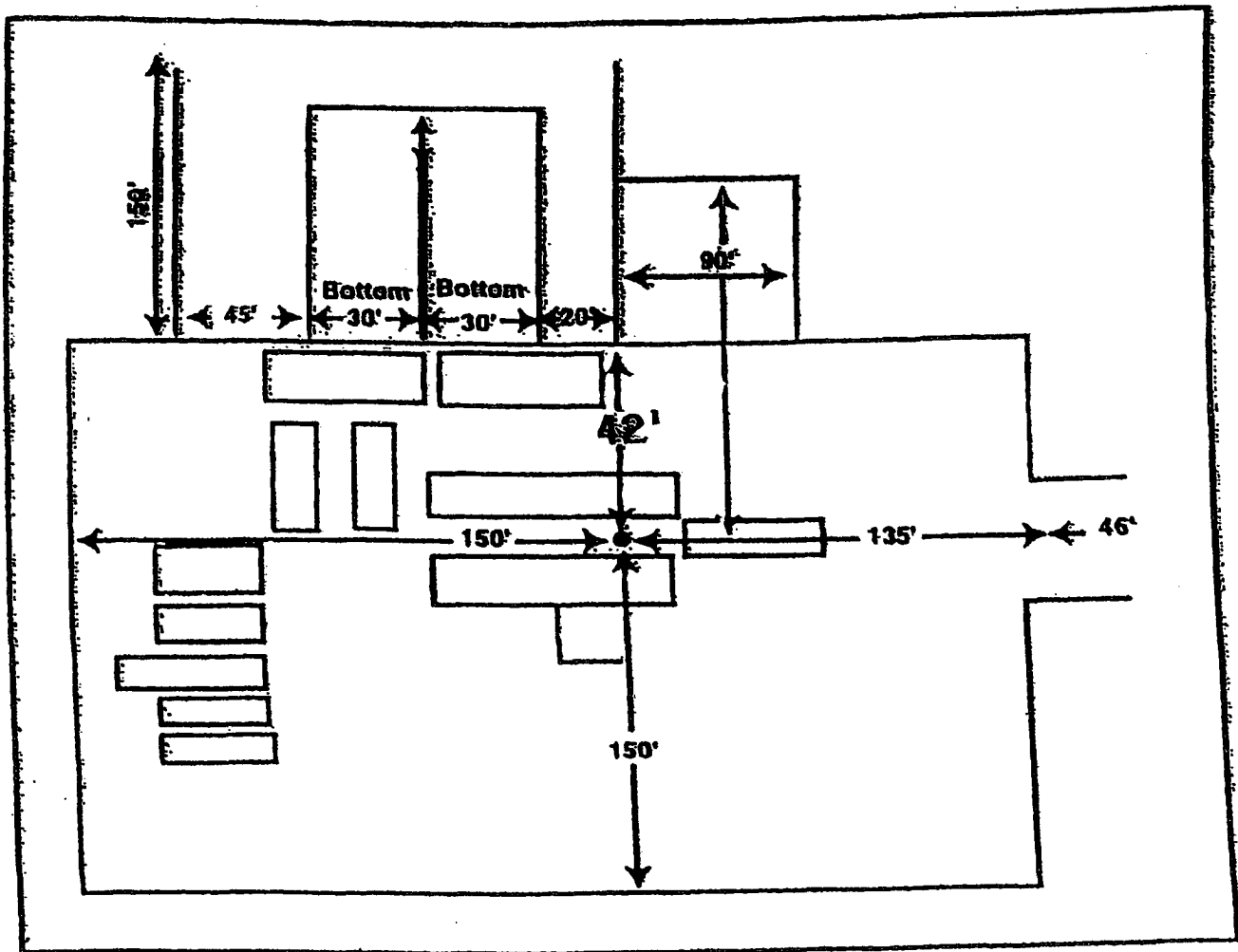
ELEVATION 3272'

OPERATOR GRUY PETROLEUM MANAGEMENT CO.

