

**MERIDIAN OIL**

OIL CONSERVATION DIVISION  
RECEIVED

104 MAR 16 PM 8 39

March 14, 1994

Sent Federal Express

Mr. William LeMay  
New Mexico Oil Conservation Division  
Post Office Box 2088  
Santa Fe, New Mexico 87501

Re: Meridian Oil Inc. Canyon Largo Unit #431  
1475'FNL, 1340'FEL, Section 14, T-25-N, R-7-W - Rio Arriba County, New Mexico  
API # 30-039-(not assigned)

Dear Mr. LeMay:

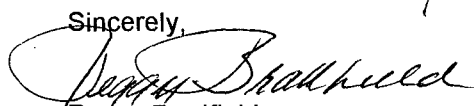
Meridian Oil Inc. is applying for administrative approval of a non-standard location for the above location in the Basin Dakota formation. This application for the referenced location is due to terrain as shown on the topographic map, archaeology, and the presence of pipelines.

The following attachments are for your review:

1. Application for Permit to Drill.
2. Completed C-102 at referenced location.
3. Offset operators/owners plat
4. 7.5 minute topographic map showing the orthodox windows for the East half dedication for the Dakota; and enlargement of the map to define topographic features.
5. If the well were directionally drilled to a standard bottom hole location, the economics would be severely burdened due to the incremental directional drilling costs of \$140,000.

Meridian Oil Inc. is operator of the Canyon Largo Unit and is the offsetting operator for this section.

Sincerely,

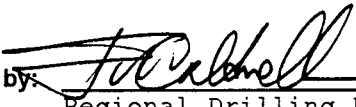


Peggy Bradfield  
Regulatory/Compliance Representative

encs.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a.	Type of Work DRILL	5. Lease Number SF-078880
1b.	Type of Well GAS	6. If Indian, All. or Tribe
2.	Operator <b>MERIDIAN OIL</b>	7. Unit Agreement Name Canyon Largo Unit
3.	Address & Phone No. of Operator PO Box 4289, Farmington, NM 87499  (505) 326-9700	8. Farm or Lease Name Canyon Largo Unit  9. Well Number 431
4.	Location of Well 1475' FNL, 1340' FEL  Latitude 36° 24' 11", Longitude 107° 32' 20"	10. Field, Pool, Wildcat Basin Dakota  11. Sec., Twn, Rge, Mer. Sec 14, T-25-N, R-7-W NMPM
14.	Distance in Miles from Nearest Town 16 miles to Counselors	12. County Rio Arriba
		13. State NM
15.	Distance from Proposed Location to Nearest Property or Lease Line 1340'	
16.	Acres in Lease	17. Acres Assigned to Well 320 E/2
18.	Distance from Proposed Location to Nearest Well, Drlg, Compl, or Applied for on this Lease 300'	
19.	Proposed Depth 6960'	20. Rotary or Cable Tools Rotary
21.	Elevations (DF, FT, GR, Etc.) 6445'	22. Approx. Date Work will Start 2nd quarter 1994
23.	Proposed Casing and Cementing Program See Operations Plan attached	
24.	Authorized by:  Regional Drilling Engineer	Date: <u>5/10/94</u>

PERMIT NO. \_\_\_\_\_ APPROVAL DATE \_\_\_\_\_

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_

Archaeological Report submitted by Arboles Contract Arch. Tech Rep #375 dated 12-18-93  
Threatened and Endangered Species Report to be submitted  
NOTE: This format is issued in lieu of U.S. BLM Form 3160-3

OPERATIONS PLAN

**Well Name:** Canyon Largo Unit #431  
**Location:** 1475'FNL, 1340'FEL Section 14, T-25-N, R-7-W  
 Rio Arriba County, New Mexico  
 Latitude 36° 24' 11", Longitude 107° 32' 20"  
**Formation:** Basin Dakota  
**Elevation:** 6445'GL

<u>Formation Tops:</u>	<u>Top</u>	<u>Bottom</u>	<u>Contents</u>
Surface	San Jose	1610'	
Ojo Alamo	1610'	1740'	aquifer
Kirtland	1740'	2240'	
Fruitland	2240'	2350'	gas
Pictured Cliffs	2350'	2410'	gas
Lewis	2410'	3140'	
Chacra	3140'	3840'	salt water
Cliff House	3840'	3930'	salt water
Menefee	3930'	4560'	
Point Lookout	4560'	4780'	
Mancos	4780'	5650'	
Gallup	5650'	6190'	gas & oil
Juana Lopez	6190'	6500'	
Greenhorn	6500'	6570'	gas & oil
Graneros	6570'	6605'	
Dakota	6605'	6825'	gas & oil
Burro Canyon	6825'	6910'	
Morrison	6910'		salt water
<b>Total Depth</b>	<b>6960'</b>		

**Logging Program:**

Mud Logs/Coring/DST -  
 Mud logs - 1600'-TD.  
 Coring - none  
 DST - none  
 Electric logs - IEL/SP/GR; Density/Neut/GR; Microlog-GR; Numar;  
 Dig.Sonic

**Mud Program:**

<u>Interval</u>	<u>Type</u>	<u>Weight</u>	<u>Vis.</u>	<u>Fluid Loss</u>
0- 200'	Spud	8.4-8.9	40-50	no control
200-6960'	LSND	8.4-9.1	30-60	no control

Pit levels will be visually monitored to detect gain or loss of fluid control.

**Casing Program:**

<u>Hole Size</u>	<u>Depth Interval</u>	<u>Csg.Size</u>	<u>Wt.</u>	<u>Grade</u>
12 1/4"	0' - 200'	8 5/8"	24.0#	K-55
7 7/8"	0' - 6960'	5 1/2"	17.0#	K-55

**Tubing Program:**

0' - 6960'      2 3/8"      4.7#      J-55 EUE

BOP Specifications, Wellhead and Tests:

**Surface to TD -**

11" 3000 psi minimum double gate BOP stack (Reference Figure #1).  
After nipple-up prior to drilling out surface casing, rams and casing will be tested to 600 psi for 30 minutes.

2" nominal, 3000 psi minimum choke manifold (Reference Figure #3).

**Completion Operations -**

6" 3000 psi double gate BOP stack (Reference Figure #2).  
After nipple-up prior to completion, pipe rams and casing top will be tested to 3000 psi for 15 minutes.

**Surface to Total Depth -**

2" nominal, 3000 psi minimum choke manifold (Reference Figure #3).

**Wellhead -**

8 5/8" x 5 1/2" x 2 3/8" x 3000 psi tree assembly.

