



STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION



BRUCE KING  
GOVERNOR

July 8, 1993

POST OFFICE BOX 2088  
STATE LAND OFFICE BUILDING  
SANTA FE, NEW MEXICO 87504  
(505) 827-5800

ANITA LOCKWOOD  
CABINET SECRETARY

Meridian Oil, Inc.  
P.O. Box 4289  
Farmington, NM 87499-4289

Attention: Peggy Bradfield

RECEIVED  
JUL 19 1993  
OIL CON. DIV.  
DIST. 3

Administrative Order NSL-3279(NSP)

Dear Mr. Bradfield:

Reference is made to your application dated June 18, 1993 for an unorthodox gas well location in both the Basin Fruitland Coal Gas Pool and Pictured Cliffs formation for your proposed San Juan 28-5 Unit Well No. 228 to be drilled 715 feet from the North line and 755 feet from the East line (Unit A) of Section 24, Township 28 North, Range 5 West, NMPM, Rio Arriba County, New Mexico.

It is our understanding that production from both the Basin Fruitland Coal and Pictured Cliffs intervals are to be downhole commingled.

By the authority granted me under the provisions of Rule 8 of the Special Rules and Regulations for the Basin Fruitland Coal Gas Pool as promulgated by Division Order No. R-8768, as amended, and Division General Rule 104.F(1), the above-described unorthodox gas well location is hereby approved.

Further, the N/2 equivalent and the NE/4 of said Section 24 shall be dedicated to said well forming a standard 343.91-acre and a non-standard 183.91-acre gas spacing and proration units for the Fruitland Coal and Pictured Cliff zones, respectively. The aforementioned 183.91-acre Pictured Cliffs spacing and proration unit is hereby approved pursuant to Division General Rule 104.D(2).

Also, Meridian Oil, Inc. shall comply with all other provisions of Said Order No. R-8768, as amended, pertaining to the downhole commingling of coal gas production with gas produced from the Pictured Cliffs interval.

Sincerely,

William J. LeMay  
Director

WJL/MES/amg

cc: Oil Conservation Division - Aztec  
US Bureau of Land Management - Farmington

June 18, 1993

Sent Federal Express

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

**RECEIVED**  
JUN 23 1993  
OIL CON. DIV  
DIST. 3

Re: Meridian Oil Inc. San Juan 28-5 Unit #228  
715'FNL, 755'FEL Section 24, T-28-N, R-5-W  
Rio Arriba County, New Mexico

Dear Mr. LeMay:

Meridian Oil Inc. is applying for administrative approval of a non-standard location for the above location in both the Basin Fruitland Coal and Pictured Cliffs formations. This application for the referenced location is due to terrain as shown on the topographic map.

This well is planned as a Basin Fruitland Coal/South Blanco Pictured Cliffs commingle and application is being made to the New Mexico Oil Conservation Division for the commingling.

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. Meridian Oil is the operator of the San Juan 28-5 Unit.
4. 7.5 minute topographic map showing the orthodox windows for the north half dedication for the Fruitland Coal and northeast quarter dedication for the Pictured Cliffs 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 \$200,000.

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	<b>RECEIVED</b> JUN 23 1993	5. Lease Number SF-079519
1b. Type of Well GAS		6. If Indian, All. or Tribe
2. Operator <b>MERIDIAN OIL</b>	<b>OIL CON. DIV. / DIST. 3</b>	7. Unit Agreement Name San Juan 28-5 Unit
3. Address & Phone No. of Operator PO Box 4289, Farmington, NM 87499  (505) 326-9700		8. Farm or Lease Name San Juan 28-5 Unit 9. Well Number 228
4. Location of Well 715' FNL, 755' FEL  Latitude 36° 38' 24", Longitude 107° 16' 55"	<i>Under</i>	10. Field, Pool, Wildcat Basin Fruitland Coal/ <del>So. Blanco Pic. Cliffs</del> 11. Sec., Twn, Rge, Mer. Sec 24, T-28-N, R-5-W NMMPM
14. Distance in Miles from Nearest Town 5 miles to Gobernador, NM	12. County Rio Arriba	13. State NM
15. Distance from Proposed Location to Nearest Property or Lease Line 715'		
16. Acres in Lease	17. Acres Assigned to Well 343.91 N/2 183.91 NE/4 Unit A	
18. Distance from Proposed Location to Nearest Well, Drig, Compl, or Applied for on this Lease 80'		
19. Proposed Depth 4600'	20. Rotary or Cable Tools Rotary	
21. Elevations (DF, FT, GR, Etc.) 7414' GR	22. Approx. Date Work will Start 2nd quarter 1993	
23. Proposed Casing and Cementing Program See Operations Plan attached		
24. Authorized by: <u><i>[Signature]</i></u> Regional Drilling Engineer	<u>6/4/93</u> Date	

PERMIT NO. \_\_\_\_\_ APPROVAL DATE \_\_\_\_\_  
APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_

Archaeological Report to be submitted  
Threatened and Endangered Species Report to be submitted  
NOTE: This format is issued in lieu of U.S. BLM Form 3160-3

Schedule Assignment  
District Office  
State Lease - 4 copies  
Fed Lease - 3 copies

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-182  
Revised 1-1-89

OIL CONSERVATION DIVISION

P.O. Box 2088

Sanza Fe, New Mexico 87504-2088

DISTRICT 1  
P.O. Box 1980, Hobbs, NM 88240

DISTRICT 2  
P.O. Drawer DD, Artesia, NM 88210

DISTRICT 3  
1000 Rio Arriba Rd., Aztec, NM 87410

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

Operator Meridian Oil Inc. Lease San Juan 28-5 Unit Well No. 228

U.S. Letter A Section 24 Township 28 North Range 5 West County MIAMI NM Rio Arriba

Actual Forage Location of Well:  
715' feet from the North line and 755' feet from the East line

