

1996 MAR 18 AM 8 52

March 15, 1996

Sent Federal Express

Mr. William LeMay  
New Mexico Oil Conservation Division  
2040 South Pacheco  
Santa Fe, New Mexico 87505

Re: Ute Mountain Ute #41  
1730'FNL, 1930'FEL, Section 30, T-32-N, R-14-W, San Juan County, New Mexico  
API # 30-045-(not yet assigned)

Dear Mr. LeMay:

Meridian Oil Inc. is applying for administrative approval of a non-standard location for the above location in the Barker Dome Desert Creek formation. This application for the referenced location is due to terrain, the presence of archaeology, and at the request of the Ute Mountain Ute Tribe.

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 surrounding proration unit
4. 7.5 minute topographic map showing the orthodox windows, and enlargement of the map to define topographic features.

We appreciate your earliest consideration of this application.

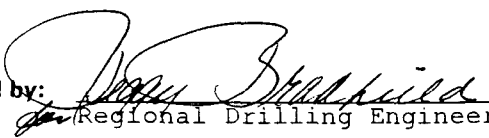
Sincerely,

  
Peggy Bradfield  
Regulatory/Compliance Administrator

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 I-22-IND-2772 Unit Reporting Number	
1b. Type of Well GAS	6. If Indian, All. or Tribe Ute Mountain Ute	
2. Operator MERIDIAN OIL	7. Unit Agreement Name	
3. Address & Phone No. of Operator PO Box 4289, Farmington, NM 87499  (505) 326-9700	8. Farm or Lease Name Ute Mountain Ute 9. Well Number 41	
4. Location of Well 1730' FNL, 1930' FEL  Latitude 36° 57.7, Longitude 108° 20.8	10. Field, Pool, Wildcat Barker Dome Desert Creek 11. Sec., Twn, Rge, Mer. (NMPM) Sec 30, T-32-N, R-14-W API # 30-045-	
14. Distance in Miles from Nearest Town 8 miles to LaPlata	12. County San Juan	13. State NM
15. Distance from Proposed Location to Nearest Property or Lease Line 1730'		
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 3300'		
19. Proposed Depth 9290'	20. Rotary or Cable Tools Rotary	
21. Elevations (DF, FT, GR, Etc.) 6902' GR	22. Approx. Date Work will Start 2nd quarter 1996	
23. Proposed Casing and Cementing Program See Operations Plan attached		
24. Authorized by:  Regional Drilling Engineer	2-12-96 Date	

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

Archaeological Report submitted by LaPlata Archaeological Consultants Report #9537h dated 10-03-95  
Threatened and Endangered Species Report submitted by Ecosphere Environmental Services dated 10-09-95  
NOTE: This format is issued in lieu of U.S. BLM Form 3160-3

District I  
PO Box 1980, Hobbs, NM 88241-1980  
District II  
PO Drawer DD, Artesia, NM 88211-0719  
District III  
1000 Rio Brazos Rd., Aztec, NM 87410  
District IV  
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico  
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION  
PO Box 2088  
Santa Fe, NM 87504-2088

Form C-10  
Revised February 21, 1995  
Instructions on back  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-045-		Pool Code 96353	Pool Name Barker Dome Desert Creek
Property Code	Property Name Ute Mtn. Ute		Well Number 41
OGRID No. 14538	Operator Name Meridian Oil Inc.		Elevation 6902'

10 Surface Location

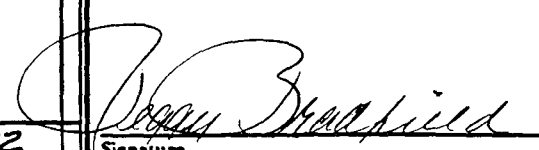
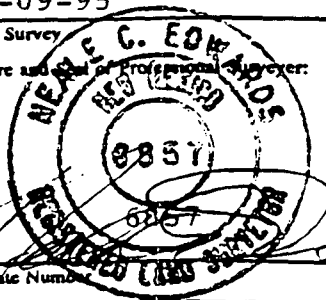
UL or lot no.	Section	Township	Range	Lot Ida	Feet from the	North/South line	Feet from the	East/West line	County
G	30	32 N	14 W		1730	NORTH	1930	EAST	S.J.

11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Ida	Feet from the	North/South line	Feet from the	East/West line	County

12 Dedicated Acres E/320	13 Joint or Infill	14 Consolidation Code	15 Order No.
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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

16	5272.74'					17 OPERATOR CERTIFICATION
						I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.
						
						Signature
						Peggy Bradfield
						Printed Name
						Regulatory Administrator
						Title
						1-5-96
						Date
						18 SURVEYOR CERTIFICATION
						I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by or under my supervision, and that the same is true and correct to the best of my belief.
						9-09-95
						Date of Survey
						Signature and Seal of Professional Surveyor
						
						Certificate Number

January 5, 1996

OPERATIONS PLAN

**Well Name:** Ute Mountain Ute #41  
**Location:** 1730' FNL, 1930' FEL, Section 30, T-32-N, R-14-W  
San Juan County, NM  
**Formation:** Barker Dome Desert Creek  
**Elevation:** 6902' GR

Formation:	Top	Bottom	Contents
Surface	Menefee	823'	
Point Lookout	823'	1305'	fresh water
Mancos	1305'	2318'	
8 5/8" surface casing	1555'		+ 250' into Mancos
Niobrara	2318'	2980'	
Greenhorn	2980'	3060'	
Graneros	3060'	3106'	
Dakota	3106'	3374'	gas
Morrison	3374'	3873'	fresh water
Junction Creek	3873'	4239'	salt water
Summerville	4239'	4333'	
Todilto	4333'	4345'	
Entrada	4345'	4447'	salt water
Chinle	4447'	5916'	
Cutler	5916'	7505'	
Hermosa	7505'	8628'	
Ismay	8628'	8820'	gas (potentially 100-1580 ppm H <sub>2</sub> S)
Desert Creek	8820'	8923'	gas (potentially 4-11,900 ppm H <sub>2</sub> S)
Akah	8923'	9088'	
Upper Barker Creek	9088'		gas (potentially 0-12,000 ppm H <sub>2</sub> S)
Total Depth	9290'		

Logging Program:

Mud logs - Niobrara to Total Depth  
Wireline Logs - AIT, LDT-APS, DSSI, FMI - to Total Depth

Mud Program:

Interval	Type	Weight	Vis	Fluid Loss
0 - 90'	Air	N/A	N/A	N/A
90 - SCP	Spud	8.4-8.9	40	No Control
SCP-T.Ismay	Fresh Water	8.4-8.6	26-30	No Control
T.Ismay-TD	LSND/Dispersed	8.4-9.0	36-50	Less than 12

Casing Program: (all casing will be new)

Hole Size	Depth Interval	Csg. Size	Wt.	Grade
26"	0' - 90'	16"		Conductor
12 1/4"	0' - 1555'	8 5/8"	24.0#	K-55 LT&C
7 7/8"	0' - 9290'	5 1/2"	17.0#	L-80 LT&C

Tubing Program: 0' - 9290' 2 7/8" tubing

**Pressure Control Program:**

12 1/4" hole - diversion only

7 7/8" hole - a 3000 psi WP casinghead will be installed on the surface casing. A 3000 psi WP annulus preventer, a 3000 psi WP double gate preventer equipped with blind and pipe rams, and a 3000 psi x 3000 psi WP drilling spool with kill and choke lines will be nipped up on the casinghead. The annulus preventer will be tested to 500 psi low, 1500 psi high w/test plug for 15 minutes. Pipe and blind rams, choke line, and manifold will be tested at 500 psi low and 3000 psi high with a test plug for 15 minutes. Casing will be tested to 2200 psi (75% burst) prior to drilling the shoe.

Completion - a 5000 psi WP tubinghead will be installed on the production casing. A 5000 psi WP double gate preventer equipped with blind and pipe rams and a 5000 psi drilling spool equipped with kill and choke lines will be nipped up on the tubinghead. One 7" blooie line will be nipped up above the BOP's. A rotating head will be nipped up on top of the blooie line. Pipe and blind rams, choke line, and manifold will be tested at 500 psi and 4000 psi against casing. Casing will be tested to 4000 psi prior to completing the well.

BOP systems will be consistent with API RP 53. Pressure tests will be conducted before drilling out from under all casing strings which are set and cemented in place. Blow out preventer controls will be installed prior to drilling the surface casing plug and will remain in use until the well is completed or abandoned. All tests will be reported on the daily drilling report. Preventers will be tested before drilling casing cement plugs.

In the event that a kick is taken while drilling, the following procedure will be followed:

1. Pick up kelly and raise the tool joint above floor.
2. Shut down the mud pump.
3. Close the annular preventer.
4. Record standpipe pressure (SIDPP) after it stabilizes and pit gain.
5. Calculate Initial Circulating Pressure=Slow Circulating Pressure+ SIDPP.
6. Calculate kill mud weight required.
7. Complete kill sheet.
8. Decide whether to raise mud weight or drill under-balanced.

**BOP Configuration:**

26" conductor hole	-	0' - 90'	- not applicable
12 1/4" surface hole	-	90' - 1555'	- diverter only

**3000 psi system**

7 7/8" production hole	-	1555' - 9290'	- Figures #1 & #2
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Operations Plan  
Ute Mountain Ute #41

**Float Equipment:**

Surface casing - guide shoe, float collar, centralizers every 4th joint.  
Production casing - float shoe, float collar, centralizers every 4th joint.

**Wellhead Equipment (sour gas service):**

11" 3000 psi x 8 5/8" female thread casinghead  
11" 3000 psi x 7 1/16" 5000 psi tubinghead  
7 1/16" 5000 psi x 2 7/8" 5000 psi adapter  
Tree assembly for single completion gas service.

**Cementing:**

16" conductor casing - Reddymix - grout to surface

8 5/8" surface casing - cement with 658 sx Class "B" 65/35 Pozmix with 0.25 pps flocele, 6% gel and 2% calcium chloride (12.4 ppg, 1165 cu.ft. of slurry). Tail with 100 sx Class "B" neat with 0.25 pps and 2% calcium chloride (15.6 ppg weight; 118 cu.ft. of slurry), 100% excess circulated to surface.

5 1/2" production - 1206 sx 50/50 Class "B" blended Silicalite, 3 pps gilsonite, 0.375 pps flocele (11.45 ppg, 2810 cu.ft. of slurry.) Tail with 310 sx Class "G" 50/50 Poz with 2% gel, 5 pps gilsonite, 0.25 pps flocele, and 0.4% Halad-344 (13.5 ppg, 410 cu.ft. of slurry), 100% excess circulated to surface.

