

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Hobbs

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.***SUBMIT IN TRIPLICATE - Other instructions on reverse side.**

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		5. Lease Serial No. NMNM120908	
2. Name of Operator COG PRODUCTION LLC		6. If Indian, Allottee or Tribe Name	
3a. Address 2208 WEST MAIN STREET ARTESIA, NM 88210		7. If Unit or CA/Agreement, Name and/or No.	
3b. Phone No. (include area code) Ph: 575-748-6945		8. Well Name and No. AZORES FEDERAL 7H	
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 32 T24S R32E NWNE 210FNL 2550FEL		9. API Well No. 30-025-43170	
		10. Field and Pool, or Exploratory WZ-025 G-06 S253206M; BS	
		11. County or Parish, and State LEA 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 A
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	PD

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 recomple 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 recompletion in a new interval, a Form 3160-4 shall be filed testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator determined that the site is ready for final inspection.)

COG Production LLC, respectfully requests approval for the following changes to the original approved APD.

BHL

From: 330' FNL & 2500' FWL Section 29. T24S. R32E
To: 50' FNL & 2310' FWL
C102 Attached.

Drilling Changes

Total depth to 14294' MD.

Final cement volumes for production string are:
500 sks 10.4 (3.38 ft³/sk) lead

*Original Conditions of Approval
still apply.*

14. I hereby certify that the foregoing is true and correct. Electronic Submission #338829 verified by the BLM Well Information System For COG PRODUCTION LLC, sent to the Hobbs Committed to AFMSS for processing by KENNETH RENNICK on 05/11/2016 ()	
Name (Printed/Typed) MAYTE X REYES	Title REGULATORY ANALYST
Signature (Electronic Submission)	Date 05/11/2016

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By <i>Kenneth Rennick</i>	Title <i>Petroleum Engineer</i>	Date <i>5/12/2014</i>
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 <i>Culbuck Federal Office</i>

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 to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

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

Cannot produce well until NSL is approved

Additional data for EC transaction #338829 that would not fit on the form

32. Additional remarks, continued

1500 sks 14.4 (1.25 ft³/sk) tail

Directional program and anti-collision program attached.

COG will apply to NMOCD for a NSL.

DISTRICT I
1625 N. FRENCH DR., BOBBS, NM 86240
Phone: (505) 393-0101 Fax: (505) 393-0720

DISTRICT II
611 S. FIRST ST., ARTESIA, NM 88210
Phone: (505) 746-1253 Fax: (505) 746-9720

DISTRICT III
1000 RIO BRAZOS RD., AZTEC, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV
1220 S. ST. FRANCIS DR., SANTA FE, NM 87503
Phone: (505) 476-3400 Fax: (505) 476-3402

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025-43170	Pool Code 97899	Pool Name WC-025 G-06 S253206M; Bone Spring
Property Code 39881	Property Name AZORES FEDERAL	Well Number 7H
OGRID No. 217955	Operator Name COG PRODUCTION, LLC	Elevation 3491.3'

