

SUBMIT IN TRIPLICATE*
(Other instructions on
reverse side)

Form approved.
Budget Bureau No. 1004-0136
Expires December 31, 1991

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

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK DRILL <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/>		5. LEASE DESIGNATION AND SERIAL NO. 14 NM-060'06	
1b. TYPE OF WELL OIL <input type="checkbox"/> GAS <input checked="" type="checkbox"/> OTHER <input type="checkbox"/> SINGLE <input checked="" type="checkbox"/> ZONE <input type="checkbox"/> MULTIPLE <input type="checkbox"/> ZONE <input type="checkbox"/>		6. IF INDIAN, ALLOTTEE OR TRIBE NAME FARMINGTON IN	
2. NAME OF OPERATOR Energen Resources Corporation		7. UNIT AGREEMENT NAME 31-10 28 #2S	
3. ADDRESS OF OPERATOR c/o Walsh Engineering 7415 E. Main St., Farmington, NM 87402 (505) 327-4892		8. FARM OR LEASE NAME, WELL NO. 3004532744	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. *) At Surface 1924' FSL and 1184' FEL At proposed Prod. Zone		9. API WELL NO. 3004532744	
10. FIELD AND POOL OR WILDCAT Basin Fruitland Coal		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA I Sec. 28, T31N, R10W	
12. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* ~ 8 Northwest of Aztec, NM		13. STATE NM	
15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any) 1184'	16. NO. OF ACRES IN LEASE 2394.72	17. NO. OF ACRES ASSIGNED TO THIS WELL 304.58	
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR ON THIS LEASE, FT. 200'	19. PROPOSED DEPTH 3134'	20. ROTARY OR CABLE TOOLS Rotary	
21. ELEVATIONS (Show whether DF, RT, GR, etc.) 6202' GR		22. APPROX. DATE WORK WILL START* As soon as permitted	
23. PROPOSED CASING AND CEMENTING PROGRAM			
SIZE OF HOLE	SIZE OF CASING	WEIGHT/FOOT	SETTING DEPTH
12-1/4"	8-5/8"	24.0 ppf	+/- 300'
7-7/8"	5-1/2"	15.5 ppf	+/- 3134'
		QUANTITY OF CEMENT	
		~247 cf Class "B" w/ 1/4#CF & 2% CaCl ₂	
		~911 cf Lightw & ~177 cf Class "B"	

Energen Resources Corporation proposes to drill a vertical well to develop the Fruitland Coal formation at the above described location in accordance with the attached drilling and surface use plans. The surface is under the jurisdiction of the Bureau of Land Management.

This location has been archaeologically surveyed by DCA (Division of Conservation Archaeology - Salmon Ruins) Copies of their report have been submitted directly to your office.

This APD also is serving as an application to obtain road, pipeline and electrical right-of-ways. This well will not require any new access road (see Pipeline & Well Plats #3 & #4).

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface location and measured and true vertical depths. Give blowout preventer program, if any.

24. SIGNED John C. Thompson TITLE Agent DATE 12/13/2004

(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 AFM TITLE AFM DATE 2-24-05

*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.

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

NMOC

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

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

2004 DEC 14 PM 1:00 AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number		² Pool Code		³ Pool Name UP FRUITLAND COAL	
⁴ Property Code 34733		⁵ Property Name HART CANYON 31-10 28			⁶ Well Number 2S
⁷ OGRID No.		⁸ Operator Name ENERGEN RESOURCES CORPORATION			⁹ Elevation 6202'

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
I	28	31N	10W		1924	SOUTH	1184	EAST	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

¹² Dedicated Acres 304.54	¹³ Joint or infill	¹⁴ Consolidation Code	Order No.
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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

S 89-27-51 W 2665.51' (MEAS.)		N 88-40-01 W 2558.26' (MEAS.)	
S 89-29-00 W 2665.74' (REC.)		N 88-38-00 W 2560.14' (REC.)	
FD 3 1/4" BRASS CAP BLM 1968			FD 3 1/4" BRASS CAP BLM 1968
2633.32' (MEAS.) 2634.07' (REC.)			2716.56 (REC.) 2720.34' (MEAS.)
N 00-14-59 W N 00-12-00 W			N 05-02-00 E N 04-56-05 E
FD 3 1/4" BRASS CAP BLM 1968			FD 3 1/4" BRASS CAP BLM 1958
N 00-04-54 E N 00-01-00 E			N 01-59-00 W N 01-55-09 W
2678.17' (MEAS.) 2678.94' (REC.)			2607.66' (REC.) 2605.19' (MEAS.)
FD 3 1/4" BRASS CAP BLM 1968			FD 3 1/4" BRASS CAP BLM 1968
N 89-33-00 W 5064.84' (REC.)			
N 89-35-19 W 5066.37' (MEAS.)			

