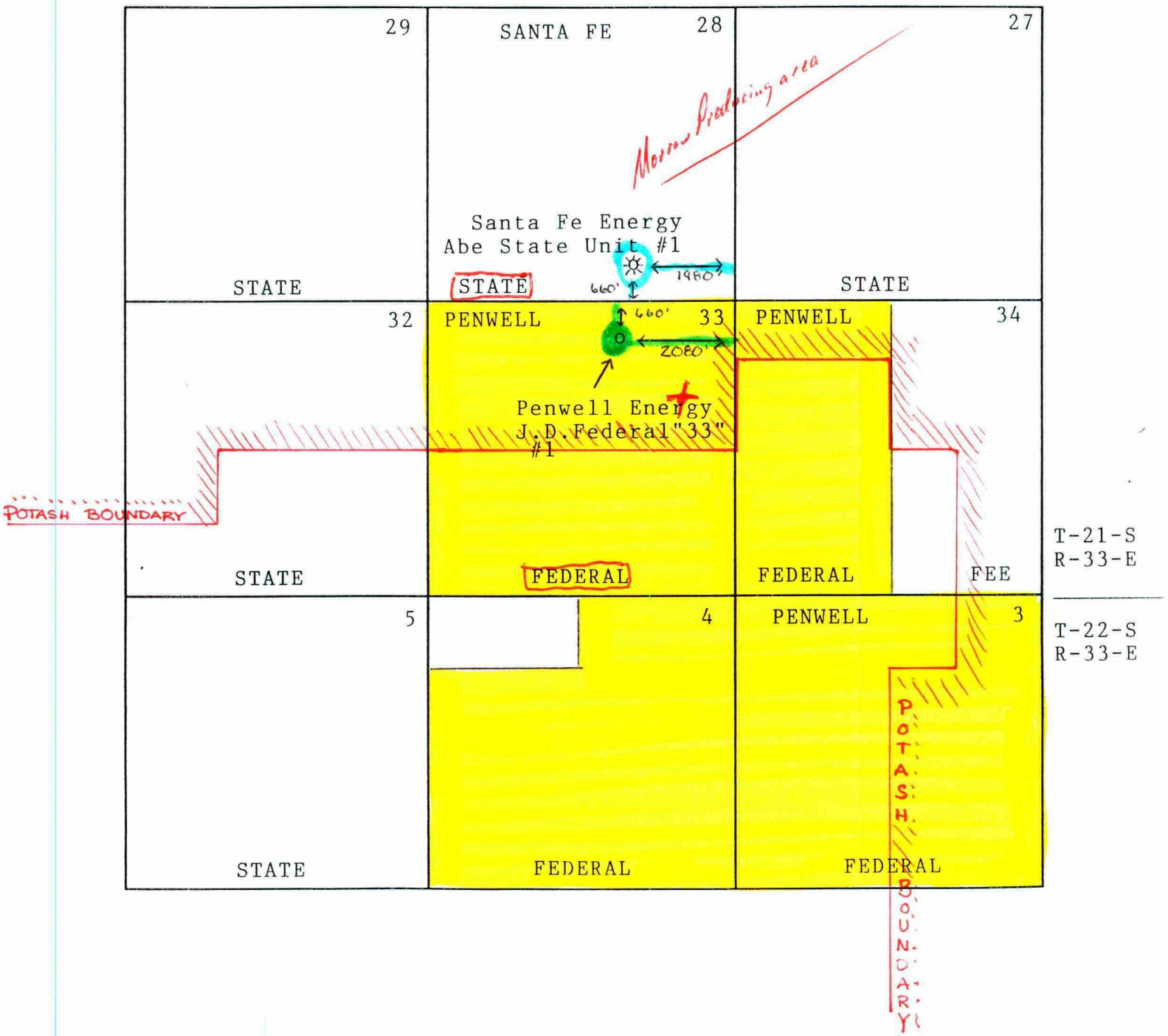
EXHIBIT "1"

Nearest Mine is
11 miles to the
NW



BEFORE THE
OIL CONSERVATION DIVISION
Santa Fe, New Mexico

Case No. 11505 Exhibit No. 1

Submitted by: Penwell Energy, Inc.

Hearing Date: April 4,1996

Form 3160-3
(July 1992)

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

5. LEASE DESIGNATION AND SERIAL NO.: NM-94853

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: ----------

7. UNIT AGREEMENT NAME: ----------

1a. TYPE OF WORK: DRILL [X] DEEPEN [ ]

b. TYPE OF WELL: OIL WELL [ ] GAS WELL [X] OTHER — SINGLE ZONE [X] MULTIPLE ZONE [ ]

8. FARM OR LEASE NAME, WELL NO.: LD "33" FEDERAL # 1

2. NAME OF OPERATOR: Penwell Energy Inc. (Gordon Barker)

9. API WELL NO.:

3. ADDRESS AND TELEPHONE NO.: Ph. 915-683-2534
1100 Arco Building , 600 N. Marinfeld Midland, Texas 79701

10. FIELD AND POOL, OR WILDCAT: Legg- Morrow

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 660' FNL & 2080' FEL SEC. 33 T21S-R33E
At proposed prod. zone: Same

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 33 T21S-R33E

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: Approximately 23 miles west of Oil Center New Mexico

12. COUNTY OR PARISH: Lea Co.

13. STATE: New Mexico

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)	16. NO. OF ACRES IN LEASE	17. NO. OF ACRES ASSIGNED TO THIS WELL
660'	640	320
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.	**19. PROPOSED DEPTH**	**20. ROTARY OR CABLE TOOLS**
NA	15200'	Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 3665' GR.

22. APPROX. DATE WORK WILL START*: As soon as approved

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
26"	Conductor	NA	40'	Cement to surface with Redimix.
17½"	J-55 13 3/8"	54.5	600'	650 Sx. Circulate to surface.
12¼"	J-55 9 5/8"	48	5280'	1200 Sx. Circulate to surface.
8½"	N-80 5½"	20	15200'	540 Sx. Top of cement 12000'

1. Drill 26" hole to 40' run 40' of 20" conductor cement to surface with Redimix.
2. Drill 17½" hole to 600'. Run and set 600' of 13 3/8" 54.5# J-55 ST&C casing. Cement with 650 Sx. Class "C" = 2% CaCl = ¼# flocele/ Sx. Circulate cement to surface.
3. Drill 12¼" hole to 5280'. Run and set 5280' of 9 5/8" 48# N-80 LT&C casing. Cement with 1000 Sx. Nalco Light + 2% CaCl + ¼# flocele/Sx., tail in with 200 Sx. Class "C" + 1% CaCl + 5% salt. Circulate cement to surface.
4. Drill 8½" hole to 15200'. Run and set 15200' of 5½" 20# N-80 LT&C casing. Cement with 540 Sx. 50/50 POZ + 2% Gel + 3% salt + .2% retarder. Top of cement 12000'

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 Joe T Janica TITLE Agent DATE 02/02/96

(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 _____ TITLE _____ DATE _____

*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

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

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

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV
P.O. BOX 2088, SANTA FE, N.M. 87504-2088

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

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
	80120	LEGG-MORROW

Property Code	Property Name	Well Number
	JD "33" FEDERAL	1

OGRID No.	Operator Name	Elevation
147380	PENWELL ENERGY, INC.	3665

Surface Location

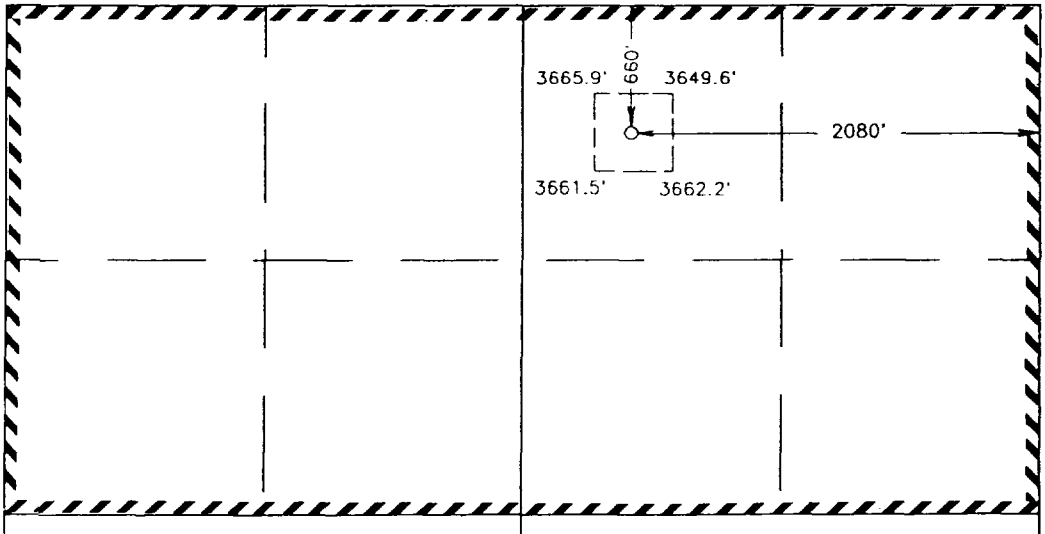
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	33	21 S	33 E		660	NORTH	2080	EAST	LEA

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			

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



OPERATOR CERTIFICATION

I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.

Signature

Joe T. Janica
Printed Name

Agent
Title

02/02/96
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 supervison, and that the same is true and correct to the best of my belief.

JANUARY 4, 1996
Date Surveyed

DMCC

Signature & Seal of Professional Surveyor

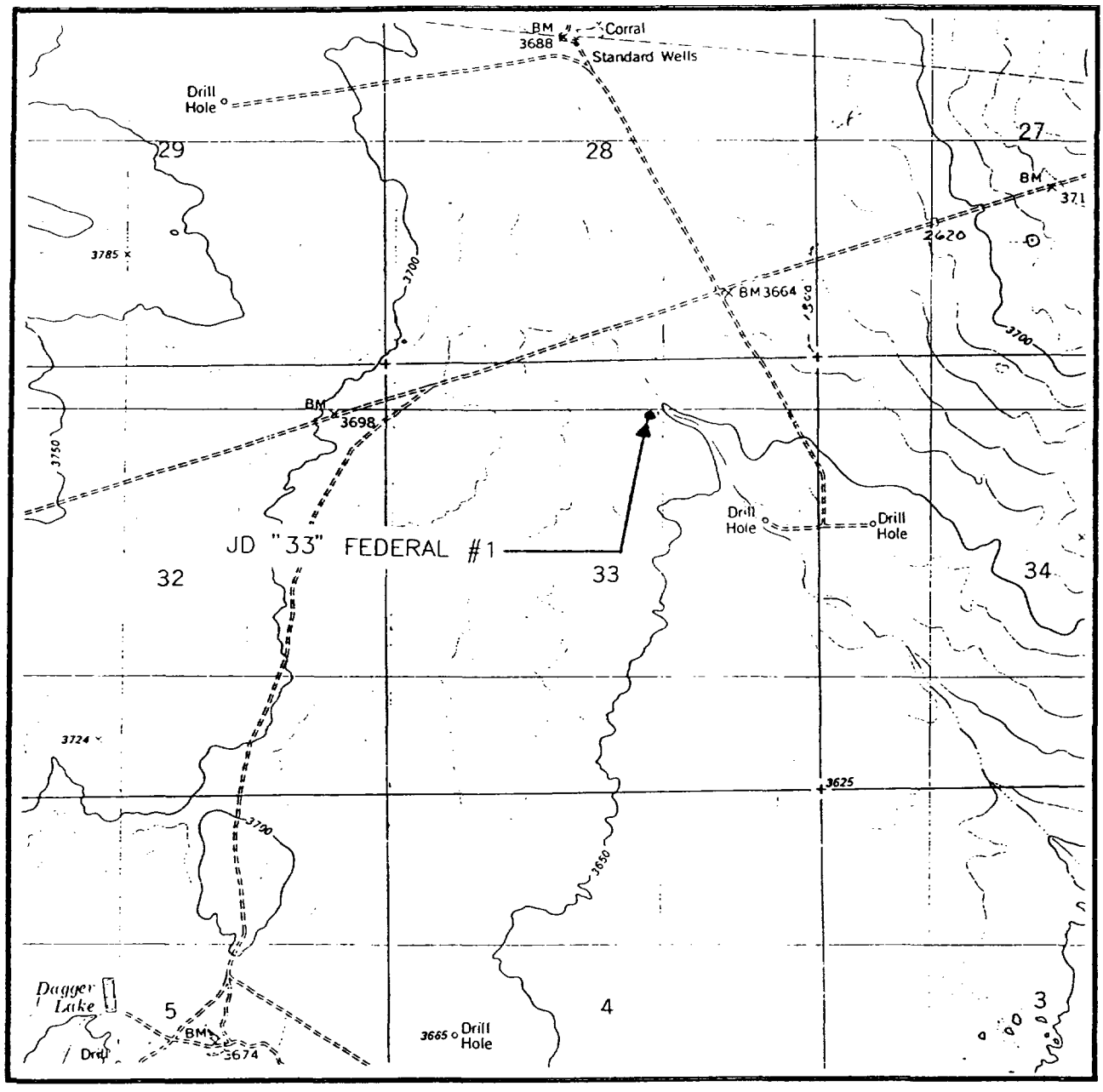
Arnold J. Gudson 1-30-96

W.O. Num. 96-11-0016

Certificate No. JOHN W. WEST 676
RONALD J. EIDSON 3239
GARY L. JONES 12641

EXHIBIT "A"

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
GRAMA RIDGE – 10'

SEC. 33 TWP. 21-S RGE. 33-E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 660' FNL & 2080' FEL

ELEVATION 3665

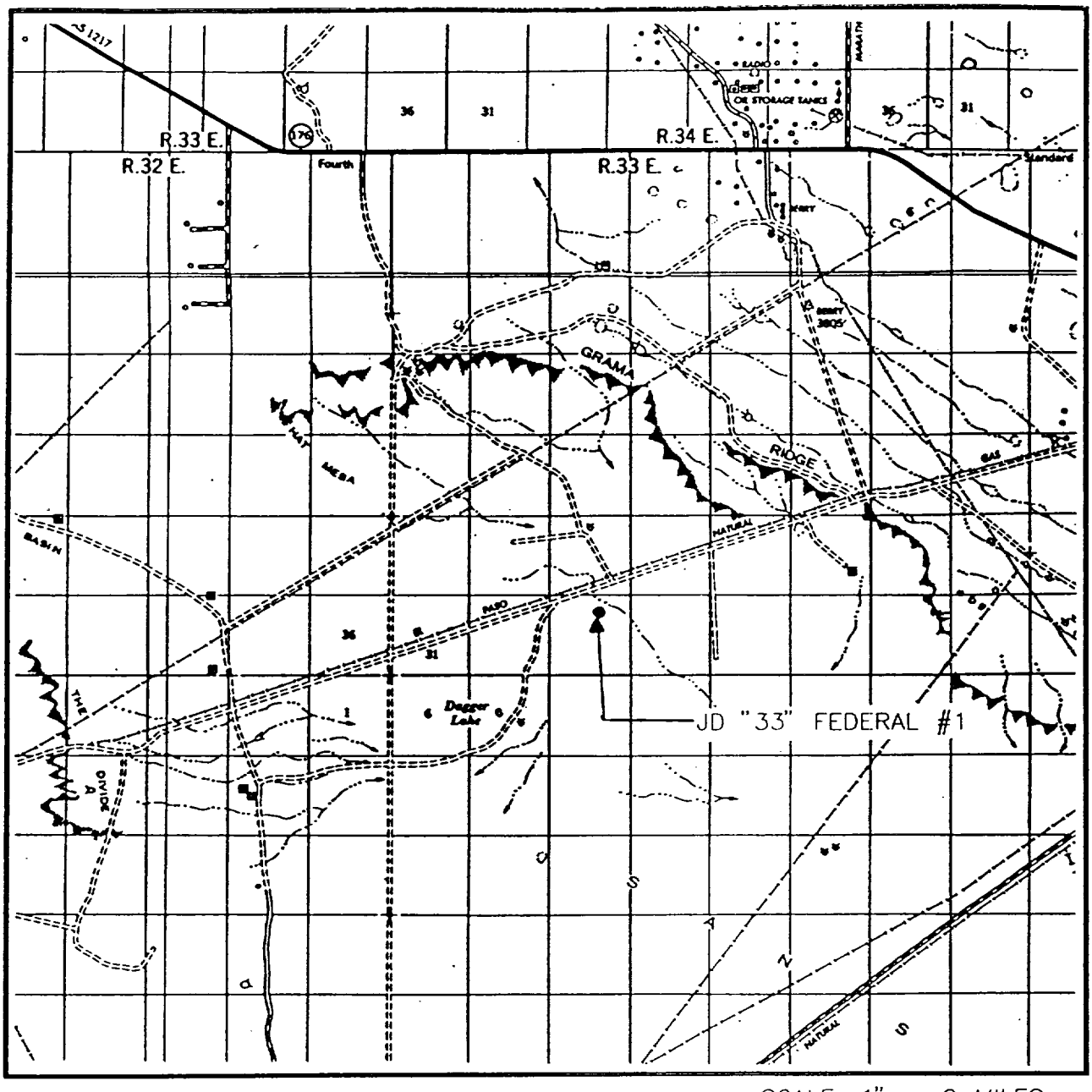
OPERATOR PENWELL ENERGY, INC.

