•
Form 3160-3
(April 2004)

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

FORM APPROVED OMB NO. 1004-0137 Expires March 31, 2007

APPLICATION FOR PERMIT TO D	DRILL OR REENTER	Jicarilla Contract 94
ia. Type of Work X DRILL R	EENTER	6. If Indian, Aliotee or Tribe Name
		2: 3 Jicarilla Apache
1b. Type of Well Oil Well Gas Well Other	Single Zone Multiple Zon	7. Unit or CA Agreement Name and No.
2. Name of Operator	Received BLM	8. Lease Name and Well No.
Energen Resources Corporation 3a. Address	3b. Phone No. (include area co	delid Jicarilla 94 #4C
2198 Bloomfield Hwy Farmington, NM 87401	505.325.6800	9. API Well No. 30-039-30/64
4. Location of Well (Report location clearly and in accordance with		10. Field and Pool, or Exploratory
At surface 1000' fnl, 1950' fel		Mesa Verde
At proposed prod. zone	·	11. Sec., T., R., M., or Blk. and Survey or Ar
		(B) \$23, T27N, R3W
14. Distance in miles and direction from nearest town or post office*		12. County or Parish 13. State
Approximatley 17 miles south		Rio Arriba NM
15. Distance from proposed* location to nearest	16. No. of Acres in lease	17. Spacing Unit dedicated to this well
property or lease line, ft. 1000' (Also to nearest drg. unit line, if any)	2560	320 E/2
Distance from proposed location*	19. Proposed Depth	20.BLM/BIA Bond No. on file
to nearest well, drilling, completed, applied for, on this lease, ft. Approx 1200'	63531	BIA BOND
21. Elevations (Show whether DF, KDB, RT, GL, etc.	22. Approximate date work will star	rt* 23. Estimated duration
7081' GL	11/25/07	25_days
	24. Attachments	
 The following, completed in accordance with the requirements of Onshi Well plat certified by a registered surveyor. A Drilling Plan A Surface Use Plan (if the location is on National Forest System Li SUPO shall be filed with the appropriate Forest Service Office). 	4. Bond to cover the operation ltem 20 above). 5. Operator certification.	I to this form: ions unless covered by an existing bond on file (see formation and/or plans as may be required by the
25. Signuature	Name (Printed/Typed)	Date
1/she she	Nathan Smith	1/15/07
Title		2,20,0
Drilling Engineer		
Approved by (Signature)	Name (Printed/Typed)	Date 5/3/63
Title AFM	Office	
Application approval does not warrant or certify that the applicant ho	olds legal or equitable title to those rights in	the subject lease which would entitle the applicant t
conduct operations thereon. Conditions of approval, if any, are attached.	_ BOPE test Pre	esure: 750#
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it States any false, fictitious or fraudulent statements or representations as		lly to make to any department or agency of the Unite
*(Instructions on page 2)		· · · · · · · · · · · · · · · · · · ·
	•	RCVD MAY4'07 OIL CONS. DIV.

NOTIFY AZTEC OCD 24 HRS. PRIOR TO CASING & CEMENT DIST. 3

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

DISTRICT III 1000 Rio Brazos Rd., Aztec, 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

DISTRICT IV 2040 South Pacheco, Santa Fe, NM 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT	05			7 m	7 IAU	17	PH 2	· >1
	WELL	LOCATION	AND	ACREAGE	DEDI	ĆAT.	ION	PLAT

30-03	9 - <i>3</i> 0	164	7	2319	ļ	BIA	MESA VER	DE	
Property Co	37	<u> </u>			*Property JICARILL				Well Number 4C
16296				ENER	*Operator GEN RESOURCE	Name S CORPORATION			*Elevation 7081*
					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

UL or lot no. Section 7 ownship Range 23 27N 3W Lot Idn Feet from the 1000' NORTH 1950' EAST RIO ARRIBA

