# DRILLING PROGRAM

Attached to Form 3160-3
Marbob Energy Corporation
Washington Primero 15 Federal Com No. 1
660' FNL and 1650' FEL
Section 15-26S-24E
Eddy County, New Mexico

1. Geologic Name of Surface Formation:

   Castile

2. Estimated Tops of Important Geologic Markers:

| | | | |
|---|---|---|---|
| Delaware | 685' | Strawn | 6360' |
| Bone Springs | 3860' | Atoka | 6670' |
| Dean | 5935' | Morrow | 7300' |
| Wolfcamp | 6318' | | |

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

| | |
|---|---|
| Delaware | 685' |
| Bone Springs | 3860' |
| Dean | 5935' |
| Wolfcamp | 6318' |
| Strawn | 6360' |
| Atoka | 6670' |
| Morrow | 7300' |

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 intermediate casing at the top of the Delaware Lime formation ± 655' and circulate cement to surface or sufficient to tie in. 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:

| Hole Size | Interval | OD csg | Weight, Grade, Jt. Cond. Type |
|---|---|---|---|
| 12 1/4" | 0 - ±655' | 8 5/8" | 24# J-55 LTC NEW R-3 |
| 7 7/8" | 0 - 8000' | 5 1/2" | 17 # J-55 LTC NEW R-3 |

Cement Program:

8 5/8" Casing: Cemented to surface with 350sx of Class C w/2% cc.
5 1/2" Production Casing: Cemented with 325sx Class C or sufficient to cover 200' above all known oil and gas horizons

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 by 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" csg and used continuously until TD is reached. All BOP's and accessory equipment will be tested by independent tester to 3000 psi.

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.

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:

| Depth | Type | Weight (ppg) | Viscosity (sec) | Waterloss (cc) |
|---|---|---|---|---|
| 0 -655' | Fresh Water | 8.5 | 28 | N.C. |
| 655'-8000' | Cut Brine | 9.5 - 9.6 | 29 - 32 | 5.15 |

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) The electric logging program will consist of Dual Laterolog Micro SFL, Spectral Density Dual Spaced Neutron Csng Log, and Depth Control Log.

(B) No conventional coring is anticipated.

(C) 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.

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

No abnormal pressures or temperatures are anticipated. The estimated bottom hole temperature (BHT) at TD is 105' and estimated bottom hole pressure (BHP) is 3200 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 April 12, 1999. 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
Washington Primero 15 Federal Com No. 1
660' FNL and 1650' FEL
Section 15-26S-24E
Eddy County, New Mexico

1. Existing Roads:

A. The well site and elevation plat for the proposed well is attached. It was staked by John West Engineering.

B. All roads to the location are shown in Exhibit #2. 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.

C. Directions to location: From White City, proceed south on U.S. 62/180 for 5.4 miles. Turn west on Washington Ranch Road (CR418) and proceed 6.1 miles. Turn south on Mayes Ranch Road and proceed 2.5 miles to Marbob's Mayes Com #1. From the Mayes Com #1 proceed east off of location along road for 1965 feet. The access road and location are on the southside of the road.

D. Routine grading and maintenance of existing roads will be conducted as necessary to maintain their condition as long as any operations continue on this lease.

2. Proposed Access Road:

Marbob realizes the sensitive condition of the surface soils in this area and have conducted meetings with the dirt contractor prior to this Application in an attempt to minimize any surface damage. The result being the following proposed access road:

A new access road of 467' will be constructed as follows:

A crowned road will be constructed of 4" rolled and compacted caliche. The width of the running surface will be 14' with an average grade of less than 1%. Water will be diverted where necessary to prevent erosion, maintain good drainage, and to remain consistent with local drainage patterns.

Approximately .2 miles of existing ranch road will be upgraded in the same manner as the new access road.

Surfacing material will consist of native caliche. Caliche will be obtained from the T. A. Mayes Ranch. Any additional materials needed will be purchased from the dirt contractor.