LEASE JD "33" FEDERAL

U.S.G.S. TOPOGRAPHIC MAP
GRAMA RIDGE, N.M.

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

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 33 TWP. 21-S RGE. 33-E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 660' FNL & 2080' FEL

ELEVATION 3665

OPERATOR PENWELL ENERGY, INC.

LEASE JD "33" FEDERAL

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

APPLICATION TO DRILL

PENWELL ENERGY INC.
JD "33" FEDERAL # 1
660' FNL & 2080' FEL SEC. 33
T21S-R33E LEA CO. NM

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

1. Location: 660' FNL & 2080' FEL SEC. 33 T21S-R33E LEA CO. NM

2. Elevation above sea level: 3665' GR.

3. Geologic name of surface formation: Quaternery Aeolian Deposits.

4. Drilling tools and associated equipment: Conventional rotary drilling rig using fluid as a circulating medium for solids removal.

5. Proposed drilling depth: 15,200'

6. Estimated tops of geological markers:

Delaware	4500'	Strawn	13,350'
Bone Spring	9000'	Atoka	13,550'
Wolfcamp	11,900'	Morrow	14,750'

7. Possible mineral bearing formations:

Delaware	Oil	Atoka	Gas
Bone Spring	Oil	Morrow	Gas

8. Casing program:

HOLE SIZE	INTERVAL	OD CSG	WEIGHT	THREAD	COLLAR	GRADE	COND.
26"	0-40	20"	NA	NA	NA	NA	New
17¼"	0-600'	13 3/8"	54.5	8-R	ST&C	J-55	New
12¼"	600-5280'	9 5/8"	48	8-R	LT&C	J-55	New
8½"	5280-15,200	5½"	20	8-R & Butt.	LT&C	N-80	New

APPLICATION TO DRILL

PENWELL ENERGY INC, INC.
JD "33" FEDERAL # 1
660' FNL & 2080' FEL SEC. 33
T21S-R33E LEA CO. NM

9. Casing: Setting Depth & Cementing:

20"	Conductor	Set 40' of 20" conductor cement to surface with Redi-mix.
13 3/8"	Surface	Drill 17½" hole to 600'. Run and set 600' of 13 3/8" 54.5# J-55 ST&C casing. Cement with 600 Sx. Class "C" + 2% CaCl + ¼# Flocele/Sx. Circulate cement to surface.
9 5/8"	Intermediate	Drill 12¼" hole to 5280'. Run and set 5280' of 9 5/8" 48# K-55 LT&C casing. Cement with 1000 Sx. Halco Light +2% CaCl + ¼# Flocele/Sx., tail in with 200 Sx. Class "C" +1% CaCl + 5% salt. Circulate cement to surface.
8½"	Production	Drill 8½" hole to 15,200'. Run and set 15,200' 5½" 20# N-80 LT&C & Buttress casing. Cement with 540 Sx. 50/50 POZ + 2% Gel + 3% salt + .2% retarder. Cement top to be no less than 12,000' from surface.

10. Pressure Control Equipment: Exhibits "E","E-1", "E-2", "E-3",show skematics of BOP equipment to be used. A series 1500 5000 PSI WP BOP consisting of double ram type and annular preventor will be nipped up on 13 3/8" casing. Change BOP to 10,000 PSI WP after 9 5/8" casing is run and cemented. Test BOP, casing, and choke manifold to API specs. BOP pipe ram should be worked once each 24 hours and blind rams to be worked when drill pipe is out of hole on trips. Flow sensor, PVT, full opening stabbing valve and upper kelley cock will be utilized. No abnormal pressure or temperature is expected. Estimated BHP 6500 PSI and 190° BHT.

11. Proposed Mud Circulating System:

DEPTH	MUD WEIGHT	MUD VISC.	FLUID LOSS	TYPE MUD
0-600'	8.6-9	32-34	NC	Fresh water Spud mud
600-5280'	9-9.4	28-30	NC	Brine water add paper as necessary to control seepage
5280-12000'	8.4-8.6	28-30	NC	Fresh water add paper to control seepage
12000-15200'	10-11.7	28-40	NC-6CC	Brine Polymer system add add barite as necessary to control pressure as needed.

Sufficient mud materials to maintain mud properties to meet lost circulation and weight increase requirements will be kept at wellsite at all times. In order to DST, log well and/or run casing the water loss may have to be lowered and the viscosity raised.

12. Testing, Logging and Coring Program:

A. Two man mud logging unit on at 4000' to TD.

B. Sidewall cores in the Delaware & Bone Spring.

C. AIT/ Dual Laterolog-MSFL from TD to base of surface casing.

D. CNL-FDC , Gamma Ray, Caliper from TD to surface.

E. BHC SONIC from TDto base of surface casing.

F. DST'S as show may dictate.

13. Potential Hazards:

No abnormal pressures or temperatures are expected. Hydrogen Sulfide gas may be encountered, H_2S detectors will be in place to detect any presence. No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used. Estimated BHP 6000 PSI, estimated BHT 185° .

14. Anticipated Starting Date and Duration of Operation:

Road and location construction will begin after BLM approval of APD. Anticipated spud date as soon as approved. Drilling expected to take 75 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 swab tested and potentialed as a gas well.

HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

1. All Company and Contract personnel admitted on location must be trained by a qualified H_2S safety instructor to the following:

   A. Characteristics of H_2S
   B. Physical effects and hazzards
   C. Proper use of safety equipment and life support systems.
   D. Principle and operation of H_2S detectors, warning system and briefing areas.
   E. Evacuation procedure, routes and first aid.
   F. Proper use of 30 minute pressure demand air pack.

2. H_2S Detection and Alarm Systems

   A. H_2S detectors and audio alarm system to be located at bell nipple, end of blooie 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.
   C. There should be a windsock at entrance to location.

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, H_2S 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 telephoned will be available at most drilling foreman's trailer or living quarters.

7. Drillstem Testing

   A. All testing will be done in daylight hours.
   B. Exhausts will be watered
   C. Flare line will be equipped with an electric ignitor or a propane pilot light in case gas reaches the surface.
   D. If location is near any dwelling a closed D.S.T. will be performed.

HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

8. Drilling contractor supervisor will be required to be familiar with the effects H_2S has on tubular goods and other mechanical equipment.

9. If H_2S is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas seperator will be brought into service along with H_2S scavengers if necessary.

SURFACE USE PLAN

PENWELL ENERGY INC.
JD "33" FEDERAL # 1
660' FNL & 2080' FEL SEC. 33
T21S-R33E LEA CO. 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 Hobbs New Mexico take U.S. High-way 62-180 West toward Carlsbad go 23 miles to Marathon road turn South go 8 mile to State road 176 turn West go 6 miles to Hat Mesa road turn South follow road for 2.2 miles turn East go 1.2 miles bear Southeast go 1.4 miles then bear South go 3.1 miles turn East follow pipeline road for 2.9 miles turn South go .3 miles turn west to location.

2. PLANNED ACCESS ROADS : Approximately 1200' of new road will be constructed. will be constructed.

   A. the access road will be crowned and ditched to a 12'00" wide travel surface with a 40' right-of-way.

   B. Gradient on all roads will be less tha 5.00%.

   C. No turnouts will be necessary.

   D. If needed, road will be surfaced with a minimum of 4" of caliche. This material will be obtained from a local source.

   E. Centerline for the new access road has been flagged. Earthwork will be as required by field conditions.

   F. Culverts in the access road will not be used. The road will be constructed to utilize low water crossings for drainage as required by the Lopography.

3. LOCATION OF EXISTING WELLS IN A ONE-MILE RADIUS EXHIBIT "A-1"

   A. Water wells - One well approximately .9 miles North of location.

   B. Disposal wells - None known.

   C. Drilling wells - None known.

   D. Producing wells - As shown on Exhibit "A-1".

   E. Abandoned wells - As shown on Exhibit "A-1".

4. If, upon completion this well is a producer Penwell Energy Inc. will furnish maps and/or plats showing on site facilities or off site facilities if needed. This will be accompanied with a Sundry Notice.

5. LOCATION AND TYPE OF WATER SUPPLY

Water will be purchased locally from a private source and trucked over the access roads or piped in flexible lines laid on top of the ground.

6. SOURCE OF CONSTRUCTION MATERIALS

If needed, construction materials will be obtained from the drill site's excavations or from a local source. These materials will be transported over the access route as shown on Exhibit "A".

7. METHODS FOR HANDLING WASTE DISPOSAL

A. 1. Drill cuttings will be disposed of in the reserve pit.

2. Trash, waste paper, and garbage will either be contained in a fenced trash trailer or in a trash pit, fenced with mesh wire to prevent wind-scattering during storage. When the rig moves out, all trash and debris left at the site will be contained to prevent scattering and will be buried at least 36" deep within a reasonable period of time.

3. Salts remaining after completion of the well will be picked up by the supplier, including broken sacks.

4. Sewage from trailer houses will drain into holes with minimum depth of 10'00". These holes will be covered during drilling and backfilled upon completion. A "porta John" will be provided for the rig crews. This will be properly maintained during the drilling operations and removed upon completion of the well.

B. Remaining drilling fluids will be allowed to evaporate in the reserve pit until the pit is dry enough for backfilling. In the event drilling fluids will not evaporate in a reasonable period of time they will be transported by tank truck to a state approved disposal site.

Water produced during testing of the well will be disposed of in the reserve pit. Oil produced during testing of the well will be stored in test tanks until sold and hauled from the site.

8. ANCILLARY FACILITILS

No camps or airstrips will be constructed.

9. WELL SITE LAYOUT

A. Exhibit "D" shows the proposed well site layout.

B. This exhibit indicated proposed location of reserve and sump pits and living facilities.

C. Mud pits in the active circulating system will be steel pits and the reserve pit is proposed to be unlined unless subsurface condition encountered during pit construction indicate that lining is needed for lateral containment of fluids.

D. If needed, the reserve pit is to be lined with polyethlene. The pit liner will be 6 mils thick. Pit liner will extend a minimum 2'00" over the reserve pits dikes where the liner will be anchored down.

E. The reserve pit will be fenced on three sides with four strands of barbed wire during drilling and completion phases. The fourth side will be fenced after all drilling operations have ceased. If the well is a producer, the reserve pit fence will be torn down. The reserve pit and those areas of the location not essential to production facilities will be reclaimed and seeded per BLM requirements.

10. PLANS FOR RESTORATION OF SURFACE

Rehabilitation of the location and reserve pit will start in a timely manner after all drilling operations cease. The type of reclamation will depend on whether the well is a producer or a dry hole.

However, in either event, the reserve pit will be allowed to dry properly, and fluid removed and disposed of in accordance with Article 7.B as previously noted. The pit area will then be leveled and contoured to conform to the original and surrounding area. Drainage systems, if any, will be reshaped to the original configuration with provisions made to alleviate erosion. These may need to be modified in certain circumstances to prevent inundation of the location's pad and surface facilities. After the area has been shaped and contoured, topsoil from the spoil pile will be placed over the disturbed area to the extent possible. Revegetation procedures will comply with BLM standards.

If the well is a dry hole, the pad and road area will be contoured to match the existing terrain. Topsoil will be spread to the extent possible. Revegetation will comply with BLM standards.

Should the well be a producer, the previously noted procedures will apply to those areas which are not required for production facilities.

SURFACE USE PLAN

PENWELL ENERGY, INC.
JD "33" FEDERAL # 1
660' FNL & 2080' FEL SEC. 33
T21S-R33E LEA CO. NM

11. OTHER INFORMATION:

A. Topography is relatively flat with a low relief drainage to the South. Soil is a sandy loam.

B. The surface is privately owned and is used for livestock grazing and access roads for monitering oil adn gas production. Minerals are owned by The U. S. Government.

C. An archaeological survey will be conducted for the location and access road. This will be submitted to the BLM separatley when completed.

D. There are no dwellings within 2 miles of this location.

12. OPERATORS REPRESENTIVE:

Before construction:

TIERRA EXPLORATION INC.
P.O. BOX 2188
HOBBS, NEW MEXICO 88241
OFFICE PHONE 505-392-2112
JOE T. JANICA

During and after construction:

PENWELL ENERGY INC.
1100 ARCO BUILDING
600 NORTH BIG SPRING
MIDLAND, TEXAS 79701
GORDON BARKER PHONE 915-683-2534

13. 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 that the work associated with the operations proposedherein will be performed by Penwell Energy Inc., its contractors/subcontractors is in the conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provision of U.S.C. 1001 for the filing of a false statement.