**Coring & Drill Stem Test Program:** a 60' core is planned for the Desert Creek interval.

**Anticipated abnormal pressures or temperatures:** none

Anticipated potentially hazardous conditions:

1. H<sub>2</sub>S is anticipated to exist from the Paradox (Ismay) formation to Total Depth.
2. Anticipated concentrations are estimated at 300 - 500 ppm.
3. All gasses encountered will be flared.
4. H<sub>2</sub>S safety equipment will be operational at 1000' above Paradox (Ismay) formation.
5. H<sub>2</sub>S safety equipment will be provided for all personnel on location at all times.
6. All personnel on location will be H<sub>2</sub>S certified.
7. An H<sub>2</sub>S trained professional will be on location at all pertinent times; i.e., DST's, cementing operations, under-balanced drilling, etc.
8. The toxicity of H<sub>2</sub>S gas is as follows:

1 ppm = .0001% (1/10,000 of 1%)	Can smell.
10 ppm = .001% (1/1000 of 1%)	Allowable for 8 hrs. exposure
50 ppm = .005% (5/1000 of 1%)	NOTE: when H <sub>2</sub> S concentration reaches 10 ppm on the rig floor, call for the safety trailer.
100 ppm = .01% (1/100 of 1%)	Kills smell rapidly. Burns eyes and throat.
500 ppm = .05% (5/100 of 1%)	Loses sense of reasoning and balance. Respiratory disturbances in 2-15 min. Needs prompt artificial resuscitation.
700 ppm = .07% (7/100 of 1%)	Will become unconscious quickly. Breathing will stop and death will result if not rescued promptly.
1,000 ppm = .10% (1/10 of 1%)	Unconscious at once. PERMANENT BRAIN DAMAGE MAY RESULT UNLESS RESCUED PROMPTLY.

## H<sub>2</sub>S Drilling Operations Plan

1. Training Program - Meridian Oil will ensure all personnel have been properly H<sub>2</sub>S trained as per API RP 49 prior to three days or 1000 feet prior to penetrating the Pennsylvanian. An initial training session and weekly H<sub>2</sub>S and well control drills for all personnel in each working crew will be conducted. Each training session and drill will be recorded on the drillers log. Two briefing areas will be designated and located at least 150 feet from the wellbore. One such briefing area will be upwind of the well at all times. John Dolan, Meridian Oil Safety Representative, will be designated and identified to all personnel on-site as responsible for on-site safety and training programs.
2. Protective Equipment - Meridian Oil will ensure respiratory protection equipment program is implemented as per ANSI 2.88.2-1980. Proper breathing apparatus will be readily accessible for all essential personnel, meaning one working breathing apparatus including a five minute escape-type SCBA for the derrickman, available for all essential personnel. The following additional safety equipment will be available for use:
  - a. Effective means of communication when using breathing apparatus.
  - b. A flare gun and flares to ignite well.
  - c. A telephone, radio, mobile phone or other device that provides communication from a safe area, where practical.
3. H<sub>2</sub>S Detection and Monitoring Equipment
  - a. Drilling - will be three sensing points (shale shaker, rig floor, bell nipple) with rapid response sensors capable of sensing a minimum of 10 ppm of H<sub>2</sub>S, in ambient air, which automatically activates visible and audible alarms at levels or threshold limits of 10 and 15 ppm, respectively.

Completion - same as above except sensors will be located at the rig floor, cellar, and shale shaker or circulating tank.

Workover - will have one sensor operational as close to the wellbore as possible.
  - b. All tests on H<sub>2</sub>S monitoring system will be recorded on drillers log.
4. Visible Warning System
  - a. Wind direction indicators (drilling (2); completion/workover (1)) will be located at separate elevations with one indicator clearly visible at all times from principle working areas. The wind indicator will be clearly visible from the briefing areas or additional indicators will be installed at such areas.

b. Operation Danger or Caution signs will be displayed along all controlled accesses to the site. each sign will be painted high visibility red, black, and white or yellow with black lettering. Signs will be large enough to be read by all persons entering the wellsite and be placed a minimum of 200 feet but no more than 500 feet from the wellsite.

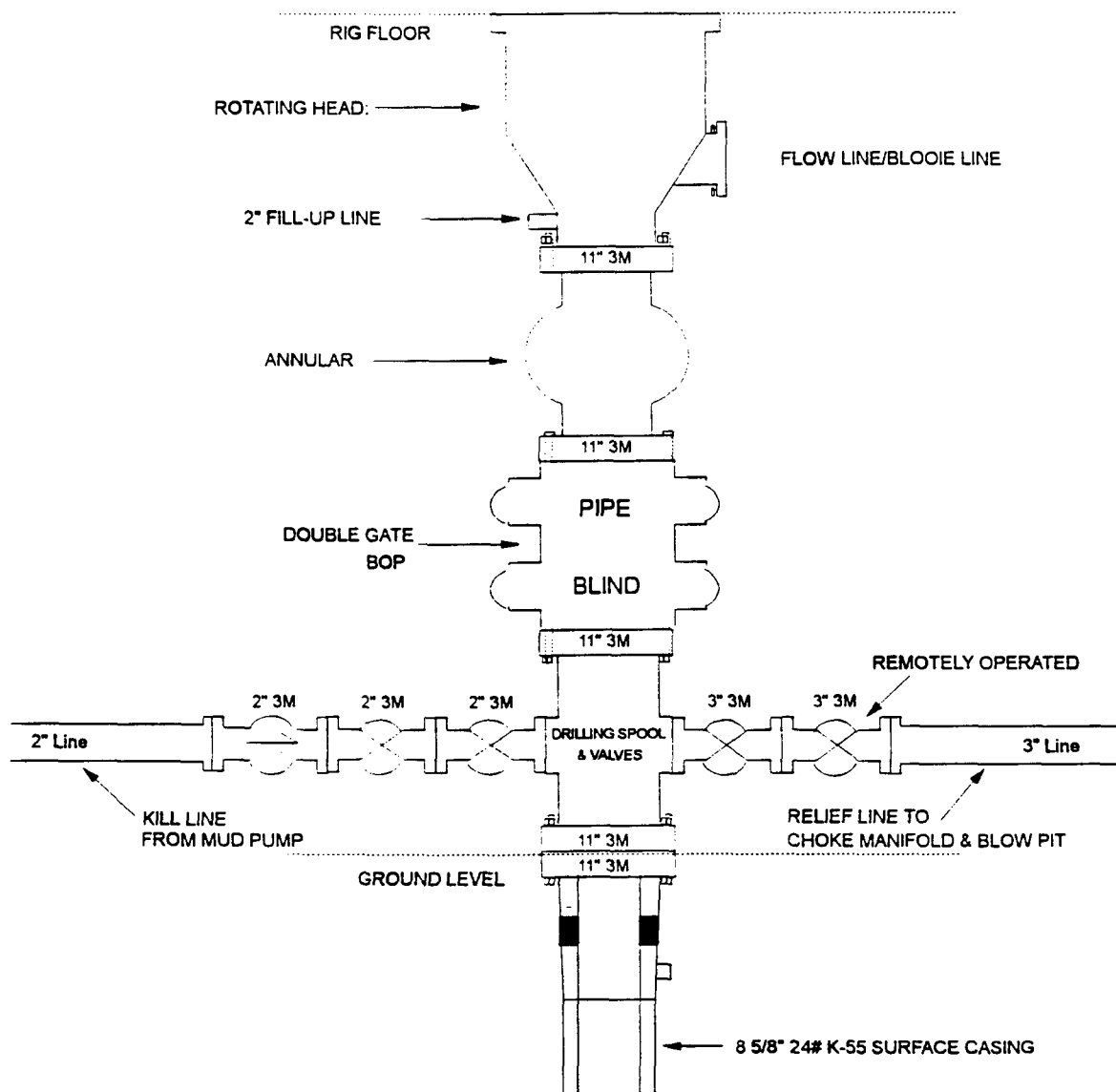
c. The sign(s) will read "DANGER - POISON GAS - HYDROGEN SULFIDE" and in smaller lettering, "Do not approach if red flag is flying".

d. When  $H_2S$  is detected in excess of 10 ppm, red flag(s) will be displayed and visible to all personnel approaching the location under normal lighting and weather conditions.

5. Warning System Response -  $H_2S$  detected above 10 ppm will initiate all non-essential personnel to be moved to a safe area and all essential personnel to don breathing apparatus.

