

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

SUBMIT IN TRIPPLICATE

Other instructions on reverse side

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

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. TYPE OF WORK

DRILL ☒DEEPEN ☐

b. TYPE OF WELL

OIL
WELL ☒GAS
WELL ☐OTHER ☐SINGLE
ZONE ☐MULTIPLE
ZONE ☐

2. NAME OF OPERATOR

Patterson Petroleum LP

3. ADDRESS AND TELEPHONE NO.

PO Drawer 1416, Snyder, TX 79550 432/685-1414

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

At surface 840 FNL 1830 FWL

At proposed prod. zone

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

Appx 7 miles NE of Carlsbad, NM

15. DISTANCE FROM PROPOSED*

LOCATION TO NEAREST
PROPERTY OR LEASE LINE, FT
(Also to nearest drilg. unit line, if any)

840

16. NO. OF ACRES IN LEASE

276

17. NO. OF ACRES ASSIGNED

TO THIS WELL

276

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

NA

19. PROPOSED DEPTH

12,000

20. ROTARY OR CABLE TOOLS

Rotary

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

3192' GR

22. APPROX. DATE WORK WILL START*

23.

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
25"	Conductor	NA	40'	Cmt to surf w/Redi-mix
17-1/2"	13-3/8", H-40	48	600'	500 sx - circ
12-1/4"	8-5/8", J-55	32	2780'	800 sx - circ
7-7/8"	5-1/2", P110, N80	17	12,000'	1400 sx

Drill 25" hole to 40'. Set 40' of 20" conductor pipe & cmt to surf w/Redi-mix.

CARLSBAD CONTROLLED WATER BASIN

Drill 17-1/2" hole to 600'. Run & set 600' of 48# H-40 ST&C csg. Cmt w/500 sx of cmt as follows: 300 sx of 35/65 POZ Cl C = 1/4# Celo Flakes/sx + 2% CaCl + 6% Bentonite, tail in w/200 sx Cl C + 2% CaCl. Circ to surf.

Drill 12-1/4" hole to 2780'. Run & set 2780' of 8-5/8" 32# J-55 ST&C csg. Cmt w/600 sx of Cl C 35/65 POZ + 1% CaCl + 1/4# Celo Flakes/sx + 5#/sx of LCM-1 + 6% Bentonite, tail in w/200 sx of Cl C + 1% CaCl. Circ.

Drill 7-7/8" hole to 12,000'. Run & set 12,000' of 5-1/2" csg as follows: 1400' of 5-1/2" P-110 17# LT&C, 10,600' of 5-1/2" 17# N-80 LT&C. Cmt in two stages w/DV tool @ 8200'±. Cmt 1st stage w/500 sx Cl C 15/61/11/POZ + 1/4# Celo Flakes/sx + 4# LCM-1/sx. 2nd stage cmt w/300 sx of 36/65 POZ Cl C 3# NaCl/sx + 5# LCM-1/sx + 6% Bentonite, tail in w/600 sx of 15/61/11/POZ Cl C + 1/4# Celo Flakes/sx + .5% FL-25 + .5% FL-52. Est top of cmt 2200' from surf.

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

IN ABOVE SPACE DESCRIBE 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

Bonnie Otwater

TITLE Regulatory Tech

DATE

9-15-03

(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

/s/ Joe G. Lara

TITLE

ACTING FIELD MANAGER

DATE

20 OCT 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 FOR 1 YEAR

SURFACE USE AND OPERATIONS PLAN
Patterson Petroleum, LP
Miller Federal # 2
840' FNL & 1830' FWL
Lot # 6, Sec. 3, T21S, R27E
Eddy Co., NM

1. Existing Roads:

- A. The well site and elevation plat for the proposed well is shown in Exhibit #2. It was staked by Dan Reddy, Carlsbad, New Mexico.
- B. All roads to the location are shown in Exhibit #3A. Approximately 2500' of new road will be needed. The existing roads are labeled and are adequate for travel during drilling production operations. Upgrading of the road prior to drilling will be done where necessary as determined during the onsite inspection.
- C. Directions to location: From intersection of CR 206 and Carlsbad Truck By Pass, go N. 1.3M on CR 206. Go W. on Raines Rd. (CR600) 2.1 M Turn left and go 1.65M. Turn right and follow road thru cattle guard to location.
- D. 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:

Exhibit #3-A&B shows the existing roads .

Exhibits #3-A,B,&C show the proposed access road.

3. Location of Existing Wells:

Exhibit #4 shows all existing wells within a one-mile radius of this well.

4. Location of Existing and/or Proposed Facilities and ROW's:

- A. If the well is productive:
 - 1. The well will be tested and if production is commercial a buried pipeline will be laid to the location by a gas purchaser.
 - 2. Any production facilities necessary will be located on the existing well pad.
- B. If the well is productive, rehabilitation plans are as follows:
 - 1. The reserve pit will be back-filled after the contents of the pit are dry (within 120 days after the well is completed).
 - 2. Topsoil removed from the drill site will be used to recontour the pit area to the original natural level, as nearly as possible, and reseeded as per BLM specifications.

5. Location and Type of Water Supply:

The well will be drilled with a combination brine and fresh water mud systems as outlined in the drilling program. The brine and fresh water will be obtained from commercial water stations in the area and hauled to location on roads shown in Exhibit #3. No water well will be drilled on the location.

6. Source of Construction Materials:

All caliche required for construction of the drill pad and any new access road will be obtained from the drilling pits and/or on site when possible. Any additional caliche will be obtained from approved caliche pits. All roads and pads will be constructed of 4" rolled and compacted caliche.