NAME : Joe T Janica
DATE : 02/02/96
TITLE : Agent

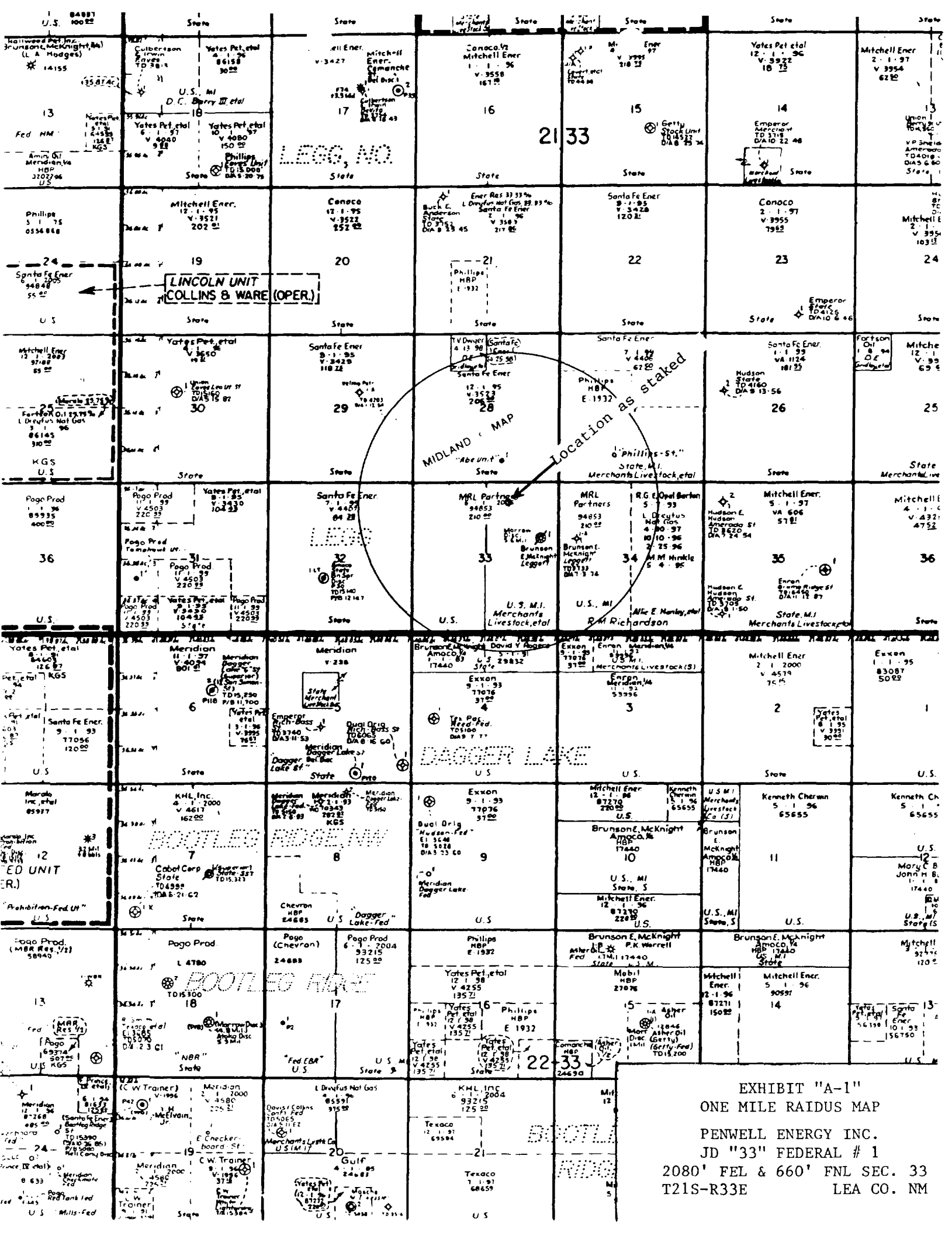


EXHIBIT "A-1"
ONE MILE RAIDUS MAP

PENWELL ENERGY INC.
JD "33" FEDERAL # 1
2080' FEL & 660' FNL SEC. 33
T21S-R33E LEA CO. NM

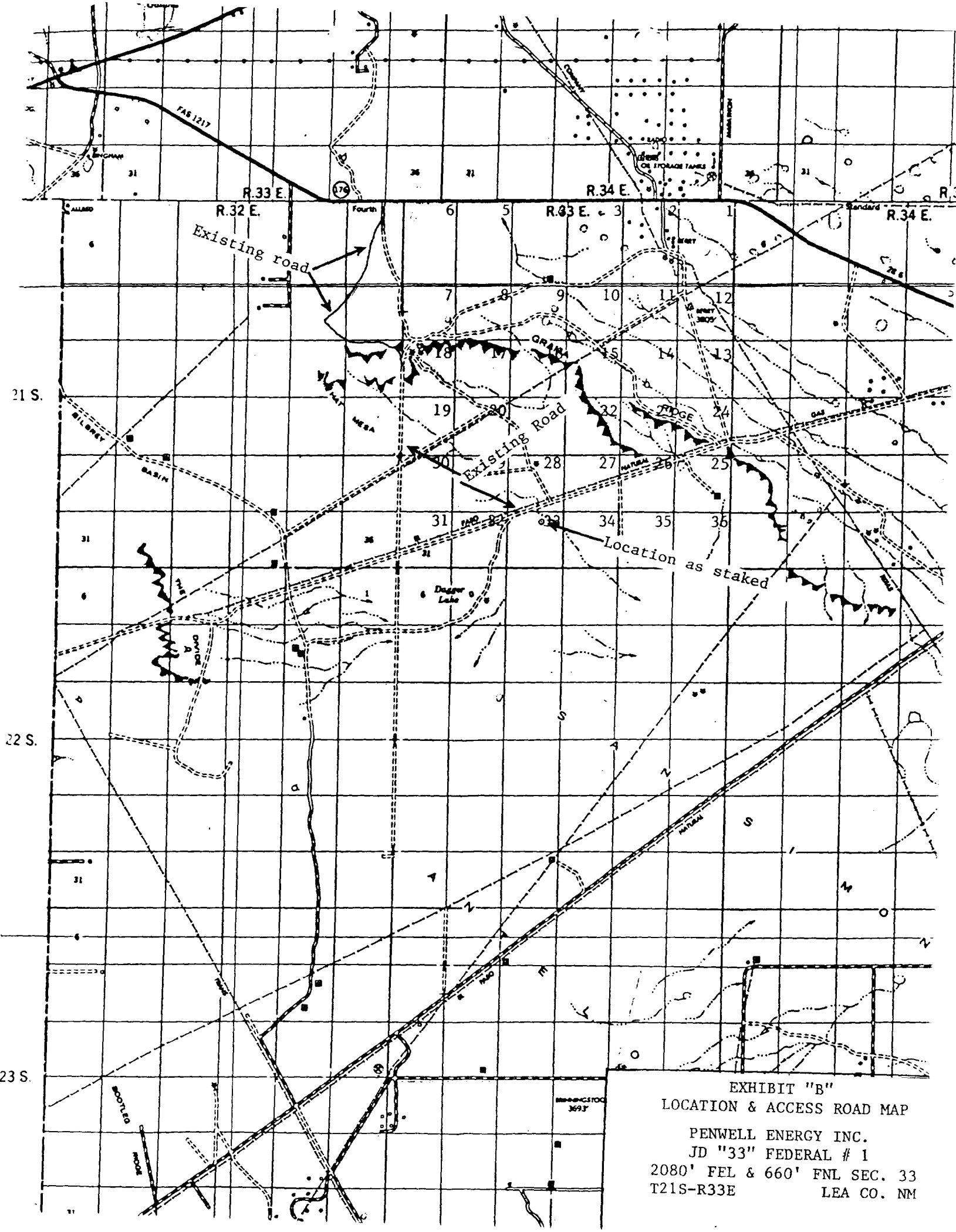


EXHIBIT "B"
LOCATION & ACCESS ROAD MAP

PENWELL ENERGY INC.
JD "33" FEDERAL # 1
2080' FEL & 660' FNL SEC. 33
T21S-R33E LEA CO. NM

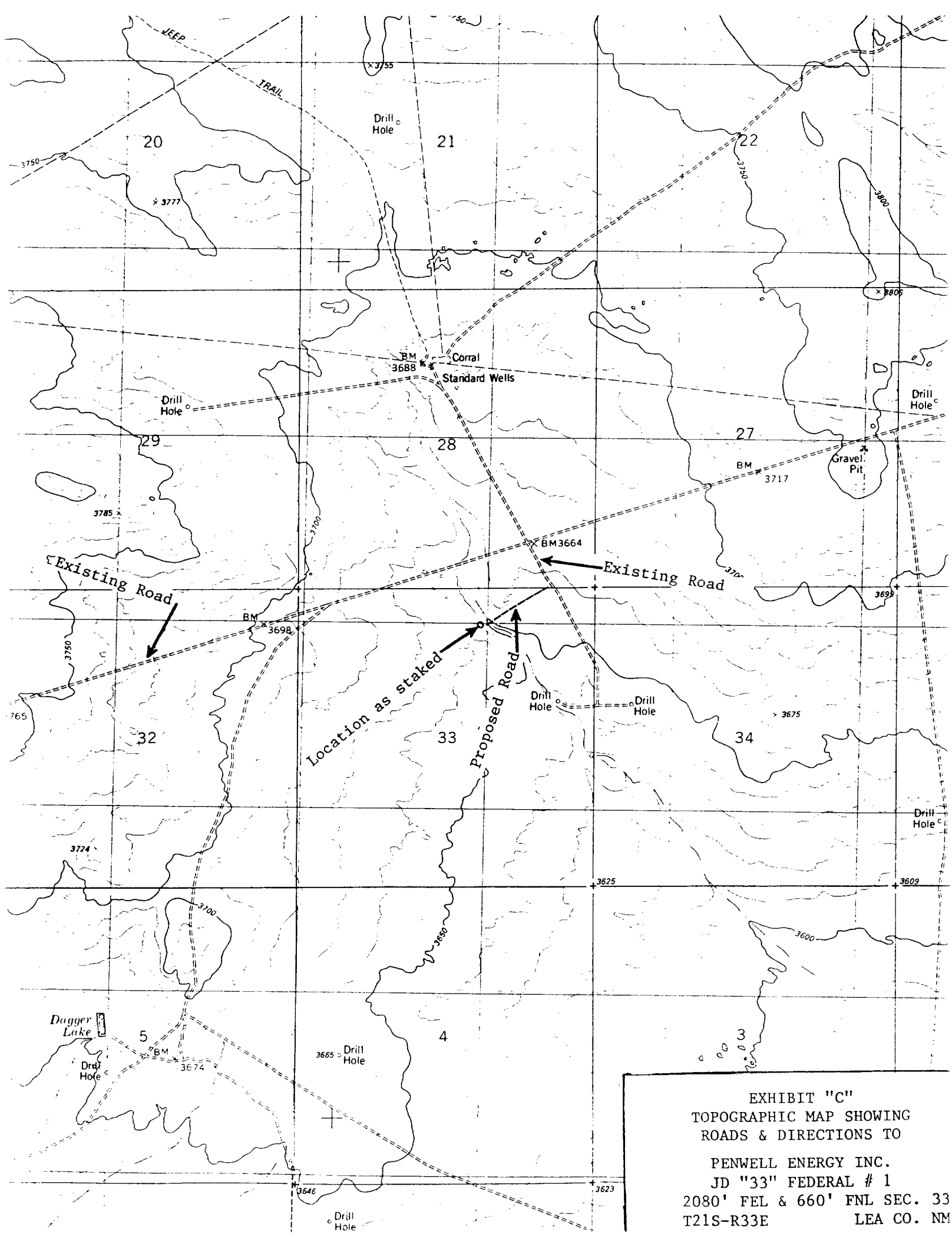
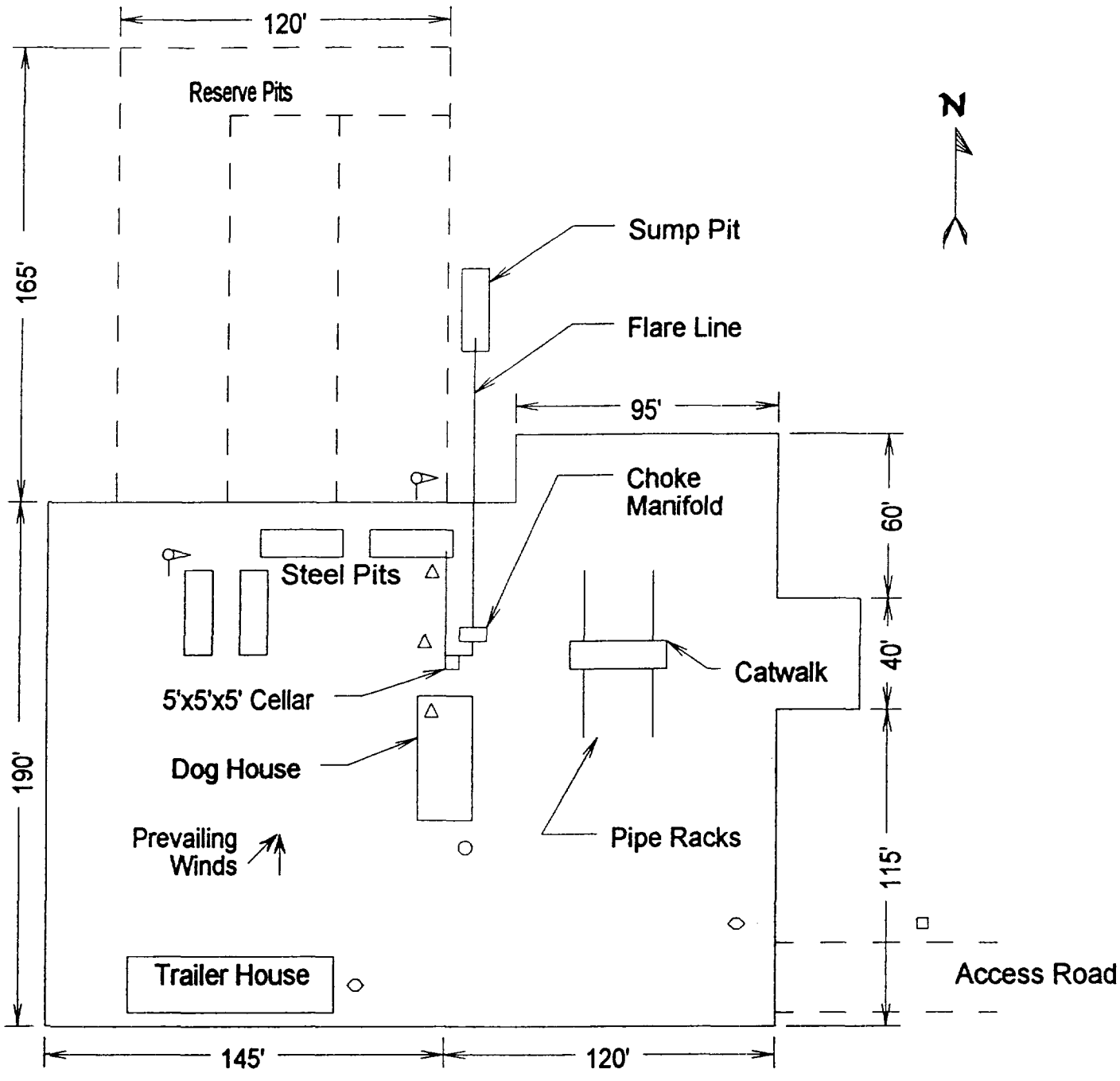


EXHIBIT "C"
TOPOGRAPHIC MAP SHOWING
ROADS & DIRECTIONS TO

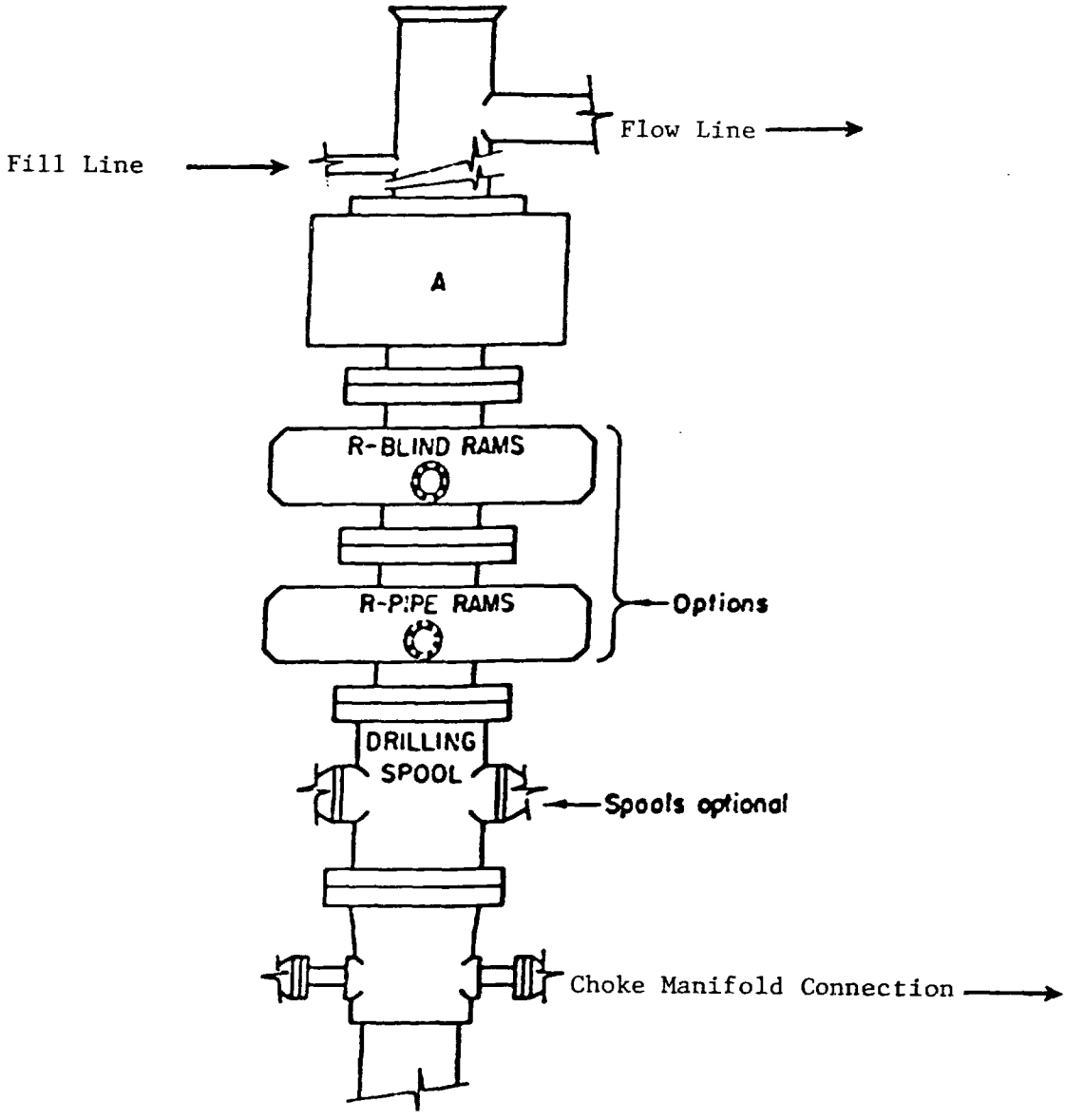
PENWELL ENERGY INC.
JD "33" FEDERAL # 1
2080' FEL & 660' FNL SEC. 33
T21S-R33E LEA CO. NM



- 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 "D"
RIG LAYOUT PLAT

PENWELL ENERGY INC.
JD "33" FEDERAL # 1
2080' FEL & 660' FNL SEC. 33
T21S-R33E LEA CO. NM



ARRANGEMENT SRRA

1500 Series
5000 PSI WP

EXHIBIT "E"
B.O.P. SKETCH TO BE USED ON

PENWELL ENERGY INC.
JD "33" FEDERAL # 1
2080' FEL & 660' FNL SEC. 33
T21S-R33E LEA CO. NM

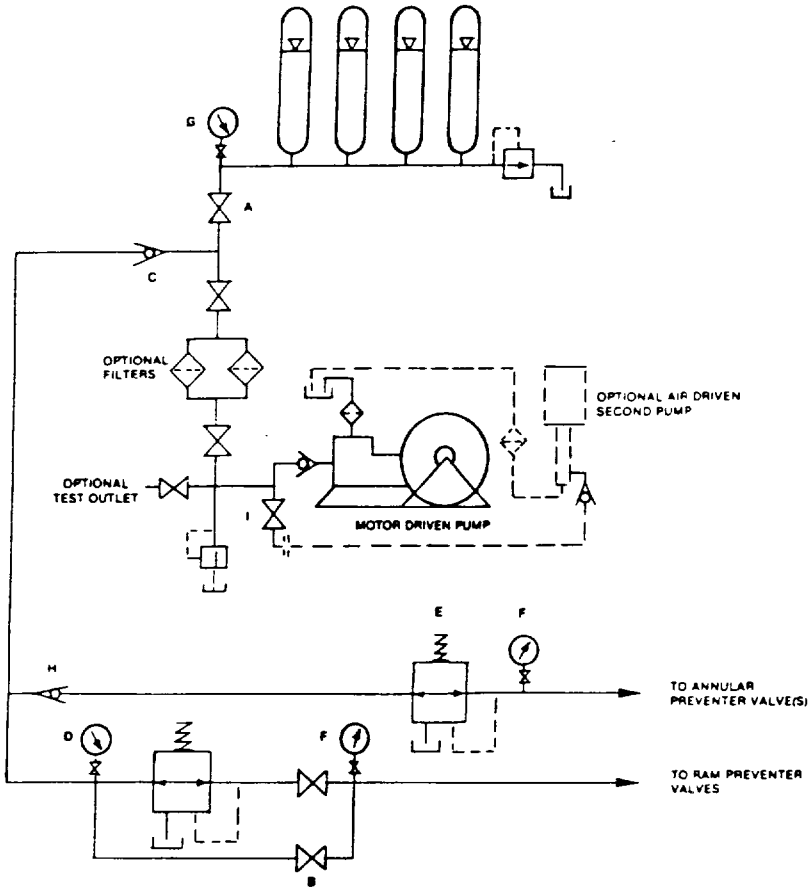


FIGURE K6-1. The schematic sketch of an accumulator system shows required and optional components.

