

Form 3160-3
(July 1989)
(formerly 9-331C)

NM OIL CONS. COMMISSION
DRAWER DD
ARTESIA, NM 88210

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

CONTACT RECEIVING
OFFICE FOR PER
OF COPIES REQUIRED
(Other instructions on
reverse side)
RECEIVED

30-015-27764
BLM Roswell District
Modified Form No.
NMD60-3160-2

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1A. TYPE OF WORK

DRILL ☒

DEEPEN ☐

PLUG BACK ☒

B. TYPE OF WELL

OIL
WELL ☒

GAS
WELL ☐

OTHER

SINGLE
ZONE ☐

MULTIPLE
ZONE ☐

2. NAME OF OPERATOR

Marbob Energy Corporation

3a. Area Code & Phone No.

505-748-3303

3. ADDRESS OF OPERATOR

P. O. Drawer 217, Artesia, NM 88210

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

2360 FSL 1360 FEL

UNORTHODOX Subject to
LOCATION IS: Like Approval
By State

At proposed prod. zone
same

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

East of Artesia on Hwy. 82 approximately 22.3 miles

15. DISTANCE FROM PROPOSED*

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

1360'

16. NO. OF ACRES IN LEASE

5129.44

17. NO. OF ACRES ASSIGNED
TO THIS WELL

40

18. DISTANCE FROM PROPOSED LOCATION*

TO NEAREST WELL, DRILLING, COMPLETED,
OR APPLIED FOR, ON THIS LEASE, FT.

727'

19. PROPOSED DEPTH

4600'

20. ROTARY OR CABLE TOOLS

Rotary

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

3615.7' GR

No Water Basin

22. APPROX. DATE WORK WILL START*

November 15, 1993

PROPOSED CASING AND CEMENTING PROGRAM

HOLE SIZE	CASING SIZE	WEIGHT/FOOT	GRADE	THREAD TYPE	SETTING DEPTH	QUANTITY OF CEMENT
12 1/4"	8 5/8"	24#	J-55	LT&C	350'	300 sx
7 7/8"	5 1/2"	17#	J-55	LT&C	4600'	1100 sx

Pay zone will be selectively perforated and
stimulated as needed for optimum production.

Attached are: 1. Location & Dedication Plat
2. Supplemental Drilling Data
3. Surface Use Plan

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, 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.

SIGNED

TITLE Production Clerk

DATE 10/12/93

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

(ORIG. SGD.) RICHARD L. MANUS

TITLE

AREA MANAGER

DATE

CONDITIONS OF APPROVAL, IF ANY:

Approval Subject to
General Requirements and
Special Stipulations
Attached

*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

Submit to Appropriate
District Office
State Lease - 4 copies
Fee Lease - 3 copies

