

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

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

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NMNM-012235
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other		6. If Indian, Allottee or Tribe Name N/A
2. Name of Operator DOGGO 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. <i>Gallegos Federal 26-13-3#3</i> RAVENCLAW #3
3b. Phone No. (include area code) (505) 327-4892		9. API Well No. 30-045- 31865
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface 900' FSL & 660' FEL At proposed prod. zone SAME		10. Field and Pool, or Exploratory BASIN FRUITLAND COAL
14. Distance in miles and direction from nearest town or post office* 16 AIR MILES SOUTH OF FARMINGTON		11. Sec., T., R., M., or Blk. and Survey or Area P 3-26n-13w NMPM
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 660'	16. No. of Acres in lease 1,120	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. 2,094'	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.) 6,091' 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. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification. |
| 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). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

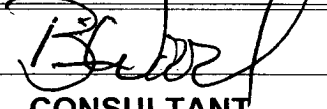
Comments

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

RECEIVED
2003 AUG 15 PM 12:02
Bureau of Land Management,
Farmington, NM

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

25. Signature 	Name (Printed/Typed) BRIAN WOOD	Date 8-9-03
Title CONSULTANT	PHONE: 505 466-8120 FAX: 505 466-9682	
Approved by (Signature) Original Signed: Stephen Mason	Name (Printed/Typed)	Date JUL 29 2005
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

*API Number 30-045-31865		*Pool Code 71629	*Pool Name BASIN FRUITLAND COAL
*Property Code 300770 UOHU INU. 194807	*Property Name RAVENCLAW Gallegos Federal 24-13-3		*Well Number 3
*Operator Name CALPINE NATURAL GAS L.P.			*Elevation 6091'

10 Surface Location

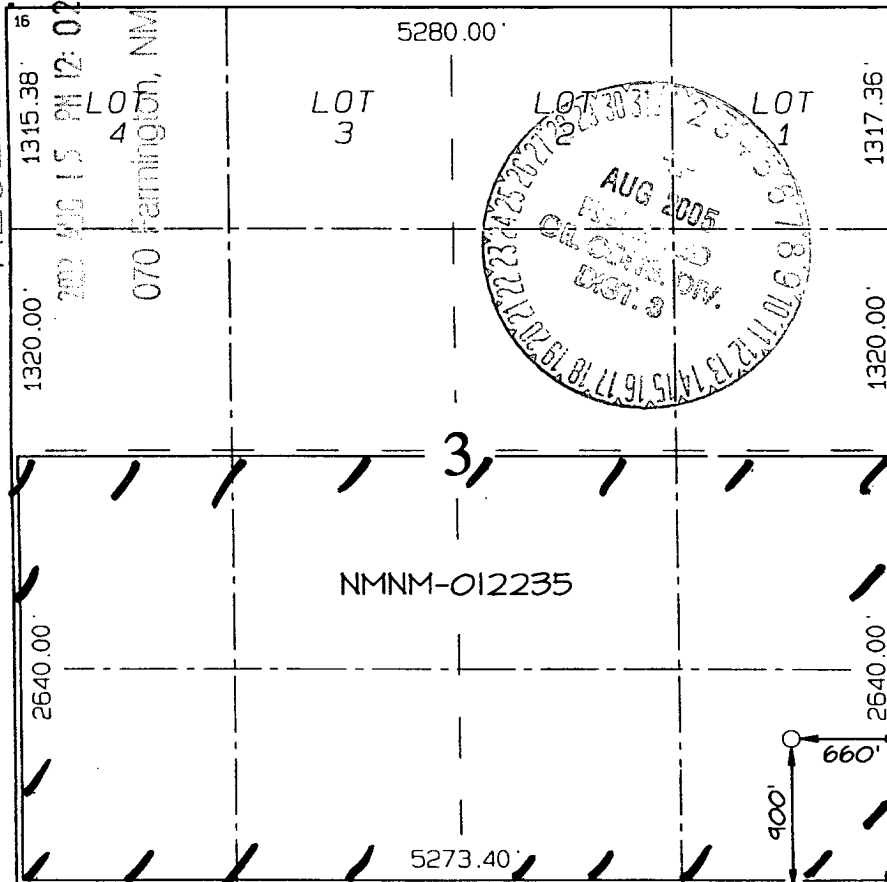
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	3	26N	13W		900	SOUTH	660	EAST	SAN JUAN

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

*Dedicated Acres 320.0 Acres - (S/2)	*Joint or Infill	*Consolidation Code	*Order No.
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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 **BRIAN WOOD**

Title **CONSULTANT**

Date **AUG. 9, 2003**

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.