11 Bottom Hole Location If Different From Surface

UL or lot no. Section Township Range Lot Idn Feet from the Narth/South line Feet from the East/West line County RCUD MAY4'07

Dedicated Acres

320.98 Acres - (E/2)

DIST. 3

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

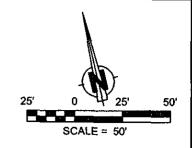
16	OR A NON-STA	INDARD UNIT HAS B	EEN APPROVED BY	THE DIVISION
FND 2° BC GLO 1917	N 89°57°14" W WEST		19' (M) RND 2" BC 8' (R) GLO 1917 1950"	17 OPERATOR CERTIFICATION I haveby cartify that the information contained herein is true and complete to the best of my knowledge and belief Signature
		LAT. 36.56336' N. LONG. 107.11172' W. DATUM (NAD 1983)	.85. (M)	Nathan Smith Printed Name Drilling Engineer Title 1/15/06 Date
		23 — —	5285.85*	18 SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plet 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.
			N 0'00'01" E	AUGUST 29, 2006 Date of Survey Signature and Seal of Professional Surveyor:
				DAVID RUSSELL
			FND 2" BC GLO 1817.	DAVID RUSSELL Certificate Number 10201

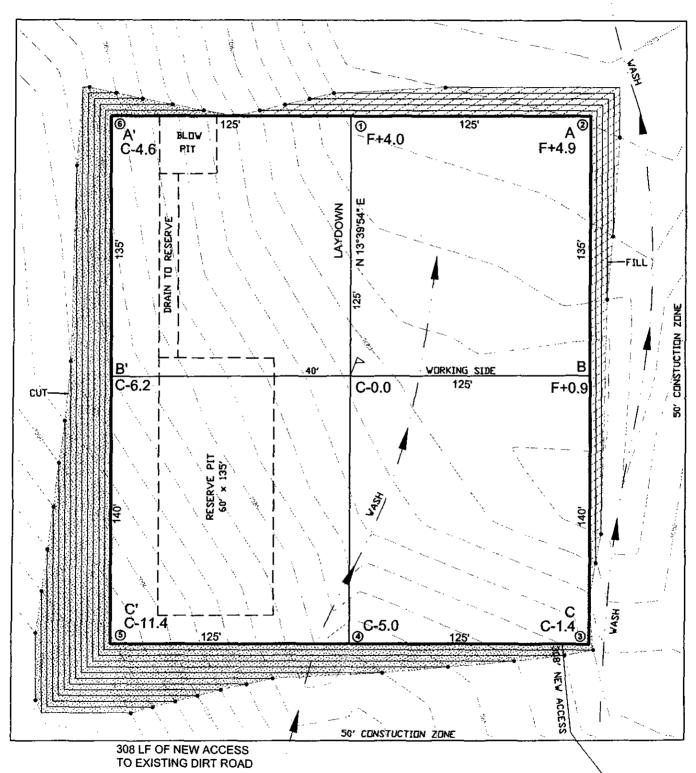
Submit 3 Copies To Appropriate District State of New Mexico	Form C-103
Office Energy, Minerals and Natural Res	Ources May 27, 2004
1625 N. French Dr., Hobbs, NM 87240 District.II OIL CONSERVATION DIV	ISION WELL API NO. 30-039- 30/64
District III 1301 W. Grand Ave., Artesia, NM 88210 1220 South St. Francis I	101014
1000 Rio Brazos Rd., Aztec, NM 87410 Santa Fe, NM 87505	STATE FEE
District IV. 1220 S. St. Francis Dr., Santa Fe, NM 87505	6. State Oil & Gas Lease No.
SUNDRY NOTICES AND REPORTS ON WELLS	7. Lease Name or Unit Agreement Name:
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUIDIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR PROPOSALS.)	G BACK TO A Licerille Q4
1. Type of Well:	8. Well Number
Oil Well Gas Well X Other	# 4C
2. Name of Operator	9. OGRID Number
Energen Resources Corporation 3. Address of Operator	162928 10. Pool name or Wildcat
2198 Bloomfield Highway, Farmington, NM 87401	Mesaverde
4. Well Location	
Unit Letter B : 1000 feet from the North	line and 1950 feet from the East line
Section 23 Township 27N Range	03W NMPM County Rio Arriba
11. Elevation (Show whether DR, RK 7081' GL	B, RT, GR, etc.)
Pit or Below-grade Tank Application or Closure	
Pit type Drill Depth to Groundwater >100' Distance from nearest fresh water v	vell >1000' Distance from nearest surface water >250'
Pit Liner Thickness: 12 mil Below-Grade Tank: Volume	obls; Construction Material
TEMPORARILY ABANDON	SUBSEQUENT REPORT OF: DIAL WORK ALTERING CASING MENCE DRILLING OPNS. PLUG AND ABANDONMENT IG TEST AND NT JOB
OTHER: Build drilling pit X OTHE	R:
13. Describe proposed or completed operations. (Clearly state all pertinent of starting any proposed work). SEE RULE 1103. For Multiple Complete or recompletion. Energen Resources plans to build a lined pit according to issued on November 1,2004. Energen anticipates the submit accordance with HIM and "CCD Pit and Below-grade Tank Guidente."	"OCD Pit and Below-grade Tank Guidelines", as
I hereby certify that the information above is true and complete to the best of grade tank has been/will be constructed or closed according to NMOCD guidelines X , so SIGNATURE TITLE E-mail add Type or print name Vicki Donaghey	ress: vdonaghe@energen.com Telephone No. 505.325.6800
For State Use Only	OR & GAS INSPECTOR, DIST. FATE MAY 0 9 2007.
APPROVED BY TITLE Conditions of Approval, if any:	BATE MAY 0 9 2007
Tananana are ships a sand a sand.	

