			E 6 7	V C T					
FORM 3160- (December 19		,	34307		TRIPLICATE* er instructions on	Form approved. Budget Bureau No. 1004-0136			
		UNITED	STATES		reverse side)	Expires December 31, 1991			
	DEPA	ARTMENT O	F THE INTERIOF	b4 😭		5. LEASE DESIGNATION AND SERIAL NO.			
	BU	REAU OF LAN	D MANAGEMENT	004 SEP 8	<u>60 10 33</u>	USA-NM-6894			
AF	PLICATION	FOR PERMIT	TO DRILL, DEEPE	N, OR PLUC	BACK	6. IF INDIAN, ALLOTTEE OR TRIBE NAME			
la. TYPE OF		LLX DE	EPEN ,	OTO FARM	INGTON NA	7. UNIT AGREEMENT NAME			
/			21.55.33		·	8. FARM OR LEASE NAME, WELL NO.			
· 	MEIT M	GAS X	OTHER ZO		MULTIPLE ZONE	Federal 26 #1S			
2. NAME OF		Resources Corp	oration			9. API WELL NO. 30-045-32573			
•• • • • • • • • • • • • • • • • • • • •	OF OPERATOR					10. FIELD AND POOL OR WILDCAT			
			t., Farmington, NM 87		4892	Basin Fruitland Coal			
4. LOCATION At Surface	· •	ocation clearly and in acc L and 1250' FE	ordance with any State requirement	ts.*)	,	11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA			
,	d Prod. Zone	. ana 1230 T.L.				AND SURVEY OR AREA Sec. 26, T32N, R8W			
14. DISTANC		MON FROM NEAREST TO S North of Nava				12. COUNTY OR PARISH San Juan County NM			
15. DISTANC		CATION TO NEAREST P	/	S IN LEASE	17.	NO. OF ACRES ASSIGNED TO THIS WELL			
	E LINE, FT.(Also to neares 1020'			640		320 E/2			
		CATION* TO NEAREST V LIED FOR ON THIS LEAS				ROTARY OR CABLE TOOLS			
	150'			35	38	Rotary			
21. ELEVATI	ONS (Show whether DF, $R = 6637' GR$	T, GR, etc.)				22. APPROX. DATE WORK WILL START* As soon as permitted			
23.			SED CASING AND CEMI						
	12-1/4"	9-5/8"	32.3#	+/- 240	CTTING DEPTH	QUANTITY OF CEMENT ~153 cf Class "B" w/ 1/4#CF & 2% CaCl 2			
	8-3/4"	7"	23#	+/- 329		~906 cf Lightwt & ~177 cf Class "B"			
	6-1/4"	5-1/2"	15.5#	+/- 35		Open hole completion - No Cement			
	n Rosaurcos Ca	orporation proj	oses to drill a vertice	al well to deve	lon the Fruitle	and Coal formation at the above			
describ jurisdic This loc Copies This AI any nev	ed location in a ction of the Bur cation has beer of their report PD also is servi w access road (accordance with eau of Land Manachaeologica have been subing as an applicate Pipeline &	n the attached drilling anagement ally surveyed by DCA nitted directly to you	g and surface (Divison of C r office. and pipeline i	use plans. The onservation A right-of-ways.	e surface is under the rchaeology - Salmon Ruins) This well will not require			

*See Instructions On Reverse Side Title 18 U.S.C. Section 1001, makes 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.

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.

(This space for Federal or State office use)

CONDITIONS OF APPROVAL

PERMIT NO.