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised 1-1-89

OIL CONSERVATION DIVISION

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

DISTRICT II
P.O. Drawer DD, Artesia, NM 88210

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

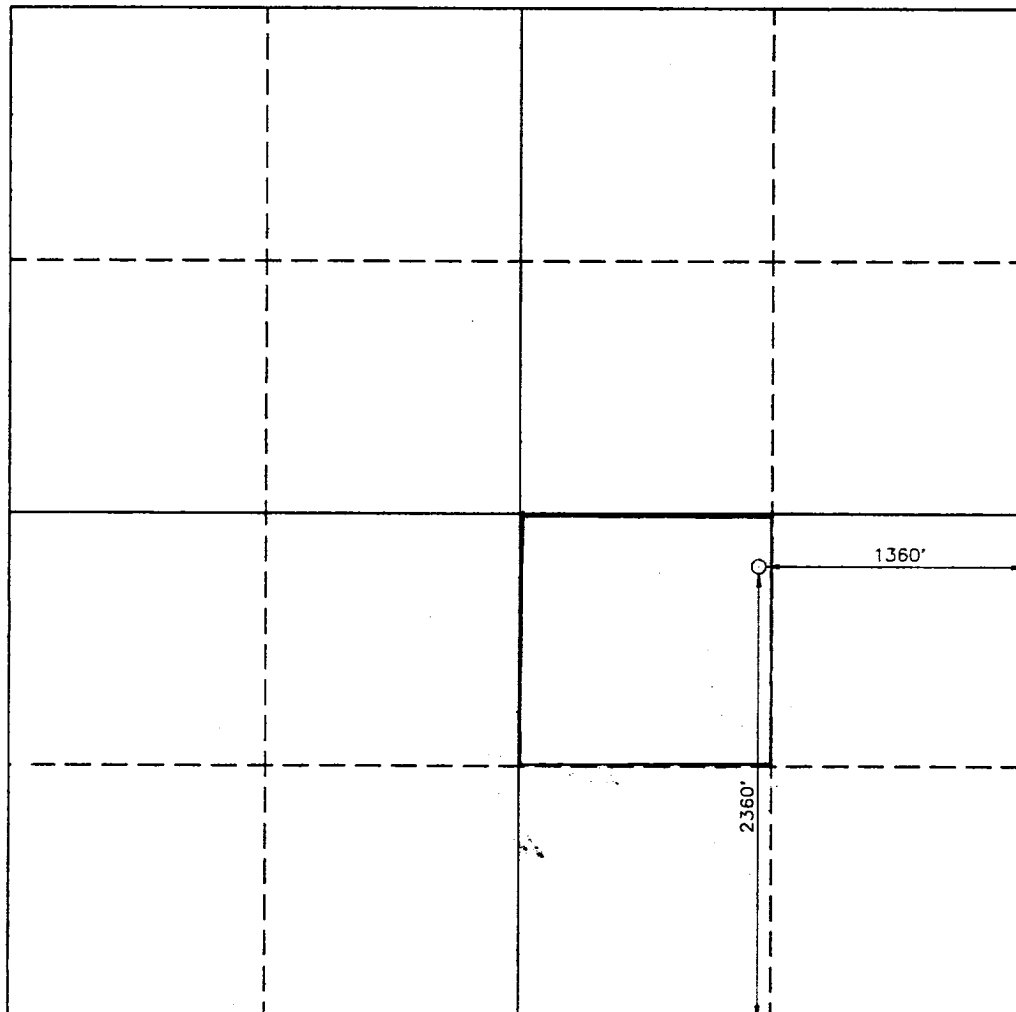
All Distances must be from the outer boundaries of the section

Operator MARBOB ENERGY CORP.		Lease BURCH-KEELY UNIT		Well No. 221
Unit Letter J	Section 24	Township 17 SOUTH	Range 29 EAST NMPM	County EDDY
Actual Footage Location of Well: 1360 feet from the EAST line and 2360 feet from the SOUTH line				
Ground Level Elev. 3615.7'	Producing Formation San Andres	Pool Grbg Jackson SR Q Grbg SA	Dedicated Acreage: 40 Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interest of all owners been consolidated by communitization, unitization, force-pooling, etc.?
☐ Yes ☐ No If answer is "yes" type of consolidation _____

If answer is "no" list of owners and tract descriptions which have actually been consolidated. (Use reverse side of this form necessary.)

No allowable will be assigned to the well unit all interests have been consolidated (by communitization, unitization, forced-pooling, otherwise) or until a non-standard unit, eliminating such interest, 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

Printed Name

Rhonda Nelson

Position

Production Clerk

Company

Marbob Energy Corporation

Date

October 13, 1993

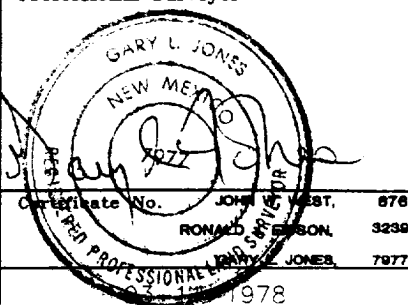
SURVEYOR CERTIFICATION

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.

Date Surveyed

OCTOBER 9, 1993

Signature & Seal of
Professional Surveyor



DRILLING PROGRAM

Attached to Form 3160-3
Marbob Energy Corporation
Burch-Keely Unit No. 221
2360' FSL 1360' FEL
Section 24, T-17S, R-29E
Eddy County, New Mexico

1. Geologic Name of Surface Formation:

Permian

2. Estimated Tops of Important Geologic Markers:

Permian	Surface	Glorietta	3900'
Salt	360'		
Base of Salt	780'		
Yates	930'		
Seven Rivers	1145'		
Queen	1815'		
Grayburg	2140'		
San Andres	2510'		

3. Estimated Depths of Anticipated Fresh Water, Oil or Gas:

Upper Permian Sands	100'	Fresh Water
Yates	930'	Oil
Seven Rivers	1145'	Oil
Queen	1815'	Oil
Grayburg	2140'	Oil
San Andres	2510'	Oil
Glorietta	3900'	Oil

DRILLING PROGRAM
PAGE 2

No other formations are expected to give up oil, gas, or fresh water in measurable quantities. The surface fresh water sands will be protected by setting 8 5/8 casing at 350' and circulating cement back to surface. Any shallower zones above TD which contain commercial quantities of oil and/or gas will have cement circulated across them by inserting a float shoe joint into the 5 1/2" production casing which will be run at TD.