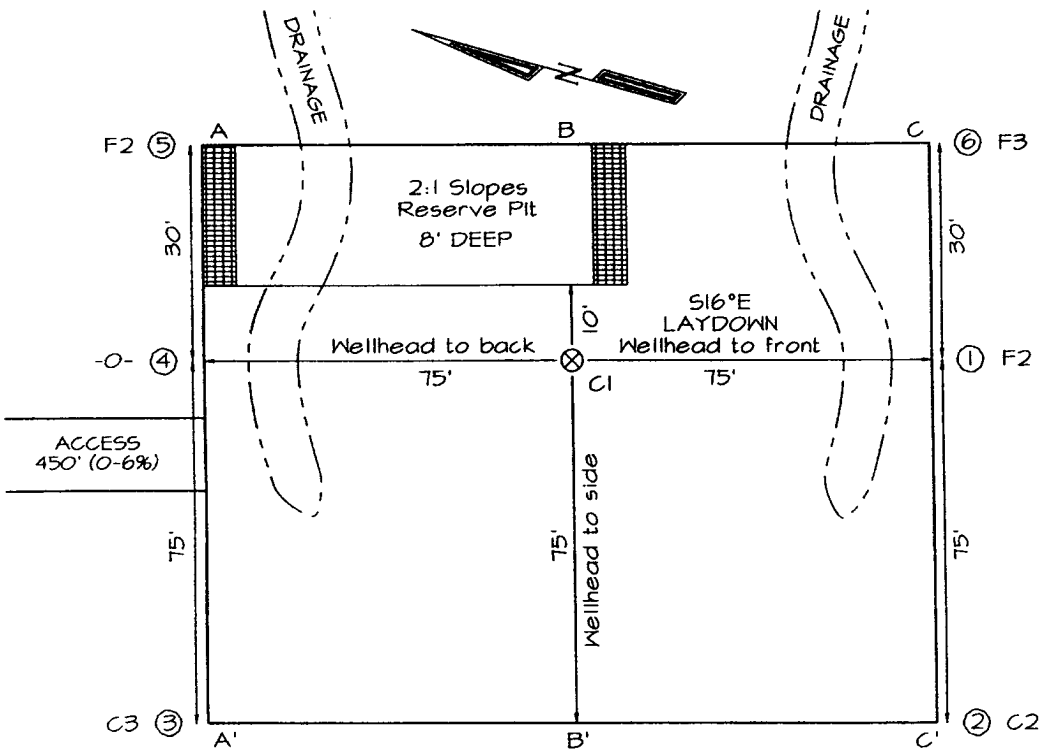
Date of Survey: **JUNE 24, 2003**

Signature and Seal of Professional Surveyor



JASON C. EDWARDS
Certificate Number 15269

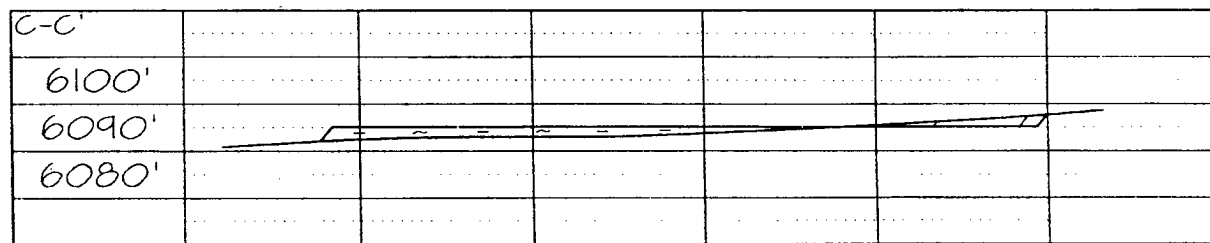
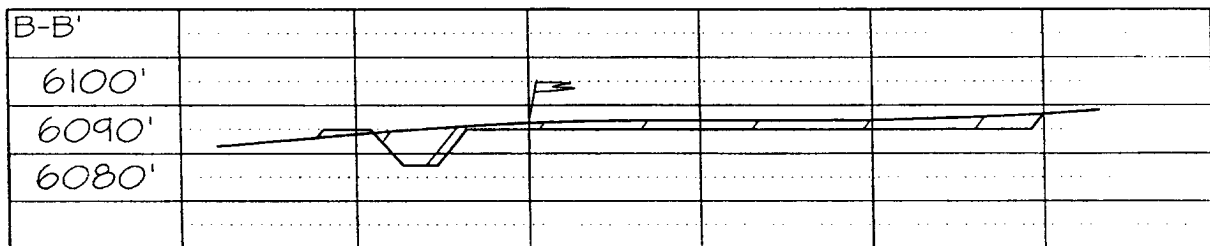
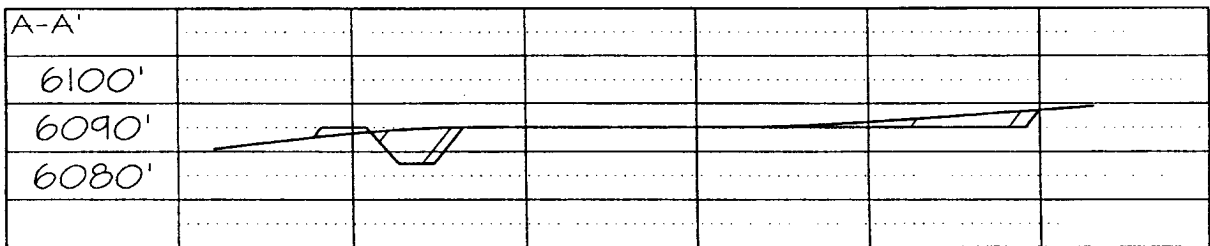
CALPINE NATURAL GAS L.P. RAVENCLAW #3
900' FSL & 660' FEL, SECTION 3, T26N, R13W, NMPM
SAN JUAN COUNTY, NEW MEXICO GROUND ELEVATION: 6091'



