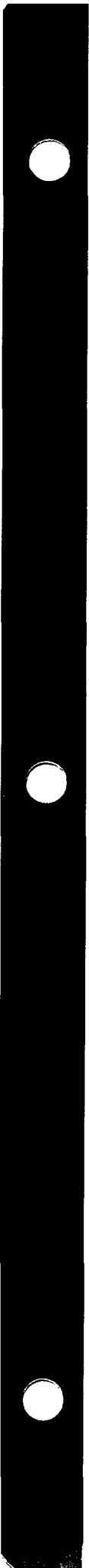


**MERIDIAN OIL, INC.**  
**CASE 10114**  
**OCTOBER 31, 1990**



Exhibit 1



KELLAHIN, KELLAHIN AND AUBREY

ATTORNEYS AT LAW

EL PATIO BUILDING

117 NORTH GUADALUPE

POST OFFICE BOX 2265

SANTA FE, NEW MEXICO 87504-2265

TELEPHONE (505) 982-4285

TELEFAX (505) 982-2047

W. THOMAS KELLAHIN  
KAREN AUBREY

CANDACE HAMANN CALLAHAN

JASON KELLAHIN  
OF COUNSEL

September 24, 1990

HAND--DELIVERED

Mr. William J. LeMay  
Oil Conservation Division  
P.O. Box 2088  
Santa Fe, New Mexico 87501

Re: Meridian Oil, Inc.'s First Amended  
Application for an Unorthodox Coal  
Gas Location, Basin Fruitland Coal  
Gas Pool, San Juan County, New Mexico

RECEIVED

SEP 25 1990

OIL CONSERVATION DIVISION

Dear Mr. LeMay:

On behalf of Meridian Oil, Inc., please set the enclosed application for hearing at the next available examiner's docket now set for October 17, 1990.

We suggest the following to be used for the advertisement for this case:

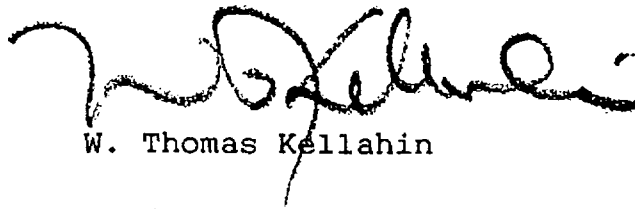
Application of Meridian Oil, Inc. for an unorthodox coal gas well location, San Juan County, New Mexico. Applicant in the above-styled cause seeks authority to drill its Frost Well No. 500 at an unorthodox coal gas well location 2510 feet FNL and 790 feet FEL of Section 26, T27N, R10W, N.M.P.M., San Juan County, New Mexico and to dedicate the N/2 to said well. Said location is approximately \_\_\_\_\_ miles from \_\_\_\_\_.

By copy of this letter and application sent certified mail, return-receipt requested, we are notifying each of the offsetting owners and/or operators of their right to appear at the hearing either in support of or in opposition to this application.

Mr. William J. LeMay  
September 24, 1990  
Page 2

Should any party desire more information about this matter or about the procedures for hearing this application, they may call the Division or the undersigned.

Very truly yours,



W. Thomas Kellahin

WTK/tic  
Enclosure

cc: Mr. Alan Alexander  
Meridian Oil, Inc.  
P.O. Box 4289  
Farmington, New Mexico 87499-4289

"Certified-Return Receipt Requested"

All parties listed on Exhibit C.

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

IN THE MATTER OF THE APPLICATION  
OF MERIDIAN OIL, INC. FOR AN  
UNORTHODOX COAL GAS WELL LOCATION,  
BASIN FRUITLAND COAL GAS POOL,  
SAN JUAN COUNTY, NEW MEXICO

RECEIVED  
SEP 25 1990  
OIL CONSERVATION DIVISION  
CASE NO.

FIRST AMENDED  
APPLICATION

COMES NOW MERIDIAN OIL, INC., by and through its attorneys, KELLAHIN, KELLAHIN & AUBREY, and applies to the New Mexico Oil Conservation Division for approval to drill its Frost No. 500 well at an unorthodox coal gas well location 2510 feet FNL and 790 feet FEL of Section 26, T27N, R10W, N.M.P.M., San Juan County, New Mexico and to dedicate the N/2 of said Section 26 to the subject well and in support thereof states:

1. Applicant is a working interest owner and the operator of the N/2 of Section 26, T27N, R10W.
2. The applicant originally sought the approval of the Area Manager for the BLM for a standard well location in the NE/4 of said Section 26 and was denied that location.

3. As an alternative the BLM has approved the requested unorthodox location.

4. As a result of topographical restrictions and in order to obtain a drilling location for the NE/4 of said Section the applicant seeks the subject unorthodox well location.

