

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

5. LEASE DESIGNATION AND SERIAL NO.

SF 078243

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME, WELL NO.

Arnstein #1B

9. API WELL NO.

30-045-31029

10. FIELD AND POOL OR WILDCAT

Blanco Mesa Verde/ Basin Dakota

11. SEC., T., R., M., OR BLK.  
AND SURVEY OR AREA

D Sec. 18, T31N, R12W

12. COUNTY OR PARISH

San Juan

13. STATE

NM

## APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒DEEPEN ☐

1b. TYPE OF WELL

OIL  
WELL ☐☒

OTHER

SINGLE  
ZONE ☐MULTIPLE  
ZONE ☒

2. NAME OF OPERATOR

Cordillera Energy, Inc.

3. ADDRESS OF OPERATOR

c/o Walsh Engineering, 7415 E. Main St. Farmington, NM 87402 (505) 327-4892

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

At Surface 2460' FNL and 660' FWL SWNW

At proposed Prod. Zone

Same

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

6 miles northwest of Aztec, NM

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

320+

17. NO. OF ACRES ASSIGNED TO THIS WELL

314.48 ac - De K  
W/2320 acres 156.82-MV18. DISTANCE FROM PROPOSED LOCATION\* TO NEAREST WELL,  
DRILLING, COMPLETED, OR APPLIED FOR ON THIS LEASE, FT.

1700'

19. PROPOSED DEPTH

6900'

20. ROTARY OR CABLE TOOLS

Rotary

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

5840' GR

22. APPROX. DATE WORK WILL START\*

April 2002

## 23. PROPOSED CASING AND CEMENTING PROGRAM

| SIZE OF HOLE | GRADE, SIZE OF CASING | WEIGHT PER FOOT | SETTING DEPTH | QUANTITY OF CEMENT                         |
|--------------|-----------------------|-----------------|---------------|--|
| 12-1/4"      | 9-5/8"                | 36# J-55        | 250' +/-      | 165 cu ft. Cl "B" w/ 23% CaCl <sub>2</sub> |
| 8-3/4"       | 7"                    | 20# J-55        | 4030' +/-     | 1076 cu.ft. lead & 139 cu.ft. tail         |
| 6-1/4"       | 4-1/2"                | 11.6#, N-80     | 6900' +/-     | 327 cu.ft. lead & 196 cu.ft. tail          |

Cordillera Energy, Inc. proposes to drill a vertical well to develop the Blanco Mesa Verde and Basin Dakota formations at the above described location in accordance with the attached drilling and surface use plans.

This location has been archaeologically surveyed by La Plata Archeological Service. Copies of their report have been submitted directly to your office.

The wellpad, access road, and pipeline will be located on BLM surface land. An on-site inspection was held with the BLM on 3/5/02.

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

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.

SIGNED

TITLE Paul Thompson, Agent

DATE

3/8/02

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

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:

APPROVED BY

TITLE

DATE

\*See Instructions On Reverse Side

Title 18 U.S.C. Section 1001, makes 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.

HOLD C104 FOR

NSL

NMOC

District I  
PO Box 1980, Hobbs, NM 88241-1980

State of New Mexico  
Energy, Minerals & Natural Resources Department

Form C-102  
Revised February 21, 1994

District II  
PO Drawer 00, Artesia, NM 88211-0719

OIL CONSERVATION DIVISION  
PO Box 2088  
Santa Fe, NM 87504-2088

Instructions on back  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

District III  
1000 Rio Brazos Rd., Aztec, NM 87410

District IV  
PO Box 2088, Santa Fe, NM 87504-2088

☐ AMENDED REPORT

### WELL LOCATION AND ACREAGE DEDICATION PLAT

|                                    |   |                             |   |
|------------------------------------|---|-----------------------------|---|
| *API Number<br><b>30-045-31029</b> |   | *Pool Code<br>72319 \ 71599 | *Pool Name<br>BLANCO MESAVERDE \ BASIN DAKOTA |
| *Property Code                     | *Property Name<br>ARNSTEIN                |                             | *Well Number<br>1B                            |
| *GRID No.<br>173252                | *Operator Name<br>CORDILLERA ENERGY, INC. |                             | *Elevation<br>5840'                           |

#### 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   |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|----------|
| E             | 18      | 31N      | 12W   |         | 2460          | NORTH            | 660           | WEST           | SAN JUAN |

