

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

PLUG BACK ☐

b. TYPE OF WELL

OIL
WELL ☐

GAS
WELL ☒

OTHER

SINGLE
ZONE ☒

MULTIPLE
ZONE ☐

2. NAME OF OPERATOR

El Paso Natural Gas Company

3. ADDRESS OF OPERATOR

PO Box 4289, Farmington, NM 87499

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)

At surface
720'S, 1200'W

At proposed prod. zone

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE

9 miles North of Navajo City, NM

10. DISTANCE FROM PROPOSED*

LOCATION TO NEAREST
PROPERTY OR LEASE LINE, FT.
(Also to nearest drig. unit line, if any)

720'

18. DISTANCE FROM PROPOSED LOCATION*

TO NEAREST WELL, DRILLING, COMPLETED,
OR APPLIED FOR, ON THIS LEASE, FT.

300'

16. NO. OF ACRES IN LEASE

1361.08

17. NO. OF ACRES ASSIGNED

TO THIS WELL 320.00/320.50

19. PROPOSED DEPTH

7680'

20. ROTARY OR CABLE TOOLS

Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

6223' GL

This action is subject to technical and
procedural review pursuant to 43 CFR 3165.3
and appeal pursuant to 43 CFR 3165.4.

22. APPROX. DATE WORK WILL START*

23.

DRILLING OPERATIONS AUTHORIZED ARE
SUBJECT TO COMPLIANCE WITH ATTACHED

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	CEMENTING DEPTH	"GENERAL REQUIREMENTS"
12 1/4"	9 5/8"	36.0#	200'	130 cf circulated
8 3/4"	7"	20.0#	3400'	475 cf cover Ojo Alamo
6 1/4"	4 1/2"	10.5&11.6#	7680'	660 cf fill to inter.

Selectively perforate and sand water fracture the Dakota formation.

A 3000 psi WP and 6000 psi test double gate preventer equipped with blind and pipe rams will be used for blow out prevention on this well.

This gas is dedicated.

The W/2 of Section 4 is dedicated to this well.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. Siggy Doak Drilling Clerk 7-12-85
SIGNED TITLE DATE

(This space for Federal or State office use)

PERMIT NO. APPROVAL DATE

APPROVED BY TITLE DATE
CONDITIONS OF APPROVAL, IF ANY:

15
12
NSL 2115

NSL 2115

*See Instructions On Reverse Side

7/31/85 J. Stan McKee

INSTRUCTIONS

GENERAL: This form is designed for submitting proposals to perform certain well operations, as indicated, on all types of lands and leases for appropriate action by either a Federal or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office.

ITEM 1: If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable State or Federal regulations concerning subsequent work proposals or reports on the well.

ITEM 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

ITEM 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plate, separate or on this reverse side, showing the roads to, and the surveyed location of, the well, and any other required information, should be furnished when required by Federal or State agency offices.

ITEMS 15 AND 18: If well is to be, or has been directionally drilled, give distances for subsurface location of hole in any present or objective production zone.

ITEM 22: Consult applicable Federal or State regulations, or appropriate officials, concerning approval of the proposal before operations are started.

NOTICE

The Privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR Part 3160.

PRINCIPAL PURPOSE: The information is to be used to process and evaluate your application for permit to drill, deepen, or plug back an oil or gas well.

ROUTINE USES: (1) The analysis of the applicant's proposal to discover and extract the Federal or Indian resources encountered. (2) The review of procedures and equipment and the projected impact on the land involved. (3) The evaluation of the effects of proposed operation on surface and subsurface water and other environmental impacts. (4)(5) Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions, as well as routine regulatory responsibility.

EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if the lessee elects to initiate drilling operations on an oil and gas lease.

The Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq) requires us to inform you that:

This information is being collected to allow evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases.

This information will be used to analyze and approve applications.

Response to this request is mandatory only if the lessee elects to initiate drilling operations on an oil and gas lease.

NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-128
Effective 1-1-65

All distances must be from the outer boundaries of the Section.

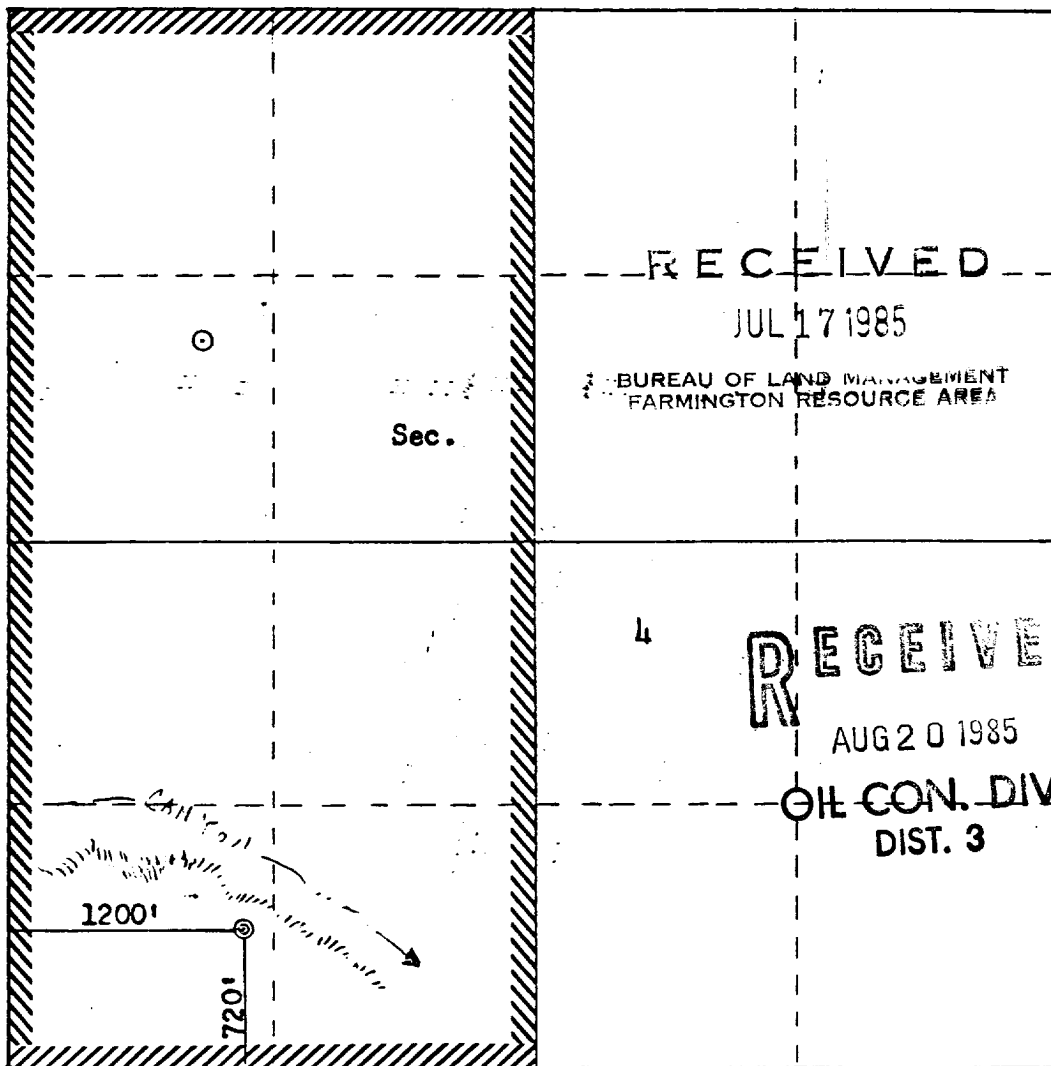
Operator EL PASO NATURAL GAS COMPANY			Lease HOWELL "A" (SF 078580)		Well No. LE
Unit Letter M	Section 4	Township 30N	Range 8W	County San Juan	
Actual Footage Location of Well: 720 feet from the South line and 1200 feet from the West line					
Ground Level Elev: 6223	Producing Formation Dakota		Pool Basin	Dedicated Acreage: 320.50 Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hachure 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 interests 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 interests, has been approved by the Commission.



