

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒DEEPEN ☐

1b. TYPE OF WELL

OIL
WELL ☐GAS
WELL ☒OTHER ☐SINGLE
ZONE ☒MULTIPLE
ZONE ☐

2. NAME OF OPERATOR

Energen Resources Corporation

3. ADDRESS OF OPERATOR

c/o Walsh Engineering 7415 E. Main St., Farmington, NM 87402 (505) 327-4892

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)

At Surface 1100' FNL and 1150' FWL

At proposed Prod. Zone

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

~ 14 miles West of Aztec, NM

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY
OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)

1100'

16. NO. OF ACRES IN LEASE

2560.00

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL,
DRILLING, COMPLETED, OR APPLIED FOR ON THIS LEASE, FT.

300'

19. PROPOSED DEPTH

2731'

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

5829' GR

5. LEASE DESIGNATION AND SERIAL NO.

SF-078139

6. INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME, WELL NO.

Federal 30-9 27 #2S

9. API WELL NO.

30 045 32677

10. FIELD AND POOL OR WILDCAT

Basin Fruitland Coal

11. SEC., T., R., M., OR BLK.
AND SURVEY OR AREA

D Sec. 27, T30N, R9W

12. COUNTY OR PARISH

San Juan County

13. STATE

NM

17. NO. OF ACRES ASSIGNED TO THIS WELL

320 w/2

20. ROTARY OR CABLE TOOLS

Rotary

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	QUANTITY OF CEMENT
12-1/4"	8-5/8"	24.0 ppf	+/- 300'	~266 cf Class "B" w/ 1/4#CF & 2% CaCl ₂
7-7/8"	5-1/2"	15.5 ppf	+/- 2731'	~760 cf Lightwt & ~189 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 require ~ 152' of 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 locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED

TITLE John C. Thompson, Agent

DATE

11/9/2004

(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

TITLE

Manager Minerals

DATE

3/9/05

*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.

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

NMOC

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

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045-32677	² Pool Code	³ Pool Name UP FRUITLAND COAL
⁴ Property Code 300455	⁵ Property Name FEDERAL 30-9 27	⁶ Well Number 2S
⁷ OGRID No. 162928	⁸ Operator Name ENERGEN RESOURCES CORPORATION	⁹ Elevation 5829'

¹⁰ Surface Location

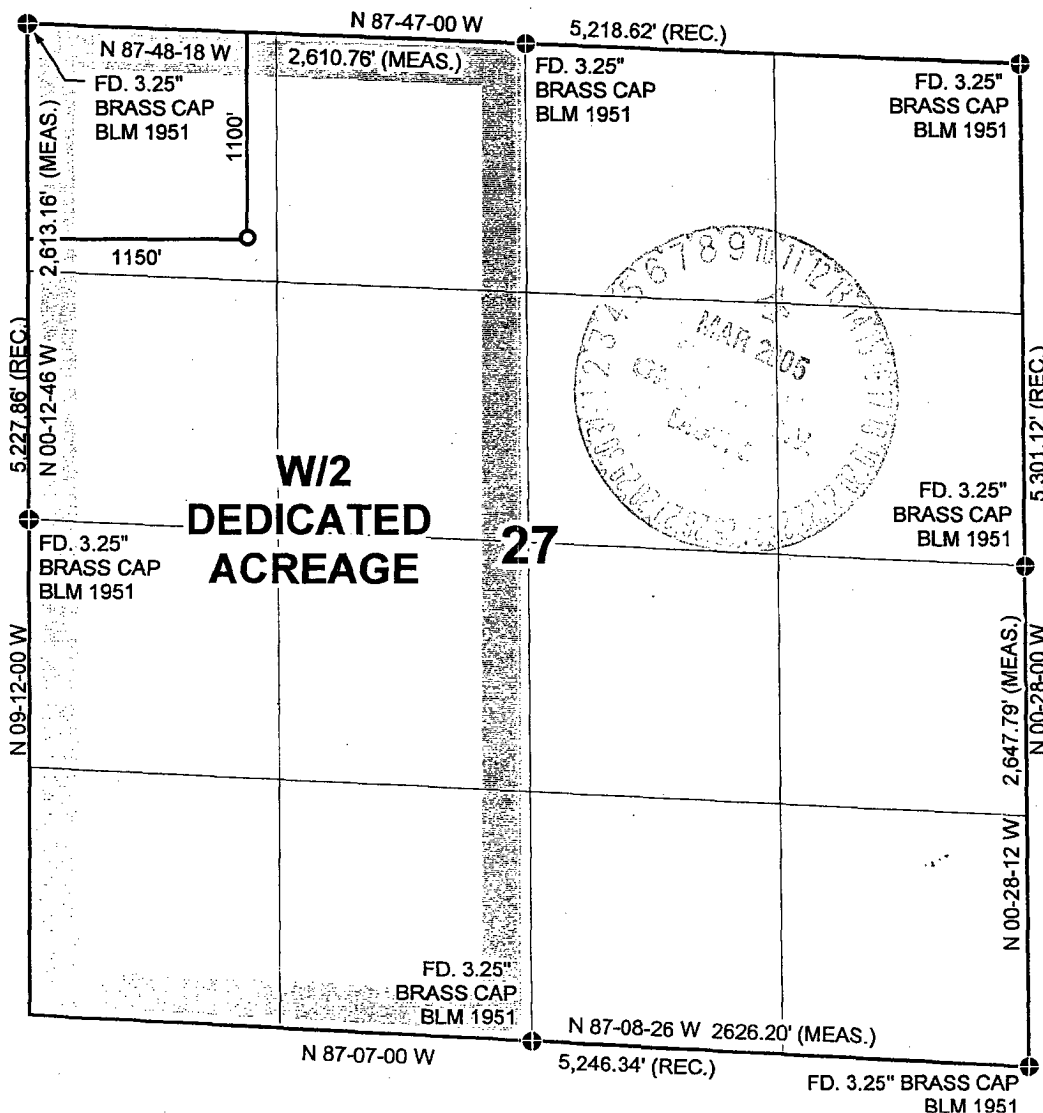
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	27	30N	9W		1100	NORTH	1150	WEST	SAN JUAN

