

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/ocd/contact-us>

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

Form C-101
August 1, 2011

Permit 406065

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

1. Operator Name and Address Avant Operating II, LLC 1515 Wynkoop Street Denver, CO 80202		2. OGRID Number 332947
		3. API Number 30-025-55866
4. Property Code 337745	5. Property Name QUAIL 16 STATE COM	6. Well No. 801H

7. Surface Location

UL - Lot M	Section 16	Township 20S	Range 34E	Lot Idn	Feet From 329	N/S Line S	Feet From 978	E/W Line W	County Lea
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8. Proposed Bottom Hole Location

UL - Lot D	Section 16	Township 20S	Range 34E	Lot Idn D	Feet From 100	N/S Line N	Feet From 330	E/W Line W	County Lea
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9. Pool Information

LEA;PENN (GAS)	80040
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Additional Well Information

11. Work Type New Well	12. Well Type GAS	13. Cable/Rotary	14. Lease Type State	15. Ground Level Elevation 3638
16. Multiple N	17. Proposed Depth 17215	18. Formation Cisco	19. Contractor	20. Spud Date 2/15/2026
Depth to Ground water		Distance from nearest fresh water well		Distance to nearest surface water

☒ We will be using a closed-loop system in lieu of lined pits

21. Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surf	17.5	13.375	54.5	1577	915	0
Int1	12.25	10.75	45.5	5319	1190	0
Int2	9.875	8.625	32	9908	835	0
Int2	9.875	8.625	32	6000	835	0
Int2	9.875	8.625	32	5600	835	0
Prod	7.875	5.5	20	17215	900	9408

Casing/Cement Program: Additional Comments

This well will have a pilot hole, please see attached proposed wellbore diagram, plug back cement proposal & directional plan. Cement plug spotted from 50ft below Strawn formation to 400ft above KOP.

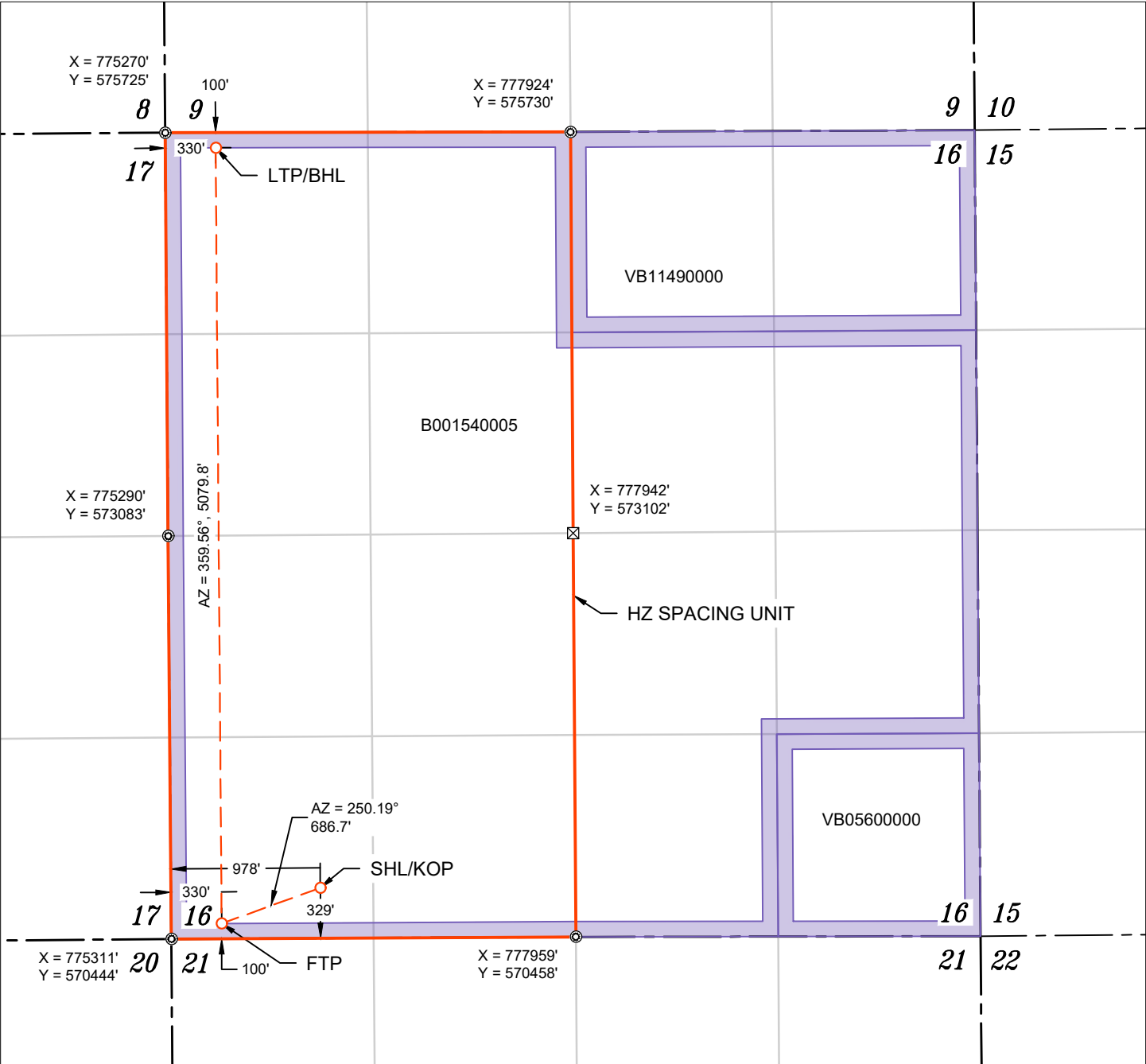
22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Pipe	10000	5000	CAMERON

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I hereby certify that no additives containing PFAS chemicals will be added to the completion or recompletion of this well. I further certify I have complied with 19.15.14.9 (A) NMAC ☒ and/or 19.15.14.9 (B) NMAC ☒ if applicable.	OIL CONSERVATION DIVISION	
Signature:		
Printed Name: Electronically filed by Sarah Ferreyros	Approved By: Jeffrey Harrison	
Title: Director of Regulatory	Title: Petroleum Specialist III	
Email Address: sarah@avantnr.com	Approved Date: 1/28/2026	Expiration Date: 1/28/2028
Date: 1/9/2026	Phone: 720-854-9020	Conditions of Approval Attached