CERTIFICATION

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

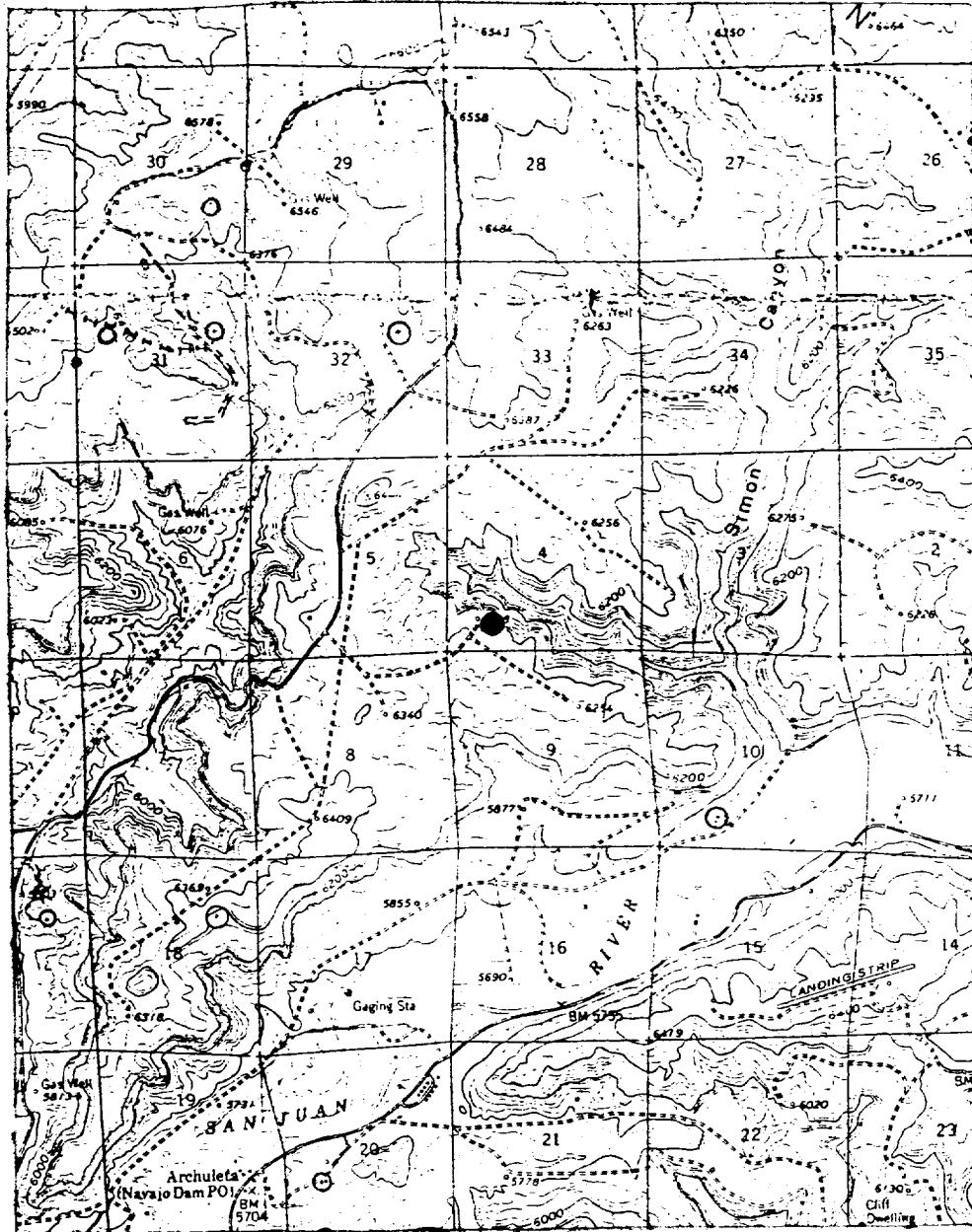
Name
Drilling Clerk
Position
El Paso Natural Gas
Company

Date

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
July 2, 1985
Registered Professional Engineer and Land Surveyor
Fred B. Kerr Jr.
Certificate No. _____

Howell A #4E
SW 4-30-8 (DK)



Map #1

LEGEND OF RIGHT-OF-WAYS

EXISTING ROADS

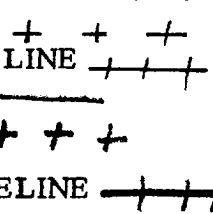
EXISTING PIPELINES

EXISTING ROAD & PIPELINE

PROPOSED ROADS

PROPOSED PIPELINES

PROPOSED ROAD & PIPELINE





TONEY ANAYA
GOVERNOR

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

August 12, 1985

50 YEARS



1935 - 1985

POST OFFICE BOX 2085
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

El Paso Natural Gas Company
P. O. Box 4289
Farmington, New Mexico 87499-4289

Attention: G. W. Brink

Administrative Order NSL-2115

Gentlemen:

Reference is made to your application for a non-standard location for your Howell "A" Well No. 4E to be located 720 feet from the South line and 1200 feet from the West line of Section 4, Township 30 North, Range 8 West, NMPM, Basin-Dakota Pool, San Juan County, New Mexico. The W/2 of said Section 4 shall be dedicated to the well.

By authority granted me under the provisions of Rule 104 F(I), the above-described unorthodox location is hereby approved.

Sincerely,

R. L. STAMETS, DIRECTOR

RLS/DC/dr

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

RECEIVED
AUG 16 1985
OIL CON. DIV.
DIST. 3



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE

1000 RIO BRAZOS ROAD
AZTEC, NEW MEXICO 87410
(505) 334-6178

OIL CONSERVATION DIVISION
BOX 2088
SANTA FE, NEW MEXICO 87501

DATE 8-12-85

RE: Proposed MC _____
Proposed DHC _____
Proposed NSL A _____
Proposed SWD _____
Proposed WFX _____
Proposed PMX _____

Gentlemen:

I have examined the application dated 7-17-85
for the El Paso Natural Gas Co. Howell A-4E M-4-30A-85
Operator Lease and Well No. Unit, S-T-R

and my recommendations are as follows:

Approve

Yours truly,

E. Busch

July 16, 1985

Mr. Richard Stamets
New Mexico Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87501

Dear Mr. Stamets:

This is a request for administrative approval for an unorthodox gas well location in the Basin Dakota Pool.

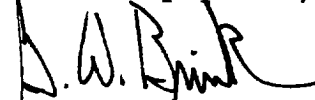
It is intended to locate the El Paso Natural Gas Company's Howell A #4E at 720' from the South line and 1200' from the West line of Section 4, T-30-N, R-8-W, San Juan County, New Mexico.

Extremely rough terrain in the form of very deep canyon makes it impossible to build an orthodox location in the southwest corner of Section 4.

A copy of this application is being submitted to all offset operators by certified mail with a request that they furnish your Santa Fe office with a Waiver of Objection, and return one copy to this office.

Plats showing the proposed well location and the terrain in Section 4, along with an ownership plat, are attached.

Sincerely yours,



G. W. Brink
Project Drilling Engineer

encl.

WAIVER

_____ hereby waives objection to El Paso Natural Gas Company's application for an unorthodox location for their Howell A #4E as proposed above.

By: _____

Date: _____

cc: Tenneco Oil Petroluem
Koch Industries
Mesa Petroleum
Texaco & Koch Industries

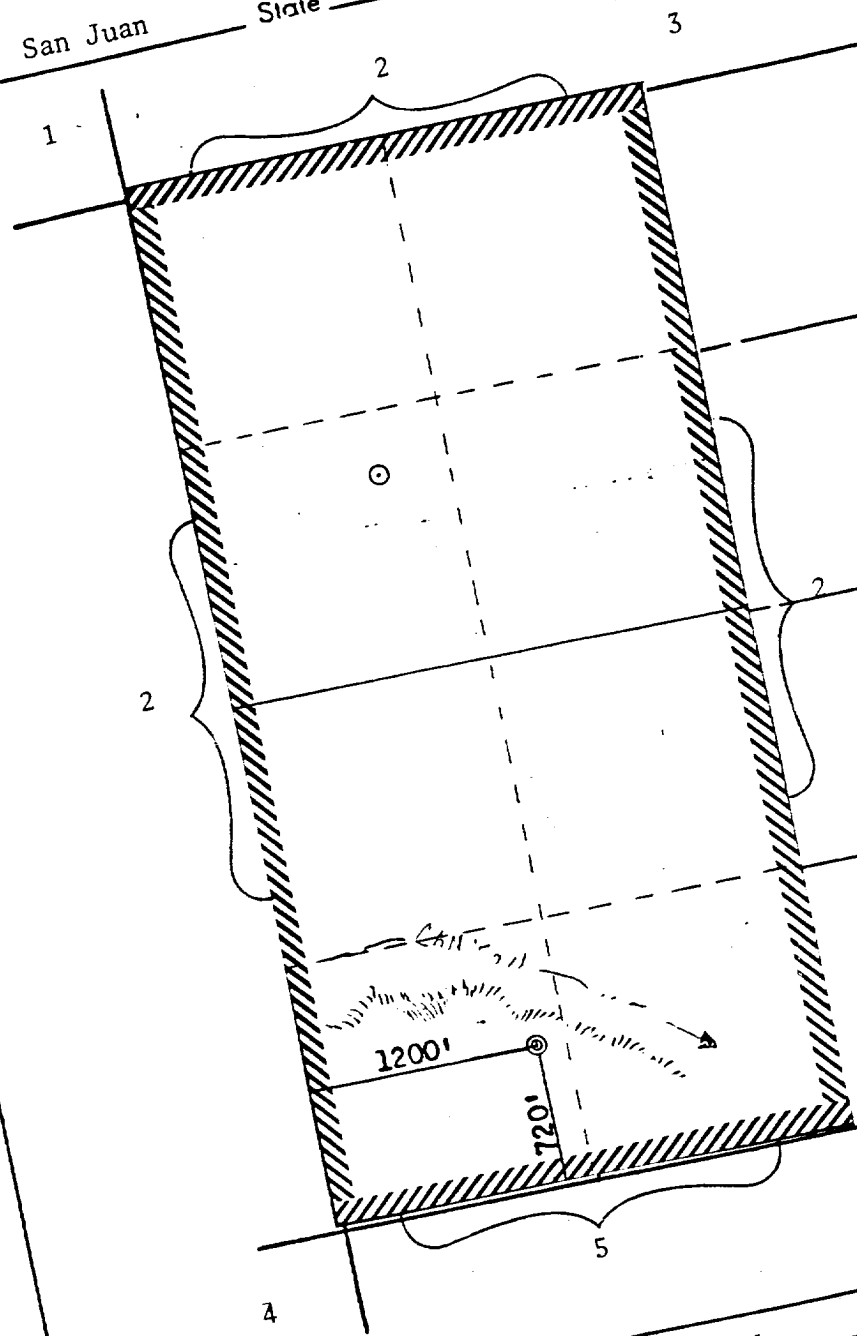
RECEIVED
JUL 17 1985
OIL CON. DIV.
DIST. 3

