Form 3160-5 (August 2007)

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

FORM APPROVED OMB NO. 1004-0137 Expires July 31, 2010

5. Lease Serial No.

## NMSF-079483

SUNDRY NOTICES AND REPORTS ON WAARS 0 2010 Do not use this form for proposals to drill or to re-enter an 6. If Indian, Allottee or Tribe Name

abandoned well. Use Fori	m 3160-3 (APD) fol	<b>Sereau proposals</b> ianes <b>Ferminaton Flord C</b> e	ement	
SUBMIT IN TRIPLICAT	TE - Other instruction			t or CA/Agreement, Name and/or No
1. Type of Well Oil Well X Gas Well Other				L Com, Agrament Name and No.
2. Name of Operator			Carson	
Energen Resources Corporation		,	O. ADI.V	7-11 N-
3a. Address		3b. Phone No. (include ar	ea code) 9. API V	NO. NO. SOL75
2010 Afton Place, Farmington, NM 8		(505) 325-680		d and Pool, or Exploratory Area
4. Location of Well (Footage, Sec., T., R., M., or Survey I	• •			
SHL: Sec.8, T30N, R04W 1785' FNL & 1240' FEL				ed Cliffs
BHL: Sec.7, T30N, R04W 1700' FNL & 760' FWL				nty or Parish, State
12. CHECK APPROPRIATI	E BOX(ES) TO INI	NCATE NATURE OF	Rio Ar	
	DOM(ES) TO THE			THER DATA
TYPE OF SUBMISSION		TY	PE OF ACTION	
X Notice of Intent	Acidize	Deepen	Production (Start/Resu	me) Water Shut-Off
	Alter Casing	Fracture Treat	Reclamation	Well Integrity
Subsequent Report	Casing Repair	New Construction	Recomplete	Other
<i>,</i> –	X Change Plans	Plug and Abandon		Outet
Final Abandonment Notice			Temporarily Abandon	
	Convert to Injection	n Plug Back	Water Disposal	
Energen Resources would like to m follows:  * Change int. casing setting dep  * Change 2nd int. to long string	th to 2000' MD,	change grade to H		-
Attached is a revised operations	plan.			RCVD APR 6 '10
				OIL CONS. DIV.
	20°	SEE ATT	TACHED FOR S OF APPROVAL	DIST. 3
				Hold C104
				for Directional Survey
				and "As Drilled" plat
14. I hereby certify that the foregoing is true and correct Name (Printed/Typed) Devin Mills		Title Dril	ling Engineer	
Signature Ses Man		Date 3/30/203		
THIS	SPACE FOR FED	ERAL OR STATE OF	FICE USE	2
Approved by	10518	Title A7	-M	Date 4/5/70/6
Conditions of approval, if any, are attached. Approval of this noti the applicant holds legal or equitable title to those rights in the sub entitle the applicant to conduct operations thereon.		fy that Office	=0	1/0/2010
Title 18 U.S.C Section 1001, and Title 43 U.S.C. Section 1212, r fictitious or fraudulent statements or representations as to any ma	nakes it a crimulishan per tter within its jurishkiran	knowingly and willfully to	make to any department or agen	ey of the United States any false,



## **OPERATIONS PLAN**

WELL NAME	Carson #403
JOB TYPE	Horizontal PC Lower Sand
DEPT	Drilling and Completions

#### **GENERAL INFORMATION**

Surface Location 1785 FNL 1240' FEL
S-T-R (E) Sec. 8, T30N, R04W
Bottom Hole Location 1700 FNL 760 FWL
S-T-R (L) Sec. 7, T30N, R04W
County, State Rio Arriba, New Mexico

Elevations 7264' GL

Total Depth 11214' +/- (MD); 4316' (TVD)

Formation Objective Pictured Cliffs

#### **FORMATION TOPS**

 San Jose
 Surface

 Nacimiento
 2300' (TVD)

 Ojo Alamo Ss
 3407' (TVD)

 Kirtland Sh
 3600' (TVD)

 Fruitland Fm
 3665' (TVD)

 Top Coal
 3980' (TVD) 4280'MD

 Upper PC
 4042' (TVD) 4403'MD

 Lower PC
 4246' (TVD) 5026' MD

 Total Depth
 4316' (TVD), 11214' (MD)

#### **DRILLING**

**Conductor:** 17 ½" wellbore will be drilled with a freshwater mud system (spud mud) **Surface**: 12 ¼" wellbore will be drilled with a fresh water mud system (spud mud).

Intermediate: 8 3/4" wellbore will be drilled with a LSND mud system. Weighting materials will be

drill cuttings and if needed barite. Mud density is expected to range from 8.4 ppg to 9.0 ppg. **Production:** 6 1/4" wellbore will be drilled with a fresh water or brine water system depending on

reservoir characteristics. Anticipated BHP can be as high as 800 psi. ✓

#### Projected KOP is 2400' TVD with 3.06°/100' doglegs.

## **Blowout Control Specifications:**

A 3000 psi minimum double ram or annulus BOP stack 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. **Pressure test BOP to 250 psi for 15 min and 2000 psi for 15 min.** 

#### **Logging Program:**

Open hole logs: none.