C-102 Submit Electronically Via OCD Permitting		State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION				Revised July 9, 2024			
		Submittal Type:		☒ Initial Submittal ☐ Amended Report ☐ As Drilled					
WELL LOCATION INFORMATION									
API Number 30-025-55866		Pool Code 80040		Pool Name LEA; PENN (GAS)					
Property Code 337745		Property Name QUAIL 16 STATE COM					Well Number #801H		
OGRID No. 332947		Operator Name AVANT OPERATING II, LLC					Ground Level Elevation 3638'		
Surface Owner: ☒ State ☐ Fee ☐ Tribal ☐ Federal				Mineral Owner: ☒ State ☐ Fee ☐ Tribal ☐ Federal					
Surface Location									
UL M	Section 16	Township 20 S	Range 34 E	Lot	Ft. from N/S 329' FSL	Ft. from E/W 978' FWL	Latitude 32.566812°	Longitude -103.570685°	County LEA
Bottom Hole Location									
UL D	Section 16	Township 20 S	Range 34 E	Lot	Ft. from N/S 100' FNL	Ft. from E/W 330' FWL	Latitude 32.580148°	Longitude -103.572797°	County LEA
Dedicated Acres 320.00		Infill or Defining Well Infill		Defining Well API n/a		Overlapping Spacing Unit (Y/N) No		Consolidation Code n/a	
Order Numbers. Pending						Well setbacks are under Common Ownership: ☐ Yes ☒ No			
Kick Off Point (KOP)									
UL M	Section 16	Township 20 S	Range 34 E	Lot	Ft. from N/S 329' FSL	Ft. from E/W 978' FWL	Latitude 32.566812°	Longitude -103.570685°	County LEA
First Take Point (FTP)									
UL M	Section 16	Township 20 S	Range 34 E	Lot	Ft. from N/S 100' FSL	Ft. from E/W 330' FWL	Latitude 32.566185°	Longitude -103.572787°	County LEA
Last Take Point (LTP)									
UL D	Section 16	Township 20 S	Range 34 E	Lot	Ft. from N/S 100' FNL	Ft. from E/W 330' FWL	Latitude 32.580148°	Longitude -103.572797°	County LEA
Unitized Area or Area of Uniform Interest Yes				Spacing Unit Type ☒ Horizontal ☐ Vertical			Ground Floor Elevation: 3638'		
OPERATOR CERTIFICATIONS <i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, that this organization either owns a working interest or unleased 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 a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</i> <i>If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.</i>  1/5/2026					SURVEYOR CERTIFICATIONS <i>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.</i>  				
Signature Sarah Ferreyros					Signature and Seal of Professional Surveyor 23203 DECEMBER 18, 2025				
Printed Name sarah@avantnr.com					Certificate Number		Date of Survey		
Email Address									

Note: 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.



WELL NAME: QUAIL 16 STATE COM #801H
ELEVATION: 3638'

NAD 83 (SHL/KOP) 329' FSL & 978' FWL
LATITUDE = 32.566812°
LONGITUDE = -103.570685°
NAD 27 (SHL/KOP)
LATITUDE = 32.566693°
LONGITUDE = -103.570194°
STATE PLANE NAD 83 (N.M. EAST)
N: 570778.79' E: 776286.45'
STATE PLANE NAD 27 (N.M. EAST)
N: 570717.53' E: 735105.54'

NAD 83 (FTP) 100' FSL & 330' FWL
LATITUDE = 32.566185°
LONGITUDE = -103.572787°
NAD 27 (FTP)
LATITUDE = 32.566066°
LONGITUDE = -103.572296°
STATE PLANE NAD 83 (N.M. EAST)
N: 570546.03' E: 775640.36'
STATE PLANE NAD 27 (N.M. EAST)
N: 570484.77' E: 734459.46'

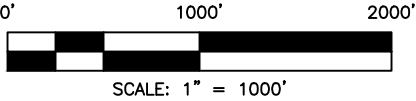
NAD 83 (LTP/BHL) 100' FNL & 330' FWL
LATITUDE = 32.580148°
LONGITUDE = -103.572797°
NAD 27 (LTP/BHL)
LATITUDE = 32.580028°
LONGITUDE = -103.572305°
STATE PLANE NAD 83 (N.M. EAST)
N: 575625.72' E: 775601.11'
STATE PLANE NAD 27 (N.M. EAST)
N: 575564.35' E: 734420.38'

APPROXIMATE WELL BORE DISTANCE FROM FTP TO LTP	
B001540005	5079.84'
TOTAL	5079.84'

NOTES

- ALL COORDINATES, BEARINGS, AND DISTANCES CONTAINED HEREIN ARE GRID, BASED UPON THE NEW MEXICO STATE PLANE COORDINATES SYSTEM, NORTH AMERICAN DATUM 83, NEW MEXICO EAST (3001).
- THIS DOCUMENT IS BASED UPON AN ON THE GROUND SURVEY PERFORMED DURING DECEMBER, 2025. CERTIFICATION OF THIS DOCUMENT IS ONLY TO THE LOCATION OF THIS INFORMATION IN RELATION TO RECORDED MONUMENT OF DEEDS PROVIDED BY THE CLIENT.
- ELEVATIONS MSL, DERIVED FROM G.N.S.S. OBSERVATION AND DERIVED FROM SAID ON-THE-GROUND SURVEY.

FOUND MONUMENT
CALC. CORNER
SHL/ KOP/ FTP / PPP/ LTP / BHL
WELLBORE
HORIZONTAL SPACING UNIT
STATE OIL & GAS LEASE
BLM OIL & GAS LEASE



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1220 S. St Francis Dr.
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Form APD Comments

Permit 406065

PERMIT COMMENTS

Operator Name and Address: Avant Operating II, LLC [332947] 1515 Wynkoop Street Denver, CO 80202		API Number: 30-025-55866
		Well: QUAIL 16 STATE COM #801H
Created By	Comment	Comment Date
twelem	This well will have a pilot hole, please see attached proposed wellbore diagram, plug back cement proposal & directional plan. Cement plug spotted from 50ft below Strawn formation to 400ft above KOP.	1/9/2026

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Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

Form APD Conditions

Permit 406065

PERMIT CONDITIONS OF APPROVAL

Operator Name and Address: Avant Operating II, LLC [332947] 1515 Wynkoop Street Denver, CO 80202	API Number: 30-025-55866
	Well: QUAIL 16 STATE COM #801H