5. Directional drilling of the subject well is not economically feasible.

6. Amoco is the diagonally offsetting operator.

7. Meridian is the only other offsetting operator.

8. No correlative rights will be impaired by approving this application.

9. Applicant proposes to dedicate the well to the N/2 of Section 26 as described on Exhibit "A".

10. Attached as Exhibit "B" is a plat showing all of the acreage dedicated to the subject well and the surrounding acreage.

11. Attached as Exhibit "C" is a list of all offsetting owners and/or operators who are required by Division rules to receive notification of this application.

12. Pursuant to Division rules, a copy of this application was mailed by certified mail, return-receipt requested, to all parties listed on Exhibit "C".

WHEREFORE, Applicant requests that after notice and hearing the application be granted.

Respectfully submitted:

KELLAHIN, KELLAHIN & AUBREY

By: 

W. Thomas Kellahin  
Post Office Box 2265  
Santa Fe, New Mexico 87504

(505) 982-4285

State of New Mexico  
 Energy, Minerals and Natural Resources Department  
 OIL CONSERVATION DIVISION  
 P.O. Box 2088  
 Santa Fe, New Mexico 87504-2088

Form C-102  
 Revised 1-1-89

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

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

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

### WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

Operator Meridian Oil Inc.		Lease Frost		Well No. 500
Unit Letter H.	Section 26	Township 27 North	Range 10 West	County San Juan
Actual Footage Location of Well:				
2510 feet from the North line and		790 feet from the East line		
Ground level Elev. 6638'	Producing Formation Fruitland Coal	Pool Basin	Dedicated Acreage: 320 Acres	

- Outline the acreage dedicated to the subject well by colored pencil or hatchure 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 \_\_\_\_\_

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, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interest, has been approved by the Division.

Exhibit A

#### 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 Affairs  
 Position

Meridian Oil Inc.  
 Company

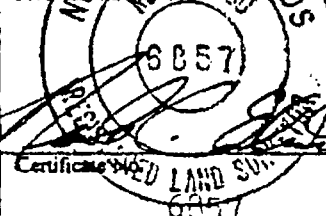
Date

#### 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.

Date Surveyed

Signature & Seal of Professional Surveyor





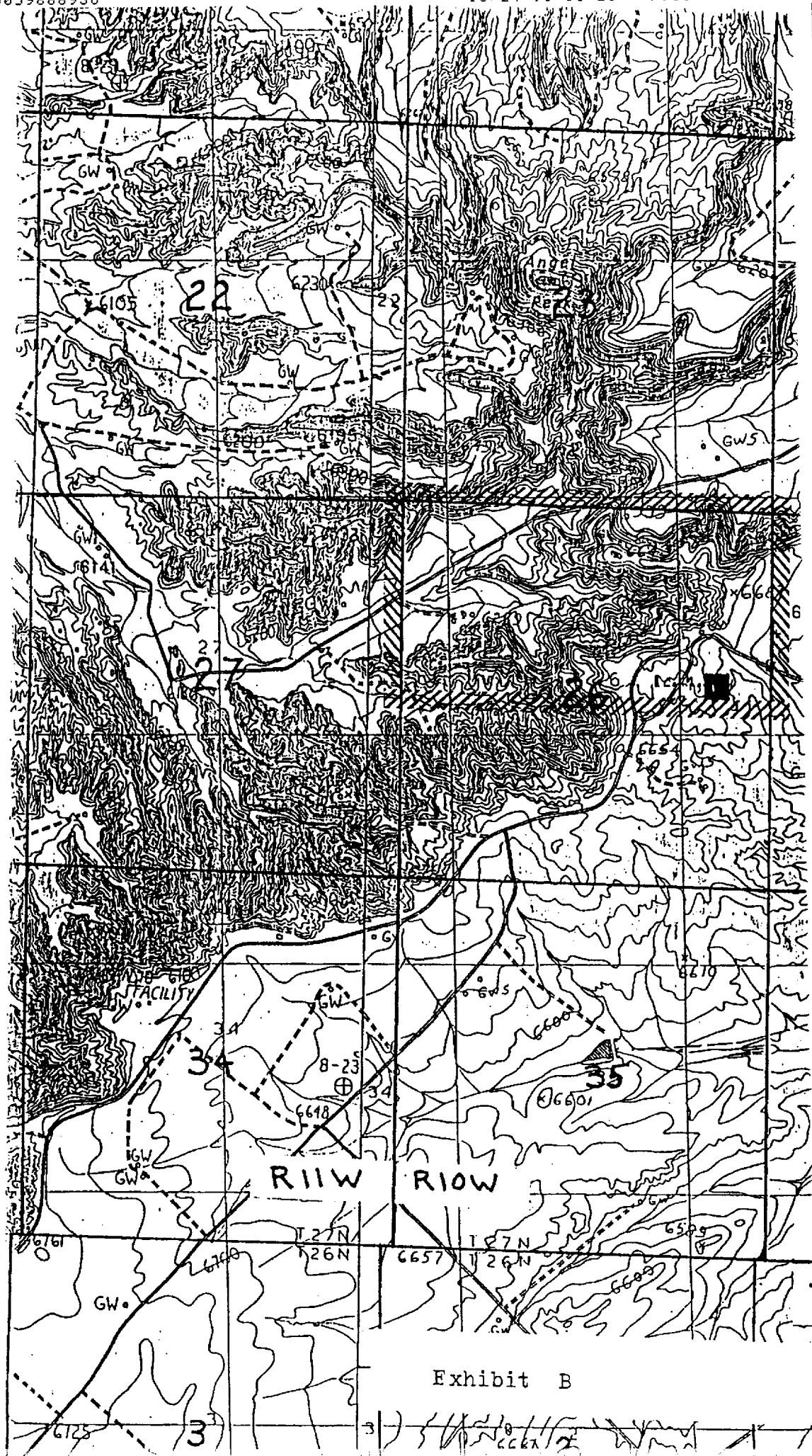
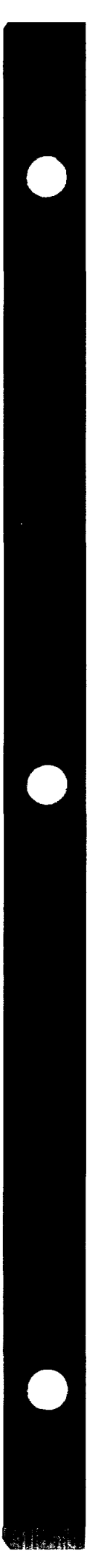