28

DEDICATED ACREAGE S/2

1184'

1924'

17 OPERATOR CERTIFICATION
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.
Signature
John C. Thompson
Printed Name Engineer
john@walsheng.net
Title and E-mail Address
12/13/04
Date

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.
Date of Survey
Signature and Seal of Professional Surveyor
NM #14827
Certificate Number

Submit 3 Copies To Appropriate District
Office
District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Ave., 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 and Natural Resources

Form C-103
May 27, 2004

OIL CONSERVATION DIVISION
1220 South St. Francis Dr
Santa Fe, NM 87505

SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)		WELL API NO.
1. Type of Well: Oil Well <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other		5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input type="checkbox"/>
2. Name of Operator Energen Resources Corporation		6. State Oil & Gas Lease No.
3. Address of Operator c/o Walsh Engineering & Production, 7415 E. Main, Farmington, NM 87402		7. Lease Name or Unit Agreement Name Hart Canyon 31-10 28
4. Well Location Unit Letter <u>I</u> : <u>1924</u> feet from the <u>South</u> line and <u>1184</u> feet from the <u>East</u> line Section <u>28</u> Township <u>31N</u> Range <u>10</u> NMPM San Juan County		8. Well Number No. 2S
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 6202' GR		9. OGRID Number 162928
Pit or Below-grade Tank Application <input checked="" type="checkbox"/> or Closure <input type="checkbox"/>		
Pit type <u>Drilling Pit</u> Depth to Groundwater <u>>100'</u> Distance from nearest fresh water well <u>>1000'</u> Distance from nearest surface water <u>>1000'</u>		
Pit Liner Thickness: <u>12</u> mil Below-Grade Tank: Volume <u> </u> bbls; Construction Material <u> </u>		

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	P AND A <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	MULTIPLE COMPL <input type="checkbox"/>	CASING/CEMENT JOB <input type="checkbox"/>	
OTHER: <u>X</u>		OTHER: <input type="checkbox"/>	

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Drilling Pit Permit Request

See APD for location of pit relative to wellhead. Note: location is on federal minerals and federal surface. Will close as per Energen Resources pit closure plan and NMOCD Guidelines in accordance with Rule 50.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines X, a general permit X or an (attached) alternative OCD-approved plan ☐.

SIGNATURE John C. Thompson TITLE Engineer/Agent DATE 12/14/04

Type or print name
For State Use Only

E-mail address: john@walsheng.net Telephone No. 327-4892

APPROVED BY: [Signature]
Conditions of Approval (if any):

TITLE DEPUTY OIL & GAS INSPECTOR, DIST. 08 DATE FEB 28 2005

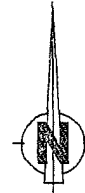
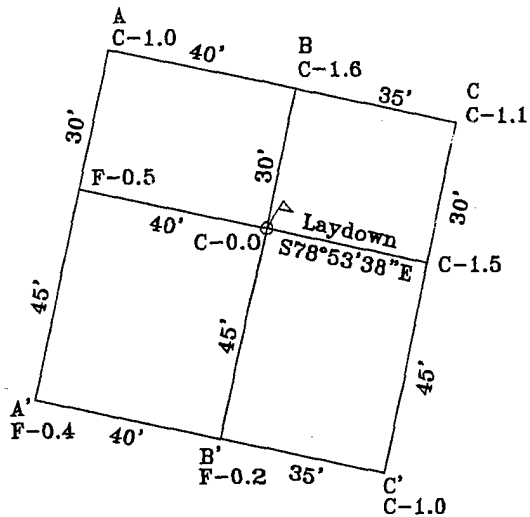
ENERGEN RESOURCES CORPORATION