Surface Location

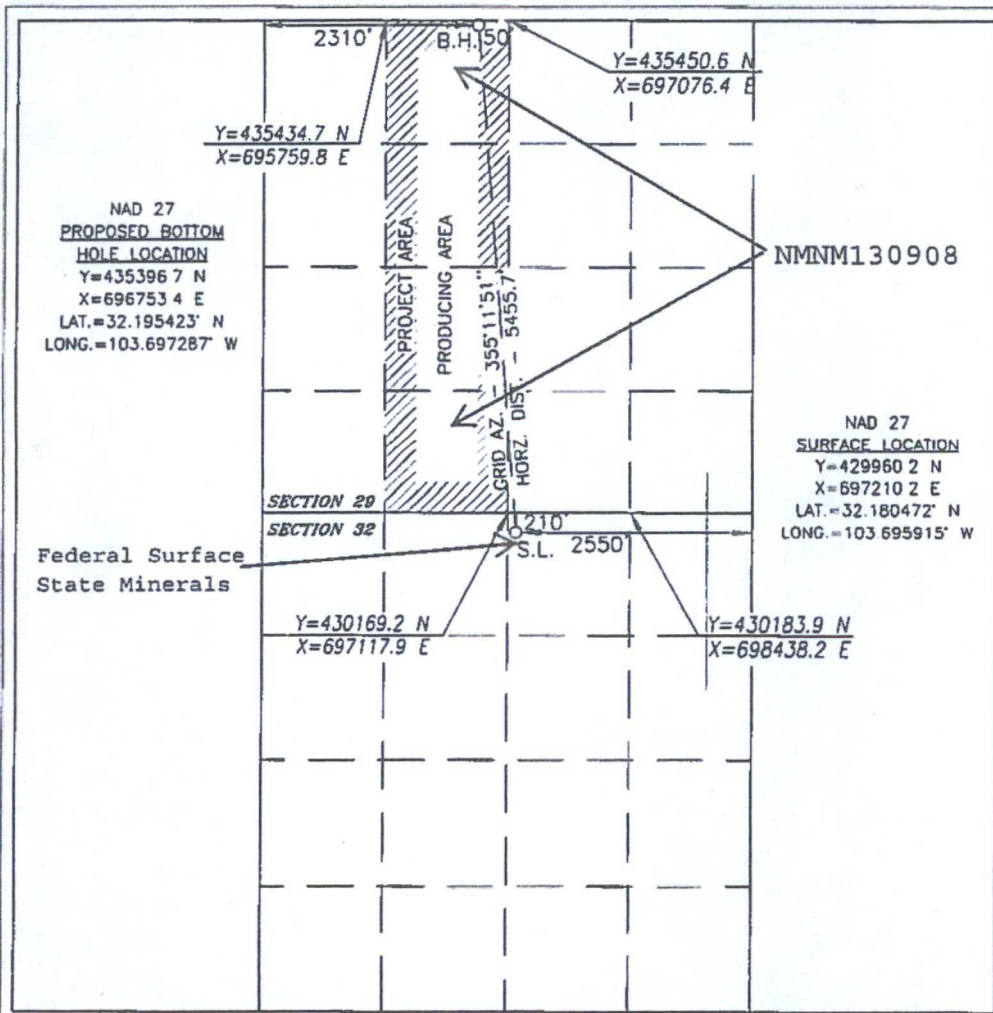
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	32	24-S	32-E		210	NORTH	2550	EAST	LEA

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	29	24-S	32-E		50	NORTH	2310	WEST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
160			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



OPERATOR CERTIFICATION

I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or an undivided mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Melanie J Wilson
Signature Date

Melanie J Wilson

Printed Name

mwilson@concho.com

E-mail Address

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

MONTH/YEAR

Date of Survey

Signature & Seal of Professional Surveyor



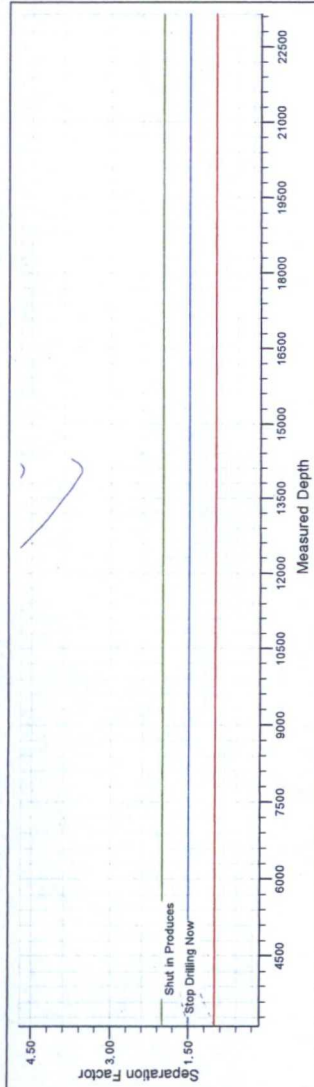
Chad L. Harcrow 3/30/16
Certificate No. CHAD HARCROW 17777