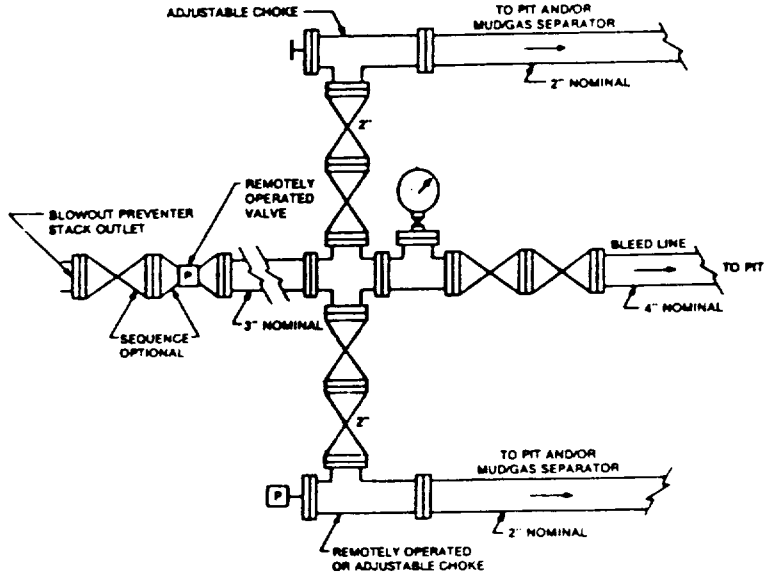


FIGURE K4-2. Typical choke manifold assembly for 5M rated working pressure service — surface installation.

EXHIBIT "E-1"
CHOKE MANIFOLD & CLOSING UNIT

PENWELL ENERGY INC.
JD "33" FEDERAL # 1
2080' FEL & 660' FNL SEC. 33
T21S-R33E LEA CO. NM

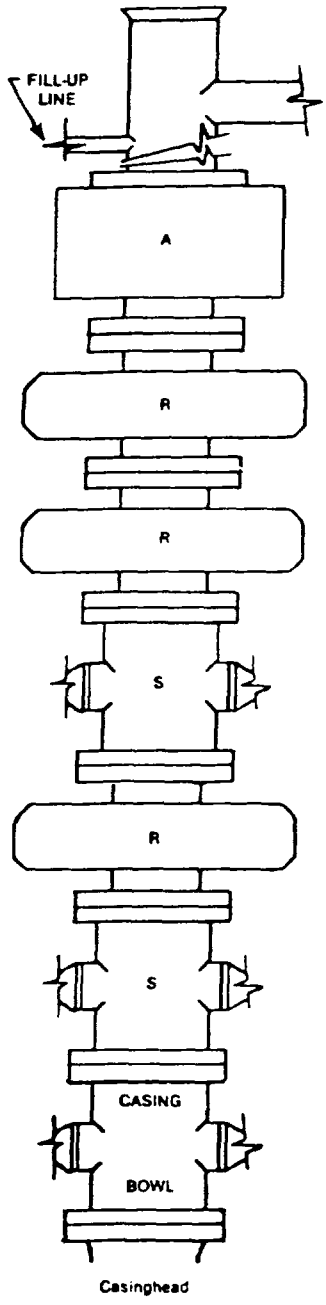


FIGURE K1-3. Recommended IADC Class 10 BOP stack arrangement SRSRRA, 10,000 psi WP. Lower drilling spool is optional with outlets on lower ram. Annular preventers 10,000 psi.

EXHIBIT "E-2"
B.O.P. SKETCH TO BE USED ON

PENWELL ENERGY INC.
JD "33" FEDERAL # 1
2080' FEL & 660' FNL SEC. 33
T21S-R33E LEA CO. NM

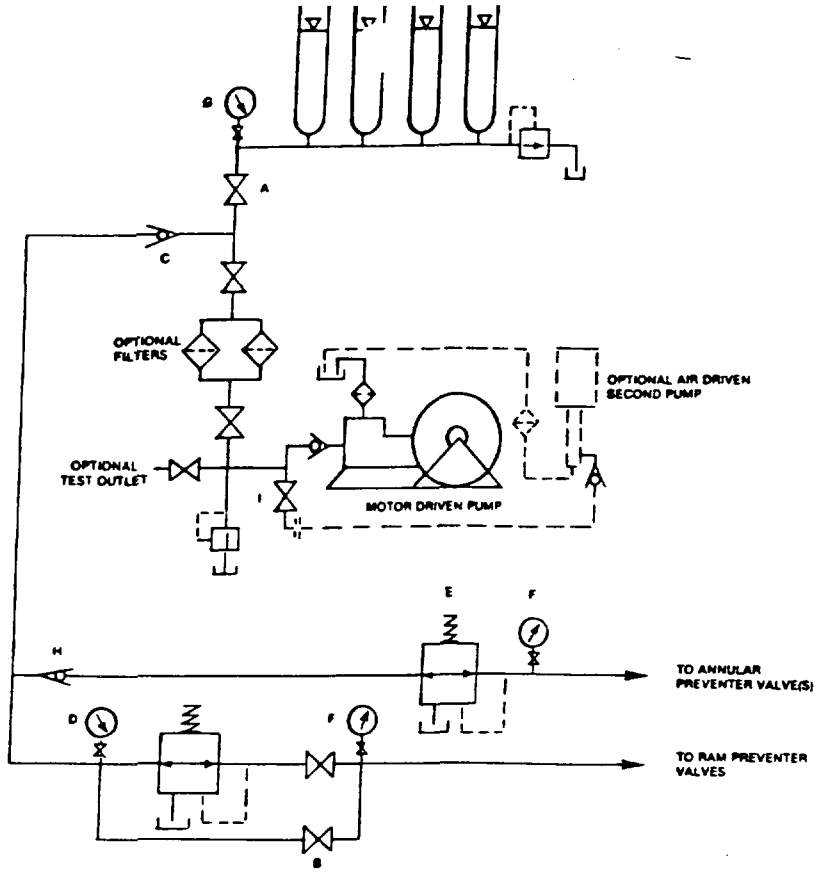


FIGURE K6-1. The schematic sketch of an accumulator system shows required and optional components.

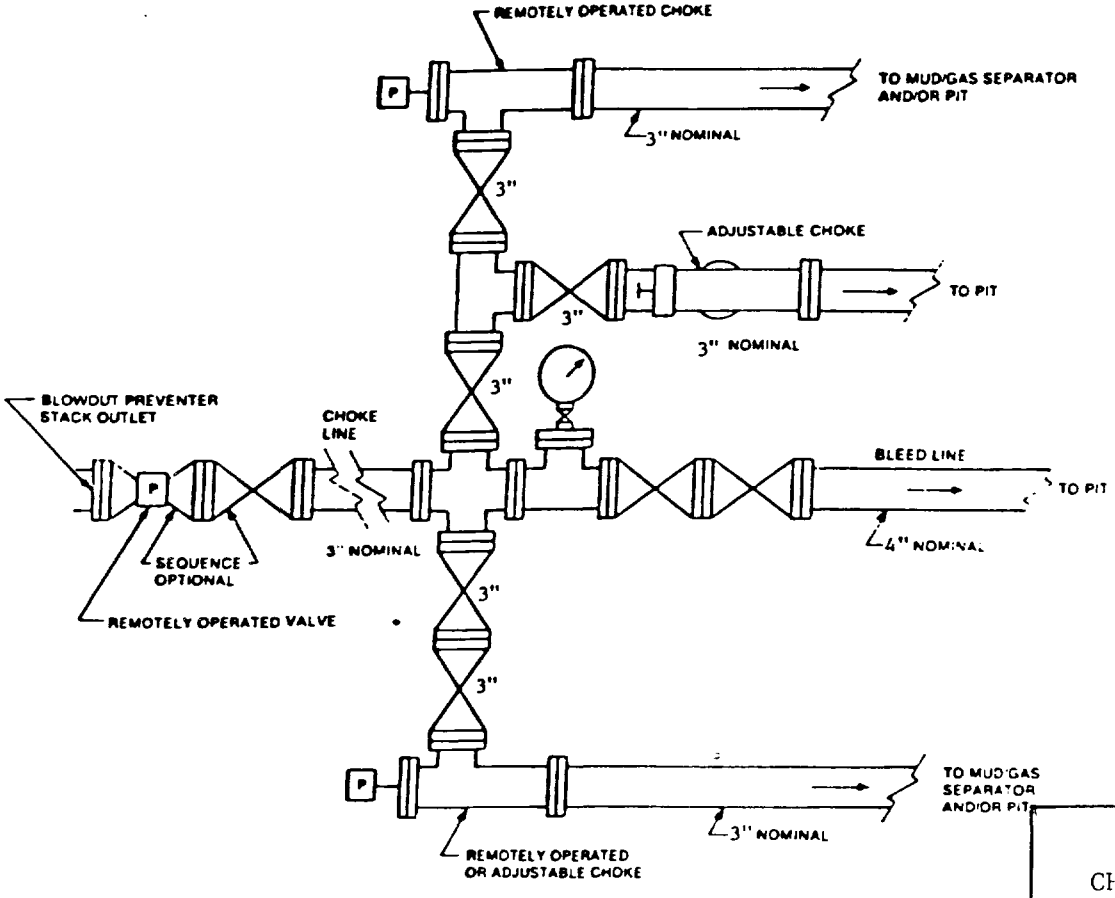


FIGURE K4-3. Typical choke manifold assembly for 10M and 15M rated working pressure service — surface installation.

EXHIBIT "E-3"
CHOKE MANIFOLD & CLOSING UNIT

PENWELL ENERGY INC.
JD "33" FEDERAL # 1
2080' FEL & 660' FNL SEC. 33
T21S-R33E LEA CO. NM

BEFORE THE
OIL CONSERVATION DIVISION
Santa Fe, New Mexico

Case No. 11505 Exhibit No. 2

Submitted by: Penwell Energy, Inc.

Hearing Date: April 4,1996

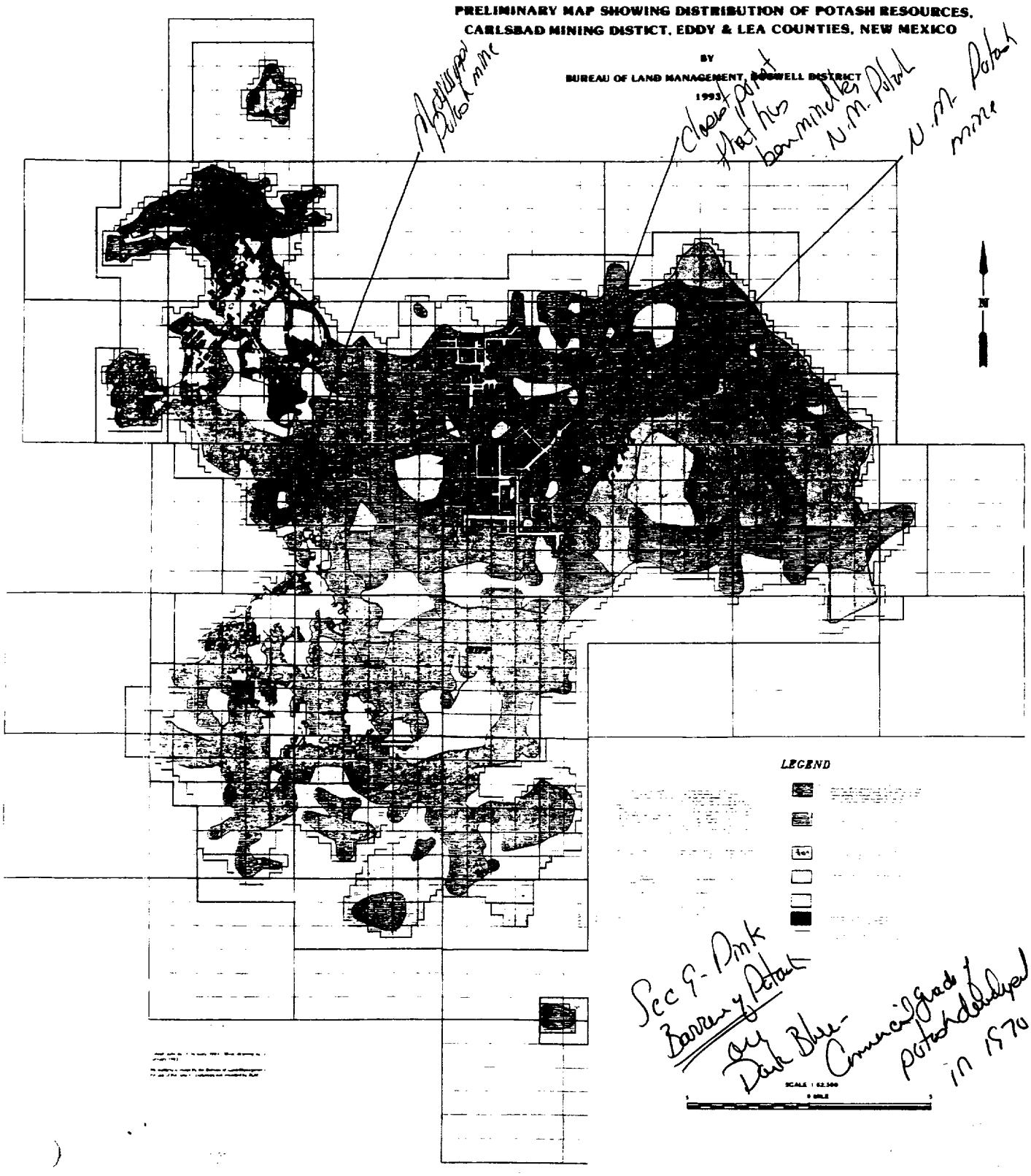

PRELIMINARY MAP SHOWING DISTRIBUTION OF POTASH RESOURCES,
CARLSBAD MINING DISTICT, EDDY & LEA COUNTIES, NEW MEXICO
BY
BUREAU OF LAND MANAGEMENT, ROSWELL DISTRICT
1993
Abandoned Potash mine
Clear part that has been mined by N.M. Potash
N.M. Potash mine
N
LEGEND
Sec 9 - Pink Barren Tract
Dark Blue - Commercial Grade potash deposit in 1970.
SCALE 1:62,500
1 MILE

EXHIBIT ____

BEFORE THE
OIL CONSERVATION DIVISION
Santa Fe, New Mexico

Case No. 11505 Exhibit No. 3

Submitted by: Penwell Energy, Inc.

Hearing Date: April 4,1996

LARGE FORMAT EXHIBIT HAS BEEN REMOVED AND IS LOCATED IN THE NEXT FILE

POTASH AREA

Order No. R-111-P, Adopting Rules and Regulations Governing the Exploration and Development of Oil and Gas in the Potash Areas in Eddy and Lea Counties, New Mexico, April 21, 1988

Order No. R-111-P rescinds Order No. R-111 and amendments through R-111-O.

Application of the Oil Conservation Division upon its own motion to Revise Order R-111, as Amended, pertaining to the Potash Areas of Eddy and Lea Counties, New Mexico.

CASE NO. 9613
Order No. R-111-P

ORDER OF THE COMMISSION

BY THE COMMISSION: This cause came on for hearing at 9:00 a.m. February 18, 1988, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW, on this 21st day of April, 1988, the Commission, a quorum being present, having considered the testimony presented and the exhibits received at said hearing and being fully advised in the premises.

FINDS THAT:

(1) Due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) Order No. R-111-A was entered July 14, 1955, and since that time no amendments have been entered, except amendments to Exhibit "A" attached hereto, despite significant advances in drilling technology and practices.

(3) Operations under Order R-111-A has become virtually unworkable because of 1) the lack of tolerance on the part of both oil/gas and Potash Industries in regarding the activities of the other industry in areas where leasehold interests are overlapping and 2) confusion recording the boundaries of the known Potash Leasing Area (KPLA) established by the U.S. Bureau of Land Management (BLM) and the R-111-A area as amended by Orders R-111-B through O.

(4) The then Director of the Oil Conservation Division (ODC) by memorandum dated March 21, 1986 convened a study committee of volunteer representatives from the oil and potash industries and other interested parties.

(5) The committee met May 29, September 25-26, and November 13-14 (field trip) in 1986 and on March 19, 1987.

(6) By committee agreement a work committee was formed from the larger committee consisting of three members and one alternate from each industry and this work committee was chaired by the OCD Chief Petroleum Engineer and charged with the responsibility to develop proposed amendments to Order R-111-A. It met on April 30, May 1, July 23-24 and November 23, 1987.

(7) Each meeting of the work committee was held in the presence of representives of both BLM and OCD; and at its final meeting November 23, 1987 an agreement was reached and signed by the committee members present, which agreement is attached hereto as Exhibit "B", for the purpose of providing background information and acknowledging the concensus reached by representives of the Oil and Gas and Potash Industries relating to the multiple use of resources in the potash area.

