

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE*
(Other instructions on
reverse side)

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

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. SF- 080917	
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	
2. NAME OF OPERATOR Energen Resources Corporation		7. UNIT AGREEMENT NAME	
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. Hart Canyon 33 #1S	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. *) At Surface 1000' FNL and 800' FWL At proposed Prod. Zone		9. API WELL NO. 30-045-32625	
11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec. 33, T31N, R10W		10. FIELD AND POOL OR WILDCAT Basin Fruitland Coal	
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* ~ 6 miles NE of Aztec, NM		12. COUNTY OR PARISH San Juan County	
13. STATE NM		17. NO. OF ACRES ASSIGNED TO THIS WELL 320-306-38 N/2	
15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drg. unit line, if any) 800'	16. NO. OF ACRES IN LEASE 2538.18	17. NO. OF ACRES ASSIGNED TO THIS WELL 320-306-38 N/2	
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR ON THIS LEASE, FT. 1100'	19. PROPOSED DEPTH 3059'	20. ROTARY OR CABLE TOOLS Rotary	
21. ELEVATIONS (Show whether DF, RT, GR, etc.) 6172'		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#	+/- 250'
7-7/8"	5-1/2"	15.5#	+/- 3059'
QUANTITY OF CEMENT			
~201 cu.ft. Class "B" w/ 1/4#CF & 2% C			
~825 cf Lightwt & ~239 cu.ft. 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 (Divison 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 and pipeline right-of-ways. This well will require approximately 465' of new access road (see Pipeline & Well Plats #3 & #4).

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM : If proposed 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 [Signature] TITLE **John C. Thompson, Agent** DATE **8/31/2004**

(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 [Signature] TITLE **AFM** DATE **3-15-05**

*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

NMOCD

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
☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30045-32625		² Pool Code 71629	³ Pool Name 070 FARMINGTON Basin Fruitland Coal
⁴ Property Code 300467	⁵ Property Name Hart Canyon #33		⁶ Well Number 1S
⁷ OGRID No. 162929	⁸ Operator Name Energen Resources Corporation		⁹ Elevation 6172'

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	33	31N	10W		1000	North	800	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 320 (N/2)	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 8/25/04 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. 8/17/04 Date of Survey Signature and Seal of Professional Surveyor 9678 NM # 9678 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

WELL API NO.
5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No.
7. Lease Name or Unit Agreement Name Hart Canyon 33
8. Well Number No. 1S
9. OGRID Number 162928
10. Pool name or Wildcat Basin Fruitland Coal

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

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 : 1000 feet from the North line and 800 feet from the West line
Section 33 Township 31N Range 10 NMPM San Juan County

11. Elevation (Show whether DR, RKB, RT, GR, etc.)
6172'' GR

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

NOTICE OF INTENTION TO: PERFORM REMEDIAL WORK <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> TEMPORARILY ABANDON <input type="checkbox"/> CHANGE PLANS <input type="checkbox"/> PULL OR ALTER CASING <input type="checkbox"/> MULTIPLE COMPL <input type="checkbox"/> OTHER: <u>X</u>	SUBSEQUENT REPORT OF: REMEDIAL WORK <input type="checkbox"/> ALTERING CASING <input type="checkbox"/> COMMENCE DRILLING OPNS. <input type="checkbox"/> P AND A <input type="checkbox"/> CASING/CEMENT JOB <input type="checkbox"/> OTHER: <input type="checkbox"/>
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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 9/19/04

Type or print name
For State Use Only

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

APPROVED BY:
Conditions of Approval (if any):

DEPUTY OIL & GAS INSPECTOR, DIST. **MAR 17 2005**
TITLE DATE

Energen Resources Corporation

Operations Plan

Hart Canyon 33 No. 1S

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

1. Location

Location : 1000' fnl & 800' fwl (nw nw)
Sec 33, T31N, R10W
San Juan County, New Mexico

Elevations : 6172' GL

Total Depth : 3059' MD RKB

Well Objective : Basin Fruitland Formation

2. Formation Tops

A. <u>Formation</u>	<u>Depth-KB</u>
Nacimiento Fm.	Surface
Ojo Alamo Ss.	1434'
Kirtland Sh.	1559'
Fruitland Fm.	2469'
Top Coal	2644'
Base Coal	2854'
Pictured Cliffs Ss.	2859'
Total Depth	3059'

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

Water and gas: 1559' – 2859'

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

3. Hazards

Overpressuring/H₂S

No over pressured zones are expected in this well. No known H₂S zones will be penetrated in this well. Maximum expected BHP: 600 psig.

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 production cement

in attempt to minimize any lost circulation zones/problems that may be encountered during cementing of the production string.

4. Drilling

A. Contractor: L&B Speed Drill

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 8.5 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 & #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>	<u>Hole Size</u>	<u>Csg OD</u>	<u>Wt lb/ft</u>	<u>Grade</u>
➤ Surface	0'-240'	12-1/4"	8-5/8"	24.0	J-55
➤ Production	0'-3059'	7-7/8"	5-1/2"	15.5	J-55

B. Float equipment

I) Surface Casing: None

II) Production Casing: 5-1/2" cement guide shoe and self fill insert float collar.

Place float one joint above shoe. Five centralizers spaced every other joint above shoe and five turbolizers every fifth joint from the top of the well.

5. Cementing

Surface Casing: 8-5/8" – Use 170 sx (201 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 600 psi for 30 min.

