

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

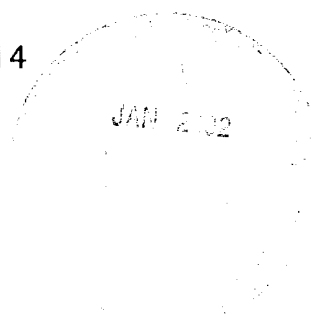
1a. TYPE OF WORK DRILL <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/>		5. LEASE DESIGNATION AND SERIAL NO. NMSF-078089
b. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/> SINGLE ZONE <input checked="" type="checkbox"/> MULTIPLE ZONE <input type="checkbox"/>		6. IF INDIAN, ALLOTTEE OR TRIBE NAME N/A
2. NAME OF OPERATOR MarkWest Resources, Inc. (303) 290-8700		7. UNIT AGREEMENT NAME 29240 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 36 #1
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. *) At surface 870' FNL & 665' FWL At proposed prod. zone Same		9. AP WELL NO. 30-045-30965
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* 12 air miles SSE of Bloomfield		10. FIELD AND POOL, OR WILDCAT Kutz PC West
15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any) 665'	16. NO. OF ACRES IN LEASE 2,560	11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA 36-27n-11w NMPM
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. 1,076'	19. PROPOSED DEPTH 2,200'	12. COUNTY OR PARISH 13. STATE San Juan NM
21. ELEVATIONS (Show whether DF, RT, GR, etc.) 6,494' ungraded		17. NO. OF ACRES ASSIGNED TO THIS WELL NW 1/160
		20. ROTARY OR CABLE TOOLS Rotary
		22. APPROX. DATE WORK WILL START* Feb. 15, 2002

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
8 3/4" 4-1 1/4"	K-55 4-5/8"	24	160'	~118 cu. ft. & to surface
6 3/4" 4-7/8"	K-55 4-1/2"	10.5	2,200'	~909 cu. ft. & to surface

This action is subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4.

On sited with Bill Liess
Archaeology report: CASA 01-114



ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED EXCEPT WHERE SHOWN OTHERWISE WITH APPLICABLE "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.

21. Bill Liess Consultant (505) 466-8120 12-31-01

SIGNED: _____ TITLE: _____ DATE: _____

PERMIT NO. _____ APPROVAL DATE: 1/24/02

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: [Signature] TITLE: AFM DATE: 1/24/02

See Instructions On Reverse Side
NMOCD

K

DISTRICT I
1626 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

AMENDED REPORT

DISTRICT IV
2040 South Pacheco, Santa Fe, NM 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30045-30965		Pool Code 79680	Pool Name KUTZ PICTURED CLIFFS WEST
Property Code 29240	Property Name SCOTT FEDERAL 27-11		Well Number 36-1
GRID No. 193195	Operator Name MARKWEST RESOURCES, INC.		Elevation 6494'

