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 DRILL OR REENTER						5. Lease Serial No SF-078937				
Type of Work	X DRI	LL	REEN	ΓER	200	7 MAR 12	AM 8	: A If Indian, A	llotee or	Tribe Name
o. Type of Well	Oil Well	X Gas Well	Other	Sin	gle Zone	Multiple:	Zone		Agreeme	ent Name and No.
Name of Operator				,		21.9	1	8. Lease Name	e and We	ll No.
<u>nergen Resour</u>	ces Corporat	ion		13		TO Florida No. (include area	1:6.4	PL Davi	s #4E	
Address 2198 Bloomfie	ld Hwy Farmi	ngton, NM	87401		50	05.325.6800	,	9. API Well N		4228
Location of Well (At surface 168	Report location clea 0' fnl, 1650'	•	rdance with any S	tate equir	ements)*			10. Field and Po Basin D	<u>akota</u>	
At proposed prod. 2	zone	•				•		(F) S35		Blk and Survey or A
Distance in miles an	d direction from nea	rest town or po	st office*			· · · · · · · · · · · · · · · · · · ·	····	12 County or F		13. State
,		•	.1 miles sou	th of	Bloomfi	eld		San Juan		NM
. Distance from proj					o. of Acres		17.S	pacing Unit dedi	cated to 1	
location to nearest		1.050					Ì	3	20	
property or lease li (Also to nearest dr		1650		į	:	2560		31	8-67 N	1/2
Distance from proj to nearest well, dri				19 P	roposed De	2681	20 H	BLM/BIA Bond	No. on fi	ile
applied for, on this	lease, ft.	Approx 1	.000		62					
. Elevations (Show w	hether DF, KDB, R	T, GL, etc.		22.4	Approximat	e date work will	start*	23. Estima	ited durat	tion
6316' GL				ŀ		4/05/07			25	days
Well plat certified A Drilling Plan A Surface Use Pla SUPO shall be file		on National Fore		the	5. Opera 6. Such	20 above). tor certification. other site specifi		·		ng bond on file (see
Cianuatura				Nama (I		rized officer.	-		Date	
Signuature					Printed/Type				Date	
Mac So	fr.		-11 - 13 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	Natha	n Smith					3/5/07
proved by (Signautr		rulee		Name (F	Printed/Type	ed)			Date	122/05
tle	<i>9</i>	AF 11	ox)	Office					0,	<i>/</i> - <i> </i>
plication approval d induct operations the inditions of approval	reon.	-	applicant holds le	gal or eq	uitable title	to those rights	in the su	bject lease which	n would	entitle the applicant t
le 18 U S C Section ates any false, fictitio							illfully to	make to any dep	artment o	or agency of the Unite
Instructions on page	2)				1/		- 1	1044	RCV	ID AUG 23 '07 CONS. DIV.
	DRILLING OPERA	TIONS AUTHO	RIZED ARE		V	This a	atlan în au	iblect to technic		DIST. 3

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

This action is subject to technical and procedural review pursuant to 43 CFR 3165 3 and appeal pursuant to 43 CFR 3165.4

8.31.07 NMOCD

NOTIFY AZTEC OCD 24 HRS. PRIOR TO CASING & CEMENT

÷,

Form C-102 Revised October 12, 2005

DISTRICT II
1301 W. Grand Avenue, Artesia, N.M. 88210

DISTRICT III 1000 Rio Brazos Rd., Aztec, N.M. 87410

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

Submit to Appropriate District Office State Lease - 4 Copies Fee Lease - 3 Copies

DAVID RUSSELL

10201

Certificate Number

RCUD AUG 30'07

		a Fe, NM 875	อบอ							.,	MED REPORT
		W	ELL L	OCATIO	N AND AC	REAGE DEDI				L CONS	. DIŲ,
'API Number 'Pool Code 30-045-34228 '11599				Bas		Pool Name DAKOTA	•	DICT			
50-045-34228 11599 'Property Code				Basin DAKOTA 6 Property Name					DIST. 3		
21901						PL DAVIS				4E	
					*Operator					Elevation	
11/2928			ENERGEN RESOURCES CORPORATION								6316'
100	<u> </u>				10 Surface	Location			<u>-</u> . :		
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet 1	from the	East/We	st line	County
F	35	26N	11W		1680'	NORTH	1.	650'	WE	ST	SAN JUAN
			11 Botte	om Holé	Location	If Different Fro	om S	urface			
UL or lot no.	Section	Township Range Lot Idn			Feet from the North/South line		·		est line	County	
9 m. dr. at. 3 4	<u></u>		¹³ Joint or	r #411	14 Com as 23 1 1/2		15.0 -				
Dedicated Acre		(11.46)	- Jome or	intu	¹⁴ Consolidation	Code,	¹⁵ Orde	T NO.			
318.67	Acres -	(N/2)					,				
NO ALLOW	ABLE W					ON UNTIL ALL				EEN C	ONSOLIDATED
		OR A N	ION-STA	NDARD	UNIT HAS B	EEN APPROVED					TIFICATION
		.089						land inch a right to contract	ucting the p o drill this with an ow	roposed bott well at this	neral interest in the om hole location or has location pursuant to a npulsory pooling order n.
N 0'02'35" E NORTH	650'	LAT. 36.44 LONG. 107 DATUM (NA	.97689°, W .					I hereby ce was plotted me or undo	Name JRVEY retify that to from field r my super	OR CE	RTIFICATION tion shown on this plat tual surveys made by that the same is true

