

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

5. Lease Serial No.
NMSF-078094

6. If Indian, Allottee or Tribe Name
N/A

7. If Unit or CA Agreement, Name and No.
N/A 27395

8. Lease Name and Well No.
FULLERTON FED. #131

9. API Well No.
30-045- 31145

10. Field and Pool, or Exploratory
BASIN FRUITLAND COAL

11. Sec., T., R., M., or Blk. and Survey or Area
C 13-27n-11w NMPM

12. County or Parish
SAN JUAN

13. State
NM

1a. Type of Work: ☒ DRILL ☐ REENTER

1b. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone

2. Name of Operator
MARKWEST RESOURCES, INC.

3a. Address **155 INVERNESS DR., SUITE 200
ENGLEWOOD, CO. 80112**

3b. Phone No. (include area code)
(303) 290-8700

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

At surface **670' FNL & 1595' FWL**

At proposed prod. zone **SAME**

14. Distance in miles and direction from nearest town or post office*
9 AIR MILES SSE OF BLOOMFIELD

15. Distance from proposed*
location to nearest
property or lease line, ft.
(Also to nearest drig. unit line, if any) **670'**

16. No. of Acres in lease **2,560**

17. Spacing Unit dedicated to this well
320 ACRES (N2)

18. Distance from proposed location*
to nearest well, drilling, completed,
applied for, on this lease, ft. **1,265'**

19. Proposed Bond **1,900'**

20. BLM/BIA Bond No. on file
KA6084 (BLM - NATIONWIDE)

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
6,031' GL

22. Approximate date work will start*
NOVEMBER 21, 2002

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:

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

Comments


**On site inspection with Roger Herrera.
Archaeology reports CASA 02-025 filed 3-15-02 & CASA 02-53 filed 4-27-02.**

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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:BLM (&OCD), Pippin, Stowe

25. Signature  Name (Printed/Typed) **BRIAN WOOD** Date **7-4-02**

Title **CONSULTANT** PHONE: 505 466-8120 FAX: 505 466-9682

Approved by (Signature) */s/ David J. Markiewicz* Name (Printed/Typed) Date **NOV - 5**

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
1825 N. French Dr., Hobbs, N.M. 88240

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised August 15, 2000

DISTRICT II
811 South First, Artesia, N.M. 88210

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

DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 87410

OIL CONSERVATION DIVISION

2040 South Pacheco
Santa Fe, NM 87505

DISTRICT IV
2040 South Pacheco, Santa Fe, NM 87505

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045-31145	² Pool Code 71629	³ Pool Name BASIN FRUITLAND COAL
⁴ Property Code 27395	⁵ Property Name FULLERTON FEDERAL	⁶ Well Number 131
⁷ OGRD No. 193195	⁸ Operator Name MARKWEST RESOURCES, INC.	⁹ Elevation 6031'

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
C	13	27-N	11-W		670'	NORTH	1595'	WEST	SAN JUAN