4. Casing Program:

<u>Hole Size</u>	<u>Interval</u>	<u>OD csg</u>	<u>Weight, Grade, Jt. Cond. Type</u>			
12 1/4"	0 - 350"	8 5/8"	24#	J-55	LTC NEW	R-3
7 7/8"	0 - TD	5 1/2"	17#	J-55	LTC NEW	R-3

Cement Program:

8 5/8" Surface Casing: Cemented to surface with 300sx of Class C w/2% cc.

5 1/2" Production Casing: Cemented with 1100sx Class C. Will attempt to circulate to surface.

5. Minimum Specifications for Pressure Control:

The blowout preventer equipment (BOP) shown in Exhibit #1 will consist of a double ram-type (3000 psi wp) preventer. This unit will be hydraulically operated and the ram-type preventer will be equipped with blind rams on top and 4-1/2" drill pipe rams on bottom. This BOP will be nipped up on the 8 5/8" surface csg and used continuously until TD is reached. All BOP's and accessory equipment will be tested to 1000 psi before drilling out of surface casing.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. A 2" kill line and a 3" choke line will be included in the drilling spool located below the ram-type BOP. Other accessories to the BOP equipment will include a kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold with 3000 psi WP rating.

DRILLING PROGRAM
PAGE 3

6. Types and Characteristics of the Proposed Mud System:

The well will be drilled to TD with cut brine. The applicable depths 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>
0 - 350'	Fresh Water (Spud)	8.5	28	N.C.
350'-4600'	Brine	9.8 - 10.2	40 - 45	N.C.

7. Auxiliary Well Control and Monitoring Equipment:

- (A) A kelly cock will be kept in the drill string at all times.
- (B) A full opening drill pipe stabbing valve (inside BOP) with proper drill pipe connections will be on the rig floor at all times.

8. Logging, Testing, and Coring Program:

- (A) No Drillstem tests are anticipated.
- (B) The electric logging program will consist of Dual Laterolog Micro SFL, Spectral Density Dual Spaced Neutron Csng Log, and Depth Control Log.
- (C) No conventional coring is anticipated.
- (D) Further testing procedures will be determined after the 5 1/2" production casing has been cemented at TD based on drill shows, and log evaluation, and drill stem test results.

DRILLING PROGRAM
PAGE 4

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

No abnormal pressures or temperatures are anticipated. The estimated bottom hole temperature (BHT) at TD is 104' and estimated bottom hole pressure (BHP) is 2250 psig.

10. Anticipated Starting Date and Duration of Operations:

Location and road work will not begin until approval has been received from the BLM. The anticipated spud date is after November 15, 1993. Once commenced, the drilling operation should be finished in approximately 21 days. If the well is productive, an additional 30 to 60 days will be required for completion and testing before a decision is made to install permanent facilities.

SURFACE USE AND OPERATING PLAN

Attached to Form 3160-3
Marbob Energy Corporation
Burch-Keely Unit No. 221
2360' FSL 1360' FEL
Section 24, T-17S, R-29E
Eddy County, New Mexico

1. Existing Roads:

- A. The well site and elevation plat for the proposed well is shown in Exhibit #2. It was staked by John West Engineering.
- B. All roads to the location are shown in Exhibit #3. The existing roads are illustrated in red and are adequate for travel during drilling and production operations. Upgrading of the road prior to drilling will be done where necessary as determined during the onsite inspection. No new roads will be needed. The lease road runs through the location.
- C. Directions to location: From Artesia, take U.S. Highway 82 East and proceed 22.3 miles. Turn South and cross yellow cattleguard and proceed .05 miles. Then turn right or West and proceed .05 miles. Location will be next to lease road on east side.
- 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. Location of Existing Wells:

Exhibit #3 shows all existing wells within a one-half mile radius of this well.

3. Location of Existing and/or Proposed Facilities:

- A. Marbob Energy Corporation already has a collection facility set up for this lease.
- B. If the well is productive, a 3" plastic flowline (grade SDR 7 @ 265 psi) will be laid on the surface following the existing lease road Right-of-Way to the Satellite or to the central tank battery if the production from the well exceeds the capacity of the Satellite vessel. Anticipated pressures in the flowline should not exceed 75 psi.