APPROVED BY

District I

1625 N. French Dr., Hobbs, NM 88240

District II

1301 W. Grand Avenue, Artesia, NM 88210

District III

1000 Rio Brazos Rd., Aztec, NM 87410

District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fe, NM 87505

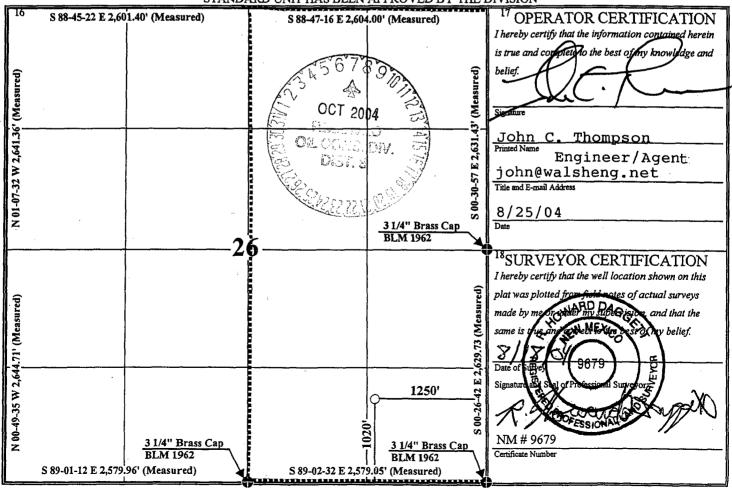
Form C-102 Revised June 10, 2003 Submit to Appropriate District Office State Lease - 4 Copies

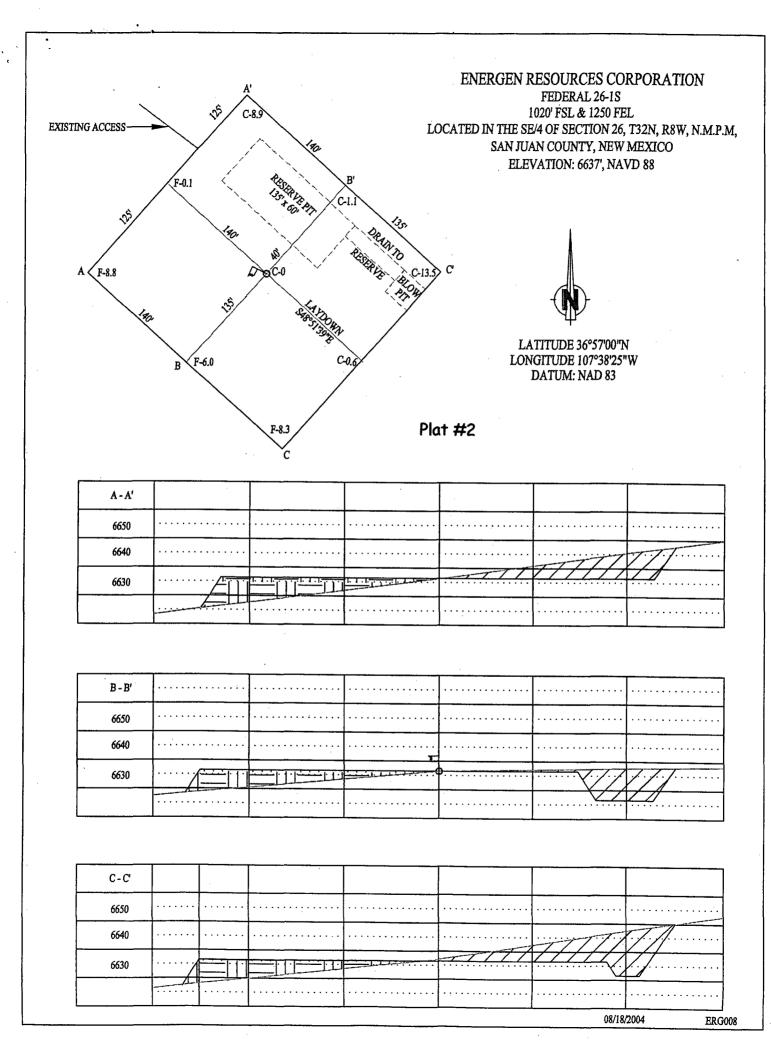
Fee Lease - 3 Copies

☐ AMENDED REPORT

		W	ELL LO	CATIC	N AND ACF	REAGE DEDIC	CATION PLA	T		
API Number 2 Pool Code				ie e	³ Pool Name					
30-045-	573_	716	29		Overpresss, FT Coal					
Property Code					⁵ Property	erty Name			⁶ Well Number	
13435			Federal 26					1 S		
'OGRID			Operator Name					⁹ Elevation		
162928				Energen Resources Corporation					6637'	
	¹⁰ Surface Location									
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West	t line	County
P	26	32N	8W		1020	South	1250	East	t	San Juan
	L		11 D	L				L		<u> </u>
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	t line	County
					<u> </u>	l				
12 Dedicated Acres	Joint o	r Infill 14 Co	nsolidation	Code 15 O	order No.			, , , ,		
320 E/2	2									

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





Form 3160-5 (August 1999)

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.

