

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. (303) 290-8700		7. UNIT AGREEMENT NAME 29109 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 #24
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)* At surface 1225' FSL & 985' FWL At proposed prod. zone 660' FSL & 660' FWL		9. AP WELL NO. 30-045-30927
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* 10 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) 933'* 18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. 921'** 21. ELEVATIONS (Show whether DF, RT, GR, etc.) 6,244'--ungraded		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA M 24-27n-11w NMPM
16. NO. OF ACRES IN LEASE 2,560 19. PROPOSED DEPTH 2,150'		12. COUNTY OR PARISH 13. STATE San Juan NM
17. NO. OF ACRES ASSIGNED TO THIS WELL. 59/4 160 20. ROTARY OR CABLE TOOLS Rotary		22. APPROX. DATE WORK WILL START* Dec. 15, 2001

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'	≈865 cu. ft. & to surface -

procedural review pursuant to 43 CFR 3165.3
and appeal pursuant to 43 CFR 3165.4.

*As measured from BHL. Closest lease line as measured from surface location is 1,571'

** As measured from BHL. Closest well as measured from surface location is 324'.

Well will be directionally drilled due to topography.

TVD = 1,950'. Measured depth = 2,150'.

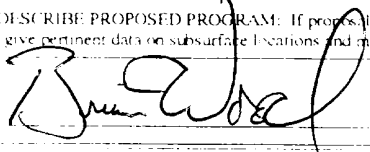
Directional profile, plan view, & details are at end of APD.

Archaeology report CASA 01-118 filed October 17, 2001.

On sited with Bill Liese.

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 prevention program, if any.

24.  Consultant (505) 466-8120 11-11-01
SIGNED _____ TITLE _____ DATE _____
(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE 1/24/02

Applicant 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:

 AFM 1/24/02
*See Instructions On Reverse Side

NMCOB

K

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

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

DISTRICT IV
2040 South Pacheco, Santa Fe, NM 87506

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 30-045-30927		*Pool Code 79680	*Pool Name KUTZ PICTURED CLIFFS WEST
*Property Code 29-109	*Property Name SCOTT FEDERAL 27-11		*Well Number 24
*GRID No. 193195	*Operator Name MARKWEST RESOURCES, INC.		*Elevation 6244'

¹⁰ Surface Location

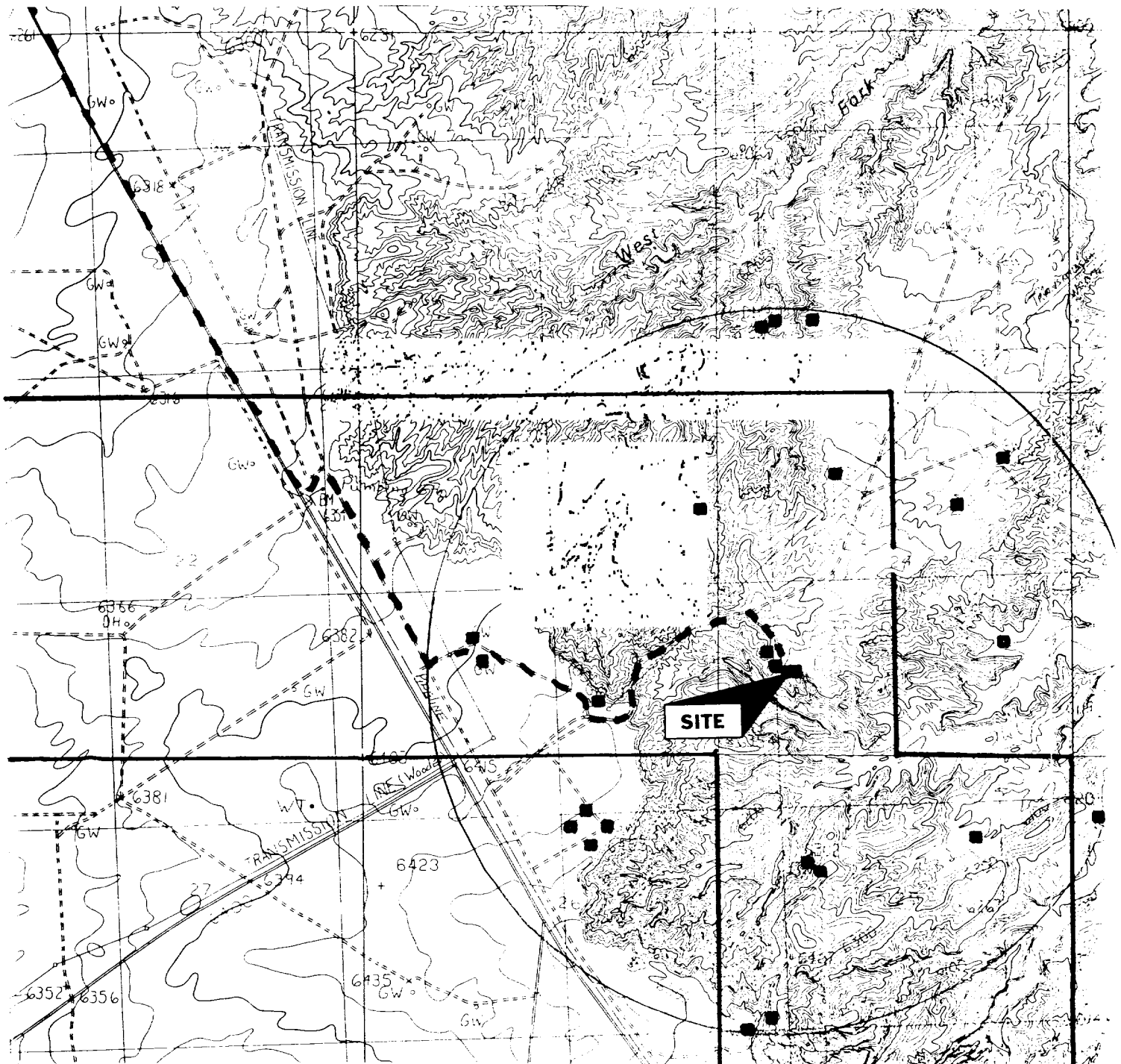
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	24	27-N	11-W		1225'	SOUTH	.985'	WEST	SAN JUAN