OCD Reviewer	Condition
jeffrey.harrison	No additives containing PFAS chemicals will be added to the drilling fluids or completion fluids used during drilling, completions, or recompletions operations.
jeffrey.harrison	Administrative order required for non-standard location prior to production.
jeffrey.harrison	This well is within the Capitan Reef aquifer zone. The first intermediate casing string shall be set and cemented back to surface immediately below the Capitan Reef.
jeffrey.harrison	In Capitan Reef areas if lost circulation (50% or greater) occurs below the base of the salt, the operator shall switch to freshwater mud until the intermediate casing is set..
jeffrey.harrison	This well is within the R-111-Q defined boundary. Operator must follow all procedures and requirements listed within the order.
jeffrey.harrison	Designs must align to one of the six options mandated within R-111-Q. No alterations or modifications are permitted to any of the casing design options mandated within order R-111-Q. If you have any questions, please contact Justin.Wrinkle@emnrd.nm.gov.
jeffrey.harrison	Cement is required to circulate on both surface and intermediate1 strings of casing.
jeffrey.harrison	If cement does not circulate on any string, a Cement Bond Log (CBL) is required for that string of casing.
jeffrey.harrison	File As Drilled C-102 and a directional Survey with C-104 completion packet.
jeffrey.harrison	Notify the OCD 24 hours prior to casing & cement.
jeffrey.harrison	A [C-103] Sub. Drilling (C-103N) is required within (10) days of spud.
jeffrey.harrison	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.
jeffrey.harrison	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string.

Intent ☐ As Drilled ☐

API #		
Operator Name:	Property Name:	Well Number

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

Is this well the defining well for the Horizontal Spacing Unit? ☐Is this well an infill well? ☐

If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

API #		
Operator Name:	Property Name:	Well Number

KZ 06/29/2018

WELL DETAILS: Quail 16 State Com #801H

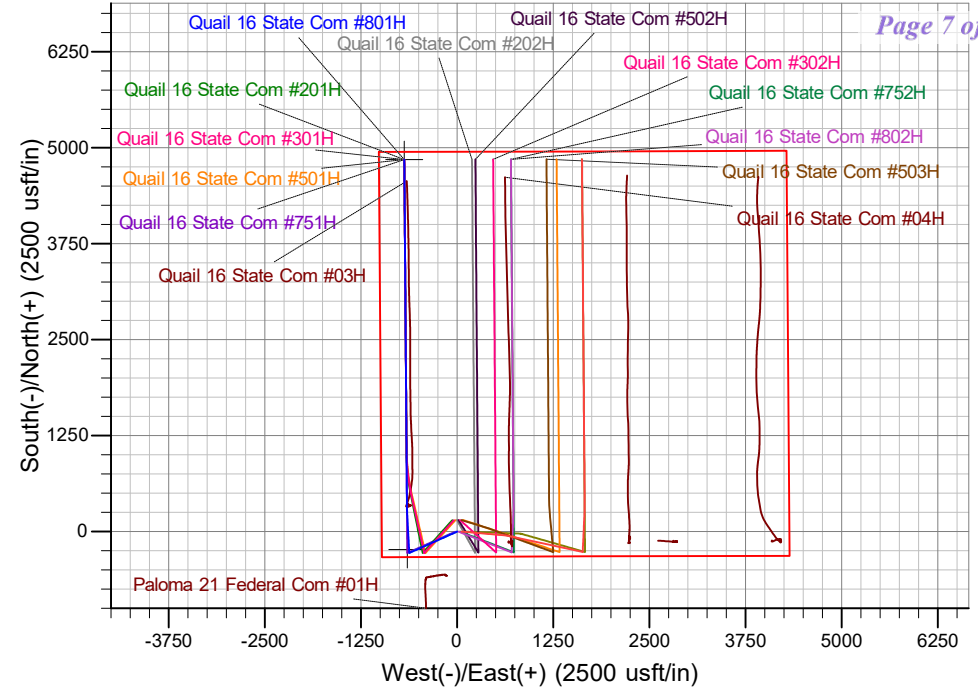
Ground Elev: 3638.0 KB: 3663

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	570778.79	776286.45	32.566812	-103.570685

PROJECT DETAILS: Lea County, NM (NAD 83)

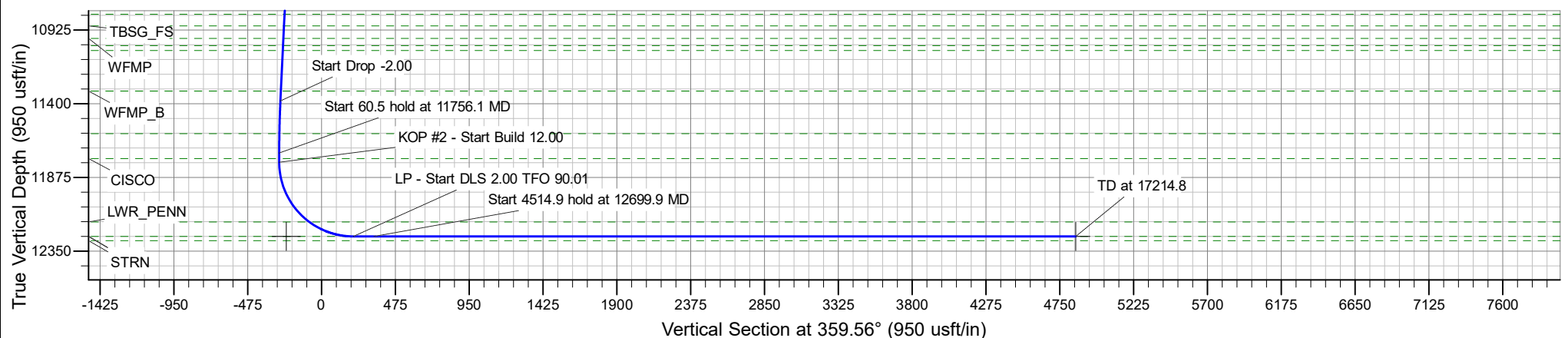
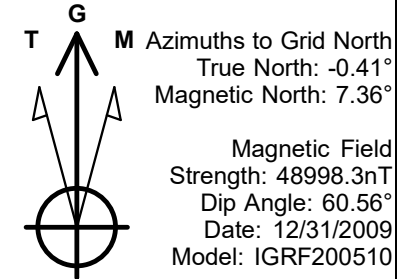
Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico Eastern Zone

