Form 3160-3 (August 1999)

UNITED STATES DEPARTMENT OF THE INTERIOR RUREAU OF LAND MANAGEMENT

FORM APPROVED OMB No. 1004-0136 Expires November 30, 2000

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1	0200	Car	ial	No	

NMSF-078094	NI	VIS	F	-07	780	194
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BUREAU OF LAND MANAG	EMENT	1	141919L-01009	+
	6. If Indian, Allottee of	or Tribe Name		
APPLICATION FOR PERMIT TO DR	N/A			
,			7. If Unit or CA Agree	ment. Name and No
1a. Type of Work: DRILL REENTER			N/A	2739
			8. Lease Name and We	II No
1b. Type of Well: Oil Well Gas Well Other	Single Zone	Multiple Zone	FULLERTO	
2. Name of Operator			9. API Well No.	. 1. (1
MARKWEST RESOURCES, INC.	20021	×22×2	30-045- 3	1141
3a. Address 155 INVERNESS DR., Suite 200	3b. Phone No. (include area)	chile) 3 2 7 3	10. Field and Pool, or E	xploratory
ENGLEWOOD, CO. 80112	(303) 29 0-8700		BASIN FRUITLA	ND COAL
4. Location of Well (Report location clearly and in accordance with a	ny State rethinements 110	2002	11. Sec., T., R., M., or B	lk. and Survey or Area
At surface 1635' FSL & 1020' FEL	E ROLL	11	<u></u>	
		3.0w. 3	I11-27n-11w	NMPM
At proposed prod. zone SAME	Acres a respectively			1.0
4. Distance in miles and direction from nearest town or post office*	500	.,	12. County or Parish SAN JUAN	13. State
9 AIR MILES SSE OF BLOOMFIELD	<u> </u>		L	
15. Distance from proposed* location to nearest	16. No. of Acres in lease	C 17 Spacin	g Unit dedicated to this w	eli
property or lease line, ft.	2,560	320 /	ACRES (S2)	
(Also to nearest drig. unit line, if any)	-		<u> </u>	
18. Distance from proposed location*	19. Proposed Depth	20. BLM/I	BIA Bond No. on file	
to nearest well, drilling, completed, applied for, on this lease, ft.	1,900'	KA	6084 (BLM - NA	TIONWIDE)
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work	<u> </u>	23. Estimated duration	
6,004' GL	NOVEMBER 1		2 WEEKS	
0,004 02		1, 2002	Z WEEKO	
	24. Attachments			
The following, completed in accordance with the requirements of Onshor	e Oil and Gas Order No.1, sha	all be attached to thi	s form:	
Well plat certified by a registered surveyor.	4. Bond to	cover the operatio	ns unless covered by an ex	cisting bond on file (see
2. A Drilling Plan.	Item 20		in amoss covered by an or	moung come on the (are
3. A Surface Use Plan (if the location is on National Forest System Land		certification.		
SUPO shall be filed with the appropriate Forest Service Office).		ier site specific infor ed officer.	mation and/or plans as ma	ly be required by the
	Lucitoriza			
Conunents				
On site inspection with Roger Herrera.				
Archaeology report CASA 01-117 filed	10-16-01.			~
Infillite FFI#41	,			9 9 -
י וווי טרוו איין				
	This acti	on is subject to tec		FARMAGICA PARAMAGICA P
BRILLING OPERATIONS AUTHORIZED ARE	procedu	ral review pursuant eal pursuant to 43 r	Inical and to 43 CFR 3165 3	5
SUBJECT TO COMPLIANCE WITH ATTACHED	and app	eal pursuant to 43 (OFR 3165.4	
BRILLING OPERATIONS AUTHORIZED ARE SUBJECT TO COMPLIANCE WITH ATTACHED "GENERAL REQUIREMENTS".				3 3 5
				92
\ \	•	00	-DIM (2000)	Dinnin Stavio

25. Signature

Name (Printed/Typed)
BRIAN WOOD

Title

CONSULTANT
PHONE: 505 466-8120

Approved by (Signature)

Name (Printed/Typed)

Name (Printed/Typed)

WAYNE TOWNSEND

Date

Date

Office

FFO

Application approval does not warrant or ceftify the 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, are attached.

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.

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

DESTRICT III 1000 Rio Brazos Rd., Astec, N.M. 87410 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

6004'

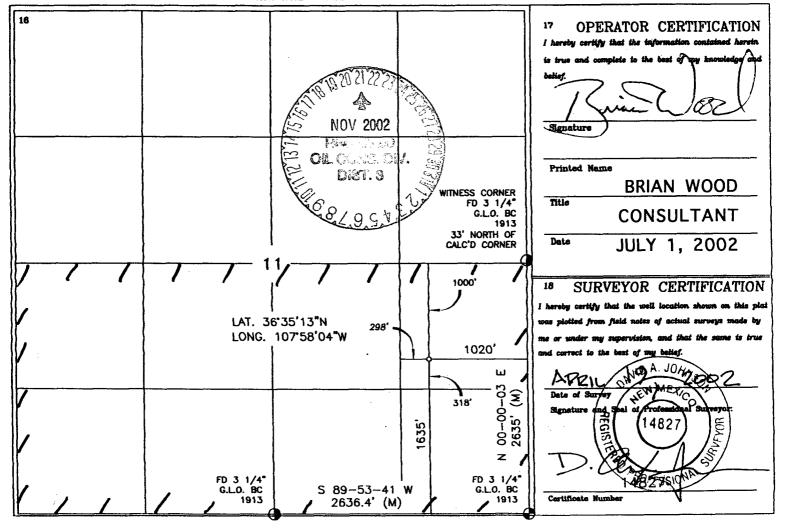
DISTRICT IV 2040 South Pacheco, Santa Fe, NM 87505