# MERIDIAN OIL INC.

## Drilling Rig Surface Casing BOP Configuration 3,000 psi System

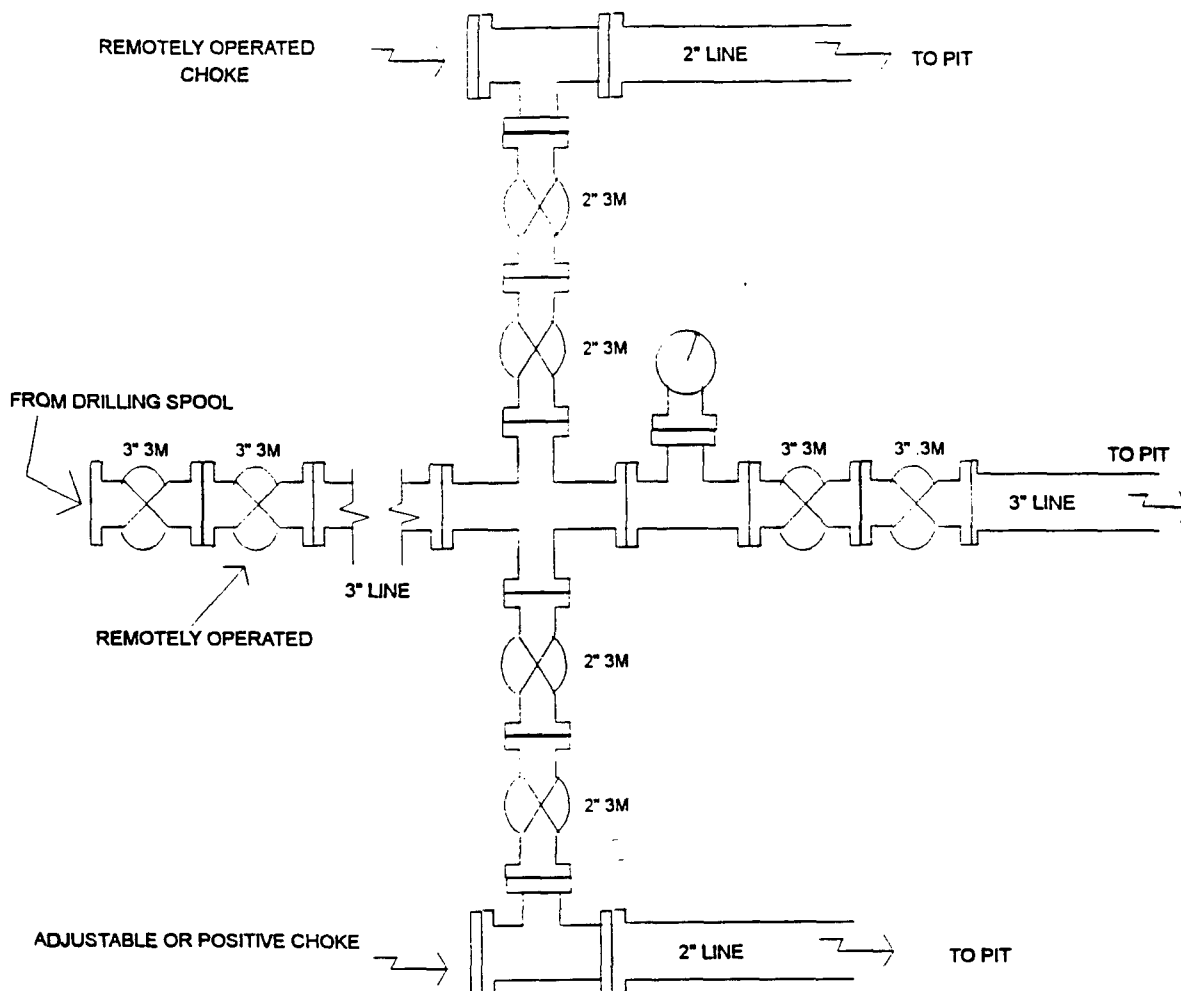


BOP installation from Surface Casing Point to Total Depth. 11" Bore (10" Nominal), 3,000psi working pressure double gate BOP to be equipped with blind and pipe rams. A 3,000psi Annular preventer to be installed on top of rams. A rotating head on the top of Annular preventer. All BOP equipment is 3,000psi working pressure.

**Figure #1**

# MERIDIAN OIL INC.

## Drilling Rig Choke Manifold Configuration 3000 psi System



Choke manifold installation from surface Casing Point to Total Depth. 3,000psi working pressure equipment with two chokes.

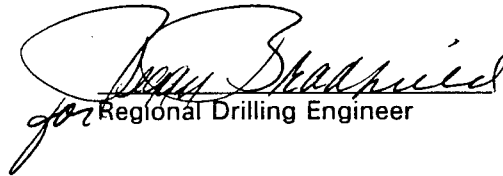
Figure #2

03/16/95

**MERIDIAN OIL**  
Ute Mountain Ute #41  
Multi-Point Surface Use Plan

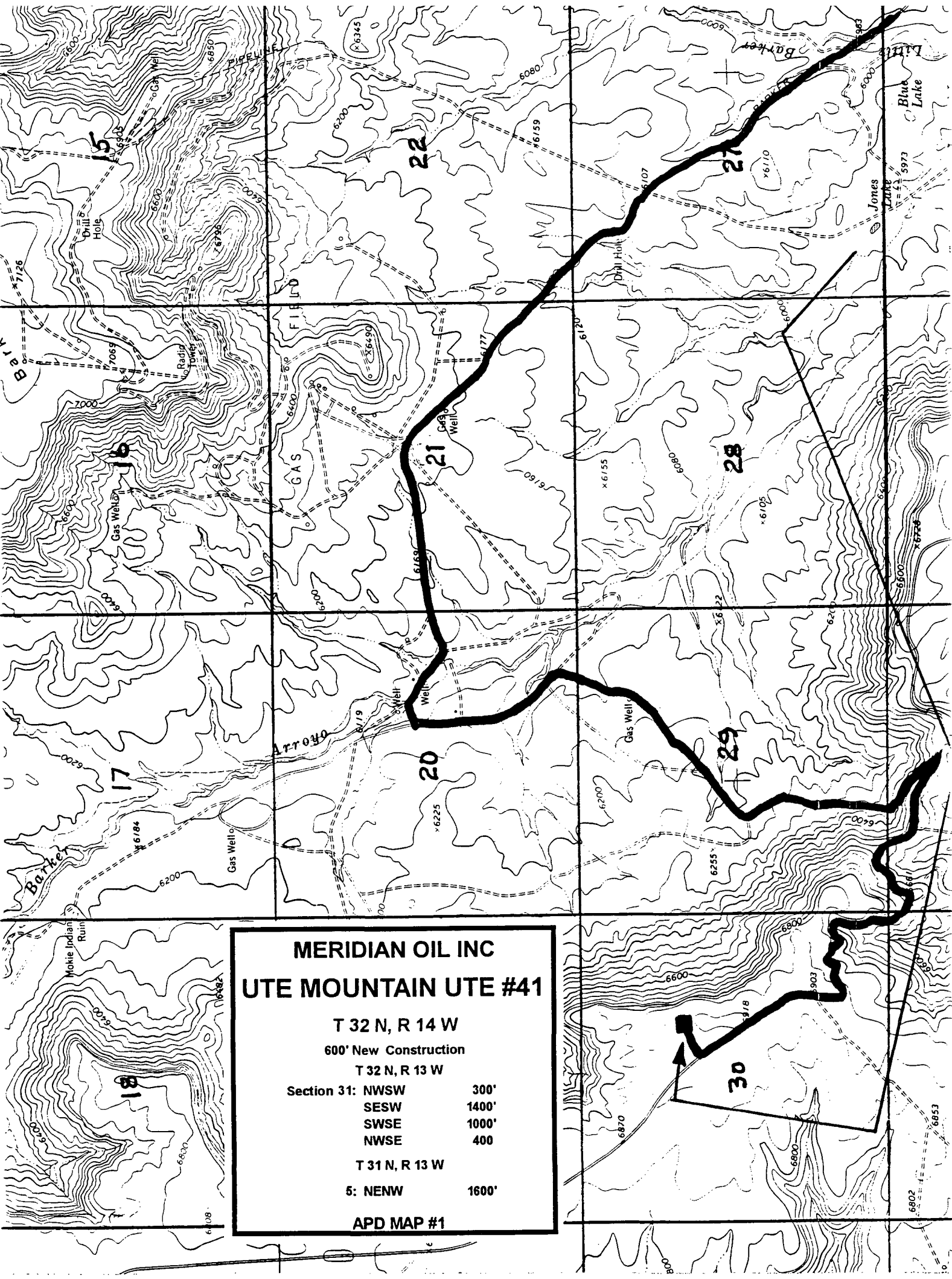
1. Existing Roads - Refer to Map No. 1. Existing roads used to access the proposed location will be properly maintained for the duration of the project. Bureau of Indian Affairs right-of-way has been applied for as shown on Map No. 1.
2. Planned Access Road - Refer to Map No. 1. The required new access road is shown on Map No. 1. The gradient, shoulder, crowning and other design elements will meet or exceed those specified by the responsible government agency. The new access road surface will not exceed twenty feet (20') in width. No additional turnarounds or turnouts will be required. Upon completion of the project, the access road will be adequately drained to control soil erosion. Approximately 600' of access road will be constructed. Pipelines are indicated on Map No. 1A.
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 Hart Canyon Water Hole located in SE/4 Section 26, T-31-N, R-11-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. Reserve pits will be lined as needed with either 12 mil bio-degradable plastic liner or a bentonite 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.

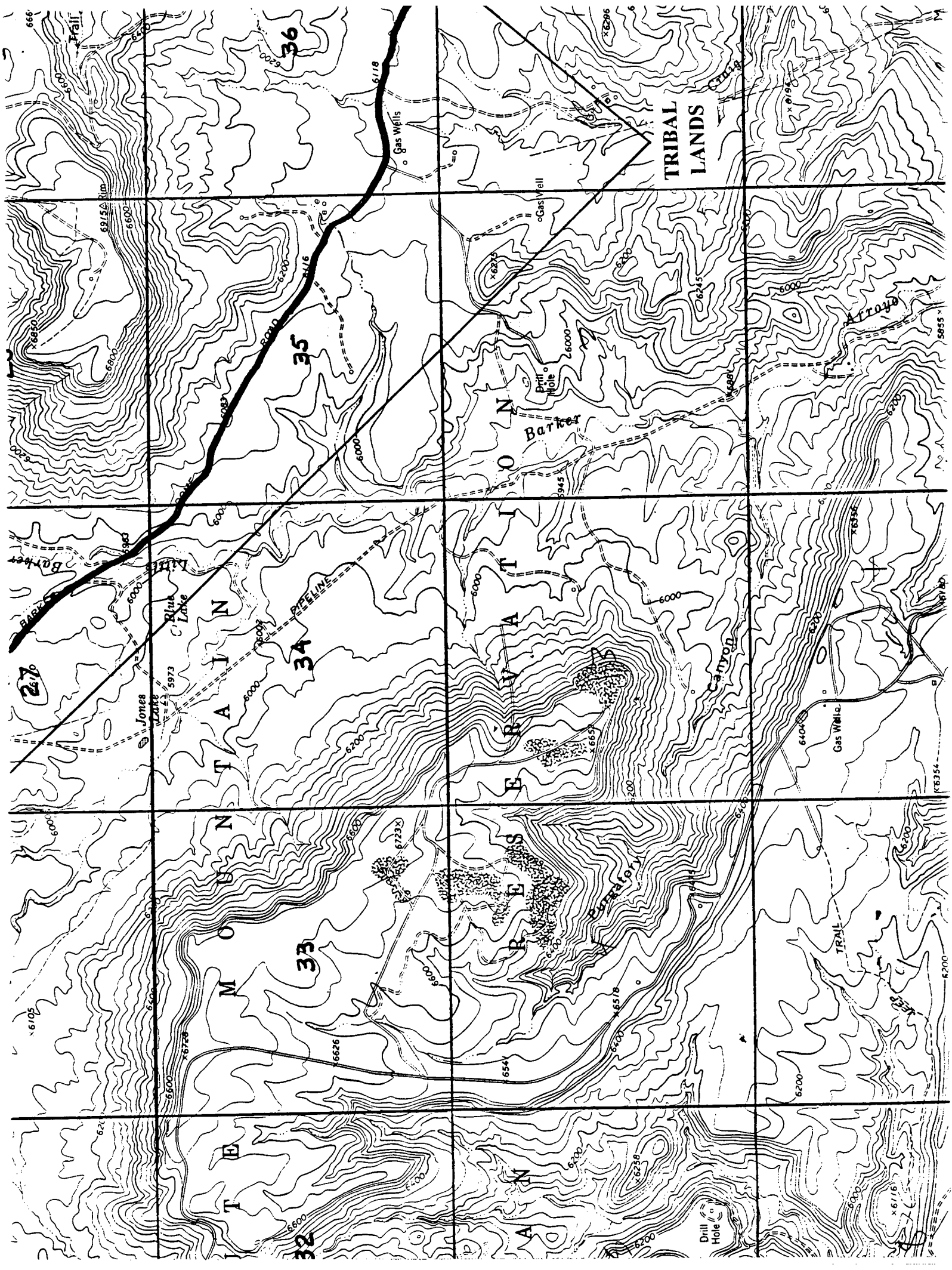
10. Plans for Restoration of the Surface - After completion of the proposed project, the location will be cleaned and leveled. The location will be left in such a condition that will enable reseeding operations to be carried out. Seed mixture as designated by the responsible government agency will be 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 - Ute Mountain Ute Tribe.
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.