W.D. #

DRAWN BY: AF

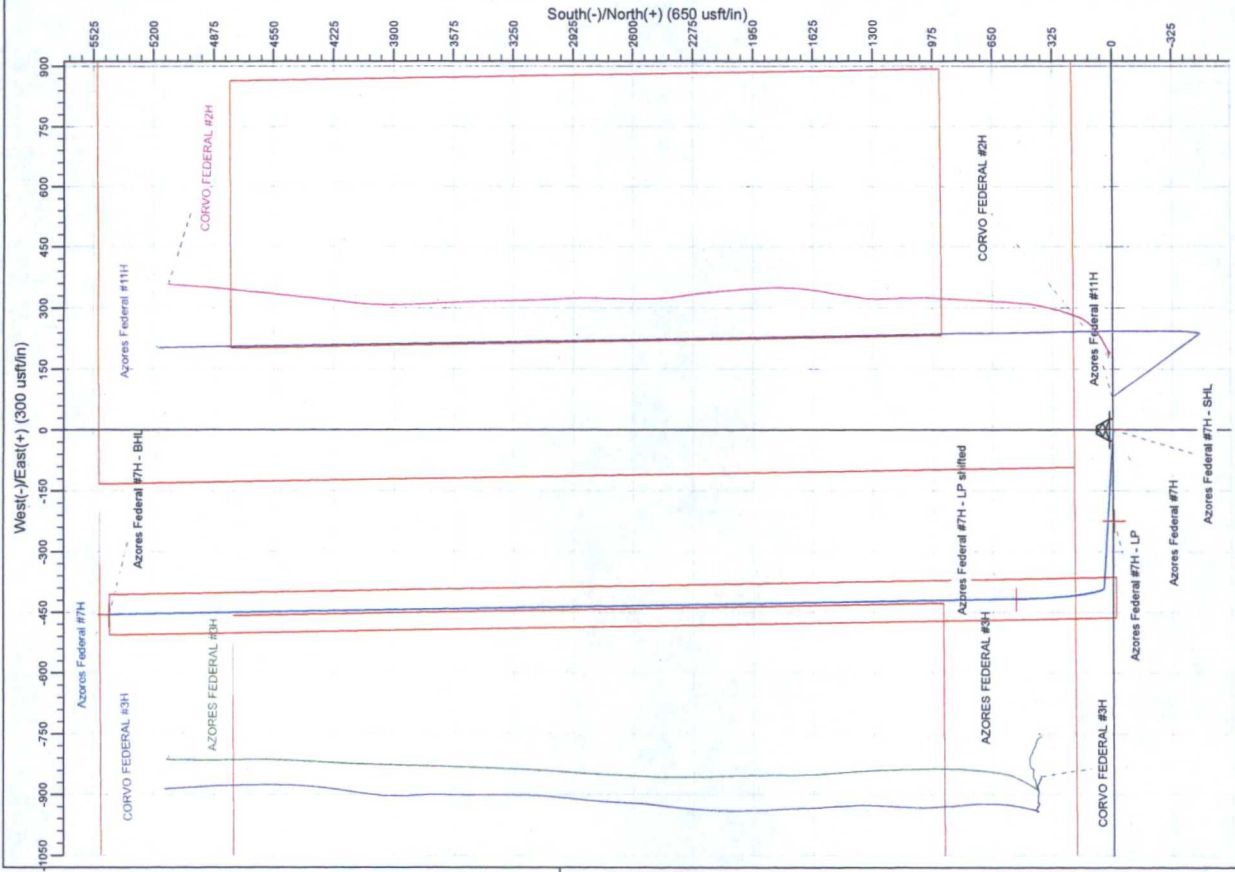
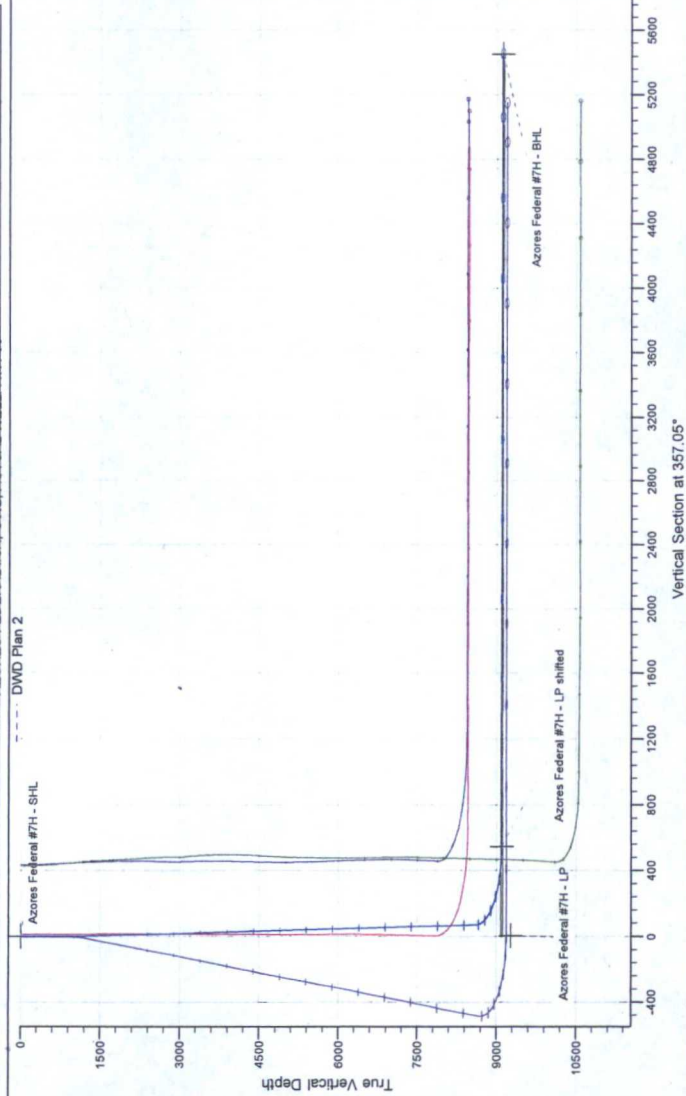


