Form 3160-3
(August 1999)

FORM APPROVED
OMB No. 1004-0136
Expires November 30, 2000

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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2003 APR 28 AM 11:20
070 Farmington, NM

APPLICATION FOR PERMIT TO DRILL OR REENTER

FEB 2004

1a. Type of Work: ☑ DRILL ☐ REENTER	5. Lease Serial No. **NMNM-007787**
1b. Type of Well: ☐ Oil Well ☑ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone	6. If Indian, Allottee or Tribe Name **N/A**
2. Name of Operator **CALPINE NATURAL GAS L. P.**	7. If Unit or CA Agreement, Name and No. **N/A**
3a. Address **7415 EAST MAIN STREET FARMINGTON, NM 87401**	8. Lease Name and Well No. ~~**FRODO #24**~~ Gallegos Fed 26-13-24
3b. Phone No. *(include area code)* **(505) 327-4892**	9. API Well No. **30-045- 31659**
4. Location of Well *(Report location clearly and in accordance with any State requirements.*)* At surface **1450' FSL & 2380' FEL** At proposed prod. zone **SAME**	10. Field and Pool, or Exploratory **BASIN FRUITLAND COAL**
	11. Sec., T., R., M., or Blk. and Survey or Area **J 24-26n-13w NMPM**
14. Distance in miles and direction from nearest town or post office* **18 AIR MILES SOUTH OF FARMINGTON**	12. County or Parish **SAN JUAN** / 13. State **NM**

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) **1,190'**	16. No. of Acres in lease **960**	17. Spacing Unit dedicated to this well **SOUTH HALF (320 ACRES)**
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. **2,267'**	19. Proposed Depth **1,460'**	20. BLM/BIA Bond No. on file **BLM NMB000019 (STATE WIDE)**
21. Elevations (Show whether DF, KDB, RT, GL, etc.) **6,070' GL**	22. Approximate date work will start* **UPON APPROVAL**	23. Estimated duration **2 WEEKS**

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, shall be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be required by the authorized officer.

Comments
DRILLING OPERATIONS AUTHORIZED ARE SUBJECT TO COMPLIANCE WITH ATTACHED "GENERAL REQUIREMENTS".

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

cc:BIA, BLM (& OCD), Cartaya, NAPI, Thompson, Tribe

25. Signature B. Wood	Name *(Printed/Typed)* **BRIAN WOOD**	Date **4-23-03**
Title **CONSULTANT**	**PHONE: 505 466-8120**	**FAX: 505 466-9682**
Approved by *(Signature)* **/s/ David J. Mankiewicz**	Name *(Printed/Typed)*	Date **FEB - 3 2004**
Title	Office	

Application approval does not warrant or certify the the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

NMOCD

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-102
Revised February 21, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-045-31654	71629	BASIN FRUITLAND COAL

[4] Property Code	[5] Property Name	[6] Well Number
29397	Gallegos Federal ~~FRODO~~ 26-13-24	24

[7] OGRID No.	[8] Operator Name	[9] Elevation
194807	CALPINE NATURAL GAS COMPANY	6070'

[10] Surface Location

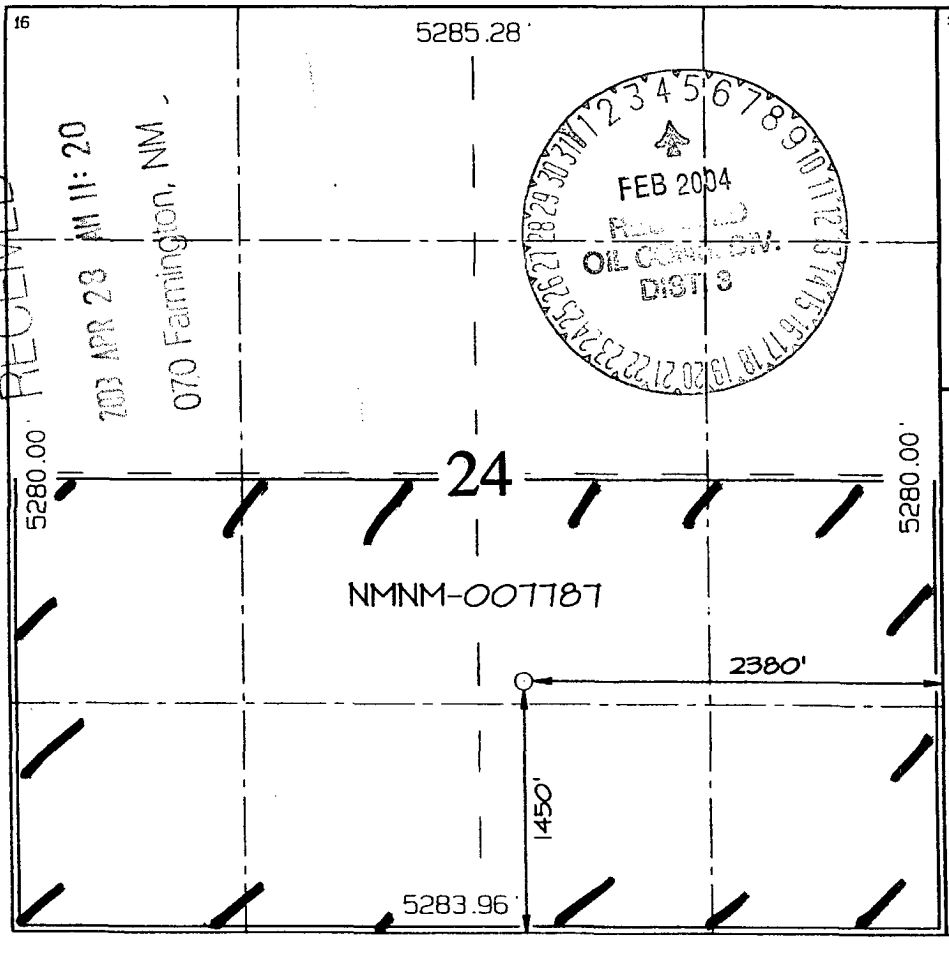
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	24	26N	13W		1450	SOUTH	2380	EAST	SAN JUAN