Submit 3 Copies To Appropriate District Office	State of New M			Form C-103
District I	Energy, Minerals and Natu	irai Resources	WELL API NO.	May 27, 2004
1625 N. French Dr., Hobbs, NM 87240 District II	OIL CONSERVATIO	N DIVISION		
1301 W. Grand Ave., Artesia, NM 88210 District III	1220 South St. Fr		5. Indicate Type of I	_ease
1000 Rio Brazos Rd., Aztec, NM 87410	Santa Fe, NM 8	37505	, STATE	FEE 🗌
District IV 1220 S St. Francis Dr., Santa Fe, NM 87505			6. State Oil & Gas L	ease No.
SUNDRY NOTICE	S AND REPORTS ON WE	LLS	7. Lease Name or Ui	nit Agreement Name:
(DO NOT USE THIS FORM FOR PROPOS DIFFERENT RESERVOIR. USE "APPLICA PROPOSALS.)	SALS TO DRILL OR TO DEEPEN	OR PLUG BACK TO A	PL Davis	
1. Type of Well:			8. Well Number	
Oil Well Gas Well X	Other		#4E	
2. Name of Operator			9. OGRID Number	
Energen Resources Corporati 3. Address of Operator	on .		16292 10. Pool name or W	
2198 Bloomfield Hwy Farming	ton. NM 87401	•	Basin Dakota	ilucat
4. Well Location	2017 141 0 / 401			
Unit Letter <u>F</u> : 1	.680 feet from the No.	rth line and	1650 feet from	theWestline
Section 35	Township 26N	Range 11W	NMPM	County San Juan
	11. Elevation (Show whether 63:		c.)	
Pit or Relow-grade Tank Application 🛭	or Closure		,	
Pit type <u>Drill</u> Depth to Groundwater	>100' Distance from nearest fres	h water well <u>≥1000'</u> Dis	tance from nearest surface	water <u>>250'</u>
Pit Liner Thickness: 12 mil	Below-Grade Tank: Volume	bbls; Construction	n Material	
NOTICE OF INTE	opropriate Box to Indicate NTION TO: PLUG AND ABANDON CHANGE PLANS		SEQUENT REPO	
PULL OR ALTER CASING	MULTIPLE COMPLETION	CASING TEST AND CEMENT JOB		ABANDONMENT
OTHER: To build a drilling rese	erve pit X	OTHER:		
13. Describe proposed or completed of		· · · · · · · · · · · · · · · · · · ·	nertinent dates includ	ding estimated date
of starting any proposed work). So or recompletion.				
Energen Resources plans to issued on November 1, 2004 with BIM and 'OCD Pit and F	and also plans to submit	t a C-144 for the		
				,
	•			
			,	
hereby certify that the information about and the trans that has been/will be constructed or clo				
SIGNATURE MASSIVE SE	TIT	LE <u>Drilling</u>	Engineer D	ATE3/5/2007
Type or print name Nathan Smith	E-r	nail address:	Telepho	one No. 505.326.6800
For State Use Only	John	Deputy Oil & G	as Inspector,	
APPROVED BY	TIT	_{ILEDistric}	st #3 DA	AUG 3 1 2007.
Conditions of Approval, if any:	·			