SURFACE USE AND OPERATING PLAN
PAGE 2

- C. If the well is productive, power will be obtained from Central Valley Electric. Central Valley Electric will apply for ROW for their power lines.
- D. 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 10 months after the well is completed).
 - (2) 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, as nearly as possible, and reseeded as per BLM specifications.

4. Location and Type of Water Supply:

The well will be drilled with a combination brine and fresh water mud system as outlined in the drilling program. The water will be obtained from commercial water stations in the area and hauled to the location by transport truck over the existing and proposed access roads shown in Exhibit #2. If a commercial fresh water source is nearby, fasline may be laid along existing road ROW's and fresh water pumped to the well. No water well will be drilled on the location.

5. Source of Construction Materials:

All caliche required for construction of the drill pad (approximately 1500 cubic yards) will be obtained from a BLM - approved caliche pit. The pads will be constructed of 6" rolled and compacted caliche.

6. 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 lined working 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 100' X 150' X 6' deep. A dike will be built across the pit, dividing it in half. One-half of the reserve pit will be plastic-lined to minimize loss of drilling fluids and saturation of the ground with brine water. The other

SURFACE USE AND OPERATING PLAN
PAGE 3

half of the reserve pit will be lined with plastic and used only if we encounter a waterflow during drilling operations and find that we need additional space. This portion of the pit is a precautionary measure only. The portion of the pit that will be lined with plastic should be more than adequate for normal drilling operations. If a water flow is encountered, we should have ample time to line the other half of the pit with plastic before the water encroaches.

- C. Water produced from the well during completion may be disposed into the reserve pit.
- D. Garbage and trash produced during drilling or completion operations will be hauled off. All waste material will be contained to prevent scattering by the wind. 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 30 days. No adverse materials will be left on the location. The reserve pit will be completely fenced until it has dried. When the reserve pit is dry enough to breakout and fill, the reserve pit will be leveled and reseeded as per BLM specifications. In the event of a dry hole, the location will be ripped and seeded, as per BLM specifications, and a dry hole marker will remain.

7. Ancillary Facilities:

No airstrip, campsite, or other facilities will be built as a result of the operations on this well.

8. Well Site Layout:

- A. The drill pad layout, with elevations staked by John West Engineering, is shown in Exhibit #4. Dimensions of the pad and pits are shown. Top soil, if available, will be stockpiled per BLM specifications as determined at the on-site inspection.
- B. The reserve pit will be lined with a high-quality plastic sheeting.

9. Plans for Restoration of the Surface:

- A. Upon finishing drilling and/or completion operations, all equipment and other material not needed for operations will be removed.

All trash, garbage, and pit lining 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 10 months after abandonment.

- B. Three sides of the reserve pit will be fenced prior to and during drilling operations. At the time that the rig is removed, the reserve pit will be fenced on the rig (fourth) side. 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.

- C. 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. Any additional caliche required for facilities will be obtained from a BLM - approved caliche pit. Topsoil removed from the drill site will be used to recontour the pit area to the original natural level and reseeded as per BLM specifications.

10. Surface Ownership:

The wellsite and lease is located on Federal Surface.

- A. The area around the well site is grassland and the top soil is sandy. The vegetation is native scrub grasses with abundant oakbrush, sagebrush, yucca, and prickly pear.
- B. There is no permanent or live water in the immediate area.
- C. A Cultural Resources Examination has been requested and will be forwarded to your office in the near future.

SURFACE USE AND OPERATING PLAN
PAGE 5

11. Lessee's and Operator's Representative:

The Marbob Energy Corporation representative responsible for assuring compliance with the surface use plan is as follows:

Johnny C. Gray
Marbob Energy Corporation
324 W. Main, Suite 103
P. O. Drawer 217
Artesia, New Mexico 88210
Phone: 505/748-3303 (office)
505/885-3879 (home)

Certification:

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite 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 Marbob Energy Corporation and its contractors and subcontractors in conformity with this plan and the provisions of 18 U.S.C. 1001 for the filing of a false statement.

