

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Artesia

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010**SUNDRY NOTICES AND REPORTS ON WELLS**
Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.5. Lease Serial No.
NMNM99147

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.

SHOWSTOPPER 17 FEDERAL COM 9H

2. Name of Operator

COG OPERATING LLC

Contact: DEBORA WILBOURN

E-Mail: dwilbourn@conchoresources.com

9. API Well No.

30-015-37836

3a. Address

2208 WEST MAIN STREET
ARTESIA, NM 88210

3b. Phone No. (include area code)

Ph: 575-748-6958

10. Field and Pool, or Exploratory

WILLOW LAKE

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Sec 17 T25S R29E SESE 150FSL 150FEL

11. County or Parish, and State

EDDY COUNTY, NM

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	Change to Original APD
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

COG RESPECTFULLY REQUESTS THE FOLLOWING CHGS TO ORIGINAL APPROVED APD.

CHG IN DIRECTIONAL PLAN TO RESULT IN CHG TD TO:

MD = 11825'

TVD = ~7400'

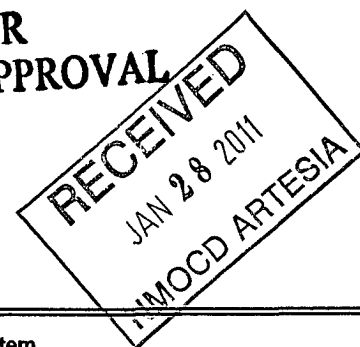
CHG CMT DESIGN F/2 STG TO 3 STG JOB:

1ST STG PMP 550 SX CLASS H, 15.0 PPG, 2.6 YLD

2ND STG WILL REMAIN AS APPROVED W/DVT @6500'

3RD STG DVT/ECP WILL BE SET @2600' PMP 350 SX CLASS C LEAD, 12.7 PPG, 1.89

YLD. PMP 100 SX CLASS C TAIL, 14.8 PPG, 1.89 YLD

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #100998 verified by the BLM Well Information System
For COG OPERATING LLC, sent to the Carlsbad

Name (Printed/Typed) DEBORA WILBOURN

Title OPERATIONS ASSISTANT - NM

Signature (Electronic Submission)

Date 01/21/2011

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

APPROVED

Approved By

Title

Date

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED **

CARLSBAD FIELD OFFICE

CONDITIONS OF APPROVAL

OPERATOR'S NAME:	COG Operating
LEASE NO.:	NM99147
WELL NAME & NO.:	9-Showstopper 17 Federal
SURFACE HOLE FOOTAGE:	0150' FSL & 0150' FEL
BOTTOM HOLE FOOTAGE:	0330' FNL & 380' FEL
LOCATION:	Section 17, T. 25 S., R 29 E., NMPM
COUNTY:	Eddy County, New Mexico

I. DRILLING

A. CASING

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

Centralizers required on horizontal leg, must be type for horizontal service and minimum of one every other joint.

1. The minimum required fill of cement behind the **5-1/2** inch production casing is:

a. First stage to DV tool at 6500', cement shall:

- ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation on the next stage.

The top of the third stage DV tool and ECP is to be set to achieve a distance of at least 50 feet below the 9-5/8" casing shoe.

b. Second stage to DV tool/ECP at approx 2915', cement shall:

- ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with third stage cement job. Operator should have plans as to how they will achieve circulation on the next stage.

c. Third stage above DV tool, cement shall:

- ☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office.

B. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

EGF 012611

COG Operating, LLC

Eddy County, NM

Sec 17, T25S, R29E

Showstopper 17 Fed Com #9H

Wellbore #1

Plan: Design #1

DDC Well Planning Report

20 January, 2011



DDC
Well Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Showstopper 17 Fed Com #9H
Company:	COG Operating, LLC	TVD Reference:	WELL @ 3032.0usft (Patriot #3)
Project:	Eddy County, NM	MD Reference:	WELL @ 3032.0usft (Patriot #3)
Site:	Sec 17, T25S, R29E	North Reference:	Grid
Well:	Showstopper 17 Fed Com #9H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project	Eddy County, NM		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Sec 17, T25S, R29E		
Site Position:		Northing:	408,637.40 usft
From:	Map	Easting:	603,806.20 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"
		Latitude:	32° 7' 23.745 N
		Longitude:	104° 7' 53.556 W
		Grid Convergence:	0.11 °