¹¹ Bottom Hole Location If Different From Surface

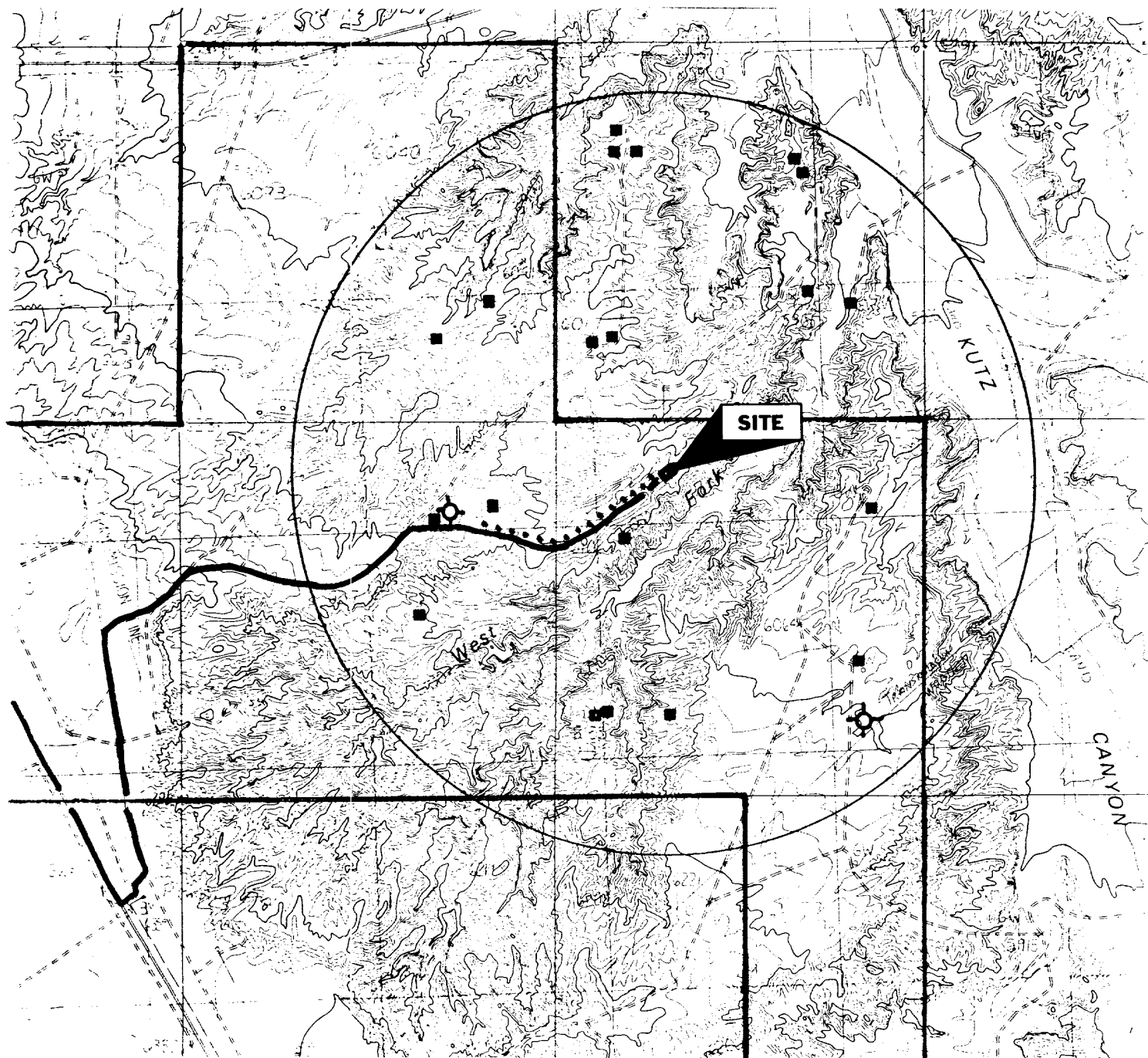
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
¹² Dedicated Acres 320					¹³ Joint or Infill		¹⁴ Consolidation Code		¹⁵ Order No.








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

<p>16</p> <p>FD 3 1/4" G.L.O. BC 1913</p> <p>5286.7' (M)</p> <p>1595'</p> <p>273'</p> <p>670'</p> <p>652'</p> <p>1049'</p> <p>LAT. 36°34'51"N LONG. 107°57'32"W</p> <p>13</p> <p>FD 3 1/4" G.L.O. BC 1913</p>	<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> Signature</p> <p>Printed Name BRIAN WOOD</p> <p>Title CONSULTANT</p> <p>Date JULY 4, 2002</p>
<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>1-2 Date of Survey 8894</p> <p>Signature and Seal of Professional Surveyor <i>[Signature]</i></p> <p>8894 Certificate Number</p>	