Project: LEA COUNTY, NM
 Site: AVALON SHALE
 Well: Azores Federal #7H
 Wellbore: Wellbore #1
 Design: DWD Plan 2



LEGEND

- CORVO FEDERAL #2H, OWB, ACTUAL WELLPATH V0
- CORVO FEDERAL #3H, OWB, ACTUAL WELLPATH V0
- Azores Federal #11H, Wellbore #1, DWD Plan 1 V0
- AZORES FEDERAL #3H, OWB, ACTUAL WELLPATH V0
- DWD Plan 2



COG PRODUCTION, LLC

**LEA COUNTY, NM
AVALON SHALE
Azores Federal #7H**

Wellbore #1

Plan: DWD Plan 2

Standard Planning Report

11 May, 2016

COG PRODUCTION, LLC

Planning Report

Database: COG PRODUCTION, LLC
 Company: NEW MEXICO BASIN
 Project: LEA COUNTY, NM
 Site: AVALON SHALE
 Well: Azores Federal #7H
 Wellbore: Wellbore #1
 Design: DWD Plan 2

Local Co-ordinate Reference: Well Azores Federal #7H
 TVD Reference: WELL @ 3517.0usft (Original Well Elev)
 MD Reference: WELL @ 3517.0usft (Original Well Elev)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Project LEA COUNTY, NM

Map System: US State Plane 1927 (Exact solution) System Datum: Mean Sea Level
 Geo Datum: NAD 1927 (NADCON CONUS)
 Map Zone: New Mexico East 3001

Site AVALON SHALE

Site Position: Northing: 419,780.50 usft Latitude: 32° 9' 6.058 N
 From: Map Easting: 741,734.30 usft Longitude: 103° 33' 8.114 W
 Position Uncertainty: 0.0 usft Slot Radius: 13-3/16 " Grid Convergence: 0.42 °

Well Azores Federal #7H

Well Position +N/-S 10,179.7 usft Northing: 429,960.20 usft Latitude: 32° 10' 49.697 N
 +E/-W -44,524.1 usft Easting: 697,210.20 usft Longitude: 103° 41' 45.292 W
 Position Uncertainty 0.0 usft Wellhead Elevation: 0.0 usft Ground Level: 3,491.0 usft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	WMM2015	4/27/2016	7.14	60.01	48,007

Design DWD Plan 2

Audit Notes:

Version: Phase: PROTOTYPE Tie On Depth: 0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	357.05

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	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,149.0	2.98	277.16	1,148.9	0.5	-3.8	2.00	2.00	0.00	277.16	
8,636.6	2.98	277.16	8,626.5	49.0	-390.1	0.00	0.00	0.00	0.00	
9,382.1	89.85	359.55	9,100.0	525.0	-418.2	12.00	11.65	11.05	82.41	Azores Federal
14,293.8	89.85	359.55	9,112.9	5,436.5	-456.8	0.00	0.00	0.00	0.00	Azores Federal

COG PRODUCTION, LLC

Planning Report

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Project: LEA COUNTY, NM
Site: AVALON SHALE
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Wellbore: Wellbore #1
Design: DWD Plan 2