System Datum: Mean Sea Level



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	5600.0	0.00	0.00	5600.0	0.0	0.0	0.00	0.00	0.0	KOP - Start Build 2.00
3	5935.6	6.71	245.90	5934.9	-8.0	-17.9	2.00	245.90	-7.9	Start 5484.9 hold at 5935.6 MD
4	11420.5	6.71	245.90	11382.1	-269.8	-603.2	0.00	0.00	-265.1	Start Drop -2.00
5	11756.1	0.00	0.00	11717.0	-277.8	-621.1	2.00	180.00	-273.0	Start 60.5 hold at 11756.1 MD
6	11816.6	0.00	0.00	11777.5	-277.8	-621.1	0.00	0.00	-273.0	KOP #2 - Start Build 12.00
7	12566.6	90.00	356.90	12255.0	199.0	-646.9	12.00	356.90	203.9	LP - Start DLS 2.00 TFO 90.01
8	12699.9	90.00	359.56	12255.0	332.1	-651.0	2.00	90.01	337.1	Start 4514.9 hold at 12699.9 MD
9	17214.8	90.00	359.56	12255.0	4846.9	-685.3	0.00	0.00	4852.1	TD at 17214.8



Avant Operating II, LLC

**Lea County, NM (NAD 83)
Quail 16 State Com Pad 1
Quail 16 State Com #801H**

OH

Plan: Plan 0.1

Standard Planning Report

22 December, 2025

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Quail 16 State Com #801H
Company:	Avant Operating II, LLC	TVD Reference:	Well @ 3663.0usft (3663)
Project:	Lea County, NM (NAD 83)	MD Reference:	Well @ 3663.0usft (3663)
Site:	Quail 16 State Com Pad 1	North Reference:	Grid
Well:	Quail 16 State Com #801H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 0.1		

Project	Lea County, NM (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Quail 16 State Com Pad 1				
Site Position:		Northing:	571,105.87 usft	Latitude:	32.567724
From:	Map	Easting:	775,635.79 usft	Longitude:	-103.572789
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "		

Well	Quail 16 State Com #801H					
Well Position	+N/-S	0.0 usft	Northing:	570,778.79 usft	Latitude:	32.566813
	+E/-W	0.0 usft	Easting:	776,286.45 usft	Longitude:	-103.570685
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,638.0 usft
Grid Convergence:		0.41 °				

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	7.77	60.56	48,998.25910011

Design	Plan 0.1			
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	359.56

Plan Survey Tool Program	Date	12/22/2025		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	17,214.8	Plan 0.1 (OH)	B001Mb_MWD+HRGM
				OWSG MWD + HRGM

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Quail 16 State Com #801H
Company:	Avant Operating II, LLC	TVD Reference:	Well @ 3663.0usft (3663)
Project:	Lea County, NM (NAD 83)	MD Reference:	Well @ 3663.0usft (3663)
Site:	Quail 16 State Com Pad 1	North Reference:	Grid
Well:	Quail 16 State Com #801H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 0.1		

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	
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.00	0.00	0.00	0.00	
5,935.6	6.71	245.90	5,934.9	-8.0	-17.9	2.00	2.00	0.00	245.90	
11,420.5	6.71	245.90	11,382.1	-269.8	-603.2	0.00	0.00	0.00	0.00	
11,756.1	0.00	0.00	11,717.0	-277.8	-621.1	2.00	-2.00	0.00	180.00	
11,816.6	0.00	0.00	11,777.5	-277.8	-621.1	0.00	0.00	0.00	0.00	
12,566.6	90.00	356.90	12,255.0	199.0	-646.9	12.00	12.00	0.00	356.90	
12,699.9	90.00	359.56	12,255.0	332.1	-651.0	2.00	0.00	2.00	90.01	
17,214.8	90.00	359.56	12,255.0	4,846.9	-685.3	0.00	0.00	0.00	0.00	Quail 16 State Com #

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Quail 16 State Com #801H
Company:	Avant Operating II, LLC	TVD Reference:	Well @ 3663.0usft (3663)
Project:	Lea County, NM (NAD 83)	MD Reference:	Well @ 3663.0usft (3663)
Site:	Quail 16 State Com Pad 1	North Reference:	Grid
Well:	Quail 16 State Com #801H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 0.1		

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
1,552.0	0.00	0.00	1,552.0	0.0	0.0	0.0	0.00	0.00	0.00
RUSTLER									
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
1,881.0	0.00	0.00	1,881.0	0.0	0.0	0.0	0.00	0.00	0.00
SOLADO									
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
3,308.0	0.00	0.00	3,308.0	0.0	0.0	0.0	0.00	0.00	0.00
BASE_OF_SALT									
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,410.0	0.00	0.00	3,410.0	0.0	0.0	0.0	0.00	0.00	0.00
YATES									
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
3,844.0	0.00	0.00	3,844.0	0.0	0.0	0.0	0.00	0.00	0.00
SVRV									
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
4,012.0	0.00	0.00	4,012.0	0.0	0.0	0.0	0.00	0.00	0.00
CAPITAN_REEF									

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Quail 16 State Com #801H
Company:	Avant Operating II, LLC	TVD Reference:	Well @ 3663.0usft (3663)
Project:	Lea County, NM (NAD 83)	MD Reference:	Well @ 3663.0usft (3663)
Site:	Quail 16 State Com Pad 1	North Reference:	Grid
Well:	Quail 16 State Com #801H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 0.1		