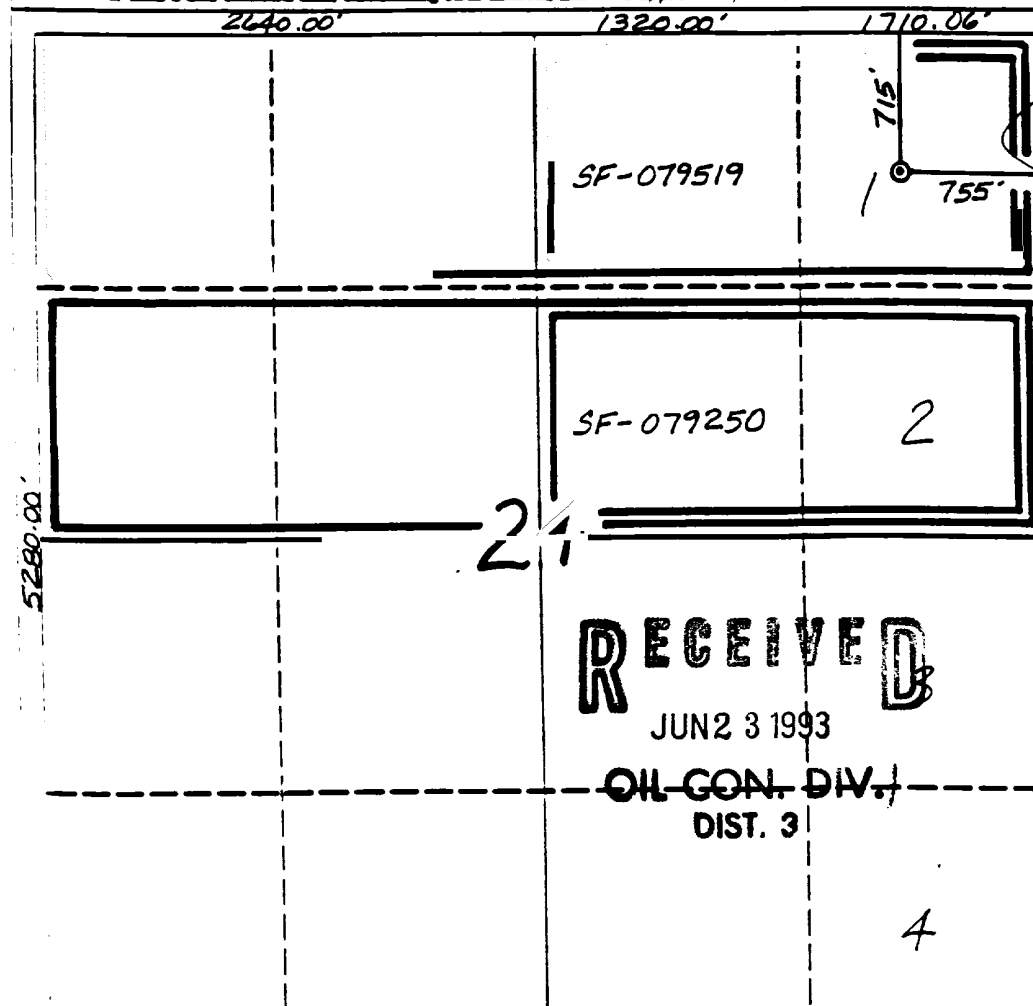
Current level Elev. 7414' Producing Formation Fruitland Coal/Pic.Cliffs Pool Basin/So.Blanco Deducted Acreage 343.91/183.91  
Acres

- Outline the acreage dedicated to the subject well by colored pencil or ink lines 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 their descriptions which have actually been consolidated. (Use reverse side of this form if necessary.)

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



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 Affairs  
Position

Meridian Oil Inc.  
Company

6-1-93  
Date

          
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.

4-27-93  
Date Surveyed

Neil C. Edwards  
Name

Professional Surveyor  
Profession



OPERATIONS PLAN

**Well Name:** San Juan 28-5 Unit #228  
**Location:** 715' FNL, 755' FEL Section 24, T-28-N, R-05-W  
 Rio Arriba County, New Mexico  
 Latitude 36° 38' 24", Longitude 107° 16' 55"  
**Formation:** Basin Fruitland Coal/So. Blanco Pictured Cliffs  
**Elevation:** 7414'GL

<b>Formation:</b>	<b>Top</b>	<b>Bottom</b>	<b>Contents</b>
Surface	San Jose	3760'	
Ojo Alamo	3760'	3890'	aquifer
Kirtland	3890'	4100'	
Fruitland	4100'	4368'	
Fruitland Coal Top	4205'	4365'	gas
Pictured Cliffs	4368'	4600'	gas
Total Depth	4600'		

**Logging Program:** Mud logs from 3750' to Total Depth.  
 IND, Dens, Neut, GR, ML to TD.

**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
200-4600'	Non-dispersed	8.4-9.5	30-60	no 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-40
7 7/8"	0 - 4600'	4 1/2"	10.5#	K-55

**Tubing Program:**

0 - 4600'	2 3/8"	4.7#	J-55
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**Float Equipment:** 8 5/8" surface casing - saw tooth guide shoe.  
 Centralizers will be run in accordance with Onshore Order #2.

4 1/2" production casing - float shoe on bottom. Three centralizers run every other joint above shoe. Four centralizers run every 3rd joint to the base of the Ojo Alamo @ 3890'. Two turbolizing type centralizers - one below and one into the base of the Ojo Alamo @ 3890'. Standard centralizers thereafter every fourth joint up to the base of the surface pipe.

**Wellhead Equipment:** 8 5/8" x 4 1/2" x 2 3/8" x 11" 3000 psi xmas tree assembly.

San Juan 28-5 Unit #228

**Cementing:**

8 5/8" surface casing - cement with 235 sx Class "B" cement with 1/4# flocele/sx and 3% calcium chloride (298 cu.ft. of slurry, 200% excess to circulate to surface). WOC 12 hrs. Test casing to 600 psi for 30 minutes.

4 1/2" production casing -

First stage - lead w/90 sx Class "B" 65/35 Poz w/6% gel, 2% calcium chloride, 6.25# gilsonite/sx and 1/4# flocele/sx (155 cu.ft. of slurry), tail w/100 sx Class "B" w/2% calcium chloride, 5#/sx gilsonite, 0.25#/sx celloflake (118 cu.ft.), 100% excess to circulate stage tool @ 4000'.

Second stage - lead w/855 sx of Class "B" 65/35 Poz w/6% gel, 2% calcium chloride, 6.25# gilsonite/sx and 1/4# flocele/sx (1565 cu.ft.). Tail w/25 sx Class "B" w/2% calcium chloride (30 cu.ft. of slurry, 75% excess to circulate to surface). WOC 12 hrs. If cement does not circulate to surface, a temperature log will be run after 8 hours to determine TOC. Test casing to 1500 psi/minutes.

**BOP and tests:**

Surface to TD - 11" 2000 psi (minimum double gate BOP stack (Reference Figure #1 and #2). Prior to drilling out surface casing, test rams to 600#/30 min.

Completion - 6" 2000 psi (minimum) double gate BOP stack (Reference Figure #2). Prior to completion operations, test rams to 3000#/15 min.