The proposed access road as shown in Exhibit #2 has been centerline flagged by John West Engineering.

3. Location of Existing Wells:

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

4. Location of Existing and/or Proposed Facilities:

A. Marbob Energy Corporation proposes a collection facility, if well is productive, to be located on the Washington Primero 15 Federal Com #1 well pad.

B. If the well is productive, rehabilitation plans are within ten months of completion, or as soon as contents are dry. The reserve pit will be back filled in a manner so that there is a minimum of 3' of cover over the remaining cuttings. Top soil removed from the drill site will then be used to recontour the pit area so that approximately one foot of cover remains above natural terrain. Recontouring the pits in this manner allows rain fall to run off of and around the pit area. Area will be reseeded as to BLM specifications.

5. 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 water wells 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.

6. Source of Construction Materials:

All caliche required for construction of the drill pad and the proposed new access road (approximately 1500 cubic yards) will be obtained from the T. A. Mayes Ranch. All roads and pads will be constructed of 4" of rolled and compacted caliche.

7. Methods of Handling Water Disposal:

A. 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 two earthen pits, approximately 80' X 10' X 10' deep. Drill cuttings not retained for evaluation purposes will be disposed into the reserve pit.

B. 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.

C. 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 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.

8. Ancillary Facilities:

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

9. Well Site Layout:

A. The drill pad layout 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.

10. 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 the T.A. Mayes Ranch caliche pit. Topsoil removed from the drill site will be used to recontour the pit area and reseeded as per BLM specifications.

11. **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 gypy. The vegetation is native scrub grasses.

B. A Cultural Resources Examination has been requested and will be forwarded to your office.

12. **Lessee's and Operator's Representative:**

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

Doug Chandler
Marbob Energy Corporation
324 W. Main, Suite 103
P. O. Drawer 227
Artesia, New Mexico 88211
Phone: 505/748-3303 (office)
505/887-6934 (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: 3-11-1999

Signed: _____
Johnny C. Gray
Vice-President

# 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 $H_2S$.

1. Well Control Equipment:

   A. Choke manifold

   B. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.

   C. Auxiliary equipment to include: annular preventer, mud-gas separator, rotating head.

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. $H_2S$ detection and monitoring equipment:

   A. 2 - portable $H_2S$ monitor positioned on location for best coverage and response. These units have warning lights and audible sirens when $H_2S$ 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 $H_2S$ circulated to the surface. Proper mud weight, safe drilling practices, and the use of $H_2S$ scavengers will minimize hazards when penetrating $H_2S$ bearing zones.