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)
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,269.0	0.00	0.00	5,269.0	0.0	0.0	0.0	0.00	0.00	0.00
CPTN_REEF_BASE									
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00
5,559.0	0.00	0.00	5,559.0	0.0	0.0	0.0	0.00	0.00	0.00
CHERRY_CNYN									
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP - Start Build 2.00									
5,700.0	2.00	245.90	5,700.0	-0.7	-1.6	-0.7	2.00	2.00	0.00
5,800.0	4.00	245.90	5,799.8	-2.8	-6.4	-2.8	2.00	2.00	0.00
5,900.0	6.00	245.90	5,899.5	-6.4	-14.3	-6.3	2.00	2.00	0.00
5,935.6	6.71	245.90	5,934.9	-8.0	-17.9	-7.9	2.00	2.00	0.00
Start 5484.9 hold at 5935.6 MD									
6,000.0	6.71	245.90	5,998.8	-11.1	-24.8	-10.9	0.00	0.00	0.00
6,100.0	6.71	245.90	6,098.1	-15.9	-35.5	-15.6	0.00	0.00	0.00
6,200.0	6.71	245.90	6,197.4	-20.6	-46.1	-20.3	0.00	0.00	0.00
6,300.0	6.71	245.90	6,296.7	-25.4	-56.8	-25.0	0.00	0.00	0.00
6,400.0	6.71	245.90	6,396.0	-30.2	-67.5	-29.7	0.00	0.00	0.00
6,500.0	6.71	245.90	6,495.4	-35.0	-78.1	-34.4	0.00	0.00	0.00
6,600.0	6.71	245.90	6,594.7	-39.7	-88.8	-39.0	0.00	0.00	0.00
6,625.5	6.71	245.90	6,620.0	-40.9	-91.5	-40.2	0.00	0.00	0.00
BRUSHY_CANYON									
6,700.0	6.71	245.90	6,694.0	-44.5	-99.5	-43.7	0.00	0.00	0.00
6,800.0	6.71	245.90	6,793.3	-49.3	-110.2	-48.4	0.00	0.00	0.00
6,900.0	6.71	245.90	6,892.6	-54.0	-120.8	-53.1	0.00	0.00	0.00
7,000.0	6.71	245.90	6,991.9	-58.8	-131.5	-57.8	0.00	0.00	0.00
7,100.0	6.71	245.90	7,091.3	-63.6	-142.2	-62.5	0.00	0.00	0.00
7,200.0	6.71	245.90	7,190.6	-68.4	-152.8	-67.2	0.00	0.00	0.00
7,300.0	6.71	245.90	7,289.9	-73.1	-163.5	-71.9	0.00	0.00	0.00
7,400.0	6.71	245.90	7,389.2	-77.9	-174.2	-76.6	0.00	0.00	0.00
7,500.0	6.71	245.90	7,488.5	-82.7	-184.8	-81.3	0.00	0.00	0.00
7,600.0	6.71	245.90	7,587.8	-87.4	-195.5	-85.9	0.00	0.00	0.00
7,700.0	6.71	245.90	7,687.1	-92.2	-206.2	-90.6	0.00	0.00	0.00
7,800.0	6.71	245.90	7,786.5	-97.0	-216.9	-95.3	0.00	0.00	0.00
7,900.0	6.71	245.90	7,885.8	-101.8	-227.5	-100.0	0.00	0.00	0.00
8,000.0	6.71	245.90	7,985.1	-106.5	-238.2	-104.7	0.00	0.00	0.00
8,100.0	6.71	245.90	8,084.4	-111.3	-248.9	-109.4	0.00	0.00	0.00
8,200.0	6.71	245.90	8,183.7	-116.1	-259.5	-114.1	0.00	0.00	0.00
8,300.0	6.71	245.90	8,283.0	-120.9	-270.2	-118.8	0.00	0.00	0.00
8,374.5	6.71	245.90	8,357.0	-124.4	-278.2	-122.3	0.00	0.00	0.00

Planning Report

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Company:	Avant Operating II, LLC	TVD Reference:	Well @ 3663.0usft (3663)
Project:	Lea County, NM (NAD 83)	MD Reference:	Well @ 3663.0usft (3663)
Site:	Quail 16 State Com Pad 1	North Reference:	Grid
Well:	Quail 16 State Com #801H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 0.1		

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)
BSPG_LIME									
8,400.0	6.71	245.90	8,382.3	-125.6	-280.9	-123.5	0.00	0.00	0.00
8,500.0	6.71	245.90	8,481.7	-130.4	-291.5	-128.2	0.00	0.00	0.00
8,600.0	6.71	245.90	8,581.0	-135.2	-302.2	-132.8	0.00	0.00	0.00
8,700.0	6.71	245.90	8,680.3	-139.9	-312.9	-137.5	0.00	0.00	0.00
8,784.3	6.71	245.90	8,764.0	-144.0	-321.9	-141.5	0.00	0.00	0.00
AVALON_B									
8,800.0	6.71	245.90	8,779.6	-144.7	-323.6	-142.2	0.00	0.00	0.00
8,900.0	6.71	245.90	8,878.9	-149.5	-334.2	-146.9	0.00	0.00	0.00
8,995.7	6.71	245.90	8,974.0	-154.1	-344.4	-151.4	0.00	0.00	0.00
200S									
9,000.0	6.71	245.90	8,978.2	-154.3	-344.9	-151.6	0.00	0.00	0.00
9,100.0	6.71	245.90	9,077.5	-159.0	-355.6	-156.3	0.00	0.00	0.00
9,200.0	6.71	245.90	9,176.9	-163.8	-366.2	-161.0	0.00	0.00	0.00
9,300.0	6.71	245.90	9,276.2	-168.6	-376.9	-165.7	0.00	0.00	0.00
9,400.0	6.71	245.90	9,375.5	-173.4	-387.6	-170.4	0.00	0.00	0.00
9,500.0	6.71	245.90	9,474.8	-178.1	-398.3	-175.1	0.00	0.00	0.00
9,515.3	6.71	245.90	9,490.0	-178.9	-399.9	-175.8	0.00	0.00	0.00
FBSG_SD									
9,600.0	6.71	245.90	9,574.1	-182.9	-408.9	-179.8	0.00	0.00	0.00
9,628.1	6.71	245.90	9,602.0	-184.2	-411.9	-181.1	0.00	0.00	0.00
300'S									
9,700.0	6.71	245.90	9,673.4	-187.7	-419.6	-184.4	0.00	0.00	0.00
9,800.0	6.71	245.90	9,772.7	-192.4	-430.3	-189.1	0.00	0.00	0.00
9,808.3	6.71	245.90	9,781.0	-192.8	-431.1	-189.5	0.00	0.00	0.00
SBSG_SHALE									
9,822.4	6.71	245.90	9,795.0	-193.5	-432.7	-190.2	0.00	0.00	0.00
SBSG_CARB									
9,900.0	6.71	245.90	9,872.1	-197.2	-440.9	-193.8	0.00	0.00	0.00
10,000.0	6.71	245.90	9,971.4	-202.0	-451.6	-198.5	0.00	0.00	0.00
10,049.0	6.71	245.90	10,020.0	-204.3	-456.8	-200.8	0.00	0.00	0.00
SBSG_SD									
10,096.3	6.71	245.90	10,067.0	-206.6	-461.9	-203.0	0.00	0.00	0.00
500S_UPPER									
10,100.0	6.71	245.90	10,070.7	-206.8	-462.3	-203.2	0.00	0.00	0.00
10,200.0	6.71	245.90	10,170.0	-211.5	-472.9	-207.9	0.00	0.00	0.00
10,300.0	6.71	245.90	10,269.3	-216.3	-483.6	-212.6	0.00	0.00	0.00
10,314.8	6.71	245.90	10,284.0	-217.0	-485.2	-213.3	0.00	0.00	0.00
SBSG_SD_LWR									
10,400.0	6.71	245.90	10,368.6	-221.1	-494.3	-217.3	0.00	0.00	0.00
10,413.5	6.71	245.90	10,382.0	-221.7	-495.7	-217.9	0.00	0.00	0.00
500S									
10,500.0	6.71	245.90	10,467.9	-225.9	-505.0	-222.0	0.00	0.00	0.00
10,578.6	6.71	245.90	10,546.0	-229.6	-513.3	-225.7	0.00	0.00	0.00
TBSG_CARB									
10,600.0	6.71	245.90	10,567.3	-230.6	-515.6	-226.7	0.00	0.00	0.00
10,700.0	6.71	245.90	10,666.6	-235.4	-526.3	-231.3	0.00	0.00	0.00
10,752.8	6.71	245.90	10,719.0	-237.9	-531.9	-233.8	0.00	0.00	0.00
TBSG_SD									
10,800.0	6.71	245.90	10,765.9	-240.2	-537.0	-236.0	0.00	0.00	0.00
10,857.5	6.71	245.90	10,823.0	-242.9	-543.1	-238.7	0.00	0.00	0.00
TBSG_MS									