Mudlogs: 3600' TVD, 4000' MD to TD

Surveys: Surface to KOP every 500' and a minimum of every 200' for directional.



#### **CASING, TUBING & CASING EQUIPMENT**

String	Start Depth	<b>End Depth</b>	Wellbore	Size	Wt	Grade
Conductor	0	200	17 1/2"	13-3/8"	48 lb/ft	H-40 ST&C
Surface	0	2000	12 1/4"	9-5/8"	36 lb/ft	H-40 ST&C
Intermediate TVD	0 0	5660 4276	8 3/4"	7"	23 lb/ft	J-55 LT&C
Prod. Liner TVD	5460 4274	11214 4316	6 1/4"	4 1/2"	11.6 lb/ft	L-80 LT&C
Tubing	0	5000	none	2-3/8"	4.7 lb/ft	J-55

Conductor Casing: Texas Pattern Guide Shoe on bottom of first joint and an insert float valve on top of first joint. Casing centralization with a minimum of 3 standard bow spring centralizers to achieve optimal standoff.

**Surface Casing**: Texas Pattern Guide Shoe on bottom of first joint and an insert float valve on top of first joint. Casing centralization with a minimum of 3 standard bow spring centralizers to achieve optimal standoff.

**Intermediate Casing:** Self fill float shoe with self fill float collar on bottom and top of first joint. Casing centralization with double bow spring and centralizers to optimize standoff.

**Production Liner:** Bull nose guide shoe on bottom of first joint, H-Latch liner drop off tool on top of last joint.

#### WELLHEAD

11" 3000 x 13 3/8" weld/slip on casing head. 11" x 9 5/8"x 4 1/2" 3000 psi Flanged Wellhead.

#### **CEMENTING**

Conductor Casing: 135 sks Type G with 2.0 % CaCl<sub>2</sub> and ¼ #/sk Flocele (15.6 ppg, 1.18 ft<sup>3</sup>/sk 158 ft<sup>3</sup> of slurry, 20% excess to circulate to surface). WOC 12 hours. Pressure test conductor casing to 750 psi for 30 min. Test to 250 psi for 15 min and 1200 for 15 min.

**Surface Casing**: 1062 sks Type V with 2.0 % CaCl<sub>2</sub> and ¼ #/sk Flocele (15.6 ppg, 1.18 ft<sup>3</sup>/sk <del>500 ft<sup>3</sup></del> of slurry, 100% excess to circulate to surface). WOC 12 hours. Pressure test surface casing to 750 psi for 30 min.

**Intermediate Casing**: Circulate hole at least 1-1/2 hole volumes of mud and reduce funnel viscosity to aid in hole cleanout. Stage 1 to begin at 4300'-5638'.

<u>First Stage:</u> Lead with 135 sks 50/50 with 2.0% Bentonite, 0.30 % Halad – 344, 0.10 % CFR – 3, 5 #/sk Gilsonite, ¼ #/sk Flocele. (13.0 ppg, 1.35 ft<sup>3</sup>/sk, 182 ft<sup>3</sup>) and a tail of 150 sks Class G with 1.0 % CaCl<sub>2</sub> and ¼ #/sk Flocele. (15.6 ppg, 1.18 ft<sup>3</sup>/sk, 177 ft<sup>3</sup>) (360 ft<sup>3</sup> of slurry, 50% excess to circulate off the stage tool). Circulated 4-5 hours between stages at time plug down on first stage.

Second Stage: Lead with 445 sks 65/35 with 6.0 % Bentonite, 2.0 % CaCl<sub>2</sub>, 10 #/sk Gilsonite, and ½ #/sk Flocele (12.3 ppg, 1.93 ft<sup>3</sup>/sk) and a tail of 150 sks Class G with ¼ #/sk Flocele (15.6



ppg, 1.18 ft<sup>3</sup>/sk). WOC 12 hours. Test BOP as outlined in 'Drilling' section. Test manifold as outlined in 'Drilling' section. Test casing to 1500 psi for 30 min.

**Production Liner: NO CEMENT** 

#### Set slips with full string weight

If cement does not circulate, run temperature survey in 8 hrs. to determine TOC.

#### **OTHER INFORMATION**

- 1) This well will be an open hole completion lined with an uncemented pre-drilled liner.
- 2) If lost circulation is encountered, sufficient LCM will be added to the mud system to maintain well control. The intermediate 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.

## **DRILLING CONDITIONS OF APPROVAL**

**Operator:** 

**Energen Resources** 

Lease No.:

NMSF-079483

Well Name:

Carson #403

Well Location:

Sec.8, T30N, R4W; 1785' FNL & 1240' FEL

1) Centralizers to impart a swirling action around the casing (such as turbolators) are required just below and into the base of the lowest usable water zone.



After hour contact: Troy Salyers 505-360-9815