LATITUDE: 36.56336°N LONGITUDE: 107.11172°W DATUM: NAD 83

ENERGEN RESOURCES CORPORATION

JICARILLA 94 #4C
1000' FNL & 1950' FEL
LOCATED IN THE NW/4 NE/4 OF
SECTION 23, T27N, R3W, N.M.P.M.,
RIO ARRIBA COUNTY, NEW MEXICO
GROUND ELEVATION: 7081', NAVD 88
FINISHED PAD ELEVATION: 7080.8', NAVD 88





I FOOT CONTOUR INTERVAL SHOWN

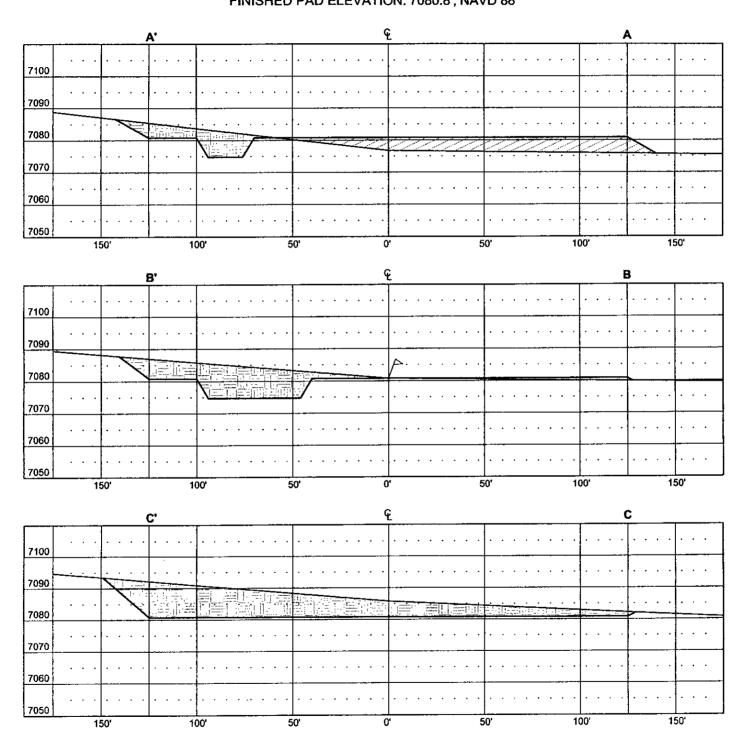
3CALE: 1" = 50' JOB No.: ERG133 DATE: 09/08/06