Exhibit B

EXHIBIT "C"

Amoco Production Company  
Post Office Box 800  
Denver, Colorado 80201

Exhibit 2



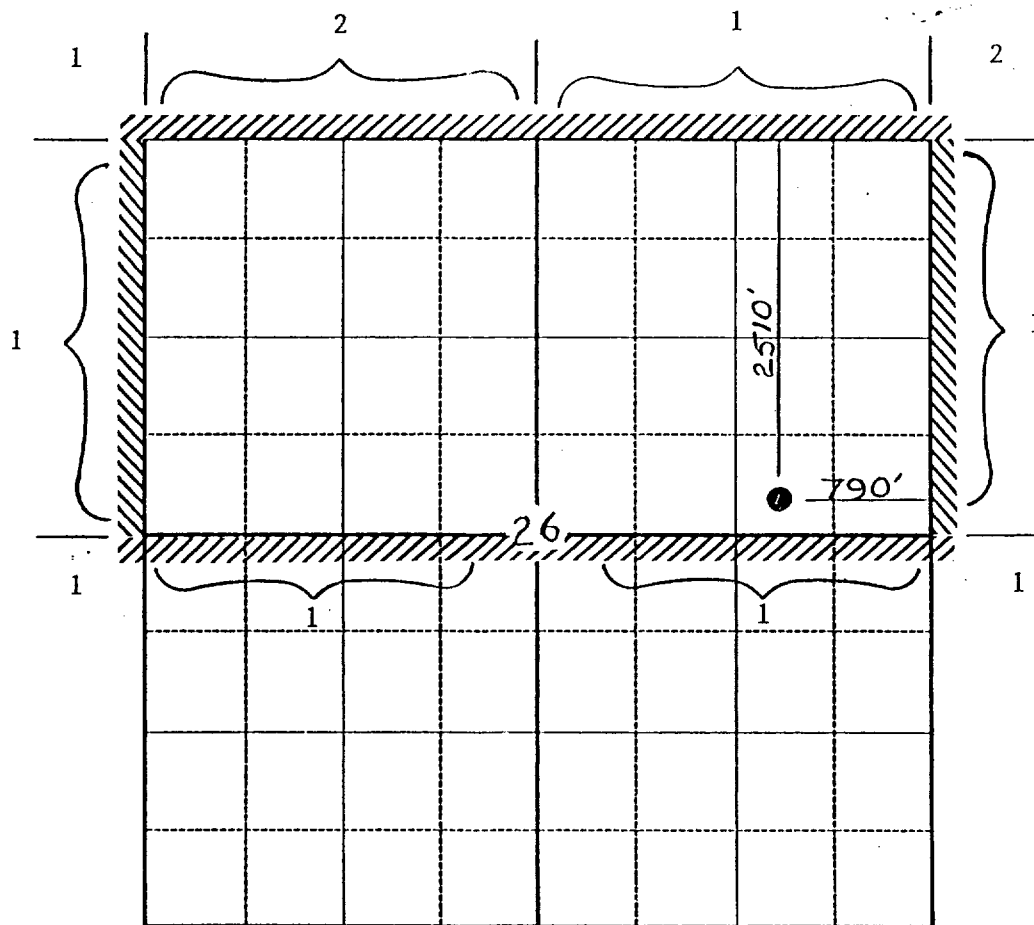
MERIDIAN OIL INC

Well Name Frost #500

Footage 2510' FNL; 790' FEL

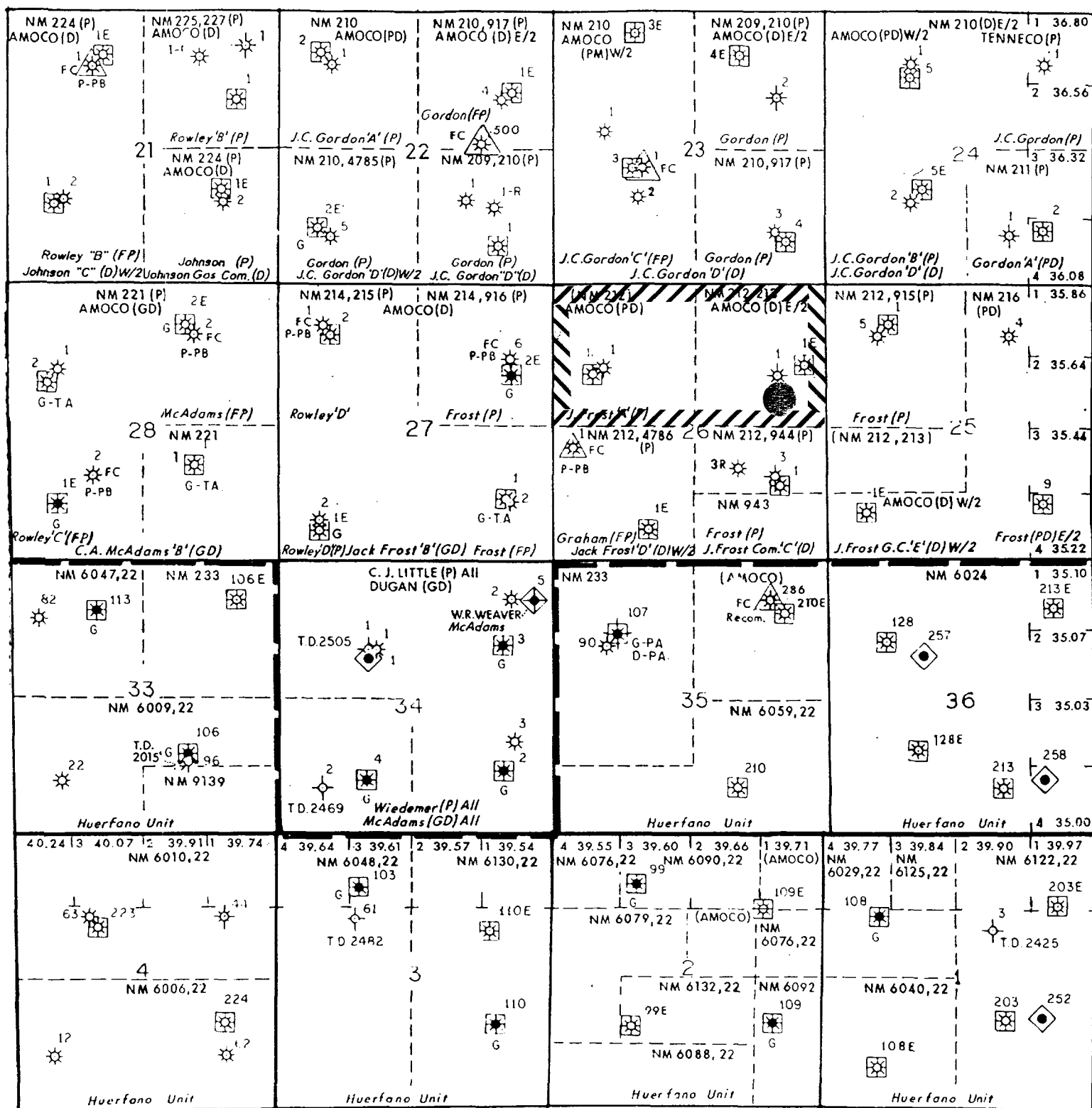
APPLICATION FOR NON-STANDARD LOCATION

County San Juan State New Mexico Section 26 Township 27N Range 10W



Remarks 1) Meridian Oil Inc.

2) Amoco Production Co.