Planning Report

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Company:	Avant Operating II, LLC	TVD Reference:	Well @ 3663.0usft (3663)
Project:	Lea County, NM (NAD 83)	MD Reference:	Well @ 3663.0usft (3663)
Site:	Quail 16 State Com Pad 1	North Reference:	Grid
Well:	Quail 16 State Com #801H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 0.1		

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)
10,900.0	6.71	245.90	10,865.2	-244.9	-547.6	-240.7	0.00	0.00	0.00
10,933.0	6.71	245.90	10,898.0	-246.5	-551.2	-242.3	0.00	0.00	0.00
TBSG_FS									
11,000.0	6.71	245.90	10,964.5	-249.7	-558.3	-245.4	0.00	0.00	0.00
11,014.6	6.71	245.90	10,979.0	-250.4	-559.9	-246.1	0.00	0.00	0.00
WFMP									
11,061.9	6.71	245.90	11,026.0	-252.7	-564.9	-248.3	0.00	0.00	0.00
WFMP_CL_Y									
11,093.1	6.71	245.90	11,057.0	-254.2	-568.2	-249.8	0.00	0.00	0.00
WFMP_A									
11,100.0	6.71	245.90	11,063.8	-254.5	-569.0	-250.1	0.00	0.00	0.00
11,200.0	6.71	245.90	11,163.1	-259.3	-579.6	-254.8	0.00	0.00	0.00
11,300.0	6.71	245.90	11,262.5	-264.0	-590.3	-259.5	0.00	0.00	0.00
11,355.9	6.71	245.90	11,318.0	-266.7	-596.3	-262.1	0.00	0.00	0.00
WFMP_B									
11,356.9	6.71	245.90	11,319.0	-266.7	-596.4	-262.2	0.00	0.00	0.00
WFMP_D_CARB									
11,400.0	6.71	245.90	11,361.8	-268.8	-601.0	-264.2	0.00	0.00	0.00
11,420.5	6.71	245.90	11,382.1	-269.8	-603.2	-265.1	0.00	0.00	0.00
Start Drop -2.00									
11,500.0	5.12	245.90	11,461.2	-273.1	-610.7	-268.4	2.00	-2.00	0.00
11,600.0	3.12	245.90	11,560.9	-276.1	-617.2	-271.3	2.00	-2.00	0.00
11,632.1	2.48	245.90	11,593.0	-276.7	-618.6	-271.9	2.00	-2.00	0.00
750S									
11,700.0	1.12	245.90	11,660.9	-277.6	-620.6	-272.8	2.00	-2.00	0.00
11,756.1	0.00	0.00	11,717.0	-277.8	-621.1	-273.0	2.00	-2.00	0.00
Start 60.5 hold at 11756.1 MD									
11,792.1	0.00	0.00	11,753.0	-277.8	-621.1	-273.0	0.00	0.00	0.00
CISCO									
11,800.0	0.00	0.00	11,760.9	-277.8	-621.1	-273.0	0.00	0.00	0.00
11,816.6	0.00	0.00	11,777.5	-277.8	-621.1	-273.0	0.00	0.00	0.00
KOP #2 - Start Build 12.00									
11,900.0	10.00	356.90	11,860.4	-270.6	-621.5	-265.8	12.00	12.00	0.00
12,000.0	22.00	356.90	11,956.4	-243.1	-623.0	-238.3	12.00	12.00	0.00
12,100.0	34.00	356.90	12,044.5	-196.3	-625.5	-191.5	12.00	12.00	0.00
12,200.0	46.00	356.90	12,121.0	-132.2	-629.0	-127.4	12.00	12.00	0.00
12,210.5	47.26	356.90	12,128.2	-124.6	-629.4	-119.8	12.00	12.00	0.00
Quail 16 State Com #801H FTP									
12,263.6	53.64	356.90	12,162.0	-83.7	-631.6	-78.8	12.00	12.00	0.00
LWR_PENN									
12,300.0	58.00	356.90	12,182.4	-53.7	-633.2	-48.8	12.00	12.00	0.00
12,400.0	70.00	356.90	12,226.2	35.9	-638.1	40.8	12.00	12.00	0.00
12,500.0	82.00	356.90	12,250.3	132.6	-643.3	137.6	12.00	12.00	0.00
12,566.6	90.00	356.90	12,255.0	199.0	-646.9	203.9	12.00	12.00	0.00
Ip - Start DLS 2.00 TFO 90.01 - 800S									
12,600.0	90.00	357.57	12,255.0	232.3	-648.5	237.3	2.00	0.00	2.00
12,699.9	90.00	359.56	12,255.0	332.1	-651.0	337.1	2.00	0.00	2.00
Start 4514.9 hold at 12699.9 MD									
12,700.0	90.00	359.56	12,255.0	332.3	-651.0	337.2	0.00	0.00	0.00
12,800.0	90.00	359.56	12,255.0	432.3	-651.8	437.2	0.00	0.00	0.00
12,900.0	90.00	359.56	12,255.0	532.3	-652.6	537.2	0.00	0.00	0.00
13,000.0	90.00	359.56	12,255.0	632.2	-653.3	637.2	0.00	0.00	0.00