   B. A mud-gas separator will be utilized.

6. Communication:

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

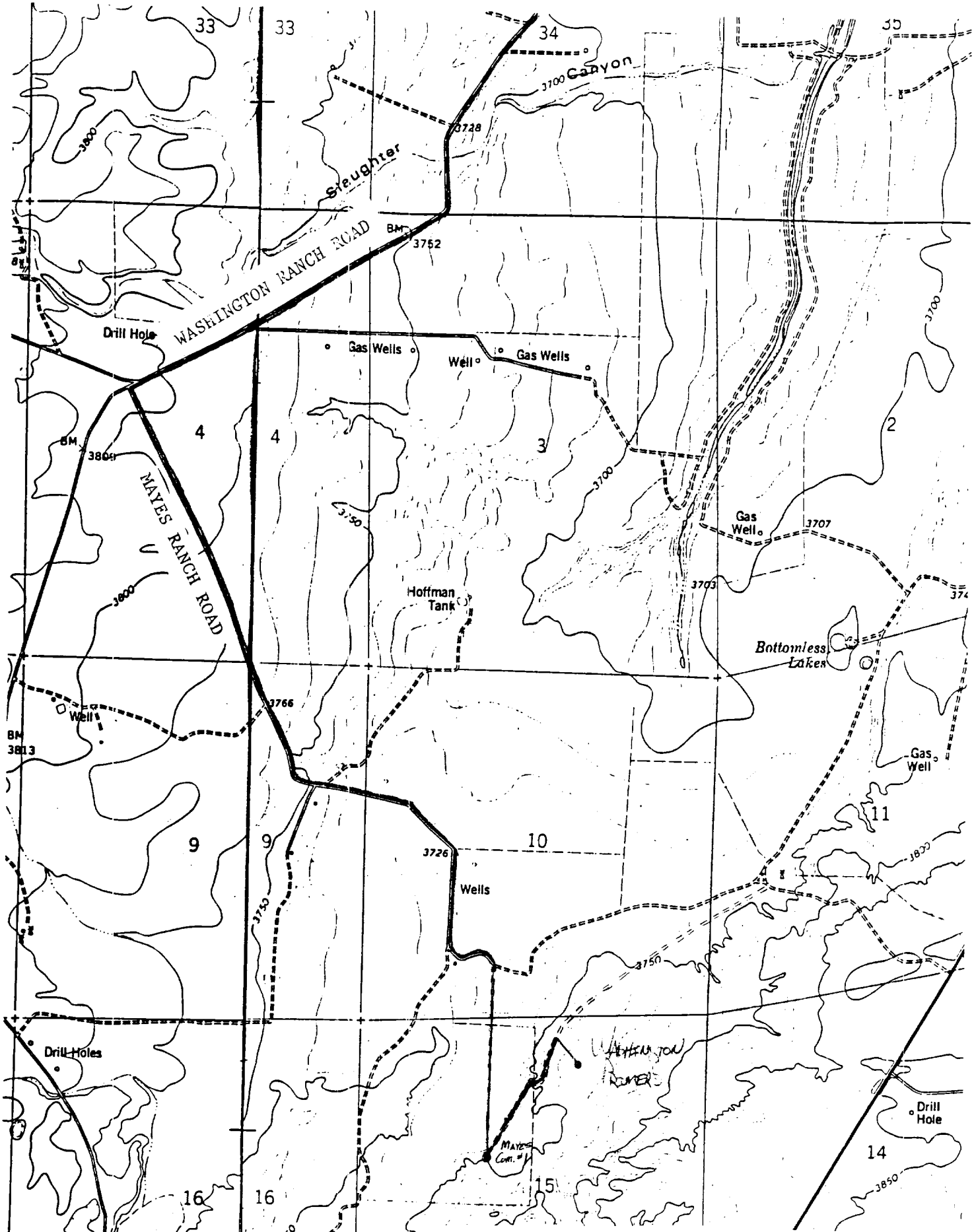
# W A R N I N G

YOU ARE ENTERING AN $H_2S$ 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




Washington Primero 15 Federal Com No. 1
660 FNL & 1650 FEL
Section 15; T-26s R-24e
Eddy County, New Mexico

