

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

780' FNL & 1040' FWL

At proposed prod. zone

660' FNL & 1980' FWL

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

10 air miles S of Bloomfield

15. DISTANCE FROM PROPOSED*

LOCATION TO NEAREST

PROPERTY OR LEASE LINE, FT.

(Also to nearest drlg. unit line, if any)

660'

16. NO. OF ACRES IN LEASE

2,560

17. NO. OF ACRES ASSIGNED

TO THIS WELL

160

18. DISTANCE FROM PROPOSED*

TO NEAREST WELL, DRILLING, COMPLETED,

OR APPLIED FOR, ON THIS LEASE, FT.

1,682'

19. PROPOSED DEPTH

2,340' MD

20. ROTARY OR CABLE TOOL

Rotary

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

6,321' ungraded

22. APPROX. DATE WORK WILL START*

Mar. 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	2,340'	≈964 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.

DRILLING OPERATIONS AUTHORIZED ARE
SUBJECT TO COMPLIANCE WITH ATTACHED
"GENERAL REQUIREMENTS".

RECEIVED

2001 NOV -5 PM 3:00

070 FEB 2002

HOLD C104 FOR

Directional Survey

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

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

Consultant (505) 466-8120

9-23-01

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
NMOCD

DISTRICT I
1st 25 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 87506

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-045-30898		*Pool Code 79680	*Pool Name KUTZ PICTURED CLIFFS WEST
*Property Code 29109	*Property Name SCOTT FEDERAL 27-11		*Well Number 22
*GRID No. 193195	*Operator Name MARKWEST RESOURCES, INC.		*Elevation 6321'

¹⁰ Surface Location

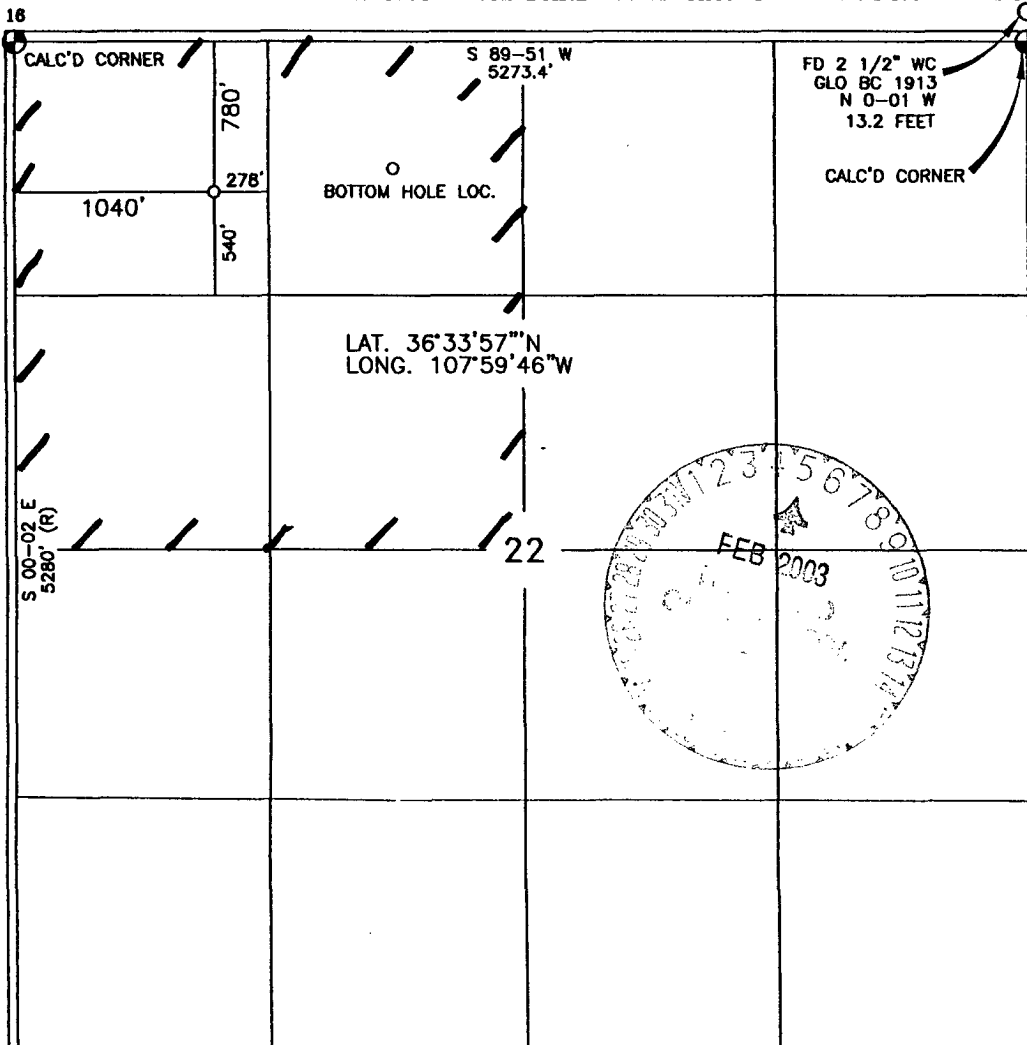
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	-22	27-N	11-W		780'	NORTH	1040'	WEST	SAN JUAN