7. Methods of Handling Water Disposal:

- A. Drill cuttings not retained for evaluation purposes will be disposed into the reserve pit.
- B. Drilling fluids will be contained in steel pits. The reserve pit will contain any excess drilling fluid or flow from the well during drilling, cementing and completion operations. The reserve pit will be an earthen pit, approximately 165' x 120' x 6' deep, fenced, and plastic-lined (5-7 mil thickness).
- C. Water produced from the well during completion may be disposed into the reserve pit. After the well is permanently placed on production, produced water will be trucked to approved commercial disposal facilities.
- D. Garbage and trash produced during drilling or completion operations will be collected in a trash trailer by a contractor. All water and fluids will be disposed of into the reserve pit. Salts and other chemicals produced during drilling or testing will be disposed into the reserve pit. No toxic waste or hazardous chemicals will be produced by this operation.
- E. After the rig is moved out and the well is either completed or abandoned, all waste materials will be cleaned-up within 90 days. No adverse materials will be left on the location. The reserve pit will be completely fenced and kept closed until it has dried. When the reserve pit is dry enough to breakout and fill and as weather permits the unused portion of the well site will be leveled and reseeded as per BLM specifications. Only that part of the pad required for production facilities will be kept in use.

8. Ancillary Facilities:

None

9. Well Site Layout:

- A. The drill pad layout is shown in Exhibit #5. Dimensions of the pad and pits and location of major rig components are shown. Top soil, if available, will be stockpiled per BLM specifications as determined at the on-site inspection. Because the pad is almost level no major cuts will be required.

- B. Exhibit #5 shows the planned orientation for the rig and associated drilling equipment, reserve pit, trash pit, pipe racks, turn-around, parking areas and access road. No permanent living facilities are planned but a temporary foreman/toolpusher's trailer will be on location during the drilling operations.
- C. The reserve pit will be lined with high-quality plastic sheeting (5-7 mil thickness).

10. Plan for Restoration of the Surface:

- A. Upon completion of the proposed operation, if the well is to be abandoned, the pit area, after allowing to dry, will be broken out and leveled. The original top soil will be returned to the entire location which will be leveled and contoured to as nearly the original topography as possible.

All trash and garbage will be hauled away in order to leave the location in an aesthetically pleasing condition. All pits will be filled and the location leveled within 120 days after abandonment.

- B. The disturbed area will be revegetated by reseeding during the proper growing season with a seed mixture of native grasses as recommended by the BLM.
- C. The reserve pit will be fenced prior to and during drilling operations. The fencing will remain in place until the pit area is cleaned-up and leveled. No oil will be left on the surface of the fluid in the pit.
- D. Upon completion of the proposed operations, if the well is completed, the reserve pit area will be treated as outlined above within the same prescribed time. The caliche from any area of the original drill site not needed for production operations or facilities will be removed and used for construction of thicker pads. Any additional caliche required for facilities will be obtained from an approved caliche pit. Topsoil removed from the drill site will be used to recontour the pit area and any unused portions of the drill pad to the original natural level and reseeded as per BLM specifications.

11. Surface Ownership:

BLM
Grazing Leased to Winston Ballard.

Surface leasee has been notified.

12. Other Information:

- A. The area around the well site is grassland. The vegetation is native scrub grasses with abundant catclaw and mesquite.
- B. There is no permanent or live water in the immediate area.

- C. An archaeological survey has been requested and will be forwarded to the BLM when completed.

13. Lessee's and Operator's Representative:

The Patterson Petroleum LP representative for assuring compliance with the surface use plan is as follows:

Nolan von Roeder
Patterson Petroleum, LP
PO Drawer 1416
Snyder, Texas 79550
(325) 573-1938 Office
or (325) 573-1930

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 currently exist; that the statements made in this plan are to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed by Patterson Petroleum, LP and its contractors and subcontractors in conformity with this plan and the terms and conditions which it is approved.

Patterson Petroleum, LP

Cloyce Talbott
CEO

DRILLING PROGRAM
Patterson Petroleum, LP
Miller Federal # 2
840' FNL, 1830' FWL
Lot # 6, Sec. 3, T21S, R27E
Eddy Co., NM

1. Geologic Name of Surface Formation:

Permian

2. Estimated Tops of Important Geologic Markers:

Capitan	700'	Atoka	10500'
Delaware	2750'	Morrow	11000'
Bone Springs	5100'	Barnett	11460'
Wolfcamp	8760'		
Strawn	10000'		

3. Estimated Depth of Anticipated Oil or Gas:

Strawn	10000'	Oil & Gas
Morrow	11000'	Gas

4. Casing Program:

<u>Hole Size</u>	<u>Interval</u>	<u>OC Csg</u>	<u>Weight Grade Jt Cond Type</u>
30"	0-40	20"	Conductor Pipe
17-1/2"	0 - 600	13-3/8"	48#, H-40, 8 rd., ST&C, New
12-1/4"	0 - 2800	8-5/8"	32#, J-55, 8 rd., LT&C, New
7-7/8"	0- 12000	5-1/2"	17#, P-110 & N-80, 8-rd., LT&C, New

Cement Program:

20" conductor pipe:

Redi-mixed to surface

13-3/8" Surface Casing:

600' cemented to surface with 300 sx of 35/65 POZ "C" + 6% gell + 2% CaCl. + .25% Celloflake, and 200sxs "C" + 2% CaCl.

8-5/8" Intermediate

2800' cemented to surface with 600 sxs 35/65 POZ "C" + additives, and 200 sxs. "C" + 2% CaCL.

5-1/2" Production Casing:

12000' cemented with a DV tool at ~8200'. 1st. stage with 500 sxs. "C" 15/61/11/ POZ + 1/4#/sx Cello flake + 4# LCM-1/sx. 2nd. Stage 300 sxs 35/65 POZ "C" 3# NACL/sx + 5#/sx LCM-1 + 6% Bentonite, and tail in with 600 sxs 15/61/11/ POZ "C" + 1/4#/ sx. Celo flake + .5% FL-25 + .5% FL-52.