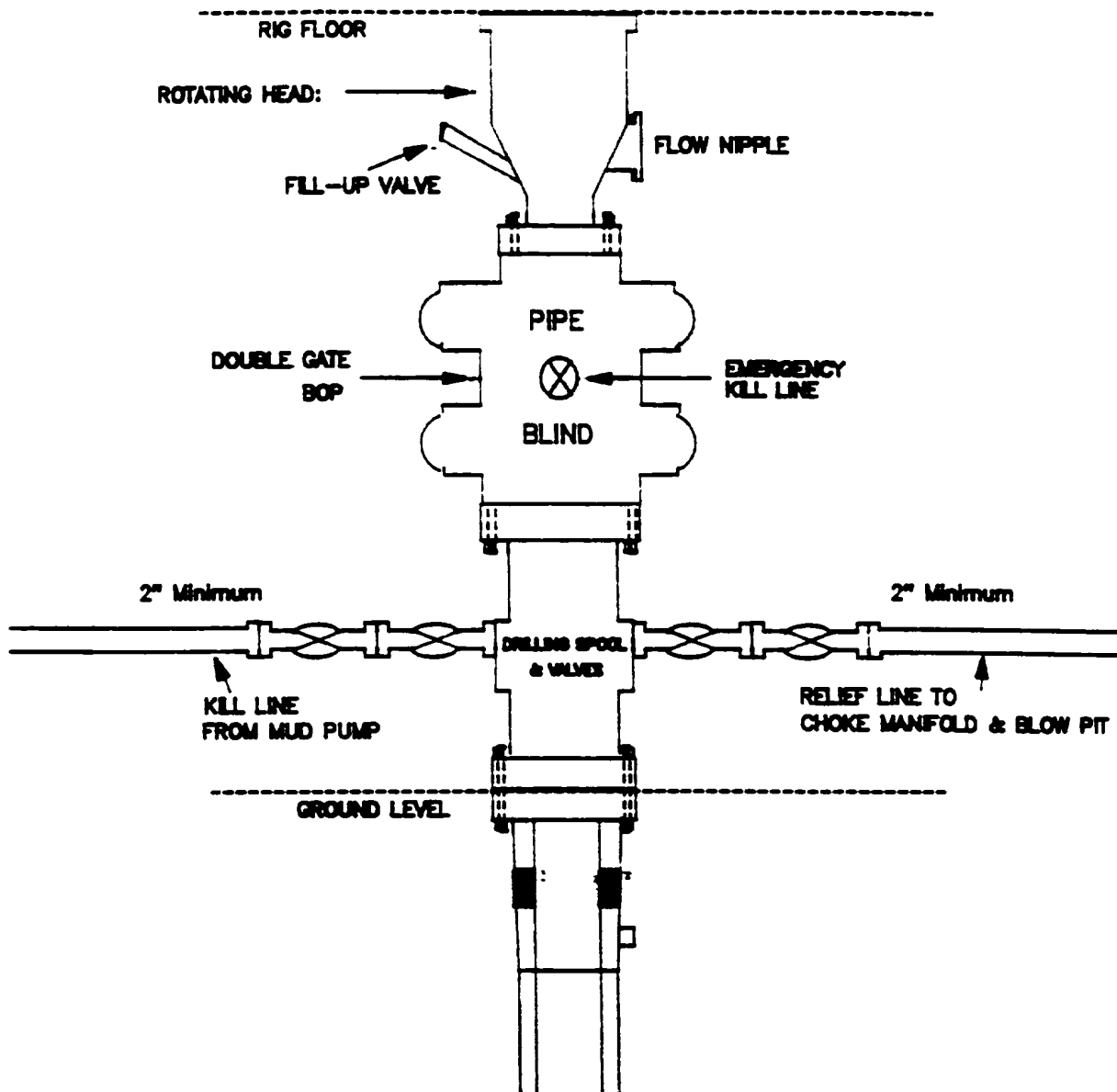
From surface to TD - choke manifold (Reference Figure #3).

Pipe rams will be actuated to least once each day and blind rams actuated once each trip to test proper functioning. An upper kelly cock valve with handle and drill string safety valves to fit each drill string will be maintained and available on the rig floor.

**Additional information:**

- \* The Fruitland Coal and Pictured Cliffs formations will be completed and commingled per New Mexico Oil Conservation Division order.
- \* Anticipated pore pressure for the Fruitland is 1150 psi and for the Pictured Cliffs is 1150 psi.
- \* This gas is dedicated.
- \* The north half of Section 24 is dedicated to the Fruitland Coal and the northeast quarter of the section is dedicated to the Pictured Cliffs.
- \* New casing will be utilized.
- \* Pipe movement (either rotation or reciprocation) will be done if hole conditions permit.

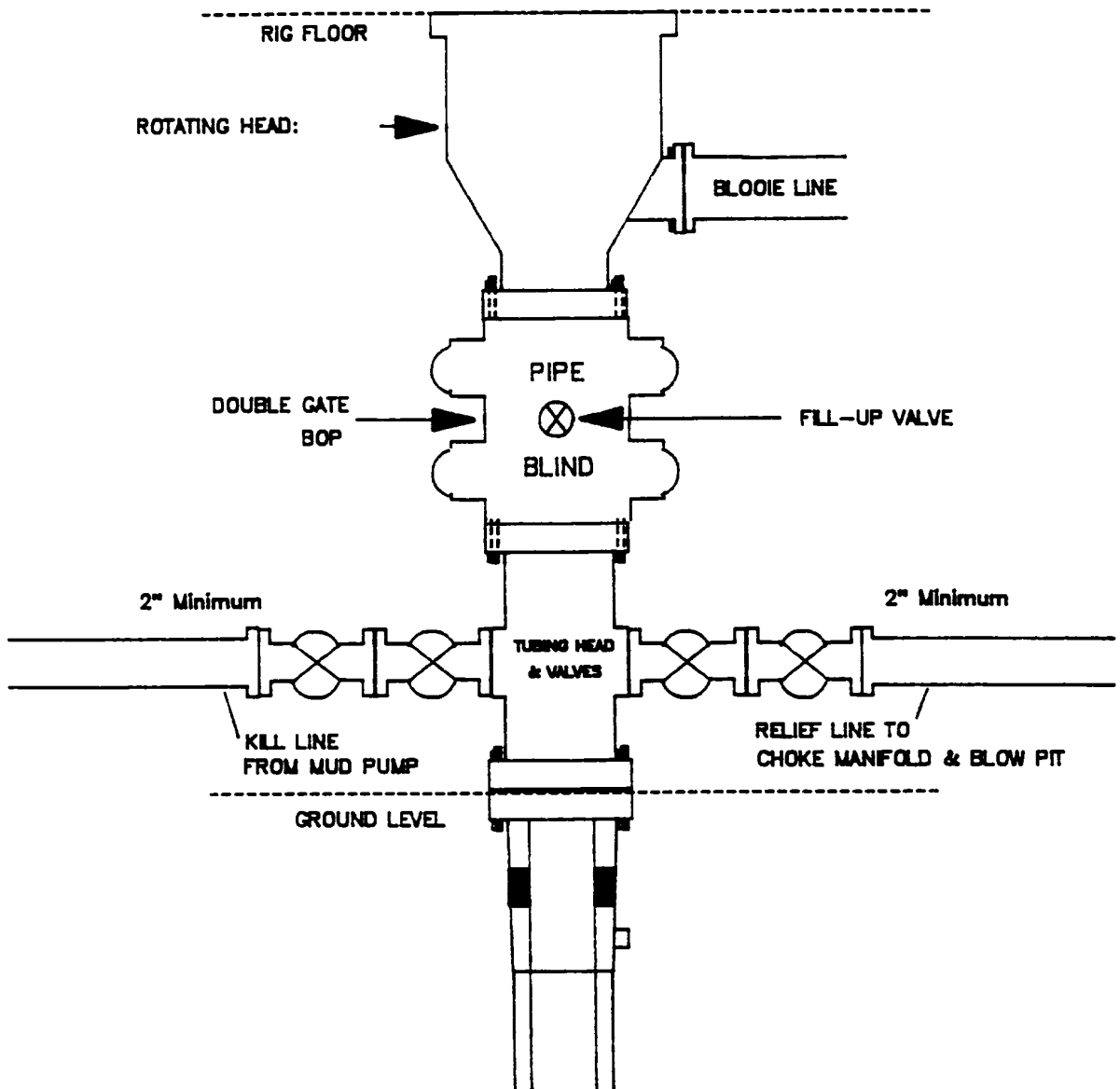
MERIDIAN OIL INC.  
Drilling Rig  
BOP Configuration



