

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. #112**

9. API Well No.  
**30-045- 31140**

10. Field and Pool, or Exploratory  
**BASIN FRUITLAND COAL**

11. Sec., T., R., M., or Blk. and Survey or Area  
**C 11-27n-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 **730' FNL & 1975' FWL**

At proposed prod. zone **SAME**

14. Distance in miles and direction from nearest town or post office\*  
**8 AIR MILES S OF BLOOMFIELD**

15. Distance from proposed\*  
location to nearest  
property or lease line, ft.  
(Also to nearest drig. unit line, if any) **730'**

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. **1,018'**

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

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

21. Elevations (Show whether DF, KDB, RT, GL, etc.)  
**6,038' GL**

22. Approximate date work will start\*  
**NOVEMBER 7, 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:

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

**INFILE to FF# 41**  
**On site inspection with Roger Herrera.**  
**Archaeology report CASA 02-024 filed 3-6-02.**

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

*[Signature]*

Name (Printed/Typed)

**BRIAN WOOD**

Date

**7-2-02**

Title

**CONSULTANT**

**PHONE: 505 466-8120**

**FAX: 505 466-9682**

Approved by (Signature)

**/s/ David J. Mankiewicz**

Name (Printed/Typed)

Date **NOV - 8 2002**

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  
1625 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

*API Number 30-045-31140		*Pool Code 71629	*Pool Name BASIN FRUITLAND COAL
*Property Code 27395	*Property Name FULLERTON FEDERAL		*Well Number 112
*OGRID No. 193195	*Operator Name MARKWEST RESOURCES, INC.		*Elevation 6038'

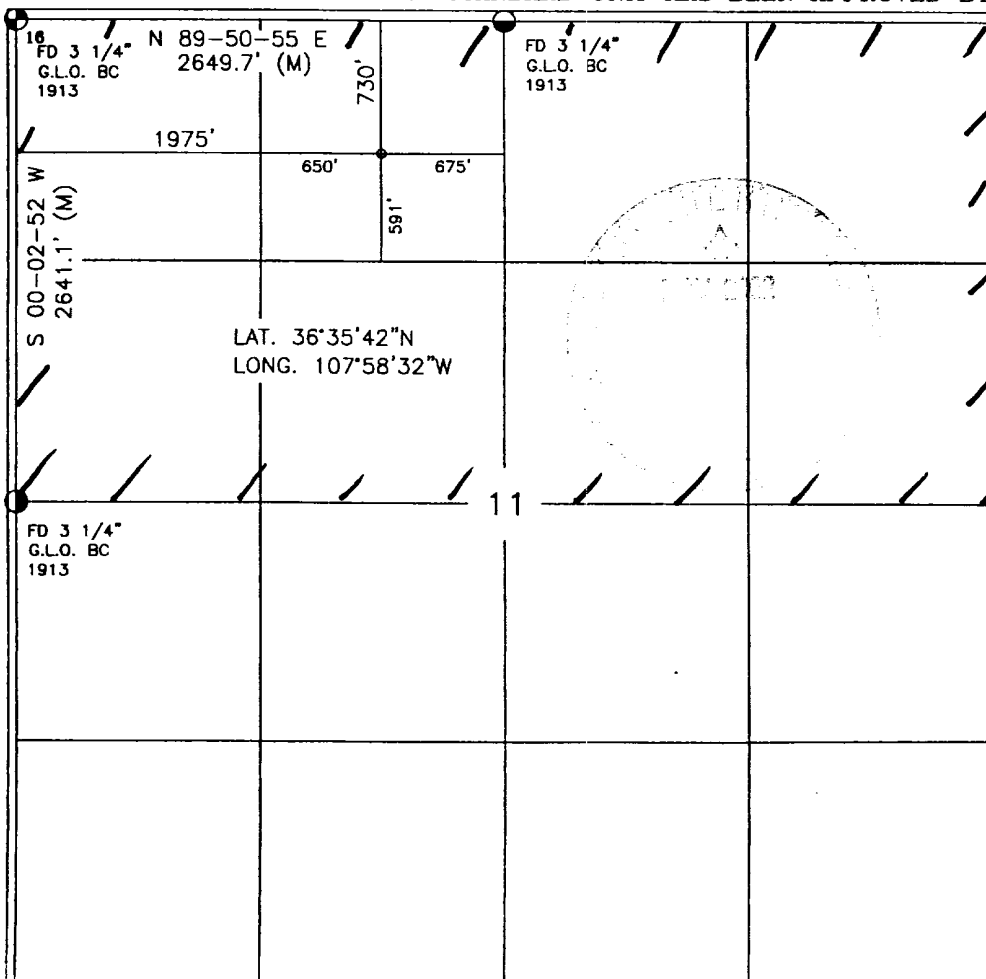
<sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	11	27-N	11-W		730	NORTH	1975	WEST	SAN JUAN

<sup>11</sup> 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					*Joint or Infill		*Consolidation Code		*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



17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein  
is true and complete to the best of my knowledge and  
belief.