(8) Exhibit "B" is regarded by the Commission as a report of both the work committee and the full study committee since a draft copy of a nearly identical agreement was furnished to each member of the study committee for comment, and comments received thereon were addressed at the final meeting.

(9) The agreement represents a compromise by both industries, the potash operators relinquishing lower grade marginal or uneconomic ore deposits in order to more fully protect their higher grade ore deposits; and the oil/gas operators receiving such lands containing sub-economic ore deposits as prospective drill-sites.

(10) The Oil and Gas Act, 70-2-3 F NMSA 1978, declares as waste "drilling or producing operations for oil or gas within any area containing commercial deposits of Potash where such operations would have the effect unduly to reduce the total quantity of such commercial deposits of potash which may reasonably be recovered -- or where such operations would interfere unduly with the orderly commercial development of such potash deposits".

(11) The Oil and Gas Act in 70-2-12 B(17) empowers the Division "to regulate and, where necessary, prohibit drilling or producing operations for oil and gas" in areas which would cause waste as described in 70-2-3 F.

(12) The report of the work committee presents a reasonable process for determining where wells for oil and gas would cause waste of potash and the pertinent portions of said report should be contained in the order as a reasonable process for prohibiting oil and gas drilling in such areas in the absence of substantial evidence that waste of potash as described by the statute would not result.

(13) Release of methane into potash mine workings would endanger the lives of miners and would render further mining activities uneconomic because of the additional, and more expensive safety requirements which would be imposed by the Mine Safety and Health Administration (MSHA) of the U.S. Department of Labor.

(14) Salt and potash deposits are essentially non-porous and impermeable but are inter-bedded with clay seams which, in an undisturbed state are porous but of extremely low permeability.

(15) Primary mining activity creates minor localized disturbance but secondary mining causes subsidence of the overburden the effects of which tend to expand beyond the mined out area a distance approximately equal to the depth of the mined area.

(16) During the drilling of wells for oil and gas, measures should be taken to protect the salt-protection casing from internal pressures greater than the designed burst resistance plus a safety factor so as to prevent any possible entry of methane into the salt and potash interval.

BEFORE THE
OIL CONSERVATION DIVISION
Santa Fe, New Mexico

Case No. 11505 Exhibit No. 5

Submitted by: Penwell Energy, Inc.

Hearing Date: April 4,1996

(POTASH AREA - Cont'd.)

(17) A proposed revision of Order R-111-A was presented at the hearing and comments were received thereon both orally at the hearing and in writing subsequent to the hearing, the record being held open for two weeks subsequent to the hearing, as announced by the Chairman.

(18) Testimony and comments both in support and in opposition to the proposed revision of the order were received at the hearing and subsequent thereto, some pointing out that the number of oil or gas wells which could be drilled under the terms of the committee report would be reduced but no comments addressed the possible waste of potash as a result of additional drilling.

(19) One member of the work committee from the potash industry testified the proposed revision of Order R-111-A failed to prohibit drilling in the commercial ore areas and was therefore contrary to the work committee report and the Oil and Gas Act.

(20) The Commission cannot abdicate its discretion to consider applications to drill as exceptions to its rules and orders but in the interest of preventing waste of potash should deny any application to drill in commercial potash areas as recommended in the work committee report, unless a clear demonstration is made that commercial potash will not be wasted unduly as a result of the drilling of the well.

(21) Confusion can be reduced and efficiencies can be obtained by making the area covered by Order R-111 coterminous with the KPLA as determined by the BLM, and the area should be expanded and contracted by the regular pool nomenclature procedure rather than by separate hearings and further revisions of Order R-111.

(22) Expansions of the R-111 area to coincide with the KPLA will bring under the purview of this order areas where potash is either absent or non-commercial and such areas should be granted less stringent casing, cementing and plugging requirements, at the discretion of the OCD district supervisor.

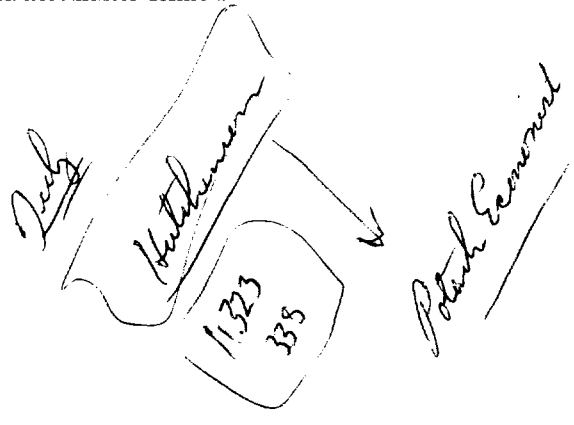
(23) The proposed revision of Order R-111-A will permit the drilling of wells for oil or gas in areas previously not available for such drilling and will prevent waste of potash, and further, will serve to reduce confusion and uncertainty in the conduct of operations by both the potash and oil/gas industries, all to the benefit of the State and its citizens.

IT IS THEREFORE ORDERED THAT:

This order shall be known as The Rules and Regulations Governing the Exploration and Development of Oil and Gas in Certain Areas Herein Defined, Which Are Known To Contain Potash Reserves.

A. OBJECTIVE

The objective of these Rules and Regulations is to prevent waste, protect correlative rights, assure maximum conservation of the oil, gas and potash resources of New Mexico, and permit the economic recovery of oil, gas and potash minerals in the area hereinafter defined.



B. THE POTASH AREA

(1) The Potash Area, as described in Exhibit A attached hereto and made a part hereof, represents the area in various parts of which potash mining operations are now in progress, or in which core tests indicate commercial potash reserves. Such area is coterminous with the Known Potash Leasing Area (KPLA) as determined by the U.S. Bureau of Land Management (BLM).

(2) The Potash Area, as described in Exhibit "A" may be revised by the Division after due notice and hearing at the regular pool nomenclature hearings, to reflect changes made by BLM in its KPLA.

C. DRILLING IN THE POTASH AREA

(1) All drilling of oil and gas wells in the Potash Area shall be subject to these Rules and Regulations.

(2) No wells shall be drilled for oil or gas at a location which, in the opinion of the Division or its duly authorized representative, would result in undue waste of potash deposits or constitute a hazard to or interfere unduly with mining of potash deposits.

No mining operations shall be conducted in the Potash Area that would, in the opinion of the Division or its duly authorized representative, constitute a hazard to oil or gas production, or that would unreasonably interfere with the orderly development and production from any oil or gas pool.

(3) Upon discovery of oil or gas in the Potash Area, the Oil Conservation Division may promulgate pool rules for the affected area after due notice and hearing in order to address conditions not fully covered by these rules and the general rules.

(4) The Division's District Supervisor may waive the requirements of Sections D and F which are more rigorous than the general rules upon satisfactory showing that a location is outside the Life of Mine Reserves (LMR) and surrounding buffer zone as defined hereinbelow and that no commercial potash resources will be unduly diminished.

(5) All encounters with flammable gas, including hydrogen sulfide, during drilling operations shall be reported immediately to the appropriate OCD District office followed by a written report of same.

D. DRILLING AND CASING PROGRAM

(1) For the purpose of the regulations and the drilling of wells for oil and gas, shallow deep zones are defined as follows:

(a) The shallow zone shall include all formations above the base of the Delaware Mountain Group or, above a depth of 5,000 feet, whichever is lesser.

(b) The deep zone shall include all formations below the base of the Delaware Mountain Group or, below a depth of 5,000 feet, whichever is lesser.

(c) For the purpose of identification, the base of the Delaware Mountain Group is hereby identified as the geophysical log marker found at a depth of 7485 feet in the Richardson and Bass No. 1 Rodke well in Section 27, Township 20 South, Range 31 East, NMPM, Eddy County, New Mexico.

(POTASH AREA - Cont'd.)

(2) SURFACE CASING STRING:

(a) A surface casing string of new or used oil field casing in good condition shall be set in the "Red Bed" section of the basal Rustler formation immediately above the salt section, or in the anhydrite at the top of the salt section, as determined necessary by the regulatory representative approving the drilling operations, and the cement shall be circulated to the surface.

(b) Cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty four (24) hours before drilling the plug or initiating tests.

(c) Casing and water-shut-off tests shall be made both before and after drilling the plug and below the casing seat as follows:

(i) if rotary tools are used, the mud shall be displaced with water and a hydraulic pressure of six hundred (600) pounds per square inch shall be applied, if a drop of one hundred (100) pounds per square inch or more should occur within thirty (30) minutes, corrective measures shall be applied.

(ii) if cable tools are used, the mud shall be bailed from the hole, and if the hole does not remain dry for a period of one hour, corrective measures shall be applied.

(d) The above requirements for the surface casing string shall be applicable to both the shallow and deep zones.

(3) SALT PROTECTION STRING:

(a) A salt protection string of new or used oil field casing in good condition shall be set not less than one hundred (100) feet nor more than six hundred (600) feet below the base of the salt section; provided that such string shall not be set below the top of the highest known oil or gas zone. With prior approval of the OCD District Supervisior the wellbore may be deviated from the vertical after completely penetrating Marker Bed No. 126 (USGS) but that section of the casing set in the deviated portion of the wellbore shall be centralized at each joint.

(b) The salt protection string shall be cemented, as follows:

(i) For wells drilled to the shallow zone, the string may be cemented with a nominal volume of cement for testing purposes only. If the exploratory test well is completed as a productive well, the string shall be re-cemented with sufficient cement to fill the annular space back of the pipe from the top of the first cementing to the surface or to the bottom of the cellar, or may be cut and pulled if the production string is cemented to the surface as provided in sub-section D (5) (a) (i) below.

(ii) For wells drilled to the deep zone, the string must be cemented with sufficient cement to fill the annular space back of the pipe from the casing seat to the surface or to the bottom of the cellar.

(c) If the cement fails to reach the surface or bottom of the cellar, where required, the top of the cement shall be located by a temperature, gamma ray or other survey and additional cementing shall be done until the cement is brought to the point required.

(d) The fluid used to mix with the cement shall be saturated with the salts common to the zones penetrated and with suitable proportions but not less than 1% of calcium chloride by weight of cement.

(e) Cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests.

(f) Casing tests shall be made both before and after drilling the plug and below the casing seat, as follows:

(i) If rotary tools are used, the mud shall be displaced with water and a hydraulic pressure of one thousand (1000) pounds per square inch shall be applied. If a drop of one hundred (100) pounds per square inch or more should occur within thirty (30) minutes, corrective measures shall be applied.

(ii) If cable tools are used, the mud shall be bailed from the hole and if the hole does not remain dry for a period of one hour, corrective measures shall be applied.

(g) The Division, or its duly authorized representative, may require the use of centralizers on the salt protection string when in their judgement the use of such centralizers would offer further protection to the salt section.

(h) Before drilling the plug a drilling spool installed below the bottom blowout preventer of the wellhead casing outlet shall be equipped with a rupture disc or other automatic pressure-relief device set at 80% of the API-rated burst pressure of new casing or 60% of the API-rated burst pressure of used casing. The disc or relief device should be connected to the rig choke manifold system so that any flow can be controlled away from the rig. The disc or relief device shall remain installed as long as drilling activities continue in the well until the intermediate or production casing is run and cemented.

(i) The above requirements for the salt protection string shall be applicable to both the shallow and deep zones except for sub-section D (3) (b) (i) and (ii) above.

(4) INTERMEDIATE STRING:

(a) In drilling wells to the deep zone for oil or gas, the operator shall have the option of running an intermediate string of pipe, unless the Division requires an intermediate string be run.

(b) Cementing procedures and casing test for the intermediate string shall be the same as provided under sub-sections D (3) (c), (e) and (f) for the salt protection string.

(5) PRODUCTION STRING:

(a) A production string shall be set on top or through the oil or gas pay zone and shall be cemented as follows:

(i) For wells drilled to the shallow zones the production string shall be cemented to the surface if the salt protection string was cemented only with a nominal volume for testing purposes, in which case the salt protection string can be cut and pulled before the production string is cemented; provided, that if the salt protection string was cemented to the surface, the production string shall be cemented with a volume adequate to protect the pay zone and the casing above such zone.

(ii) For wells drilled to the deep zone, the production string shall be cemented with a volume adequate to protect the pay zone and the casing above such zone; provided, that if no intermediate string shall have been run and cemented to the surface, the production string shall be cemented to the surface.

POTASH AREA - Cont'd.)

(b) Cementing procedures and casing tests for the production string shall be the same as provided under sub-section D (3) (c), (e) and (f) for the salt protection string; however if high pressure oil or gas production is discovered in an area, the Division may promulgate the necessary rules to prevent the charging of the salt section.

E. DRILLING FLUID FOR SALT SECTION

The fluid used while drilling the salt section shall consist of water, to which has been added sufficient salts of a character common to the zone penetrated to completely saturate the mixture. Other mixtures may be added to the fluid by the operator in overcoming any specific problem. This requirement is specifically intended to prevent enlarged drill holes.

F. PLUGGING AND ABANDONMENT OF WELLS

(1) All wells heretofore and hereafter drilled within the Potash Area shall be plugged in a manner and in accordance with the general rules or field rules established by the Division that will provide a solid cement plug through the salt section and any water-bearing horizon and prevent liquids or gases from entering the hole above or below the salt section.

(2) The fluid used to mix the cement shall be saturated with the salts common to the salt section penetrated and with suitable proportions but not more than three (3) percent of calcium chloride by weight of cement being considered the desired mixture whenever possible.

G. DESIGNATION OF DRILLABLE LOCATION FOR WELLS:

(a) Within ninety (90) days following effective date of this Order and annually thereafter by January 31, if revised, each potash lessee, without regard to whether the lease covers State or Federal lands, shall file with the District Manager, BLM, and the State Land Office (SLO), a designation of the potash deposits considered by the potash lessee to be its life-of-mine reserves ("LMR"). For purposes of this Agreement, "life-of-mine reserves" means those potash deposits within the Potash Area reasonably believed by the potash lessee to contain potash ore in sufficient thickness and grade to be mineable using current day mining methods, equipment and technology. Information used by the potash lessee in identifying its LMR shall be filed with the BLM and SLO but will be considered priviledged and confidential "trade secrets and commercial. . . . information" within the meaning of 43 C.F.R. §2.13(c) (4) (1986). Section 19-1-2.1 NMSA 1978, and not subject to public disclosure.

(b) Authorized officers of the BLM and SLO shall review the information submitted by each potash lessee in support of its LMR designation on their respective lands and verify upon requests, that the data used by the potash lessee in establishing the boundaries of its LMR is consistent with data available to the BLM and SLO. Any disputes between the BLM and potash lessee concerning the boundary of a designated LMR shall be resolved in accordance with the Department of Interior's Hearings and Appeals Procedures, 43 C.F.R. Part 4 (1986).

(c) A potash lessee may amend its designated LMR by filing a revised designation with the BLM and SLO accompanied by the information referred to in Section A above. Such amendments must be filed by January 31 next following the date the additional data becomes available.

(d) Authorized officers of the BLM and SLO shall commit the designated LMR of each Potash lessee to a map (s) of suitable scale and thereafter revise the map (s) as necessary to reflect the latest amendments to any designated LMRs. These maps shall be considered priviledged and confidential and exempt from disclosure under 43 C.F.R. Part 2 and §19-1-2.1 NMSA 1978, and will be used only for the purposes set forth in this Order.

(e) The foregoing procedure can be modified by policy changes within the BLM and State Land Office.

(2) Before commencing drilling operations for oil or gas on any lands within the Potash Area, the well operator shall prepare a map or plat showing the location of the proposed well, said map or plat to accompany each copy of the Notice of Intention to Drill. In addition to the number of copies required by the Division, the well operator shall send one copy by registered mail to each potash operator holding potash leases within a radius of one mile of the proposed well, as reflected by the plats submitted under paragraph I (2). The well operator shall furnish proof of the fact that said potash operators were notified by registered mail of his intent by attaching return receipt to the copies of the Notice on Intention to Drill and plats furnished the Division.

(3) Drilling applications on federal lands will be processed for approval by BLM. Applications on state or patented lands will be processed by the Division and, in the case of state lands, in collaboration with the SLO. The Division will first ascertain from the BLM or SLO that the location is not within the LMR area. Active mine workings and mined-out areas shall also be treated as LMR. Any application to drill in the LMR area, including buffer zones, may be approved only by mutual agreement of lessor and lessees of both potash and oil and gas interests. Applications to drill outside the LMR will be approved as indicated below; provided there is no protest from potash lessee within 20 days of his receipt of a copy of the notice:

(a) A shallow well shall be drilled no closer to the LMR than one-fourth (1/4) mile or 110% of the depth of the ore, whichever is greater.

(b) A deep well shall be drilled no closer than one-half (1/2) mile from the LMR.

H. INSPECTION OF DRILLING AND MINING OPERATIONS

A representative of any potash lessee within a radius of one mile from the well location may be present during drilling, cementing, casing, and plugging of any oil or gas wells to observe conformance with these regulations. Likewise, a representative of the oil and gas lessee may inspect mine workings on his lease to observe conformance with these regulations.

I. FILING OF WELL SURVEYS, MINE SURVEYS AND POTASH DEVELOPMENT PLANS

(1) Directional Surveys:

The Division may require an operator to file a certified directional survey from the surface to a point below the lowest known potash-bearing horizon on any well drilled within the Potash Area.