EL PASO NATURAL GAS COMPANY

Well Name Howell A #4E, Basin Dakota
Footage 720' FSL, 1200' FWL

APPLICATION FOR NON-STANDARD LOCATION

County San Juan State New Mexico Section 4 Township 30N Range 8W



REMARKS:

- (1) Mesa Petroleum Company
- (2) Tenneco Oil Company
- (3) Koch Industries
- (4) Texaco & Koch Industries
- (5) El Paso Natural Gas Company

NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-128
Effective 1-1-65

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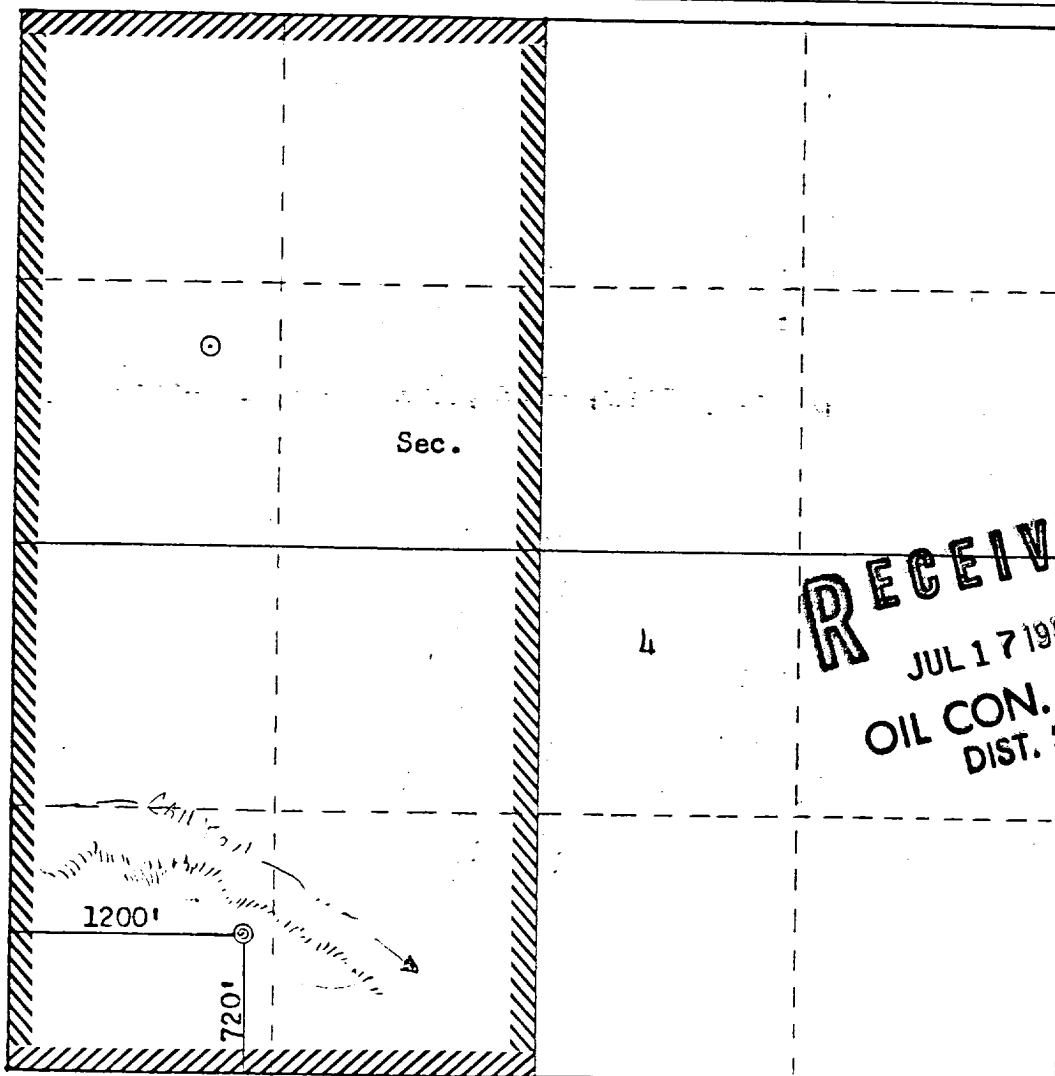
Operator EL PASO NATURAL GAS COMPANY			Lease HOWELL "A" (SF 078580)		Well No. 4E
Unit Letter M	Section 4	Township 30N	Range 8W	County San Juan	
Actual Footage Location of Well: 720 feet from the South line and 1200 feet from the West line					
Ground Level Elev: 6223	Producing Formation Dakota		Pool Basin	Dedicated Acreage: 320.50 Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hachure 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 interests 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 interests, has been approved by the Commission.



CERTIFICATION

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

Name
Drilling Clerk
Position
El Paso Natural Gas
Company

Date

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.

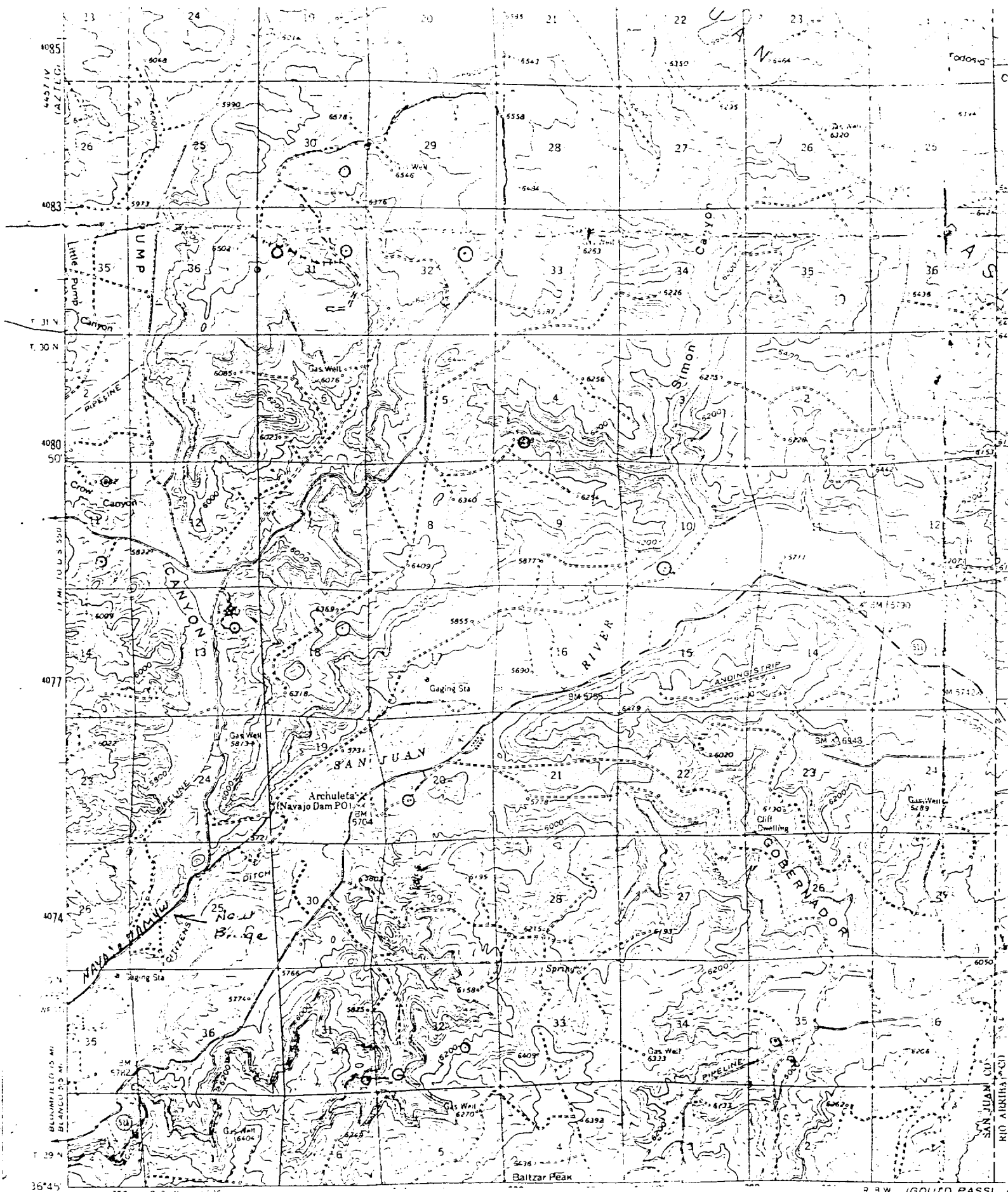
Date Surveyed

July 2, 1985

Registered Professional Engineer and Land Surveyor

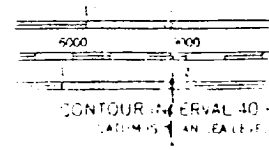
Fred B. Kerr Jr.

Certificate No.