LOCATION



FRUITLAND GAS WELL



PICTURED CLIFFS GAS WELL



MESAVERDE GAS WELL



DAKOTA GAS WELL

# MERIDIAN OIL

CASE NO. 10114

FROST #500

2510' FNL, 790' FEL

Section 26, T-27-N, R-10-W

San Juan County,

New Mexico

**Exhibit 3**

Subv. Appropriate  
Dist. 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, Artesia, NM 88210

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

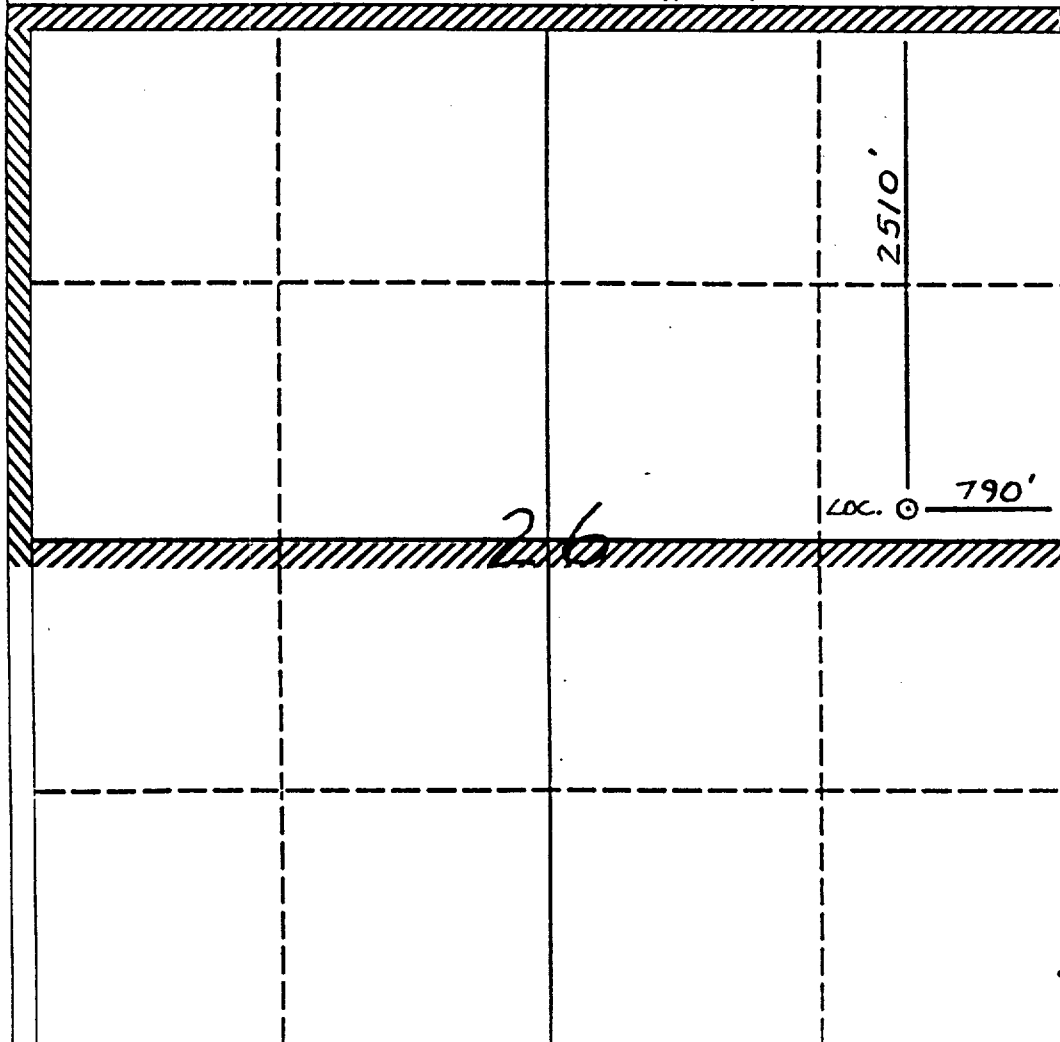
All Distances must be from the outer boundaries of the section

Operator Meridian Oil Inc.			Lease Frost		Well No. 500
Unit Letter H.	Section 26	Township 27 North	Range 10 West	County San Juan	NMPM
Actual Footage Location of Well: 2510 feet from the North line and 790 feet from the East line					
Ground level Elev. 6638'	Producing Formation Fruitland Coal		Pool Basin	Dedicated Acreage: 320 Acres	

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

If answer is "no" list 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, forced-pooling, or otherwise) or until a non-standard unit, eliminating 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.

Signature

Peggy Bradfield  
Printed Name

Regulatory Affairs  
Position

Meridian Oil Inc.  
Company

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.

Date Surveyed

Signature & Seal of Professional Surveyor

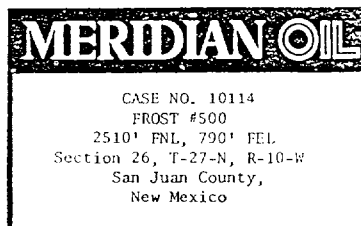
6857

Certified TRUE LAND SURV.