Local Co-ordinate Reference: Well Azores Federal #7H
TVD Reference: WELL @ 3517.0usft (Original Well Elev)
MD Reference: WELL @ 3517.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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
Azores Federal #7H - SHL									
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	2.00	277.16	1,100.0	0.2	-1.7	0.3	2.00	2.00	0.00
1,149.0	2.98	277.16	1,148.9	0.5	-3.8	0.7	2.00	2.00	0.00
1,200.0	2.98	277.16	1,199.9	0.8	-6.5	1.1	0.00	0.00	0.00
1,300.0	2.98	277.16	1,299.7	1.5	-11.6	2.1	0.00	0.00	0.00
1,400.0	2.98	277.16	1,399.6	2.1	-16.8	3.0	0.00	0.00	0.00
1,500.0	2.98	277.16	1,499.5	2.8	-22.0	3.9	0.00	0.00	0.00
1,600.0	2.98	277.16	1,599.3	3.4	-27.1	4.8	0.00	0.00	0.00
1,700.0	2.98	277.16	1,699.2	4.1	-32.3	5.7	0.00	0.00	0.00
1,800.0	2.98	277.16	1,799.1	4.7	-37.4	6.6	0.00	0.00	0.00
1,900.0	2.98	277.16	1,898.9	5.3	-42.6	7.5	0.00	0.00	0.00
2,000.0	2.98	277.16	1,998.8	6.0	-47.7	8.4	0.00	0.00	0.00
2,100.0	2.98	277.16	2,098.6	6.6	-52.9	9.4	0.00	0.00	0.00
2,200.0	2.98	277.16	2,198.5	7.3	-58.1	10.3	0.00	0.00	0.00
2,300.0	2.98	277.16	2,298.4	7.9	-63.2	11.2	0.00	0.00	0.00
2,400.0	2.98	277.16	2,398.2	8.6	-68.4	12.1	0.00	0.00	0.00
2,500.0	2.98	277.16	2,498.1	9.2	-73.5	13.0	0.00	0.00	0.00
2,600.0	2.98	277.16	2,598.0	9.9	-78.7	13.9	0.00	0.00	0.00
2,700.0	2.98	277.16	2,697.8	10.5	-83.9	14.8	0.00	0.00	0.00
2,800.0	2.98	277.16	2,797.7	11.2	-89.0	15.7	0.00	0.00	0.00
2,900.0	2.98	277.16	2,897.6	11.8	-94.2	16.7	0.00	0.00	0.00
3,000.0	2.98	277.16	2,997.4	12.5	-99.3	17.6	0.00	0.00	0.00
3,100.0	2.98	277.16	3,097.3	13.1	-104.5	18.5	0.00	0.00	0.00
3,200.0	2.98	277.16	3,197.2	13.8	-109.6	19.4	0.00	0.00	0.00
3,300.0	2.98	277.16	3,297.0	14.4	-114.8	20.3	0.00	0.00	0.00
3,400.0	2.98	277.16	3,396.9	15.1	-120.0	21.2	0.00	0.00	0.00
3,500.0	2.98	277.16	3,496.8	15.7	-125.1	22.1	0.00	0.00	0.00
3,600.0	2.98	277.16	3,596.6	16.4	-130.3	23.0	0.00	0.00	0.00
3,700.0	2.98	277.16	3,696.5	17.0	-135.4	24.0	0.00	0.00	0.00
3,800.0	2.98	277.16	3,796.3	17.7	-140.6	24.9	0.00	0.00	0.00
3,900.0	2.98	277.16	3,896.2	18.3	-145.8	25.8	0.00	0.00	0.00
4,000.0	2.98	277.16	3,996.1	19.0	-150.9	26.7	0.00	0.00	0.00
4,100.0	2.98	277.16	4,095.9	19.6	-156.1	27.6	0.00	0.00	0.00
4,200.0	2.98	277.16	4,195.8	20.2	-161.2	28.5	0.00	0.00	0.00
4,300.0	2.98	277.16	4,295.7	20.9	-166.4	29.4	0.00	0.00	0.00
4,400.0	2.98	277.16	4,395.5	21.5	-171.5	30.3	0.00	0.00	0.00
4,500.0	2.98	277.16	4,495.4	22.2	-176.7	31.3	0.00	0.00	0.00
4,600.0	2.98	277.16	4,595.3	22.8	-181.9	32.2	0.00	0.00	0.00
4,700.0	2.98	277.16	4,695.1	23.5	-187.0	33.1	0.00	0.00	0.00
4,800.0	2.98	277.16	4,795.0	24.1	-192.2	34.0	0.00	0.00	0.00
4,900.0	2.98	277.16	4,894.9	24.8	-197.3	34.9	0.00	0.00	0.00
5,000.0	2.98	277.16	4,994.7	25.4	-202.5	35.8	0.00	0.00	0.00
5,100.0	2.98	277.16	5,094.6	26.1	-207.7	36.7	0.00	0.00	0.00