¹⁰ Surface Location

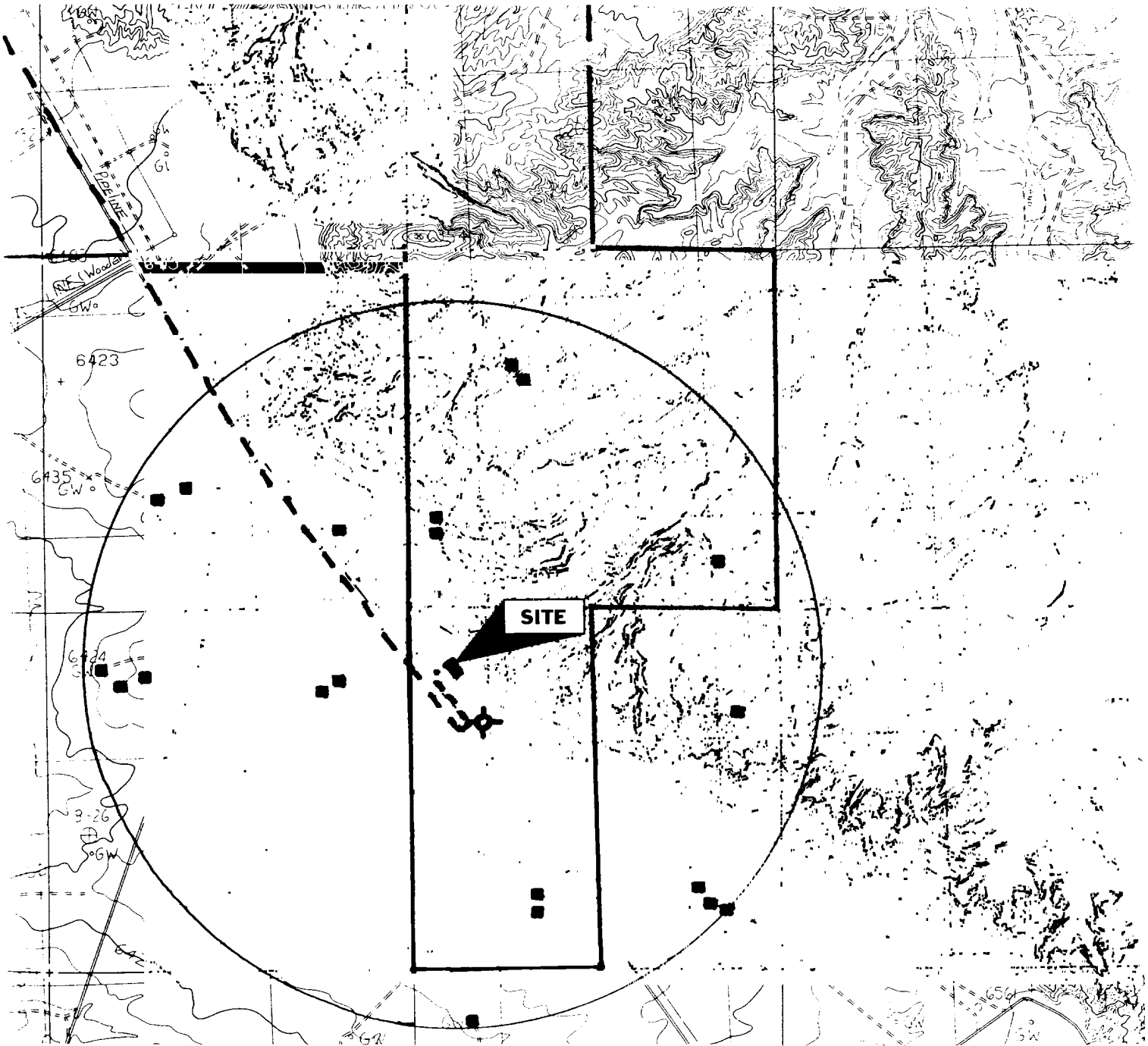
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	36	27-N	11-W		870'	NORTH	665'	WEST	SAN JUAN







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
Dedicated Acres 160			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

<p>16 FD 3 1/4" G.L.O. BC 1913</p> <p>870'</p> <p>665'</p> <p>658'</p> <p>450'</p> <p>N 89-54-10 E 5290.80'</p> <p>LAT. 36°32'12"N LONG. 107°57'43"W</p> <p>36</p> <p>S 00-03-14 E 5280.10'</p> <p>FD 3 1/4" BC G.L.O. 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></p> <p>Signature</p> <p>Printed Name BRIAN WOOD</p> <p>Title CONSULTANT</p> <p>Date DEC. 31, 2001</p>



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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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.

FORM APPROVED
OMB No. 1004-0135
Expires November 30, 2000

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 1**

9. API Well No. **30-045-30965**

10. Field and Pool, or Exploratory Area **KUTZ PC WEST**

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

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: 870' FNL & 665' FWL 36-27n-11w

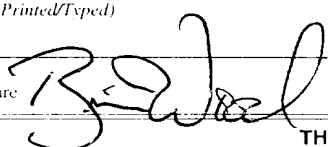
12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

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 change surface hole to 8-3/4" and surface casing to 7" 20# K-55 ST&C. Cement top and type will remain same, but volume will change to 50 cubic feet.

Long string hole will change to 6-3/4" hole. Casing, cement top & type will remain same. Cement volume will change to 310 cubic feet for Lead and 105 cubic feet for tail.

14. I hereby certify that the foregoing is true and correct
Name (Printed/Typed) **BRIAN WOOD** Title **CONSULTANT** (505) 466-8120
Signature  Date **1-14-02** cc: BLM (&OCD), Pippin, Stowe

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by _____ Title _____ Date **1/24/02**
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'	+6,494'
Ojo Alamo Ss	1,016'	1,021'	+5,478'
Kirtland Sh	1,123'	1,128'	+5,371'
Fruitland Coal	1,573'	1,578'	+4,921'
Pictured Cliffs Ss	2,051'	2,056'	+4,443'
Total Depth (TD)*	2,200'	2,205'	+4,294'

* all elevations reflect the ungraded ground level of 6,494'

2. NOTABLE ZONES

Gas & 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 \approx 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	2,200'

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 = 15.2 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 = 909 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 ≈ 325 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 ≈ 190 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.