0 330 660 990 1320 1650 1980 2310 2640 2000 1500 1000 500 0

Frost #500  
Section 26, T-27-N, R-10-W

<u>Location</u>	<u>Date</u>	<u>Action</u>
<u>1040'N, 130'E</u>	10-12-88	Staked non-standard due to terrain, existing locations
	10-21-88	Archaeological Report #1421 from DCA, location recommended
	11-30-88	Notice of Staking submitted to BLM
	12-29-88	Application for Permit to Drill submitted to BLM with E/2 dedication
<u>2510'N, 790'E</u>	01-09-89	Moved to orthodox location with E/2 dedication
	03-14-89	Inspected by archaeologist
	03-15-89	Inspected by Bureau of Land Management
	03-24-89	Archaeological Report #1499 from DCA, location recommended
	05-09-89	Letter from BLM to Meridian denying this location, requesting move back to 1040'N, 130'E
<u>1040'N, 130'E</u>	05-24-89	Application made to NMOCD for NSL
	08-23-89	Sundry submitted to BLM for move back to original location
	09-14-89	Letter from Michael Stogner (NMOCD) stating cannot administratively approve NSL, need to refile and request hearing w/BLM testimony, directional drilling testimony, topographic condition testimony, provisions for production restriction to protect correlative rights.
<u>2510'N, 790'E</u>	08-01-90	Re-released for Staking with N/2 dedication (unorthodox location)
	09-17-90	Application for NSL made to NMOCD in Santa Fe
	09-20-90	Letter received from NMOCD questioning E/2 dedication, versus S/2 dedication Section 26, T-27-N, R-10-W of Graham #1 (recompletion).
	10-02-90	Letter from BLM requesting this location.
	10-18-90	Application for Permit to Drill submitted to BLM with N/2 dedication.
	10-31-90	Set for hearing