Date: October 12, 1993

Signed: Ray Miller
Raye Miller
Attorney-in-Fact

MARBOB ENERGY CORPORATION

HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

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 (H_2S).
2. The proper use and maintenance of personal protective equipment and life support systems.
3. The proper use of H_2S 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 H_2S 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 H_2S Drilling Operations Plan and the Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H_2S zone (within 3 days or 500 feet) and weekly H_2S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H_2S Drilling Operations Plan and the Public Protection 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. H_2S SAFETY EQUIPMENT AND SYSTEMS

Note: All H_2S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500

feet above, or three days prior to penetrating the first zone containing or reasonably expected to contain H₂S.

1. Well Control Equipment:

- A. Flare line with electronic igniter or continuous pilot.
- B. Choke manifold with a minimum of one remote choke.
- C. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.
- D. Auxiliary equipment to include: annular preventer, mud-gas separator, rotating head, and flare gun with flares.

2. Protective equipment for essential personnel:

- A. Mark II Surviveair 30-minute units located in the dog house and at briefing areas, as indicated on well site diagram.

3. H₂S detection and monitoring equipment:

- A. 2 - portable H₂S monitor positioned on location for best coverage and response. These units have warning lights and audible sirens when H₂S levels of 20 ppm are reached.
- B. 1 - portable SO₂ monitor positioned near flare line.

4. Visual warning systems:

- A. Wind direction indicators as shown on well site diagram.
- B. Caution/Danger signs shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used, when appropriate. See example attached.

5. Mud Program:

- A. The mud program has been designed to minimize the volume of H₂S circulated to the

surface. Proper mud weight, safe drilling practices, and the use of H₂S scavengers will minimize hazards when penetrating H₂S bearing zones.

- B. A mud-gas separator and an H₂S gas buster will be utilized.

6. Metallurgy:

- A. All drill strings, casings, tubing, wellhead, blowout preventers, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H₂S service.
- B. All elastomers used for packing and seals shall be H₂S trim.

7. Communication:

- A. Radio communications in company vehicles including cellular telephone and 2-way radio.
- B. Land line (telephone) communications at field office.

8. Well testing:

- A. Drill stem testing will be performed with a minimum number of personnel in the immediate vicinity which are necessary to safely and adequately conduct the test. The drill stem testing will be conducted during daylight hours and formation fluids will not be flowed to the surface. All drill stem testing operations conducted in an H₂S environment will use the closed chamber method of testing.