Vicinity Map for
 EL PASO NATURAL GAS COMPANY #4E HOWELL "A"
 720' FSL 1200' FWL Sec. 4-T30N-R8W
 SAN JUAN COUNTY, NEW MEXICO

R. 8 W (GOURD PASS)
 4-3711
 SCALE 1:62500



Maped, edited, and published
 Control by USGS and USC&G
 East half completed in 1949
 dated 1954 West half topographic
 methods used for 1954-1955
 Field checked 1955
 Polyconic projection
 10' 560 feet

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE*
(Other instructions on re-
verse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS OF OPERATIONS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>		5. LEASE DESIGNATION AND SERIAL NO. SF 078580
2. NAME OF OPERATOR El Paso Natural Gas Company		6. IF INDIAN, ALLOTTEE OR TRIBE NAME
3. ADDRESS OF OPERATOR Post Office Box 4289, Farmington, NM 87499		7. UNIT AGREEMENT NAME
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface 720'S, 1200'W		8. FARM OR LEASE NAME Howell A
14. PERMIT NO.		9. WELL NO. 4E
15. ELEVATIONS (Show whether DF, RT, GR, etc.) 6223'GL		10. FIELD AND POOL, OR WILDCAT Basin Dakota
		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec. 4, T-34-N, R-8-W N.M.P.M.
		12. COUNTY OR PARISH San Juan
		13. STATE NM

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>
(Other) <input type="checkbox"/>	

SUBSEQUENT REPORT OF:

WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
(Other) <input type="checkbox"/> Spud Well	

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

8-30-85 Spudded well at 4:30 p. m. 8-30-85. Drilled to 355'. Ran 8 jts. 9 5/8", 32.3#, H-40 surface casing set at 349'. Cemented with 220 sks. Class "B" with 1/4#/sk Flocele and 3% calcium chloride (260 cu.ft.). Circulated to surface. WOC 12 hours. Tested 600#/30 minutes, held ok.

RECEIVED
SEP 06 1985
OIL CON. DIV.
DIST. 3

18. I hereby certify that the foregoing is true and correct

SIGNED [Signature]

TITLE Drilling Clerk

DATE 9-4-85

(This space for Federal or State office use)

APPROVED BY _____
CONDITIONS OF APPROVAL, IF ANY:

TITLE _____

ACCEPTED FOR RECORD
DATE _____

*See Instructions on Reverse Side

NMOCO

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE*
(Other instructions on re-
verse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different level.
Use "APPLICATION FOR PERMIT—" for such proposals.)

RECEIVED

SEP 12 1985

1. OIL WELL ☐ GAS WELL ☐ ☒ OTHER
2. NAME OF OPERATOR El Paso Natural Gas Company
3. ADDRESS OF OPERATOR Post Office Box 4289, Farmington, NM 87499
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*
See also space 17 below.)
At surface 720'S, 1200'W

14. PERMIT NO. 15. ELEVATIONS (Show whether DF, RT, GR, etc.)
6223'GL

5. LEASE DESIGNATION AND SERIAL NO. SF 078580
6. IF INDIAN, ALLOTTEE OR TRIBE NAME
7. UNIT AGREEMENT NAME
8. FARM OR LEASE NAME Howell A
9. WELL NO. 4E
10. FIELD AND POOL, OR WILDCAT Blanco Mesa Verde
11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec. 4, T-30-N, R-8-W N.M.P.M.
12. COUNTY OR PARISH San Juan
13. STATE NM

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF ☐
PULL OR ALTER CASING ☐
FRACTURE TREAT ☐
SHOOT OR ACIDIZE ☐
REPAIR WELL ☐
(Other) ☐
MULTIPLE COMPLETE ☐
ABANDON* ☐
CHANGE PLANS ☐

SUBSEQUENT REPORT OF:

WATER SHUT-OFF ☐
FRACTURE TREATMENT ☐
SHOOTING OR ACIDIZING ☐
(Other) Running Casing ☐
REPAIRING WELL ☐
ALTERING CASING ☐
ABANDONMENT* ☐

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

9-5-85 TD 3400'. Ran 84 jts. 7", 20.0#, K-55 intermediate casing, 3385' set @ 3400'. Cemented with 185 sks. Class "B" 65/35 Poz, with 6% gel, 2% calcium chloride and 1/2 cu.ft./sack perlite (357 cu.ft.) followed by 100 sks. Class "B" with 2% calcium chloride (118 cu.ft.). WOC 12 hours. Held 1200#/30 min. Top of cement at 1150' by T.S.

9-10-85 TD 7702'. Ran 190 jts. 4 1/2", 10.5# & 11.6#, N-80 & J-55 production casing, 7678' set @ 7690'. Float collar set @ 7681'. Cemented with 250 sks. Class "B" 8% gel and 1/4 cu ft fine gilsonite (543 cu ft) and 100 sks. Class "B", 1/4 # fine tuf-plug/sk, 4% D-14 (118 cu.ft.) WOC 18 hours. Top of cement @ 3100'.

RECEIVED

SEP 18 1985

OIL CON. DIV.
DIST. 3

18. I hereby certify that the foregoing is true and correct

SIGNED

TITLE Drilling Clerk

DATE

9-11-85

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

ACCEPTED FOR RECORD

SEP 19 1985

*See Instructions on Reverse Side

NMOCC

FARMINGTON RESOURCE AREA
RY

DEVIATION REPORT

Name of Company El Paso Natural Gas Company		Address Box 4289, Farmington, NM 87499			
Lease Howell A	Well No. #4E	Unit Letter M	Section 4	Township 30N	Range 8W
Pool Basin Dakota			County San Juan		

Depth (Ft.)	Deviation (Degrees)
355	1/4
843	1/2
1358	1/2
2391	3/4
3944	1
4447	1
4921	3/4
5926	1
6403	3/4

RECEIVED
 OCT 18 1985
 OIL CON. DIV
 DIST. 3

I, the undersigned, certify that I, acting in my capacity as Petroleum Engineer of El Paso Natural Gas Company, am authorized by said Company to make this report, and that this report was prepared by me or under my supervision and directions and that the facts stated herein are true to the best of my knowledge and belief.

Donald C. Weather

Subscribed and sworn to before me this 2nd day of October, 1985 .

Ann Stephens
 Notary Public in and for San Juan County, New Mexico
 My Commission expires August ~~17~~ 31, 1988.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN DUPLICATE*

(See other In-
structions on
reverse side)

Form approved.
Budget Bureau No. 1004-0137
Expires August 31, 1985

WELL COMPLETION OR RECOMPLETION REPORT AND LOG *

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☒ DRY ☐ Other _____

b. TYPE OF COMPLETION:

NEW WELL ☒ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RESVR ☐

2. NAME OF OPERATOR

El Paso Natural Gas Company

3. ADDRESS OF OPERATOR

P. O. Box 4289, Farmington, NM 87499

4. LOCATION OF WELL (Report location clearly and in accordance with BLM Form 3160-4)

At surface

720'S, 1200'W

At top prod. interval reported below

At total depth

14. PERMIT NO.

DATE ISSUED

15. DATE SPUDDED

8-30-85

16. DATE T.D. REACHED

9-10-85

17. DATE COMPL. (Ready to prod.)

10-16-85

18. ELEVATIONS (DP, RNB, RT, CR, ETC.)*

6223' GL

19. ELEV. CASINGHEAD

6223'

20. TOTAL DEPTH, MD & TVD

7702'

21. PLUG BACK T.D., MD & TVD

7681'

22. IF MULTIPLE COMPL., HOW MANY*

One

23. INTERVALS DRILLED BY

ROTARY TOOLS

Rotary

CABLE TOOLS

No

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*

7436-7646' (Basin Dakota)

25. WAS DIRECTIONAL SURVEY MADE

No

26. TYPE ELECTRIC AND OTHER LOGS RUN

Comp. Density Dual Spaced Neutron Log; Temp Survey
Comp. Density Sidewall Neutron Log; Comp. Analyzed Log Systems; Ind. Log

27. WAS WELL CORED

No

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
9 5/8"	32.3#	349'	12 1/4"	260 cu ft	
7"	20.0#	3400'	8 3/4"	475 cu ft	
4 1/2"	10.5&11.6#	7690'	6 1/4"	661 cu ft	

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
					1 1/2"	7624'	

31. PERFORATION RECORD (Interval, size and number)

Press tested to 4000 psi-ok. Perf'd 7436, 7439, 7442, 7445, 7448, 7451, 7503, 7506, 7509, 7512, 7528, 7531, 7553, 7556, 7559, 7565, 7568, 7571, 7574, 7577, 7604, 7607, 7621, 7624, 7627, 7630, 7633, 7636, 7643, 7646, w/1 SPZ

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
7436-7646'	176,000# 20/40 sand & 136,024 ga. wa

PRODUCTION

DATE FIRST PRODUCTION		PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)				WELL STATUS (Producing or shut-in)	
10-8-85		Flowing - Capable of Comm HC to be tested when connected.				Shut in	
DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
10-16-85	SI 7 Days	0	→	0	0	0	0
FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)	
SI 1177	SI 1177	→	No Flow	No Flow	No Flow	0	

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)

Shut in to be Sold

35. LIST OF ATTACHMENTS

Temp Surveys

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED

Nancy Lawrence

TITLE

Drilling Clerk

DATE

10-17-85

*(See Instructions and Spaces for Additional Data on Reverse Side)

37. SUMMARY OF POROUS ZONES: (Show all important zones of porosity and contents thereof, cored intervals; and all drill-stem, tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries);

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	NAME	TOP	
					MEAS. DEPTH	TRUE VERT. DEPTH
Ojo Alamo	1829'	2009'	ss. white cr-grn s.	Ojo Alamo Kirtland Fruitland Pic. Cliffs Chacra Mesa Verde Pt. Lookout Mancos Gallup Greenhorn Graneros Dakota	1829'	
Kirtland	2009'	2678'	Gry sh interbedded w/tight gry fine-grn ss.		2009'	
Fruitland	2678'	3052'	Gry carb sh, scattered coals, coals and gry, tight, fine-grn ss.		2678'	
Pictured Cliffs	3052'	3936'	Gry, fine-grn tight, varicolored soft ss.		3052'	
Chacra	3936'	4600'	Gry fn grn silty, glauconitic sd stone w/drk gry shale		3936'	
Mesa Verde	4600'	4950'	Gry, fine-grn, dense sil ss., carb sh & coal		4600'	
Menefee	4950'	5276'	Gry, fine-grn s, carb sh & coal		4950'	
Point Lookout	5276'	5776'	Gry, very fine sil ss w/frequent sh breaks		5276'	
Mancos	5776'	6449'	Gry carb sh.		5776'	
Gallup	6449'	7308'	Lt gry to brn calc carb micac glauco very fine gry ss w/irreg. interbed sh		6449'	
Greenhorn	7308'	7358'	Highly calc gry sh w/thin lmst.	Greenhorn Graneros Dakota	7308'	
Graneros	7358'	7498'	Dk gry shale, fossil & carb w/pyrite incl.		7358'	
Dakota	7498'	7690'	Lt to dk gry foss carb sl calc sl silty ss w/pyrite incl thin sh bands clay & shale breaks		7498'	

38.