LEASE LIBERTY 24 FEDERAL COM

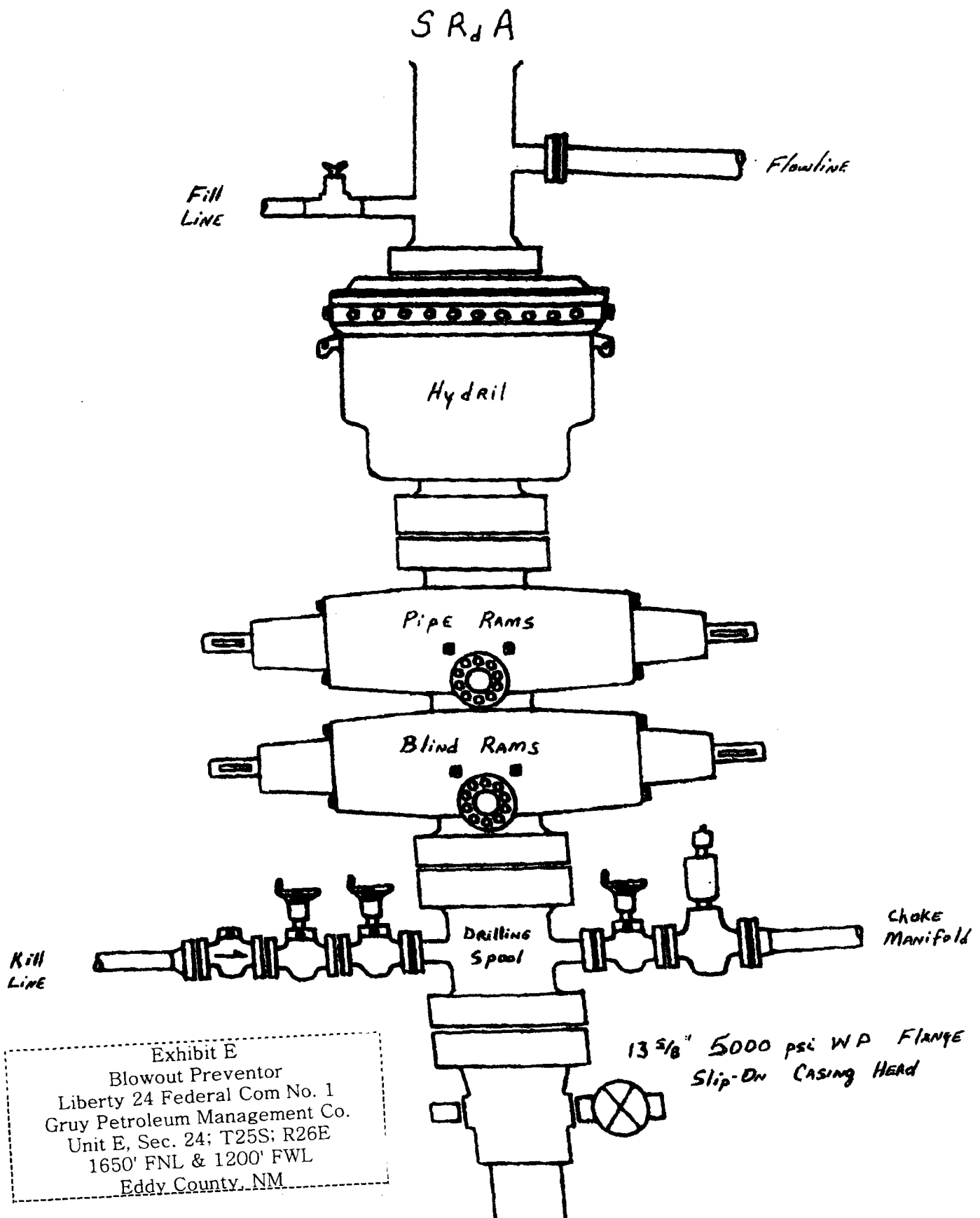
JOHN WEST SURVEYING
HOBBS, NEW MEXICO
(505) 393-3117

Exhibit "C"



Rig 80

Exhibit D
 Rig Layout Plan
 Liberty 24 Federal Com No. 1
 Gruy Petroleum Management Co.
 Unit E, Sec. 24; T25S; R26E
 1650' FNL & 1200' FWL
 Eddy County, NM



Application to Drill

Gruy Petroleum Management Co.
Liberty 24 Federal Com 1
Unit Letter E Section 24
T25S - R26E 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: 1650' FNL & 1200' FWL Sec. 27- 25S 26E

2 Elevation above sea level: GR 3272'

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: 13000'

6 Estimated tops of geological markers:

T/Salt	250'	Cisco Canyon	9928
B/Salt	800'	Strawn	10078
Delaware	1450	Atoka	10388
Bone Spring	6168	Morrow	11,158
Wolfcamp	8098	Barnett	11,768

7 Possible mineral bearing formation:

Wolfcamp	Oil
Atoka	Gas
Morrow	Gas

8 Casing program:

Hole Size	Interval	Casing OD	Weight	Thread	Collar	Grade
17 1/2"	0-425'	13 3/8"	54.5	8-R	ST&C	J-55
12 1/4"	0-3200'	9 5/8"	40	8-R	ST&C	J-55
7 7/8"	0-13000'	5 1/2"	17	8-R	ST&C	N-80
7 7/8"	7000'-13000'	5 1/2"	17	8-R	ST&C	P-110

Application to Drill

Gruy Petroleum Management Co.
Liberty 24 Federal Com 1
Unit Letter E Section 24
T25S - R26E Eddy County, NM

9 Cementing & Setting Depth:

13 3/8"	Surface	Set 425' of 13 3/8" J-55 54.5 # ST&C casing. Cement with 490 Sx. Of Class "C" cement + additives, circulate cement to surface.
9 5/8"	Intermediate	Set 3200' of 9 5/8" J-55 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 13000' of 5 1/2" NP-80 / 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 - 425'	9.2 - 9.6	30 - 32	ay lose circ.	Fresh water spud mud add paper to control seepage and high viscosity sweeps to clean hole.
425' - 3200'	9.7 - 10.0	28 - 29	ay 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.
3200' - 8300'	8.4 - 9.9	28 - 29	NC	Fresh 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' - 13000'	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.
Liberty 24 Federal Com 1
Unit Letter E Section 24
T25S - R26E 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 or H₂S gas are expected. 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 4500 PSI, estimated BHT 190.

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 / Atoka pay will be perforated and stimulated. The well will be tested and potentialized as a gas well.

Surface Use Plan

Gruy Petroleum Management Co.
Liberty 24 Federal Com 1
Unit Letter E Section 24
T25S - R26E 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. Go South of Carlsbad on Highway 62-180 for approximately 16 miles. Turn left Blackriver Village Rd. to Old Caverns Highway. Turn South for about 7.75 miles, then right on lease road 4113' to location.
- 2 PLANNED ACCESS ROADS: 4113' of access road will be constructed.
- 3 LOCATION OF EXISTING WELLS IN A ONE-MILE RADIUS EXHIBIT "A"
 - A. Water wells - None know
 - 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"