Planning Report

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Project:	Lea County, NM (NAD 83)	MD Reference:	Well @ 3663.0usft (3663)
Site:	Quail 16 State Com Pad 1	North Reference:	Grid
Well:	Quail 16 State Com #801H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 0.1		

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)
13,100.0	90.00	359.56	12,255.0	732.2	-654.1	737.2	0.00	0.00	0.00
13,200.0	90.00	359.56	12,255.0	832.2	-654.8	837.2	0.00	0.00	0.00
13,300.0	90.00	359.56	12,255.0	932.2	-655.6	937.2	0.00	0.00	0.00
13,400.0	90.00	359.56	12,255.0	1,032.2	-656.4	1,037.2	0.00	0.00	0.00
13,500.0	90.00	359.56	12,255.0	1,132.2	-657.1	1,137.2	0.00	0.00	0.00
13,600.0	90.00	359.56	12,255.0	1,232.2	-657.9	1,237.2	0.00	0.00	0.00
13,700.0	90.00	359.56	12,255.0	1,332.2	-658.6	1,337.2	0.00	0.00	0.00
13,800.0	90.00	359.56	12,255.0	1,432.2	-659.4	1,437.2	0.00	0.00	0.00
13,900.0	90.00	359.56	12,255.0	1,532.2	-660.2	1,537.2	0.00	0.00	0.00
14,000.0	90.00	359.56	12,255.0	1,632.2	-660.9	1,637.2	0.00	0.00	0.00
14,100.0	90.00	359.56	12,255.0	1,732.2	-661.7	1,737.2	0.00	0.00	0.00
14,200.0	90.00	359.56	12,255.0	1,832.2	-662.4	1,837.2	0.00	0.00	0.00
14,300.0	90.00	359.56	12,255.0	1,932.2	-663.2	1,937.2	0.00	0.00	0.00
14,400.0	90.00	359.56	12,255.0	2,032.2	-663.9	2,037.2	0.00	0.00	0.00
14,500.0	90.00	359.56	12,255.0	2,132.2	-664.7	2,137.2	0.00	0.00	0.00
14,600.0	90.00	359.56	12,255.0	2,232.2	-665.5	2,237.2	0.00	0.00	0.00
14,700.0	90.00	359.56	12,255.0	2,332.2	-666.2	2,337.2	0.00	0.00	0.00
14,800.0	90.00	359.56	12,255.0	2,432.2	-667.0	2,437.2	0.00	0.00	0.00
14,900.0	90.00	359.56	12,255.0	2,532.2	-667.7	2,537.2	0.00	0.00	0.00
15,000.0	90.00	359.56	12,255.0	2,632.2	-668.5	2,637.2	0.00	0.00	0.00
15,100.0	90.00	359.56	12,255.0	2,732.2	-669.3	2,737.2	0.00	0.00	0.00
15,200.0	90.00	359.56	12,255.0	2,832.2	-670.0	2,837.2	0.00	0.00	0.00
15,300.0	90.00	359.56	12,255.0	2,932.2	-670.8	2,937.2	0.00	0.00	0.00
15,400.0	90.00	359.56	12,255.0	3,032.2	-671.5	3,037.2	0.00	0.00	0.00
15,500.0	90.00	359.56	12,255.0	3,132.2	-672.3	3,137.2	0.00	0.00	0.00
15,600.0	90.00	359.56	12,255.0	3,232.2	-673.1	3,237.2	0.00	0.00	0.00
15,700.0	90.00	359.56	12,255.0	3,332.2	-673.8	3,337.2	0.00	0.00	0.00
15,800.0	90.00	359.56	12,255.0	3,432.2	-674.6	3,437.2	0.00	0.00	0.00
15,900.0	90.00	359.56	12,255.0	3,532.2	-675.3	3,537.2	0.00	0.00	0.00
16,000.0	90.00	359.56	12,255.0	3,632.2	-676.1	3,637.2	0.00	0.00	0.00
16,100.0	90.00	359.56	12,255.0	3,732.2	-676.9	3,737.2	0.00	0.00	0.00
16,200.0	90.00	359.56	12,255.0	3,832.2	-677.6	3,837.2	0.00	0.00	0.00
16,300.0	90.00	359.56	12,255.0	3,932.2	-678.4	3,937.2	0.00	0.00	0.00
16,400.0	90.00	359.56	12,255.0	4,032.2	-679.1	4,037.2	0.00	0.00	0.00
16,500.0	90.00	359.56	12,255.0	4,132.1	-679.9	4,137.2	0.00	0.00	0.00
16,600.0	90.00	359.56	12,255.0	4,232.1	-680.7	4,237.2	0.00	0.00	0.00
16,700.0	90.00	359.56	12,255.0	4,332.1	-681.4	4,337.2	0.00	0.00	0.00
16,800.0	90.00	359.56	12,255.0	4,432.1	-682.2	4,437.2	0.00	0.00	0.00
16,900.0	90.00	359.56	12,255.0	4,532.1	-682.9	4,537.2	0.00	0.00	0.00
17,000.0	90.00	359.56	12,255.0	4,632.1	-683.7	4,637.2	0.00	0.00	0.00
17,100.0	90.00	359.56	12,255.0	4,732.1	-684.5	4,737.2	0.00	0.00	0.00
17,200.0	90.00	359.56	12,255.0	4,832.1	-685.2	4,837.2	0.00	0.00	0.00
17,214.8	90.00	359.56	12,255.0	4,846.9	-685.3	4,852.0	0.00	0.00	0.00
TD at 17214.8 - Quail 16 State Com #801H LTP/BHL									

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Quail 16 State Com #801H
Company:	Avant Operating II, LLC	TVD Reference:	Well @ 3663.0usft (3663)
Project:	Lea County, NM (NAD 83)	MD Reference:	Well @ 3663.0usft (3663)
Site:	Quail 16 State Com Pad 1	North Reference:	Grid
Well:	Quail 16 State Com #801H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 0.1		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
Quail 16 State Com #80	0.00	0.00	12,255.0	-232.8	-646.1	570,546.03	775,640.36	32.566186	-103.572788
- plan misses target center by 167.5usft at 12210.5usft MD (12128.2 TVD, -124.6 N, -629.4 E)									
- Point									
Quail 16 State Com #80	0.00	0.00	12,255.0	4,846.9	-685.3	575,625.72	775,601.11	32.580148	-103.572797
- plan hits target center									
- Point									