5. Minimum Specifications for Pressure Control:

The blowout preventer equipment (BOP) are shown in Exhibit #1A&B. They will consist of an annular bag type preventer on top of a double ram 5000# WP BOP. Unit will be hydraulically operated. BOP will be nipped up on the 13-3/8" surface csg and used continuously until TD is reached. BOP and accessory equipment will be tested to API

specifications. BOP rams will be operated once every 24 HRS. and blind rams will be operated every time pipe is out of the hole. A 2" kill line and a 2" choke line will be included in the drilling spool. Other accessories to the BOP equipment will include a kelly cock and a stabbing valve.

6. Types and Characteristics of the Proposed Mud System:

The well will be drilled to TD with a combination of fresh water and brine water mud system. The applicable depth and properties of this system are as follows:

<u>Depth</u>	<u>Type</u>	<u>Weight (ppg)</u>	<u>Viscosity (sec)</u>	<u>Waterloss (cc)</u>	
40 - 600	FW	8.5	32-36	NC	FWG, paper, lime
600 - 2800	FW	8.5	32-36	NC	"
2800-TD	BW	9-10	32-50	6-15	Polymer, caustic

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location or available at the nearest stocking point.

7. Auxiliary Well Control and Monitoring Equipment:

- A. A kelly cock will be kept in the drill string at all times.
- B. 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:

- A. Drillstem tests will be run on the basis of drilling shows.
- B. The electric logging program will consist of GR-Dual Laterolog and GR-Compensated Neutron-Density from TD to intermediate casing. Gr-CNL to surface.
- C. Side wall coring may be performed in select intervals if deemed necessary.
- D. Further testing procedures will be determined after the production casing has been cemented at TD based on drill shows and log evaluation.

9. Abnormal Conditions, Pressures, Temperatures, & Potential Hazards:

No abnormal pressure or temperatures are anticipated. The estimated bottom hole temperature (BHT) at TD is 190° and estimated maximum bottom-hole pressure (BHP) is 4900 psig. No abnormal concentrations of hydrogen sulfide or other hazardous gases or fluids have been encountered, reported or are known to exist at this depth in this area. All H₂S operation precautions will be followed (see attached H₂S drilling operations plans). No major loss circulation zones have been reported in offsetting wells.

Miller Federal #2- Drilling Program

10. Anticipated Starting Date and Duration of Operations:

Road and location work will not begin until approval has been received from the BLM. The anticipated spud date is November 1, 2003. Once commenced, the drilling operation should be finished in approximately 30 days. If the well is productive, an additional 30 days will be required for completion and testing before a decision is made to install permanent facilities.

HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

SDX Resources Inc.
Miller Federal #2
840' FNL, 1830' FWL
Sec. 3, T21S, R27E, Lot #6
Eddy Co., NM

I. Hydrogen Sulfide Training

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

1. The hazards and characteristics of hydrogen sulfide (H₂S).
2. The proper use and maintenance of personal protective equipment and life support system.
3. The proper use of H₂S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
4. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

1. The effects of H₂S on metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
2. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
3. The contents and requirements of the H₂S Drilling Operations Plan and the Public Protection Plan.

This location is not within 3000' of any public roadway or dwelling. Therefore an H₂S Contingency Plan is not necessary.

There will be an initial safety session just prior to commencing operations on the well. The initial session shall include a review of the site's specific H₂S Drilling Operations Plan. This plan shall be available at the well site. All personnel will be required to carry documentation that they have received the proper training.

II. H₂S SAFETY EQUIPEMNT AND SYSTEMS

Note: All H₂S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 700'.

1. Well Control Equipment:
 - A. Annular Preventer to accommodate all pipe sizes with properly sized closing unit.
2. Protective Equipment for Essential Personnel:
 - A. Mark II Surviveair 30-minute units located on site.

3. H2S Detection and Monitoring Equipment:

- A. 1 – portable H2S monitor positioned on location for best coverage and response.
- B. Mud logging trailer shall have H2S monitoring equipment.

4. Visual Warning Systems:

- A. Guy lines will be flagged and a wind sock will be positioned on location.
- B. Caution/Danger signs shall be posted on roads providing direct access to location.

5. Mud Program:

The mud program has been designed to minimize the volume of H2S circulated to the surface. Proper mud weight, safe drilling practices, will minimize hazards when penetrating H2S bearing zones.

