

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. TYPE OF WORK DRILL <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/>		5. LEASE DESIGNATION AND SERIAL NO. NMSF-078089	
b. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>		6. IF INDIAN, ALLOTTEE OR TRIBE NAME N/A	
2. NAME OF OPERATOR MarkWest Resources, Inc.		7. UNIT AGREEMENT NAME N/A	
3. ADDRESS AND TELEPHONE NO. 155 Inverness Dr. W, Suite 200, Englewood, Co. 80112		8. FARM OR LEASE NAME WELL NO. Scott Fed. 27-11-22071	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.) At surface 920' FNL & 910' FWL		9. API WELL NO. 30-045-30852	
At proposed prod. zone Same		10. FIELD AND POOL OR VEHICULAR Basin Dakota	
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* 10 air miles S of Bloomfield		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA D22-27n-11w NMPM	
15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any) 910'	16. NO. OF ACRES IN LEASE 2,560	17. NO. OF ACRES ASSIGNED TO THIS WELL w/p 320	
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. 191'	19. PROPOSED DEPTH 6,670'	20. ROTARY OR CABLE TOOLS Rotary	
21. ELEVATIONS (Show whether DF, RT, GR, etc.) 6,324' ungraded		22. APPROX. DATE WORK WILL START* Apr. 1, 2002	

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	320' 160'	≈ 118 cu. ft. & to surface
7-7/8"	N-80 4-1/2"	11.6	6,670'	≈ 2,046 cu. ft. & to surface

On sited with Bill Liese.

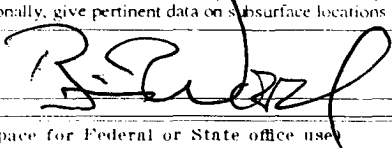
Only other well in quarter-quarter is a Pictured Cliff well proposed by MarkWest.

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"

cc: BIA, BLM, NAPI, 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.  Consultant (505) 466-8120 9-24-01  
SIGNED \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_

(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

NMOC

DISTRICT I  
1625 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

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

OIL CONSERVATION DIVISION  
2040 South Pacheco  
Santa Fe, NM 87505

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30045-30852		*Pool Code 71599	*Pool Name BASIN DAKOTA
*Property Code 31979	*Property Name SCOTT FEDERAL 27-11-12		*Well Number 1
*OGRID No. 193195	*Operator Name MARKWEST RESOURCES, INC.		*Elevation 6324'

<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
D	22	27-N	11-W		920'	NORTH	910'	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			*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

<sup>16</sup> CALC'D CORNER 910' 408' LAT. 36°33.9'N LONG. 107°59.8'W 400' S 89-51 W 5273.4' (R) S 00-02 E 5280.00' (R)	22	W.C. FD 2 1/2" GLO BC 1913 N 00-01 W 20 LINKS
RECEIVED 2001 SEP 24 PM 3:47 070 Faint		

<sup>17</sup> 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

SEPT. 24, 2001

<sup>18</sup> 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

8894

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM 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 DR. 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)  
**920' FNL & 910' FWL 22-27n-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 22 1**

9. API Well No.  
**30-045-30852**

10. Field and Pool, or Exploratory Area  
**BASIN DAKOTA**

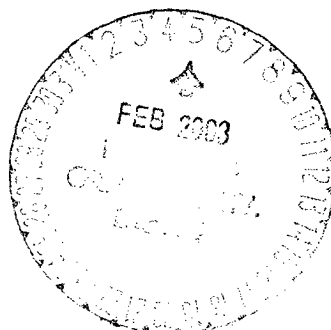
11. County or Parish, State  
**SAN JUAN, NM**

**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 checked="" 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 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 recomplete 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 recompletion 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 double surface casing length (from 160' to 320') and double cement volume (from 118 cubic feet to 236 cubic feet).



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

**BRIAN WOOD**

Title **CONSULTANT** (505) 466-8120

Signature

*[Handwritten Signature]*

Date **12-12-01** cc: BIA, BLM (&OCD), Pippin, Stowe

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved by

**/s/ David J. Mankiewicz**

Title

Date

**FEB - 3 2003**

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.

MarkWest Resources, Inc.  
Scott Federal 27-11 22-1  
Surface: 920' FNL & 910' FWL  
Sec. 22, T. 27 N., R. 11 W.  
San Juan County, New Mexico

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### 3. PRESSURE CONTROL

Maximum expected pressure is  $\approx 1,000$  psi. The drilling contract has not yet been awarded, thus the exact BOP model to be used is not yet known. A typical 11" 3,000 psi model is on PAGE 3.

BOP equipment and all accessories will meet or exceed BLM requirements in 43 CFR Part 3160 for a 3,000 psi system. A 3,000 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, 3,000 psi 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	320' <del>180'</del>
7-7/8"	4-1/2"	11.6	N-80	New	ST&C	6,670'

Surface casing will be cemented to the surface with  $\approx 118$  cu. ft. ( $\approx 100$  sx) Class B + 1/4 lb/sk cello-flake + 2% CaCl<sub>2</sub>. Yield = 1.18 cu. ft./sk. 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 1,500 psi for 30 minutes.

Production casing will be cemented to the surface. Volumes are calculated at 35% 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 2,000 psi.

MarkWest Resources, Inc.  
Scott Federal 27-11 22-1  
Surface: 920' FNL & 910' FWL  
Sec. 22, T. 27 N., R. 11 W.  
San Juan County, New Mexico

PAGE 4

Lead cement will be  $\approx 1,677$  cubic feet ( $\approx 1,075$  sx) modified Super H cement at 61 #/sack and 22 #/sack blended silica light with 7 #/sack gilsonite + 1/4 #/sack Flocele. Mixed to weight of 13 #/gal for a yield of 1.56 cubic feet per sack. Mixed to weight of 8.5 #/gal with 75-600 SCF/bbl N<sub>2</sub>.

Tail cement will be  $\approx 216$  cubic feet ( $\approx 165$  sx) 50/50 Class H Poz with 2% gel + 5 #/sack gilsonite + 1/4 #/sack Flocele + 0.4% Halad + 0.1% HR5. Yield = 1.31 cubic feet per sack. Weight = 13.5 #/gal. No N<sub>2</sub>.

Cap cement down annulus with  $\approx 153$  cubic feet ( $\approx 130$  sx) Class B with 3% CaCl<sub>2</sub>.

Cementing equipment will include guide shoe, float collar and 23 centralizers. One centralizer each will be installed on the first three joints above the float, then one every second joint to 5,700' and one every fourth joint from 2,000' to surface.

## 5. MUD PROGRAM

<u>RANGE</u>	<u>MUD TYPE</u>	<u>WEIGHT</u>
0' - 160'	Fresh-Spud	8.4
160' - 4,800'	LSND	8.6
4,800' - TD	LSND	8.8

Lost circulation and absorption material will be on location.

## 6. CORING, TESTING, & LOGGING

No cores or DSTs are planned. Open hole logs will include GR, Neutron-Density, and Induction. The Neutron Density will be run from TD to 5,900'. The other logs will be run from TD to the base of the surface casing.