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

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. Signature John C. Thompson Printed Name Engineer/Agent john@walsheng.net Title and E-mail Address 11/09/04 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. 10/5/04 Date of Survey Signature and Seal of Professional Land Surveyor NM #9679 Certificate Number

Submit 3 Copies To Appropriate District Office

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State of New Mexico
Energy, Minerals and Natural Resources

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

Form C-103

May 27, 2004

WELL API NO.

5. Indicate Type of Lease

STATE ☐ FEE ☐

6. State Oil & Gas Lease No.

7. Lease Name or Unit Agreement Name

Federal 30-9 27

8. Well Number

No. 2S

9. OGRID Number

162928

10. Pool name or Wildcat

Basin Fruitland Coal

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.)

1. Type of Well: Oil Well ☐ Gas Well ☒ Other

2. Name of Operator

Energen Resources Corporation

3. Address of Operator

c/o Walsh Engineering & Production, 7415 E. Main, Farmington, NM 87402

4. Well Location

Unit Letter D : 1100 feet from the North line and 1150 feet from the West line
Section 27 Township 30N Range 9 NMPM San Juan County

11. Elevation (Show whether DR, RKB, RT, GR, etc.)
5829' GR

Pit or Below-grade Tank Application ☒ or Closure ☐

Pit type Drilling Pit Depth to Groundwater >100' Distance from nearest fresh water well >1000' Distance from nearest surface water >1000'

Pit Liner Thickness: 12 mil Below-Grade Tank: Volume bbls; Construction Material

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

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐

OTHER:

☒

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ P AND A ☐
CASING/CEMENT JOB ☐

OTHER:

☐

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 ☒, a general permit ☒ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE John C. Thompson TITLE Engineer/Agent DATE 11/1/04

Type or print name
For State Use Only

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

APPROVED BY:

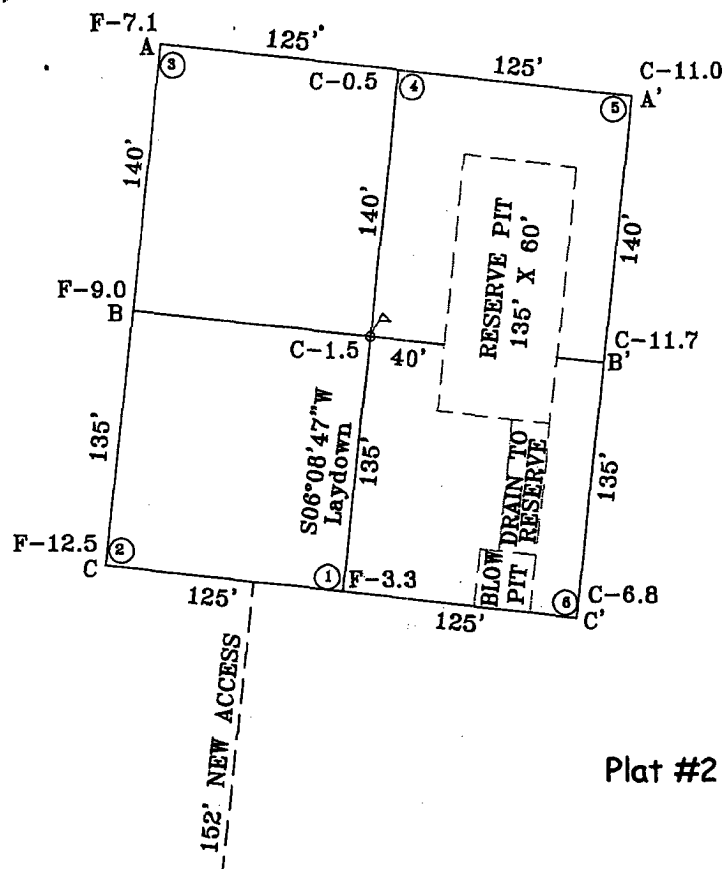
TITLE

DATE

DEPUTY OIL & GAS INSPECTOR, DIST. #

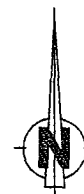
MAR 11 2005

Conditions of Approval (if any):

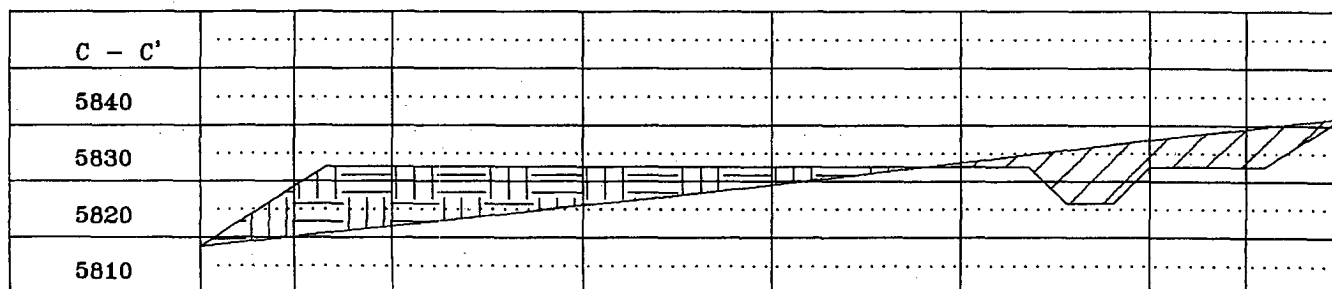
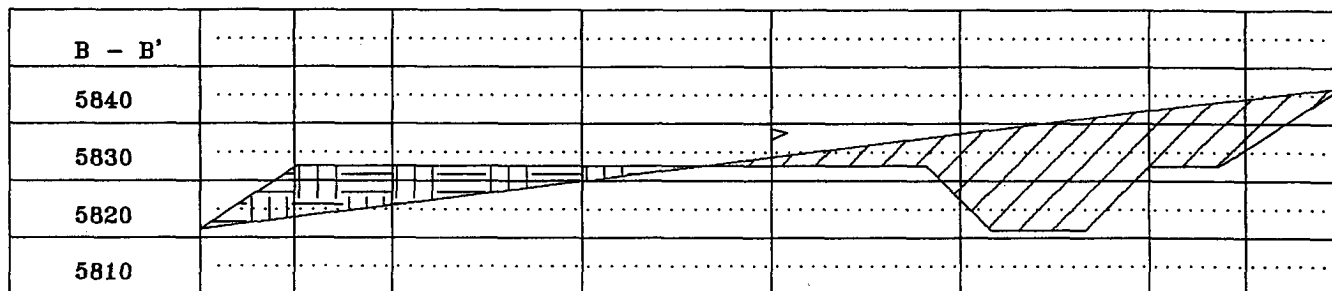
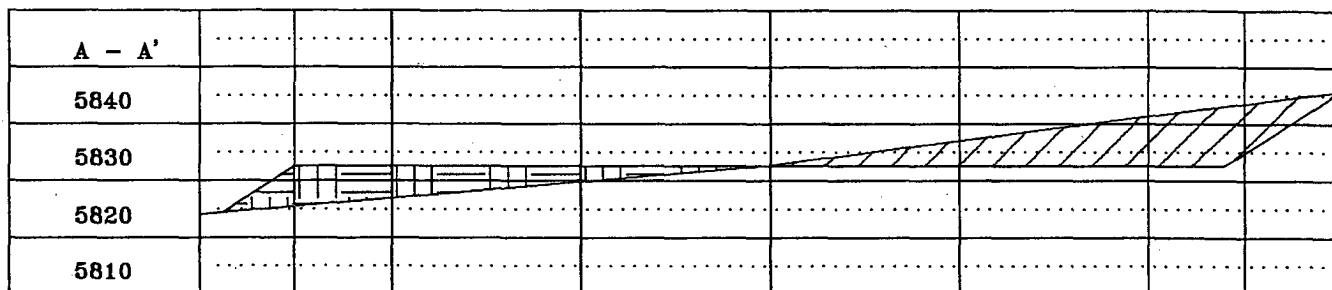