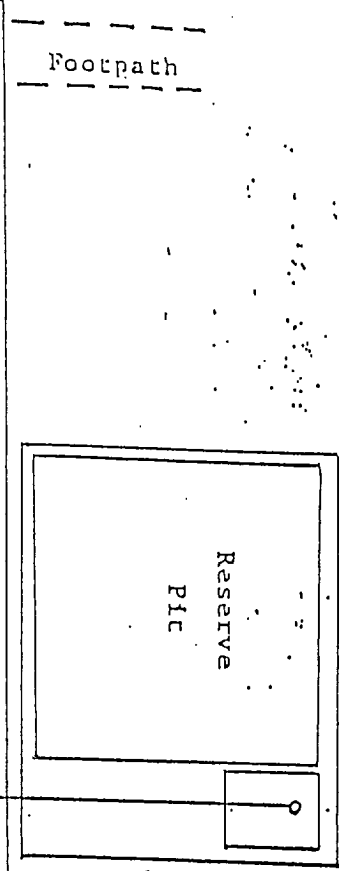
W A R N I N G

YOU ARE ENTERING AN H₂S AREA
AUTHORIZED PERSONNEL ONLY

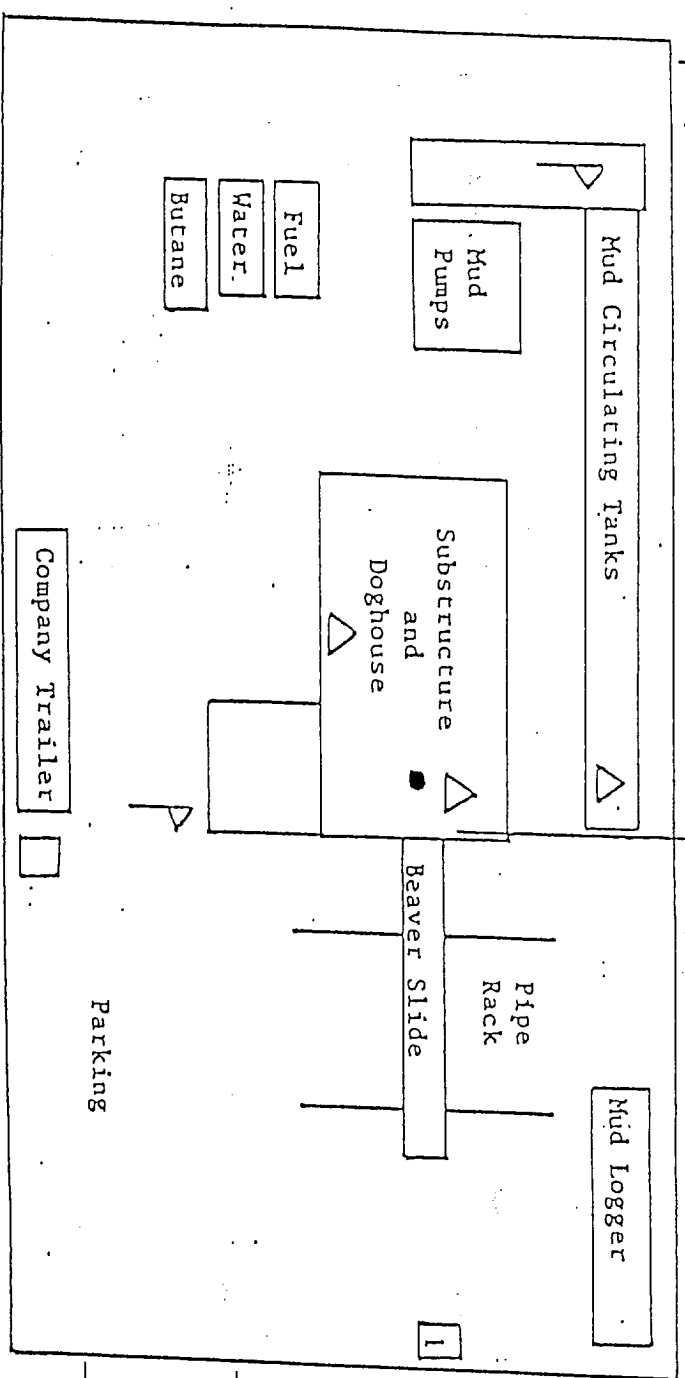
1. **BEARDS OR CONTACT LENSES NOT ALLOWED**
2. **HARD HATS REQUIRED**
3. **SMOKING IN DESIGNATED AREAS ONLY**
4. **BE WIND CONSCIOUS AT ALL TIMES**
5. **CK WITH MARBOB FOREMAN AT MAIN OFFICE**