COG PRODUCTION, LLC

Planning Report

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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)
5,200.0	2.98	277.16	5,194.5	26.7	-212.8	37.6	0.00	0.00	0.00
5,300.0	2.98	277.16	5,294.3	27.4	-218.0	38.6	0.00	0.00	0.00
5,400.0	2.98	277.16	5,394.2	28.0	-223.1	39.5	0.00	0.00	0.00
5,500.0	2.98	277.16	5,494.0	28.7	-228.3	40.4	0.00	0.00	0.00
5,600.0	2.98	277.16	5,593.9	29.3	-233.5	41.3	0.00	0.00	0.00
5,700.0	2.98	277.16	5,693.8	30.0	-238.6	42.2	0.00	0.00	0.00
5,800.0	2.98	277.16	5,793.6	30.6	-243.8	43.1	0.00	0.00	0.00
5,900.0	2.98	277.16	5,893.5	31.3	-248.9	44.0	0.00	0.00	0.00
6,000.0	2.98	277.16	5,993.4	31.9	-254.1	44.9	0.00	0.00	0.00
6,100.0	2.98	277.16	6,093.2	32.6	-259.2	45.9	0.00	0.00	0.00
6,200.0	2.98	277.16	6,193.1	33.2	-264.4	46.8	0.00	0.00	0.00
6,300.0	2.98	277.16	6,293.0	33.9	-269.6	47.7	0.00	0.00	0.00
6,400.0	2.98	277.16	6,392.8	34.5	-274.7	48.6	0.00	0.00	0.00
6,500.0	2.98	277.16	6,492.7	35.1	-279.9	49.5	0.00	0.00	0.00
6,600.0	2.98	277.16	6,592.6	35.8	-285.0	50.4	0.00	0.00	0.00
6,700.0	2.98	277.16	6,692.4	36.4	-290.2	51.3	0.00	0.00	0.00
6,800.0	2.98	277.16	6,792.3	37.1	-295.4	52.2	0.00	0.00	0.00
6,900.0	2.98	277.16	6,892.2	37.7	-300.5	53.2	0.00	0.00	0.00
7,000.0	2.98	277.16	6,992.0	38.4	-305.7	54.1	0.00	0.00	0.00
7,100.0	2.98	277.16	7,091.9	39.0	-310.8	55.0	0.00	0.00	0.00
7,200.0	2.98	277.16	7,191.7	39.7	-316.0	55.9	0.00	0.00	0.00
7,300.0	2.98	277.16	7,291.6	40.3	-321.1	56.8	0.00	0.00	0.00
7,400.0	2.98	277.16	7,391.5	41.0	-326.3	57.7	0.00	0.00	0.00
7,500.0	2.98	277.16	7,491.3	41.6	-331.5	58.6	0.00	0.00	0.00
7,600.0	2.98	277.16	7,591.2	42.3	-336.6	59.5	0.00	0.00	0.00
7,700.0	2.98	277.16	7,691.1	42.9	-341.8	60.5	0.00	0.00	0.00
7,800.0	2.98	277.16	7,790.9	43.6	-346.9	61.4	0.00	0.00	0.00
7,900.0	2.98	277.16	7,890.8	44.2	-352.1	62.3	0.00	0.00	0.00
8,000.0	2.98	277.16	7,990.7	44.9	-357.3	63.2	0.00	0.00	0.00
8,100.0	2.98	277.16	8,090.5	45.5	-362.4	64.1	0.00	0.00	0.00
8,200.0	2.98	277.16	8,190.4	46.2	-367.6	65.0	0.00	0.00	0.00
8,300.0	2.98	277.16	8,290.3	46.8	-372.7	65.9	0.00	0.00	0.00
8,400.0	2.98	277.16	8,390.1	47.5	-377.9	66.8	0.00	0.00	0.00
8,500.0	2.98	277.16	8,490.0	48.1	-383.0	67.8	0.00	0.00	0.00
8,600.0	2.98	277.16	8,589.9	48.8	-388.2	68.7	0.00	0.00	0.00
8,636.6	2.98	277.16	8,626.5	49.0	-390.1	69.0	0.00	0.00	0.00
8,700.0	8.52	339.41	8,689.5	53.6	-393.4	73.8	12.00	8.75	98.26
8,800.0	20.20	351.50	8,786.2	77.7	-398.6	98.1	12.00	11.68	12.08
8,900.0	32.12	354.84	8,875.8	121.4	-403.5	142.0	12.00	11.91	3.35
9,000.0	44.08	356.50	8,954.4	182.8	-408.1	203.6	12.00	11.96	1.66
9,053.0	50.42	357.11	8,990.4	221.7	-410.2	242.5	12.00	11.97	1.15
Azores Federal #7H - LP									
9,100.0	56.05	357.57	9,018.5	259.3	-412.0	280.1	12.00	11.98	0.97
9,200.0	68.03	358.36	9,065.3	347.4	-415.0	368.3	12.00	11.98	0.80
9,300.0	80.01	359.04	9,092.8	443.3	-417.2	464.2	12.00	11.98	0.67
9,382.1	89.85	359.55	9,100.0	525.0	-418.2	545.8	12.00	11.98	0.62
Azores Federal #7H - LP shifted									
9,400.0	89.85	359.55	9,100.0	542.9	-418.4	563.7	0.00	0.00	0.00
9,500.0	89.85	359.55	9,100.3	642.9	-419.1	663.6	0.00	0.00	0.00
9,600.0	89.85	359.55	9,100.6	742.9	-419.9	763.5	0.00	0.00	0.00
9,700.0	89.85	359.55	9,100.8	842.9	-420.7	863.4	0.00	0.00	0.00
9,800.0	89.85	359.55	9,101.1	942.9	-421.5	963.3	0.00	0.00	0.00
9,900.0	89.85	359.55	9,101.4	1,042.9	-422.3	1,063.2	0.00	0.00	0.00
10,000.0	89.85	359.55	9,101.6	1,142.9	-423.1	1,163.1	0.00	0.00	0.00

