

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

APPLICATION FOR PERMIT TO DRILL OR REENTER

070 Farmington, NM

1a. Type of Work: ☒ DRILL☐ REENTER1b. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other☒ Single Zone ☐ Multiple Zone

2. Name of Operator

CALPINE NATURAL GAS L. P.

3a. Address

7415 EAST MAIN STREET
FARMINGTON, NM 87401

3b. Phone No. (include area code)

(505) 327-4892

4. Location of Well (Report location clearly and in accordance with any State requirements. *)

At surface 2050' FSL & 900' FEL

At proposed prod. zone SAME

14. Distance in miles and direction from nearest town or post office*

18 AIR MILES SOUTH OF FARMINGTON

15. Distance from proposed*
location to nearest
property or lease line, ft.
(Also to nearest drig. unit line, if any)

3,230'

16. No. of Acres in lease

2,373.98

17. Spacing Unit dedicated to this well

EAST HALF (320.08 ACRES)

18. Distance from proposed location*
to nearest well, drilling, completed,
applied for, on this lease, ft.

2,523'

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.)

5,958' 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:

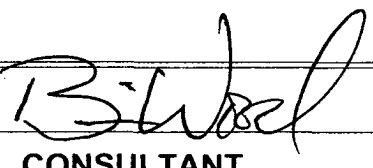
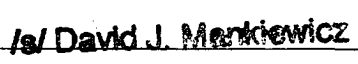
1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).

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		Name (Printed/Typed)	BRIAN WOOD	Date	5-21-03
Title	CONSULTANT	PHONE: 505 466-8120	FAX: 505 466-9682		
Approved by (Signature)		Name (Printed/Typed)		Date	
Title	Is/ David J. Markiewicz	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 00, 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

*API Number 30-045-31712	*Pool Code 71629	*Pool Name BASIN FRUITLAND COAL
*Property Code 29393	*Property Name Gallegos Federal	*Well Number 26-13-1
*OGRID No. 194807	*Operator Name CALPINE NATURAL GAS COMPANY	*Elevation 5958'

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
I	1	26N	13W		2050	SOUTH	900	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 320.08 Acres - (E/2)					¹³ Joint or Infill		¹⁴ Consolidation Code		¹⁵ Order No.

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

<div><p>¹⁶</p></div>				<div><p>¹⁷ OPERATOR CERTIFICATION</p><p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</p><p><i>Brian Wood</i></p><p>Signature</p><p>BRIAN WOOD</p><p>Printed Name</p><p>CONSULTANT</p><p>Title</p><p>MAY 21, 2003</p><p>Date</p></div>	
<div><p>NM-080238-A</p></div>				<div><p>¹⁸ SURVEYOR CERTIFICATION</p><p>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.</p><p>Date of Survey: MARCH 18, 2003</p><p>Signature and Seal of Professional Surveyor</p><div></div><p>JASON C. EDWARDS</p><p>Certificate Number 15269</p></div>	

RECEIVED

Calpine Natural Gas L. P.
Hagrid #1
2050' FSL & 900' FEL
Sec. 1, T. 26 N., R. 13 W.
San Juan County, New Mexico

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Drilling Program

1. ESTIMATED FORMATION TOPS

<u>Formation</u>	<u>GL Depth</u>	<u>KB Depth</u>	<u>Elevation</u>
Nacimiento	000'	5'	+5,958'
Ojo Alamo Sandstone	50'	55'	+5,908'
Kirtland Shale	100'	105'	+5,858'
Top Fruitland	851'	856'	+5,107'
Lowest Fruitland Coal	1,151'	1,156'	+4,807'
Pictured Cliffs Sandstone	1,155'	1,160'	+4,803'
Total Depth (TD)*	1,460'	1,465'	+4,557'

* all elevations reflect the ungraded ground level of 5,958'

2. NOTABLE ZONES

<u>Gas Zones</u>	<u>Water Zones</u>	<u>Coal Zones</u>
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

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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

<u>Hole Size</u>	<u>O. D.</u>	<u>Weight (lb/ft)</u>	<u>Grade</u>	<u>Age</u>	<u>GL Setting Depth</u>
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 $\geq 150\%$ 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.