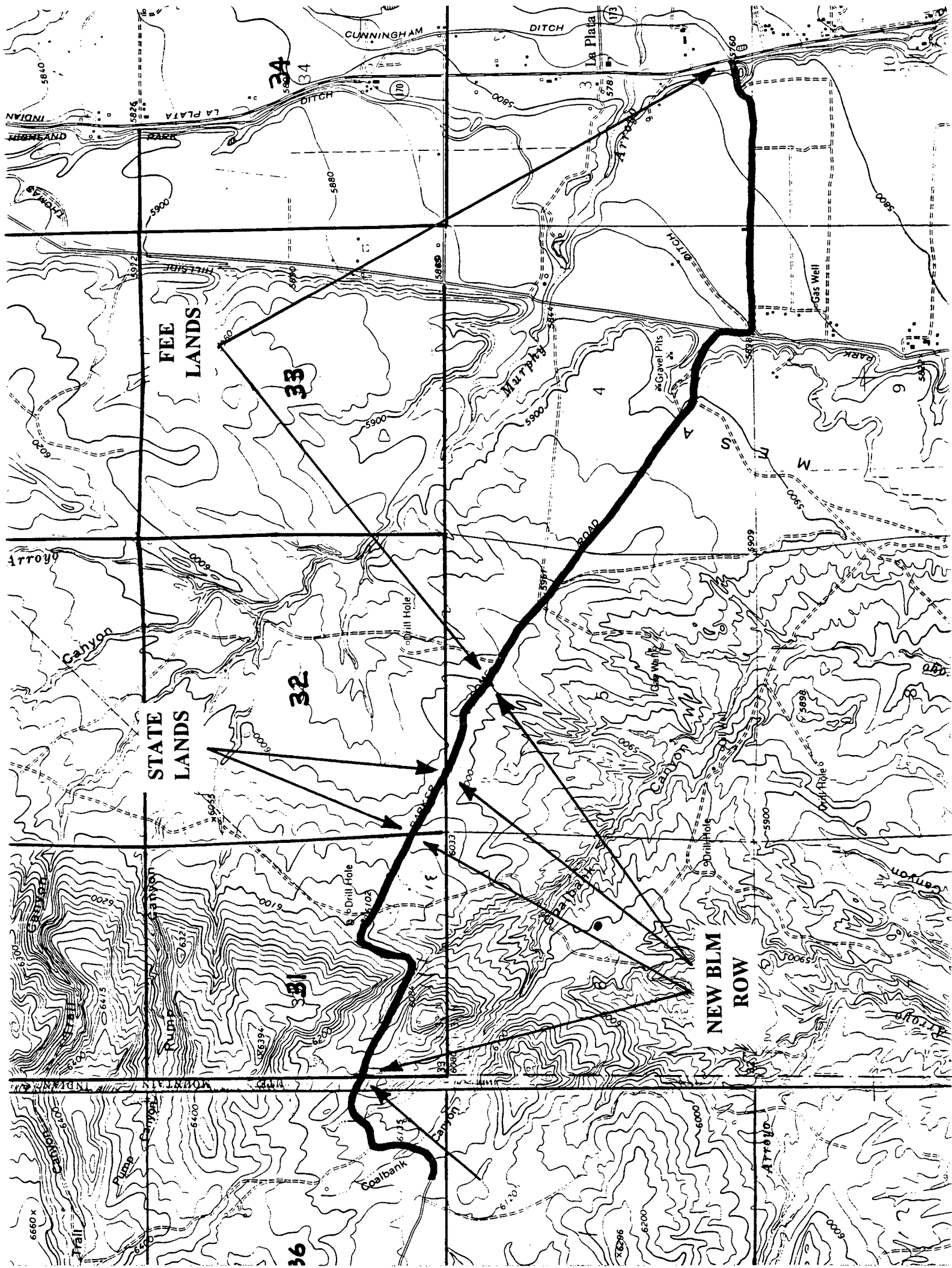
  
for Regional Drilling Engineer

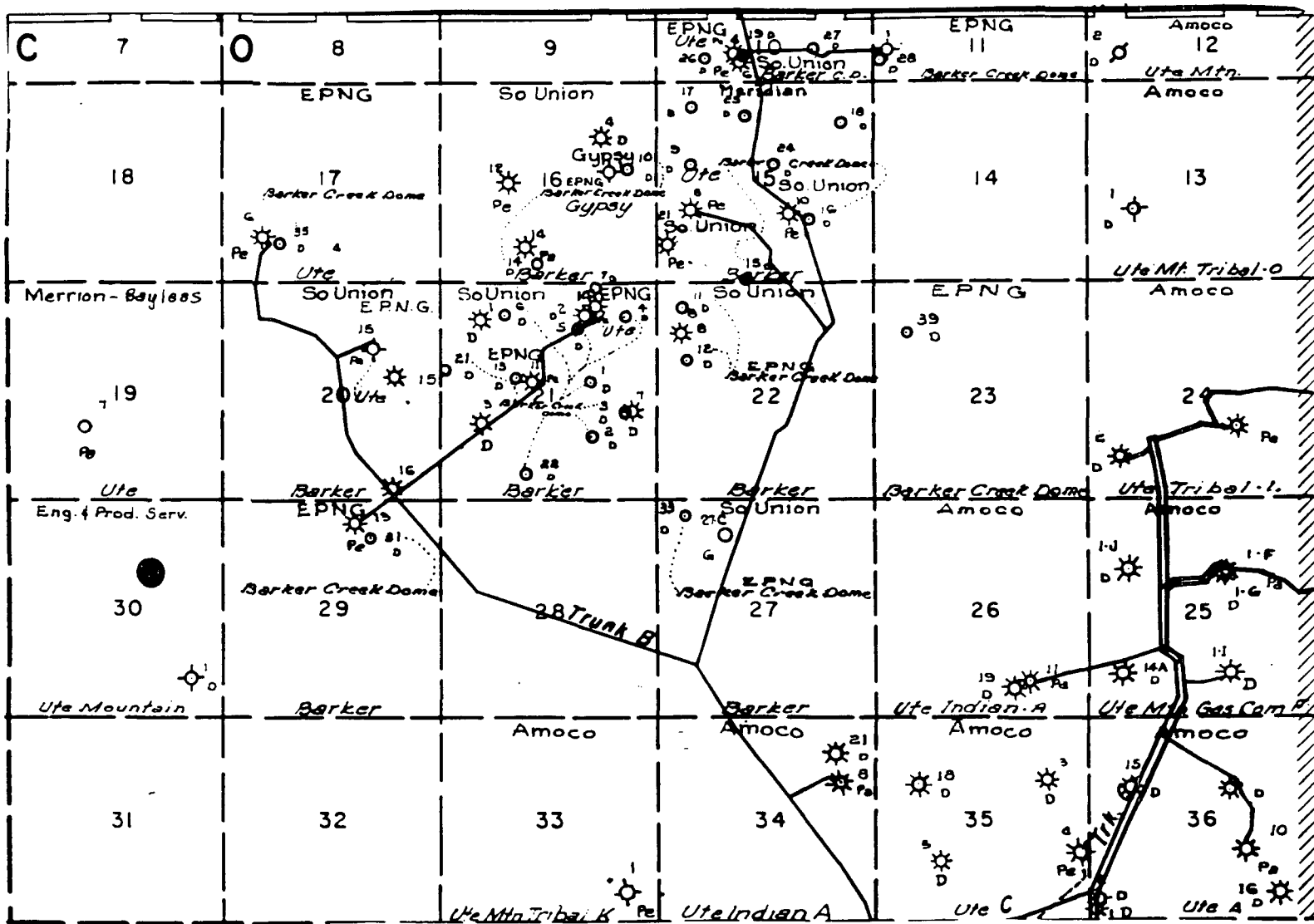
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Date

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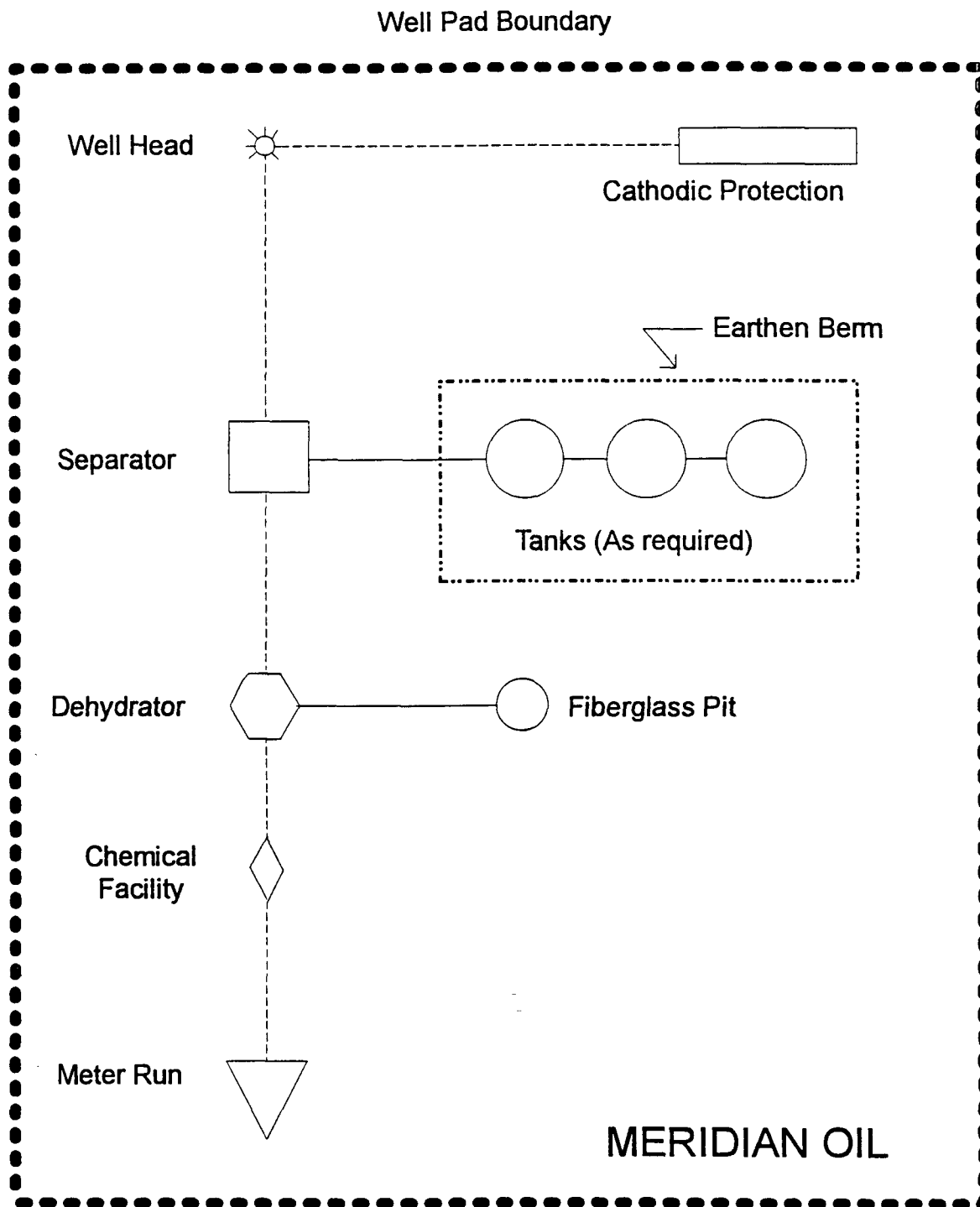