6. Metallurgy:

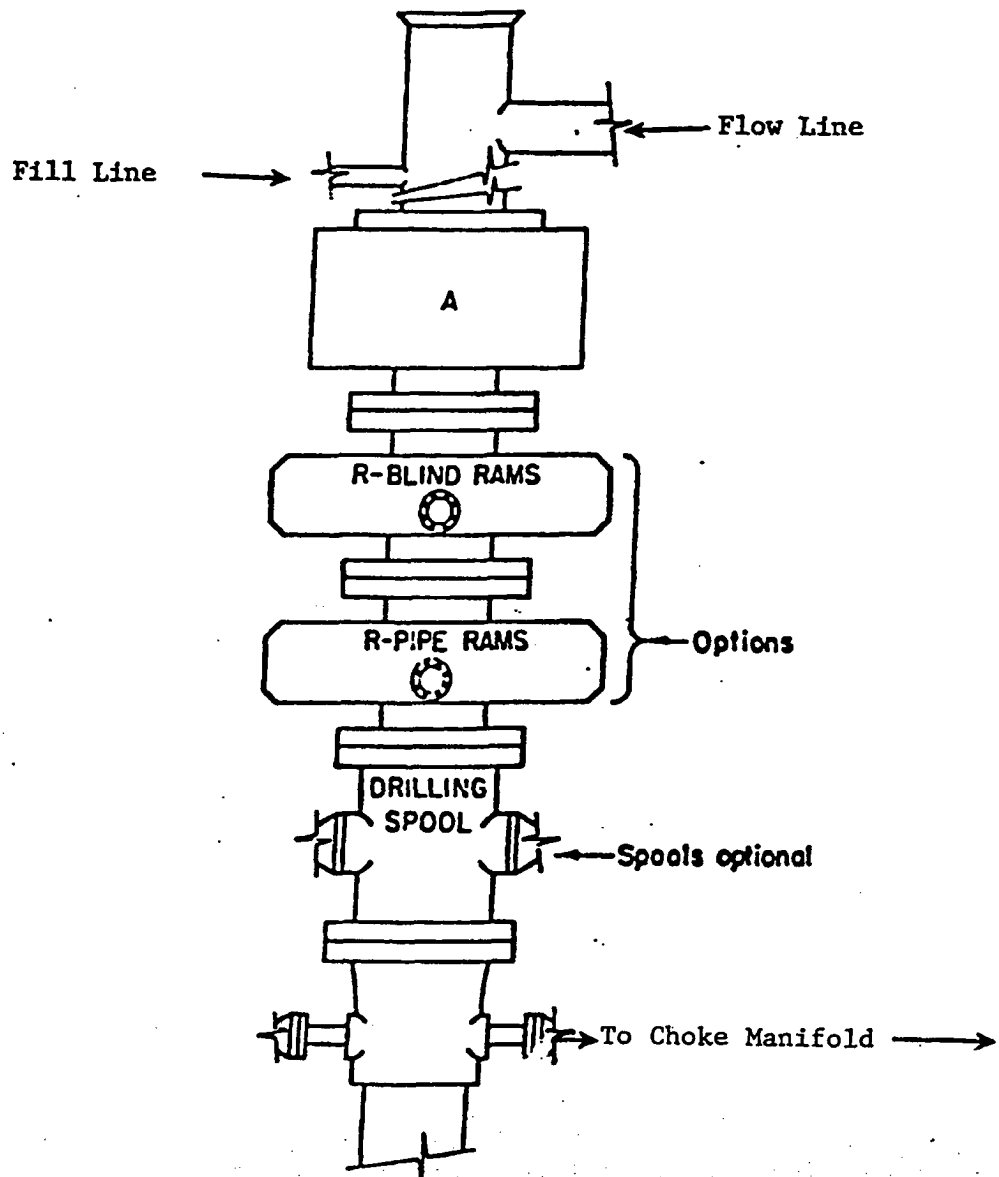
All drill strings, casings, tubing, wellhead, blowout preventers, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H2S service as necessary.

7. Communication:

Radio communications in company vehicles including cellular telephone and 2-way radio.

8. Well Testing:

No DST's are planned.



ARRANGEMENT SRRA

1500 Series
5000# Working Pressure

EXHIBIT #1A
BOP
Miller Federal #2
Eddy Co., NM

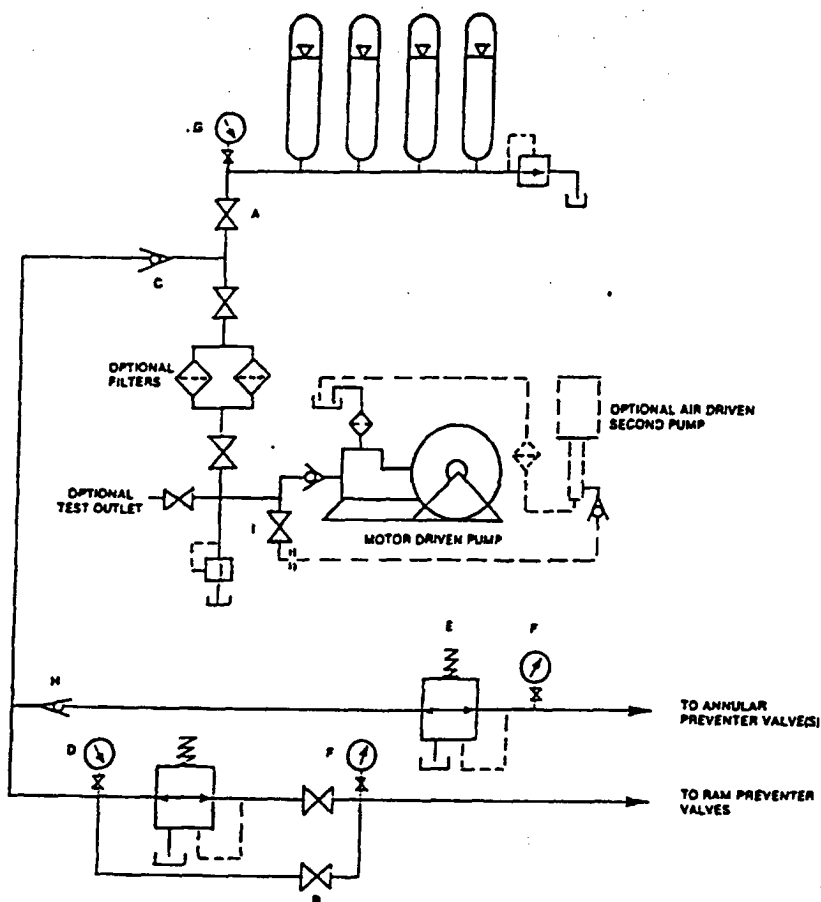


FIGURE K6-1. The schematic sketch of an accumulator system shows required and optional components.