Production Casing: 5-1/2" – Before cementing circulate hole with at least 1-1/2 hole volumes of mud. Precede cement with 20 bbls of fresh water. Lead with 400 sx (824 cu.ft.) of Class "B" with 2% SMS (sodium metasilicate) and 1/4#/sk celloflake. (yield: 2.06 cu.ft./sk; slurry weight: 12.5 ppg). Tail with 203 sx (240 cu.ft.) of Class "B" with 1/4#/sk

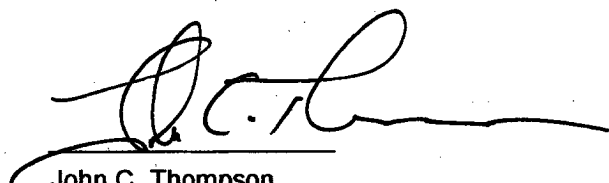
cellolake (yield: 1.18 cu.ft./sk; slurry weight: 15.6 ppg). Total cement volume is 1060 cu.ft. (use 100% excess to circulate cement to surface).

6. Completion

Well will be selectively perforated and hydraulically fractured to test 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 well over to production department.
4. Rehabilitate as per the managing surface agency request.

A handwritten signature in black ink, appearing to read 'J.C. Thompson', written over a horizontal line.

John C. Thompson
Engineer

Energen Resources Corp.

Well Control Equipment Schematic for 2M Service

Attachment to Drilling Technical Program

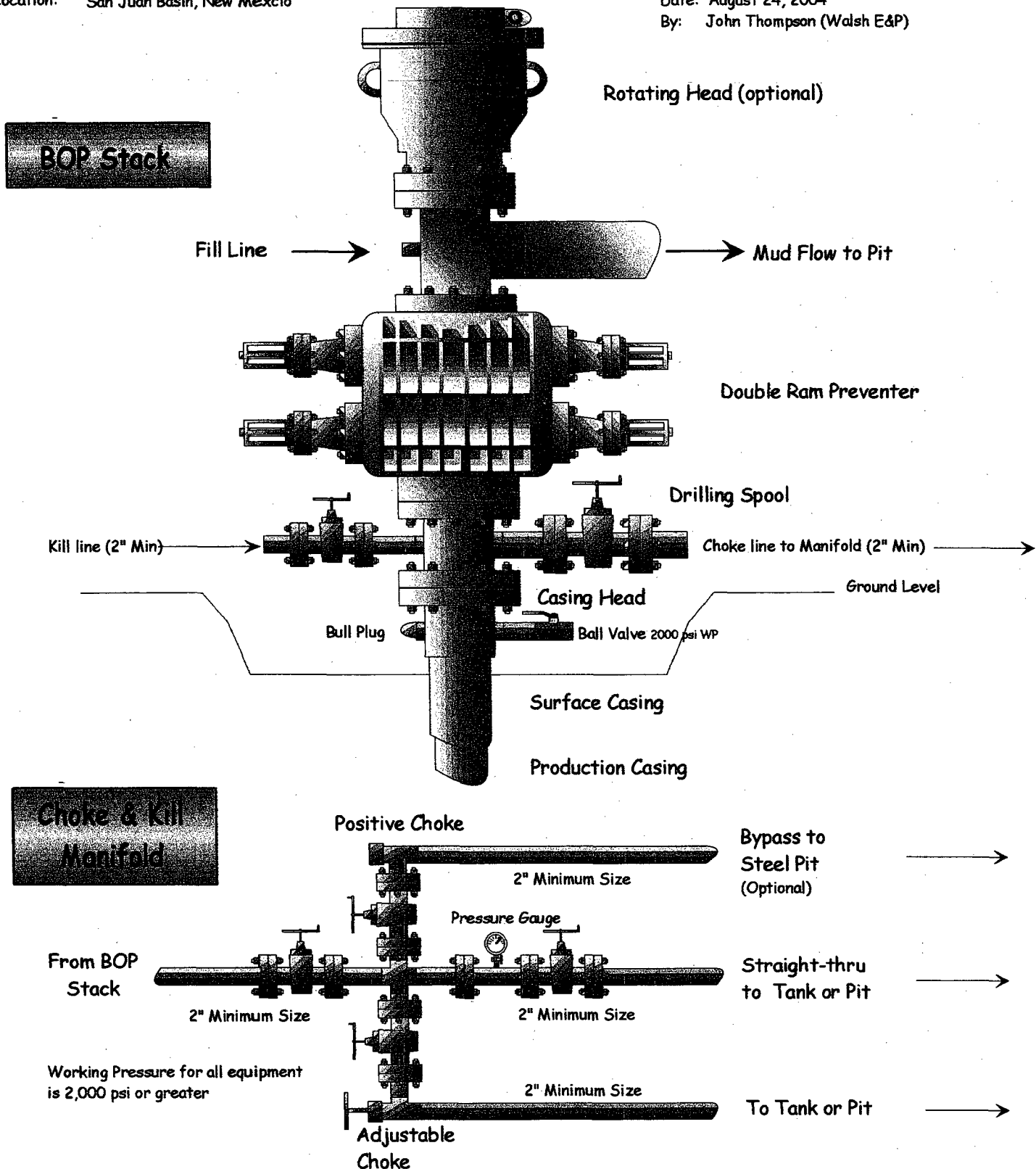
Exhibit #1

Typical BOP setup

Location: San Juan Basin, New Mexico

Date: August 24, 2004

By: John Thompson (Walsh E&P)



Energen Resources Corp.**Well Control Equipment Schematic for 1M Service**

Attachment to APD Form 3160-3

HART CANYON 33 NO. 1S

Location: 1000' fml & 800' fwl
Sec 33, T31N, R10W
San Juan County, New Mexico

Date: August, 2004
Drawn By: John C. Thompson