MERIDIAN OIL INC.  
 Pipeline Map  
 T-32-N, R-14-W  
 San Juan County, New Mexico

MAP # 1A  
 Ute Mountain Ute #41

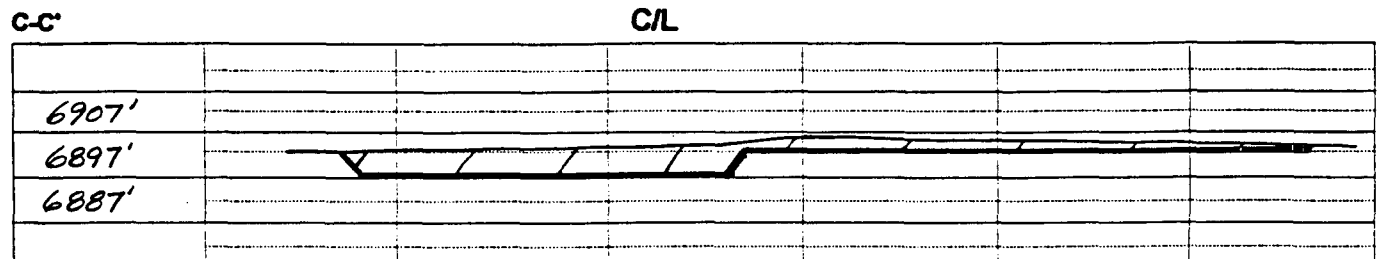
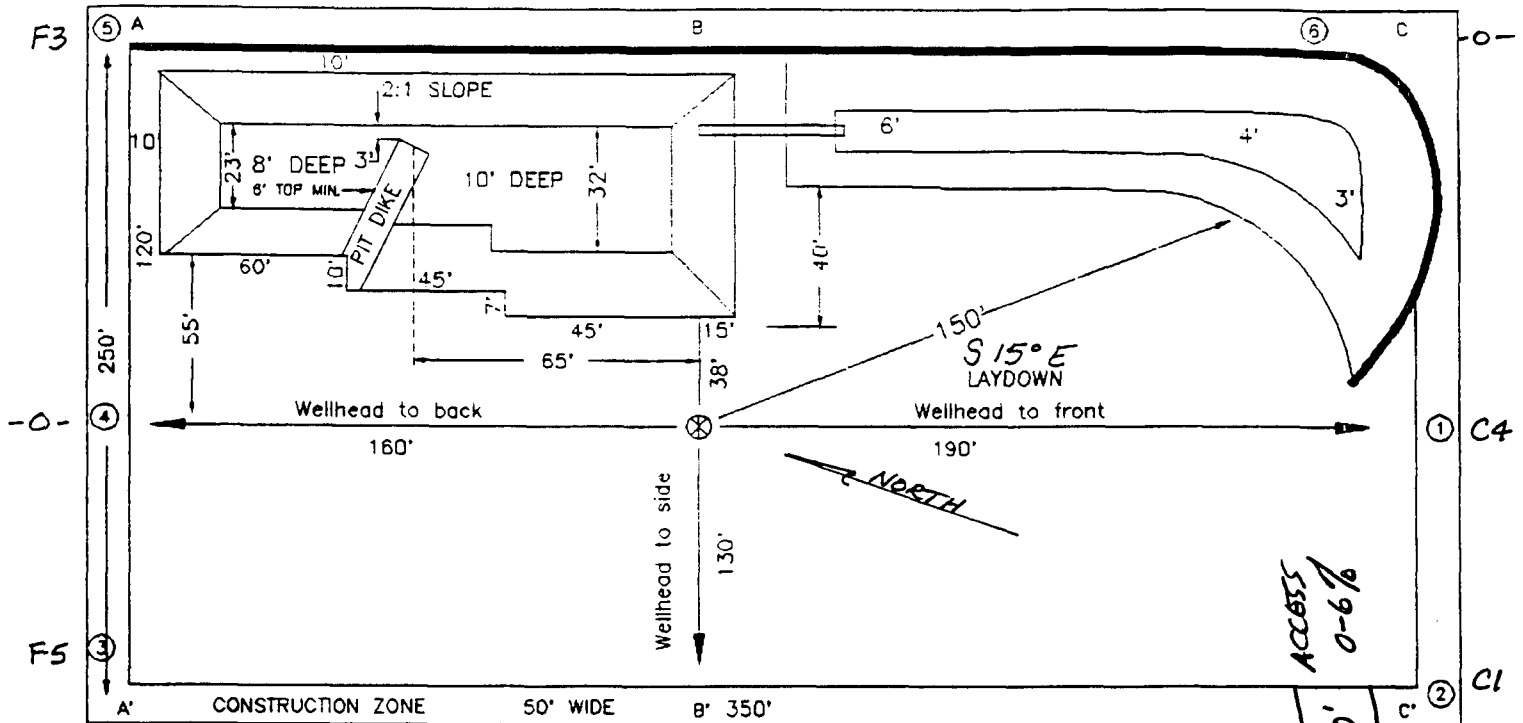
3/91 adw/mjb



ANTICIPATED  
PRODUCTION FACILITIES  
FOR A  
PARADOX WELL

## HORIZONTALS

NAME: UTE MTN UTE #41  
FOOTAGE: 1730' ENL, 1930' FEL  
SEC 30 TWN 32 N.R. 14 W NMPM  
CO: SAN JUAN ST: NEW MEXICO  
ELEVATION: 6897 DATE: 9-05-95



Note: Contractor should call One-Call for location of any marked or unmarked buried pipelines or cables on well pad and/or access road at least 2 working days prior to construction.

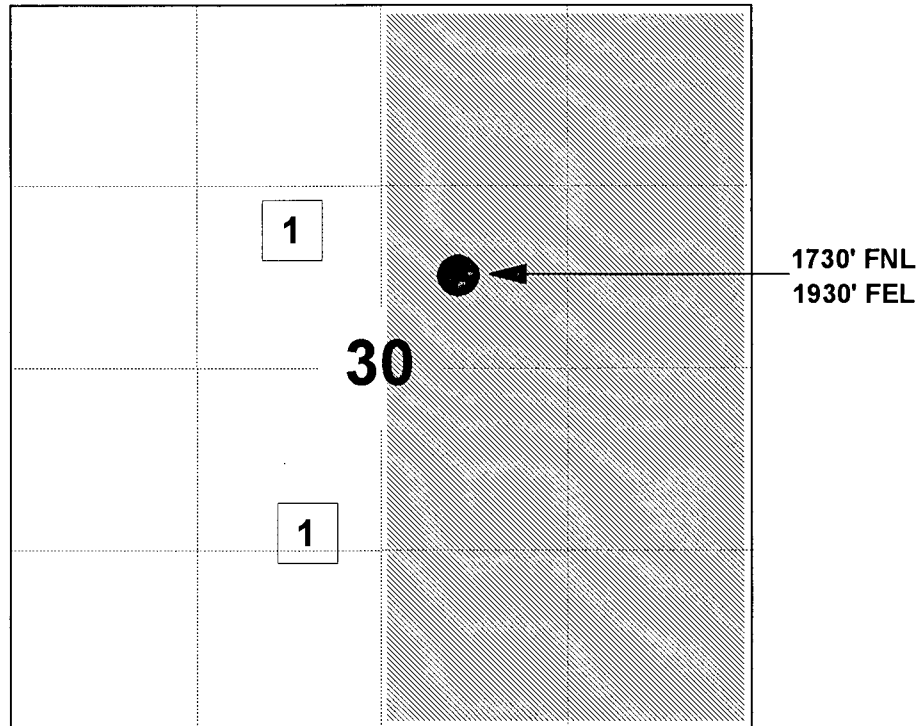
# MERIDIAN OIL INC

## UTE MTN UTE #41

### OFFSET OPERATOR \ OWNER PLAT

Unorthodox Barker Dome Desert Creek Formation Well Location

Township 32 North, Range 14 West



1) Meridian Oil Inc.

