

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. TYPE OF WORK

DRILL ☒DEEPEN ☐

b. TYPE OF WELL

OIL
WELL ☐GAS
WELL ☒

OTHER

SINGLE
ZONE ☒MULTIPLE
ZONE ☐

2. NAME OF OPERATOR

MarkWest Resources, Inc.

(303) 290-8700

3. ADDRESS AND TELEPHONE NO.

155 Inverness Dr. W, Suite 200, Englewood, Co. 80112

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

At surface

1700' FNL & 1350' FWL

At proposed prod. zone

Same

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

12 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)

1,290'

18. DISTANCE FROM PROPOSED LOCATION*
TO NEAREST WELL, DRILLING, COMPLETED,
OR APPLIED FOR, ON THIS LEASE, FT.

665'

16. NO. OF ACRES IN LEASE

2,560

19. PROPOSED DEPTH

2,150'

17. NO. OF ACRES ASSIGNED
TO THIS WELL

320

20. ROTARY OR CABLE TOOLS

Rotary

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

6,515' ungraded

22. APPROX. DATE WORK WILL START*

Feb. 20, 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"	K-55 8-5/8"	24	160'	≈118 cu. ft. & to surface
7-7/8"	K-55 4-1/2"	10.5	2,150'	≈887 cu. ft. & to surface

Will file NSL. Once NSL approved and this well is completed, will then P&A Scott E Federal #18 before producing #36.

On sited with Bill Liess. Archaeology report #: CASA 01-113.

This section is subject to BLM
procedural review pursuant to 43 CFR 3165.4
and appeal pursuant to 43 CFR 3165.4.

ALL APPLICANTS MUST ATTACH
"GENERAL REQUIREMENTS"

cc: BLM, OCD (via BLM), Pippin, Stowe

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, 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

(This space for Federal or State office use)

TITLE

Consultant (505) 466-8120

DATE

12-27-01

PERMIT NO.

APPROVAL DATE

2/22/02

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

HOLD C104 FOR Change *See Instructions On Reverse Side
TO SCOTT Fed #18

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

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

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

DISTRICT IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised August 15, 2000

OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-045-30964		*Pool Code 71629	*Pool Name BASIN FRUITLAND COAL	
*Property Code 29109	*Property Name SCOTT FEDERAL 27-11			*Well Number 36
*GRID No. 193195	*Operator Name MARKWEST RESOURCES, INC.			*Elevation 6515'

¹⁰ Surface Location

UL or lot no. F	Section 36	Township 27-N	Range 11-W	Lot Idn	Feet from the 1700'	North/South line NORTH	Feet from the 1350'	East/West line WEST	County SAN JUAN
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¹¹ Bottom Hole Location If Different From Surface

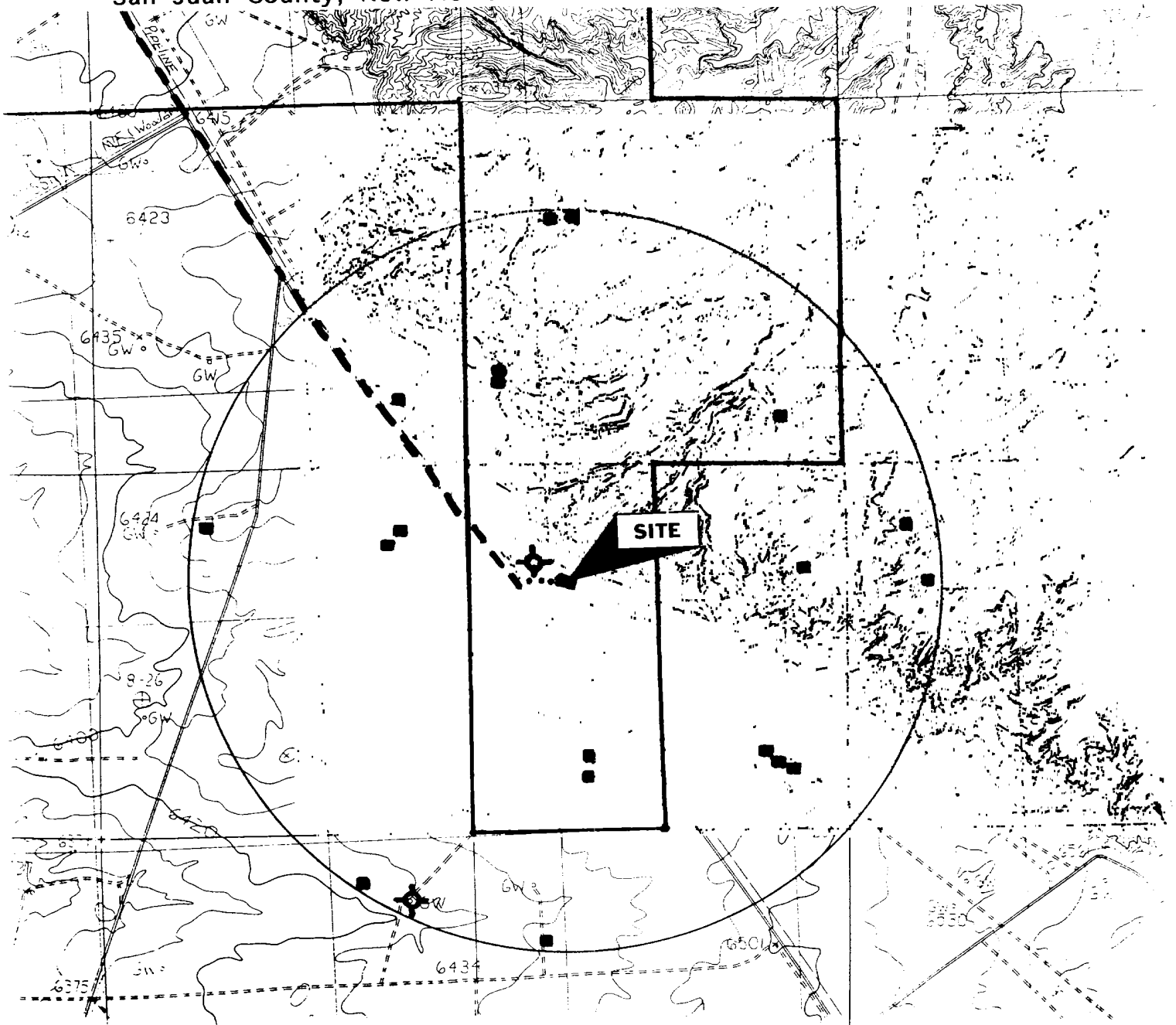
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
*Dedicated Acres			*Joint or Infill		*Consolidation Code		*Order No. NSL 4700		