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
C	22	27-N	11-W		660'	NORTH	1970'	WEST	SAN JUAN

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ 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.

Brian Wood
Signature

Printed Name BRIAN WOOD

Title CONSULTANT

Date
SEPTEMBER 23, 2001

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.

8-27-01
Date of Survey
Signature and Seal of Professional Surveyor:
[Signature]
8894

Certificate Number

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.

3a. Address

155 Inverness Dr. W, Suite 200
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: NWNW SEC 22, T27N, R11W: 780' FNL & 1040' FWL
BHL: SEC 22, T27N, R11W: 660' FNL & 1970' FWL**

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

9. API Well No.

30-045-30 898

10. Field and Pool, or Exploratory Area

Kutz PC West

11. County or Parish, State

SAN JUAN COUNTY, 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.)

Change BHL Footages on APD to match the C102 Survey Plat:

660' FNL & 1970' FWL

cc: NMOCD, BIA, Navajo Nation, Stowe, Pippen

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

ADAM CRATEAU

Title **CONSULTANT**

Signature

Adam Crateau

Date

5/24/02

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

/s/ David J. Mankiewicz

Title

Date

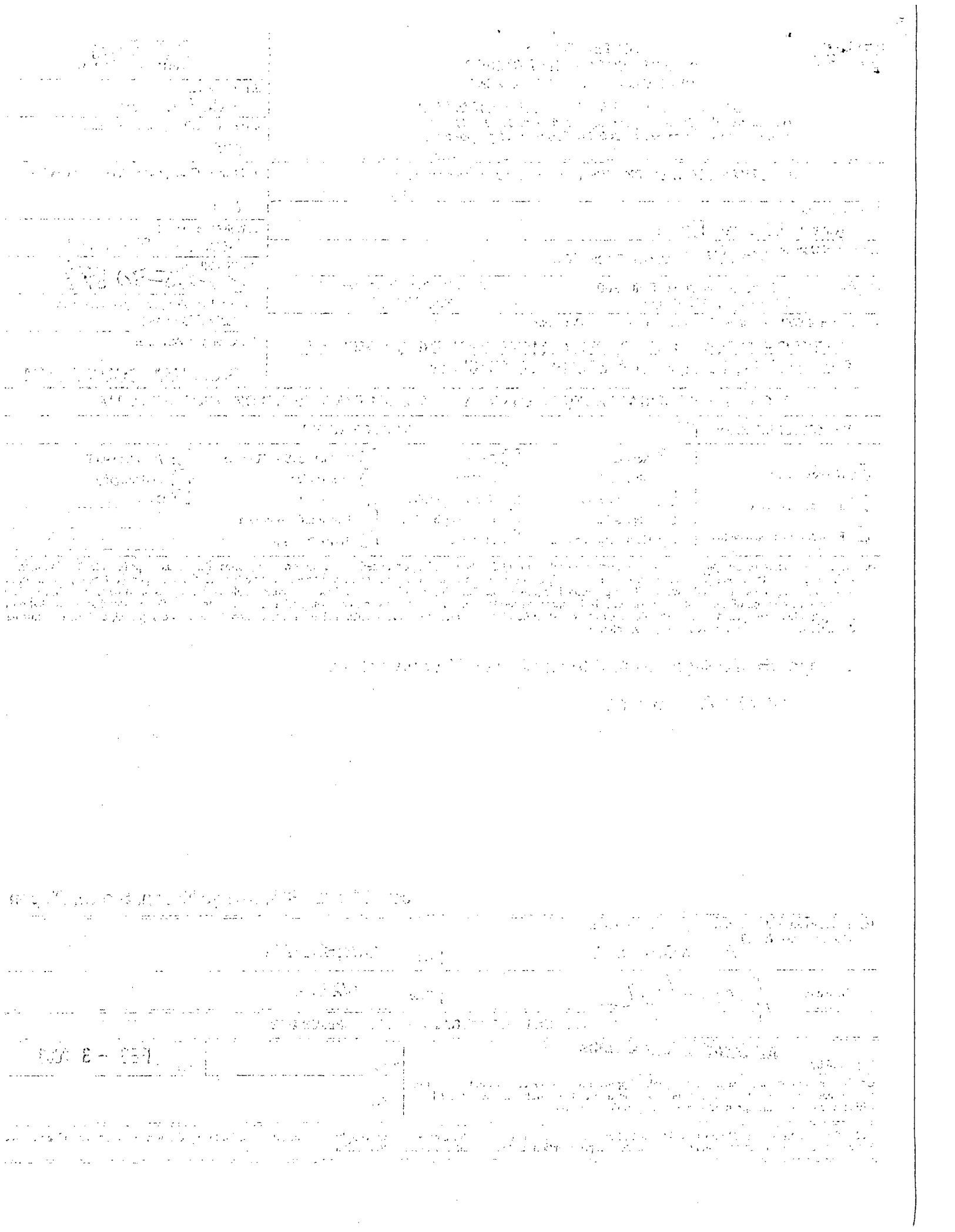