COG PRODUCTION, LLC

Planning Report

Database: COG PRODUCTION, LLC
 Company: NEW MEXICO BASIN
 Project: LEA COUNTY, NM
 Site: AVALON SHALE
 Well: Azores Federal #7H
 Wellbore: Wellbore #1
 Design: DWD Plan 2

Local Co-ordinate Reference: Well Azores Federal #7H
 TVD Reference: WELL @ 3517.0usft (Original Well Elev)
 MD Reference: WELL @ 3517.0usft (Original Well Elev)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

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)
10,100.0	89.85	359.55	9,101.9	1,242.9	-423.8	1,263.0	0.00	0.00	0.00
10,200.0	89.85	359.55	9,102.1	1,342.9	-424.6	1,362.9	0.00	0.00	0.00
10,300.0	89.85	359.55	9,102.4	1,442.8	-425.4	1,462.8	0.00	0.00	0.00
10,400.0	89.85	359.55	9,102.7	1,542.8	-426.2	1,562.7	0.00	0.00	0.00
10,500.0	89.85	359.55	9,102.9	1,642.8	-427.0	1,662.6	0.00	0.00	0.00
10,600.0	89.85	359.55	9,103.2	1,742.8	-427.8	1,762.5	0.00	0.00	0.00
10,700.0	89.85	359.55	9,103.5	1,842.8	-428.6	1,862.4	0.00	0.00	0.00
10,800.0	89.85	359.55	9,103.7	1,942.8	-429.3	1,962.4	0.00	0.00	0.00
10,900.0	89.85	359.55	9,104.0	2,042.8	-430.1	2,062.3	0.00	0.00	0.00
11,000.0	89.85	359.55	9,104.2	2,142.8	-430.9	2,162.2	0.00	0.00	0.00
11,100.0	89.85	359.55	9,104.5	2,242.8	-431.7	2,262.1	0.00	0.00	0.00
11,200.0	89.85	359.55	9,104.8	2,342.8	-432.5	2,362.0	0.00	0.00	0.00
11,300.0	89.85	359.55	9,105.0	2,442.8	-433.3	2,461.9	0.00	0.00	0.00
11,400.0	89.85	359.55	9,105.3	2,542.8	-434.1	2,561.8	0.00	0.00	0.00
11,500.0	89.85	359.55	9,105.5	2,642.8	-434.8	2,661.7	0.00	0.00	0.00
11,600.0	89.85	359.55	9,105.8	2,742.8	-435.6	2,761.6	0.00	0.00	0.00
11,700.0	89.85	359.55	9,106.1	2,842.8	-436.4	2,861.5	0.00	0.00	0.00
11,800.0	89.85	359.55	9,106.3	2,942.8	-437.2	2,961.4	0.00	0.00	0.00
11,900.0	89.85	359.55	9,106.6	3,042.8	-438.0	3,061.3	0.00	0.00	0.00
12,000.0	89.85	359.55	9,106.9	3,142.8	-438.8	3,161.2	0.00	0.00	0.00
12,100.0	89.85	359.55	9,107.1	3,242.8	-439.6	3,261.1	0.00	0.00	0.00
12,200.0	89.85	359.55	9,107.4	3,342.8	-440.3	3,361.0	0.00	0.00	0.00
12,300.0	89.85	359.55	9,107.6	3,442.8	-441.1	3,460.9	0.00	0.00	0.00
12,400.0	89.85	359.55	9,107.9	3,542.8	-441.9	3,560.8	0.00	0.00	0.00
12,500.0	89.85	359.55	9,108.2	3,642.8	-442.7	3,660.7	0.00	0.00	0.00
12,600.0	89.85	359.55	9,108.4	3,742.8	-443.5	3,760.6	0.00	0.00	0.00