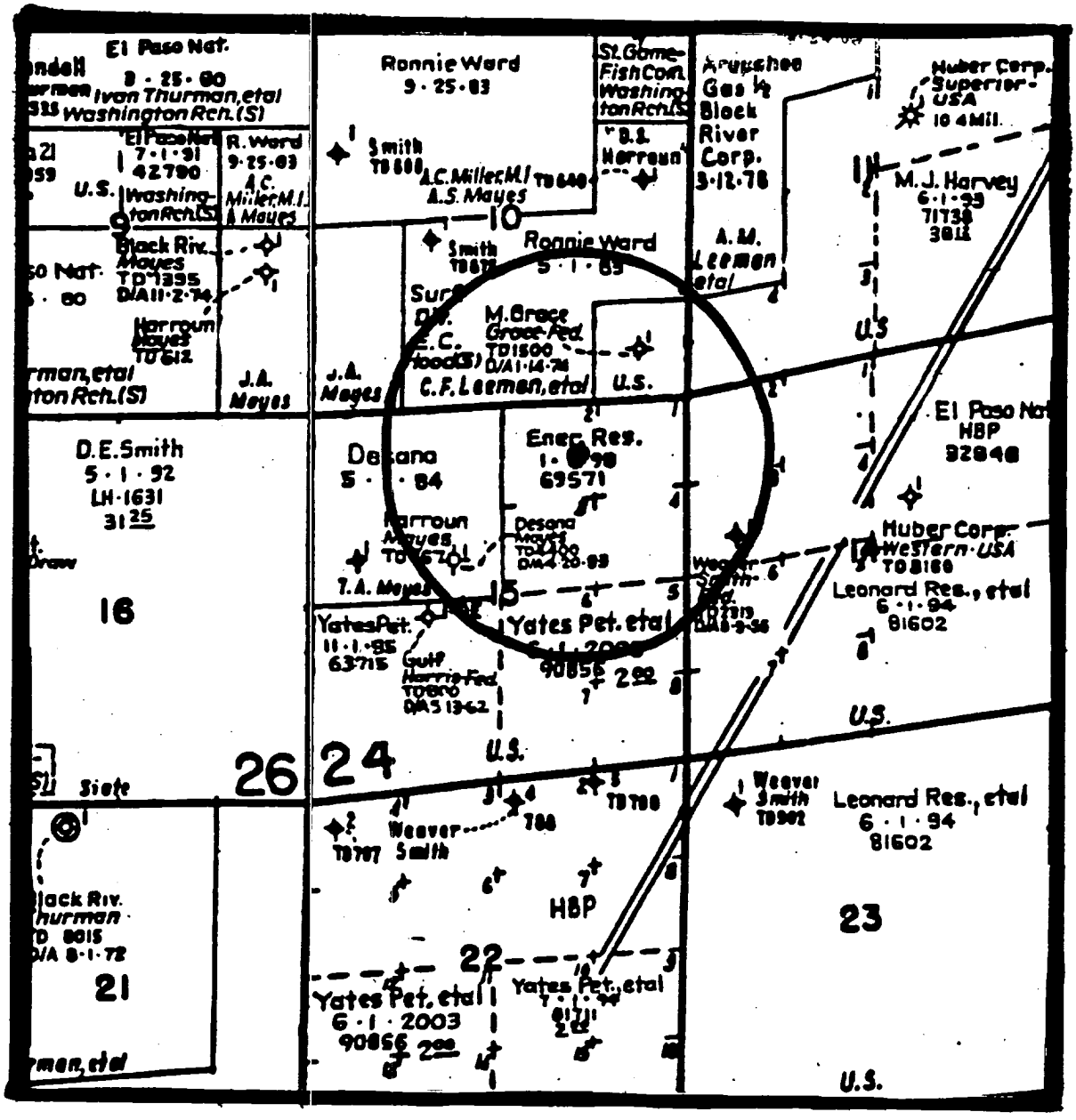



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