Signature

Printed Name

BRIAN WOOD

Title

CONSULTANT

Date

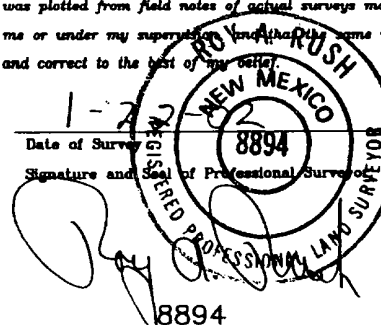
JULY 2, 2002

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

Signature and Seal of Professional Surveyor



Certificate Number

## 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'	+6,038'
Ojo Alamo Ss	733'	738'	+5,305'
Kirtland Sh	837'	842'	+5,201'
Fruitland Coal	1,453'	1,458'	+4,585'
Pictured Cliffs Ss	1,800'	1,805'	+4,238'
Total Depth (TD)*	1,900'	1,905'	+4,138'

\* all elevations reflect the ungraded ground level of 6,038'

### 2. NOTABLE ZONES

<u>Gas or Oil Zones</u>	<u>Water Zones</u>	<u>Coal Zone</u>
Fruitland	Nacimiento	Fruitland
Pictured Cliffs	Ojo Alamo	
	Kirtland	
	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	S T & C	160'
6-1/4"	4-1/2"	10.5	K-55	New	S T & 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% CaCl<sub>2</sub>. 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.

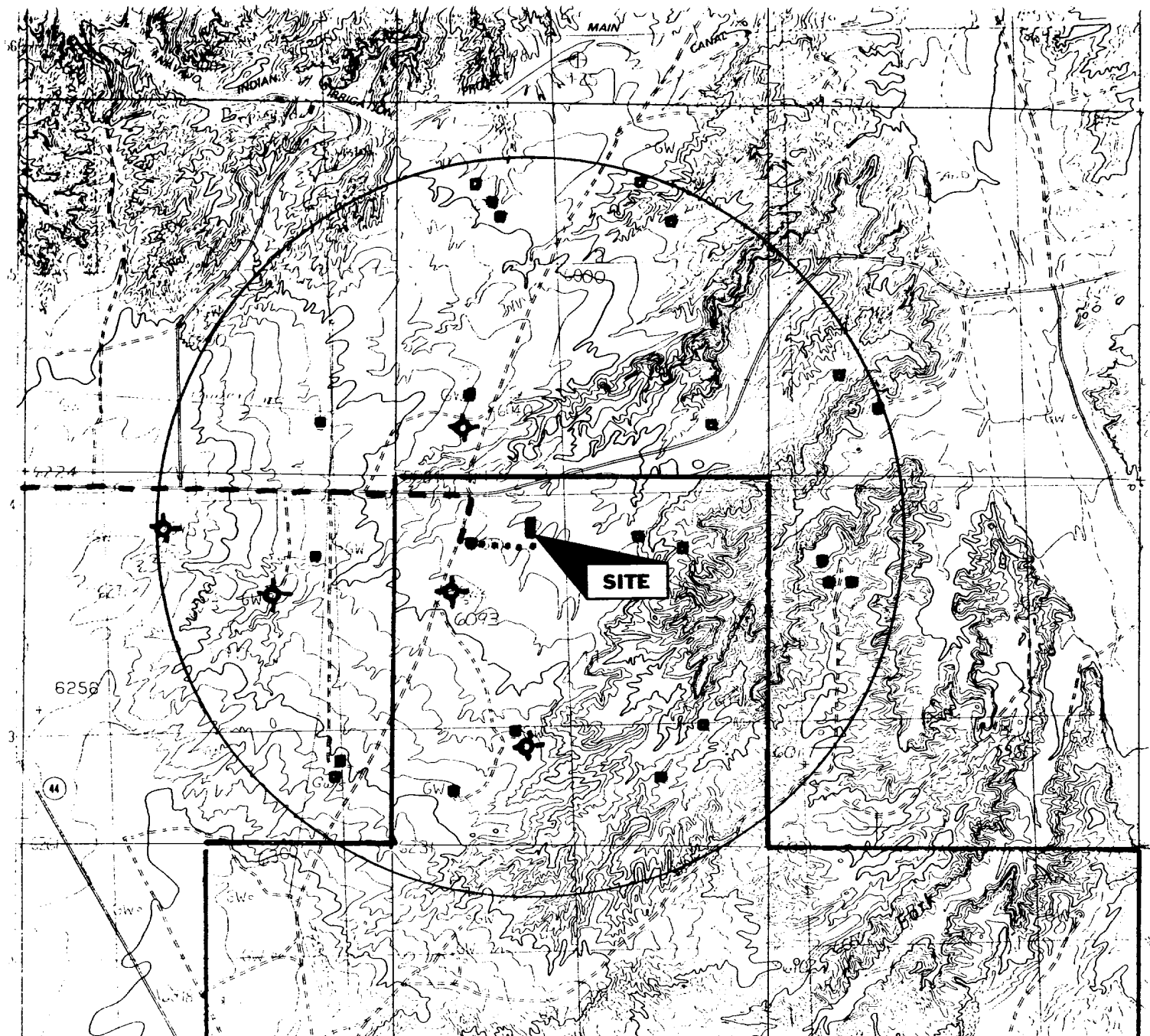
Production casing will be cemented to the surface. Total cement = 340 cubic feet. Volumes are calculated at 80% excess. If cement does not circulate to surface, then a temperature survey will be run to determine the actual cement top as needed. W. O. C. = 12 hours. Test to 3,800 psi.

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% CaCl<sub>2</sub>. Yield = 1.55 cubic feet per sack. Weight = 14.5 #/gallon.

MarkWest Resources, Inc.  
Fullerton Federal 112  
730' FNL & 1975' FWL  
Sec. 11, 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: ⊕ LEASE: └

**PERMITS WEST** INC.  
PROVIDING PERMITS for LAND USERS