Operations Plan

January 15, 2007

PL Davis #4E

General Information

Location

1680' fnl, 1650' fwl senw S35, T26N, R11W San Juan County, New Mexico

Elevations
Total Depth
Formation Objective

6316' GL 6274' (MD) Basin Dakota

Formation Tops

Nacimiento	Surface	Menefee Fm	3083'
Ojo Alamo Ss	513'	Point Lookout Ss	3958'
Kirtland Sh	598'	Mancos Shale	4248'
Fruitland Fm	1213'	Graneros Shale	5948'
Top Coal	1268'	Dakota "Twowells" Ss	6013'
Bottom Coal	1483'	Dakota "Paguate" Ss	6058'
Pictured Cliffs Ss	1498'	Dakota "Cubero" Ss	6103'
Lewis Shale	1673'	Dakota "Oak Canyon" Ss	6203'
Cliffhouse Ss	3063'	Dakota "Encinal Cyn" Ss	6218'
		Total Depth	6268'

Drilling

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

The 6 ¼" wellbore will be drilled with a low solids non-dispersed fresh water mud system. Weighting materials will be drill cuttings. Mud density is expected to range from 8.3 ppg to 8.9 ppg. Blowout Control Specifications:

A 2000 psi minimum double ram or annulus BOP stack (figure 1) will be used following nipple up of casing head. 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 TD - Temp / HRI / CNT, LDT / GR

Surveys: Surface and/or every 500' to TD

Tubulars

Casing, Tubing, & Casing Equipment:

String	Interval	Wellbore	Casing	Csg Wt	Grade
Surface	0'- 200 ' <i>ろ入の</i>	12 ¼"	9 5/8"	32.3 ppf	H-40 ST&C
Production	0'-6268'	7 7/8"	4 1/2"	11.6 ppf	J-55 LT&C
Tubing	0'-6200'		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.

Production 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 standard bow spring centralizers to optimize standoff. If multistage cementing is required, DV tool(s) will be placed based on formation characteristics. Put first stage collar @ 4450' and second stage collar @ 1875'.

Cementing

Surface Casing: 125 sks Type V cement with 2.0 % CaCl₂ and ¼ #/sk Flocele (15.4 ppg, 1.23 ft³/sk 154 ft³ of slurry, 100% excess to circulate to surface). WOC 12 hours. Pressure test surface casing to 750 psi for 30 min.

Production Casing: Before cementing, circulate hole at least 1 ½ hole volumes of mud and reduce funnel viscosity to minimum to aide in hole cleanout.

<u>First Stage:</u> 645 sks 50/50 Type V with 0.60 % Halad-9, 0.10 % CFR-3, 5 #/sk Gilsonite, and ¼ #/sk Flocele (13.5 ppg, 1.30 ft³/sk). Circulate 4 hours at time of plug down.

Second Stage: 280 sks 65/35 Type V with 6.0 % Bentonite, 2.0 % CaCl₂, 10 #/sk Gilsonite, and ½ #/sk flocele lead (12.3 ppg, 1.93 ft³/sk) followed by 480 sks 50/50 Type V with 0.60 % Halad-9, 0.10 % CFR-3, 1.0 % CaCl₂, 5 #/sk Gilsonite, and ¼ #/sk Flocele tail (13.5 ppg, 1.30 ft³/sk).

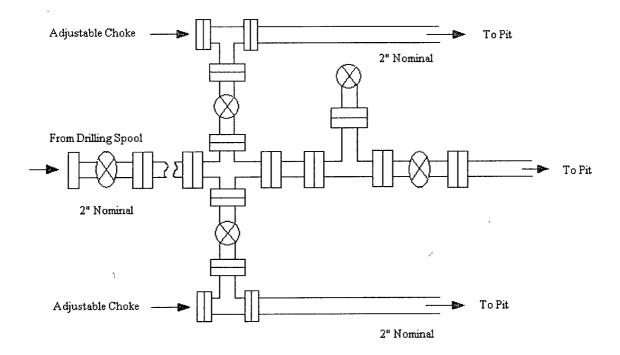
Third Stage: 125 sks 65/35 Type V with 6.0 % Bentonite, 2.0 % CaCl₂, 10 #/sk Gilsonite, and ½ #/sk flocele lead (12.3 ppg, 1.93 ft³/sk) followed by 50 sks Type V with 1.0 % CaCl₂ (15.4 ppg, 1.18 ft³/sk).

Other Information

- 1) This well will be cased and the Basin Dakota fracture stimulated. Anticipated BHP is 1400 PSC
- 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) No abnormal temperatures or pressures are anticipated. Anticipated fracture gradient is 0.70 psi/ft.
- 4) This gas is dedicated.