Minimum BOP installation for a typical Pictured Cliffs well from surface to Total Depth. 11" Bore (10" Nominal), 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 BOP. All equipment is 2000psi working pressure/or greater.

**Figure #1**

**MERIDIAN OIL INC.**  
Completion Rig  
BOP Configuration



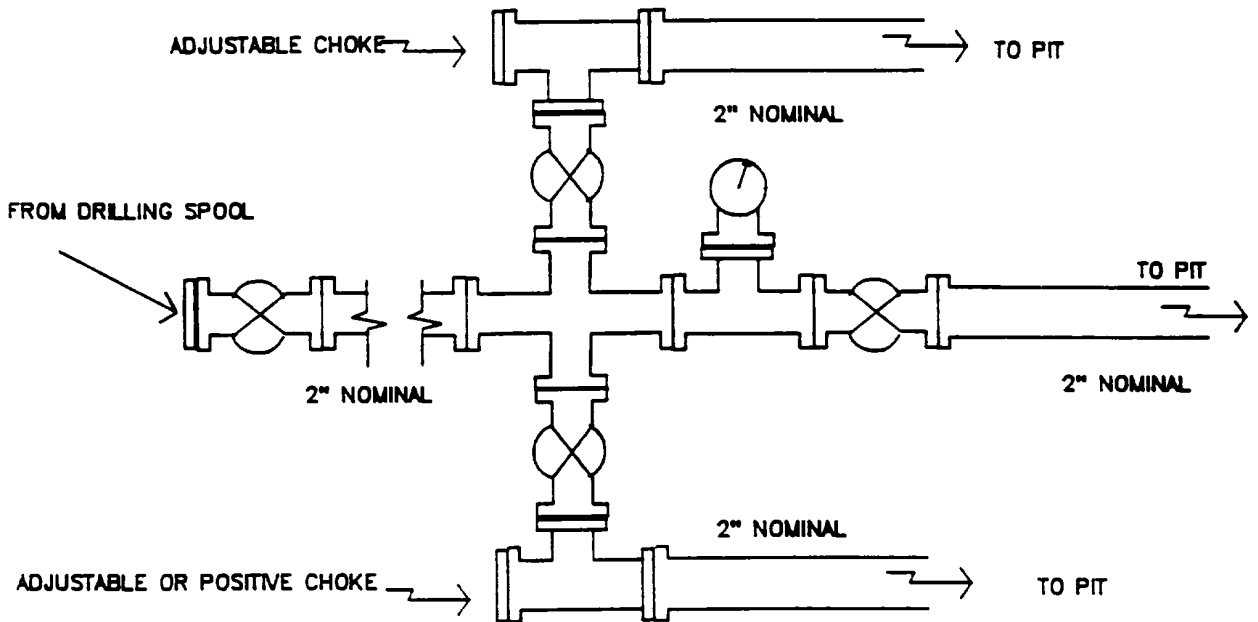
Minimum BOP installation for Completion Operations. 7 1/16" Bore (6" Nominal), 2000psi minimum working pressure double gate BOP to be equipped with blind and pipe rams.

**Figure #2**



# MERIDIAN OIL INC.

## Typical Pictured Cliffs Well Choke Manifold Configuration



Minimum choke manifold installation for a typical Pictured Cliffs well from surface to Total Depth. 2", 2000psi working pressure equipment with two chokes.