Russell Surveying 1409 W. Aztec Blvd. #5 Aztec, New Mexico 87410 (505) 334-8637

ENERGEN RESOURCES CORPORATION

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1000' FNL & 1950' FEL
LOCATED IN THE NW/4 NE/4 OF
SECTION 23, T27N, R3W, N.M.P.M.,
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GROUND ELEVATION: 7081', NAVD 88
FINISHED PAD ELEVATION: 7080.8', NAVD 88



/ERT. SCALE: 1" = 30' 10RZ. SCALE: 1" = 50' JOB No.: ERG133 DATE: 09/08/06





Russell Surveying 1409 W. Aztec Blvd. #5 Aztec, New Mexico 87410 (505) 334-8637

Operations Plan January 15, 2007

Jicarilla 94 #4C

General Information

Location

1000' fnl, 1950' fel nwne S23, T27N, R03W Rio Arriba County, New Mexico

Elevations Total Depth 7091' GL 6353' (MD)

Formation Objective

Blanco Mesa Verde

Formation Tops

San Jose	Surface	Lewis Shale	3968'
Nacimiento	2318'	Int Csg Point	4143'
Ojo Alamo Ss	3303'	Huerfanito Bentonite	4313'
Kirtland Sh	3448'	Cliff House	5548'
Fruitland Fm	3538'	Menefee	5613'
Top Coal	3558'	Point Lookout Ss.	5903'
Bottom Coal	3733'	Mancos Shale	6153'
Pictured Cliffs	3748'	Total Depth	6353'

Drilling

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

The 8 ¾" wellbore will be drilled with a low solids non-dispersed fresh water mud system. Weighting materials will be drill cuttings and/or Barite as needed. Mud density is expected to range from 8.3 ppg to 8.9 ppg. Air/mist from intermediate setting depth to TD with a hole size being 6 ¼". Blowout Control Specifications:

A 2000 psi minimum double ram or annulus 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 the stack. A 2" nominal, 2000 psi minimum choke manifold will also be used. An upper Kelly Cock valve handle and drill string valve should be available to fit each drill string and be available on the rig floor during drilling operations.

Logging Program:

Open hole logs: From Surface to Intermediate setting depth - None

From Intermediate setting depth to TD - Temp / HRI / CNT, LDT / GR

Mud Logs: None Coring: None

Surveys: Surface and/or every 500' to TD

Tubulars

Casing, Tubing, & Casing Equipment:

String	Interval	Wellbore	Casing	Csg Wt	Grade
Surface	0'-200'	12 ¼"	9 5/8"	32.3 ppf	H-40 ST&C
Intermediate	200'-4143'	8 ¾"	7"	23.0 ppf	J-55 LT&C
Production	3945'-6353'	6 ¼"	4 1/2"	11.6 ppf	J-55 LT&C
Tubing	0'-6280'		2 3/8"	4.7 ppf	J-55

Casing Equipment:

Surface Casing: Depending on wellbore conditions, a Texas Pattern Guide Shoe on bottom. Casing centralization with standard bow spring centralizers to achieve optimal standoff.

Intermediate Casing: Depending on wellbore conditions, a cement nose guide shoe on bottom with self fill insert float collar on top of shoe joint and casing centralization with bow spring centralizers to optimize standoff. Two turbolating centralizers at the base of the Ojo Alamo are recommended.