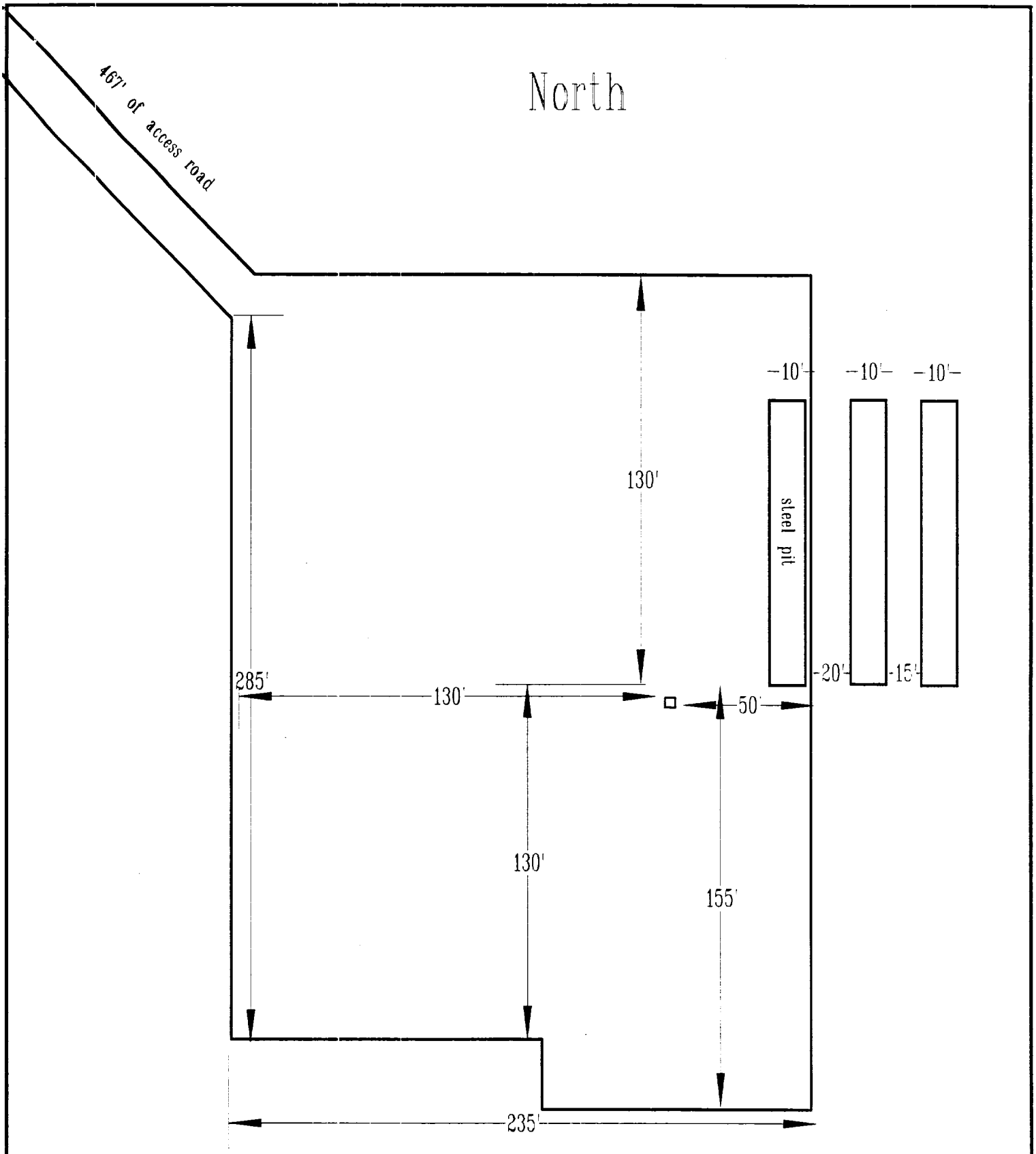
Exhibit Three