**Figure #3**

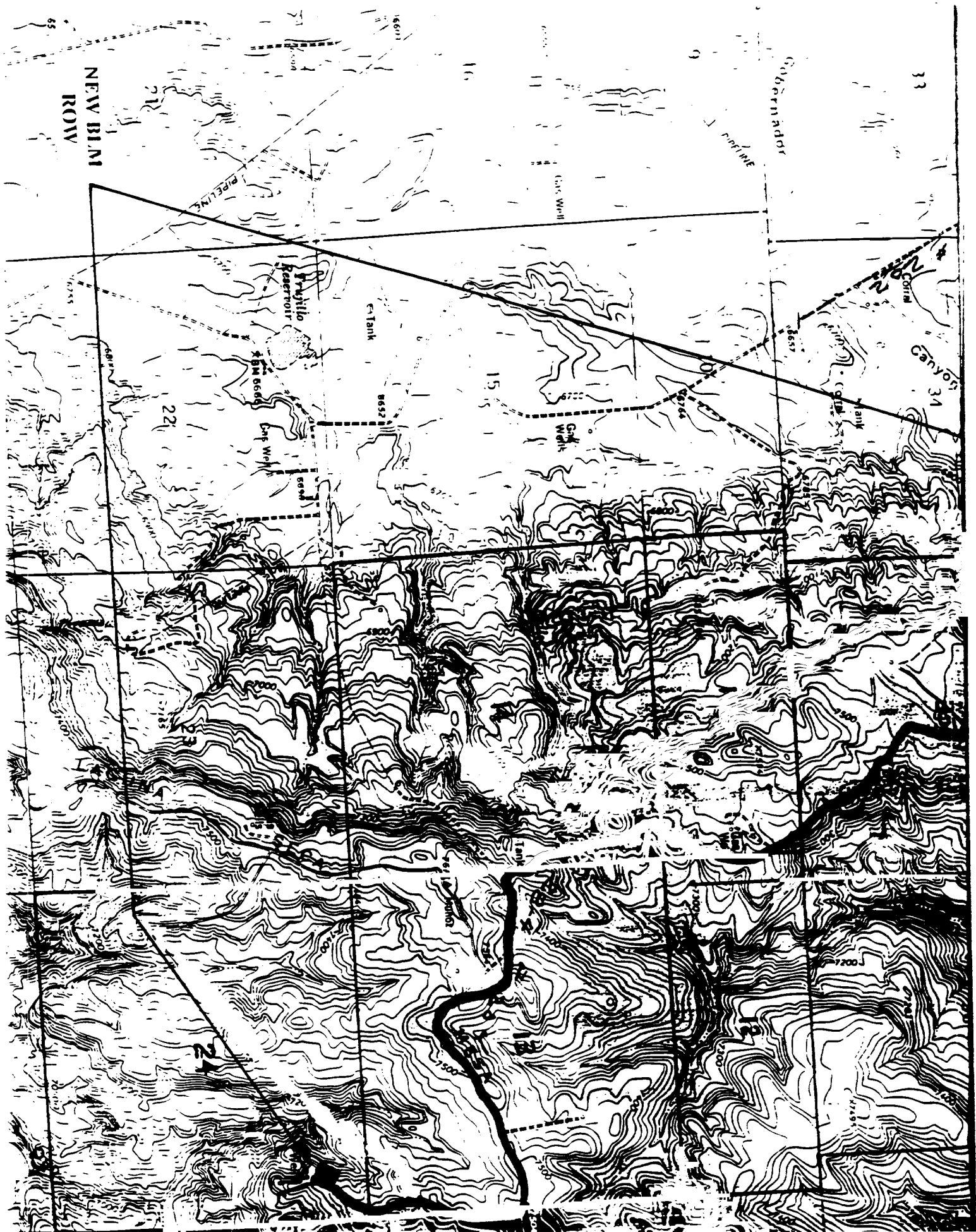
**MERIDIAN OIL**  
San Juan 28-5 Unit #228  
Multi-Point Surface Use Plan

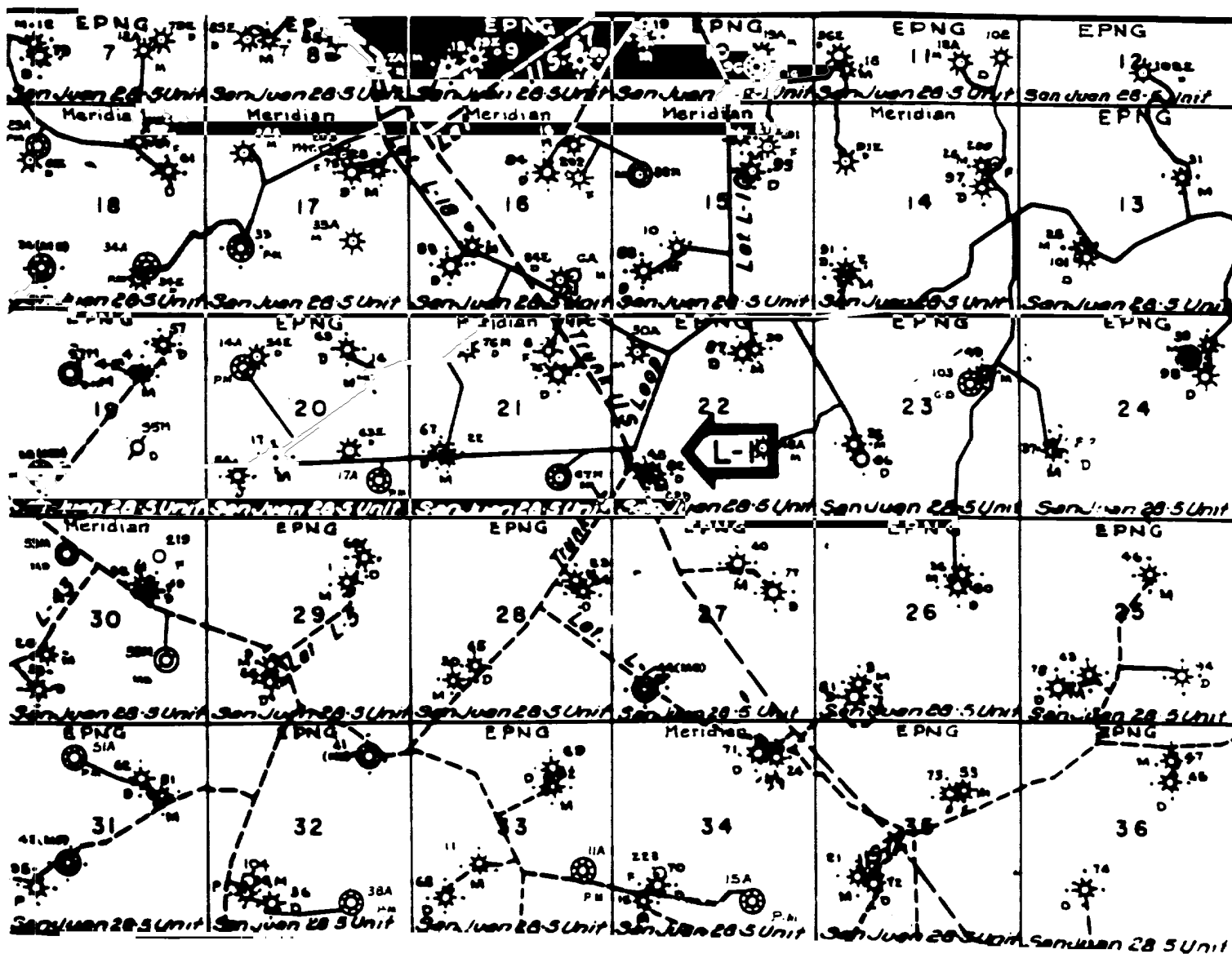
1. Existing Roads - Refer to Map No. 1. Existing roads used to access the proposed location will be properly maintained for the duration of the project. Bureau of Land Management right-of-way has been applied for as shown on Map No. 1.
2. Planned Access Road - Refer to Map No. 1. None required.
3. Location 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 LaJara Water Hole located NW/4 Section 20, T-29-N, R-4-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 reseeded operations to be carried out. Seed mixture as designated by the responsible government agency will be used. The reseeded 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