GEOLOGIC MARKERS

NEW MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELLS

Form C-122
Revised 9-1-65

RECEIVED
OCT 18 1985
OIL CON. DIV.
DIST. 3

Type Test <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special		Test Date 10-16-85	
Company El Paso Natural Gas		Connection	
Pool Basin		Formation Dakota	
Completion Date 10-16-85		Total Depth 7702	Plug Back TD 7681
		Elevation 6225	Form or Lease Name Howell A
Csq. Size 4.500	wt. 10.5	d 4.052	Set At 7690
Perforations: From 7436 To 7646		Well No. #4E	
Teg. Size 1.900	wt. 2.9	d 1.610	Set At 7624
Perforations: From To		Unit Sec. Twp. Rge. M 04 30 08	
Type Well - Single - Brazenhead - G.G. or G.O. Multiple Single		Packer Set At None	County San Juan
Producing Thru Tbg.	Reservoir Temp. °F a	Mean Annual Temp. °F	Baro. Press. - P _a 12
State New Mexico			
L	H	Gg	% CO ₂
		% N ₂	% H ₂ S
Prover		Meter Run	
Taps			

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h _w	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	
1.							1177		1177	
2.										
3.										
4.										
5.										

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor Fg	Super Compress. Factor, Fpv	Rate of Flow Q, Mcfd
1.							
2.							
3.							
4.							
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.
1.					A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.
2.					Specific Gravity Separator Gas _____ X X X X X X X X
3.					Specific Gravity Flowing Fluid _____ X X X X X
4.					Critical Pressure _____ P.S.I.A. _____ P.S.I.A.
5.					Critical Temperature _____ R _____ R

NO.	P _r	P _w	P _w ²	P _c ² - P _w ²
1.				
2.				
3.				
4.				
5.				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} =$ _____

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n =$ _____

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n =$ _____

Absolute Open Flow _____ Mcfd @ 15.025	Angle of Slope θ _____	Slope, n _____
Remarks: _____		

Approved by Commission: _____	Conducted By: Bob Easterling	Calculated By: Ed Mabe	Checked By: kld
-------------------------------	------------------------------	------------------------	-----------------

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

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OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

Form C-104
Revised 10-01-78
Format 08-01-83
Page 1

REQUEST FOR ALLOWABLE
AND
AUTHORIZATION TO TRANSPORT OIL AND NATURAL GAS

I.

Operator
El Paso Natural Gas Company

Address
P. O. Box 4289, Farmington, NM 87499

Reason(s) for filing (Check proper box)

<input checked="" type="checkbox"/> New Well	Change in Transporter of:	
<input type="checkbox"/> Recompletion	<input type="checkbox"/> Oil	<input type="checkbox"/> Dry Gas
<input type="checkbox"/> Change in Ownership	<input type="checkbox"/> Casinghead Gas	<input type="checkbox"/> Condensate

Other (Please explain):

RECEIVED
OCT 18 1985
OIL CON. DIV.
DIST. 3

If change of ownership give name
and address of previous owner:

II. DESCRIPTION OF WELL AND LEASE

Lease Name Howell A	Well No. 4E	Pool Name, including Formation Basin Dakota	Kind of Lease State (Federal) or Fee	Lease No. SF 078580
Location				
Unit Letter <u>M</u> : <u>720</u> Feet From The <u>South</u> Line and <u>1200</u> Feet From The <u>West</u>				
Line of Section <u>4</u> Township <u>30N</u> Range <u>8W</u> , NMPM. <u>San Juan</u> Coun				

III. DESIGNATION OF TRANSPORTER OF OIL AND NATURAL GAS

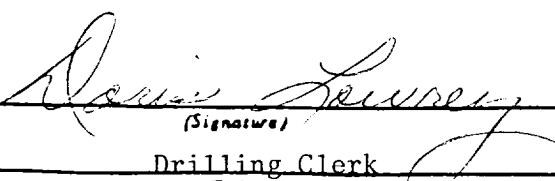
Name of Authorized Transporter of Oil <input type="checkbox"/> or Condensate <input checked="" type="checkbox"/>	Address (Give address to which approved copy of this form is to be sent)
El Paso Natural Gas Company	P. O. Box 4289, Farmington, NM 87499
Name of Authorized Transporter of Casinghead Gas <input type="checkbox"/> or Dry Gas <input checked="" type="checkbox"/>	Address (Give address to which approved copy of this form is to be sent)
El Paso Natural Gas Company	P. O. Box 4289, Farmington, NM 87499
If well produces oil or liquids, give location of tanks.	Unit Sec. Twp. Rge. Is gas actually connected? when
	M 4 30N 8W No

If this production is commingled with that from any other lease or pool, give commingling order number:

NOTE: Complete Parts IV and V on reverse side if necessary.

VI. CERTIFICATE OF COMPLIANCE

I hereby certify that the rules and regulations of the Oil Conservation Division have been complied with and that the information given is true and complete to the best of my knowledge and belief.


(Signature)
Drilling Clerk
(Title)
10-17-85
(Date)

OIL CONSERVATION DIVISION

APPROVED OCT 23 1985
BY Original Signed by FRANK T. CHAVEZ
TITLE SUPERVISOR DISTRICT # 3

This form is to be filed in compliance with RULE 1104.

If this is a request for allowable for a newly drilled or deeper well, this form must be accompanied by a tabulation of the device tests taken on the well in accordance with RULE 111.

All sections of this form must be filled out completely for all able on new and recompleted wells.

Fill out only Sections I, II, III, and VI for changes of own well name or number, or transporter, or other such change of condition.

Separate Forms C-104 must be filed for each pool in multi-completed wells.

IV. COMPLETION DATA

Designate Type of Completion - (X)		Oil well	Gas well	New well	Workover	Deepen	Plug Back	Same Res'v.	Ditt. Re
			X	X					
Date Spudded 8-30-85	Date Compl. Ready to Prod. 10-16-85	Total Depth 7702'			P.B.T.D. 7681'				
Elevations (DF, RKB, RT, GR, etc.) 6223' GL	Name of Producing Formation Basin Dakota	Top Oil/Gas Pay 7436'			Tubing Depth 7624'				
Perforations 7436, 7439, 7442, 7445, 7448, 7451, 7503, 7506, 7509, 7512, 7528, 7531, 7553, 7556, 7559, 7565, 7568, 7571, 7574, 7577, 7604, 7607, 7621,							Depth Casing Shoe 7689'		
* Continued Perf's Listed Below									
TUBING, CASING, AND CEMENTING RECORD									
HOLE SIZE		CASING & TUBING SIZE		DEPTH SET		SACKS CEMENT			
12 1/4"		9 5/8"		349'		260 cu ft			
8 3/4"		7"		3400'		475 cu ft			
6 1/4"		4 1/2"		7690'		661 cu ft			
		1 1/2"		7624'					

V. TEST DATA AND REQUEST FOR ALLOWABLE (Tests must be after recovery of total volume of load oil and must be equal to or exceed top allowable for this depth or be for full 24 hours)

Date First New Oil Run To Tanks	Date of Test	Producing Method (Flow, pump, gas lift, etc.)	
Length of Test	Tubing Pressure	Casing Pressure	Choke Size
Actual Prod. During Test	Oil - Bbls.	Water - Bbls.	Gas - MCF

GAS WELL

Actual Prod. Test - MCF/D	Length of Test SI 7 Days	Bbls. Condensate/MCF	Gravity of Condensate
Testing method (plug, back pr.)	Tubing Pressure (Shut-In) 1177	Casing Pressure (Shut-In) 1177	Choke Size

* Continued Perf's:

7624, 7627, 7630, 7633, 7636, 7643, 7646 w/1 SPZ.