Energen Resources Corporation

Typical 2000 psi Choke Manifold Configuration

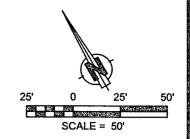


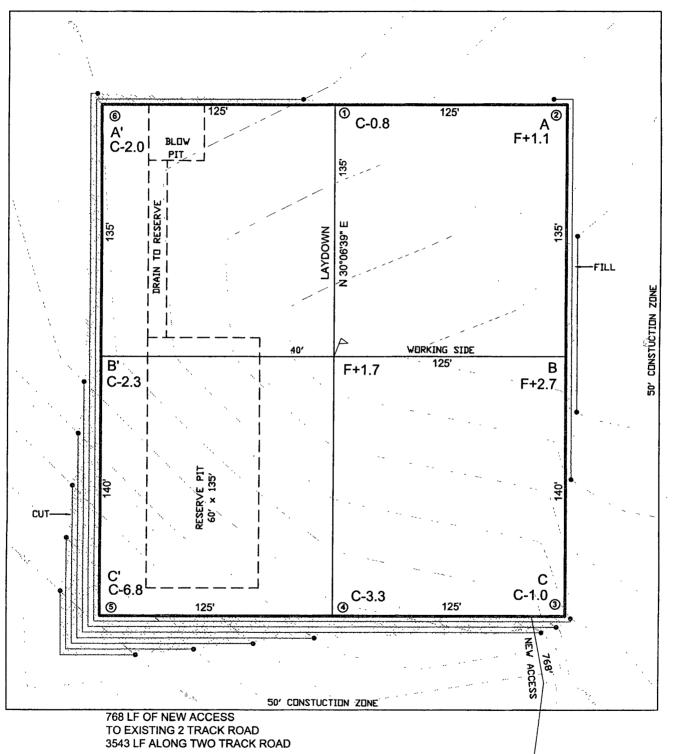
Choke manifold installed from surface to TD

LATITUDE: 36.44717°N LONGITUDE: 107.97689°W DATUM: NAD 83

ENERGEN RESOURCES CORPORATION

PL DAVIS #4E
1680' FNL & 1650' FWL
LOCATED IN THE SE/4 NW/4 OF
SECTION 35, T26N, R11W, N.M.P.M.,
SAN JUAN COUNTY, NEW MEXICO
GROUND ELEVATION: 6316', NAVD 88
FINISHED PAD ELEVATION: 6318.0', NAVD 88





I FOOT CONTOUR INTERVAL SHOWN

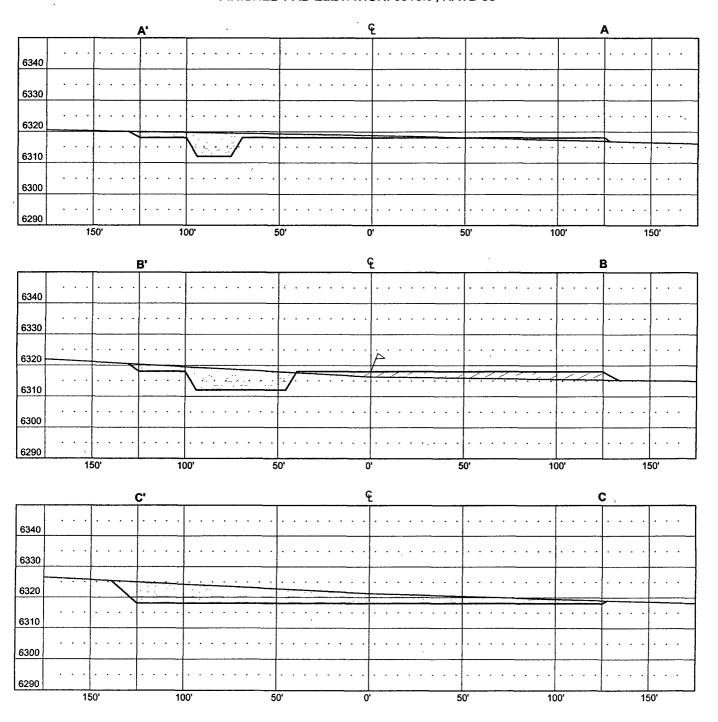
SCALE: 1" = 50' JOB No.: ERG155 DATE: 01/02/07



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

ENERGEN RESOURCES CORPORATION

PL DAVIS #4E
1680' FNL & 1650' FWL
LOCATED IN THE SE/4 NW/4 OF
SECTION 35, T26N, R11W, N.M.P.M.,
SAN JUAN COUNTY, NEW MEXICO
GROUND ELEVATION: 6316', NAVD 88
FINISHED PAD ELEVATION: 6318.0', NAVD 88



VERT. SCALE: 1" = 30' HORZ. SCALE: 1" = 50' JOB No.: ERG155 DATE: 01/02/07





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

Energen Resources Corporation

Typical BOP Configuration for Gas Drilling

am system