LATITUDE: 36°30'45"
LONGITUDE: 108°11'57"
 DATUM: NAD1927

PLAT NOTE:

SURFACE OWNER
 Navajo Tribal Trust



Note: Contractor should call One-Call for location of any marked or unmarked buried pipelines or cables on well pad and/or access road at least two (2) working days prior to construction

Calpine Natural Gas L. P.
Ravenclaw #3
900' FSL & 660' FEL
Sec. 3, T. 26 N., R. 13 W.
San Juan County, New Mexico

PAGE 1

Drilling Program

1. ESTIMATED FORMATION TOPS

<u>Formation</u>	<u>GL Depth</u>	<u>KB Depth</u>	<u>Elevation</u>
Nacimiento	0'	5'	+6,091'
Ojo Alamo Sandstone	50'	55'	+6,041'
Kirtland Shale	100'	105'	+5,991'
Top Fruitland	933'	938'	+5,158'
Lower Fruitland Coal	1,213'	1,218'	+4,878'
Pictured Cliffs Sandstone	1,253'	1,189'	+4,838'
Total Depth (TD)*	1,460'	1,465'	+4,631'

* all elevations reflect the ungraded ground level of 5,975'

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

Calpine Natural Gas L. P.
Ravenclaw #3
900' FSL & 660' FEL
Sec. 3, T. 26 N., R. 13 W.
San Juan County, New Mexico

PAGE 2

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'