Washington Primero 15 Federal Com No. 1
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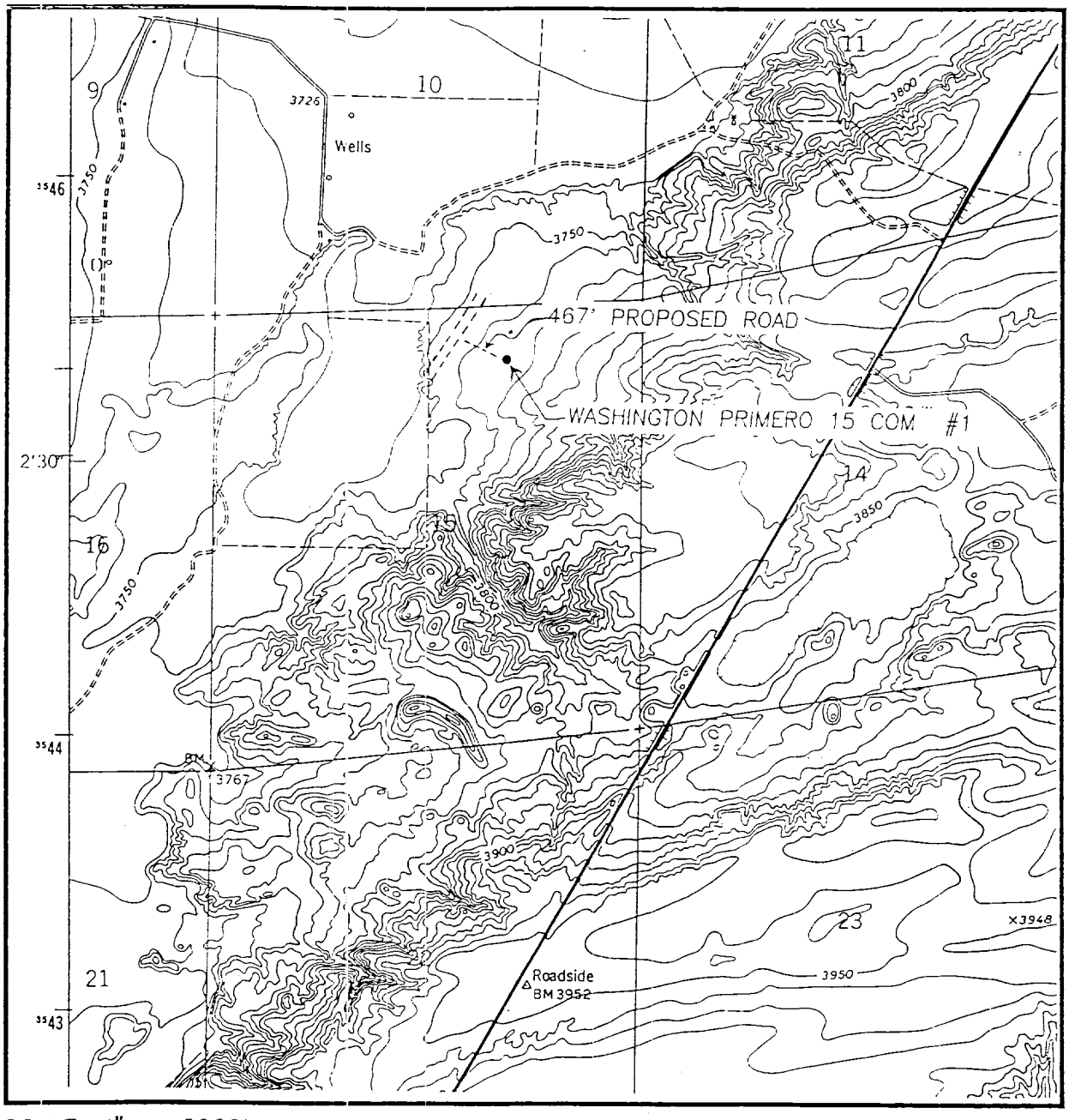
Exhibit Four

# LOCATION VERIFICATION MAP




SCALE: 1" = 2000'

CONTOUR INTERVAL – 10'

SEC. 15 TWP. 26-S RGE. 24-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 660' FNL & 1650' FEL

ELEVATION 3766'