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OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

Form C-104
Revised 10-01-78
Formal 08-01-83
Page 1

REQUEST FOR ALLOWABLE
AND
AUTHORIZATION TO TRANSPORT OIL AND NATURAL GAS

Operator El Paso Natural Gas Company		
Address P. O. Box 4289, Farmington, NM 87499		
Reason(s) for filing (Check proper box)		Other (Please explain)
<input type="checkbox"/> New Well	<input type="checkbox"/> Change in Transporter of:	
<input type="checkbox"/> Recompletion	<input type="checkbox"/> Oil	
<input type="checkbox"/> Change in Ownership	<input type="checkbox"/> Gas	
	<input checked="" type="checkbox"/> Condensate	

If change of ownership give name
and address of previous owner: _____

II. DESCRIPTION OF WELL AND LEASE

Lease Name Howell A	Well No. 4E	Pool Name, including Formation Basin Dakota	Kind of Lease State, (Federal) or Fee	Lease No. SF 078580
Location				
Unit Letter M	720	Feet From The South	Line and 1200	Feet From The West
Line of Section 4	Township 30N	Range 8W	NMPL, San Juan County	

III. DESIGNATION OF TRANSPORTER OF OIL AND NATURAL GAS

Name of Authorized Transporter of Oil <input type="checkbox"/> or Condensate <input checked="" type="checkbox"/>	Address (Give address to which approved copy of this form is to be sent)
Meridian Oil, Inc.	P. O. Box 1599, Aztec, New Mexico 87410
Name of Authorized Transporter of Gas <input type="checkbox"/> or Dry Gas <input checked="" type="checkbox"/>	Address (Give address to which approved copy of this form is to be sent)
El Paso Natural Gas Company	P. O. Box 4289, Farmington, NM 87499
If well produces oil or liquids, give location of tanks.	Unit Sec. Twp. Rng. M 4 30N 8W
	Is gas actually connected? When

If this production is commingled with that from any other lease or pool, give commingling order number: _____

NOTE: Complete Parts IV and V on reverse side if necessary.

VI. CERTIFICATE OF COMPLIANCE

I hereby certify that the rules and regulations of the Oil Conservation Division have been complied with and that the information given is true and complete to the best of my knowledge and belief.

Peggy D. Cook
(Signature)
Drilling Clerk
(Title)
5-1-86

RECEIVED
JUN 11 1986

OIL CON. DIV.
DIST 2

OIL CONSERVATION DIVISION

JUN 11 1986
APPROVED _____
BY *Frank J. Davis*
TITLE **SUPERVISOR DISTRICT #3**

This form is to be filed in compliance with RULE 1104.

If this is a request for allowable for a newly drilled or deepened well, this form must be accompanied by a tabulation of the deviation tests taken on the well in accordance with RULE 111.

All sections of this form must be filled out completely for allowable on new and recompleted wells.

Fill out only Sections I, II, III, and VI for changes of owner, well name or number, or transporter or other such change of condition.

Separate Forms C-104 must be filed for each pool in multiply completed wells.

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

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PRODUCTION OFFICE		

OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

Form C-104
Revised 10-01-78
Format 06-01-83
Page 1

REQUEST FOR ALLOWABLE
AND
AUTHORIZATION TO TRANSPORT OIL AND NATURAL GAS

I. **Operator**
Meridian Oil Inc.

Address
P. O. Box 4289, Farmington, NM 87499

Reason(s) for filing (Check proper box)

<input type="checkbox"/> New Well	<input type="checkbox"/> Change in Transporter of:	Other (Please explain) Meridian Oil Inc. is Operator for El Paso Production Company
<input type="checkbox"/> Recompletion	<input type="checkbox"/> Oil	
<input checked="" type="checkbox"/> Change in Ownership/Operatorship	<input type="checkbox"/> Casinghead Gas <input type="checkbox"/> Dry Gas <input type="checkbox"/> Condensate	

If change of ownership give name and address of previous owner: El Paso Natural Gas Company, P. O. Box 4289, Farmington, NM 87499

II. DESCRIPTION OF WELL AND LEASE

Lease Name Howell A	Well No. 4E	Pool Name, including Formation Basin Dakota	Kind of Lease State, Federal or Fee	Lease No. SF 078580
Location				
Unit Letter <u>M</u> : <u>720</u> Feet From The <u>South</u> Line and <u>1200</u> Feet From The <u>West</u>				
Line of Section <u>4</u> Township <u>30N</u> Range <u>8W</u> , NMPM, <u>San Juan</u> County				

III. DESIGNATION OF TRANSPORTER OF OIL AND NATURAL GAS

Name of Authorized Transporter of Oil <input type="checkbox"/> or Condensate <input checked="" type="checkbox"/>	Address (Give address to which approved copy of this form is to be sent)
Meridian Oil Inc.	P. O. Box 4289, Farmington, NM 87499
Name of Authorized Transporter of Casinghead Gas <input type="checkbox"/> or Dry Gas <input checked="" type="checkbox"/>	Address (Give address to which approved copy of this form is to be sent)
El Paso Natural Gas Company	P. O. Box 4289, Farmington, NM 87499
If well produces oil or liquids, give location of tanks.	Is gas actually connected? when
Unit <u>M</u> Sec. <u>4</u> Twp. <u>30N</u> Rge. <u>8W</u>	

If this production is commingled with that from any other lease or pool, give commingling order number:

NOTE: Complete Parts IV and V on reverse side if necessary.

VI. CERTIFICATE OF COMPLIANCE

I hereby certify that the rules and regulations of the Oil Conservation Division have been complied with and that the information given is true and complete to the best of my knowledge and belief.

Peggy L. Oak
(Signature)
Drilling Clerk
(Title)
11-1-86
(Date)

OIL CONSERVATION DIVISION

APPROVED _____, 19____
BY _____
TITLE _____

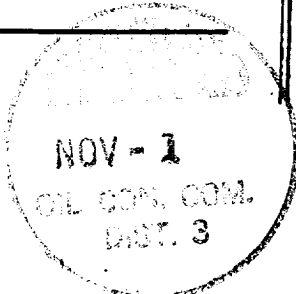
This form is to be filed in compliance with RULE 1104.

If this is a request for allowable for a newly drilled or deepened well, this form must be accompanied by a tabulation of the deviation tests taken on the well in accordance with RULE 111.

All sections of this form must be filled out completely for allowable on new and recompleted wells.

Fill out only Sections I, II, III, and VI for changes of owner, well name or number, or transporter, or other such change of condition.

Separate Forms C-104 must be filed for each pool in multiply completed wells.



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE
(Other instructions on re-
verse side)

Budget Bureau No. 1004-0135
Expires August 31, 1985

SF-078580

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	7. UNIT AGREEMENT NAME
2. NAME OF OPERATOR Meridian Oil Inc.	8. FARM OR LEASE NAME Howell A
3. ADDRESS OF OPERATOR Post Office Box 4289, Farmington, NM 87499	9. WELL NO. 4E
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface 720'S, 1200'W	10. FIELD AND POOL, OR WILDCAT Basin Dakota
11. SEC., T., R., M., OR BLK. AND SUBST. OR AREA Sec. 4, T-30-N, R-8 -W N.M.P.M.	12. COUNTY OR PARISH San Juan
13. STATE NM	

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SROOT OR ACIDIZING

REPAIR WELL

(Other)

PCCL OR ALTER CASING

MULTIPLE COMPLETION

ABANDON*

CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

(NOTE: Report results of multiple completion on Well Completion or Recombination Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Moved on location and rigged up.
Pulled tubing to replace bad tubing.
Attempted to circulate hole with water to clean out fill, could not maintain full circulation.
Tripped in hole with packer and isolated casing failure between 4809' and 5056'
Tripped in hole and set packer at 7619'.
Nippled down BOP and nipped up wellhead.
Returned to production.

RECEIVED
BLM MAIL ROOM

67 NOV -6 AM 11:29

FARMINGTON RESOURCE AREA
FARMINGTON, NEW MEXICO

Approval to produce in this manner is granted for 90 days, at which time you are required to submit your plans to permanently repair the casing or your plans to P/A

RECEIVED

18. I hereby certify that the foregoing is true and correct

SIGNED

Deane Doak

TITLE

Drilling Clerk

NOV 12 1987

DATE

APPROV-05-87

(This space for Federal or State office use)

OIL CON. DIV.

AS AMENDED

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

TITLE

DIST. 3

DATE

NOV 09 1987

John S. Keller
AREA MANAGER

*See Instructions on Reverse Side

NMOC

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE
(Other instructions on re-
verse side)

Form approved
Budget Bureau No. 1004-0115
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT" for such proposals.)

1. <input type="checkbox"/> OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER	RECEIVED FARMINGTON RESOURCE AREA FARMINGTON, NEW MEXICO 86 JAN 32 AM 11:17	5. LEASE ORIGINATOR AND SERIAL NO. SF 078580
2. NAME OF OPERATOR Meridian Oil Inc.	7. UNIT ASSIGNMENT NAME	8. OF TUBES, ALLOTED OR TUBE NAME
3. ADDRESS OF OPERATOR Post Office Box 4289, Farmington, NM 87499	9. FARM OR LEASE NAME Howell A	10. FIELD AND POOL, OR WILDCAT 4E
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below) At surface 720'S, 1200'W	11. SEC., T., R., E., OR R.L. AND SURVEY OR AREA Sec. 4, T-30-N, R-8 -W N.M.P.M.	12. COUNTY OR PARISH 13. STATE San Juan NM
14. PERMIT NO.	15. ELEVATIONS (Show whether of ft. or m.) 6223'GL	

Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDISE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON*

CHANGE PLANE

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDISING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.*

It is planned that the Dakota zone of this well will be abandoned after uphole potential in the Fruitland formation has been evaluated.

RECEIVED
FARMINGTON RESOURCE AREA
FARMINGTON, NEW MEXICO
86 JAN 32 AM 11:17

60 day extension granted to
repair casing leak or submit
P+H procedure.