#### 11 Bottom Hole Location If Different From Surface

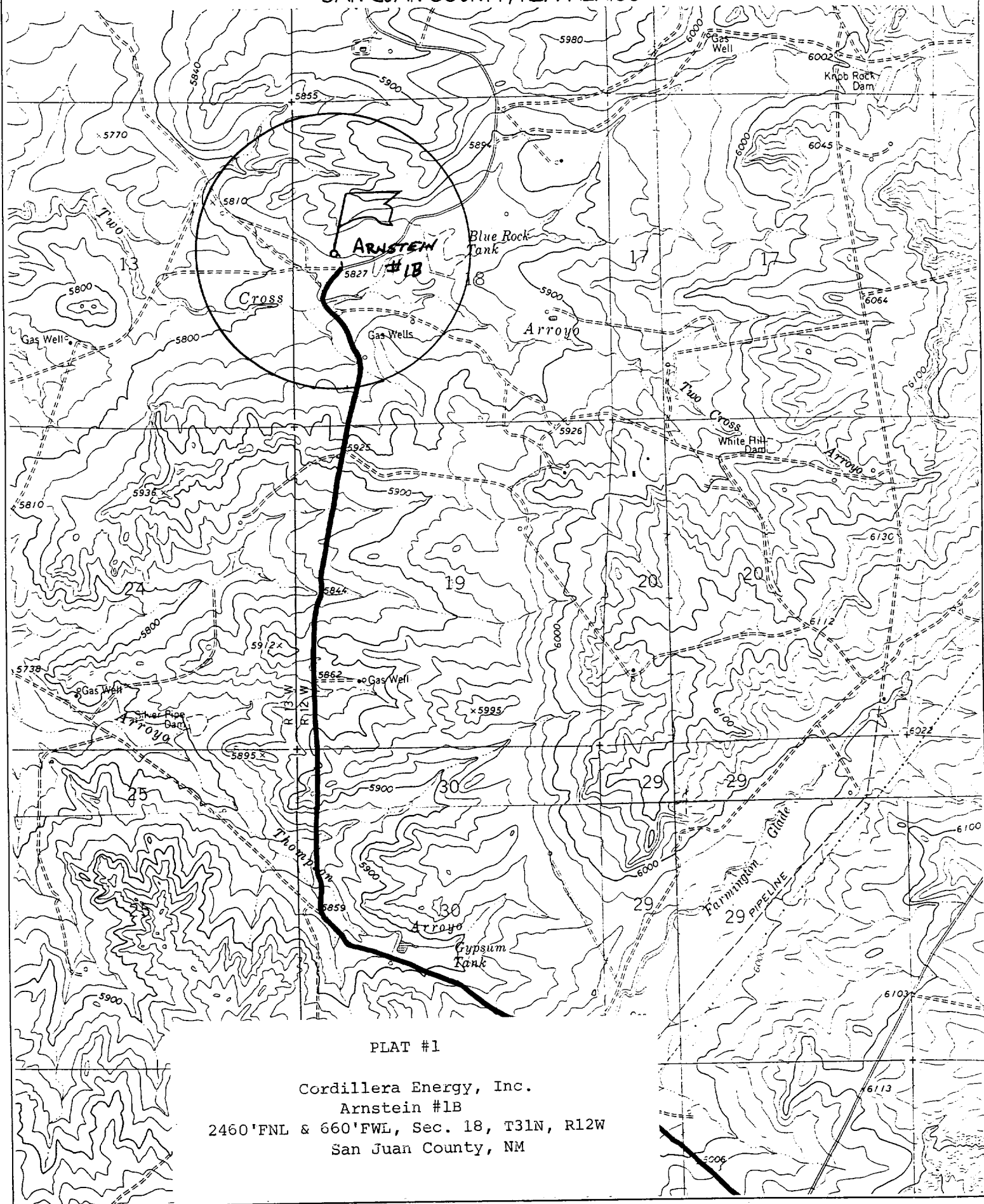
| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
|               |         |     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

|  |                                |                       |   |
|--|--------------------------------|-----------------------|---|
| 12 Dedicated Acres<br><b>Dakota 314.48 Acres - (W/2)</b><br><b>MV - 156.82</b> | 13 Joint or Infill<br><b>Y</b> | 14 Consolidation Code | 15 Order No.<br><b>R6760 - MV acreage</b> |
|--|--------------------------------|-----------------------|---|