Well	Showstopper 17 Fed Com #9H		
Well Position	+N/-S	0.0 usft	Northing: 408,637.40 usft
	+E/-W	0.0 usft	Easting: 603,806.20 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	Latitude: 32° 7' 23.745 N
			Longitude: 104° 7' 53.556 W
			Ground Level: 3,015.0 usft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF2010	1/20/2011	7.88
			Dip Angle
			(°)
			60.00
			Field Strength
			(nT)
			48,535

Design	Design #1		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction
			(°)
			356.94

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
4,170.2	0.00	0.00	4,170.2	0.0	0.0	0.00	0.00	0.00	0.00	
4,520.2	7.00	314.64	4,519.4	15.0	-15.2	2.00	2.00	0.00	314.64	
6,666.9	7.00	314.64	6,650.0	198.8	-201.3	0.00	0.00	0.00	0.00	Directional Target
6,999.8	7.00	359.48	6,980.7	233.4	-216.0	1.60	0.00	13.47	112.27	
7,691.5	90.00	359.48	7,400.0	707.3	-220.3	12.00	12.00	0.00	0.00	
11,816.7	90.00	359.48	7,400.0	4,832.3	-258.0	0.00	0.00	0.00	0.00	PBHL Showstopper

DDC
Well Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Showstopper 17 Fed Com #9H
Company:	COG Operating, LLC	TVD Reference:	WELL @ 3032.0usft (Patriot #3)
Project:	Eddy County, NM	MD Reference:	WELL @ 3032.0usft (Patriot #3)
Site:	Sec 17, T25S, R29E	North Reference:	Grid
Well:	Showstopper 17 Fed Com #9H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
Build 2°/100' @ 4170' MD									
4,170.2	0.00	0.00	4,170.2	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.60	314.64	4,200.0	0.1	-0.1	0.1	2.00	2.00	0.00
4,300.0	2.60	314.64	4,300.0	2.1	-2.1	2.2	2.00	2.00	0.00
4,400.0	4.60	314.64	4,399.8	6.5	-6.6	6.8	2.00	2.00	0.00
4,500.0	6.60	314.64	4,499.3	13.3	-13.5	14.0	2.00	2.00	0.00
EOB @ 4520' MD / 7° Inc / 314.64° Azm									
4,520.2	7.00	314.64	4,519.4	15.0	-15.2	15.8	2.00	2.00	0.00
4,600.0	7.00	314.64	4,598.5	21.8	-22.1	23.0	0.00	0.00	0.00
4,700.0	7.00	314.64	4,697.8	30.4	-30.8	32.0	0.00	0.00	0.00
4,800.0	7.00	314.64	4,797.0	39.0	-39.5	41.0	0.00	0.00	0.00
4,900.0	7.00	314.64	4,896.3	47.5	-48.1	50.0	0.00	0.00	0.00