THIS APPROVAL EXPIRES 4/9/88

18. I hereby certify that the foregoing is true and correct

SIGNED

[Signature]

TITLE

Drilling Clerk

DATE

01-28-88

(This space for Federal or State office use)

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

TITLE

DATE

APPROVED

FEB 03 1988

AREA MANAGER

*See Instructions on Reverse Side

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE*
(Other instructions on re-
verse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input checked="" type="checkbox"/>	5. LEASE DESIGNATION AND SERIAL NO. SF-078580
2. NAME OF OPERATOR Meridian Oil Inc.	6. IF INDIAN, ALLOTTEE OR TRIBE NAME
3. ADDRESS OF OPERATOR Post Office Box 4289, Farmington, NM 87499	7. UNIT AGREEMENT NAME
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface 720'S, 1200'W	8. FARM OR LEASE NAME Howell A
14. PERMIT NO.	9. WELL NO. 4E
15. ELEVATIONS (Show whether DF, RT, OR, etc.) 6223'GL	10. FIELD AND POOL, OR WILDCAT Basin Dakota
	11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec. 4, T-30-N, R- 8-W N.M.P.M.
	12. COUNTY OR PARISH San Juan
	13. STATE NM

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input checked="" type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) <input type="checkbox"/>	(Other) <input type="checkbox"/>

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

It is intended to repair the casing in this well in the following manner:

MOL&RU. NU BOP. Release Baker pkr., tooh w/1 1/2" tbg. Set bridge plug @ + 5500'. PU 2 3/8" x 4 1/2" fullbore packer. TIH w/2 3/8" workstring. Attempt to circulate wellbore. Isolate casing leaks. Set packer 5 bbls. (314') above top leak. Squeeze w/50 sx Class "B" neat cmt w/2% calcium chloride, displace 1 bbl. out tbg. Reverse out cmt. POOH @ 90' above plug. WOC. TIH w/ 3 7/8" workover bit, drill cmt. to BP. Circ. clean. PT to 1500#. Isolate leak, squeeze as necessary. POOH. TIH, blowing w/gas. Drill BP w/gas, tag fill & clean to PBTD (7681'). Clean up Dakota zone to allow production. Set 1 1/2" tbg. @ 7590'. Return well to production.

18. I hereby certify that the foregoing is true and correct

SIGNED

Sepp Dosh

TITLE Drilling Clerk(WS)

DATE

04-13-88

(This space for Federal or State office use)

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

TITLE

DATE

APPROVED

APR 16 1988

AREA MANAGER

*See Instructions on Reverse Side

NMOCC

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Sundry Notices and Reports on Wells

<p>1. Type of Well GAS</p> <hr/> <p>2. Name of Operator Meridian Oil Inc.</p> <hr/> <p>3. Address & Phone No. of Operator Box 4289, Farmington, NM 87499 (505) 326-9700</p> <hr/> <p>4. Location of Well, Footage, Sec, T, R, M. 720'S, 1200'W Sec. 4, T-30-N, R-8-W, NMPM</p>	<p>5. Lease Number SF-078580</p> <p>6. If Indian, All. or Tribe Name</p> <p>7. Unit Agreement Name</p> <p>8. Well Name & Number Howell A #4E</p> <p>9. API Well No.</p> <p>10. Field and Pool Basin Dakota</p> <p>11. County and State San Juan County, NM</p>
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12. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OTHER DATA

Type of Submission	Type of Action	
<input checked="" type="checkbox"/> Notice of Intent	<input checked="" type="checkbox"/> Abandonment	<input type="checkbox"/> Change of Plans
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Recompletion	<input type="checkbox"/> New Construction
<input type="checkbox"/> Final Abandonment	<input type="checkbox"/> Plugging Back	<input type="checkbox"/> Non-Routine Fracturing
	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> Water Shut Off
	<input type="checkbox"/> Altering Casing	<input type="checkbox"/> Conversion to Injection
	<input type="checkbox"/> Other	

13. Describe Proposed or Completed Operations

It is intended to plug & abandon this well per the attached plans and procedure.

RECEIVED

JUL 31 1991

OIL CON. DIV.)

DIST. 3

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

14. I hereby certify that the foregoing is true and correct.
Signed [Signature] (MP) Title Regulatory Affairs Date 7-16-91

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____
CONDITION OF APPROVAL, IF ANY:

APPROVED
JUL 23 1991
DATE
AREA MANAGER
FARMINGTON RESOURCE AREA

NMOOD

HOWELL A #4E DK
UNIT M SECTION 4 T30N R08W
P & A Procedure

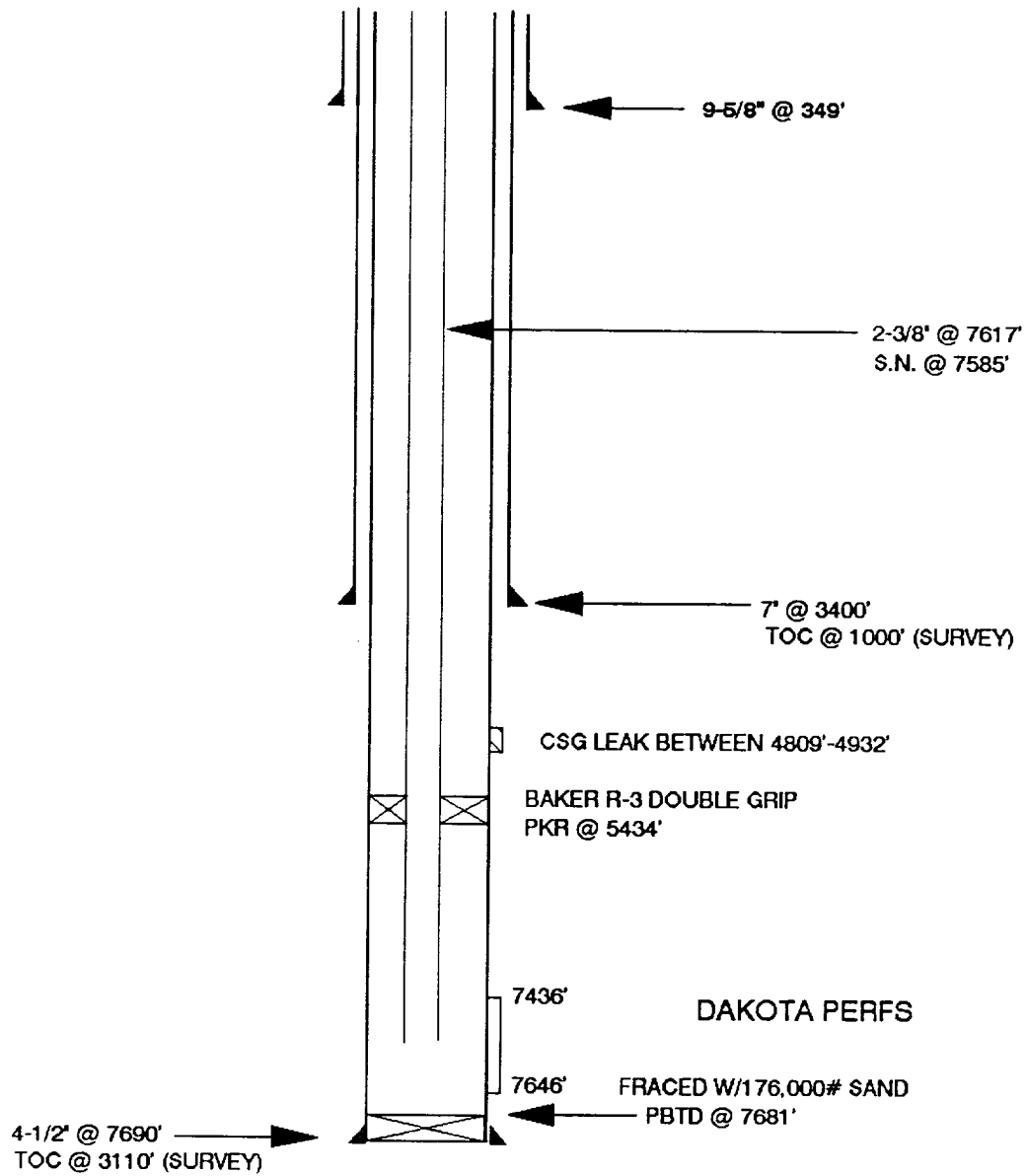
As per phone conversation with Steve Mason 7-15-91.

1. Install & test rig anchors. MI blow tank. MOL and RUSU. Comply to all NMOCD, BLM, & MOI, rules & regulations. NU 6" BOP and stripping head. Test operation of rams. Install 2-7/8" relief lines with 3000 psi gate valves on tubing head. Blow well down.
2. Drop standing valve to seat on S.N. @ 7585' & test tbg to 2000#. TOH w/2-3/8" tbg & pkr.
3. TIH w/4-1/2" cmt ret on 2-3/8" tbg in set @ 7300'. Establish rate w/water & squeeze Dakota perms w/55 sx cmt. This should cover the Dakota interval w/100% excess. Sting out of ret & w/pipe rams open circ 102 sx cmt. This will cover Graneros, Greenhorn, & Gallup to 6400' (50' above the Gallup) w/50% excess cmt.
4. Reverse out cmt & circ hole w/ mud: 15# sodium bentonite w/non-fermenting polymer, 9# gal weight, & 50 qs vis or greater. TOH.
5. Pull tbg up to 5800'. With pipe rams open, circ 142 sx cmt. This will cover from 5800' (50' below the MV) to 4550' (50' above the MV) w/50% excess cmt.
6. Pull tbg up to 3450'. With pipe rams open, circ 12 sx cmt. This will cover from 3450' (50' below 7" csg shoe) to 3350' (50' above 7" csg shoe) w/50% excess cmt. TOH.
7. Install BOP to allow for 4-1/2" rams. Shoot 4-1/2" casing off @ 3000'. Pull 4-1/2" casing & lay down. Rig down 4-1/2" ram & BOP.
8. TIH w/2-3/8" tbg to 3102' & w/pipe rams open circ 137 sx cmt. This should cover from 3102' (50' below the P.C.) to 2628' (50' above the Fruitland) w/50% excess cmt.
9. Pull tbg up to 2060'. With pipe rams open, circ 81 sx cmt. This should cover from 2060' (50' below the Kirtland) to 1780' (50' above the Ojo Alamo) w/50% excess cmt. TOH.
10. Shoot two sq holes @ 400' in 7" csg. With bradenhead valve open, circ cmt out bradenhead valve (about 167 sx).
11. Cut off wellhead below surface casing flange and install dry hole plate to Government specs.
12. Restore location to Government specs.