**General -**

- Pipe rams will be actuated once each day and blind rams will be actuated once each trip to test proper functioning.
- An upper kelly cock valve with handle available and drill string valves to fit each drill string will be available on the rig floors at all times.
- A BOP pit level drill will be conducted weekly for each drilling crew.
- All of the BOP tests and drills will be recorded in the daily drilling reports.
- Blind and pipe rams will be equipped with extension hand wheels.

**Cementing:**

8 5/8" surface casing -

Cement to surface w/140 sx Class "B" cement w/3% calcium chloride and 1/4#/sx cellophane flakes (165 cu.ft. of slurry, 100% excess to circulate to surface.) WOC 12 hours prior to drilling out surface casing. Test casing to 600 psi for 30 minutes.

Saw tooth guide shoe on bottom. Bowspring centralizers will be run in accordance with Onshore Order #2.

Production Casing - 5 1/2"

First Stage: Cement to circulate to stage tool @ 4780'. Lead w/354 sx 65/35 Class "B" Pozmix w/6% gel, 2% calcium chloride, and 1/4#/sx cellophane flakes. Tail w/100 sx Class "B" cement w/2% calcium chloride. WOC 4 hours prior to pumping second stage. (Slurry volume: 755 cu.ft. Excess slurry 100%.)

Second Stage: Cement to circulate to stage tool @ 2140'. Lead w/450 sx 65/35 Class "B" Pozmix w/6% gel, 2% calcium chloride, and 1/4#/sx cellophane flakes. Tail w/100 sx Class "B" cement w/2% calcium chloride. WOC a minimum of 18 hours prior to cleanout. (Slurry volume: 915 cu.ft. Excess slurry: 100%.)

Third Stage: Cement to circulate to surface. Cement w/346 sx 65/35 Class "B" Pozmix w/6% gel, 2% calcium chloride, and 1/4#/sx cellophane flakes. Tail w/100 sx Class "B" cement w/2% calcium chloride. WOC a minimum of 18 hours prior to cleanout. (Slurry volume: 742 cu.ft. Excess slurry: 100%.)

Float shoe on bottom. Three centralizers run every other joint above shoe. Thirty-three centralizers - one every 4th joint to the base of the Ojo Alamo @ 1740'. Two turbolizing type centralizers - one below and one into the base of the Ojo Alamo @ 1740'. Standard centralizers thereafter every fourth joint up to the base of the surface pipe.

- If hole conditions permit, an adequate water spacer will be pumped ahead of each cement job to prevent cement/ mud contamination or cement hydration.
- The pipe will be rotated and/or reciprocated, if hole conditions permit.

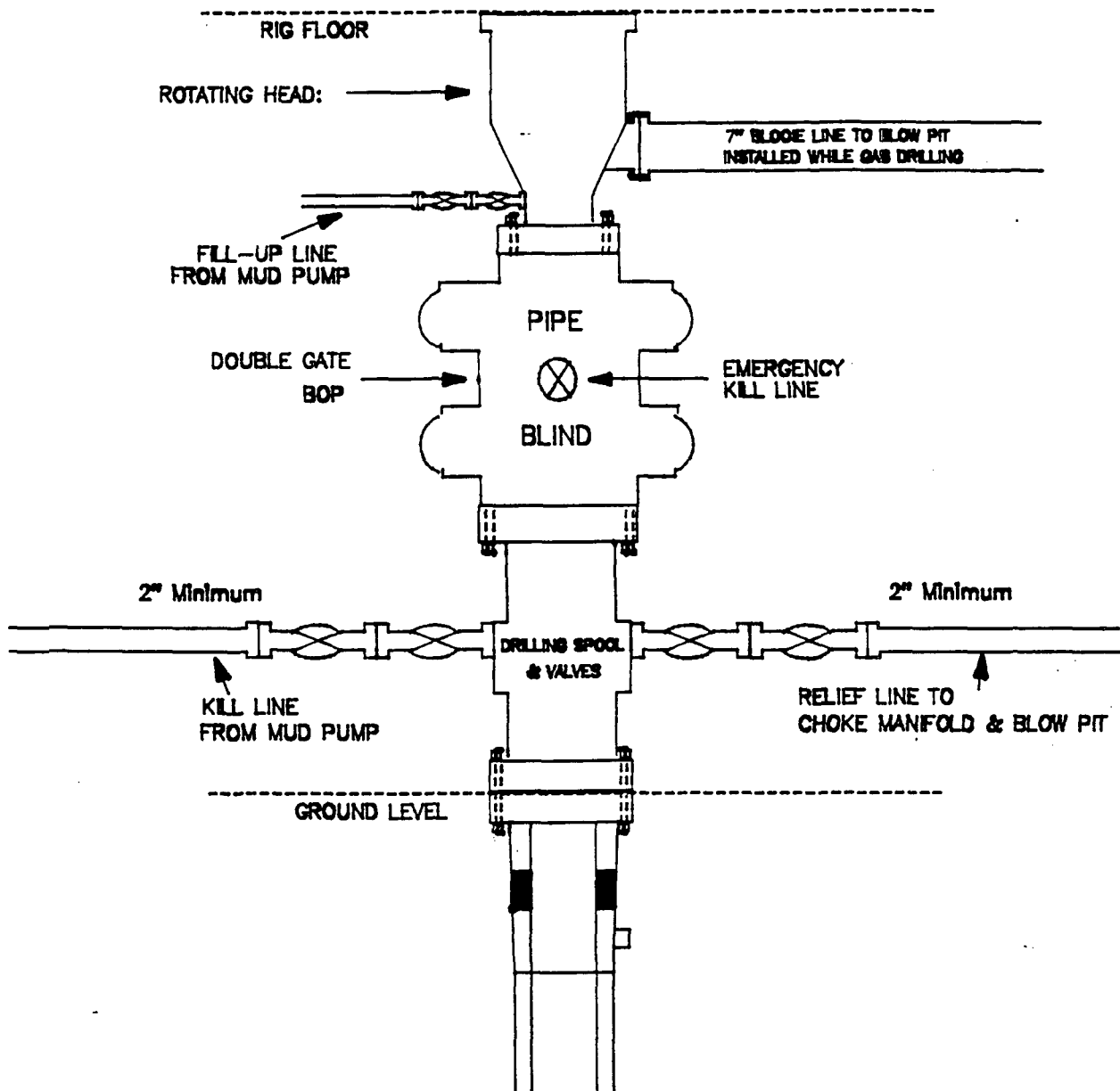
**Additional Information:**

- The Dakota formation will be completed.
- No abnormal temperatures or hazards are anticipated.
- Sufficient LCM will be added to the mud system to maintain well control, if lost circulation is encountered below the top of the Pictured Cliffs.
- The east half of Section 14 is dedicated to this well.
- This gas is dedicated.
- New casing will be utilized.
- Pipe movement (either rotation or reciprocation) will be done if hole conditions permit.