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>15</div> <div>LOT 1</div> <div>LOT 2</div> <div>LOT 3</div> <div>LOT 4</div> <div>SF 078243</div> | <div>17 OPERATOR CERTIFICATION</div> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief</p> <p><i>Paul C. Thompson</i><br/>Signature</p> <p>Paul C. Thompson<br/>Printed Name</p> <p>Agent<br/>Title</p> <p>3/8/02<br/>Date</p>   |
|  | <div>18 SURVEYOR CERTIFICATION</div> <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>Survey Date: FEBRUARY 4, 2002</p> <p>Signature and Seal of Professional Surveyor</p> <div><p><b>JASON C. EDWARDS</b><br/>Certificate Number 15269</p></div> |
|  |  |
|  |  |

**CORDILLERA ENERGY, INC. ARNSTEIN #1B**  
2460' FNL & 660' FWL, SECTION 18, T31N, R12W, N.M.P.M.  
SAN JUAN COUNTY, NEW MEXICO



PLAT #1

Cordillera Energy, Inc.  
Arnstein #1B  
2460' FNL & 660' FWL, Sec. 18, T31N, R12W  
San Juan County, NM

C. Minimum Blowout Control Specifications:

Double ram type 2000 psi working pressure BOP with a rotating head. See the attached Exhibit #1 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.

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 |
|-----------|-------|-------------|-------------|
| 12-1/4"   | 250'  | 9-5/8"      | 36# J-55    |
| 8-3/4"    | 4030' | 7"          | 20# J-55    |
| 6-1/4"    | 6900' | 4-1/2"      | 11.6# N-80  |

B. Float Equipment:

a) Surface Casing: Notched collar on bottom and 3 centralizers on the bottom 3 joints.

b) Intermediate Casing: 7" cement guide shoe and self fill insert float collar. Place float one joint above shoe. Ten centralizers spaced every other joint above shoe and ten turbolizers every other joint from 1500'.

c) Production Casing: 4-1/2" whirler type cement nosed guide shoe and a float collar on top of the bottom joint.

V. Cementing:

**Surface casing: 9-5/8"** - Use 140 sx (165 cu. ft.) of Cl "B" with 2% CaCl<sub>2</sub> (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 1000 psi for 30 min.

**Intermediate Casing: 7"** - Before cementing circulate hole with at least 1-1/2 hole volumes of mud. Precede cement with 30 bbls of fresh water. **Lead** with 515 x (1076 cu.ft) of Type III 65/35 poz with 8% gel, 1% CaCl<sub>2</sub>, ¼#/sk. Celloflake. (Yield = 2.09 cu.ft./sk; slurry weight = 12.1 PPG). **Tail** with 100 sx (139 cu.ft.) of Type III with 1% CaCl<sub>2</sub>, ¼#/sk. Celloflake. (Yield = 1.39 cu. ft./sk; slurry weight = 14.5 PPG). Total cement volume is 1215 cu.ft. (100% excess to circulate cement to surface). WOC for 12 hrs. Pressure test the BOP and casing to 1500 psi.

**Production Casing: 4-1/2"** - Blow hole clean. Precede cement with 20 bbls of gel water and 10 bbls of water. **Lead** with 165 sx (327 cu.ft.) of Premium Lite HS with 0.65% FL-52, 0.32% CD-32, ¼ #/sk celloflake, and 4% phenoseal. (Yield = 1.98 cu.ft./sk; slurry weight = 12.5 PPG). **Tail** with 100 sx (196 cu.ft.) of Premium Lite HS with 0.65% FL-52, and 0.32% CD-32. (Yield = 1.96 cu.ft./sk; slurry weight = 12.5 PPG). Total cement volume is 523 cu.ft. (70% excess to circulate 100' above the intermediate casing shoe).

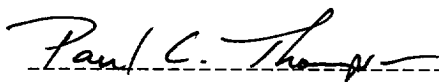
  
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Paul C. Thompson, P.E.

EXHIBIT #1  
**Cordillera Energy, Inc.**

**Well Control Equipment Schematic for 2M Service**

Attachment to Drilling Technical Program

**Typical BOP setup**

Location: San Juan Basin, New Mexico

Date: August 20, 2001

By: John Thompson