HART CANYON 31-10 28 #2S

1924' FSL, 1184' FEL

LOCATED IN THE NE/4 SE/4 OF
SECTION 28, T31N, R10W, N.M.P.M.,
SAN JUAN COUNTY, NEW MEXICO

ELEVATION: 6202', NAVD 88



LATITUDE: 36°52'03"N
LONGITUDE: 107°52'59"W
DATUM: NAD 83

Plat #2

A - A'						
6220						
6200						
6190						
6180						

B - B'						
6220						
6200						
6190						
6180						

C - C'						
6220						
6200						
6190						
6180						

Operations Plan

December 6, 2004

Hart Canyon 31-10-28 #2S

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

General Information

Location	1924' fsl, 1184' fel nene S28, T31N, R10W San Juan County, New Mexico
Elevations	6202' GL
Total Depth	3134' (MD)
Formation Objective	Basin Fruitland Coal

Formation Tops

Nacimiento	Surface
Ojo Alamo Ss	1409'
Kirtland Sh	1509'
Fruitland Fm	2574'
Top Coal Interval	2744'
Bottom Coal Interval	2934'
Pictured Cliffs Ss	2939'
Total Depth	3134'

Drilling

The 12 1/4" wellbore will be drilled with a fresh water mud system.

The 7 7/8" wellbore will be drilled with a low solids fresh water/polymer mud system. Weighting materials will be drill cuttings and if needed barite. Mud density is expected to range from 8.9 ppg to 9.5 ppg.

Blowout Control Specifications:

An 11" 2000 psi minimum double gate BOP stack (figure 1) will be used following nipple up of casing head. During air drilling operations, a Shaffer Type 50 or equivalent rotating head will be installed on top of stack. A 2" nominal, 2000 psi minimum choke manifold will also be used. An upper Kelly Cock valve handle available and drill string valve to fit each drill string will be available on the rig floor during drilling operations.

Logging Program:

Open hole logs: Surface to TD use Induction/GR and Density logs at TD

Mud logs: Check with Greg Jennings

Coring: None

Natural Gauges: None

Tubulars

Casing, Tubing, & Casing Equipment:

String	Interval	Wellbore	Casing	Csg Wt	Grade
Surface	0'-300'	12 1/4"	8 5/8"	24.0 ppf	J-55 ST&C
Production	0-3134'	7 7/8"	5 1/2"	15.5 ppf	J-55 LT&C
Tubing	0'-3100'		2 3/8"	4.7 ppf	J-55

Casing Equipment:

Surface Casing: Texas Pattern Guide Shoe on bottom. 4 bow spring centralizers spaced every other joint from bottom.

Production Casing: Cement nose guide shoe with 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.

Wellhead

8 5/8" 2000 x 5 1/2" Larkin casing head. 5 1/2" 2000 x 2" tubing head.

Cementing

Surface Casing: 210 sks Std (class B) with 2.0 % CaCl₂ and 1/4 #/sk Flocele (15.6 ppg, 1.18 ft³/sk 247 ft³ of slurry, 100% excess to circulate to surface). WOC 12 hours. Pressure test surface casing to 1500 psi for 30 min.

Production Casing: Before cementing, circulate hole at least 1 1/2 hole volumes of mud and reduce funnel viscosity to minimum to aide in hole cleanout. Depending on wellbore conditions, cement may consist of 465 sks 65/35 Std (class B) with 6.0 % Bentonite, 2.0 % CaCl₂, 10 #/sk Gilsonite, and 1/2 #/sk Flocele (12.3 ppg, 1.96 ft³/sk) and a tail of 150 sks Std (class B) with 1/4 #/sk Flocele (15.6 ppg, 1.18 ft³/sk). (1086 ft³ of slurry, 100 % excess to circulate to surface).

*****Use 30 sks Poz Spacer/Scavenger ahead of lead cement consisting of: San Juan Flyash, 15.0 % Bentonite, 0.15 % HR-5*****

Other Information

- 1) This well will be fracture stimulated.

Energen Resources Corp.

Well Control Equipment Schematic for 2M Service

Attachment to Drilling Technical Program

Exhibit #1 Typical BOP setup

Location: San Juan Basin, New Mexico

Date: August 24, 2004

By: John Thompson (Walsh E&P)