# MERIDIAN OIL INC.

## BOP Configuration

### 2M psi SYSTEM



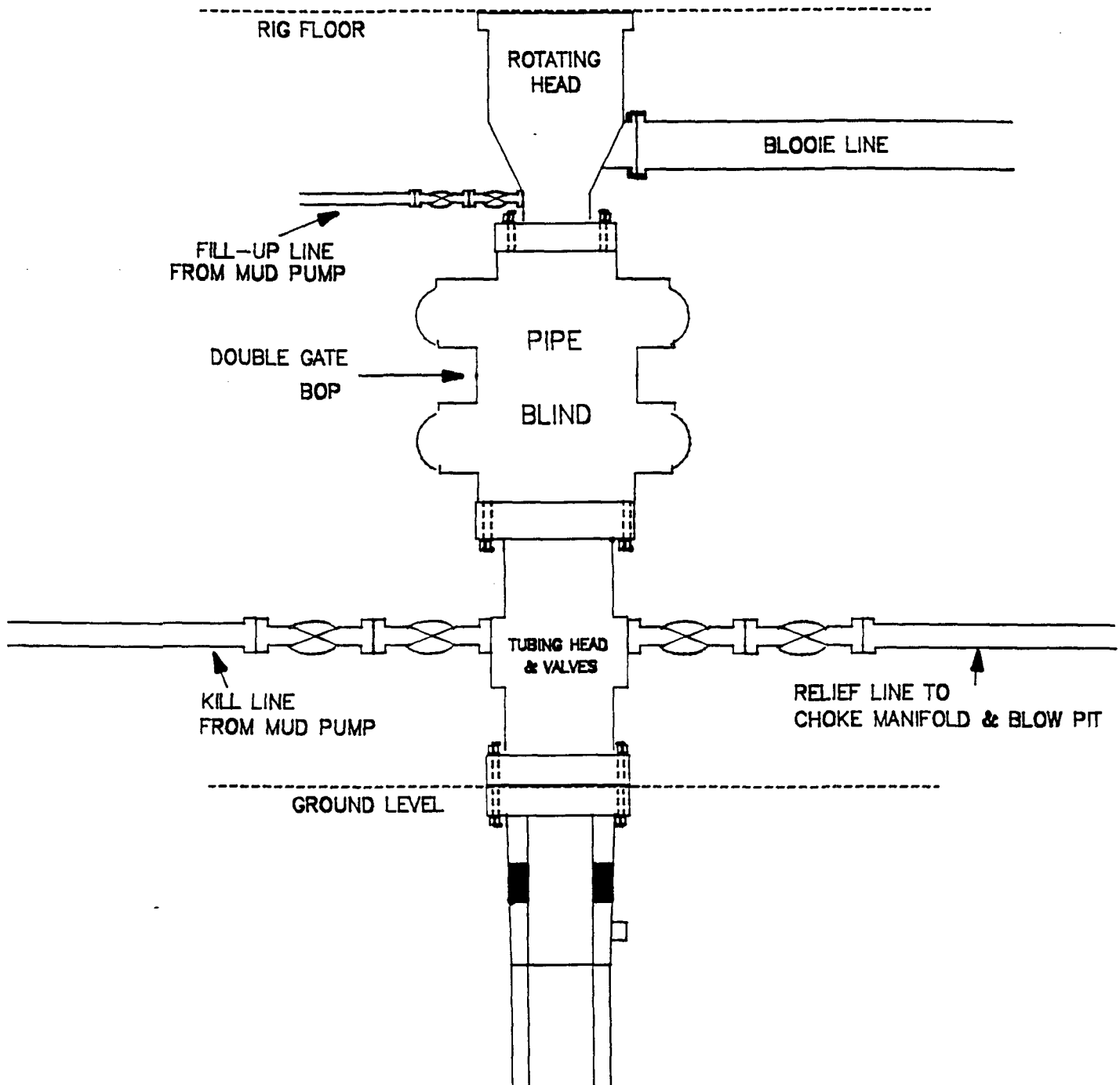
11" Bore, 2000psi minimum working pressure double gate BOP to be equipped with blind and pipe rams. A Schaffer Type 50 or equivalent rotating head to be installed on the top of the BOP. All equipment is 2000psi working pressure/or greater.

