Form 3160-3
(August 1999)

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070 Farmington, NM

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR ~~PERMIT TO~~ DRILL OR REENTER

5. Lease Serial No. 078977
SF-~~078997~~

6. If Indian, Allottee or Tribe Name

1a. Type of Work: [X] DRILL [ ] REENTER

7. If Unit or CA Agreement, Name and No.
33594

b. Type of Well: [ ] Oil Well [x] Gas Well [ ] Other [x] Single Zone [ ] Multiple Zone

8. Lease Name and Well No.
Ernie #1

2. Name of Operator
Calpine Natural Gas Company

9. API Well No.
30 045 32028

3A. Address
c/o Walsh Engineering, 7415 E. Main, Farmington, NM 87402

3b. Phone No. *(include area code)*
505.327.4892

10. Field and Pool, or Exploratory
Basin Ft Coal/Fulcher Kutz PC

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface **660' FNL and 660' FWL**
At proposed prod. Zone

11. Sec., T., R., M., or Blk, and Survey or Area
D **Section 29, T30N, R13W**

14. Distance in miles and direction from nearest town or post office*
1 mile northwest of Farmington, NM

12. County or Parish
San Juan

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drlg. unit line, if any)
660'

16. No. of Acres in lease
320+

17. Spacing Unit dedicated to this well
160 acres NW/4 PC / 320 acres W/2 FTC

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

19. Proposed Depth
1550' +/-

20. BLM/BIA Bond No. on file

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
5567' GL

22. Approximate date work will start*
January 2004

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 office.

25. Signature Paul C. Thompson — Name *(Printed/Typed)* **Paul C. Thompson, P.E.** Date **11/25/2003**

Title **Agent**

Approved by *(Signature)* DM — Name *(Printed/Typed)* — Date 3-8-04

Title — Office

Application approval does not warrant or certify that 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 1001and 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.

(Instructions on reverse)

HOLD C104 FOR Name change, infill to Bort #1

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

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

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
30-045-32028	71629 / 77200	BASIN FRUITLAND COAL/FULCHER KUTZ PICTURED CLIFFS

[4] Property Code	[5] Property Name	[6] Well Number
33590	ERNIE	1

[7] OGRID No.	[8] Operator Name	[9] Elevation
194807	CALPINE NATURAL GAS L.P.	5567'

[10] Surface Location

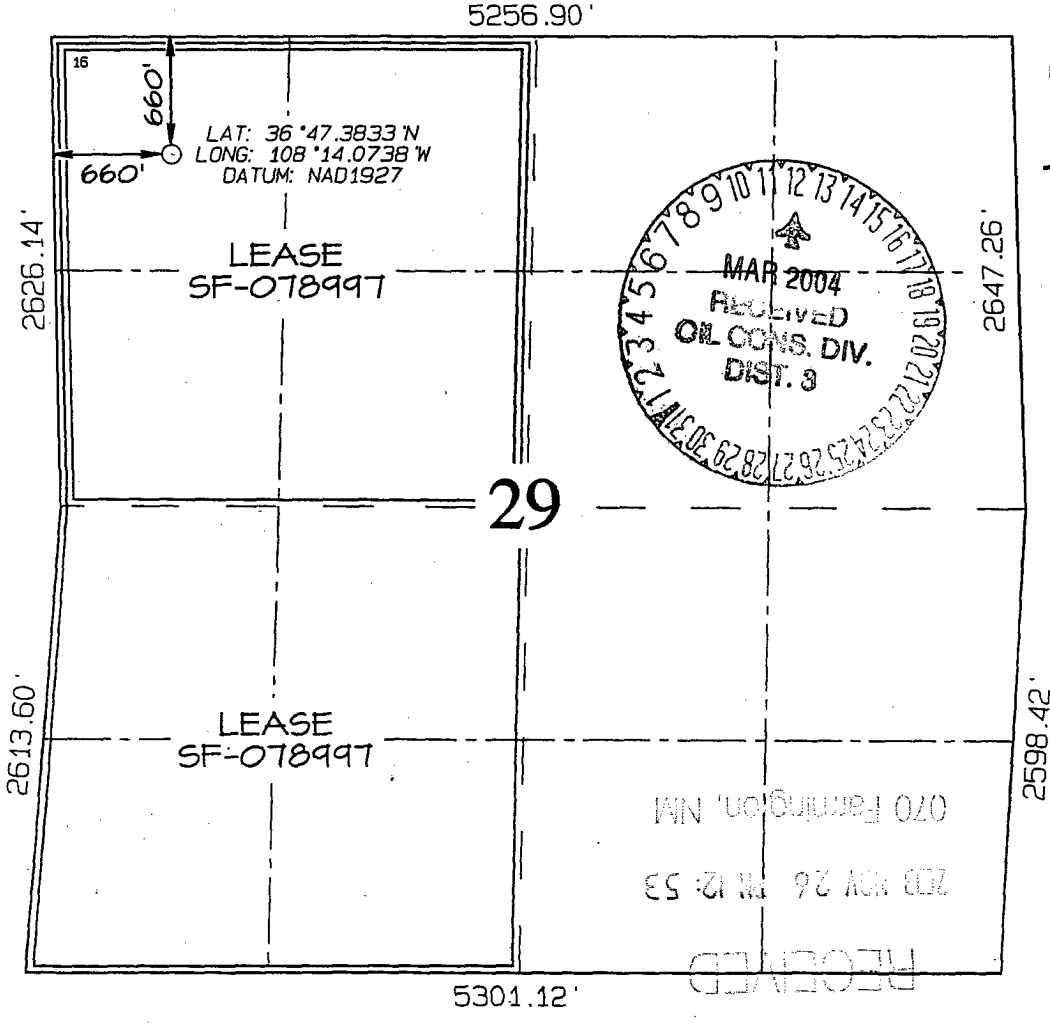
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	29	30N	13W		660	NORTH	660	WEST	SAN JUAN