[11] Bottom Hole Location If Different From Surface

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

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
320.0 Acres - (S/2)			

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



[17] OPERATOR CERTIFICATION

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

Signature

BRIAN WOOD
Printed Name

CONSULTANT
Title

APR. 23, 2003
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 me or under my supervision, and that the same is true and correct to the best of my belief.

Survey Date: FEBRUARY 26, 2003

Signature and Seal of Professional Surveyor

JASON C. EDWARDS
NEW MEXICO
15269
REGISTERED PROFESSIONAL SURVEYOR

JASON C. EDWARDS
Certificate Number 15269

Calpine Natural Gas L. P.
Frodo #24
1450' FSL & 2380' FEL
Sec. 12, T. 26 N., R. 13 W.
San Juan County, New Mexico

Drilling Program

1. ESTIMATED FORMATION TOPS

Formation	GL Depth	KB Depth	Elevation
Nacimiento	000'	5'	+6,070'
Ojo Alamo Sandstone	50'	55'	+6,020'
Kirtland Shale	100'	105'	+5,970'
Top Fruitland	825'	301'	+5,245'
Lower Fruitland Coal	1,106'	1,111'	+4,964'
Pictured Cliffs Sandstone	1,135'	1,140'	+4,935'
Total Depth (TD)*	1,460'	1,465'	+4,610'

* all elevations reflect the ungraded ground level of 6,070'

2. NOTABLE ZONES

Gas Zones	Water Zones	Coal Zones
Fruitland	Ojo Alamo	Fruitland
Pictured Cliffs	Fruitland	

Water zones will be protected with casing, cement, and weighted mud. Fresh water encountered during drilling will be recorded by depth, cased, and cemented. Oil and gas shows will be tested for commercial potential based on the well site geologist's recommendations.

3. PRESSURE CONTROL

The drilling contract has not yet been awarded, thus the exact BOP model to be used is not yet known. (A typical 2,000 psi model is on PAGE 3.) Double ram or annular 2,000 psi system with a rotating head will be used. All ram

preventers and related equipment will be hydraulically tested at nipple up and after any use under pressure to 1,000 psi.

Blind rams will be hydraulically activated and checked for operational readiness each time pipe is pulled out of the hole. All checks of the BOP stack and equipment will be noted on the daily drilling report. BOP equipment will include a kelly cock, floor safety valve, and choke manifold all rated to 2,000 psi. Maximum expected pressure is ≈585 psi.

4. CASING & CEMENT

Hole Size	O. D.	Weight (lb/ft)	Grade	Age	GL Setting Depth
8-3/4"	7"	20	K-55	New	120'
6-1/4"	4-1/2"	10.5	K-55	New	1,460'

Surface casing will be cemented to surface with ≈59 cubic feet (≈50 sacks) Class B + 2% $CaCl_2$. Volume is based on 100% excess, yield of 1.18 cubic feet per sack, and slurry weight of 15.6 pounds per gallon. W. O. C. = 12 hours. Pressure test surface casing to 600 psi for 30 minutes.

Production casing hole will be cleaned of rock chips by circulating ≥150% of hole volume with mud. Thirty barrels of fresh water will next be circulated. Lead with ≈247 cubic feet (≈120 sacks) of Class B with 2% metasilicate (yield = 2.06 cubic feet per sack, slurry weight = 12.5 pounds per gallon). Tail with ≈59 cubic feet (≈50 sacks) of Class B with 2% $CaCl_2$ (yield = 1.18 cubic feet per sack, slurry weight = 15.6 pounds per gallon). Total cement volume = 306 cubic feet @ 100% excess and circulating to surface.

Production casing will have 4-1/2" cement guide shoe and self fill float collar. Float will be placed one joint above the shoe. Five centralizers will be spaced on every other joint starting above the shoe. Five turbolizers will be placed on every other joint starting from the top of the well.