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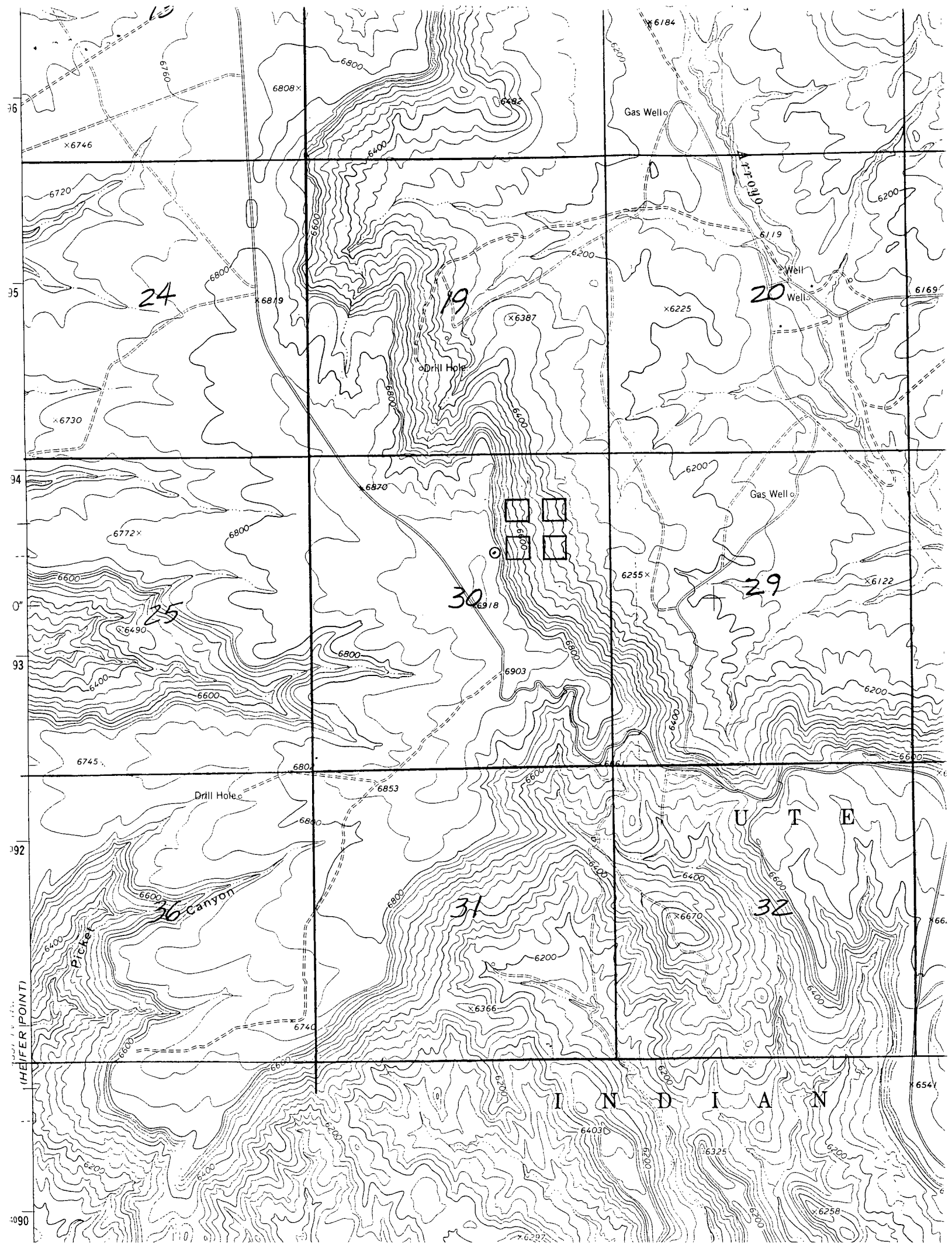
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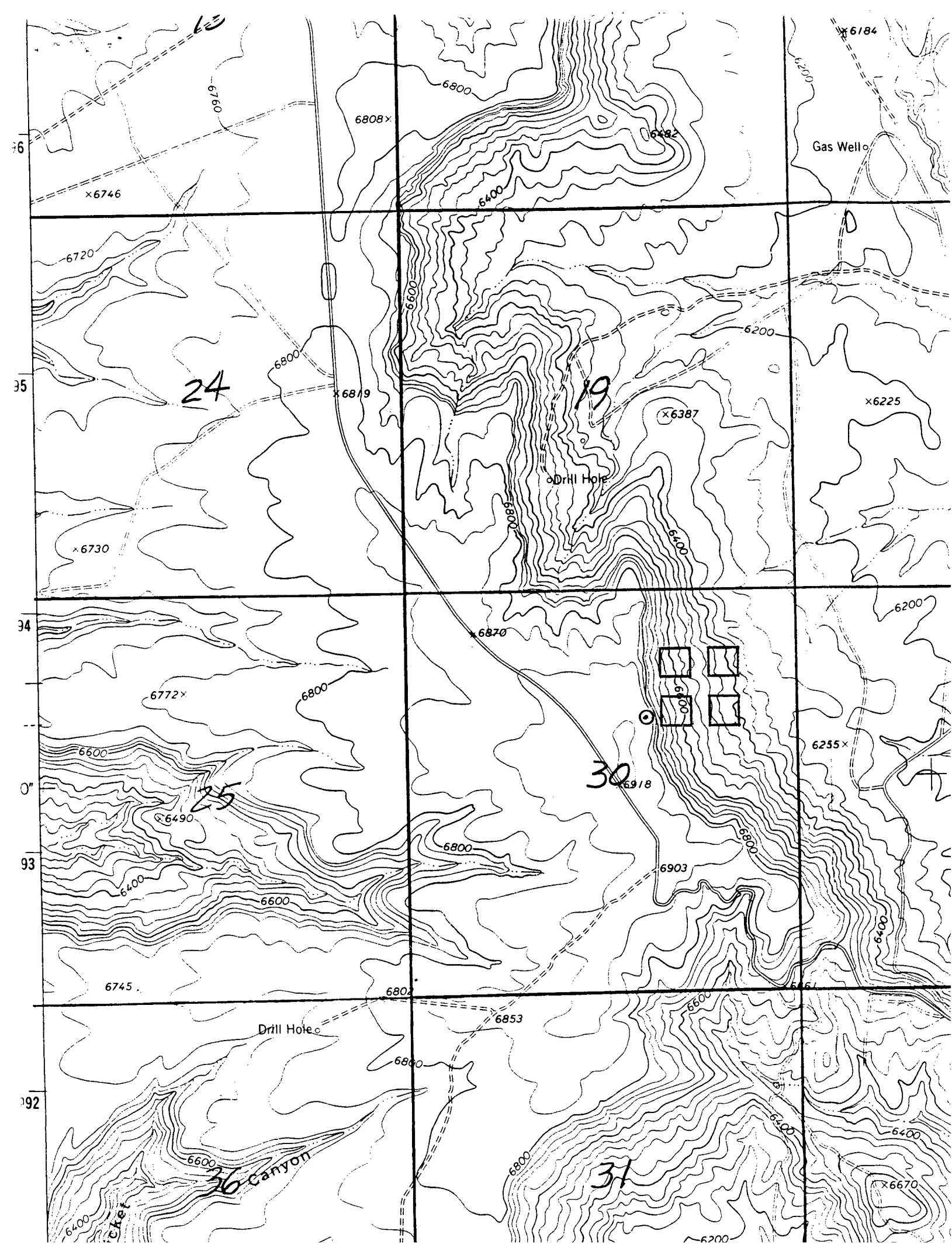
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## **Mike Stogner**

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**From:** Ernie Busch  
**To:** Mike Stogner  
**Subject:** MERIDIAN OIL INC UTE MTN UTE #41(NSL)  
**Date:** Monday, March 25, 1996 8:35AM  
**Priority:** High

UTE MTN. UTE #41  
G-30-32N-14W  
1730'FNL;1930'FEL  
RECOMMEND: APPROVAL

STATE OF NEW MEXICO  
ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
DIVISION FOR THE PURPOSE OF  
CONSIDERING:

NOMENCLATURE  
CASE NO. 11089  
Order No. R-46-A

APPLICATION OF MERIDIAN OIL INC. TO  
CONTRACT THE VERTICAL LIMITS OF THE  
BARKER CREEK-PARADOX (PENNSYLVANIAN)  
POOL, THE AMENDMENT OF DIVISION ORDER  
NO. R-46, AND THE CONCOMITANT CREATION  
OF THREE GAS POOLS EACH WITH SPECIAL  
RULES AND REGULATIONS THEREFOR, SAN  
JUAN COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on November 10, 1994, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 13th day of February, 1995, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

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) By Order No. R-13 issued in Case No. 213 on March 15, 1950, the Division created and defined the Barker Creek-Paradox (Pennsylvanian) Gas Pool, San Juan County, New Mexico.

(3) By Order No. R-46 issued in Case No. 237 on December 29, 1950, the Division promulgated Special Rules and Regulations for the Barker Creek-Paradox (Pennsylvanian) Gas Pool including 640-acre gas spacing with wells to be located no closer than 1650 feet from the outer boundary of the proration unit nor closer than 330 feet from the center of the proration unit. The vertical limits of the Barker Creek-Paradox (Pennsylvanian) Gas Pool currently comprise all of the Pennsylvanian formation.

(4) The Barker Creek-Paradox (Pennsylvanian) Gas Pool currently comprises the following described area in San Juan County, New Mexico all as projected into the unsurveyed Ute Mountain Indian Reservation:

**TOWNSHIP 32 NORTH, RANGE 14 WEST, NMPM**

Sections 9 through 11: All  
Sections 14 through 16: All  
Section 17: E/2  
Sections 19 through 22: All  
Section 23: NW/4  
Section 27: NW/4  
Section 28: N/2  
Section 29: All

(5) The applicant, Meridian Oil Inc., seeks to contract the vertical limits of the Barker Creek-Paradox (Pennsylvanian) Gas Pool to include only the Lower Barker Creek and Alkali Gulch members of the Paradox interval, and the concomitant creation of three new gas pools comprising, respectively, the Upper and Lower Ismay members, the Desert Creek member, and the Akah and Upper Barker Creek members of the Paradox interval.

(6) The applicant further seeks:

- a) to expand the pool boundaries of the Barker Creek-Paradox (Pennsylvanian) Gas Pool to include the following described area as projected into the unsurveyed Ute Mountain Indian Reservation in San Juan County, New Mexico:

**TOWNSHIP 32 NORTH, RANGE 14 WEST, NMPM**

Sections 7 and 8: All  
Section 17: W/2  
Section 18: All  
Section 28: S/2  
Section 30: All

- b) to establish pool boundaries for the three proposed new gas pools similar to those for the Barker Creek-Paradox (Pennsylvanian) Gas Pool;
- c) to promulgate special rules and regulations for the proposed gas pools as follows:

<u>PROPOSED POOL</u>	<u>WELL SPACING</u>	<u>SETBACK REQUIREMENTS</u>
Ismay	160-acres	No closer than 330 feet from the outer boundary of the spacing unit nor closer than 20 feet from any governmental quarter-quarter section line or subdivision inner boundary.
Desert Creek	320-acres	No closer than 790 feet from the outer boundary of the spacing unit nor closer than 130 feet from any governmental quarter-quarter section line or subdivision inner boundary.
Akah/Upper Barker Creek	320-acres	No closer than 790 feet from the outer boundary of the spacing unit nor closer than 130 feet from any governmental quarter-quarter section line or subdivision inner boundary.

- d) to amend the well location requirements for the Barker Creek-Paradox (Pennsylvanian) Gas Pool such that wells can be located no closer than 790 feet from the outer boundary of the spacing unit nor closer than 130 feet from any governmental quarter-quarter section line or subdivision inner boundary.

(7) The applicant proposes that the vertical limits of each of the subject pools comprise the following described intervals as found on the log run on the Meridian Oil Inc. Ute Well No. 16 located in Unit I, Section 22, Township 32 North, Range 13 1/2 West, La Plata County, Colorado:

<u>INTERVAL</u>	<u>VERTICAL LIMITS</u>
Ismay (Includes Upper and Lower Ismay)	8502'-8693'
Desert Creek	8693'-8809'
Akah/Upper Barker Creek	8809'-9134'
Barker Creek (Includes Lower Barker Creek and Alkali Gulch)	9134'-9430'

(8) According to applicant's evidence, there have been eleven wells drilled in the subject pool subsequent to its discovery in 1945. The vast majority of the cumulative gas production from the subject pool, which according to applicant's testimony is some 230 BCFG, has originated from the Lower Barker Creek interval.