12,700.0	89.85	359.55	9,108.7	3,842.8	-444.3	3,860.5	0.00	0.00	0.00
12,800.0	89.85	359.55	9,108.9	3,942.8	-445.1	3,960.4	0.00	0.00	0.00
12,900.0	89.85	359.55	9,109.2	4,042.8	-445.8	4,060.3	0.00	0.00	0.00
13,000.0	89.85	359.55	9,109.5	4,142.8	-446.6	4,160.3	0.00	0.00	0.00
13,100.0	89.85	359.55	9,109.7	4,242.8	-447.4	4,260.2	0.00	0.00	0.00
13,200.0	89.85	359.55	9,110.0	4,342.8	-448.2	4,360.1	0.00	0.00	0.00
13,300.0	89.85	359.55	9,110.3	4,442.7	-449.0	4,460.0	0.00	0.00	0.00
13,400.0	89.85	359.55	9,110.5	4,542.7	-449.8	4,559.9	0.00	0.00	0.00
13,500.0	89.85	359.55	9,110.8	4,642.7	-450.6	4,659.8	0.00	0.00	0.00
13,600.0	89.85	359.55	9,111.0	4,742.7	-451.3	4,759.7	0.00	0.00	0.00
13,700.0	89.85	359.55	9,111.3	4,842.7	-452.1	4,859.6	0.00	0.00	0.00
13,800.0	89.85	359.55	9,111.6	4,942.7	-452.9	4,959.5	0.00	0.00	0.00
13,900.0	89.85	359.55	9,111.8	5,042.7	-453.7	5,059.4	0.00	0.00	0.00
14,000.0	89.85	359.55	9,112.1	5,142.7	-454.5	5,159.3	0.00	0.00	0.00
14,100.0	89.85	359.55	9,112.4	5,242.7	-455.3	5,259.2	0.00	0.00	0.00
14,200.0	89.85	359.55	9,112.6	5,342.7	-456.0	5,359.1	0.00	0.00	0.00
14,293.8	89.85	359.55	9,112.9	5,436.5	-456.8	5,452.8	0.00	0.00	0.00

Azores Federal #7H - BHL

COG PRODUCTION, LLC

Planning Report

Database: COG PRODUCTION, LLC
Company: NEW MEXICO BASIN
Project: LEA COUNTY, NM
Site: AVALON SHALE
Well: Azores Federal #7H
Wellbore: Wellbore #1
Design: DWD Plan 2

Local Co-ordinate Reference: Well Azores Federal #7H
TVD Reference: WELL @ 3517.0usft (Original Well Elev)
MD Reference: WELL @ 3517.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Azores Federal - plan hits target center - Point	0.00	0.00	0.0	0.0	0.0	429,960.20	697,210.20	32° 10' 49.697 N	103° 41' 45.292 W
Azores Federal - plan hits target center - Point	0.00	0.00	9,100.0	525.0	-418.2	430,485.19	696,791.99	32° 10' 54.917 N	103° 41' 50.122 W
Azores Federal - plan misses target center by 0.1usft at 14293.8usft MD (9112.9 TVD, 5436.5 N, -456.8 E) - Rectangle (sides W100.0 H5,452.8 D30.0)	0.15	359.55	9,113.0	5,436.5	-456.8	435,396.70	696,753.40	32° 11' 43.523 N	103° 41' 50.233 W
Azores Federal - plan misses target center by 408.6usft at 9053.0usft MD (8990.4 TVD, 221.7 N, -410.2 E) - Point	0.00	0.01	9,274.0	-6.7	-224.8	429,953.54	696,985.37	32° 10' 49.645 N	103° 41' 47.909 W