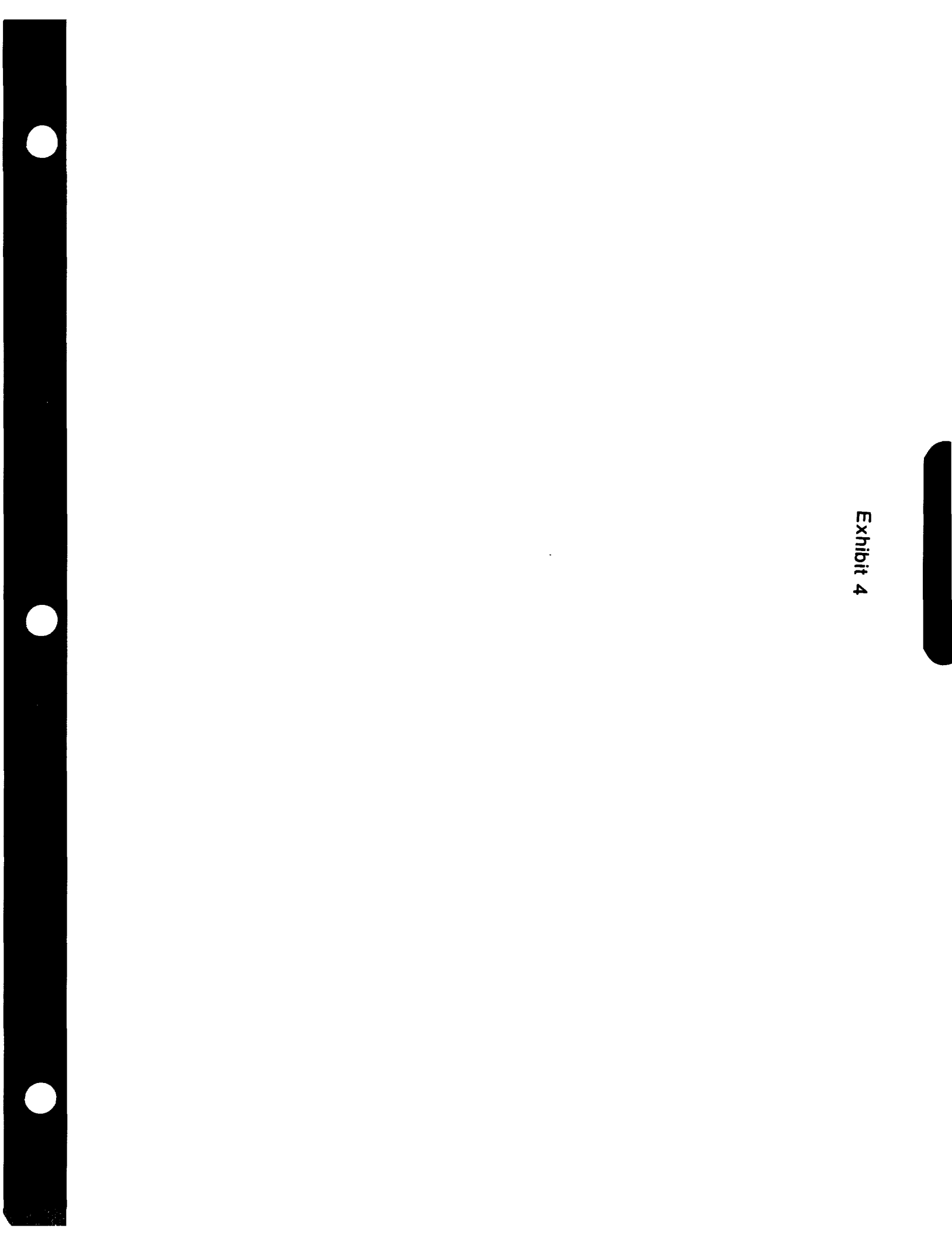








**Exhibit 4**



CASE NO. 10114  
FROST #500  
2510' FNL, 790' FEL  
Section 26, T-27-N, R-10-W  
San Juan County,  
New Mexico

Exhibit 5

FROST #500  
 Sec. 26, T27N, R10W  
 San Juan County, NM  
 10/30/90

VERTICAL WELL

GROSS WELL COST DATA					
	<u>Drilling</u>		<u>Workover,</u>	<u>Construction</u>	
	<u>Dry Hole</u>	<u>Suspended</u>	<u>Completion</u>	<u>or Facility</u>	<u>Total</u>
Days:		3	5	5	13
This AFE:		105680	118410	81630	305720
Prior AFE'S:					
Total Costs:	\$	\$ 105680	\$ 118410	\$ 81630	\$ 305720

DIRECTIONAL WELL

GROSS WELL COST DATA					
	<u>Drilling</u>		<u>Workover,</u>	<u>Construction</u>	
	<u>Dry Hole</u>	<u>Suspended</u>	<u>Completion</u>	<u>or Facility</u>	<u>Total</u>
Days:		10	5	5	20
This AFE:		257825	118410	81630	457865
Prior AFE'S:					
Total Costs:	\$	\$ 257825	\$ 118410	\$ 81630	\$ 457865

**MERIDIAN OIL**

CASE NO. 10114  
 FROST #500  
 2510' FNL, 790' FEL  
 Section 26, T-27-N, R-10-W  
 San Juan County,  
 New Mexico

M E R I D I A N      O I L      I N C O R P O R A T E D  
D R I L L I N G      W E L L      C O S T      E S T I M A T E

WELL NAME: Frost #500  
COUNTY, STATE: San Juan County, NM  
LOCATION: NE/NE/4 26-27-10  
PROPOSED TD: 2449

PREPARED BY: D. T. Boone DATE: 11-Aug-90  