FEB - 3 2003

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.

NMOCD



MarkWest Resources, Inc.

PAGE 1

Scott Federal 27-11 #22

Surface: 780' FNL & 1040' FWL

BHL: 660' FNL & 1980' FWL

Sec. 22, T. 27 N., R. 11 W., San Juan County, New Mexico

Drilling Program

1. ESTIMATED FORMATION TOPS

<u>Formation Name</u>	<u>TVD from GL</u>	<u>KB Depth</u>	<u>Subsea Elevation</u>
Nacimiento Fm	000'	5'	+6,321'
Ojo Alamo Ss	868'	873'	+5,453'
Kirtland Sh	979'	984'	+5,342'
Fruitland Coal	1,495'	1,500'	+4,826'
Pictured Cliffs Ss	1,989'	1,994'	+4,332'
Total TVD*	2,150'	2,155'	+4,171'

* all elevations reflect the ungraded ground level of 6,321'. Measured depth will be 2,340'.

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 ≈ 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.

MarkWest Resources, Inc.

PAGE 2

Scott Federal 27-11 #22

Surface: 780' FNL & 1040' FWL

BHL: 660' FNL & 1980' FWL

Sec. 22, 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>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' (TVD)

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. 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 ≈ 686 cubic feet (≈ 345 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 ≈ 278 cubic feet (≈ 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. Total cement = 964 cubic feet.