DDC
Well Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Showstopper 17 Fed Com #9H
Company:	COG Operating, LLC	TVD Reference:	WELL @ 3032.0usft (Patriot #3)
Project:	Eddy County, NM	MD Reference:	WELL @ 3032.0usft (Patriot #3)
Site:	Sec 17, T25S, R29E	North Reference:	Grid
Well:	Showstopper 17 Fed Com #9H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,000.0	7.00	314.64	4,995.6	56.1	-56.8	59.0	0.00	0.00	0.00
5,100.0	7.00	314.64	5,094.8	64.7	-65.5	68.0	0.00	0.00	0.00
5,200.0	7.00	314.64	5,194.1	73.2	-74.1	77.1	0.00	0.00	0.00
5,300.0	7.00	314.64	5,293.3	81.8	-82.8	86.1	0.00	0.00	0.00
5,400.0	7.00	314.64	5,392.6	90.3	-91.5	95.1	0.00	0.00	0.00
5,500.0	7.00	314.64	5,491.8	98.9	-100.2	104.1	0.00	0.00	0.00
5,600.0	7.00	314.64	5,591.1	107.5	-108.8	113.1	0.00	0.00	0.00
5,700.0	7.00	314.64	5,690.3	116.0	-117.5	122.1	0.00	0.00	0.00
5,800.0	7.00	314.64	5,789.6	124.6	-126.2	131.1	0.00	0.00	0.00
5,900.0	7.00	314.64	5,888.8	133.2	-134.8	140.2	0.00	0.00	0.00
6,000.0	7.00	314.64	5,988.1	141.7	-143.5	149.2	0.00	0.00	0.00
6,100.0	7.00	314.64	6,087.4	150.3	-152.2	158.2	0.00	0.00	0.00
6,200.0	7.00	314.64	6,186.6	158.8	-160.9	167.2	0.00	0.00	0.00
6,300.0	7.00	314.64	6,285.9	167.4	-169.5	176.2	0.00	0.00	0.00
6,400.0	7.00	314.64	6,385.1	176.0	-178.2	185.2	0.00	0.00	0.00
6,500.0	7.00	314.64	6,484.4	184.5	-186.9	194.2	0.00	0.00	0.00
6,600.0	7.00	314.64	6,583.6	193.1	-195.5	203.3	0.00	0.00	0.00
Directional Target @ 6650' TVD / Turn 1.6°/100'									
6,666.9	7.00	314.64	6,650.0	198.8	-201.3	209.3	0.00	0.00	0.00
6,700.0	6.82	318.78	6,682.9	201.7	-204.1	212.3	1.60	-0.55	12.49
6,800.0	6.50	332.34	6,782.2	211.2	-210.6	222.1	1.60	-0.32	13.56
6,900.0	6.56	346.44	6,881.6	221.8	-214.6	232.9	1.60	0.07	14.10
EOB & Turn @ 7000' MD / 7° Inc / 359.48° Azm / Build 12°/100'									
6,999.8	7.00	359.48	6,980.7	233.4	-216.0	244.6	1.60	0.44	13.07
7,000.0	7.00	359.48	6,980.9	233.4	-216.0	244.6	0.00	0.00	0.00
7,100.0	19.02	359.48	7,078.1	255.9	-216.2	267.1	12.02	12.02	0.00
7,200.0	31.02	359.48	7,168.6	298.1	-216.6	309.3	12.00	12.00	0.00
7,300.0	43.02	359.48	7,248.3	358.2	-217.1	369.3	12.00	12.00	0.00
7,400.0	55.02	359.48	7,313.7	433.6	-217.8	444.6	12.00	12.00	0.00
7,500.0	67.02	359.48	7,362.1	520.9	-218.6	531.8	12.00	12.00	0.00
7,600.0	79.02	359.48	7,391.2	616.4	-219.5	627.2	12.00	12.00	0.00
EOC @ 7692' MD / 90° Inc / 359.48° Azm / 7400' TVD									
7,691.5	90.00	359.48	7,400.0	707.3	-220.3	718.0	12.00	12.00	0.00
7,700.0	90.00	359.48	7,400.0	715.8	-220.4	726.5	0.00	0.00	0.00
7,800.0	90.00	359.48	7,400.0	815.8	-221.3	826.4	0.00	0.00	0.00
7,900.0	90.00	359.48	7,400.0	915.8	-222.2	926.3	0.00	0.00	0.00
8,000.0	90.00	359.48	7,400.0	1,015.8	-223.1	1,026.2	0.00	0.00	0.00
8,100.0	90.00	359.48	7,400.0	1,115.8	-224.0	1,126.2	0.00	0.00	0.00
8,200.0	90.00	359.48	7,400.0	1,215.8	-224.9	1,226.1	0.00	0.00	0.00
8,300.0	90.00	359.48	7,400.0	1,315.8	-225.9	1,326.0	0.00	0.00	0.00
8,400.0	90.00	359.48	7,400.0	1,415.8	-226.8	1,425.9	0.00	0.00	0.00
8,500.0	90.00	359.48	7,400.0	1,515.8	-227.7	1,525.8	0.00	0.00	0.00
8,600.0	90.00	359.48	7,400.0	1,615.8	-228.6	1,625.7	0.00	0.00	0.00
8,700.0	90.00	359.48	7,400.0	1,715.8	-229.5	1,725.6	0.00	0.00	0.00
8,800.0	90.00	359.48	7,400.0	1,815.8	-230.4	1,825.5	0.00	0.00	0.00
8,900.0	90.00	359.48	7,400.0	1,915.8	-231.3	1,925.4	0.00	0.00	0.00
9,000.0	90.00	359.48	7,400.0	2,015.8	-232.3	2,025.3	0.00	0.00	0.00
9,100.0	90.00	359.48	7,400.0	2,115.8	-233.2	2,125.2	0.00	0.00	0.00
9,200.0	90.00	359.48	7,400.0	2,215.7	-234.1	2,225.1	0.00	0.00	0.00
9,300.0	90.00	359.48	7,400.0	2,315.7	-235.0	2,325.0	0.00	0.00	0.00
9,400.0	90.00	359.48	7,400.0	2,415.7	-235.9	2,424.9	0.00	0.00	0.00
9,500.0	90.00	359.48	7,400.0	2,515.7	-236.8	2,524.8	0.00	0.00	0.00
9,600.0	90.00	359.48	7,400.0	2,615.7	-237.7	2,624.7	0.00	0.00	0.00