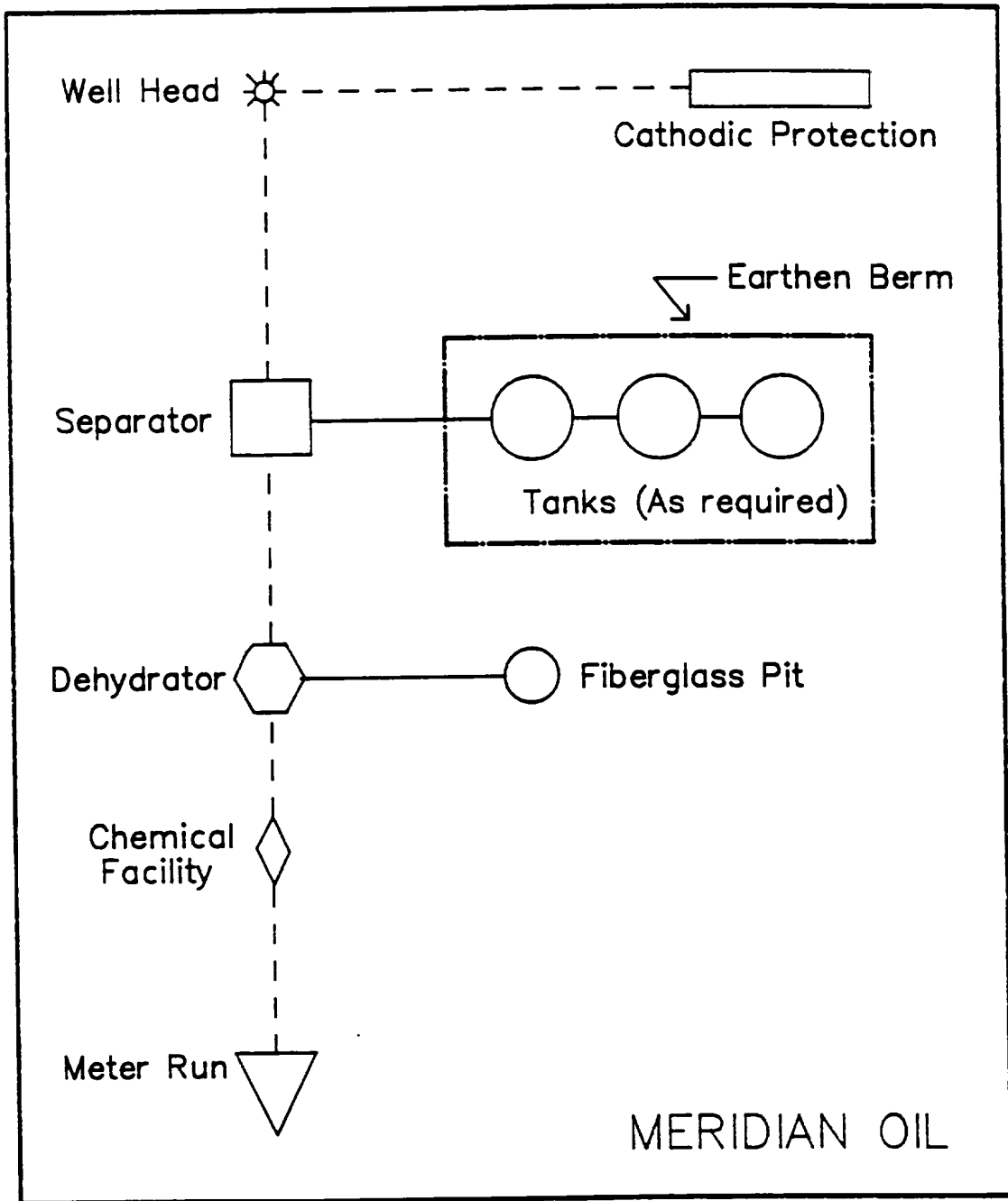
6/4/93  
Date





MERIDIAN OIL INC.  
 Pipeline Map  
 T-28-N, R-05-W  
 San Juan County, New Mexico  
 San Juan 28-5 Unit #228  
 Map #1A

Well Pad Boundary

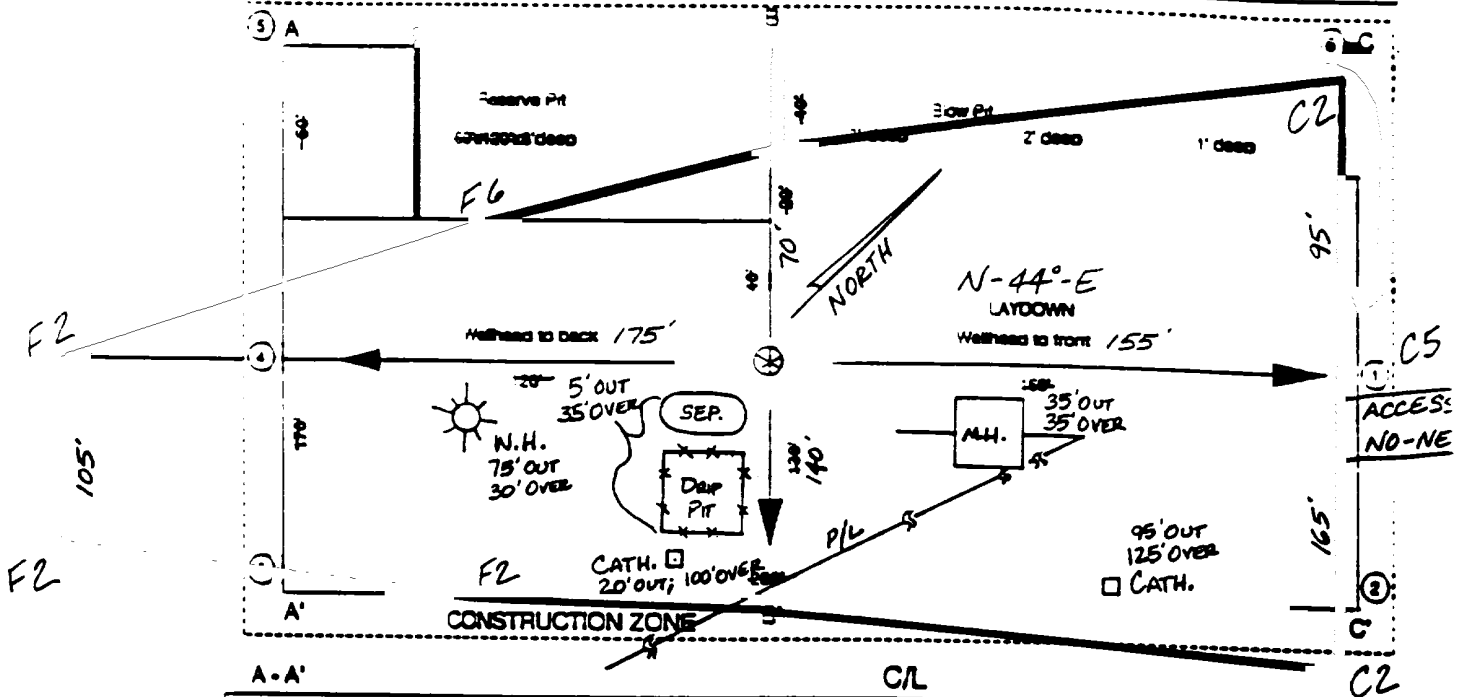


ANTICIPATED  
PRODUCTION FACILITIES  
FOR A  
FRUITLAND COAL/PICTURED CLIFFS COMMINGLED WELL

# MERIDIAN OIL

## Plat 2

Name: MOI SAN JUAN 28-5 UNIT #228  
 Footage: 715' FNL, 755' FEL  
 Sec: 24 .. 28 N.A. 5 W NMPM  
 Co: RIO ARRIBA St. N.M.  
 Elevation: 7414' Date: 4-27-93



