Address COG Operating LLC. COG Operating LLC. Z22973 Z208 West Main Street Artesia, NM 88210 S75-748 Location of Well (<i>Report location clearly and in accordance with any State requirements.*</i>) At surface 190' FSL & 2010' FEL Unit Letter O (SWSE) Sec At proposed prod. Zone 330' FNL & 1980' FEL Unit Letter B (NWNE) Sec At proposed prod. Zone 330' FNL & 1980' FEL Unit Letter B (NWNE) Sec At proposed prod. Zone Sociation to nearest town or post office* About 17 miles from Eunice Sociation to nearest property or lease line, ft. (Also to nearest drig. Unit line, if any) 190' Sociation form location* to nearest well, drilling, completed, SHL: 30' (Prop. Smalls #2H) applied for, on this lease, ft. BHL: 2333' TVE	ngle Zone Multiple 7 3-6940 c. 28.T22S.R34E c. 28.T22S.R34E 0. of acres in lease 960 oposed Depth	5. Lease 5 6. If India 7. If Unit 8. Lease 20ne 9. API We 70- 10. Field a WC-0 11. Sec., T 12. Count	NMNM116047 n, Allotee or Tribe Name or CA Agreement, Name and No. Name and Well No. Smalls Federal #6H Il No. 0249-43067 ind Pool, or Exploratory 25 G-06 S223421L; Bone Spring R.M. or Blk and Survey or Area Sec. 28 - T22S - R34E y or Parish 13. State A County NM		
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applied for, on this lease, ft. BHL: 2333' TVD			to: on the		
	D: 10,290' MD: 14,841'	NMBC	000740 &NMB000215		
	proximate date work will st		23. Estimated duration		
3405.7' GL	12/1/2015) 	30 days		
24. Attach					
A Drilling Plan A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).		ns unless covered by	an existing bond on file (see s as may be required by the		
5. Signature Name (Printed/Typed	i) Mayte Reyes		Date 7-22-15		
itle Regulatory Analyst			L		
pproved by (Signature) /S/ STEPHEN J. CAFFEY	1)		Date FJAN 2 9 2016		
Office	CARLSBAD FI	ELD OFFIC	E		
pplication approval does not warrant or certify that the applicant holds legan or equitable to onduct operations theron. onditions of approval, if any, are attached.	title to those rights in the su APPROVAL FOR				
tle 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person attes any false, fictitious or fraudulent statements or representations as to any matter with		nake to any departme	ent or agency of the United		
APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS	SEE ATTAC CONDITIO		PROVAL		
ATTACHED Capitan Controlled V	Pr In	termediate C	asing B 1 1 2016		

D Shape *	FID Shape * OPERATOR	WELL_NAME	LATITUDE	ATITUDE LONGITUDE API	SECTION TOWNSHIP	RANGE	FTG_NS NS_CD	FTG_EW EW_CD T	FTG_EW EW_CD TVD_DEPTH COMPL_STAT
0 Point	BELCO PETROLEUM COR	FALSE FEDERAL 001	32.342749	-103.472913 3002524636	5 33 22.05	34E	660 S	1980 E	3840 Plugged
1 Point	ORYX ENERGY CO	ANTELOPE FEDERAL COM 001	32.365388	-103.45889 3002530687	7 22.05	34E	1650 N	2310 W	13530 Plugged
2 Point	DEVON ENERGY PRODUCTION COMPANY, LP	GAUCHO UNIT 001	32.365417	-103.488912 3002533440	29 22.05	34E	1650 N	1650 E	15100 Active
3 Point	DEVON ENERGY PRODUCTION COMPANY, LP	GAUCHO 21 FEDERAL 001	32.375386	-103.481376 3002534266	.,	34E	1980 S	660 W	13450 Active
4 Point	DEVON ENERGY PRODUCTION COMPANY, LP	RIO BLANCO 33 FEDERAL 001	32.343689	-103.478308 3002536359		34E	1000 S	1620 W	14682 Active
5 Point	DEVON ENERGY PRODUCTION COMPANY, LP	RIO BLANCO 33 FEDERAL 002	32.349995	-103.477127 3002536360		34E	1980 N	1980 W	14660 Active
6 Point	DEVON ENERGY PRODUCTION COMPANY, LP	RIO BLANCO 33 FEDERAL 003	32.346383	-103.477621 3002537860	_	34E	1980 S	1830 W	8600 Active
7 Point	PETROGULF CORPORATION	FEDERAL 28 011D	32.368126	-103.480312 3002538732		34E	661 N	M 166	0
8 Point	DEVON ENERGY PRODUCTION COMPANY, LP	GAUCHO 21 FEDERAL 002H	32.370976	-103.482312 3002540626	5 21 22.05	34E	375 S	375 W	12600 New (Not drilled or compl)
9 Point	DEVON ENERGY PRODUCTION COMPANY, LP	GAUCHO 21 FEDERAL 004H	32.37049	-103.478651 3002542137		34E	200 S	1500 W	0 New (Not drilled or compl)
10 Point	DEVON ENERGY PRODUCTION COMPANY, LP	GAUCHO 21 FEDERAL 003H	32,370491	-103 478814 300754213F		34F	200.5	1450 W/	0 New (Not drilled or compl)