Figure #1

# MERIDIAN OIL INC.

BOP Configuration

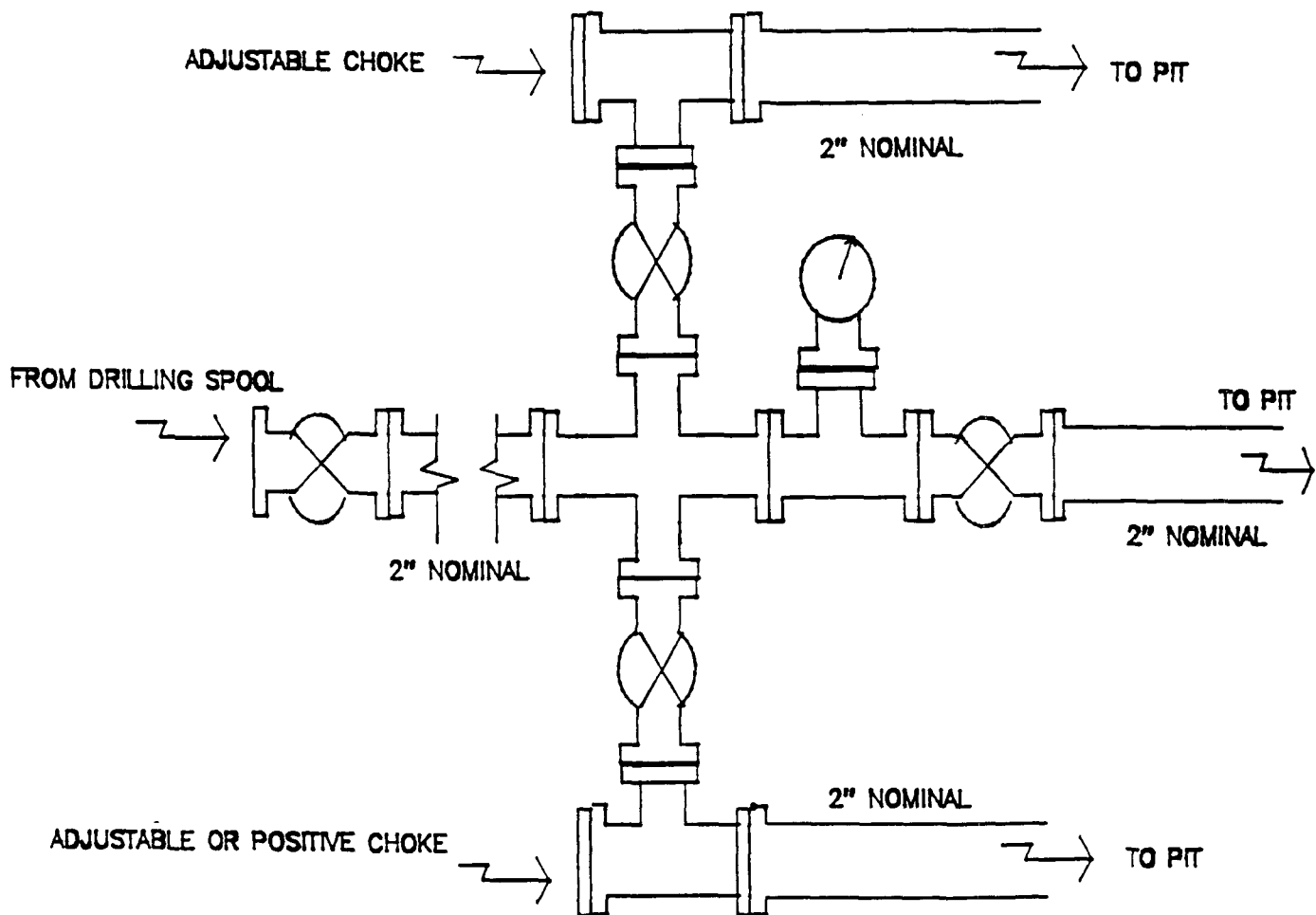
2M psi SYSTEM



Minimum BOP installation for Completion operations. 7 1/16" Bore (6" Nominal), 3000psi minimum working pressure double gate BOP to be equipped with blind and pipe rams.

Figure #2

**MERIDIAN OIL INC.**  
**Choke Manifold Configuration**  
**2M psi SYSTEM**



Minimum choke manifold installation from surface to Total Depth.  
2" minimum, 2000psi working pressure equipment with two chokes.

**Figure #3**



**MERIDIAN OIL**  
Canyon Largo Unit #431  
Multi-Point Surface Use Plan

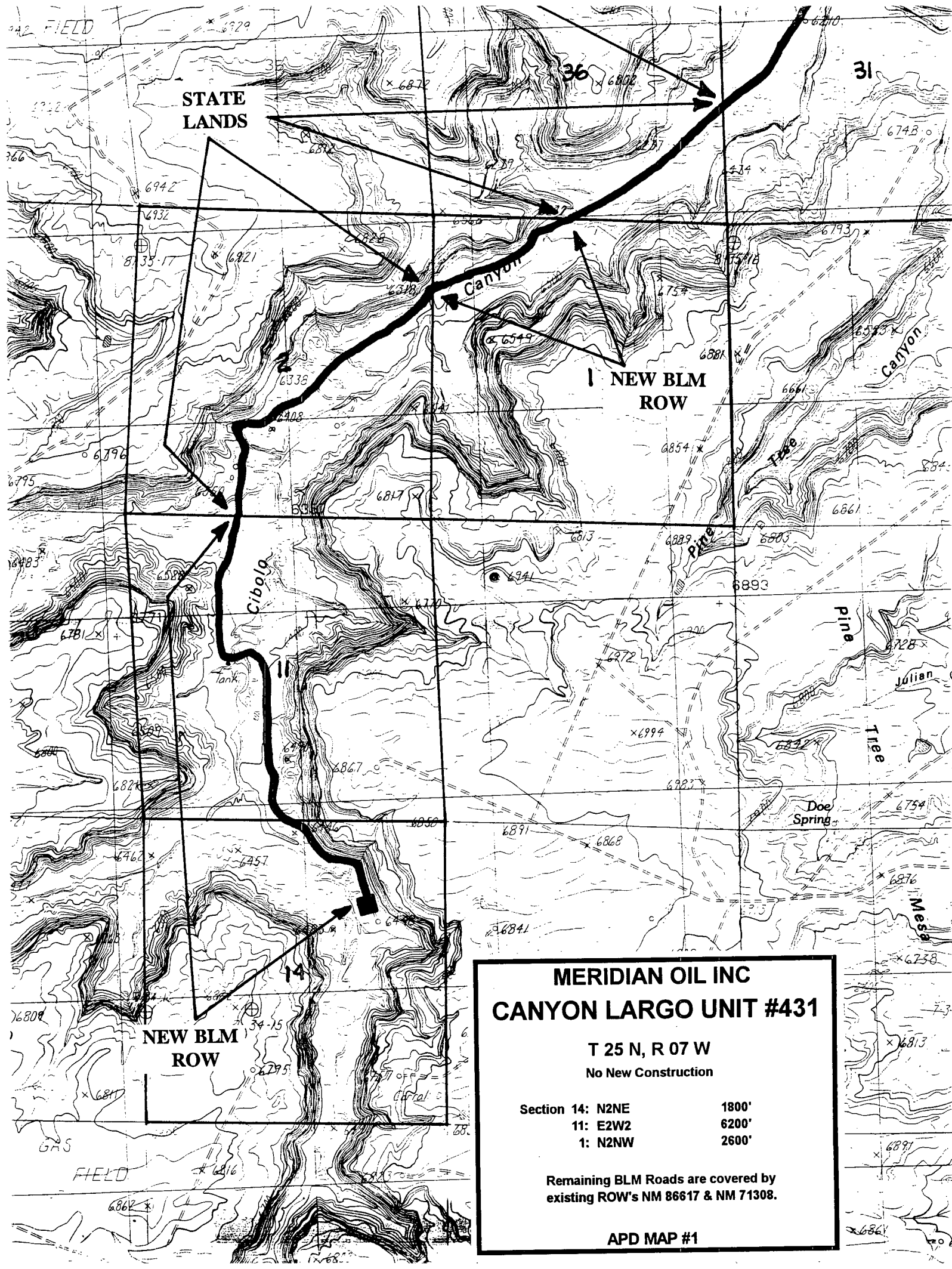
1. Existing Roads - Refer to Map No. 1. Existing roads used to access the proposed location will be properly maintained for the duration of the project. Bureau of Land Management right-of-way has been applied for as shown on Map No. 1.
2. Planned Access Road - Refer to Map No. 1. None required.
3. Location of Existing Wells - Refer to Map No. 1A.
4. Location of Existing and/or Proposed Facilities if Well is Productive -
  - a. On the Well Pad - Refer to Plat No. 1, anticipated production facilities plat.
  - b. Off the Well Pad - Anticipated facilities off the well pad will be applied for as required.
5. Location and Type of Water Supply - Water will be hauled by truck for the proposed project and will be obtained from Superior Water Hole #1 located NW Section 4, T-25-N, R-6-W, New Mexico.
6. Source of Construction Materials - If construction materials are required for the proposed project, such materials will be obtained from a commercial quarry.
7. Methods of Handling Waste Materials - All garbage and trash materials will be removed from the site for proper disposal. A portable toilet will be provided for human waste and serviced in a proper manner. If liquids are left in the reserve pit after completion of the project, the pit will be fenced until the liquids have had adequate time to dry. The location clean-up will not take place until such time as the reserve pit can be properly covered over to prevent run-off from carrying waste materials into the watershed. All reserve pits will be lined with 12 mil bio-degradable plastic liner. All earthen pits will be so constructed as to prevent leakage from occurring; no earthen pit will be located on natural drainage. Generation of hazardous waste is not anticipated. Federal regulations will be adhered to regarding handling and disposal of such waste if so generated.
8. Ancillary Facilities - None anticipated.
9. Wellsite Layout - Refer to the location diagram and to the wellsite cut and fill diagram (Figure No. 4). The blow pit will be constructed with a 2'/160' grade to allow positive drainage to the reserve pit and prevent standing liquids in the blow pit.