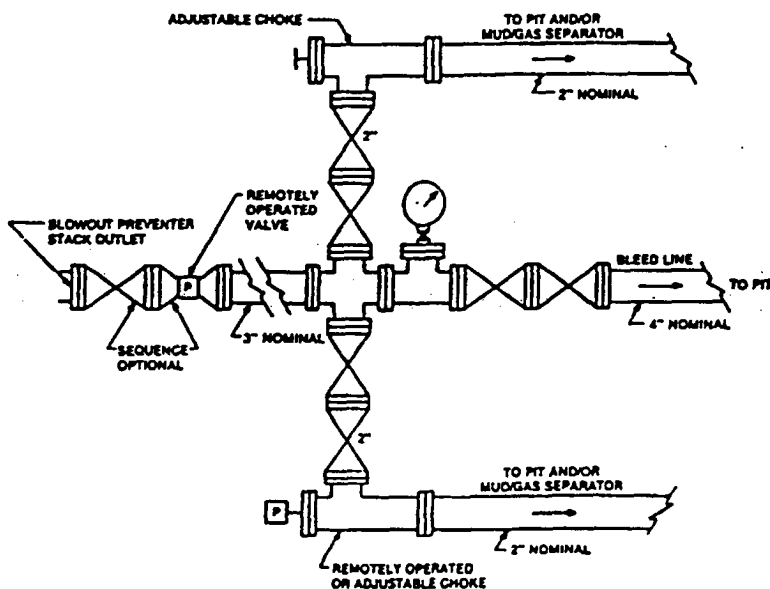


FIGURE K4-2. Typical choke manifold assembly for SM rated working pressure service — surface installation.

EXHIBIT #1B
Choke Manifold & Closing Unit
Miller Federal #2
Eddy Co., NM

District I
1825 N. French Dr. Hobbs, NM 88240

District II
811 South First, Artesia, NM 88210

District III
1000 Rio Brazos Rd., Artesia, NM 87410

District IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources

OIL CONSERVATION DIVISION

2040 South Pacheco

Santa Fe, N M 87505

Form C-102

Revised March 17, 1999

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
		Burton Flat - Morrow
Property Code	Property Name	Well Number
	MILLER FEDERAL	2
OGRID No. 141928	Operation Name PATTERSON PETROLEUM LP	Elevation 3192

Surface Location

UL or Lot No.	Section	Township	Range	Lot Idn.	Feet from the	North/South line	Feet from the	East/West line	County
4	3	21-S	27-E		840	NORTH	1830	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 276	Joint or Infill	Consolidation Code	Order No.						

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTEREST HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	OPERATOR CERTIFICATION I HEREBY CERTIFY THAT THE INFORMATION HEREIN IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.
	Signature <i>Bonnie Atwater</i>
	Printed Name Bonnie Atwater
	Title Regulatory Tech
	Date 9/16/03
	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 KNOWLEDGE AND BELIEF.
	SEPTEMBER 8, 2003
	Date of Survey R. REDDY
	Signature and Seal of Professional Surveyor
	NM PROFESSIONAL SURVEYOR Certificate Number