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COG Operating LLC, Smalls Federal 6H

1. Geologic Formations

TVD of target	10290'	Pilot hole depth	NA
MD at TD:	14841'	Deepest expected fresh water:	605'

Basin

Formation		Water/Mineral Bearing/	Hazards*
1-15 L. INSN PERSONAL CONTRACTOR		Target Zone?	
Quaternary Fill	Surface	Water	
Rustler	1857'	Water	
Top of Salt	2137'	Salt	
Tansill	3639'	Barren	
Yates	3710'	Oil/Gas	
Capitan Reef	4014'	Water	Possible lost circ
Delaware Group	5211'	Oil/Gas	Possible lost circ
Bone Spring	8507'	Oil/Gas	
2 nd Bone Spring Sand	10036'	Target Zone	
Wolfcamp	11208'	Oil/Gas	Will not penetrate

2. Casing Program

e Con

Hole	F. Ad C 1: SHOULS A THE C	Interval	No. Contraction	11 A 56 5 A 18 A	Grade	·Ċonn.	255 26 1 8 2 2 2 2 3	SF	SF
Size	Provid startes . I wanted the arrive Robbits	To	Size	<u>(lbs)</u>	MARKA AND		Collapse	Service reader and and the A	Wingshow and reasons
17.5"		2130'1980'	13.375"	54.5	J55	STC	1.21	1.05	4.76
12.25"	0'	52505500	9.625"	40	L80	BTC	1.19	1.18	4.16
8.75"	0'	14841'	5-1/2"	17	P110	LTC	1.54	2.19	1.76D
				BLM Mini	mum Safet	y Factor	1.125	1.00	1.6 Dry
						-			1.8 Wet

- All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h
- BLM standard formulas were used on all SF calculations.
- Used 9.1 PPG for pore pressure calculations.
- Will set DV tool within 100' of the top of the Capitan Reef. Estimated setting depth is 3915'.

COG Operating LLC, Smalls Federal 6H

	Y or N		
Is casing new? If used, attach certification as required in Onshore Order #1	Y		
Does casing meet API specifications? If no, attach casing specification sheet.	Y		
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N		
Does the above casing design meet or exceed BLM's minimum standards? If not provide	Y		
justification (loading assumptions, casing design criteria).			
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y		
Is well located within Capitan Reef?	V V		
If yes, does production casing cement tie back a minimum of 50' above the Reef?			
	I		
Is well within the designated 4 string boundary.	IN CIL: A Company		
Is well located in SOPA but not in R-111-P?			
If yes, are the first 2 strings cemented to surface and 3 rd string cement tied back			
500' into previous casing?			
Is well located in R-111-P and SOPA?	N N		
If yes, are the first three strings cemented to surface?			
Is 2 nd string set 100' to 600' below the base of salt?			
	WE REPLICATED		
Is well located in high Cave/Karst?	N		
If yes, are there two strings cemented to surface?			
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?			
Is well located in critical Cave/Karst?	1		
	N		
If yes, are there three strings cemented to surface?	<u> </u>		

2. Cementing Program

Casing.	# Sks	Wt. lb/ gal			500# Comp: Strength (hours)	Slurry Description
Surf.	860	13.5	1.75	9.2	13	Lead: Class C + 4% Gel + 2% CaCl2
	275	14.8	1.34	6.4	6	Tail: Class C + 2% CaCl2
Inter.	265	12.9	1.92	10.0	12	Lead: Class C Lite (65:35:6) + 4% Salt + 5# Kolseal
Stg 1	200	14.8	1.34	6.4	6	Tail: Class C
Inter.	945	12.9	1.92	10.0	12	Lead: Class C Lite (65:35:6) + 4% Salt + 5# Kolseal
Stg 2	200	14.8	1.34	6.4	6	Tail: Class C
Prod.	950	10.3	3.52	21.3	75	Lead: Halliburton Tuned Lite w/ 2# kolseal, 1.5# salt, 1/4# D-Air 5000, 1/8# PEF, etc
	1220	14.4	1.25	5.7	22	Tail:50:50:2 H blend (FR, Retarder, FL adds as necessary)

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Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

COG Operating LLC, Smalls Federal 6H

Casing String	TOC	% Excess
Surface	0'	36%
Intermediate – Stage 1	3915'	53%
Intermediate – Stage 2	0'	124%
Production	0'	39%

Pilot hole depth: <u>NA</u> KOP: <u>9813'</u>

4. Pressure Control Equipment

	BOP installed and tested before drilling which hole?	Size?	Min: Required WP	T	ype	Service Services	Tested to:
•				An	nular	X	50% of working pressure
al .	12-1/4" 13		2М	Blin	d Ram		
for not		13-5/8"		Pipe Ram			2M
NON				Double Ram			2.1 v1
C		Other*					
				Annular		x	50% testing pressure
				Blin	d Ram		
	8-3/4"	13-5/8"	3M		e Ram		
	0 5/ 4	15-5/0	5111	Double Ram		X	3M
				Other *			

* Actual equipment is 13-5/8" 5M Hydril Annular, will use for 2M WP System.

** - Actual equipment is 13-5/8" 5M Hydril Annular & 13-5/8" 10M Cameron triple ram, will use for 3M WP System.

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.