NMNM6894

6. If Indian, Allottee or Tribe Name

5. Lease Serial No.

abandoned wen	i. Ose form 5100-5 (Al	b) for such proposuls.					
SUBMIT IN TRIE	PLICATE - Other instruc	ctions on reverse side.	7. If Unit or CA/Agre	ement, Name and/or No.			
Type of Well ☐ Gas Well ☐ Oth	er: COAL BED METHAN	E	8. Well Name and No. FEDERAL 26 1S				
2. Name of Operator ENERGEN RESOURCES CO	Contact:	VICKI DONAGHEY E-Mail: vdonaghe@energen.com	9. API Well No. 30-045-32573-	9. API Well No. 30-045-32573-00-X1			
3a. Address 2198 BLOOMFIELD HIGHWA FARMINGTON, NM 87401	Y	3b. Phone No. (include area code) Ph: 505.325.6800 Ext: 238 Fx: 505.326.6112	10. Field and Pool, or BASIN FRUITL	10. Field and Pool, or Exploratory BASIN FRUITLAND COAL			
4. Location of Well (Footage, Sec., T	., R., M., or Survey Descriptio	n)	11. County or Parish,	and State			
Sec 26 T32N R8W SESE 102	0FSL 1250FEL		SAN JUAN CO	SAN JUAN COUNTY, NM			
12. CHECK APPR	ROPRIATE BOX(ES) To	O INDICATE NATURE OF N	NOTICE, REPORT, OR OTHE	R DATA			
TYPE OF SUBMISSION		ТҮРЕ ОГ	ACTION				
N-4:	Acidize	Deepen	Production (Start/Resume)	☐ Water Shut-Off			
Notice of Intent	☐ Alter Casing	Fracture Treat	☐ Reclamation	☐ Well Integrity			
☐ Subsequent Report	☐ Casing Repair	☐ New Construction	Recomplete	Other			
Final Abandonment Notice	☐ Change Plans	Plug and Abandon	☐ Temporarily Abandon	Change to Original A PD			
_	Convert to Injection	Plug Back	Water Disposal				
Total Depth has been revised New TD: 3538			OCT 200a	STATE STATES			
14. I hereby certify that the foregoing is	true and correct.			<u>/</u>			
	Electronic Submission For ENERGEN RESC	#36163 verified by the BLM Wel DURCES CORPORATION, sent to ssing by ADRIENNE BRUMLEY of	to the Farmington				
Name (Printed/Typed) VICKI DO			JCTION ASSISTANT				
Signature (Electronic S	Submission)	Date 09/15/2	004				
	THIS SPACE F	OR FEDERAL OR STATE	OFFICE USE	The state of the s			
	10						
Approved By Harry	unsons	Title Ac	ing AFM	Dale 9/0			
Conditions of approval, if any, are attached the certify that the applicant holds legal or equivalent would entitle the applicant to condition	uitable title to those rights in the	es not warrant or he subject lease Office		-			
Fitle 18 U.S.C. Section 1001 and Title 43 States any false, fictitious or fraudulent	U.S.C. Section 1212, make it statements or representations a	a crime for any person knowingly and as to any matter within its jurisdiction	d willfully to make to any department of	or agency of the United			

Energen Resources Corporation

Operations Plan Federal 26 No. 1S

(Note: The following may be adjusted on site based upon actual conditions)

1. Location

Location

1020' fsl & 1250' fel (se se)

Sec 26, T32N, R8W

San Juan County, New Mexico

Elevations

6637' GL

Total Depth

3598' MD RKB

Well Objective

Basin Fruitland Formation

2. Formation Tops

A.	<u>Formation</u>	Depth-KB
	San Jose Fm.	Surface
	Nacimiento Fm.	763'
	Ojo Alamo Ss.	2303
	Kirtland Sh.	2373'
	Fruitland Fm.	3113'
	Top Coal	3228'
	Base Coal	3538'
	Pictured Cliffs Ss.	3538'
	Total Depth	3598'

Estimated depths of anticipated water, oil, gas and other mineral bearing formations which are expected to be encountered:

Water and gas: 2373' - 3538'

B. Logging program: Induction/GR and Density logs at TD

3. Hazards

Overpressuring/H2S

The Fruitland Coal in this area can be overpressured. Because of this, intermediate casing will be set above the main coal section. If excessive pressure is encountered before the intermediate casing setting depth, the mud system shall be sufficiently weighted to keep well from flowing.