EXHIBIT #2

Plat

Miller Federal #2

Eddy Co., NM

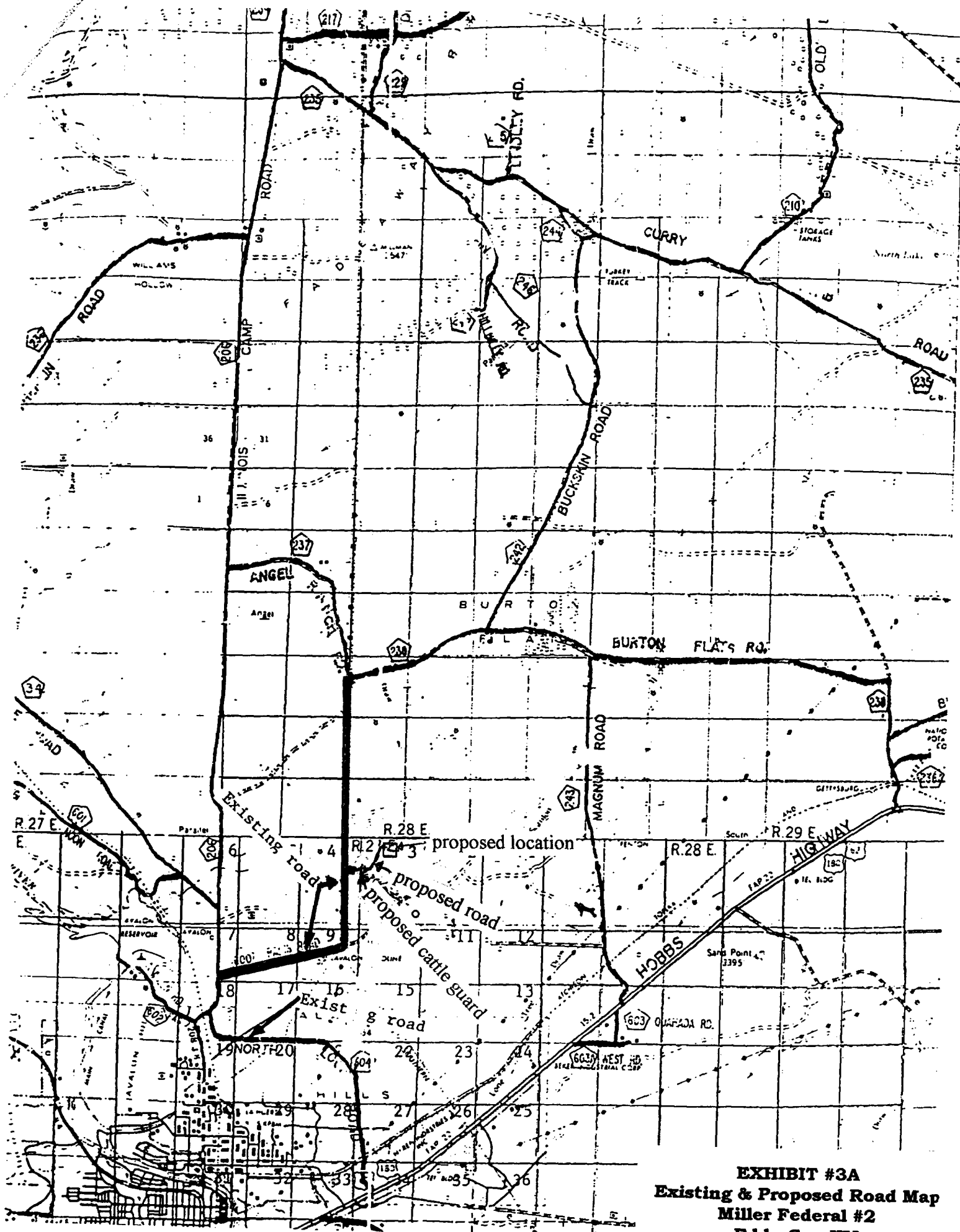


EXHIBIT #3A
Existing & Proposed Road Map
Miller Federal #2
