Form 3160-5 (April 2004)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OM B No. 1004-0137 Expires: March 31, 2007	
Sacial No.	

5. Lease Sarial No.	
NM-94899	

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SUNDRY	LJ etor 30	6. If Indian,	Allower of Tribe Name		
Do not use thi	,				
abangoneg wei	l. Use Farm 3160-3 (A		A 2470 1 10671		No. of the No.
	PLICATE- Other instr	uctions on rever	se side.	7. IFUmxort	A/Agreement, Name and/or No.
Type of Well Oil Well	One Well Other			O MY TINE	and No.
Oll Mell	Gas Well Other		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	8, Well Name	65 "33" Fed. Com #1
2. Name of Operator COG Operation	no IIC			9 API Well	
		Sb. Phone No. (Inchede	s area code)		36955_
k. Address 550 W. Texas Ave Str 1300 Mid		432-683-7443			Pool, or Exploratory Area
4. Location of Well (Footoge, Sec., 1	., R., M., or Storesy Description)				Pacish, Sourc
SL: 495'FNL & 1650' FEL! BHL: 760' FNL & 1650' FEL!	56c33-T199-R33E Cc.33-T195-R33E			Lea Coo	
12. CHECK AP	PROPRIATE BOX(ES) TO	INDICATE NATU	LE OF NOTICE, R	EPORT, OR	OTHER DATA
TYPE OF SUBMISSION			PE OF ACTION		
и,	Acidiza	Deepen	Production (St	ar/Resume)	Water Sings-Off
Notice of Intent	Aleer Casing	Fracture Treat	Reclamation	•	Well Integrity
	Casing Repair	New Construction	Recomplem		
Subsequent Report	Change Plans	Plug and Abundon	Tempocarily A	bandon	
Plant Abandonment Node:	Convert to Injection	Plug Back	Winer Disposal		
determined that the same is stead	rel Westgessers Nodes april p Column improviou	ine company COC on	APPF	THOU INFO	
14. Thereby certify that the for Name (Printed/Typed)	ट्डांबर्ड is एक्ट बचर्च क्लाक्टर				
	aulson	Title	Engine	~^	
Signature Coll	12-	Dane	12-7-0	<i>y</i>	
	THIS SPACE FOR	R FEDERAL OR	STATE OFFIC	E USE	
	1/2/1		Time Grologis	1	Dans 12/29/0x
Approved by	M Z Com	2	I HIS C CO TO	<u> </u>	10131101
Conditions of approval, if any, or certify that the applicant holds leg which would entitle the applicant	al or equivible title to those right to conduct operations factors.	s in the subject lease	Office		
Title 18 U.S.C. Section 1001 and Titles any files, ficticious or fraud	He 49 TISC Section 1212 make	it a crime for any person as as to mymatter within	knowingly and willful its jurisdiction.	y to make in or	y department or agency of the United
	79.0				

COG Operating LLC

Jade Viper "33" Federal Com #1 SL: 495' FNL & 1650' FEL BHL: 760' FNL & 1650' FEL

Sec.33-T19S, R33E Lea County, NM

- Well Plan
 Drill and complete a 13700' MD Morrow Test
- 2. Ground Elevation above Sea Level; 3556'
- 3. Proposed drilling depth: TVD: 13,700' MD: 13700'

4. Estimated tops of geological markers:

Rustler anhydrite	1300'
Yates	3190'
Delaware	5250'
Bone Spring	8070'
Wolfcamp	11000
Penn Shale	11500'
Strawn	12100'
Atoka	12300'
Morrow Lime	12700'

5. Possible mineral bearing formations:

Delaware	Oil
Bone Spring	Oil
Wolfgamp	OII/Gas
Atoka	Gas
Morrow	Gas

6. Casing Program

Hole size 24"	<u>Interval</u> 0' – 1300'	<u>OD of Casi</u> 20"	<u>na Weight</u> 94&106.5#	Thread Butt	<u>Collar</u> Butt	<u> </u>
17 1/2"	1300' 3200'	13 3/8"	54.5,61#, 68#	STC/Butt	STC/Butt	J-55/K-55
 11"	3200'- 5200'	8 5/8"	32#	8rd	STC	J-55/HCK55
7 7/8"	5200' 13700'	5-1/2"	17#	Brd	LTC	HCP110