APPROVED BY: *C. J. Smith, JAH/S. N. N.* DATE: 8-13-90  
AFE TYPE: 01 Development Type 5

ACCT AFE NOMENCLATURE

DRYHOLE

SUSPENDED  
3 Days

## 248. INTANGIBLE DRILLING COSTS

02	Environmental studies-----	1,000
03	Location and roads construction-----	7,500
04	Surface restoration-----	1,000
05	Move in, move out-----	
06	Contractor fees - Footage 2,449 @ \$14.50 /Ft.--	35,500
07	Contractor fees - Daywork 0.60 @ \$4,300 /Day--	2,580
09	Drilling fluids-----	
10	Gas and air drilling-----	
16	Water-----	
17	Bits-----	
18	Primary cementing-----	9,400
20	Mud logging-----	900
21	Wireline logging-----	9,200
	(SURF - TD: IES/LDT/NGT/CNL/MLT/GR)	
22	Coring and Analysis-----	
23	Fuel-----	
28	Other rentals-----	400
29	Trucking and Transportation-----	1,300
33	Tubular inspection-----	1,500
34	Cased hole logging-----	
35	Perforating-----	
39	Fracturing-----	
43	Consultants-----	1,000
45	Roustabout and contract labor-----	700
46	Miscellaneous-----	500
72	Company Supervision and Overhead-----	1,200
	Contingency - 5% -----	3,600

TOTAL INTANGIBLE DRILLING COST

77,280

## TANGIBLE DRILLING COSTS

80	Casing-(COPAS price)-----	24,300
	200 Ft. 8 5/8" 24.0# K-55 @ \$13.81 /Ft.	
	2449 Ft. 5 1/2" 15.5# K-55 @ \$8.78 /Ft.	
81	Tubing-----	
84	Casing/Liner Equipment -----	
86	Wellhead equipment-(LIST price)-----	4,100