MARBOB ENERGY CORPORATION

1-505-748-3303



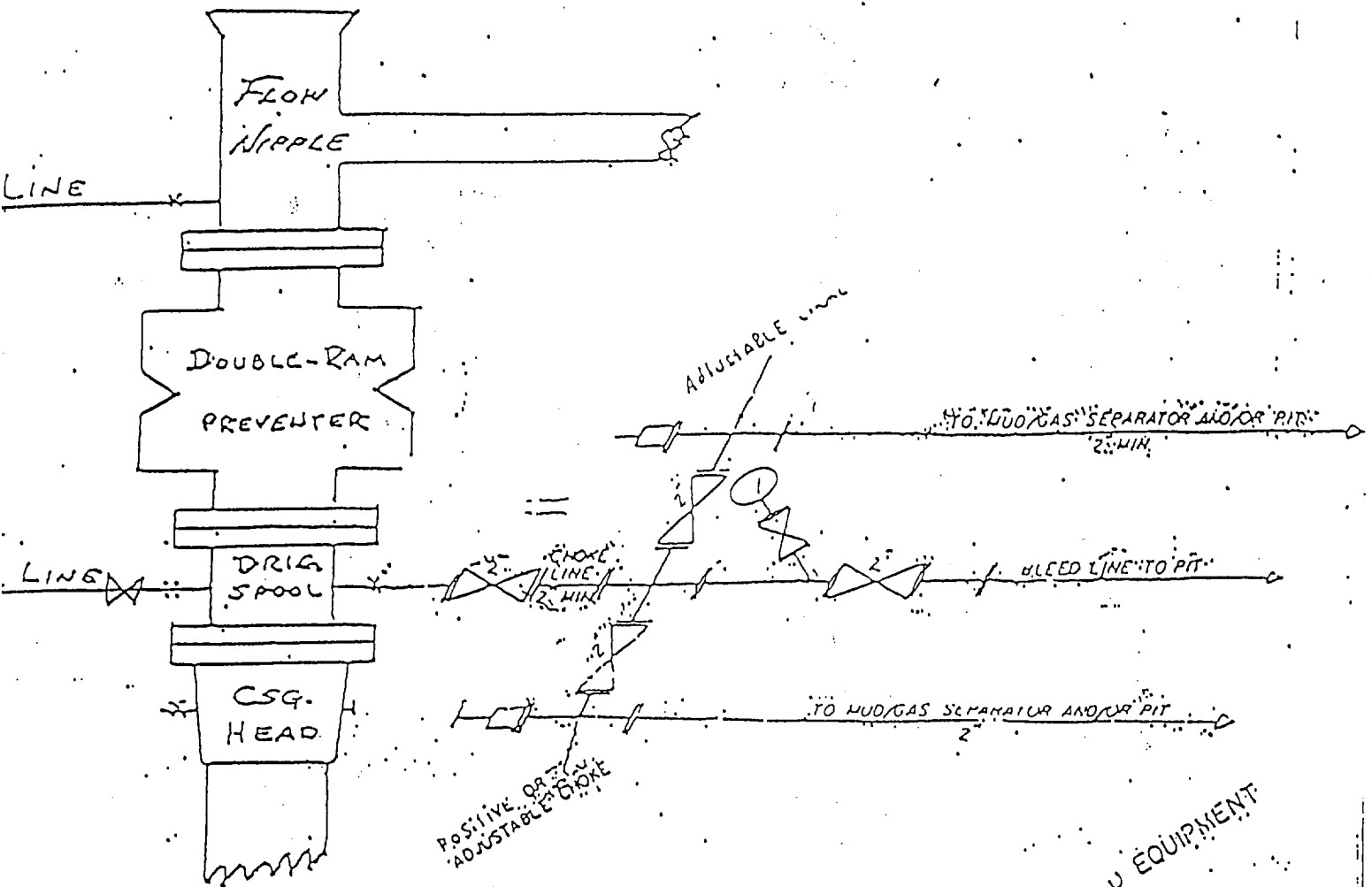
Prevailing Wind Direction:
 Summer - South
 Winter - Northeast



- △ - H2S Monitors with alarms at the bell nipple and shale shaker
- P - Wind Direction Indicators
- - Safe Riefing areas with caution signs and protective breaching equipment Min. 150 feet from wellhead, 1 designates primary area

B O P & CHOKE MANIFOLD

10"/900 Cameron SS Space Saver
 3000# Working Pressure
 3.000# Working Pressure Choke Manifold