7. Cementing and Setting Dep	<u>)††</u>	b
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<u> </u>	20"	Surface	+/-1300'	Set 1300' of 20" 84&106.6# Butt casing. Cement w/ 1100 sx 36:65 Poz:"C" cement + additives followed by 200 ex Class "C" cement + 2% CaCl2 + .25# flocele. Circulate cement
	13 3/8"	Intermediate	+/-3200	Set 3200" of 13 3/8" 54.5,61#, 88# STC/Butt casing. Cement w/ 1500 sx 50:50 Poz:C light cement + additives followed by 200 sx Class "C" cement + 2% CaCl2. Circulate cement.
	8 5/8"	intermediate	+/-6200'	Set 5200' 8 5/8" 32# J-55/HCK-55 LTC casing, Cement w/ 300 sx Class "C" light + additives followed by 200 sx Class "C" + 1% CaCl2. Est TOC @ +/- 3000'(200' into 13 3/8" casing).
	5-1/2"	Production	13800° 1.3 700′	Set 5-1/2" 17# P110 LTC casing. Cement w/ 550 ax 50:50 Poz:H cement + additives followed by 700 sx Class H light cement plus additives. Est TOC @ +/- 5000'. (200' into 8 5/8" casing)

8. Pressure Control Equipment:

After setting 20" casing install 3000# wellhead and annular BOP. Test annular BOP, casing, and manifold with clear fluid to 1350 psi with rig pump. After setting 13 3/8" casing and installing 6000# wellhead and 5000# double ram BOP. Test BOP, casing, and manifold with clear fluid to 1350 psi with rig pump. (Higher pressure wellhead and BOP are only being used due to availability)

0/-

@ 5200 Ft.

After setting 8-5/8" casing and installing 5000 psi casing spool, NU 5M Double ram BOP and 5M annular BOP. Test Double ram BOP and choke assembly to 5000# and annular to 3000# with independent tester.

9. Proposed Mud Circulating System

PLODOSBO MINO OTRACT	<u> </u>			
<u>Interval</u>	Mud Wt.	Visc.	FL	Type Mud System
0'- 1300'	8. 4-9 .2	28-35	NC	Fresh water native mud w/ paper for seepage and sweeps. Circ Steel Pits
/1300 '- 320 0'	10.0-10.2	28-30	NC	Brine mud w/ lime for PH and paper for seepage and sweeps. Circ Reserve Pits
3200'- 5200'	8.4-8.6	28-30	NC	Fresh water w/ LCM for seepage and loss of returns in the Capitan Reef. Circ Reserve Pita
5200' – 9000'	8.4 – 9.0	NC	NC	Drill section with fresh water/Cut Brine. Have MW 9.0 by 9000'. Circulate the reserve utilizing periodic sweeps of paper as needed for seepage control
	interval 0'- 1300' /1300'- 3200' 3200'- 5200'	0'- 1300' 8.4-9.2 /1300'- 3200' 10.0-10.2 3200'- 5200' 8.4-8.6	Interval Mud Wt. Visc. 0'- 1300' 8.4-9.2 28-35 /1300'- 3200' 10.0-10.2 28-30 3200'- 5200' 8.4-8.6 28-30	Interval Mud Wt. Visc. FL. 0'- 1300' 8.4-9.2 28-35 NC 1300'- 3200' 10.0-10.2 28-30 NC 3200'- 5200' 8.4-8.6 28-30 NC

9000' — 11000'	9.0 9.5	NC	NC	increase weight with brine additions and utilize periodic sweeps of paper as needed for seepage control. Have MW 9.5 by 11,000' or top of Wolfcamp. Circulate reserve pits.
11,000'- 11500'	9.5-9.6	29-30	30	Drill section w/ cut brine circulating the reserve. Drop fluid loss to 30cc w/ starch, Utilize periodic sweeps of paper as needed for seepage control
11500' — 12200'	9.5-9.7	31 -32	20	Drill section w/ cut brine circulating the reserve. Drop fluid loss to 20 cc w/ starch.
12200'- 12700'	9.7-9.8	38-40	15	Return to steel pits and Mud up w/ XCD Polymer and Starch. Reduce fluid loss to 15cc and increase Vis to 38-40. Maintain properties to TD
12700' - 1 370 0'	9.7-9.8	38-40	<8	Reduce fluid loss to 8cc keep Vis at 38-40. Maintain properties to TD