ENERGEN RESOURCES CORPORATION

FEDERAL 30-9 27 #2S
1100' FNL, 1150' FWL
LOCATED IN THE NW/4 NW/4 OF
SECTION 27, T30N, R9W, N.M.P.M.,
SAN JUAN COUNTY, NEW MEXICO
ELEVATION: 5829', NAVD 88



LATTITUDE: 36°47'12"N
LONGITUDE: 107°46'23"W
DATUM: NAD 83



Operations Plan

October 18, 2004

Federal 30-9-27 #2S

General Information

Location	1100' fnl, 1150' fwl S27, T30N, R9W San Juan County, New Mexico
Elevations	5829' GL
Total Depth	2731' (MD)
Formation Objective	Basin Fruitland Coal

Formation Tops

Nacimiento	Surface
Ojo Alamo Ss	1366'
Kirtland Sh	1456'
Fruitland Fm	2201'
Top Coal	2321'
Bottom Coal	2531'
Pictured Cliffs Ss	2551'
Total Depth	2731'

Drilling

ABHP ~ 1000 psi

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 8.3 ppg to 8.9 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: Check with Greg Jennings
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	300'-2731'	7 7/8"	5 1/2"	15.5 ppf	J-55 LT&C
Tubing	0'-2525'		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 bas 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: 225 sks Std (class B) with 2.0 % CaCl₂ and 1/4 #/sk Flocele (15.6 ppg, 1.18 ft³/sk 277 ft³ of slurry, 100% excess to circulate to surface). WOC 12 hours. Pressure test surface casing to 1000 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 420 sks TXI cement with 2.0 % CaCl₂ 0.30 % Halad-344, 10 #/sk Gilsonite, and 1/2 #/sk Flocele (12.0 ppg, 1.81 ft³/sk) and a tail of 150 sks of TXI cement with 0.30 % Halad-344, 5.0 #/sk Gilsonite, and 1/4 #/sk Flocele (13.5 ppg, 1.26 ft³/sk). (949 ft³ of slurry, 100 % excess to circulate to surface).

Other Information

- 1) This well will be a cased hole completion and the Basin Fruitland Coal fracture stimulated.
- 2) If lost circulation is encountered, sufficient LCM will be added to the mud system to maintain well control. The production string may need to be cemented in multiple stages with a slurry design deviated from that listed above.
- 3) If high reservoir pressures or water flows are encountered slurry design may need to be deviated to from those listed above to satisfy wellbore and formation conditions.
- 4) No abnormal temperatures or pressures are anticipated/
- 5) This gas is dedicated.

Nathan Smith
Drilling Engineer



Energen Resources Corp.

Well Control Equipment Schematic for 3M Service

Attachment to Drilling Technical Program

Exhibit #1 Typical BOP setup

Location: San Juan Basin, New Mexico

Date: October 25, 2004

By: John Thompson (Walsh E&P)