A-A'		CL
7424		
7414		
7404		
B-B'		CL
7424		
7414		
7404		
C-C'		CL
7424		
7414		
7404		

Oil and Gas  
 District Office  
 State Leases - 4 copies  
 Fee Leases - 3 copies

State of New Mexico  
 Energy, Minerals and Natural Resources Department

Form C-182  
 Revised 1-1-88

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 00, Artesia, NM 88210

DISTRICT III  
 1000 Rio Grande Rd., Alac, NM 87410

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

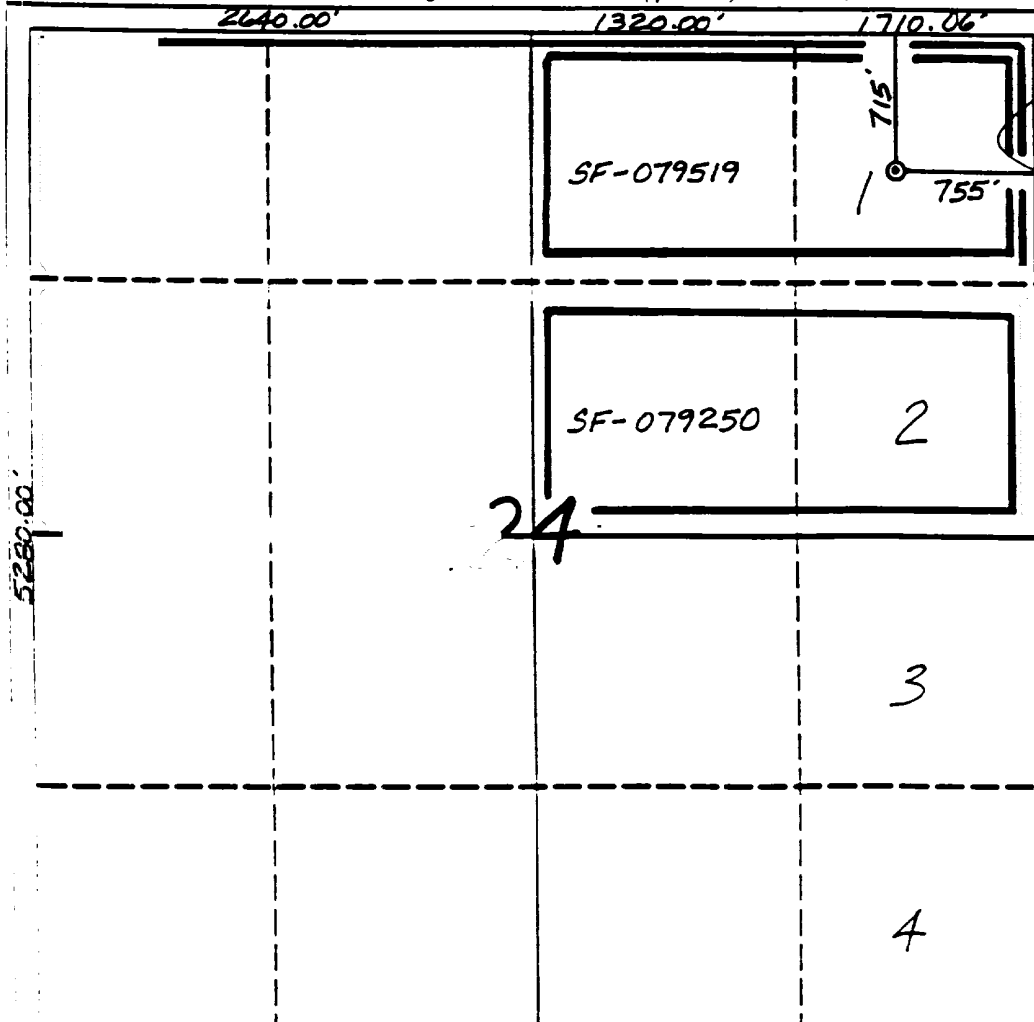
Operator	Lease	Well No.
Meridian Oil Inc.	San Juan 28-5 Unit	228
U.S. Letter	Section	Township
A	24	28 North
Range	County	
5 West	NMEM	Rio Arriba
Actual Footage Location of Well:		
715'	feet from the North line and	755'
		feet from the East line
Ground level Elev.	Producing Formation	Pool
7414'	Fruitland Coal/Pic.Cliffs	Basin/So.Blanco
		Distances Average
		343.91/183.91
		Acres

- Outline the acreage dedicated to the subject well by correct pencil or inkline 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 names of all owners been established by communication, unambiguous, force-pooling, etc.?

Yes  No If answer is "yes" type of communication unitization

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

No allowance will be assigned to the well until all answers have been established (by communication, unambiguous, force-pooling, or otherwise) or until a non-standard unit, encompassing such answer, has been approved by the Division.



OPERATOR CERTIFICATION

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

*Peggy Bradfield*  
 Signature

Peggy Bradfield  
 Printed Name

Regulatory Affairs  
 Position

Meridian Oil Inc.  
 Company

6-1-93  
 Date

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was placed 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.