MarkWest Resources, Inc.
Fullerton Federal 131
670' FNL & 1595' FWL
Sec. 13, T. 27 N., R. 11 W.
San Juan County, New Mexico

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- | | |
|--|--|
| PROPOSED WELL:  | PROPOSED ROAD:  |
| EXISTING WELL:  | EXISTING ROAD:  |
| P & A WELL:  | PROPOSED GAS LINE:  |
| LEASE:  | |

PERMITS WEST INC.
PROVIDING PERMITS FOR LAND USERS

Drilling Program

1. ESTIMATED FORMATION TOPS

<u>Formation Name</u>	<u>GL Depth</u>	<u>KB Depth</u>	<u>Elevation</u>
Nacimiento Fm	000'	5'	+6,031'
Ojo Alamo Ss	725'	730'	+5,306'
Kirtland Sh	824'	829'	+5,207'
Fruitland Coal	1,470'	1,475'	+4,561'
Pictured Cliffs Ss	1,781'	1,786'	+4,250'
Total Depth (TD)*	1,900'	1,905'	+4,131'

* all elevations reflect the ungraded ground level of 6,031'

2. NOTABLE ZONES

Gas or Oil Zones

Fruitland
Pictured Cliffs

Water Zones

Nacimiento
Ojo Alamo
Kirtland
Fruitland

Coal Zone

Fruitland

Water zones will be protected with casing, cement, and weighted mud. Fresh water found while drilling will be recorded. Oil or gas shows will be tested for commercial potential based on the geologist's recommendations.

3. PRESSURE CONTROL

Maximum expected pressure is ≈ 200 psi. The drilling contract has not yet been awarded, thus the exact BOP model to be used is not yet known. A typical 8" double ram 2,000 psi model is on PAGE 3.

BOP equipment and all accessories will meet or exceed BLM requirements in 43 CFR Part 3160 for a 2000 psi system. A 2000 psi double ram hydraulic BOP will be used. Accumulator system capacity will be sufficient to close all BOPE with a 50% safety factor. Fill, kill, and choke manifold lines will be 2" screw connections. Accessories will include upper and lower Kelly cocks with handles, stabbing valve to fit drill pipe on floor at all times, string float at bit, 2000 psi choke manifold with 2" adjustable choke with screw connections, and pressure gauge. BOPs will be tested every 24 hours. Tests will be recorded on IADC log.

4. CASING & CEMENT

<u>Hole Size</u>	<u>O. D.</u>	<u>Weight (lb/ft)</u>	<u>Grade</u>	<u>Age</u>	<u>Connection</u>	<u>GL Setting Depth</u>
11"	8-5/8"	24	K-55	New	ST & C	160'
6-1/4"	4-1/2"	10.5	K-55	New	ST & C	1,900'

Surface casing will be cemented to the surface with ≈118 cubic feet (≈100 sacks) Class B + 1/4 lb/sack cello-flake + 2% CaCl₂. Yield = 1.18 cubic feet per sack. Weight = 15.6 pounds per gallon. Volume = 100% excess. A guide shoe and insert float will be used with 3 centralizers. W. O. C. = 12 hours. Surface casing will be tested to 500 psi for 30 minutes.

Production casing will be cemented to the surface. Total cement = 340 cubic feet. Volumes are calculated at 80% excess. If cement does not circulate to surface, then a temperature survey will be run to determine the actual cement top as needed. W. O. C. = 12 hours. Test to 3,800 psi.

Lead cement = 263 cubic feet (≈128 sacks) Class B cement with 2% SM, 3 pounds per sack gilsonite + 1/4 pound per sack cello-flake. Yield = 2.06 cubic feet per sack. Weight = 12.5 pounds per gallon.

Tail cement = 77 cubic feet (≈50 sacks) Class B + 4% gel + 1/4#/sack cello-flake + 2% CaCl₂. Yield = 1.55 cubic feet per sack. Weight = 14.5 #/gallon.