DDC

Well Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Showstopper 17 Fed Com #9H
Company:	COG Operating, LLC	TVD Reference:	WELL @ 3032.0usft (Patriot #3)
Project:	Eddy County, NM	MD Reference:	WELL @ 3032.0usft (Patriot #3)
Site:	Sec 17, T25S, R29E	North Reference:	Grid
Well:	Showstopper 17 Fed Com #9H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
9,700.0	90.00	359.48	7,400.0	2,715.7	-238.7	2,724.6	0.00	0.00	0.00	
9,800.0	90.00	359.48	7,400.0	2,815.7	-239.6	2,824.5	0.00	0.00	0.00	
9,900.0	90.00	359.48	7,400.0	2,915.7	-240.5	2,924.4	0.00	0.00	0.00	
10,000.0	90.00	359.48	7,400.0	3,015.7	-241.4	3,024.3	0.00	0.00	0.00	
10,100.0	90.00	359.48	7,400.0	3,115.7	-242.3	3,124.2	0.00	0.00	0.00	
10,200.0	90.00	359.48	7,400.0	3,215.7	-243.2	3,224.1	0.00	0.00	0.00	
10,300.0	90.00	359.48	7,400.0	3,315.7	-244.1	3,324.0	0.00	0.00	0.00	
10,400.0	90.00	359.48	7,400.0	3,415.7	-245.1	3,423.9	0.00	0.00	0.00	
10,500.0	90.00	359.48	7,400.0	3,515.7	-246.0	3,523.8	0.00	0.00	0.00	
10,600.0	90.00	359.48	7,400.0	3,615.7	-246.9	3,623.7	0.00	0.00	0.00	
10,700.0	90.00	359.48	7,400.0	3,715.7	-247.8	3,723.6	0.00	0.00	0.00	
10,800.0	90.00	359.48	7,400.0	3,815.7	-248.7	3,823.5	0.00	0.00	0.00	
10,900.0	90.00	359.48	7,400.0	3,915.7	-249.6	3,923.4	0.00	0.00	0.00	
11,000.0	90.00	359.48	7,400.0	4,015.7	-250.5	4,023.3	0.00	0.00	0.00	
11,100.0	90.00	359.48	7,400.0	4,115.7	-251.4	4,123.2	0.00	0.00	0.00	
11,200.0	90.00	359.48	7,400.0	4,215.7	-252.4	4,223.1	0.00	0.00	0.00	
11,300.0	90.00	359.48	7,400.0	4,315.7	-253.3	4,323.0	0.00	0.00	0.00	
11,400.0	90.00	359.48	7,400.0	4,415.7	-254.2	4,422.9	0.00	0.00	0.00	
11,500.0	90.00	359.48	7,400.0	4,515.7	-255.1	4,522.8	0.00	0.00	0.00	
11,600.0	90.00	359.48	7,400.0	4,615.6	-256.0	4,622.7	0.00	0.00	0.00	
11,700.0	90.00	359.48	7,400.0	4,715.6	-256.9	4,722.6	0.00	0.00	0.00	
11,800.0	90.00	359.48	7,400.0	4,815.6	-257.8	4,822.5	0.00	0.00	0.00	
11,816.7	90.00	359.48	7,400.0	4,832.3	-258.0	4,839.2	0.00	0.00	0.00	

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
Directional Target	0.00	0.00	6,650.0	198.8	-201.3	408,836.23	603,604.87	32° 7' 25.716 N	104° 7' 55.893 W	
- hit/miss target										
- Shape										
- plan hits target center										
- Point										
PBHL Showstopper 1'	0.00	0.00	7,400.0	4,832.3	-258.0	413,469.70	603,548.20	32° 8' 11.571 N	104° 7' 56.452 W	
- plan hits target center										
- Point										

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
4,170.2	4,170.2	0.0	0.0	Build 2°/100' @ 4170' MD	
4,520.2	4,519.4	15.0	-15.2	EOB @ 4520' MD / 7° Inc / 314.64° Azm	
6,666.9	6,650.0	198.8	-201.3	Directional Target @ 6650' TVD / Turn 1.6°/100'	
6,999.8	6,980.7	233.4	-216.0	EOB & Turn @ 7000' MD / 7° Inc / 359.48° Azm / Build 12°/100'	
7,691.5	7,400.0	707.3	-220.3	EOC @ 7692' MD / 90° Inc / 359.48° Azm / 7400' TVD	
11,816.7	7,400.0	4,832.3	-258.0	TD @ 11817' MD / 7400' TVD	

COG Operating, LLC



Eddy County, NM
Showstopper 17 Fed Com #9H
Quote 110042