(2) Mine Surveys:

Within 30 days after the adoption of this order and thereafter on or before January 31st of each year, each potash operator shall furnish the Division two copies of a plat of a survey of the location of his leaseholdings and all of his open mine workings, which plat shall be available for public inspection and on a scale acceptable to the Division.

J. APPLICABILITY OF STATEWIDE RULES AND REGULATIONS

All general statewide rules and regulations of the Oil Conservation Division governing the development, operation, and production of oil and gas in the State of New Mexico not inconsistent or in conflict herewith, are hereby adopted and made applicable to the areas described herein.

(POTASH AREA - Cont'd.)

IT IS FURTHER ORDERED THAT:

(1) Order R-111 and amendments through R-111-O are hereby rescinded.

(2) Jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

Done at Santa Fe, New Mexico on the day and year hereinabove designated.

EXHIBIT "A"
CASE 9316
ORDER R-111-P

Consolidated Land Description of the Known Potash Leasing Area, as of February 3, 1988

EDDY COUNTY, NEW MEXICO

TOWNSHIP 18 SOUTH, RANGE 30 EAST, NMPM

SE/4 SE/4 Sec. 10; S/2 SW/4 Sec. 11; W/2 SW/4, SE/4 SW/4 Sec. 13; W/2 NE/4, NW/4, S/2 Sec. 14; E/2 NE/4, SE/4 SW/4, SE/4 Sec. 15; N/2, N/2 SW/4, SE/4 SW/4, SE/4 Sec. 22; Sec. 23; N/2 NW/4, SW/4 NW/4, NW/4 SW/4 Sec. 24; NE/4, N/2 NW/4, SE/4 NW/4 Sec. 26; N/2 NE/4, NE/4 NW/4 Sec. 27.

TOWNSHIP 19 SOUTH, RANGE 29 EAST, NMPM

SE/4 SE/4 Sec. 11; SE/4 NE/4, S/2 Sec. 12; Sec. 13; NE/4, SE/4 NW/4, S/2 Sec. 14; SE/4 SE/4 Sec. 15; NE/4, E/2 W/2, SE/4 Sec. 22; Secs. 23, 24; NW/4 NW/4 Sec. 25; N/2 NE/4, NW/4 Sec. 26; NE/4, E/2 NW/4 Sec. 27.

TOWNSHIP 19 SOUTH, RANGE 30 EAST, NMPM

SW/4 Sec. 2; W/2 SW/4, SE/4 SW/4, S/2 SE/4, NE/4 SE/4 Sec. 3; Lots 3 and 4, SW/4 NE/4, S/2 NW/4, S/2 Sec. 4; Lots 1, 2 and 3, S/2 NE/4, S/2 NW/4, S/2 Sec. 5; S/2 SE/4, NE/4 SE/4 Sec. 6; Secs. 7 through 10; S/2 NE/4, NW/4 NW/4, S/2 Sec. 11; NE/4, S/2 NW/4, S/2 Sec. 12; NE/4, W/2, N/2 SE/4, SW/4 SE/4 Sec. 13; Secs. 14 through 18; Lots 1, 2, and 3, NE/4, E/2 NW/4, NE/4 SW/4, E/2 SE/4, NW/4 SE/4 Sec. 19; Secs. 20 through 23; NW/4, NW/4 SW/4, S/2 SW/4 Sec. 24; NW/4 NW/4 Sec. 25; NE/4 NE/4, W/2 NE/4, W/2, W/2 SE/4, SE/4 SE/4 Sec. 26; Secs. 27, 28; E/2, E/2 NW/4, NW/4 NW/4 Sec. 29; E/2, SE/4 SW/4 Sec. 32; Secs. 33, 34, 35; NW/4 NW/4, S/2 NW/4, S/2 Sec. 36.

TOWNSHIP 19 SOUTH, RANGE 31 EAST, NMPM

Lots 1, 2, and 3, E/2 NW/4 Sec. 7; Lots 1, 2, and 3, SW/4 NE/4, E/2 NW/4, NE/4 SW/4 Sec. 18; Lot 4 Sec. 31; SE/4 SE/4 Sec. 34; S/2 SW/4, SW/4 SE/4 Sec. 35; S/2 SE/4 Sec. 36.

LEA COUNTY, NEW MEXICO

TOWNSHIP 19 SOUTH, RANGE 32 EAST, NMPM

Lot 4 Sec. 31; Lots 1 through 4, N/2 S/2 Sec. 33; Lots 1 through 4, N/2 S/2 Sec. 34; Lots 1 through 4, N/2 S/2 Sec. 35; Lots 1 through 4, SE/4 NE/4, NW/4 SW/4, NE/4 SE/4 Sec. 36.

TOWNSHIP 19 SOUTH, RANGE 33 EAST, NMPM

SE/4 NE/4, E/2 SW/4, SE/4 Sec. 22; S/2 NW/4, SW/4, W/2 SE/4, SE/4 SE/4 Sec. 23; SW/4 NW/4, W/2 SW/4, SE/4 SW/4 Sec. 25; Secs. 26, 27; S/2 SE/4, NE/4 SE/4 Sec. 28; Lots 2, 3, and 4, S/2 NE/4, SE/4 NW/4, E/2 SW/4, SE/4 Sec. 30; Sec. 31; NE/4, S/2 NW/4, S/2 Sec. 32; Secs. 33, 34, 35; W/2 NE/4, SE/4 NE/4, NW/4, S/2 Sec. 36.

TOWNSHIP 19 SOUTH, RANGE 34 EAST, NMPM

Lots 3, 4 Sec. 31.

EDDY COUNTY, NEW MEXICO

TOWNSHIP 20 SOUTH, RANGE 29 EAST, NMPM

SE/4 NE/4, E/2 SE/4 Sec. 1; SW/4 NW/4, W/2 SW/4, SE/4 SW/4 Sec. 13; NW/4 NE/4, S/2 NE/4, NW/4, S/2 Sec. 14; E/2 E/2, SE/4 SW/4, W/2 SE/4 Sec. 15; E/2, E/2 NW/4 Sec. 22; Sec. 23; SW/4 NE/4, W/2, W/2 SE/4, SE/4 SE/4 Sec. 24; N/2, SW/4, W/2 SE/4, NE/4 SE/4 Sec. 25; Sec. 26; E/2 Sec. 27; NE/4 Sec. 34; N/2 Sec. 35; W/2 NE/4, NW/4 Sec. 36.

TOWNSHIP 20 SOUTH, RANGE 30 EAST, NMPM

Secs. 1 through 4; Lots 1, 2, and 3, S/2 N/2, S/2 Sec. 5; Lots 5, 6, and 7, S/2 NE/4, E/2 SW/4, SE/4 Sec. 6; Lots 1, 2, E/2, E/2 NW/4 Sec. 7; Secs. 8 through 17; E/2 Sec. 18; E/2, SE/4 SW/4 Sec. 19; Secs. 20 through 29; Lots 1, 2, and 3, E/2, E/2 W/2 Sec. 30; NE/4, E/2 SE/4 Sec. 31; Secs. 32 through 36.

TOWNSHIP 20 SOUTH, RANGE 31 EAST, NMPM

Lots 1, 2, and 3, S/2 N/2, S/2 Sec. 1; Sec. 2; Lots 1, 2, S/2 NE/4, SE/4 Sec. 3; Lots 4 through 7, SE/4 NW/4, E/2 SW/4, W/2 SE/4, SE/4 SE/4 Sec. 6; Sec. 7; S/2 N/2, S/2 Sec. 8; S/2 NW/4, SW/4, W/2 SE/4, SE/4 SE/4 Sec. 9; E/2, SW/4 Sec. 10; Secs. 11 through 36.

LEA COUNTY, NEW MEXICO

TOWNSHIP 20 SOUTH, RANGE 32 EAST, NMPM

Secs. 1 through 4; S/2 SE/4 Sec. 5; Lots 4 through 7, SE/4 NW/4, E/2 SW/4, SW/4 SE/4 Sec. 6; Secs. 7 through 36.

TOWNSHIP 20 SOUTH, RANGE 33 EAST, NMPM

Secs. 1 through 36.

TOWNSHIP 20 SOUTH, RANGE 34 EAST, NMPM

Lots 3 through 7, SE/4 NW/4, E/2 SW/4, W/2 SE/4, SE/4 SE/4 Sec. 6; Sec. 7; SW/4, S/2 NW/4, W/2 SE/4, SE/4 SE/4 Sec. 8; W/2 NW/4, SE/4 NW/4, SW/4, S/2 SE/4 Sec. 16; Secs. 17 through 21; N/2 NW/4, SW/4 NW/4, SW/4, W/2 SE/4, SE/4 SE/4 Sec. 22; SW/4, W/2 SE/4, SE/4 SE/4 Sec. 26; Secs. 27 through 35; SW/4 NW/4, W/2 SW/4 Sec. 36.

EDDY COUNTY, NEW MEXICO

TOWNSHIP 21 SOUTH, RANGE 29 EAST, NMPM

Secs. 1, 2, 3; Lots 1 through 16, NE/4 SW/4, SE/4 Sec. 4; Lot 1 Sec. 5; N/2 NE/4, SE/4 NE/4, SE/4 SE/4 Sec. 10; Secs. 11 through 14; E/2 NE/4, NE/4 SE/4 Sec. 15; N/2 NE/4 Sec. 23; E/2, N/2 NW/4, SE/4 NW/4 Sec. 24; NE/4 NE/4, S/2 SE/4 Sec. 25; Lots 2, 3, and 4, S/2 NE/4, NE/4 SW/4, N/2 SE/4 Sec. 35; Lots 1 through 4, NE/4, E/2 NW/4, N/2 S/2 Sec. 36.

(POTASH AREA - Cont'd.)

TOWNSHIP 21 SOUTH, RANGE 30 EAST, NMPM

Secs. 1 through 36.

TOWNSHIP 21 SOUTH, RANGE 31 EAST, NMPM

Secs. 1 through 36.

LEA COUNTY, NEW MEXICO

TOWNSHIP 21 SOUTH, RANGE 32 EAST, NMPM

Secs. 1 through 27; N/2, N/2 S/2 Sec. 28; Secs. 29, 30, 31; NW/4 NE/4, NW/4, NW/4 SW/4 Sec. 32; N/2 NE/4 Sec. 34; N/2 N/2 Sec. 35; E/2, N/2 NW/4, SE/4 NW/4, NE/4 SW/4 Sec. 36.

TOWNSHIP 21 SOUTH, RANGE 33 EAST, NMPM

Lots 2 through 7, 10 through 14, N/2 SW/4, SW/4 SW/4 Sec. 1; Secs. 2 through 11; NW/4 NW/4, SW/4 SW/4 Sec. 12; N/2 NW/4, S/2 N/2, S/2 Sec. 13; Secs. 14 through 24; N/2, SW/4, W/2 SE/4 Sec. 25; Secs. 26 through 30; Lots 1 through 4, NE/4, E/2 W/2, N/2 SE/4, SW/4 SE/4 Sec. 31; N/2, NW/4 SW/4 Sec. 32; N/2 Sec. 33; NE/4, N/2 NW/4, E/2 SE/4 Sec. 34; Sec. 35; W/2 NE/4, NW/4, S/2 Sec. 36.

TOWNSHIP 21 SOUTH, RANGE 34 EAST, NMPM

W/2 Sec. 17; Sec. 18; Lots 1 through 4, NE/4, E/2 W/2, N/2 SE/4, SW/4 SE/4 Sec. 19; NW/4 NW/4 Sec. 20; Lots 1, 2, NE/4 NW/4 Sec. 30; Lots 3, 4 Sec. 31.

EDDY COUNTY, NEW MEXICO

TOWNSHIP 22 SOUTH, RANGE 28 EAST, NMPM

E/2 E/2 Sec. 36.

TOWNSHIP 22 SOUTH, RANGE 29 EAST, NMPM

Secs. 1, 2; SE/4 SW/4, SE/4 Sec. 3; S/2 NE/4, S/2 Sec. 9; Secs. 10 through 16; S/2 SE/4 Sec. 17; SE/4 NE/4, E/2 SE/4 Sec. 19; Secs. 20 through 28; N/2 N/2, S/2 NE/4, SE/4 Sec. 29; NE/4 NE/4 Sec. 30; Lots 1 through 4, S/2 NE/4, E/2 W/2, SE/4 Sec. 31; Secs. 32 through 36.

TOWNSHIP 22 SOUTH, RANGE 30 EAST, NMPM

Secs. 1 through 36.

TOWNSHIP 22 SOUTH, RANGE 31 EAST, NMPM

Secs. 1 through 11; NW/4 NE/4, NW/4, NW/4 SW/4 Sec. 12; S/2 NW/4, SW/4 Sec. 13; Secs. 14 through 23; W/2 Sec. 24; NW/4 Sec. 25; NE/4, N/2 NW/4 Sec. 26; Secs. 27 through 34.

LEA COUNTY, NEW MEXICO

TOWNSHIP 22 SOUTH, RANGE 32 EAST, NMPM

Lot 1 Sec. 1; Lots 2 through 7, SE/4 NW/4 Sec. 6.

TOWNSHIP 22 SOUTH, RANGE 33 EAST, NMPM

Lots 1 through 4, S/2 N/2, N/2 S/2 Sec. 1; Sec. 2; Lot 1, SE/4 NE/4, SE/4 Sec. 3; Lot 4 Sec. 6; NE/4 Sec. 10; NW/4 NE/4, NW/4 Sec. 11.

TOWNSHIP 22 SOUTH, RANGE 34 EAST, NMPM

Lots 4, 5, and 6 Sec. 6.

EDDY COUNTY, NEW MEXICO

TOWNSHIP 23 SOUTH, RANGE 28 EAST, NMPM

Lot 1 Sec. 1.

TOWNSHIP 23 SOUTH, RANGE 29 EAST, NMPM

Secs. 1 through 5; Lots 1 through 6, S/2 NE/4, SE/4 NW/4, E/2 SW/4, SE/4 Sec. 6; NE/4, NE/4 NW/4 Sec. 7; N/2, N/2 SW/4, SE/4 SW/4, SE/4 Sec. 8; Secs. 9 through 16; NE/4, E/2 SE/4 Sec. 17; Secs. 21, 22, 23; N/2, SW/4, N/2 SE/4 Sec. 24; W/2 NW/4, NW/4 SW/4 Sec. 25; Secs. 26, 27; N/2, N/2 SW/4, SE/4 SW/4, SE/4 Sec. 28; N/2 NE/4, NE/4 NW/4 Sec. 33; NE/4, E/2 NW/4, NW/4 NW/4, NE/4 SW/4, SE/4 Sec. 34; Sec. 35; W/2 NE/4, NW/4, N/2 SW/4 Sec. 36.

TOWNSHIP 23 SOUTH, RANGE 30 EAST, NMPM

Secs. 1 through 18; N/2, N/2 SW/4, SE/4 SW/4, SE/4 Sec. 19; Secs. 20, 21; N/2, S/2 SW/4, N/2 S/2, SE/4 SE/4 Sec. 22; Secs. 23, 24, 25; E/2, SE/4 NW/4, SW/4 Sec. 26; N/2 NW/4, SW/4 NW/4, SE/4 SW/4, S/2 SE/4, NE/4 SE/4 Sec. 27; N/2, SW/4 Sec. 28; N/2, SE/4 Sec. 29; N/2 NE/4 Sec. 30; N/2 NE/4 Sec. 32; SE/4 NE/4, N/2 NW/4, NE/4 SE/4, S/2 SE/4 Sec. 33; Secs. 34, 35, 36.

TOWNSHIP 23 SOUTH, RANGE 31 EAST, NMPM

Lot 4, SW/4 NW/4, W/2 SE/4 Sec. 2; Secs. 3 through 7; NE/4 NE/4, W/2 NE/4, W/2 Sec. 8; N/2 N/2 Sec. 9; NW/4 NW/4, SE/4 SE/4 Sec. 10; S/2 NE/4, S/2 SW/4, SE/4 Sec. 11; SW/4 NW/4, SW/4 Sec. 12; SW/4 NE/4, W/2, W/2 SE/4 Sec. 13; Sec. 14; E/2, SE/4 NW/4, SW/4 Sec. 15; SW/4, S/2 SE/4 Sec. 16; NW/4, S/2 Sec. 17; Secs. 18 through 23; W/2 NE/4, W/2 Sec. 24; W/2 NE/4, NW/4, N/2 SW/4, NW/4 SE/4 Sec. 25; Secs. 26 through 34; N/2 NW/4, SW/4 NW/4 Sec. 35.

TOWNSHIP 24 SOUTH, RANGE 29 EAST, NMPM

Lots 2, 3, and 4 Sec. 2; Lot 1 Sec. 3.

TOWNSHIP 24 SOUTH, RANGE 30 EAST, NMPM

Lots 1 through 4, S/2 N/2, SW/4, NW/4 SE/4 Sec. 1; Secs. 2, 3; Lots 1, 2, S/2 NE/4, SE/4 NW/4, SW/4 SW/4, E/2 SW/4, SE/4 Sec. 4; N/2, N/2 SW/4, SE/4 SW/4, SE/4 Sec. 9; Secs. 10, 11; W/2 NW/4, NW/4 SW/4 Sec. 12; W/2 NE/4, NW/4 Sec. 14; NE/4, N/2 NW/4 Sec. 15.