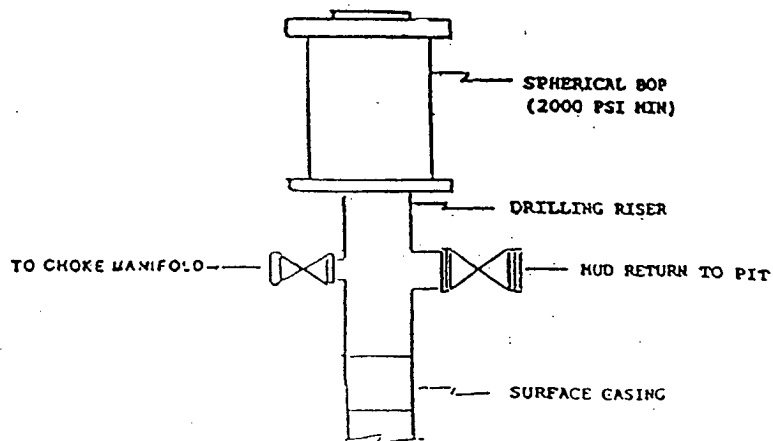
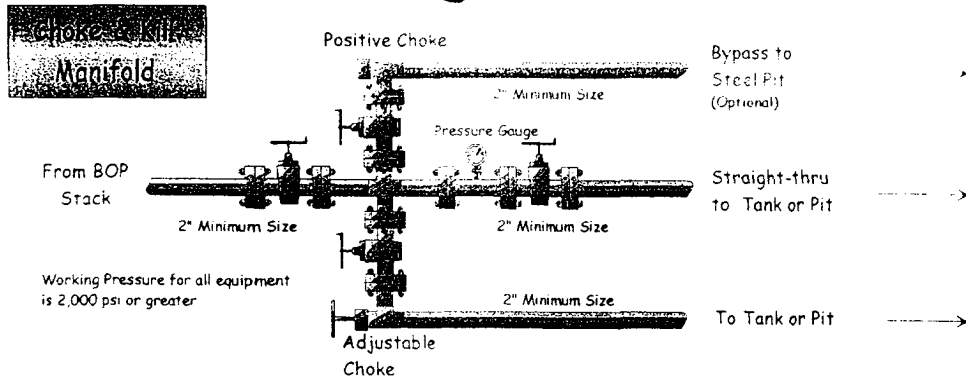
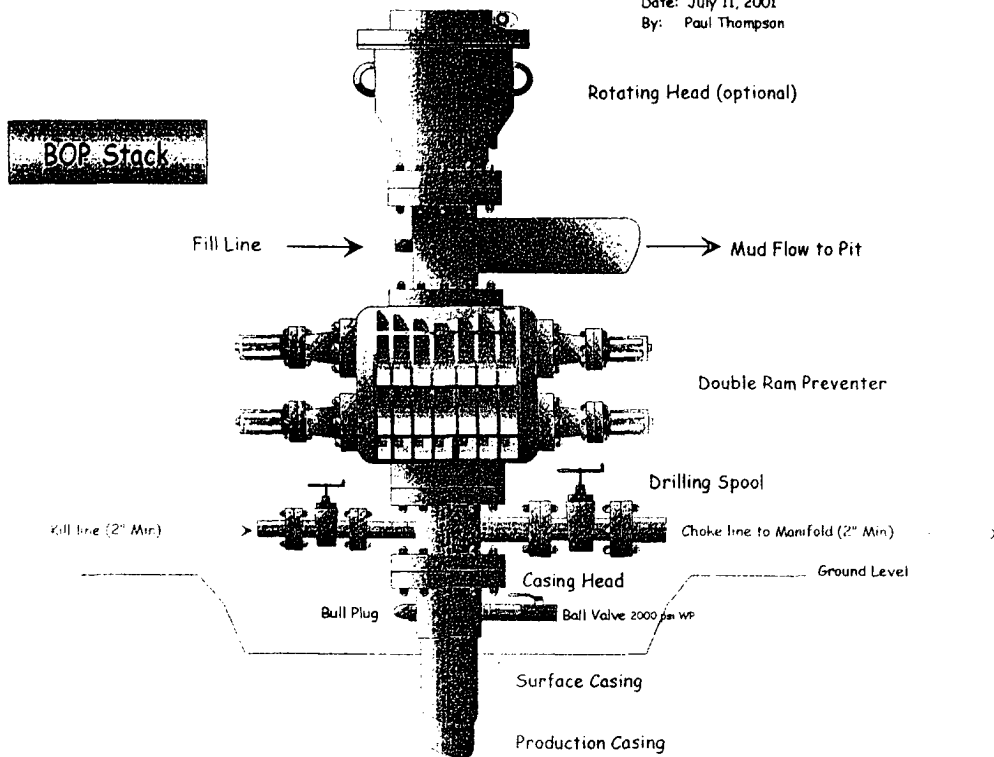
Surface casing will be cemented to surface with ≈ 59 cubic feet (≈ 50 sacks) Class B + 2% CaCl_2 . Volume is based on 100% excess, yield of 1.18 cubic feet per sack, and slurry weight of 15.6 pounds per gallon. W. O. C. = 12 hours. Pressure test surface casing to 600 psi for 30 minutes.

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.

Calpine Natural Gas Company
Well Control Equipment Schematic for 2M Service

Date: July 11, 2001
By: Paul Thompson



Calpine Natural Gas L. P.
Ravenclaw #3
900' FSL & 660' FEL
Sec. 3, T. 26 N., R. 13 W.
San Juan County, New Mexico

PAGE 4

5. MUD PROGRAM

Surface casing hole will be drilled with fresh water. Production casing hole will be drilled with a fresh water polymer mud. Weighting material will be drill solids or, if needed, barite. Maximum expected mud weight will be 8.5 pounds per gallon.

6. CORING, TESTING, & LOGGING

No cores or drill stem tests are planned.

Spectral Density/Dual Spaced Neutron and Dual Induction/Guard with GR, SP, and Caliper and logs will be run from TD to at least the base of the surface casing.

7. DOWN HOLE CONDITIONS

No abnormal pressures, temperatures, nor hydrogen sulfide are expected. Maximum pressure will be \approx 585 psi.

8. OTHER INFORMATION

The anticipated spud date is upon approval. It is expected it will take one week to drill the well and one week to complete the well.