Production Liner: Depending on wellbore conditions, a cement nose guide shoe on bottom with self fill insert float collar on top of shoe joint and casing centralization with standard bow spring centralizers to optimize standoff. If multistage cementing is required, DV tool will be placed based on formation characteristics.

Wellhead

11" 3000 x 9 5/8" Casing Head, 11" 3000 x 7 1/16" 3000 Christmas Tree.

Cementing

<u>Surface Casing</u>: 225 sks Std (class B) with 2.0 % CaCl₂ and ¼ #/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 600 psi for 30 min.

Intermediate Casing: Before cementing, circulate hole at least 1 ½ hole volumes of mud and reduce funnel viscosity to minimum to aide in hole cleanout. Depending on wellbore conditions, cement may consist of 570 sks 65/35 with 6.0 % Bentonite, 2.0 % CaCl₂, 10 #/sk Gilsonite, and ½ #/sk Flocele (12.3 ppg, 1.96 ft³/sk) and a tail of 140 sks of Standard (Class B) cement with 5.0 #/sk Gilsonite, and ¼ #/sk Flocele (15.2ppg, 1.24 ft³/sk). (1265 ft³ of slurry, 100 % excess to circulate to surface). WOC 12 hours. Pressure test casing to 1200 psi for 30 min.

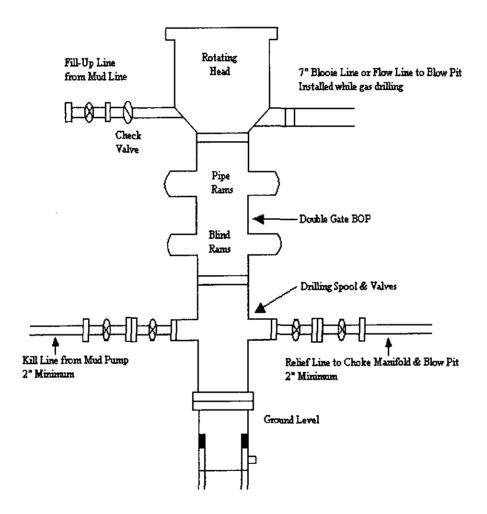
Production Liner: Depending on wellbore conditions, cement may consist of 380 sks 50/50 with 2.0 % Bentonite, 0.50% Halad-9, 0.10% CFR-3, 5 #/sk Gilsonite, and ¼ #/sk Flocele (13.5 ppg, 1.30 ft³/sk). (487.5 ft³ of slurry, 100 % excess open hole, no excess in liner lap to circulate off liner top). Use calipers on logs to figure cement volumes.

Other Information

- 1) This well will be cased and the Blanco Mesa Verde 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) Mesa Verde pore pressure is anticipated to be 800 psi, the Pictured Cliffs is 600 psi and the Fruitland is 500 psi.
- No abnormal temperatures or pressures are anticipated.
- 5) This gas is dedicated.

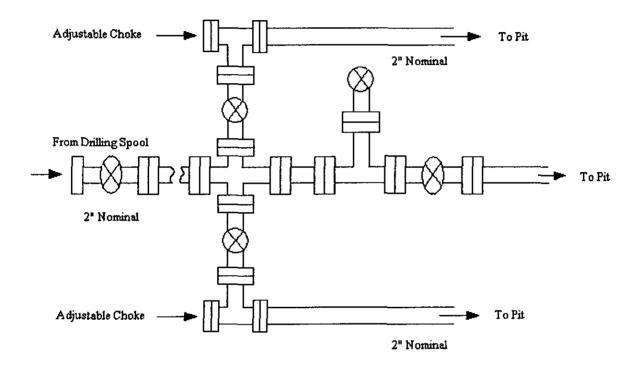
Energen Resources Corporation

Typical BOP Configuration for Gas Drilling



Energen Resources Corporation

Typical 2000 psi Choke Manifold Configuration



Choke manifold installed from surface to TD