(9) Within the subject pool, there are currently eight active wells, four of which are producing from the Lower Barker Creek/Alkali Gulch interval, two of which are producing from the Desert Creek interval, and two of which are producing from the Ismay interval.

(10) The applicant's geologic evidence and testimony in this case indicates that there are four separate and distinct intervals within the Paradox member of the Pennsylvanian formation each of which constitutes one or more separate productive reservoirs.

(11) The Pennsylvanian formation in this area is characterized by occasionally porous limestone and dolomite, anhydrides and black shales.

(12) Meridian presented geologic and engineering evidence and testimony which indicates that each of the proposed pools are:

- a) associated with a structural dome centered approximately in the center of Section 15 which is of limited extent. The trap of each reservoir is formed by a down-dip structural limit of effective porosity;
- b) a single structure feature geologically separated both vertically and horizontally from any other pool;
- c) a single source of common supply ("reservoir") separated from and not in communication with any other pool in this area.

(13) The applicant has grouped the producing intervals into the four proposed pools based upon their similar geologic characteristics. In addition, the proposed gas pools appear to be continuous and correlatable across the entire proposed pool boundaries.

(14) Meridian's engineering evidence and testimony indicates that each of the proposed pools are gas pools, and that while this is a complex reservoir with limited data, there is a reasonable engineering probability that the behavior of the gas wells will be similar to the established behavior of the gas wells in the existing Barker Creek-Paradox (Pennsylvanian) Gas Pool.

(15) The evidence presented in this case indicates that the vertical limits and the Special Rules and Regulations for the Barker Creek-Paradox (Pennsylvanian) Gas Pool are not conducive to continuous and orderly development of the pool for the following reasons:

- a) long term production of the Lower Barker Creek/Alkali Gulch interval has resulted in a significant pressure differential between this interval and the Ismay and Desert Creek intervals. This significant pressure differential precludes downhole commingling of these intervals at the present time;
- b) depletion of the Lower Barker Creek/Alkali Gulch interval in those wells producing from this interval will not occur for several years;
- c) the Special Rules and Regulations for the Barker Creek- Paradox (Pennsylvanian) Gas Pool and current Division policy (Division Memorandum dated July 27, 1988) severely limit the ability of an operator to drill and operate more than one well on a standard gas proration unit in this non-prorated gas pool;

(16) Applicant's plan of development for the subject pool(s) includes the drilling of additional conventional, downhole commingled and/or dually completed wells, whichever is applicable, in order to maximize the recovery of gas from each of the subject reservoirs.

(17) The evidence indicates that Meridian Oil Inc. is the only leasehold owner in the Barker Creek-Paradox (Pennsylvanian) Gas Pool, and that the royalty interest ownership is owned entirely by the Ute Mountain Ute Tribe.

(18) No other offset operators and/or interest owners appeared at the hearing in opposition to the application.

(19) Approval of the contraction of the Barker Creek-Paradox (Pennsylvanian) Gas Pool and concomitant creation of three new gas pools will allow the applicant the opportunity to drill additional wells and recover additional gas reserves from the Ismay, Desert Creek and Akah/Upper Barker Creek intervals, will prevent the premature abandonment of production within the Lower Barker Creek/Alkali Gulch interval, thereby preventing waste, and will not violate correlative rights.

(20) The Barker Creek-Paradox (Pennsylvanian) Gas Pool should be redesignated the Barker Dome-Paradox Pool. The remaining pools should be designated the Barker Dome-Akah/Upper Barker Creek Pool, the Barker Dome-Desert Creek, and the Barker Dome-Ismay Pools. The vertical limits of the subject pools should comprise those intervals as described in Finding No. (7) above.

(21) The applicant's proposed pool boundaries, which include an extension of the Barker Creek-Paradox (Pennsylvanian) Gas Pool, are not reasonable inasmuch as the proposed extension area does not currently contain production.

(22) The horizontal boundaries of the Barker Dome-Paradox, Barker Dome-Akah/Upper Barker Creek, Barker Dome-Desert Creek and Barker Dome-Ismay Pools should comprise the area currently contained within the Barker Creek-Paradox (Pennsylvanian) Gas Pool.

(23) The engineering evidence indicates that 640-acre spacing is appropriate for the Barker Creek-Paradox (Pennsylvanian) Gas Pool (Barker Dome-Paradox Pool).

(24) The engineering evidence currently available indicates that wells in the Barker Dome-Akah/Upper Barker Creek and Barker Dome-Desert Creek Pools should be capable of draining an area of approximately 320 acres. The preliminary evidence further indicates that the Barker Dome-Ismay Pool should be spaced on 160 acres.

(25) In order to prevent the economic loss caused by the drilling of unnecessary wells, avoid the augmentation of risk arising from the drilling of an excessive number of wells, prevent reduced recovery which might result from the drilling of too few wells, and to otherwise prevent waste and protect correlative rights, special rules and regulations should be promulgated for the Barker Dome-Akah/Upper Barker Creek, Barker Dome-Desert Creek and Barker Dome-Ismay Pools.

(26) The applicant proposed that the well setback requirements for the Barker Creek-Paradox (Pennsylvanian) Gas Pool (Barker Dome-Paradox Pool) be amended such that a well can be located no closer than 790 feet from the outer boundary of the spacing unit nor closer than 130 feet from any governmental quarter-quarter section line or subdivision inner boundary. In addition, the applicant requested that the well setback requirements for the Barker Dome-Ismay Pool be established such that a well can be located no closer than 330 feet from the outer boundary of the spacing unit nor closer than 20 feet from any governmental quarter-quarter section line or subdivision inner boundary.

(27) The setback requirements described above are significantly more flexible than the normal setback requirements for 640-acre and 160-acre gas pools. According to applicant's testimony, this flexibility is needed due to the topography in this area and due to the numerous archaeologic sites thus far encountered in this area.

(28) The Division's rules and procedures for obtaining approval of unorthodox locations due to topography, including archaeologic sites, are flexible and do not represent an excessive burden on the applicant. In addition, setback requirements are necessary in order to assure that wells are situated on their proration units such that effective and efficient drainage of gas occurs.

(29) Applicant's request to amend the well location requirements for the Barker Creek-Paradox (Pennsylvanian) Gas Pool (Barker Dome-Paradox Pool) should be denied.

(30) The Special Rules and Regulations for the Barker Dome-Akah/Upper Barker Creek, Barker Dome-Desert Creek, and Barker Dome-Ismay Pools should provide for designated well locations such that a well cannot be located closer than 790 feet from the outer boundary of the spacing unit nor closer than 130 feet from any governmental quarter-quarter section line or subdivision inner boundary.

(31) At the request of the applicant, the Special Rules and Regulations for the Barker Dome-Akah/Upper Barker Creek, Barker Dome-Desert Creek and Barker Dome-Ismay Pools should be established for a temporary period of two years in order to allow the operators in the subject pools the opportunity to gather sufficient reservoir information to show that the spacing established herein for the subject pools is appropriate.

(32) This case should be reopened at an examiner hearing in February, 1997, at which time the operators in the subject pools should be prepared to appear and show cause why the Temporary Special Rules and Regulations for the Barker Dome-Akah/Upper Barker Creek, Barker Dome-Desert Creek and Barker Dome-Ismay Pools should not be rescinded.

**IT IS THEREFORE ORDERED THAT:**

(1) The Barker Creek-Paradox (Pennsylvanian) Gas Pool, created by Division Order No. R-13, is hereby redesignated the Barker Dome-Paradox Pool.

(2) The vertical limits of the Barker Dome-Paradox Pool are hereby contracted to include only the Lower Barker Creek and Alkali Gulch intervals of the Paradox formation as found from a depth of 9134 feet to 9430 feet on the log run on the Meridian Oil Inc. Ute Well No. 16 located in Unit I of Section 22, Township 32 North, Range 13 1/2 West, La Plata County, Colorado.

(3) Three new gas pools for the production of gas from the Paradox member of the Pennsylvanian formation are hereby created and designated the Barker Dome-Akah/Upper Barker Creek Pool, the Barker Dome-Desert Creek Pool, and the Barker Dome-Ismay Pool.

(4) The vertical limits of the Barker Dome-Akah/Upper Barker Creek, Barker Dome-Desert Creek and Barker Dome-Ismay Pools shall comprise the following described intervals as found on the log run on the Meridian Oil Inc. Ute Well No. 16 located in Unit I of Section 22, Township 32 North, Range 13 1/2 West, La Plata County, Colorado.

<u>POOL</u>	<u>VERTICAL LIMITS</u>
Barker Dome-Akah/Upper Barker Creek Pool	8809'-9134'
Barker Dome-Desert Creek Pool	8693'-8809'
Barker Dome-Ismay Pool	8502'-8693'

(5) The horizontal limits of the Barker Dome-Paradox, Barker Dome-Akah/Upper Barker Creek, Barker Dome-Desert Creek and Barker Dome-Ismay Pools shall comprise the following described area in San Juan County, New Mexico all as projected into the unsurveyed Ute Mountain Indian Reservation:

TOWNSHIP 32 NORTH, RANGE 14 WEST, NMPM

Sections 9 through 11: All  
Sections 14 through 16: All  
Section 17: E/2  
Sections 19 through 22: All  
Section 23: NW/4  
Section 27: NW/4  
Section 28: N/2  
Section 29: All

(6) Temporary Special Rules and Regulations for the Barker Dome-Akah/Upper Barker Creek Pool are hereby promulgated as follows:

**SPECIAL RULES AND REGULATIONS  
FOR THE  
BARKER DOME-AKAH/UPPER BARKER CREEK POOL**

**RULE 1.** Each well completed in or recompleted in the Barker Dome-Akah/Upper Barker Creek Pool or in the equivalent vertical limits thereof within one mile of the pool boundary, shall be spaced, drilled, operated, and produced in accordance with the Special Rules hereinafter set forth.

**RULE 2.** Each well completed or recompleted in the Barker Dome-Akah/Upper Barker Creek Pool shall be located on a unit containing 320 acres, more or less, which consists of the N/2, S/2, E/2 or W/2 of a single governmental section.

**RULE 3.** The Director of the Oil Conservation Division, hereinafter referred to as the "Division" may grant an exception to the requirements of Rule 2 without hearing when an application has been filed for a non-standard unit consisting of less than 320 acres or the unorthodox size or shape of the tract is due to a variation in the legal subdivision of the United States Public Lands Survey. All operators offsetting the

proposed non-standard unit shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Director may approve the application upon receipt of written waivers from all offset operators or if no offset operator has entered an objection to the formation of the non-standard unit within 30 days after the Director has received the application.