10. Plans for Restoration of the Surface - After completion of the proposed project, the location will be cleaned and leveled. The location will be left in such a condition that will enable reseeding operations to be carried out. Seed mixture as designated by the responsible government agency will be used. The reseeding operations will be performed during the time period set forth by the responsible government agency. The permanent location facilities will be painted as designated by the responsible government agency.
11. Surface Ownership - Bureau of Land Management.
12. Other Information - Environmental stipulations as outlined by the responsible government agency will be adhered to. Refer to the archaeological report for a description of the topography, flora, fauna, soil characteristics, dwellings, historical and cultural sites.
13. Operator's Representative and Certification - Meridian Oil Regional Drilling Manager, Post Office Box 4289, Farmington, NM 87499, telephone (505) 326-9700. 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 presently 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 proposed herein will be performed by Meridian Oil Inc. and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

  
Regional Drilling Engineer

3/9/94  
Date

JWC:pb



**MERIDIAN OIL INC**  
**CANYON LARGO UNIT #431**

**T 25 N, R 07 W**

**No New Construction**

**Section 14: N2NE**

**1800'**

**11: E2W2**

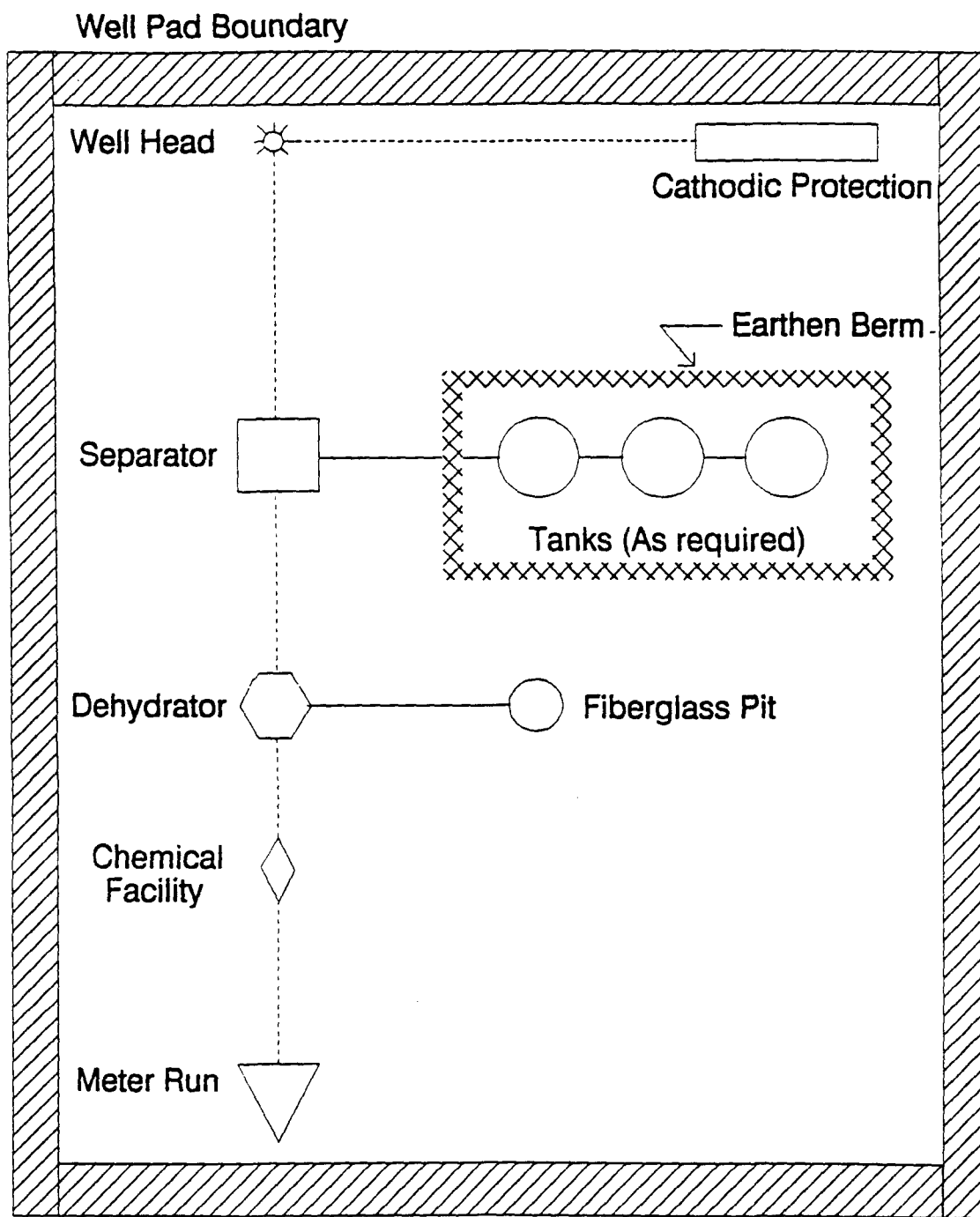
**6200'**

**1: N2NW**

**2600'**

**Remaining BLM Roads are covered by  
existing ROW's NM 86617 & NM 71308.**

**APD MAP #1**



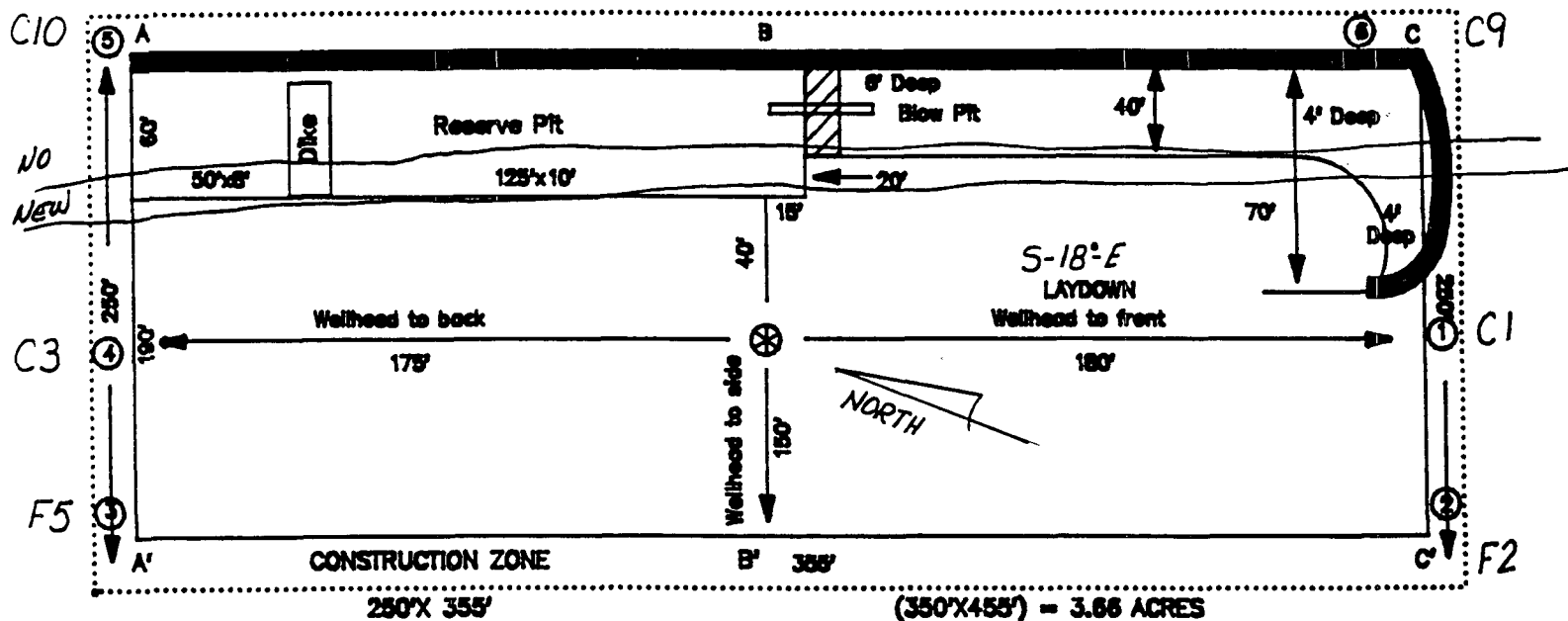
PLAT #1

**MERIDIAN OIL**  
ANTICIPATED  
PRODUCTION FACILITIES  
FOR A  
DAKOTA WELL



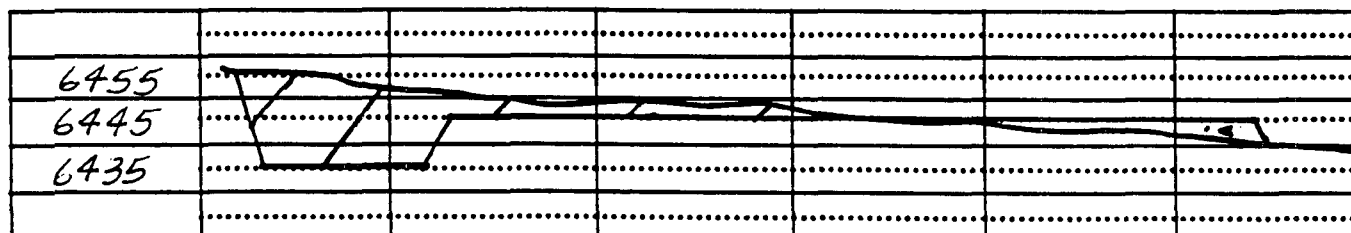
ALL DK

NAME: MOI Canyon Largo Unit #431  
FOOTAGE: 1475' ENL, 1340' FEL,  
SEC 14 TWN 25 N.R. 7 W NMFM  
CD: Rio Arriba ST: NM  
ELEVATION: 6445' DATE: 10-1-93

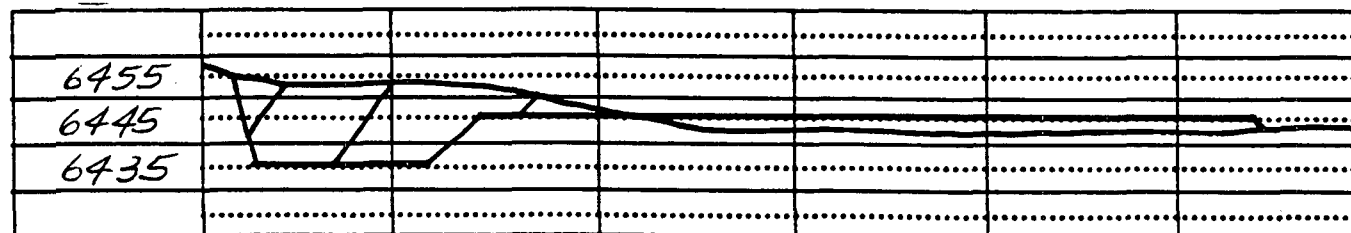


**Blow Pit : overflow pipe halfway between top and bottom and extend over plastic liner and into blow pit.**

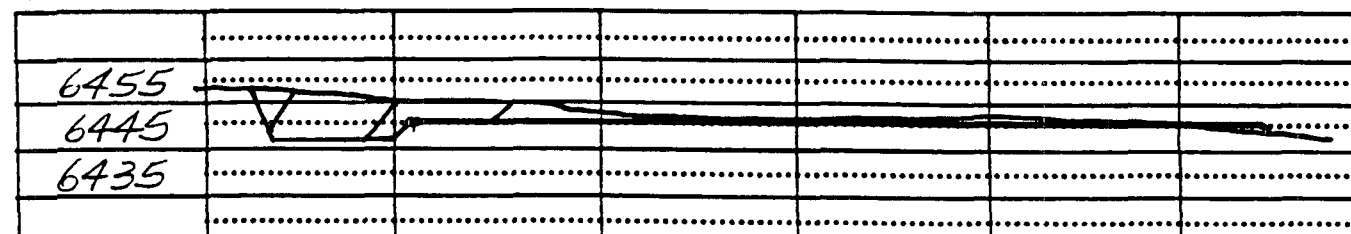
C/L



C/L



C/L



Schedule to Assignment  
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

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

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

DISTRICT II  
P.O. Drawer DD, Artesa, 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