4-27-93  
 Date Surveyed

*Neil C. Edwards*  
 Signature

Professional Surveyor





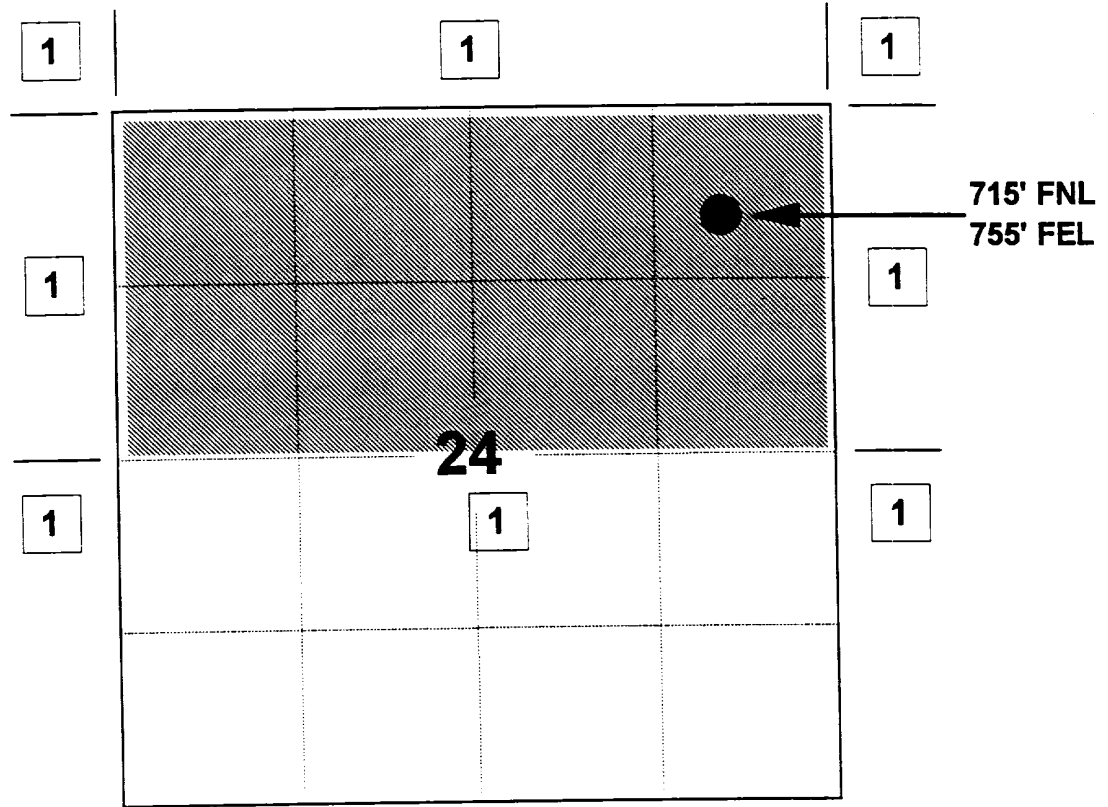
# MERIDIAN OIL INC

## SAN JUAN 28-5 UNIT #228

### OFFSET OPERATOR \ OWNER PLAT

#### Fruitland Coal / Pictured Cliffs Formations Commingle

Township 28 North, Range 05 West



1) Meridian Oil Inc

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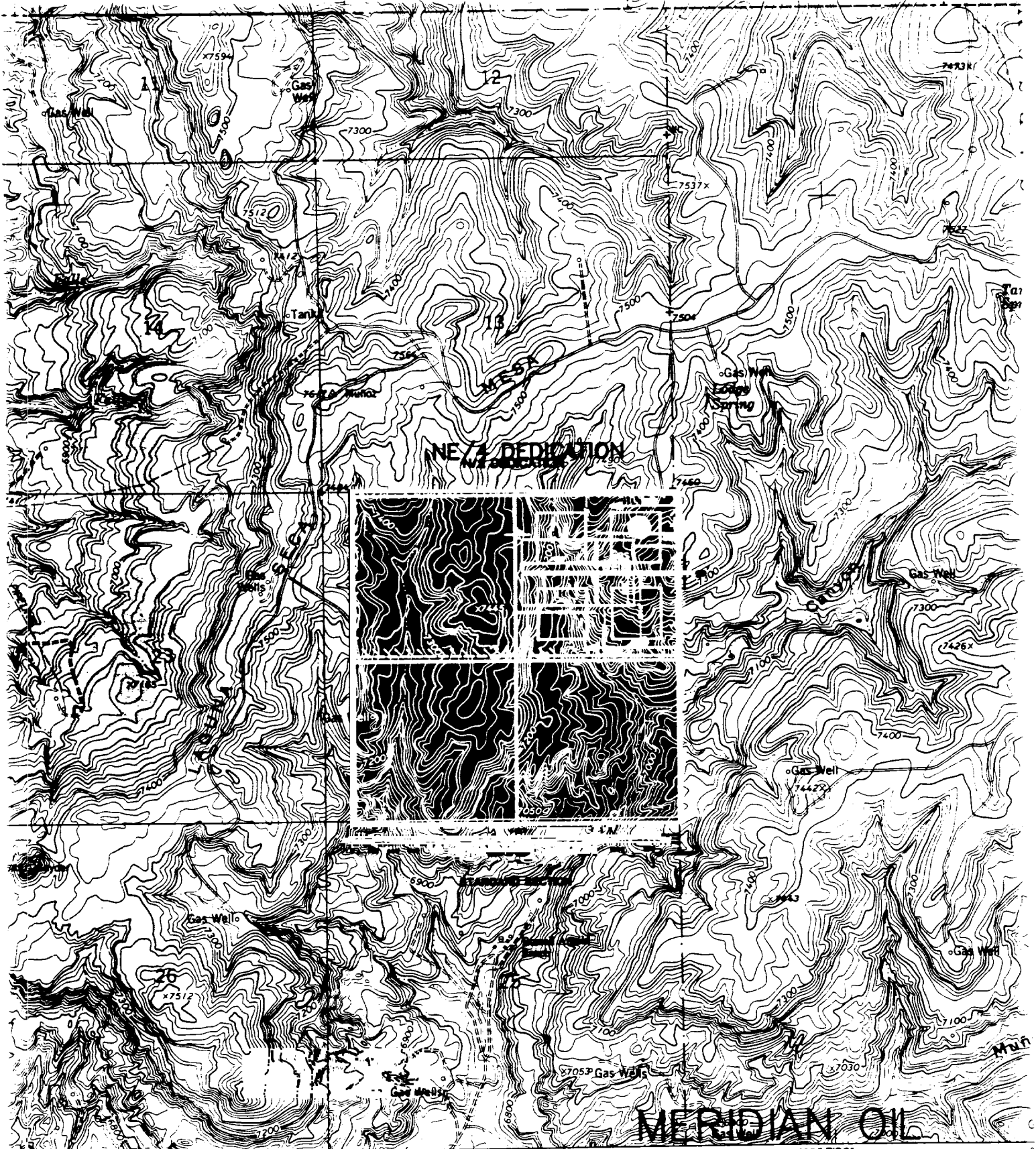
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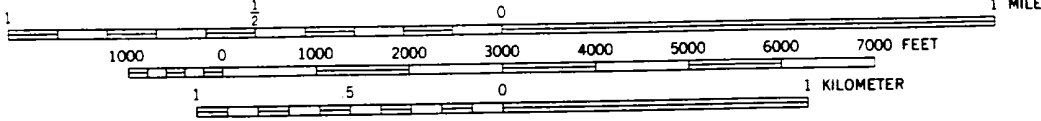
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SCALE 1:24 000



CONTOUR INTERVAL 20 FEET