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" BC G.L.O. 1913</p> <p>N 89-54-10 E 5290.80'</p> <p>FD 3 1/4" BC G.L.O. 1913</p> <p>S 00-03-14 E 5280.10'</p> <p>1700'</p> <p>380'</p> <p>27'</p> <p>1350'</p> <p>1295'</p> <p>940'</p> <p>36</p> <p>LAT. 36°32'04"N LONG. 107°57'35"W</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></p> <p>Signature</p> <p>Printed Name BRIAN WOOD</p> <p>Title CONSULTANT</p> <p>Date DEC. 27, 2001</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>7-</p> <p>Date of Survey</p> <p>Signature and Seal of Professional Surveyor:</p> <p>8894</p> <p>Certificate Number</p>

MarkWest Resources, Inc.
Scott Federal 27-11 36
1700' FNL & 1350' FWL
Sec. 36, T. 27 N., R. 11 W.
San Juan County, New Mexico

PAGE 10



PROPOSED WELL: ■

EXISTING WELL: ■

P & A WELL: ★

PROPOSED ROAD: ...

EXISTING ROAD: - - -

LEASE: L

PERMITS WEST INC.
PROVIDING PERMITS TO LAND USERS

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB No. 1004-0135
Expires November 30, 2000**SUNDRY NOTICES AND REPORTS ON WELLS**
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.***SUBMIT IN TRIPLICATE - Other instructions on reverse side**

1. Type of Well
☐ Oil Well ☒ Gas Well ☐ Other

2. Name of Operator
MARKWEST RESOURCES, INC. 155 INVERNESS DRV, W, #200

3a. Address
ENGLEWOOD, CO. 80112

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

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
SURFACE: 1700' FNL & 1350' FWL 36-27n-11w

5. Lease Serial No.
NMSF-078089

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

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

8. Well Name and No.
SCOTT FED. 27-11 36

9. API Well No.
30-045-_____

10. Field and Pool, or Exploratory Area
BAS. FRUIT. COAL

11. County or Parish, State
SAN JUAN, NM

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other _____
	<input checked="" type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

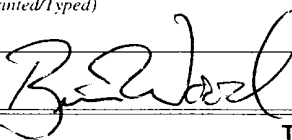
13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Will change long string hole from 6-3/4" to 6-1/4". Casing, cement top, & cement type will remain same. Cement volume will change to 225 cubic feet for Lead and 75 cubic feet for Tail.

14. I hereby certify that the foregoing is true and correct
Name (Printed/Typed)

BRIAN WOODTitle **CONSULTANT****(505) 466-8120**

Signature

Date **1-23-02**

cc: BLM (&OCD), Pippin, Stowe

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title

Date

Conditions of approval, if any, are attached. Approval of this notice 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.

Office

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.

Drilling Program

1. ESTIMATED FORMATION TOPS

<u>Formation Name</u>	<u>GL Depth</u>	<u>KB Depth</u>	<u>Subsea Elevation</u>
Nacimiento Fm	000'	5'	+6,515'
Ojo Alamo Ss	1,052'	1,057'	+5,463'
Kirtland Sh	1,156'	1,161'	+5,359'
Fruitland Coal	1,613'	1,618'	+4,902'
Pictured Cliffs Ss	2,083'	2,088'	+4,432'
Total Depth (TD)*	2,150'	2,155'	+4,365'

* all elevations reflect the ungraded ground level of 6,515'

2. NOTABLE ZONES

<u>Gas & 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 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". 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, 3000# choke manifold with 2" adjustable and 2" positive chokes, 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>
12-1/4"	8-5/8"	24	K-55	New	ST&C	160'
7-7/8"	4-1/2"	10.5	K-55	Used	ST&C	2,150'

Surface casing will be cemented to the surface with ≈ 118 cubic feet (≈ 100 sacks) Class B + 1/4 lb/sack cello-flake + 2% CaCl_2 . Yield = 1.18 cubic feet per sack. Weight = 15.2 lb/gal. Volume = 100% excess. A guide shoe and insert float will be used. WOC = 12 hours. Surface casing will be tested to 1500 psi for 30 minutes.

Production casing will be cemented to the surface. Total cement = 887 cubic feet. Volumes are calculated at 81% excess. If cement does not circulate to surface, then a temperature survey will be run to determine the actual cement top as needed. WOC 12 hours. Test to 2000 psi.

Lead cement will be ≈ 318 sacks Class B light cement (65% cement/35% POZ with 6% gel) with 5 #/sack gilsonite + 1/4 #/sack Flocele. Yield = 1.99 cubic feet per sack. Weight = 12.4 #/gal.

Tail cement will be ≈ 184 sacks 50/50 Class B POZ with 2% gel + 1/4#/sack Flocele + 0.5% Halad-9. Yield = 1.38 cubic feet per sack. Weight = 13.5 #/gal.