[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 (W/2) - FC 160.0 Acres (NW/4) - PC	Y		

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

Paul C. Thompson
Signature

Paul C. Thompson
Printed Name

Agent
Title

11/25/03
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: OCTOBER 31, 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 CORP.
OPERATIONS PLAN
Ernie #1

I. Location: 660' FNL & 660' FWL Date: November 25, 2003
Sec 29 T30N R13W
San Juan County, NM

Field: Basin Fruitland Coal/ Fulcher Kutz Pictured Cliffs
Surface: City of Farmington
Minerals: Federal SF 078997
Elev: GL 5567'

II. Geology: Surface formation _ Ojo Alamo

A. Formation Tops	Depths
Kirtland	97'
Fruitland	990'
Pictured Cliffs	1372'
Total Depth	1550'

Estimated depths of anticipated water, oil, gas, and other mineral bearing formations which are expected to be encountered:
Water and gas - 990 and 1372'.

B. Logging Program: Induction/GR and density logs at TD.

C. No over pressured zones are expected in this well. No H_2S zones will be penetrated in this well. Max. BHP = 600 psig.

III. Drilling
A. Contractor:

B. Mud Program:

The surface hole will be drilled with a fresh water mud.

The production hole will be drilled with a fresh water polymer mud. The weighting material will be drill solids or if conditions dictate, barite. The maximum mud weight expected is 8.5 ppg.

C. Minimum Blowout Control Specifications:

Double ram type or annular type 2000 psi working pressure BOP with a rotating head. See the attached exhibits (#1 and #2) for details on the BOP equipment. All ram type preventers and related equipment will be hydraulically tested at nipple-up and after any use under pressure to 1000 psi.

C. Cont.

The 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. The BOP equipment will include a kelly cock, floor safety valve, and choke manifold all rated to 2000 psi.

IV. Materials

A. Casing Program:

Hole Size	Depth	Casing Size	Wt. & Grade
8-3/4"	120'	7"	20# K-55
6-1/4"	1550'	4-1/2"	10.5# K-55

B. Float Equipment:

a) Surface Casing: None

b) Production Casing: 4-1/2" cement guide shoe and self fill insert float collar. Place float one joint above shoe. Five centralizers spaced every other joint above shoe and five turbolizers every other joint from the top of the well.

V. Cementing:

Surface casing: 7" - Use 50 sx (59 cu. ft.) of Cl "B" with 2% $CaCl_2$ (Yield = 1.18 cu. ft./sk; slurry weight = 15.6 PPG). 100% excess to circulate cement to surface. WOC 12 hours. Pressure test surface casing to 600 psi for 30 min.

Production Casing: 4-1/2" - Before cementing circulate hole with at least 1-1/2 hole volumes of mud. Precede cement with 30 bbls of fresh water. Lead with 130 sx (268 cu.ft) of Cl "B" with 2% metasilicate. (Yield = 2.06 cu.ft./sk; slurry weight = 12.5 PPG). Tail with 50 sx (59 cu.ft.) of Cl "B" with 2% $CaCl_2$ (Yield = 1.18 cu. ft./sk; slurry weight = 15.6 PPG) Total cement volume is 327 cu.ft. (100% excess to circulate cement to surface).

Paul C. Thompson

Paul C. Thompson, P.E.