TOWNSHIP 24 SOUTH, RANGE 31 EAST, NMPM

Lots 2, 3, and 4, SW/4 NE/4, S/2 NW/4, SW/4, W/2 SE/4 Sec. 3; Sec. 4; Lots 1 through 4, S/2 N/2, N/2 S/2, SE/4 SE/4 Sec. 5; Lots 1 through 6, S/2 NE/4, SE/4 NW/4, NE/4 SW/4, N/2 SE/4 Sec. 6; E/2, NW/4 Sec. 9; W/2 NE/4, W/2 Sec. 10; Lots 1 through 4, S/2 N/2, N/2 S/2 Sec. 35; Lots 1, 2, SW/4 NW/4, N/2 SW/4 Sec. 36.

TOWNSHIP 25 SOUTH, RANGE 31 EAST, NMPM

Lots 3, 4, S/2 NW/4 Sec. 1; Lots 1 through 4, S/2 N/2 Sec. 2.

(POTASH AREA - Cont'd.)

STATEMENT OF AGREEMENT BETWEEN THE POTASH INDUSTRY AND OIL AND GAS INDUSTRY ON CONCURRENT OPERATIONS IN THE POTASH AREA IN EDDY AND LEA COUNTIES, NEW MEXICO
EXHIBIT "B"

Introduction

This Statement of Agreement sets forth the joint agreement of the Potash Industry and Oil and Gas Industry on important issues concerning the concurrent development of potash and oil and gas reserves in Eddy and Lea Counties, New Mexico. It represents the efforts of numerous representatives from each Industry over many months and is intended to resolve many of the disputes that have arisen as a result of concurrent oil and gas drilling activities in the vicinity of underground potash mining.

The parties recognize that this Agreement will not resolve all disputes or disagreements that may arise and that regulatory intervention may still be necessary in some instances. By entering into this Agreement, however, each industry recognizes the right of the other to develop its mineral resources in a safe and economical manner and acknowledges that concurrent development of multiple mineral resources places certain limits on each industry. Each also agrees that these limits can be better defined through good faith discussions among industry representatives familiar with industry technology and practices than repeated and prolonged litigation or administrative proceedings.

In attempting to accomplish this, each Industry has made concessions on issues considered critical to it in a good faith effort to obtain concessions from the other. For this reason, both Industries agree that the terms of this Statement of Agreement are subject to the following conditions:

1. Upon approval by representatives of each Industry, the terms of the Agreement will be submitted to and must be adopted without substantial change by the New Mexico Oil Conservation Commission ("OCC") in lieu of the current Order R-111-A, as amended;

2. The terms of the Agreement will be submitted to and must be adopted without substantial change by the U. S. Department of Interior, Bureau of Land Management ("BLM") in lieu of Section III (E) of the Secretary of the Interior's Order of October 21, 1986 [51 Fed. Reg. 39425];

3. Each Industry will use its best efforts to secure approval of the terms of the Agreement from the OCC and BLM; and

4. In the event the terms in the Agreement are not adopted without substantial change by both the OCC and the BLM, this Statement of Agreement will become null and void and will not be referred to by any Industry representative on the Study Committee in any future proceeding before the OCC or BLM.

It is the intention of the parties to this Agreement that: (1) certain areas of potash deposits, called "life-of-mine reserves" or "LMR's," be permanently protected from oil and gas drilling activities; and (2) to make available for oil and gas drilling activities, certain areas within the Potash Area. The area of potash deposits protected will be determined in accordance with this Agreement but, generally speaking, will encompass the yellow, orange and a major portion of the blue areas shown on the BLM Potash Resources Map as it existed on October 1, 1984. Areas in the Potash Area that will be available for oil and gas drilling activities will be those areas outside the designated LMR's which, generally speaking, will be the red, green, grey and a minor portion of the blue areas shown on the BLM Potash Resources Map as it existed on October 1, 1984, less areas designated as buffer zones by this Agreement.

I. The Potash Area

A. The Area covered by this Agreement shall be known as the "Potash Area".

B. The "Potash Area" includes those tracts of land in Southeastern New Mexico, from the surface downward, which are designated as a "potash area" by the Secretary of the Department of Interior in Section V of the Order dated October 21, 1986 and published in the *Federal Register* on October 28, 1986 [51 Fed. Reg. 39426]. It shall also include any subsequent revisions to such designations. The terms "potash" and "commercial deposits of potash" shall have the same meaning as assigned by the U. S. Department of Interior.

C. It is the intent of the parties to this Agreement that the "Potash Area" designated by the State of New Mexico be identical to that designated by the U. S. Department of Interior. Accordingly, if the "potash area" designated in the Secretarial Order of October 21, 1986 [51 Fed. Reg. 39425] is revised, the OCC, on its own motion after notice and hearing as provided by applicable laws and regulations, will adopt the same revision.

II. Designation of Mine Reserves

A. Within ninety (90) days following adoption of this Agreement by the OCC and BLM and annually thereafter by January 31 if revised, each potash lessee, without regard to whether the lease covers State or Federal lands, shall file with the District Manager, BLM, a designation of the potash deposits considered by the potash lessee to be its life-of-mine reserves ("LMR"). For purposes of this Agreement, "life-of-mine reserves" means those potash deposits within the Potash Area reasonably believed by the potash lessee to contain potash ore in sufficient thickness and grade to be mineable using current day mining methods, equipment and technology. Information used by the potash lessee in identifying its LMR shall be filed with the BLM but will be considered privileged and confidential "trade secrets and commercial . . . information" within the meaning of 43 C.F.R. §2.13(c)(4) (1986) and not subject to public disclosure.

B. An authorized officer of the BLM shall review the information submitted by each potash lessee in support of its LMR designation and verify, upon request, that the data used by the potash lessee in establishing the boundaries of its LMR is consistent with data available to the BLM. Any disputes between the BLM and potash lessee concerning the boundary of a designated LMR shall be resolved in accordance with the Department of Interior's Hearings and Appeals Procedures, 43 C.F.R. Part 4 (1986).

C. A potash lessee may amend its designated LMR by filing a revised designation with the BLM accompanied by the information referred to in Section A above. Such amendments must be filed by January 31 next following the date the additional data becomes available.

D. An authorized officer of the BLM shall commit the designated LMR of each potash lessee to a map(s) of suitable scale and thereafter revise the map(s) as necessary to reflect the latest amendments to any designated LMRs. These maps shall be considered privileged and confidential and exempt from disclosure under 43 C.F.R. Part 2 and will be used only for the purposes set forth in this Agreement.

III. Drilling in the Potash Area

A. All oil and gas wells drilled in the Potash Area after approval of this Agreement by the OCC and BLM, including those currently pending before the OCC and/or BLM, shall be subject to the terms of this Agreement.

B. It is the policy of the OCC and BLM to approve or deny applications for permits to drill (APD's) in the Potash Area in accordance with the following:

(POTASH AREA - Cont'd.)

1. LMR and Buffer Zone. No oil or gas well shall be allowed from a surface location: (a) within the LMR of any potash lessee; (b) within one-fourth (1/4) mile, or a distance equal to the depth of the ore plus ten percent (10%), whichever is greater, of the LMR of any potash lessee; or (c) where the well casing will pass within one-fourth (1/4) mile, or a distance equal to the depth of the ore plus ten percent (10%), whichever is greater, of the LMR of any potash lessee.

2. Outside Buffer Zone But Within One-Half (1/2) Mile of LMR. An APD for an oil or gas well at a location more than one-fourth (1/4) mile, or a distance equal to the depth of the ore plus ten percent (10%), whichever is greater, but less than one-half (1/2) mile from the LMR of any potash lessee may be approved only if: (a) the bottom hole location does not extend below the base of the Delaware Mountain Group, and (b) the well is drilled in accordance with the cementing and casing requirements set forth in Section V.

3. More Than One-Half Mile But Less Than One Mile From LMR. An APD for an oil or gas well at a location more than one-half (1/2) mile but less than one mile from the LMR of any potash lessee may be approved regardless of the depth of the bottom hole location provided: (a) wells with bottom hole locations below the base of the Delaware Mountain Group are drilled in accordance with the cementing and casing requirements set forth in Section V of this Agreement, and (b) wells to bottom hole locations above the base of the Delaware Mountain Group may be drilled without regard to the requirements in Section V of this Agreement but must be drilled in accordance with the then current Industry safety standard.

4. More Than One Mile From LMR. An APD for an oil or gas well at a location more than one mile from the LMR of any potash lessee may be approved regardless of the depth of the bottom hole location and without regard to the requirements of Section V of this Agreement.

5. Open Mine Workings. No oil or gas well shall be allowed from any location where the well casing will pass within one-fourth (1/4) mile or a distance equal to the depth of the ore plus ten percent (10%), whichever is greater, of any open mine workings.

6. Abandoned Mine Workings. No oil or gas well shall be allowed from any location where the well casing will pass through or within one-fourth (1/4) of a mile or a distance equal to the depth of the ore plus ten percent (10%), whichever is greater, of any abandoned mine workings that are connected to an existing mine by an opening or barrier of one-hundred (100) feet or less unless the APD is accompanied by the sealing and safety plan and certification described in Paragraph C below.

7. An APD for a directionally drilled oil or gas well to a bottom hole location underlying the LMR of any potash lessee may be approved subject to the limitations and requirements set forth in Paragraphs 1 - 6 above. Directionally drilled holes shall be drilled vertically until they have completely penetrated Marker Bed No. 126 (U.S.G.S.) of the Salado Formation at which time they may be deviated.

C. An oil and gas operator desiring to drill a well to a bottom hole location that does not extend below the base of the Delaware Mountain Group from a surface location where the well casing will pass through or within one-fourth (1/4) of a mile or a distance equal to the depth of the ore plus ten percent (10%), whichever is greater, of abandoned mine workings that are connected to an existing mine by any opening or a barrier of one hundred (100) feet or less shall prepare and submit to all affected potash lessees a plan and program for sealing off the area to be penetrated from other mine workings. Approval of any such plan shall be in the sole discretion of the affected potash lessees. Any approved plan shall be attached by the oil and gas operator to the APD for filing with the OCC, and/or BLM. The oil and gas operator shall also complete a certification in the form prescribed by the OCC and/or BLM that the drilling of such well will not create a safety hazard to affected potash lessees.

D. It is the belief of both parties that the provisions of this Agreement eliminate the need for drilling islands and three-year mining plans and, therefore, both agree that no drilling islands will be established in the Potash Area and the filing of three-year mining plans will be eliminated.

IV. Location of Wells and Notice to Potash Lessee

A. The BLM, upon request, will advise oil and gas lessees of the surface locations where wells will be allowed to develop the leases. Oil or gas leases covering areas designated a LMR by a potash lessee will be unitized to the extent possible with other areas where drilling is allowed.

B. An oil or gas operator desiring to drill an oil or gas well in the Potash Area or within one (1) mile of a potash lease shall prepare and file an APD with the OCC and/or BLM along with a map or plat showing the location of the proposed well. One copy of the APD and map or plat shall be served by registered mail, return receipt requested, on all potash leaseholders within one (1) mile of the proposed well location. However, if the APD is for an oil or gas well that will penetrate abandoned mine workings, all potash leaseholders in the Potash Area shall be notified. Proof of such service shall be attached to the APD and filed with the OCC and/or BLM. Within twenty (20) days of service of an APD and required documents, any potash leaseholder within one (1) mile of the proposed well location (or any affected potash lessee if the proposed well will penetrate abandoned mine workings) may file an objection with the OCC to the proposed well. If the objections cannot be resolved by agreement of the parties, the matter shall be referred for hearing before the OCC.

C. The failure of a potash leaseholder to object to a well location or its agreement to the drilling locations referred to in this Agreement shall not constitute a release of liability. Oil and gas leaseholders and those persons and/or entities involved in the development of the lease shall be responsible as provided by law for any damages caused by them to any person by the release of gases or liquids into the strata or atmosphere as a result of drilling activities.

V. Drilling and Casing Program

[Same as current R-111-A]

POTASH AREA - Cont'd.)

VI. Drilling Fluid for Salt Section

[Same as current R-111-A]

VII. Plugging and Abandonment of Wells

[Same as current R-111-A]

VIII. Filing of Well Surveys

The OCC may require an oil and gas operator to file a certified directional survey from the surface to a point below the lowest known potash bearing horizon on all wells drilled in the Potash Area. All encounters with flammable gases, including H2S, shall be reported by the operator to the OCC.

IX. Additional Safety Requirements and Emergency Action

A. All oil and gas drilling activities within the Potash Area shall be performed using appropriate technology, equipment, and procedures to reduce the hazards of such activities to underground mines and miners and be conducted in accordance with the prudent operator standard.

B. Only the minimum number of wells necessary to develop an oil or gas lease will be allowed within the Potash Area.

C. In the event the increased oil and gas drilling activities allowed by this Agreement result in a safety hazard or if data developed in the course of such increased activities make it reasonably appear that such activities are or will become a hazard to underground miners or mining activities, the BLM and/or OCC will, upon request, initiate proceedings in accordance with NMSA 70-2-23 and/or other applicable laws and regulations to review such data and take whatever emergency steps are found necessary to eliminate such hazard. Potash lessees may, in addition, initiate actions for injunctive relief under NMSA 70-2-29. The taking or failure to take such action by the OCC or any potash lessee shall not relieve the oil and gas lessee from liability for any damages caused by its oil and gas activities.

AGREED TO AND APPROVED THIS 23rd DAY OF NOVEMBER, 1987.

LONE WOLF-DEVONIAN GAS POOL
Chaves County, New Mexico

Order No. R-8677, Creating and Adopting Temporary Operating Rules for the Lone Wolf-Devonian Gas Pool, Chaves County, New Mexico, June 28, 1988.

Application of Robert N. Enfield for Pool Creation and Special Pool Rules, Chaves County, New Mexico.

CASE NO. 9390
Order No. R-8677

ORDER OF THE DIVISION

BY THE DIVISION: This cause came on for hearing at 8:15 a.m. on May 25, 1988, at Santa Fe, New Mexico.

NOW, on this 28th day of June, 1988, the Division Director, having considered the testimony and the record,

FINDS THAT:

(1) Due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) The applicant, Robert N. Enfield, is the owner and operator of the E. McCombs Well No. 1 located 1650 feet from the North line and 990 feet from the West line (Unit E) of Section 29, Township 7 South, Range 31 East, NMPM, Chaves County, New Mexico.

(3) The applicant seeks the creation of a new gas pool for Devonian production comprising the W/2 of Section 29, Township 7 South, Range 31 East, NMPM, Chaves County, New Mexico, and the promulgation of special pool rules and regulations therefor including a provision for 160-acre spacing and proration units and designated well location requirements.

(4) The evidence presently available indicates that the aforementioned well has discovered a separate common source of supply in the Devonian formation from 8447 feet to 8551 feet.

(5) In accordance with the Division's statewide rules and regulations, standard gas spacing and proration units for wells completed in the Devonian formation would be 320 acres in size.

(6) The evidence presently available indicated that the geological characteristics of the producing zone of the subject well are indicative of a tight Devonian reservoir with low permeability, and that the drainage radius of the well is incapable of draining 320 acres.

(7) The evidence further indicates that the pool should be permanently spaced on 160-acre spacing.

(8) The geological evidence presented indicated that the reservoir is faulted, substantially increasing the risk of drilling an economical well at standard locations for gas pools developed on 160-acre spacing.

PENWELL ENERGY, INC.
1100 ARCO BUILDING
600 N. MARIENFELD
MIDLAND, TEXAS 79701
OFF: (915) 683-2534
FAX: (915) 683-4514

April 1, 1996

Eddy Potash, Inc.
Box 31
Carlsbad, New Mexico 88220
Attn: Mr. Jim Ryan

Re: Waiver of Potash Objection
N/2 Section 33, T-21-S, R-33-E
Old Jack Prospect (NM-005)
Lea County, New Mexico

Dear Mr. Ryan:

Pursuant to my telephone conversation with Amy of your office today, please consider this letter as Penwell Energy, Inc.'s formal request that Eddy Potash, Inc. waive any objection to our proposed Morrow test well to be drilled in the NW/4 NE/4 of the captioned section. As I informed Amy, Eddy Potash does not own a potash lease in said N/2 of Section 33, but does own potash leases offsetting said acreage in Sections 27, 28, 29 and 32. Santa Fe Energy recently drilled a successful Morrow gas well in the S/2 of Section 28, which is on acreage that your firm has leased. We are simply notifying you of our intent to offset their well on our federal oil and gas lease in Section 33.

If Eddy Potash, Inc. has no objection to our proposed location, please so indicate by signing and returning one (1) copy of this letter in the space provided below. We would also appreciate your faxing your signed copy of this letter to (915) 683-1562 on Tuesday, April 2 if possible. Should you have any questions, please feel free to contact us. Thank you for your immediate attention to this matter.

Yours sincerely,

Mark Wheeler, CPL
Land Manager - Permian Basin

WE HEREBY WAIVE ANY OBJECTION TO PENWELL ENERGY'S PROPOSED J. D. FEDERAL "33" #1 WELL TO BE DRILLED IN THE N/2 OF SECTION 33

EDDY POTASH, INC.

By: James R Ryan
Name/Title: VP of Operations

cmw:NM-005(SM)

cc: Steve Foy / Bill Pierce / John Thoma

BEFORE THE
OIL CONSERVATION DIVISION
Santa Fe, New Mexico

Case No. 11505 Exhibit No. 6

Submitted by: Penwell Energy, Inc.