*Standard*  
*64 Dave Section*

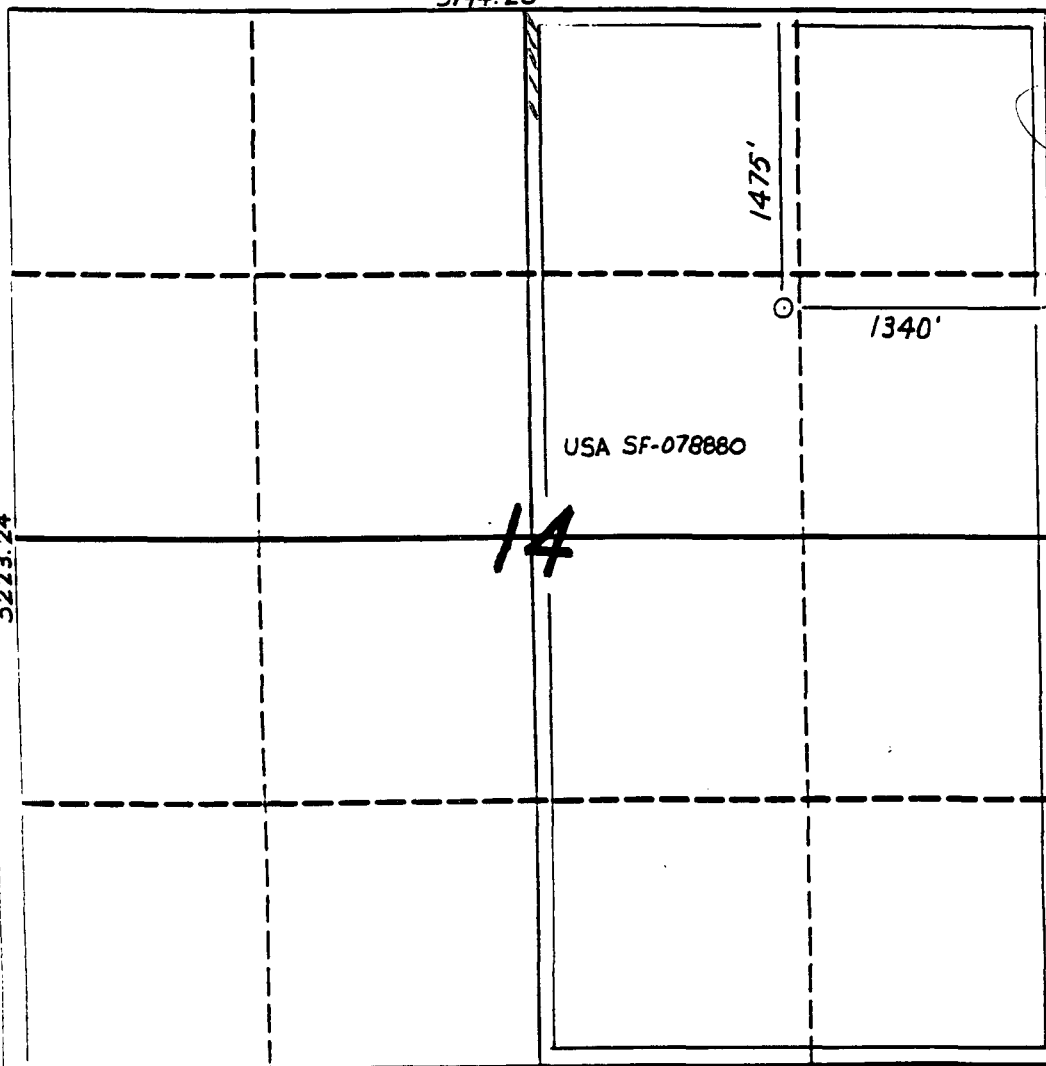
Operator Meridian Oil Inc.		Lease Canyon Largo Unit		Well No. 431
Unit Letter G	Section 14	Township 25 North	Range 7 West	County Rio Arriba
Actual Footage Location of Well: 1475 feet from the North line and 1340 feet from the East line				
Ground level Elev. 6445'	Producing Formation Dakota	Pool Basin	Dedicated Acreage 320 Acres	

- Outline the acreage dedicated to the subject well by colored pencil or machine marks on the plat below.
- If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
- 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 unitization

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

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, force-pooling, or otherwise) or until a non-standard tract, eliminating such interest, has been approved by the Division.

5194.20



OPERATOR CERTIFICATION

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

*Peggy Bradford*  
Signature

Peggy Bradford

Printed Name  
Regulatory Representative

Position  
Meridian Oil Inc.