Approve: _____
R. F. Headrick

HOWELL A #4E DK

UNIT M SECTION 4 T30N R8W
SAN JUAN COUNTY, NEW MEXICO



Pertinent Data Sheet - HOWELL A #4E DK

Location: 720' FSL 1200' FWL, SEC. 4, T30N R08W, SAN JUAN COUNTY, N.M.

Field: Basin Dakota

Elevation: 6225' GL
14' KB

TD: 7702'
PBTD: 7681'

DP#: 54269A

Completed: 10-16-85

Initial Potential:

DK: SICP= 1177 psi No Flow

Casing Record:

<u>Hole Size</u>	<u>Csq. Size</u>	<u>Wt. & Grade</u>	<u>Depth Set</u>	<u>Cement</u>	<u>Top/Cmt.</u>
12-1/4"	9-5/8"	32.3# H-40	349'	260 cuft	circ. cmt
8-3/4"	7"	20# K-55	3400'	475 cuft	1000' surv.
6-1/4"	4-1/2"	10.5 J-55			
		11.6 N-80	7690'	661 cuft	3110' surv.

Tubing Record: 1-1/2" 4.7# J-55 7617' (254 jts)
R-3 Double grip pkr @ 5434' S.N. @ 7585'

Formation Tops:

Ojo Alamo	1829'	Mancos	5776'
Kirtland	2009'	Gallup	6449'
Fruitland	2678'	Greenhorn	7308'
Pictured Cliffs	3052'	Graneros	7358'
Lewis	3936'	Dakota	7498'
Cliffhouse	4600'		
Menefee	4950'		
Point Lookout	5276'		

Logging Record: CK-DSNL, Temp., CDL, IL, ALS

Stimulation:

Perfed Dk w/1/spf @ 7436', 39', 42', 45', 48', 51', 7503', 06', 09', 12', 28', 31', 53', 56', 59', 65', 68', 71', 74', 77', 7604', 07', 21', 24', 27', 30', 33', 36', 43', 46'. Total 30 holes. Fraced w/176,000# sand in slick water.

Workover History: 10-31-87 TOH w/1-1/2" tbg. Found holes in two tbg joints. Located csg leak between 4809'-4932'.

Production History: First delivered to EPNG in 11/85. DK cum = 49 MMCF. See attached production curves. Cathodic protection installed. Current production = 20 MCF/D.

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF LAND MANAGEMENT
FARMINGTON RESOURCE AREA
1235 LA PLATA HIGHWAY
FARMINGTON, NEW MEXICO 87401

Attachment to Notice of

Re: Permanent Abandonment

Intention to Abandon

Well: 4E Howell-A

CONDITIONS OF APPROVAL

1. Plugging operations authorized are subject to the attached "General Requirements for Permanent Abandonment of Wells on Federal Leases."
2. Mark Kelly with the Farmington Office is to be notified at least 24 hours before the plugging operations commence (505) 326-6201.
3. Blowout prevention equipment is required.
4. The following modifications to your plugging program are to be made (when applicable):

Office Hours: 7:45 a.m. to 4:30 p.m.

GENERAL REQUIREMENTS FOR
PERMANENT ABANDONMENT OF WELLS ON FEDERAL AND INDIAN LEASES
FARMINGTON RESOURCE AREA

1. Secure prior approval either on a Sundry Notice (Form 3160-5) or verbally from the Fluids Drilling & Production Section at this office before changing the approved plugging program.

2. Plugging equipment used shall have separate mixing and displacement pumps and a calibrated tank to assure proper displacement of plugs. The Operator is responsible for providing all measuring devices needed to assure proper measurement of materials being used.

3. A proper tank or pit will be used to contain all fluids pumped from the well during plugging operations. Unattended pits are to be fenced.

4. All cement plugs are to be placed through tubing (or drillpipe) and shall be a minimum of 100 feet in length with 50% excess inside casing or 100% excess when plug is set in open hole or squeezed into perforations. 15.6#/gal slurry weight is to be used when using class B neat cement or when CaCl_2 is used. Use the recommended slurry weight of other type cements when they are used (Class C, Pozzolan etc.).

5. Any cement plugs placed when well is not full of fluid, or when well may be taking fluid, (i.e. across perms-unless bridge plug or retainer is used, across bad csg., or fresh water formations) will be tagged (touched) after cement has set to verify proper location.

5a. Testing The first plug below the surface plug shall generally be tested by either tagging the plug with the working pipe string, or pressuring to a minimum pump (surface) pressure of 1000 psig, with no more than a 10 percent drop during a 15-minute period (cased hole only). If the integrity of any other plug is questioned, it must be tested in the same manner. Also, any cement plug which is the only isolating medium for a fresh water interval or a zone containing a valuable mineral deposit should be tested by tagging with the drill string.

6. Mud must be placed between plugs. Plugging mud is to be made up with a minimum of 15 lbs/bbl of sodium bentonite, and a nonfermenting polymer. Minimum consistency of plugging mud must be 9 lbs/gal and with a minimum viscosity of 50 sec/qt. Fresh water is to be utilized for mixing mud.

7. Following the placement of a cement plug, the withdrawal rate for at least the length of the cement plug shall not exceed 30 ft/min, in order to minimize the contamination of the plug.

8. Within 30 days after plugging work is completed, file a Sundry Notice (Subsequent Report of Abandonment, Form 3160-5), in quintuplicate with Area Manager, Bureau of Land Management, 1235 La Plata Highway, Farmington, NM 87401. The report should give in detail the manner in which the plugging work was carried out, the extent (by depths) of cement plugs placed, and the size and location (by depths) of casing left in the well. Show date well was plugged.

9. All permanently abandoned wells are to be marked with a regulation marker (4" pipe extending 4' above the ground line) containing the information as specified in 43 CFR 3162.6(d). Unless otherwise approved.

10. After plugging work is completed the surface is to be rehabilitated in accord with instructions from the Fluids Surface Management Section of the Farmington Resource Area Office.

All above are minimum requirements. The period of liability under the bond of record will not be terminated until the lease is inspected and surface work approved.

Please advise this office when the well location is ready for final inspection.

Failure to comply with the above conditions of approval may result in an assessment for noncompliance and/or a Shut-in Order being issued pursuant to 43 CFR 3163.1.

You are further advised that any instructions, orders or decisions issued by the Bureau of Land Management are subject to administrative review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4 and 43 CFR 4.700.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Sundry Notices and Reports on Wells

5. Lease Number

SF-078580

6. If Indian, All or
Tribe Name

7. Unit Agreement Name

8. Well Name & Number

Howell A #4E

9. API Well No.

10. Field and Pool

Basin Dakota

11. County and State

San Juan County, NM

1. Type of Well
GAS2. Name of Operator
Meridian Oil Inc.3. Address & Phone No. of Operator
Box 4289, Farmington, NM 87499 (505) 326-97004. Location of Well, Footage, Sec, T, R, M.
720'S, 1200'W Sec. 4, T-30-N, R-8-W, NMPM

12. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OTHER DATA

Type of Submission

Type of Action

☐ Notice of Intent☒ Abandonment☐ Change of Plans☒ Subsequent Report☐ Recompletion☐ New Construction☐ Final Abandonment☐ Plugging Back☐ Non-Routine Fracturing☐ Casing Repair☐ Water Shut Off☐ Altering Casing☐ Conversion to Injection☐ Other

13. Describe Proposed or Completed Operations

09-05-91 MOL&RU. ND WH. NU BOP. TOO H w/1 1/2" tbgr. SDFN

09-06-91 Set cmt ret @ 7321'. PT tbgr 1500#. Cmt w/170 sx Class "B" neat cmt, displace 60 sx below retainer, spot 110 sx on top of ret. Plug set from 7321-5872'. Pull up to 5804'. Spot 142 sx Class "B" neat cmt 5804-3932'. Pull up to 3443'. Spot 12 sx Class "B" neat cmt 3443-3285'. Pull up to 3100'. Circ hole clean. SD for weekend.

09-09-91 Load annulus w/wtr. ND BOP. ND WH. TIH to 3000', cut off csg. Ran spear, PU on csg, could not pull. TIH to 2840', cut off 4 1/2" csg. NU BOP. TOO H w/70 jts 4 1/2" csg. SI. SDFN.

09-10-91 TIH to 3100'. Spot 140 sx Class "B" neat cmt plug 3100-2373'. Pull up to 2063'. Spot 110 sx cmt plug 2063-1497'. TOO H. Perf 2 holes @ 400'. Cmt w/170 sx Class "B" neat cmt, circ out bradenhead. SI. Cut off WH. Install dry hole marker. Release rig.

Approved as to plugging of the well by
Bureau under head is not required until
surface restoration is completed.

14. I hereby certify that the foregoing is true and correct

Signed [Signature] Title Regulatory Affairs Date 9-13-91

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITION OF APPROVAL, IF ANY:

NMOC