2 1/2" CHOKE MANIFOLD EQUIPMENT

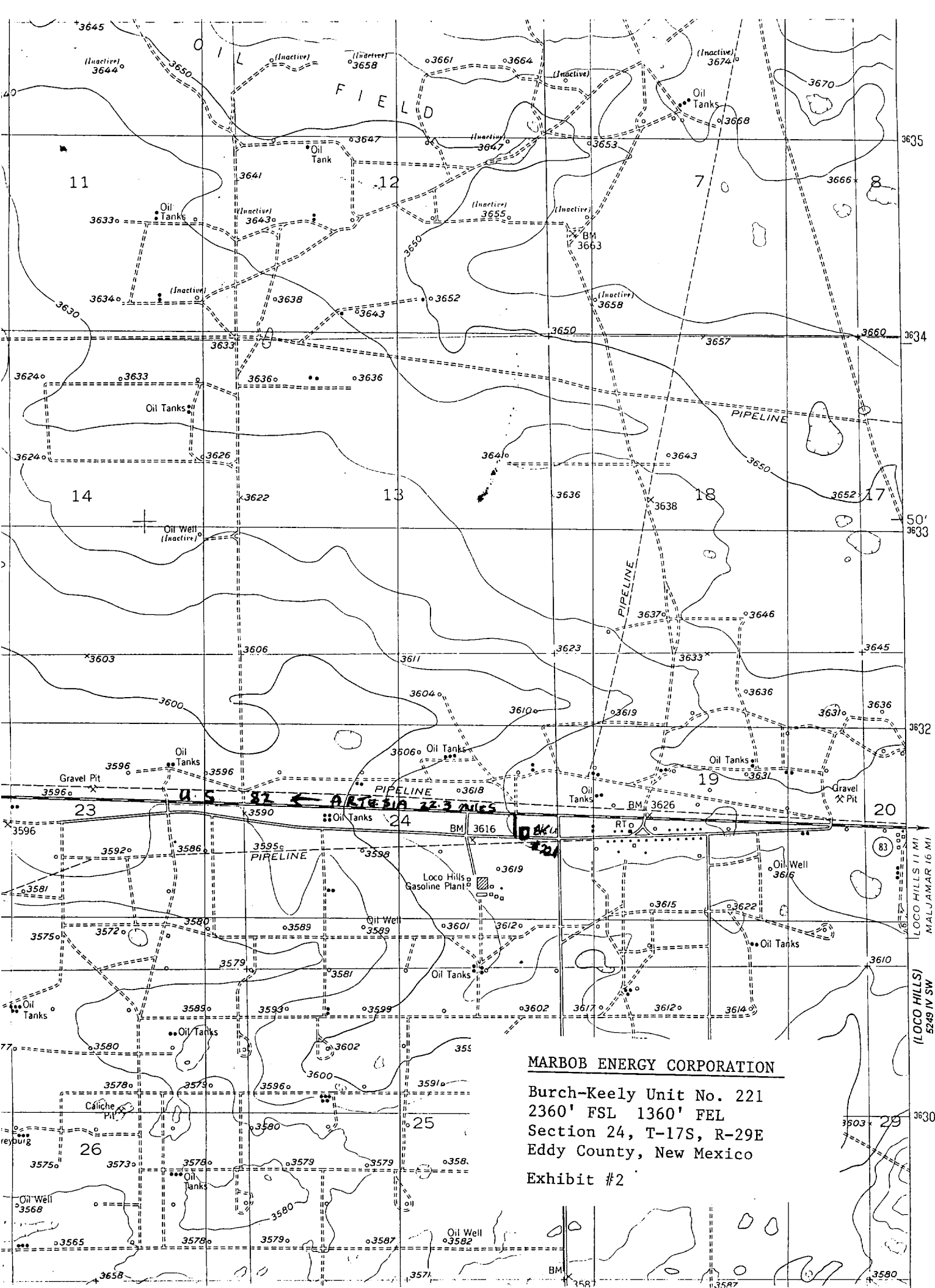
MARBOB ENERGY CORPORATION

Burch-Keely Unit No. 221
 2360' FSL 1360' FEL
 Section 24, T-17S, R-29E
 Eddy County, New Mexico

Exhibit #1

Attachment to Exhibit #1
NOTES REGARDING THE BLOWOUT PREVENTERS

1. Drilling nipple to be so constructed that it can be removed without use of a welder through rotary table opening, with minimum I.D. equal to preventer bore.
2. Wear ring to be properly installed in head.
3. Blow out preventer and all fittings must be in good condition, 3000 psi W.P. minimum.
4. All fittings to be flanged.
5. Safety valve must be available on rig floor at all times with proper connections, valve to be full bore 3000 psi W.P. minimum.
6. All choke and fill lines to be securely anchored, especially ends of choke lines.
7. Equipment through which bit must pass shall be at least as large as the diameter of the casing being drilled through.
8. Kelly cock on kelly.
9. Extension wrenches and hand wheels to be properly installed.
10. Blow out preventer control to be located as close to driller's position as feasible.
11. Blow out preventer closing equipment to include minimum 40 gallon accumulator, two independent sources of pump power on each closing unit installation, and meet all API specifications.



MARBOB ENERGY CORPORATION

Burch-Keely Unit No. 221
2360' FSL 1360' FEL
Section 24, T-17S, R-29E
Eddy County, New Mexico

Exhibit #2

Elder 7756 A
7747 1. A
 1037 G3

(Amer. Bank)
Morrow 7752
Disc. 2.1 Mil.
Lockhart
J.S. Gen. Amer.
Ropt. Anderson
to \$5000

Danison J.
7752
Fr. 5000 bills

Phillips
Arice Fed.

Pt
Ra

26-BB	25-BB	24-C
Phillips	P15	b1c (Anne B)
J759 2	7M1 Windföhr et al)	Marr 055 NC C8
23-BB	Phillips	"23-C
● 24-BB ●	zoc	05067 ●
"Grogburg"	18	"Burck"
J741 2	31-BB	Phillips
21-BB	22-BB	22-C
● F175 ●	19-C	●
Burch	028793	43-C
J743 1	U.S.	14-AA
28-AA	15 AA	(MO) 17-AA
● 16-AA ●	Burch-Fed	(T011144Z
		PRBC 2
		AR MEd To