TOTAL TANGIBLE DRILLING COST

28,400

### TOTAL DRILLING COST ESTIMATE

105,680

M E R I D I A N   O I L   I N C O R P O R A T E D  
D R I L L I N G   W E L L   C O S T   E S T I M A T E

WELL NAME: Frost #500                      PREPARED BY: D. T. Boone    DATE: 11-Aug-90  
COUNTY, STATE: San Juan, NM              APPROVED BY: OTB for JWC    DATE: 8-13-90  
LOCATION: SE/NE/4 26-27-10                  AFE TYPE: 01 Development      Type 5  
PROPOSED TD: 2449 TVD  
KOP: 1198      MEASURED DEPTH: 2703    \*DIRECTIONAL WELL COST ESTIMATE\*  
ACCT AFE NOMENCLATURE                      DRYHOLE              SUSPENDED

Days: 10

248. INTANGIBLE DRILLING COSTS

02	Environmental studies-----	1,000
03	Location and roads construction-----	15,000
04	Surface restoration-----	1,000
05	Move in, move out-----	
06	Contractor fees - Footage 1,198 @ \$14.50 /Ft.--	17,400
07	Contractor fees - Daywork 6.80 @ \$5,500 /Day--	37,400
09	Drilling fluids-----	9,900
11	Drilling Fluids Maintenance Equipment-----	2,900
10	Gas and air drilling-----	
16	Water-----	3,300
17	Bits-----	7,525
18	Primary cementing-----	10,400
20	Mud logging-----	1,200
21	Wireline Logging-----	15,000
23	Fuel-----	
25	Drill/Work String Rentals-----	6,700
27	Tank rentals-----	500
28	Other rentals-----	400
29	Trucking and Transportation-----	1,600
32	Directional Services-----	72,600
	6.60 Days @ \$11,000/day	
33	Tubular inspection-----	1,700
34	Cased hole logging-----	
43	Consultants-----	3,200
45	Roustabout and contract labor-----	2,000
46	Miscellaneous-----	2,000
72	Company Supervision and Overhead-----	3,900
	Contingency - 5% -----	10,600

TOTAL INTANGIBLE DRILLING COST 227,225

TANGIBLE DRILLING COSTS

80	Casing-(COPAS price)-----	26,500
	200 Ft. 8 5/8" 24.0# K-55 @ \$13.81 /Ft.	
	2703 Ft. 5 1/2" 15.5# K-55 @ \$8.78 /Ft.	
81	Tubing-----	
84	Casing/Liner Equipment -----	
86	Wellhead equipment-(LIST price)-----	4,100

TOTAL TANGIBLE DRILLING COST 30,600

TOTAL DRILLING COST ESTIMATE 257,825

Meridian Oil, Inc.

Frost #500  
Sec. 26-T27N-R10W

10/30/90

	Probability of Occurrence	Probability of Success	Estimated Drilling Costs (M\$)	Estimated Capital Investment (M\$)	Risked Disc. P/I Ratio (\$/\$)	Risked Net Present Value (M\$)
Vertical Hole	NA	95%	105.7	305.7	0.30	91.1
Directional Hole:						
No Trouble Time	34%	95%	257.8	457.9	-0.06	-25.9
50% Trouble Time	33%	80%	348.0	548.0	-0.23	-116.2
100% Trouble Time	33%	70%	438.2	638.2	-0.33	-181.0
Directional Risked Consolidation	NA	82%	298.3	498.3	-0.21	-106.9



## Trouble Time Documentation

### Sunray H Com #201:

Drilled to TD. 380 M\$ Cost AFE 640 M\$  
Completion: After stage 1 of frac tried to drill out bottom bridge plug leaving bit, sub, and 4 jts of pipe. Set new bridge plug. Wore hole in casing after stage 2 of frac trying to remove plug. Set another retrievable bridge plug for stage 3 of frac. Took 7 days of milling and jarring to remove, also wore another hole in casing.

1028 M\$ Cost AFE 445 M\$.

TOTAL w/o facilities: Cost 1408 M\$ AFE 1085 M\$

40% over AFE Costs

### SJ 32-5 Unit #100:

Drilled to TD. Blew well before running casing. Lost hole had to redrill. 97 hrs drilling trouble time

266 hrs completion trouble time

TOTAL 363 hrs

792 hrs approved

1008 hrs taken

Total AFE Cost: 893 M\$

Total T.T. Cost: 348 M\$

40% Trouble Time

### SJ 30-6 Unit #404:

Drilled to TD. Ran casing before blowing. Got casing stuck, had to ream etc.

Cost: 41 days 951 M\$ w/o facilities

AFE: 36 days 865 M\$ w/o facilities

10% Trouble Time

### Howell E #2R:

While drilling, torque and drag excessively high. Stuck pipe, lost bit, sub, and 4 jts of pipe. 7 days fishing. Directional portion took twice as long to drill. 25 days planned, 51 days actual.

750 M\$ AFE

1400 M\$ Actual

100% Trouble Time