Company  
3-8-94

Date

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief. 10-1-93

Date Surveyed  
NEED C. EDWARDS  
Signature of Surveyor  
Professional Surveyor

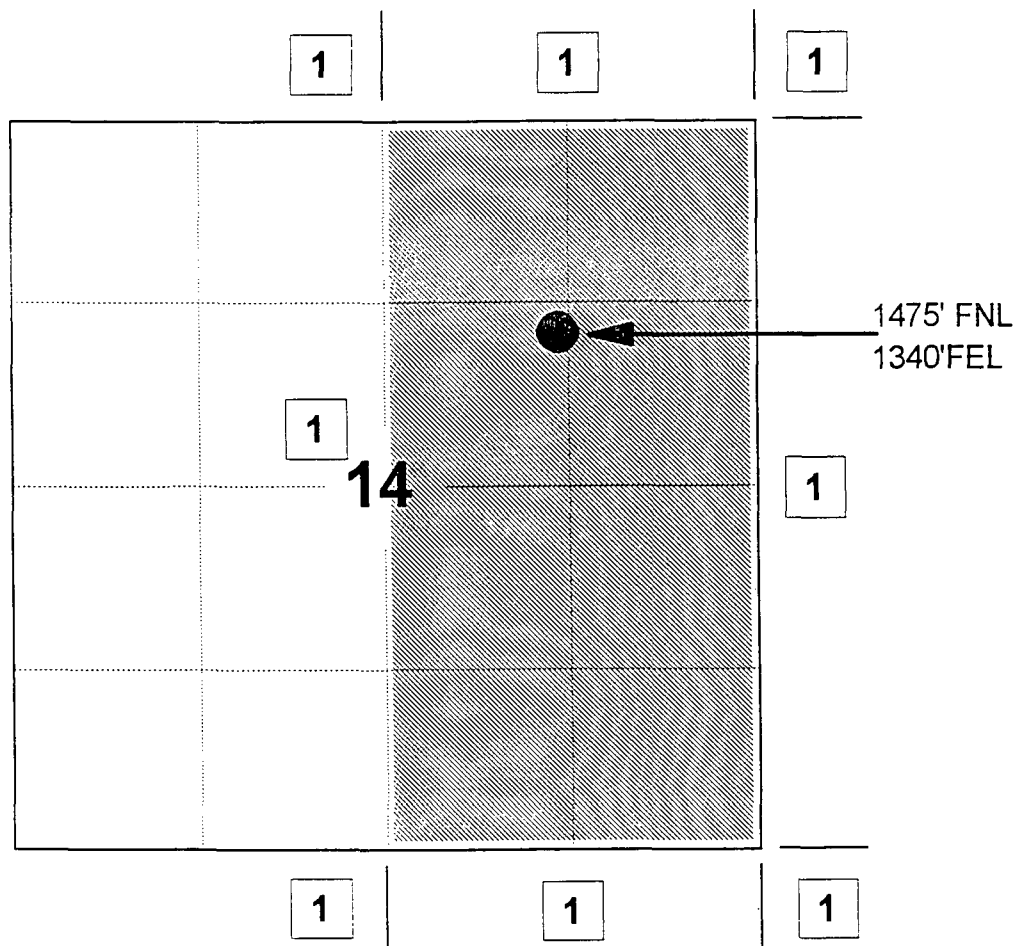
6857

*NEED C. EDWARDS*  
Signature of Surveyor

Certificate No.  
6857

**MERIDIAN OIL INC**  
**CANYON LARGO UNIT #431**  
**OFFSET OPERATOR \ OWNER PLAT**  
**Unorhtodox Dakota Well Location**

Township 25 North, Range 7 West



1) Meridian Oil Inc

---

---

---

---

---

---

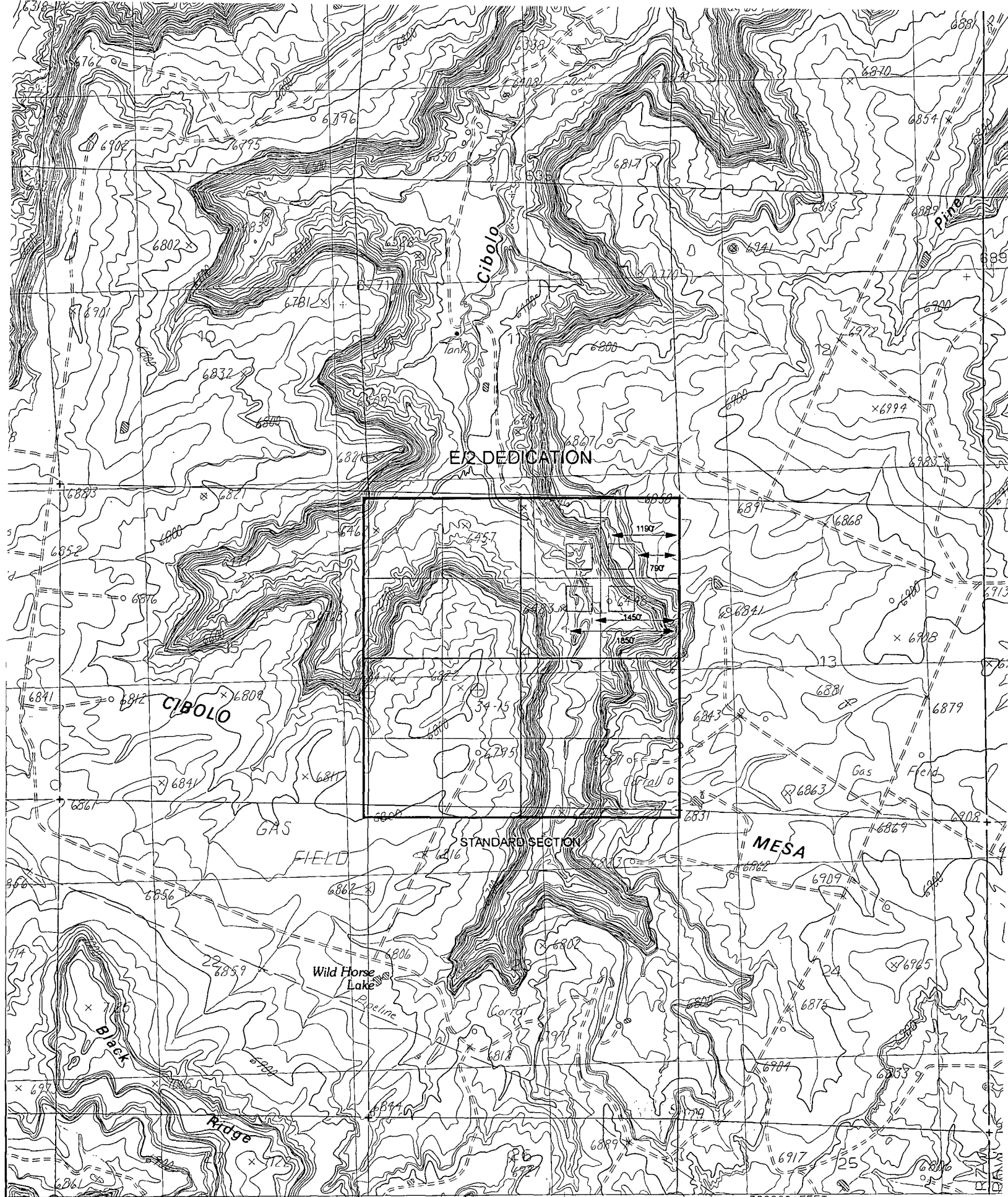
---

---

---

---



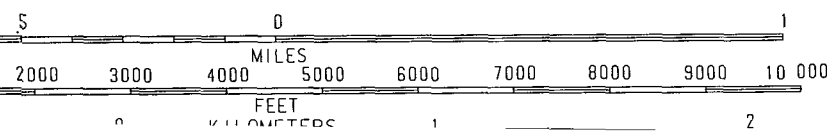


E2 DEDICATION

STANDARD SECTION

MESA

SCALE 1:24 000



QUADRANGLE LOCATION

Imp  
Uni