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
M	24	27-N	11-W		660'	SOUTH	660'	WEST	SAN JUAN
*Dedicated Acres 16.0			*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</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>Signature: <u>Brian Wood</u></p> <p>Printed Name: <u>BRIAN WOOD</u></p> <p>Title: <u>CONSULTANT</u></p> <p>Date: <u>NOVEMBER 11, 2001</u></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>Date of Survey: <u>8-28-01</u></p> <p>Signature and Seal of Registered Surveyor: <u>[Signature]</u></p> <p>Certificate Number: <u>8894</u></p>		<p>FD WC 1913 GLO BC NORTH 46.2 FEET</p> <p>CALC'D CORNER</p>	



PROPOSED WELL: ■ LEASE: ┌
EXISTING WELL: ● EXISTING ROAD: - - -

Scott Federal 27-11 24

Surface: 1225' FSL & 985' FWL

BHL: 660' FSL & 660' FWL

Sec. 24, T. 27 N., R. 11 W., San Juan County, New Mexico

Drilling Program1. ESTIMATED FORMATION TOPS

<u>Formation Name</u>	<u>TVD</u>	<u>KB Depth</u>	<u>Subsea Elevation</u>
Nacimiento Fm	000'	5'	+6,244'
Ojo Alamo Ss	825'	830'	+5,419'
Kirtland Sh	943'	948'	+5,301'
Fruitland Coal	1,409'	1,414'	+4,835'
Pictured Cliffs Ss	1,881'	1,886'	+4,363'
Total Depth (TD)*	1,950'	1,955'	+4,294'

* all elevations reflect the ungraded ground level of 6,244'

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.

Scott Federal 27-11 24

Surface: 1225' FSL & 985' FWL

BHL: 660' FSL & 660' FWL

Sec. 24, T. 27 N., R. 11 W., San Juan County, New Mexico

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>Setting Depth (MD)</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 cu. ft. (≈ 100 sx) Class B + 1/4 lb/sk cello-flake + 2% CaCl_2 . 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 1500 psi for 30 minutes.

Production casing will be cemented to the surface. Total cement = 865 cu ft. 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. WOC 12 hours. Test to 2000 psi.

Lead cement will be ≈ 310 sx Class B light cement (65% cement/35% POZ with 6% gel) with 5 #/sack gilsonite + 1/4 #/sack Flocele. Yield = 1.99 cu ft/sk. Weight = 12.4 #/gal.

Tail cement will be ≈ 180 sx 50/50 Class B POZ with 2% gel + 1/4#/sk Flocele + 0.5% Halad-9. Yield = 1.38 cu ft/sk. Weight = 13.5 #/gal.

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 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: 1225' FSL & 985' FWL 24-27n-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 24

9. API Well No.
30-045-

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

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 checked="" 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 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 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 300 cubic feet for Lead and 100 cubic feet for tail.

APD/ROW. Williams Field Services will lay 509.5' long 4-1/2" OD welded steel gas pipeline.

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

BRIAN WOOD

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

Signature

[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.

BLM