Eddy Co., NM

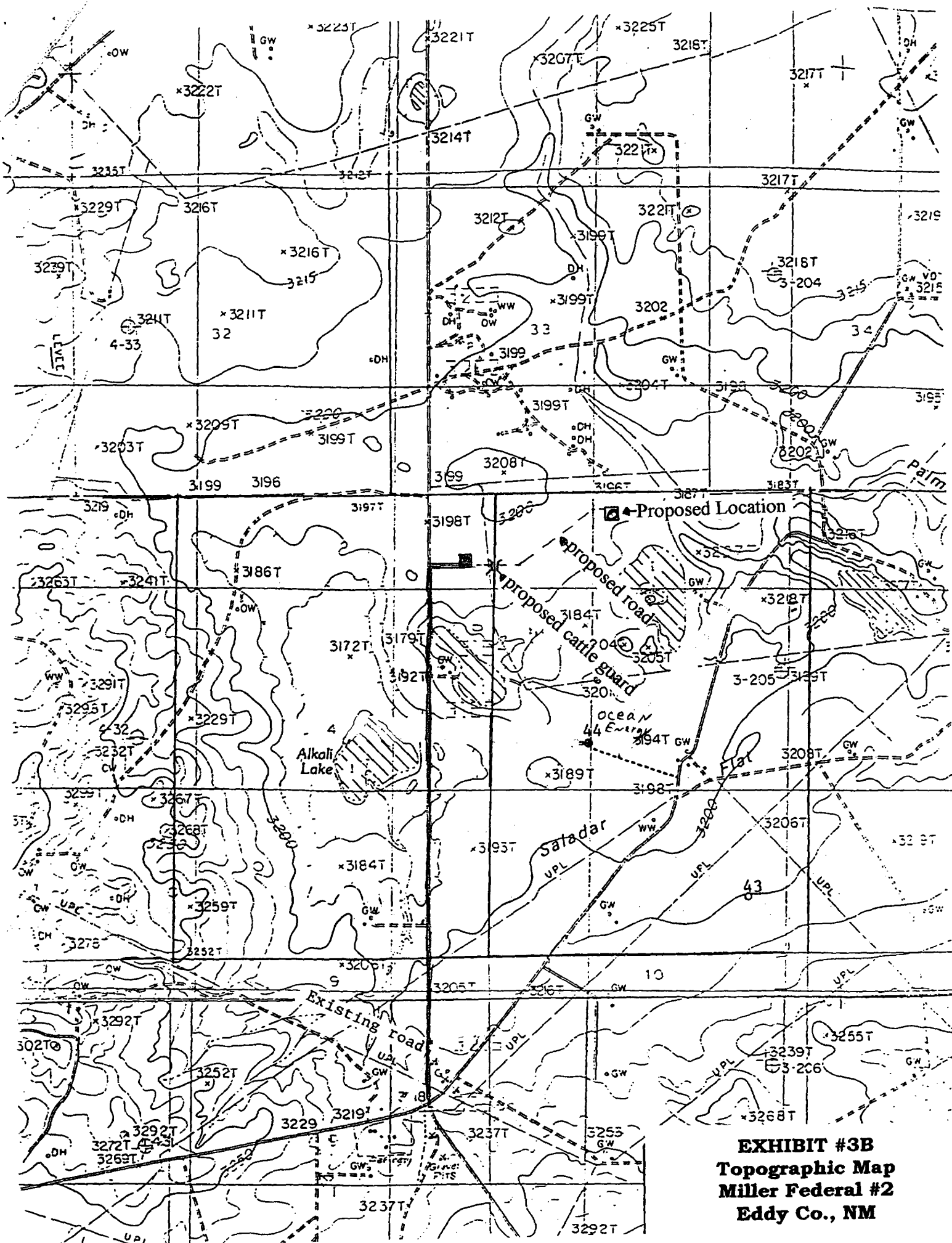
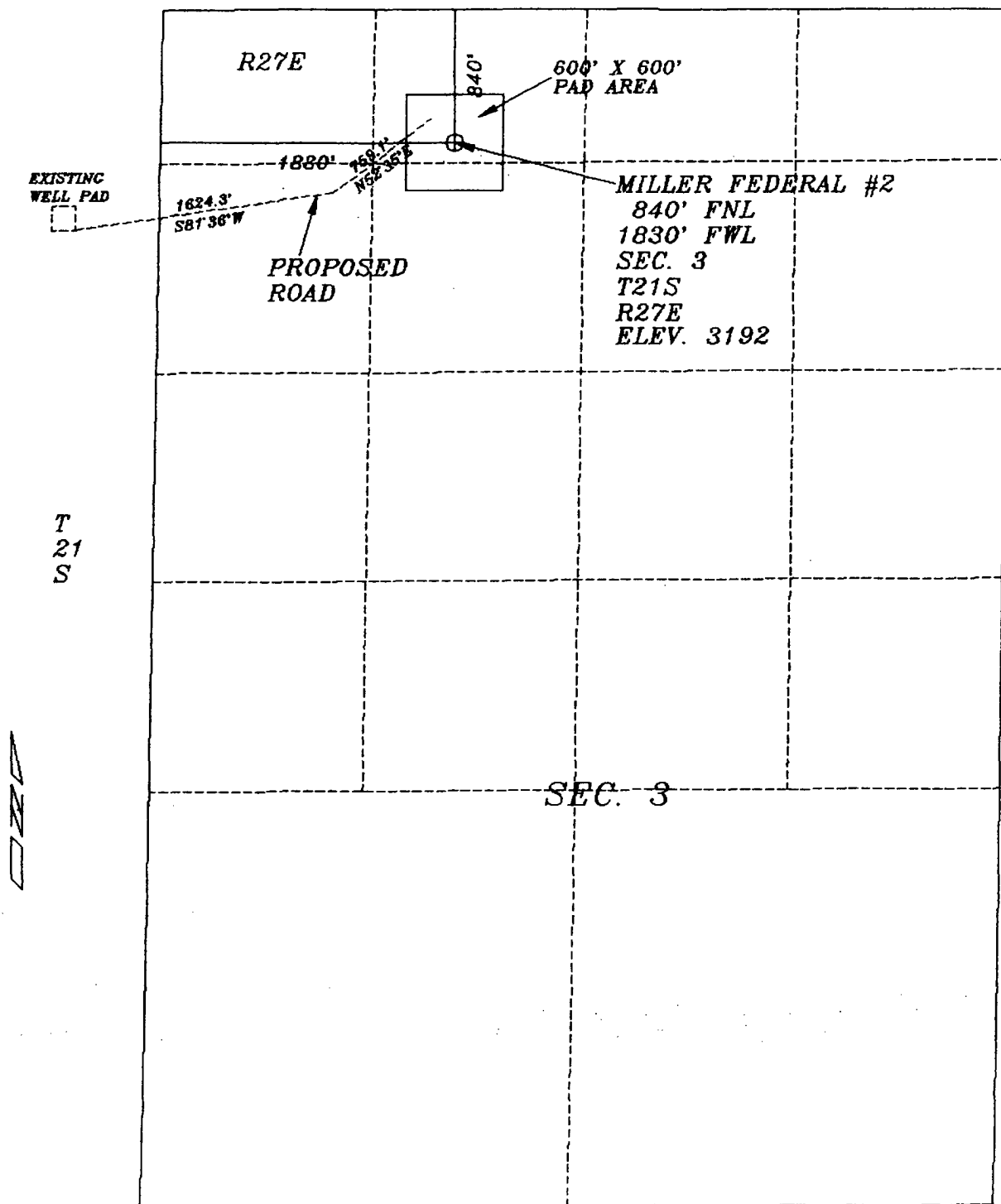
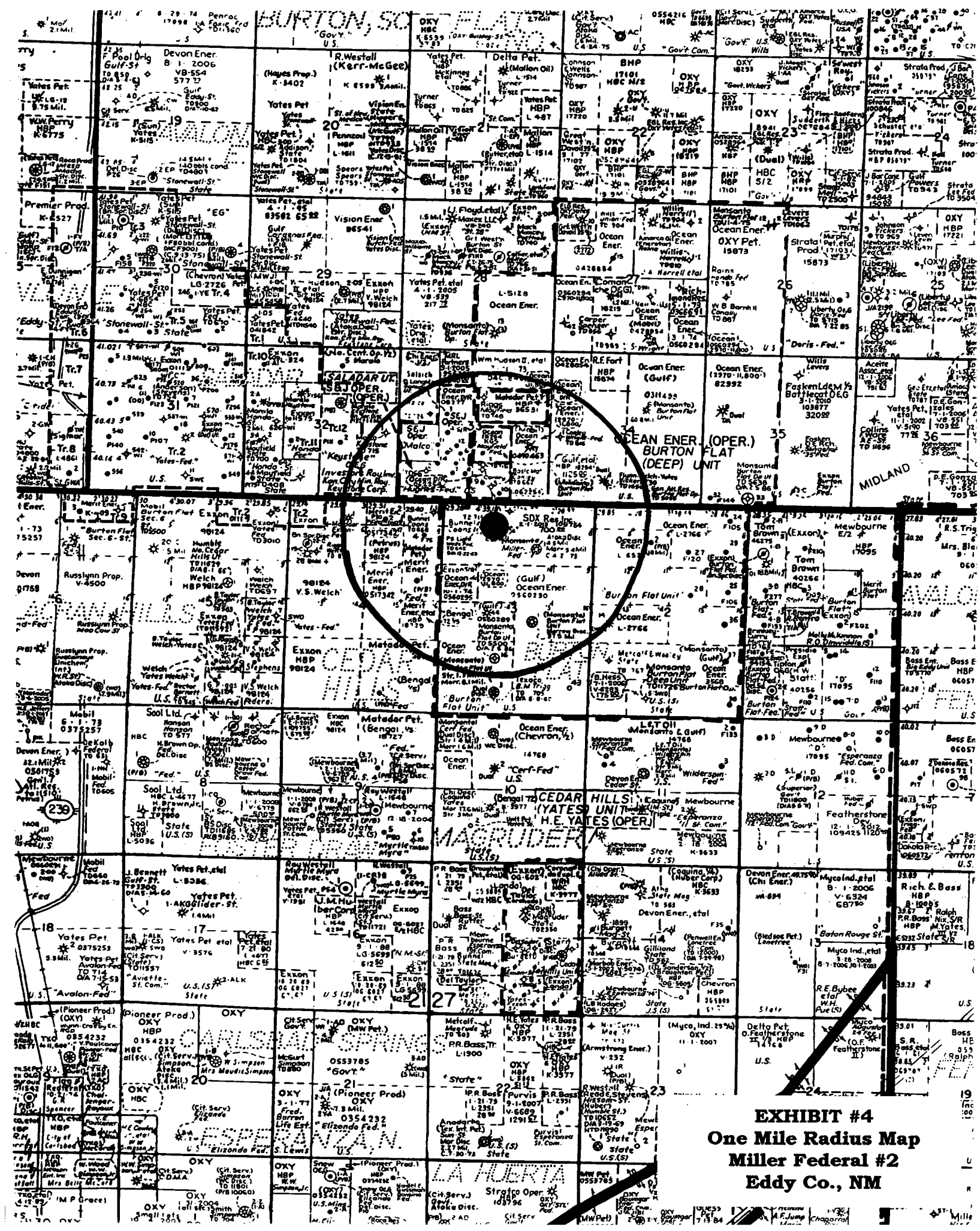