Hearing Date: April 4,1996

Schlumberger

FINAL COMPOSITE

LITHO-DENSITY/ COMPENSATED NEUTRON

County: LEA
Field: SPESSARTINE PROSPECT
Location: 760' FSL AND 1980' FEL
Well: ABE UNIT #1
Company: SANTA FE ENERGY

Company: SANTA FE ENERGY

Well: ABE UNIT #1

Field: SPESSARTINE PROSPECT (WILDCAT)

County : LEA **State:** NEW MEXICO

LOCATION: 760' FSL AND 1980' FEL

Other Services: AIT&DLL/MSFL

API SERIAL NO.	SECTION	TOWNSHIP	RANGE
30-025-33061	28	21-SOUTH	33-EAST

Permanent Datum	G.L.	Elevation:	3661
Log Measured From	RKB	18.0	Ft above Perm. Datum
Drilling Measured From	RKB		

Elevations:
KB: 3679 F
DF: 3678 F
GL: 3661 F

Date	13/SEP/1995	20/SEP/1995	18/OCT/1995
Run No.	1	2	3
Depth-Driller	9120	12221	15100
Depth-Logger	9126	12220	15086
Btm. Log Interval	9107	12201	15053
Top Log Interval	200	7400	12210
Casing-Driller	9.625 @ 5221	9.625 @ 5200	7.000 @ 12220
Casing-Logger	5220	5221	12210
Bit Size	8.750	8.750	6.125
Fluid Type	FRESH	FRESH	XCD/AQUAPAC
Dens./ Visc.	8.5 LB/G / 28 S	8.4 LB/G / 27 S	11.7 LB/G / 41 S
pH / Fluid Loss	12 / 0 C3	11 / 0 C3	9 / 8.4 C3
Source of Sample	MEAS	CIRC PIT	FLOWLINE
Rm @ Meas Temp	0.650 @ 88	0.889 @ 78	0.057 @ 84
Rmf @ Meas Temp	0.620 @ 88	0.864 @ 78	0.045 @ 84
Rmc @ Meas Temp	0.490 @ 88	0.643 @ 78	
Source: Rmf/Rmc	MEAS/MEAS	MEAS/CALC	CALC
Rm @ BHT	0.467 @ 125	0.521 @ 138	0.028 @ 179
Time Circ. Stopped	2300 9/12	0600 9/20	0600 10/18
Logger on Btm.	0715 9/13	1830 9/20	1600 10/18
Max. Rec. Temp.	125	138	173
Equip. / Location	3043/HOBBS,NM	3043/HOBBS NM	2033/HOBBS,NM
Recorded By:	HAMMILL	HAMMILL	REDDELL
Witnessed By:	STEWART	STEWART	STEWART

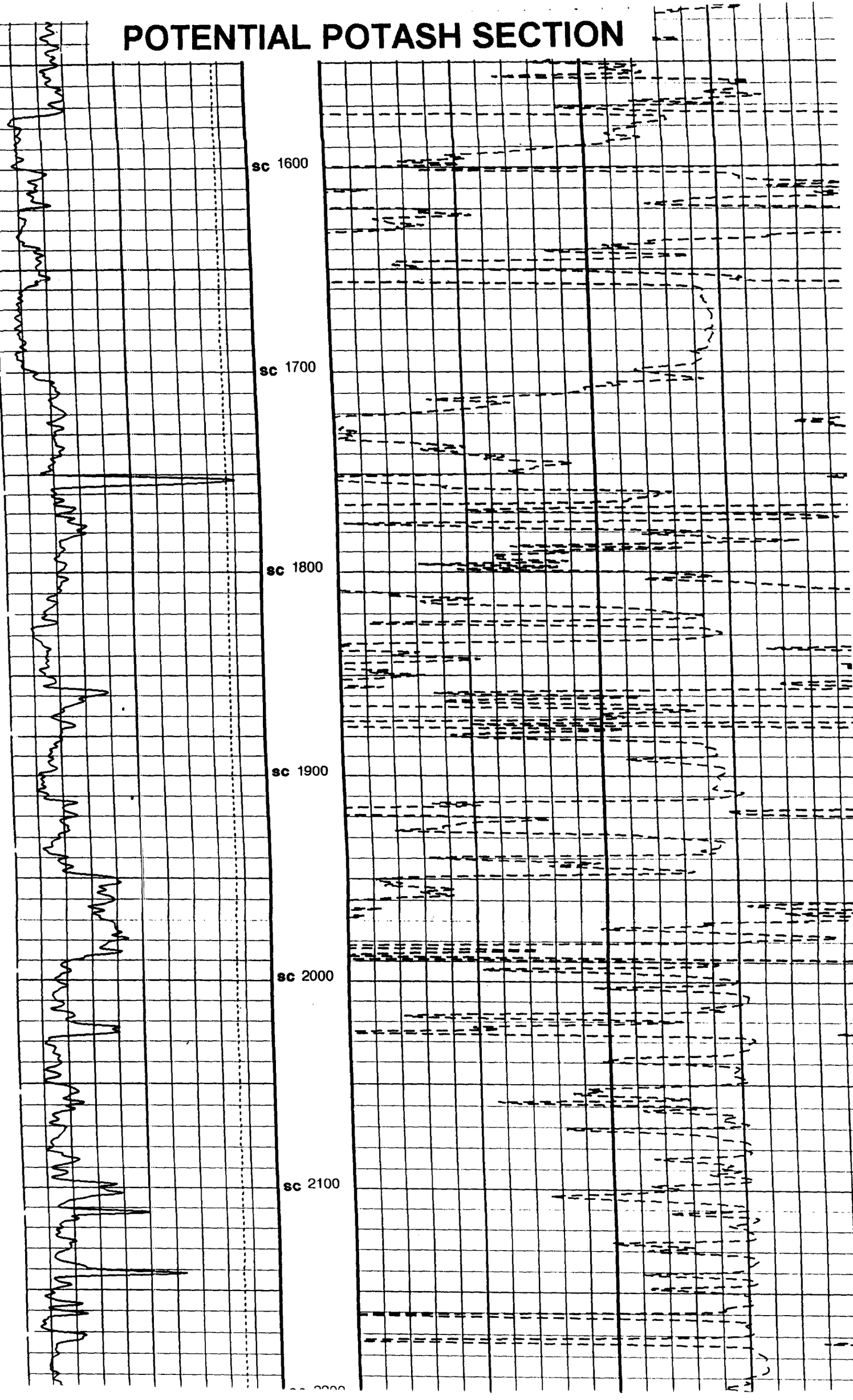
BEFORE THE
OIL CONSERVATION DIVISION
Santa Fe, New Mexico

Case No. 11505 Exhibit No. 7

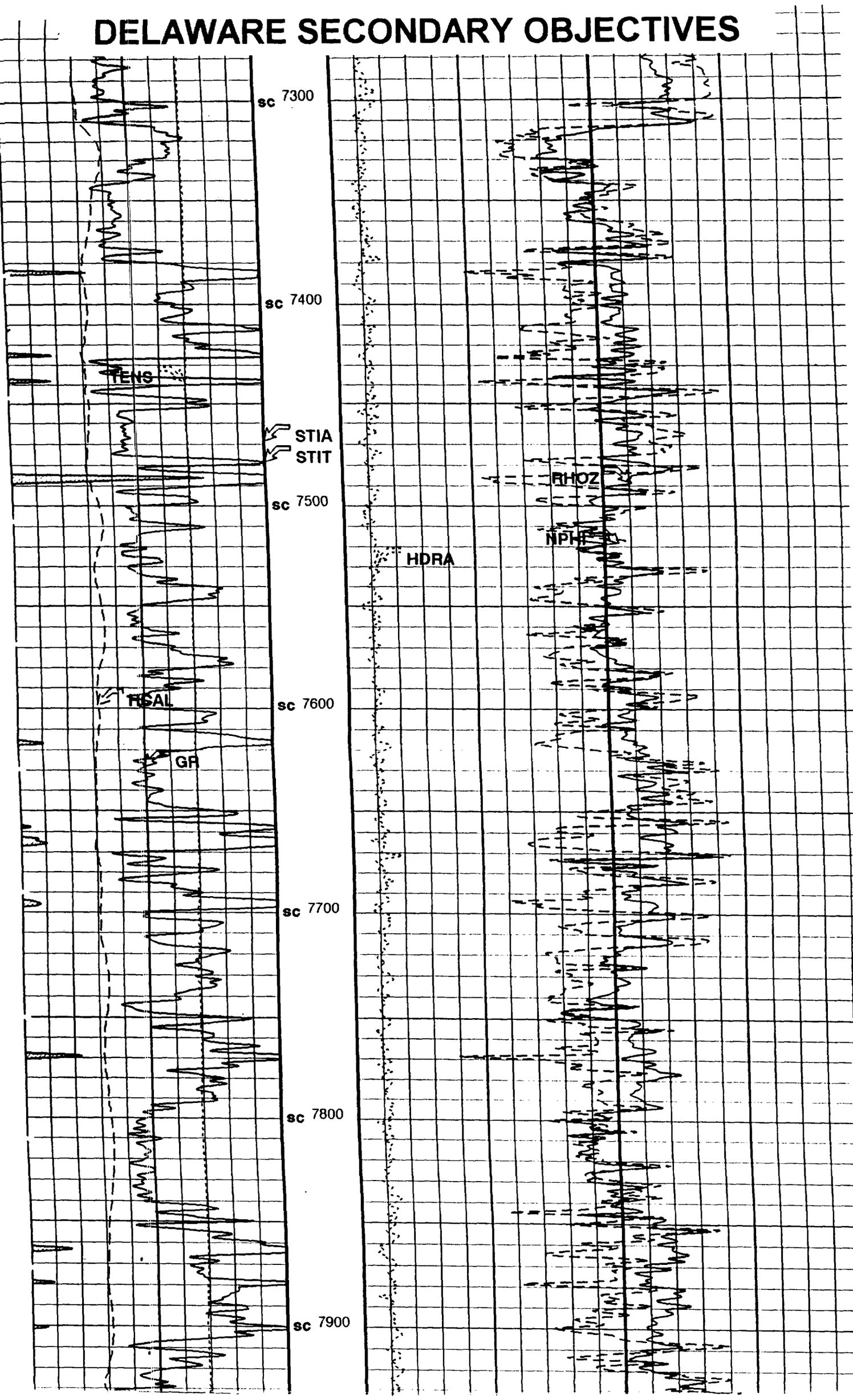
Submitted by: Penwell Energy, Inc.

Hearing Date: April 4,1996

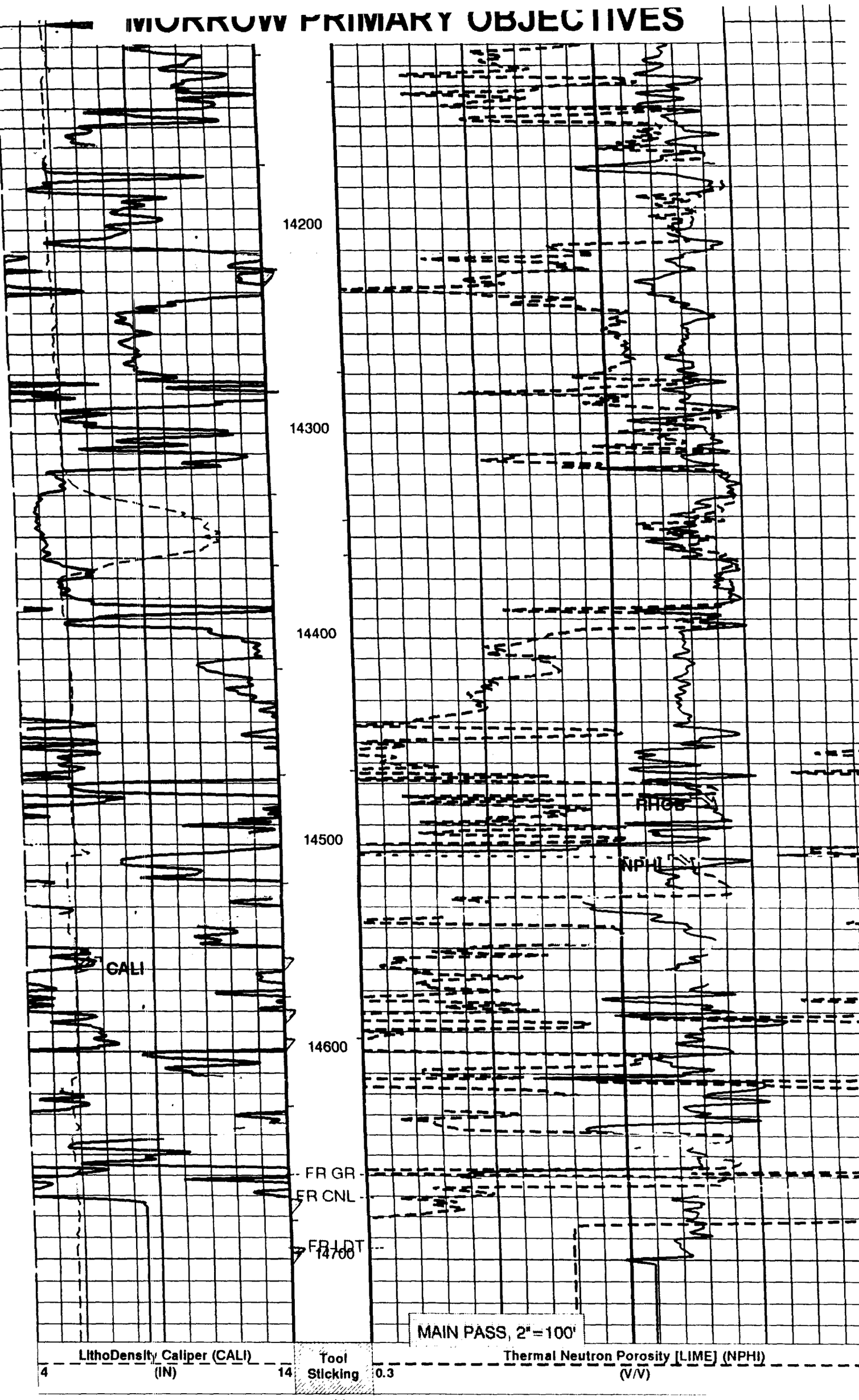
POTENTIAL POTASH SECTION



DELAWARE SECONDARY OBJECTIVES



MORROW PRIMARY OBJECTIVES



Penwell Energy Incorporated

Proposed Wellbore Diagram
JD "33" Federal #1
Unit Letter "B"
660' FNL & 2080' FEL Sec. 33 - T21S - R33E
Lea County, New Mexico

650 sacks of Class "C" Neet + 2% $CaCl_2$ + 1/4#/sack flocele.

13 3/8" @ 600'±

Full String

2200

1,400 sacks of Class "C" Lite containing 12% NaCl + 1/4#/sack flocele + 200 sacks of Class "C" Neet + 1% $CaCl_2$.

9 5/8" @ 5300'±

4300 ft

800 sacks of Class "H" Lite containing 1/2#/sack gilsonite + 1/4#/sack flocele + 5% NaCl

ECP/D.V. Tool @ 8,000'±

600 sacks of Class "H" Neat containing .4% Halad 322 + .4% Halad 344 + 5% NaCl

7" @ 12,200'±

300 sacks of Class "H" Neet containing 35% Silica Flour + .75% CF$-2

4 1/2" @ 15,200'±

BEFORE THE
OIL CONSERVATION DIVISION
Santa Fe, New Mexico

Case No. 11505 Exhibit No. 8

Submitted by: Penwell Energy, Inc.

Hearing Date: April 4,1996

PENWELL ENERGY, INC.
1100 ARCO BUILDING
600 N. MARIENFELD
MIDLAND, TEXAS 79701

OFF: (915) 683-2534
FAX: (915) 683-4514

JD "33 " Federal #1
Unit Letter "B"
660' FNL & 2080' FEL Sec. 33 - T21S - R33E
Lea County, New Mexico

Comparative Casing String Costs

Cost with Potash Protection String:		
Drilling cost per foot ($19.00/ft. @ 12,000'.)		$228,000.00
Wellhead		14,000.00
20", 94#, buttress, API Casing (600')		33,000.00
Cement for 20" casing		14,036.00
13 3/8", 61#, STC, 8rd, API Casing (2,200')		52,800.00
Cement for 13 3/8" casing		19,308.00
9 5/8", 40#, N-80, 8rd, LTC, API Casing (5,300')		63,600.00
Cement for 9 5/8" casing		21,235.00
	TOTAL COST	**$445,979.00**
Cost without Potash Protection String:		
Drilling cost per foot ($16.75/ft. @ 12,000')		$201,000.00
Wellhead		7,700.00
13 3/8", 48#, STC, 8rd, API Casing (600')		9,900.00
Cement for 13 3/8" casing		11,866.00
9 5/8", 40#, N-80, 8rd, LTC, API Casing (5,300')		63,600.00
Cement for 9 5/8" casing		21,235.00
	TOTAL COST	**$315,301.00**
	WELL COST REDUCTION	***$130,678.00***

BEFORE THE
OIL CONSERVATION DIVISION
Santa Fe, New Mexico

Case No. 11505 Exhibit No. 9

Submitted by: Penwell Energy, Inc.

Hearing Date: April 4,1996