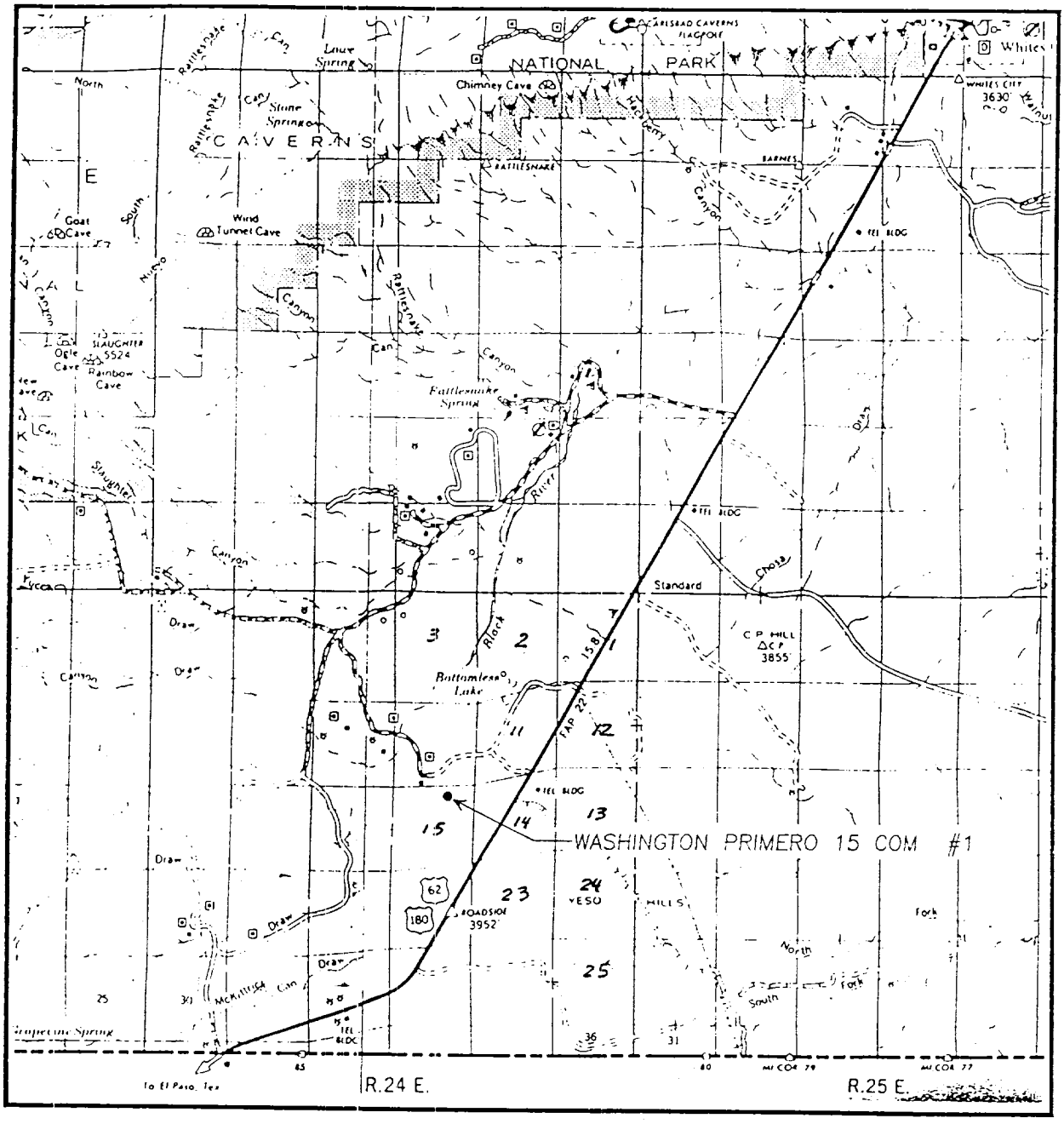
OPERATOR MARBOB ENERGY CORPORATION

LEASE WASHINGTON PRIMERO 15 COM

U.S.G.S. TOPOGRAPHIC MAP
RATTLESNAKE SPRING, N.M.-TX.


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

# VICINITY MAP




SCALE: 1" = 2 MILES

SEC. 15 TWP. 26-S RGE. 24--E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 660' FNL & 1650' FEL

ELEVATION 3766'

OPERATOR MARBOB ENERGY CORPORATION

LEASE WASHINGTON PRIMERO 15 COM

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