,	WELL LOCATION AND	ACREAGE DEDICATION PLAT	
30-045-3114	71629	BASIN FRUITLAND COAL	
⁴ Property Code	*Pr	operty Name	• Weil Number
. 27395	• FULLER	TON FEDERAL	*111
OGRID No.	• Op	erator Name	• Elevation
193195	• MADICUEOT	DECOMPOSE INO	6004

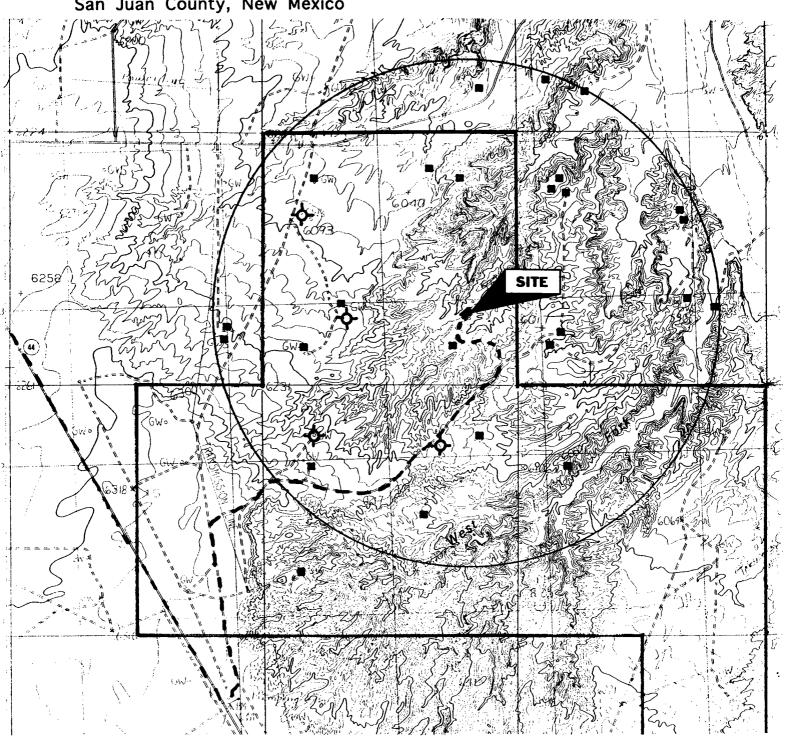
MARKWEST RESOURCES, INC.

					10 Surface	Location		_ 2	_
UL or lot no.	Section 11	Township - 27-N	Range - 11-W	Lot idn	Feet from the 1635'	North/South line SOUTH	Feet from the 1020'	East/West lime	County SAN_JUAN
						f Different Fro			Ö
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West dipe	County
¹⁸ Dedicated Acre	320)	18 Joint or	infili	¹⁴ Consolidation	Code	¹⁵ Order No.	<u>ु</u> ५.	

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



MarkWest Resources, Inc. Fullerton Federal 111 1635' FSL & 1020' FEL Sec. 11, T. 27 N., R. 11 W. San Juan County, New Mexico



PROPOSED WELL:

EXISTING WELL: ■
P & A WELL: ❖

LEASE BOUNDARY: EXISTING ROAD;



MarkWest Resources, Inc. Fullerton Federal 111 1635' FSL & 1020' FEL Sec. 11, T. 27 N., R. 11 W. San Juan County, New Mexico

Drilling Program

1. ESTIMATED FORMATION TOPS

Formation Name	<u>GL Depth</u>	KB Depth	<u>Elevation</u>
Nacimiento Fm	000'	5'	+6,004'
Ojo Alamo Ss	699'	704'	+5,305'
Kirtland Sh	803'	808'	+5,201'
Fruitland Coal	1,419'	1,424'	+4,585'
Pictured Cliffs Ss	1,774'	1,779'	+4,230'
Total Depth (TD)*	1,900'	1,905'	+4,104'

^{*} all elevations reflect the ungraded ground level of 6,004'

2. NOTABLE ZONES

Gas or Oil Zones	Water Zones	<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 8" double ram 2,000 psi model is on PAGE 3.



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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" screw connections. 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, 2000 psi choke manifold with 2" adjustable choke with screw connections, and pressure gauge. BOPs will be tested every 24 hours. Tests will be recorded on IADC log.

4. CASING & CEMENT

Hole Size	<u>O. D.</u>	Weight (lb/ft)	<u>Grade</u>	<u>Age</u>	Connection	GL Setting Depth
11"	8-5/8"	24	K-55	New	ST&C	160'
6-1/4"	4-1/2"	10.5	K-55	New	ST&C	1.900'

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 = 15.6 pounds per gallon. Volume = 100% excess. A guide shoe and insert float will be used with 3 centralizers. W. O. C. =12 hours. Surface casing will be tested to 500 psi for 30 minutes.

Production casing will be cemented to the surface. Total cement = 340 cubic feet. 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. W. O. C. = 12 hours. Test to 3,800 psi.

Lead cement = 263 cubic feet (\approx 128 sacks) Class B cement with 2% SM, 3 pounds per sack gilsonite + 1/4 pound per sack cello-flake. Yield = 2.06 cubic feet per sack. Weight = 12.5 pounds per gallon.

Tail cement = 77 cubic feet (\approx 50 sacks) Class B + 4% gel + 1/4#/sack cello-flake + 2% CaCl₂. Yield = 1.55 cubic feet per sack. Weight = 14.5 #/gallon.