**RULE 4.** Each well shall be located no closer than 790 feet from the outer boundary of the proration unit nor closer than 130 feet from any governmental quarter-quarter section line or subdivision inner boundary.

**RULE 5.** The Division Director may grant an exception to the requirements of Rule 4 without hearing when an application has been filed for an unorthodox location necessitated by topographical conditions or the recompletion of a well previously drilled to a deeper horizon. All operators offsetting the proposed location shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Director may approve the application upon receipt of written waivers from all operators offsetting the proposed location or if no objection to the unorthodox location has been entered within 20 days after the Director has received the application.

(7) Temporary Special Rules and Regulations for the Barker Dome-Desert Creek Pool are hereby promulgated as follows:

**SPECIAL RULES AND REGULATIONS  
FOR THE  
BARKER DOME-DESERT CREEK POOL**

**RULE 1.** Each well completed in or recompleted in the Barker Dome-Desert Creek Pool or in the equivalent vertical limits thereof within one mile of the pool boundary, shall be spaced, drilled, operated, and produced in accordance with the Special Rules hereinafter set forth.

**RULE 2.** Each well completed or recompleted in the Barker Dome-Desert Creek Pool shall be located on a unit containing 320 acres, more or less, which consists of the N/2, S/2, E/2 or W/2 of a single governmental section.

**RULE 3.** The Director of the Oil Conservation Division, hereinafter referred to as the "Division" may grant an exception to the requirements of Rule 2 without hearing when an application has been filed for a non-standard unit consisting of less than 320 acres or the unorthodox size or shape of the tract is due to a variation in the legal subdivision of the United States Public Lands Survey. All operators offsetting the proposed non-standard unit shall be notified of the application by registered or certified

mail, and the application shall state that such notice has been furnished. The Director may approve the application upon receipt of written waivers from all offset operators or if no offset operator has entered an objection to the formation of the non-standard unit within 30 days after the Director has received the application.

**RULE 4.** Each well shall be located no closer than 790 feet from the outer boundary of the proration unit nor closer than 130 feet from any governmental quarter-quarter section line or subdivision inner boundary.

**RULE 5.** The Division Director may grant an exception to the requirements of Rule 4 without hearing when an application has been filed for an unorthodox location necessitated by topographical conditions or the recompletion of a well previously drilled to a deeper horizon. All operators offsetting the proposed location shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Director may approve the application upon receipt of written waivers from all operators offsetting the proposed location or if no objection to the unorthodox location has been entered within 20 days after the Director has received the application.

(8) Temporary Special Rules and Regulations for the Barker Dome-Ismay Pool are hereby promulgated as follows:

**SPECIAL RULES AND REGULATIONS  
FOR THE  
BARKER DOME-ISMAY POOL**

**RULE 1.** Each well completed in or recompleted in the Barker Dome-Ismay Pool or in the equivalent vertical limits thereof within one mile of the pool boundary, shall be spaced, drilled, operated, and produced in accordance with the Special Rules hereinafter set forth.

**RULE 2.** Each well completed or recompleted in the Barker Dome-Ismay Pool shall be located on a unit containing 160 acres, more or less, which consists of the NE/4, SE/4, NW/4 or SW/4 of a single governmental section.

**RULE 3.** The Director of the Oil Conservation Division, hereinafter referred to as the "Division", may grant an exception to the requirements of Rule 2 without hearing when an application has been filed for a non-standard unit consisting of less than 160 acres or the unorthodox size or shape of the tract is due to a variation in the legal subdivision of the United States Public Lands Survey. All operators offsetting the proposed non-standard unit shall be notified of the application by registered or certified

mail, and the application shall state that such notice has been furnished. The Director may approve the application upon receipt of written waivers from all offset operators or if no offset operator has entered an objection to the formation of the non-standard unit within 30 days after the Director has received the application.

**RULE 4.** Each well shall be located no closer than 790 feet from the outer boundary of the proration unit nor closer than 130 feet from any governmental quarter-quarter section line or subdivision inner boundary.

**RULE 5.** The Division Director may grant an exception to the requirements of Rule 4 without hearing when an application has been filed for an unorthodox location necessitated by topographical conditions or the recompletion of a well previously drilled to a deeper horizon. All operators offsetting the proposed location shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Director may approve the application upon receipt of written waivers from all operators offsetting the proposed location or if no objection to the unorthodox location has been entered within 20 days after the Director has received the application.

**IT IS FURTHER ORDERED THAT:**

(9) The location of all wells presently drilling to or completed in the Barker Dome-Akah/Upper Barker Creek, Barker Dome-Desert Creek, or Barker Dome-Ismael Pool or in the respective vertical limits thereof within one mile thereof are hereby approved; the operator of any well having an unorthodox location shall notify the Aztec District Office of the Division in writing of the name and location of the well within 30 days from the date of this order.

(10) Pursuant to Paragraph A of Section 70-2-18, N.M.S.A. 1978 Comp., contained in Laws of 1969, Chapter 271, existing gas wells in the Barker Dome-Akah/Upper Barker Creek and Barker Dome-Desert Creek Pool shall have dedicated thereto 320 acres in accordance with the foregoing pool rules; or, pursuant to Paragraph C of said Section 70-2-18, existing wells may have non-standard spacing or proration units established by the Division and dedicated thereto.

Failure to file new Forms C-102 with the Division dedicating 320 acres to a well or to obtain a non-standard unit approved by the Division within 60 days from the date of this order shall subject the well to cancellation of allowable until a non-standard spacing unit has been approved and, subject to said 60-day limitation, each well presently drilling to or completed in the Barker Dome-Akah/Upper Barker Creek or Barker Dome-Desert Creek Pool or in its corresponding vertical limits as described in Ordering Paragraph No. (4) above, or within one mile thereof, shall receive no more than one-fourth of a standard allowable for said pool(s)

(11) Pursuant to Paragraph A of Section 70-2-18, N.M.S.A. 1978 Comp., contained in Laws of 1969, Chapter 271, existing gas wells in the Barker Dome-Ismay Pool shall have dedicated thereto 160 acres in accordance with the foregoing pool rules; or, pursuant to Paragraph C of said Section 70-2-18, existing wells may have non-standard spacing or proration units established by the Division and dedicated thereto.

Failure to file new Forms C-102 with the Division dedicating 160 acres to a well or to obtain a non-standard unit approved by the Division within 60 days from the date of this order shall subject the well to cancellation of allowable until a non-standard spacing unit has been approved and, subject to said 60-day limitation, each well presently drilling to or completed in the Barker Dome-Ismay Pool or in its corresponding vertical limits as described in Ordering Paragraph No. (4) above, or within one mile thereof, shall receive no more than one-fourth of a standard allowable for said pool.

(12) The applicant's request to amend the Special Rules and Regulations for the Barker Dome-Paradox Pool, as promulgated by Division Order No. R-46, is hereby denied.

(13) The Barker Dome-Paradox Pool shall continue to be subject to the Special Rules and Regulations as contained within Division Order No. R-46 until further order of the Division.

(14) The applicant's request to extend the horizontal boundaries of the Barker Dome-Paradox Pool to include the acreage described in Finding No. (6) above, is hereby denied. In addition, the applicant's request to include this acreage within the Barker Dome-Akah/Upper Barker Creek, Barker Dome-Desert Creek and Barker Dome-Ismay Pools is hereby denied.

(15) This case shall be reopened at an examiner hearing in February, 1997, at which time the operators in the subject pools should be prepared to appear and show cause why the Temporary Special Rules and Regulations for the Barker Dome-Akah/Upper Barker Creek, Barker Dome-Desert Creek and Barker Dome-Ismay Pools should not be rescinded.

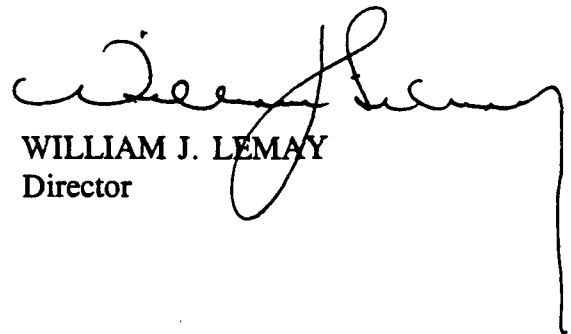
(16) Jurisdiction is hereby retained for the entry of such further orders as the Division may deem necessary.

Nomenclature  
Case No. 11089  
Order No. R-46-A  
Page -13-

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

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION



WILLIAM J. LEMAY  
Director

S E A L

OGRID Identifier : 14538 MERIDIAN OIL INC

Prop Identifier : 18725 UTE MOUNTAIN UTE

API Well Identifier : 30 45 29355

Well No : 41

Surface Locn - UL : G Sec : 30 Twp : 32N Range : 14W Lot Idn :

Multiple comp (S/M/C): N TVD Depth (Feet) : MVD Depth (Feet):

Spud Date : P/A Date :

Casing/Linear Record:

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S Size

Grade Weight

Depth(ft)

Depth(ft)

Hole Size

Cement

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TOC

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(inches)

(lb/ft)

Top-Liner

Bot-Liner

(inches)

(Sacks)

(feet)

Code

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E0004: No matching record found. Enter data to create.

PF01 HELP

PF02

PF03 EXIT

PF04 GoTo

PF05

PF06 CONFIRM

PF07

PF08

PF09 COMMENT

PF10 TLOG

PF11

PF12

CMD : ONGARD 04/10/96 15:05:10  
OG6C101 C101-APPLICATION FOR PERMIT TO DRILL OGOMES -EMFH

OGRID Idn : 14538 API Well No: 30 45 29355 APD Status(A/C/P): A  
Opr Name, Addr: MERIDIAN OIL INC Aprvl/Cncl Date : 03-11-1996  
801 CHERRY ST  
FT WORTH, TX 76102

Prop Idn: 18725 UTE MOUNTAIN UTE Well No: 41

	U/L	Sec	Township	Range	Lot	Idn	North/South	East/West
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Surface Locn :	G	30	32N	14W			FTG 1730 F N	FTG 1930 F E
OCD U/L :	G		API	County :	45			

Work typ(N/E/D/P/A) : N Well typ(O/G/M/I/S/W/C): G Cable/Rotary (C/R) : R  
Lease typ(F/S/P/N/J/U/I): U Ground Level Elevation : 6902

State Lease No: Multiple Comp (Y/N) : N  
Prpsd Depth : 9290 Prpsd Frmtn : BRKR DOME DSRT CRK EXT

E0009: Enter data to modify record

PF01 HELP	PF02	PF03 EXIT	PF04 GoTo	PF05	PF06 CONFIRM
PF07	PF08	PF09 PRINT	PF10 C102	PF11 HISTORY	PF12