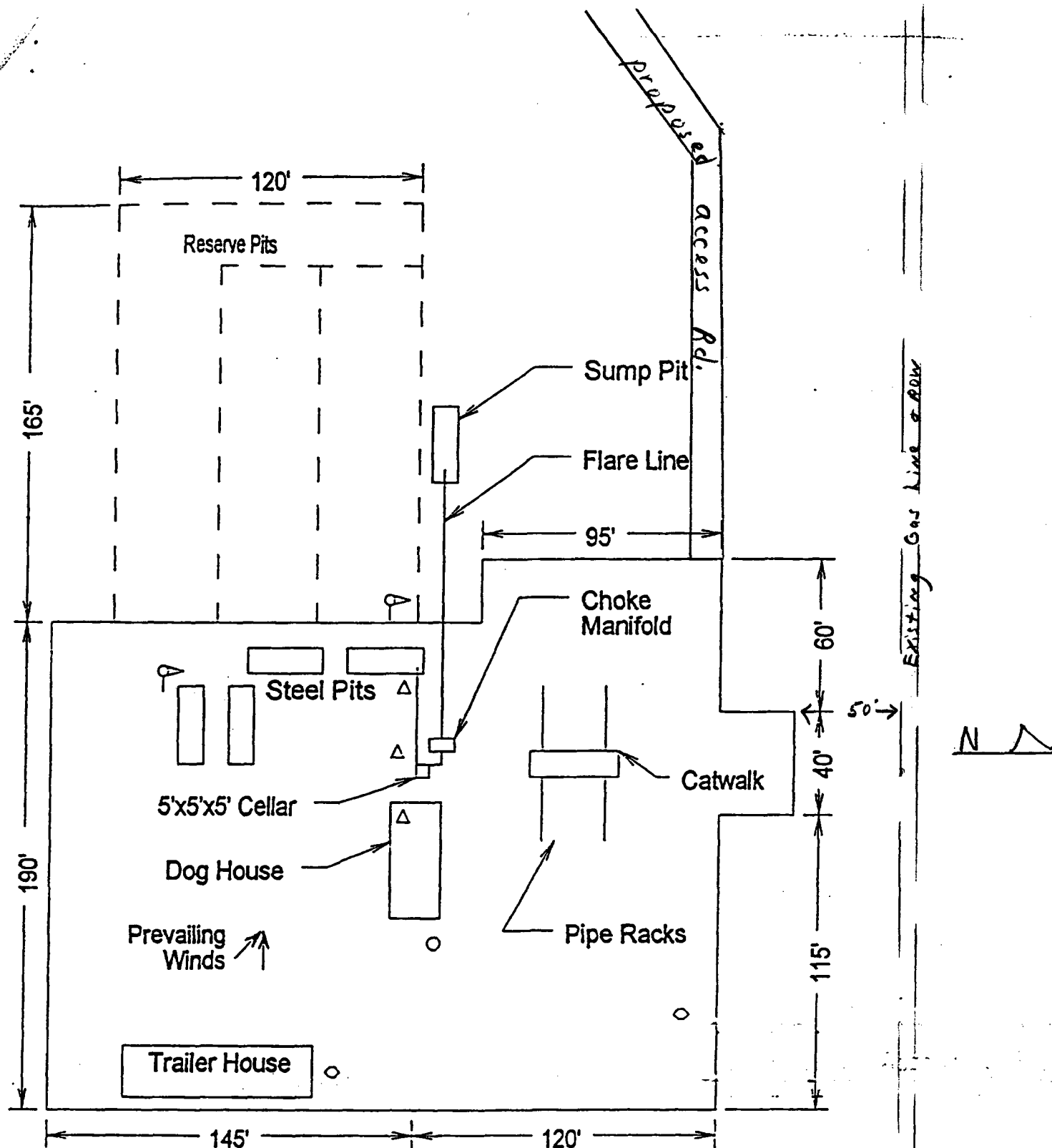
EXHIBIT #3B
Topographic Map
Miller Federal #2
Eddy Co., NM

SKETCH SHOWING PROPOSED ACCESS ROAD



Scale 1" = 1000'





- △ Wind Direction Indicators
(wind sock or streamers)
- △ H2S Monitors
(alarms at bell nipple and shale shaker)
- Briefing Areas
- Remote BOP Closing Unit
- Sign and Condition Flags

EXHIBIT #5
Drillsite & Rig Layout Sketch
Miller Federal #2
Eddy Co., NM

- C. An archaeological survey has been requested and will be forwarded to the BLM when completed.

13. Lessee's and Operator's Representative:

The Patterson Petroleum LP representative for assuring compliance with the surface use plan is as follows:

Nolan von Roeder
Patterson Petroleum, LP
PO Drawer 1416
Snyder, Texas 79550
(325) 573-1938 Office
or (325) 573-1930

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 currently exist; that the statements made in this plan are to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed by Patterson Petroleum, LP and its contractors and subcontractors in conformity with this plan and the terms and conditions which it is approved.

Patterson Petroleum, LP



Cloyce Talbott
CEO

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Roswell Resource Area
P.O. Drawer 1857
Roswell, New Mexico 88202-1857

Statement Accepting Responsibility for Operations

Operator name: Patterson Petroleum LP
Street or box: P.O. Drawer 1416
City, State : Snyder, TX
Zip code, : 79550

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.: NMNM-109754
Miller Federal #2

Legal Description of land: Sec. 3, T-21-S, R27E, Lot 6

Formation(s) (if applicable): Strawn & Morrow

Bond Coverage:(State if individually bonded or another's bond)
State of New Mexico \$50,000 Blanket Bond

BLM Bond File No.: UIB0008055

Authorized Signature:



Title: CEO

Date: October 1, 2003