Maximum expected BHP: 1500 psig.

No known H2S zones will be penetrated in this well.

Lost Circulation

Lost circulation is not expected to be a problem. However, in the event lost circulation zones are encountered or hole stability problems develop, lost circulation material (LCM) will be on location to be used with any mud systems that may be needed to address the lost circulation zones. Also, lost circulation material will be used in the intermediate cement in attempt to minimize any lost circulation zones/problems that may be encountered during cementing of the intermediate string.

4. Drilling

A. Contractor: Aztec Well Service

B. Mud Program:

The surface hole will be drilled with a fresh water mud system.

The production hole will be drilled with a fresh water/polymer mud system. The weighting material will be drill solids or if conditions dictate, barite. The maximum weight expected is 9.5 ppg.

C. Minimum Blowout Control Specifications

Double ram type or annular type 2000 psi working pressure BOP with a rotating head will be utilized. See the attached Exhibits #1 for details on the BOP equipment. All ram type preventers and related equipment will be hydraulically tested at nipple-up and after any use under pressure to 1000 psi.

The blind rams will be hydraulically activated and checked for operational readiness each time pipe is pulled out of the hole. All checks of the BOP stack and equipment will be noted on the daily drilling report. The BOP equipment will include a kelly cock, floor safety valve, and choke manifold all rated to 2000 psi.

4. Casing & Materials

A. Casing

	<u>String</u>	<u>Interval</u>	Hole Size	Csq OD	Wt lb/ft	₩ Grade	
	Surface	0'-240'	12-1/4"	9-5/8"	32.3	J-55/ST&C	
\triangleright	Intermeditate	0'-3293'	8-3/4"	7"	23.0	J-55/ST&C	
	Production	3193'-3598'	6-1/4"	5-1/2"	15.5	J-55/LT&C	

B. Float equipment

- I) Surface Casing: Texas Pattern Guide shoe on bottom. 3 bow type centralizes, spaced every other joint from bottom.
- II) Intermediate Casing: 7" cement nose guide shoe with a self fill insert float collar on top of bottom joint. 10 bow spring centralizers spaced every 2nd joint off bottom. Two turbolating centralizers at the base of the Ojo Alamo.
- II) Liner: 5-1/2": 5-1/2" cement guide shoe w/ insert float, run on bottom joint. No centralizers open hole completion, no cement.

0

5. Cementing

Surface Casing: 9-5/8" – Use 130 sx (153 cu.ft.) of Class "B" with 1/4#/sk celloflake and 2% CaCl2. (yield: 1.18 cu.ft./sk; slurry weight: 15.6 ppg). Use 100% excess to circulate cement to surface. WOC 12 hours. Pressure test surface casing to 1000 psi for 30 min.

Intermediate Casing: 7" – Before cementing circulate hole with at least 1-1/2 hole volumes of mud. Precede cement with 20 bbls of fresh water. Lead with 440 sx (906 cu.ft.) of Class "B" with 2% SMS (sodium metasilicate) and ½#/sk celloflake. (yield: 2.06 cu.ft./sk; slurry weight: 12.5 ppg). Tail with 150 sx (177 cu.ft.) of Class "B" with ½#/sk cellolake (yield: 1.18 cu.ft./sk; slurry weight: 15.6 ppg). Total cement/hole volume is 1082 cu.ft. (use 100% excess to circulate cement to surface).

Liner: 5-1/2" - Open hole completion, no cement.

6. Completion

Well will be cavitated. Surge well with air/gas and water/soap then flow back. Rotate and reciprocate drill string while pumping air/mist to clean out after surges. Repeat process until flow rates stabilize (no further increase). After the 5-1/2" liner is set the well will be selectively perforated and tested for production. If productive the well will be produced thru 2-3/8" tubing.

7. Surface Facilities

- 1. If well is productive, set separator, production tank (or water lines) and any related production equipment.
- 2. Set meter and tie well into pipeline.
- 3. Turn wellover to production department.
- 4. Rehabilitate as per the managing surface agency request.

John C. Thompson

Engineer

Energen Resources Corp.

Well Control Equipment Schematic for 2M Service

Attachment to Drilling Technical Program

Exhibit #1 Typical BOP setup