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,552.0	1,552.0	RUSTLER				
1,881.0	1,881.0	SOLADO				
3,308.0	3,308.0	BASE_OF_SALT				
3,410.0	3,410.0	YATES				
3,844.0	3,844.0	SVRV				
4,012.0	4,012.0	CAPITAN_REEF				
5,269.0	5,269.0	CPTN_REEF_BASE				
5,559.0	5,559.0	CHERRY_CNYN				
6,625.5	6,620.0	BRUSHY_CANYON				
8,374.5	8,357.0	BSPG_LIME				
8,784.3	8,764.0	AVALON_B				
8,995.7	8,974.0	200S				
9,515.3	9,490.0	FBSG_SD				
9,628.1	9,602.0	300'S				
9,808.3	9,781.0	SBSG_SHALE				
9,822.4	9,795.0	SBSG_CARB				
10,049.0	10,020.0	SBSG_SD				
10,096.3	10,067.0	500S_UPPER				
10,314.8	10,284.0	SBSG_SD_LWR				
10,413.5	10,382.0	500S				
10,578.6	10,546.0	TBSG_CARB				
10,752.8	10,719.0	TBSG_SD				
10,857.5	10,823.0	TBSG_MS				
10,933.0	10,898.0	TBSG_FS				
11,014.6	10,979.0	WFMP				
11,061.9	11,026.0	WFMP_CL_Y				
11,093.1	11,057.0	WFMP_A				
11,355.9	11,318.0	WFMP_B				
11,356.9	11,319.0	WFMP_D_CARB				
11,632.1	11,593.0	750S				
11,792.1	11,753.0	CISCO				
12,263.6	12,162.0	LWR_PENN				
12,566.6	12,255.0	800S				

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Quail 16 State Com #801H
Company:	Avant Operating II, LLC	TVD Reference:	Welll @ 3663.0usft (3663)
Project:	Lea County, NM (NAD 83)	MD Reference:	Welll @ 3663.0usft (3663)
Site:	Quail 16 State Com Pad 1	North Reference:	Grid
Well:	Quail 16 State Com #801H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 0.1		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5,600.0	5,600.0	0.0	0.0	KOP - Start Build 2.00
5,935.6	5,934.9	-8.0	-17.9	Start 5484.9 hold at 5935.6 MD
11,420.5	11,382.1	-269.8	-603.2	Start Drop -2.00
11,756.1	11,717.0	-277.8	-621.1	Start 60.5 hold at 11756.1 MD
11,816.6	11,777.5	-277.8	-621.1	KOP #2 - Start Build 12.00
12,566.6	12,255.0	199.0	-646.9	lp - Start DLS 2.00 TFO 90.01
12,699.9	12,255.0	332.1	-651.0	Start 4514.9 hold at 12699.9 MD
17,214.8	12,255.0	4,846.9	-685.3	TD at 17214.8

WELL DETAILS: Quail 16 State Com #801H

Ground Elev: 3638.0 KB: 3655

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	570778.79	776286.45	32.566812	-103.570685

PROJECT DETAILS: Lea County, NM (NAD 83)

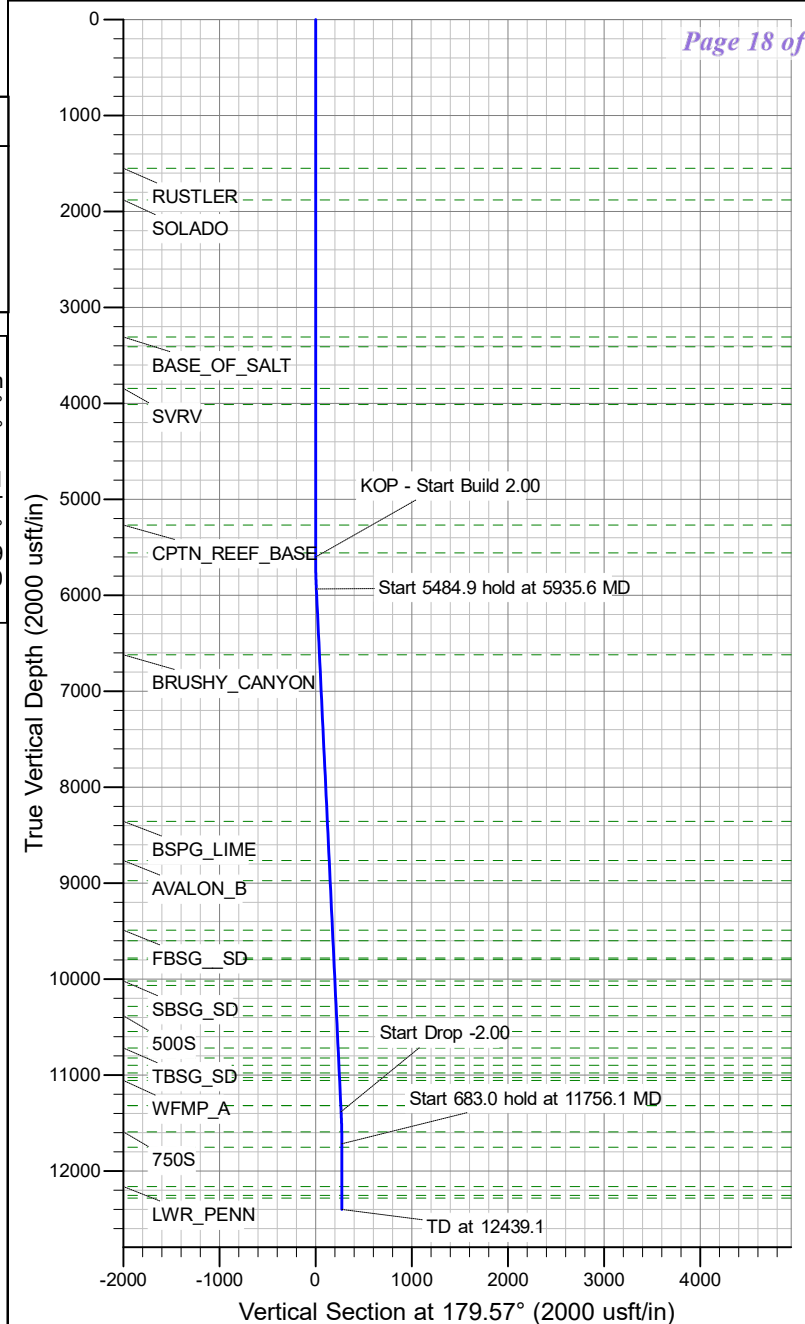
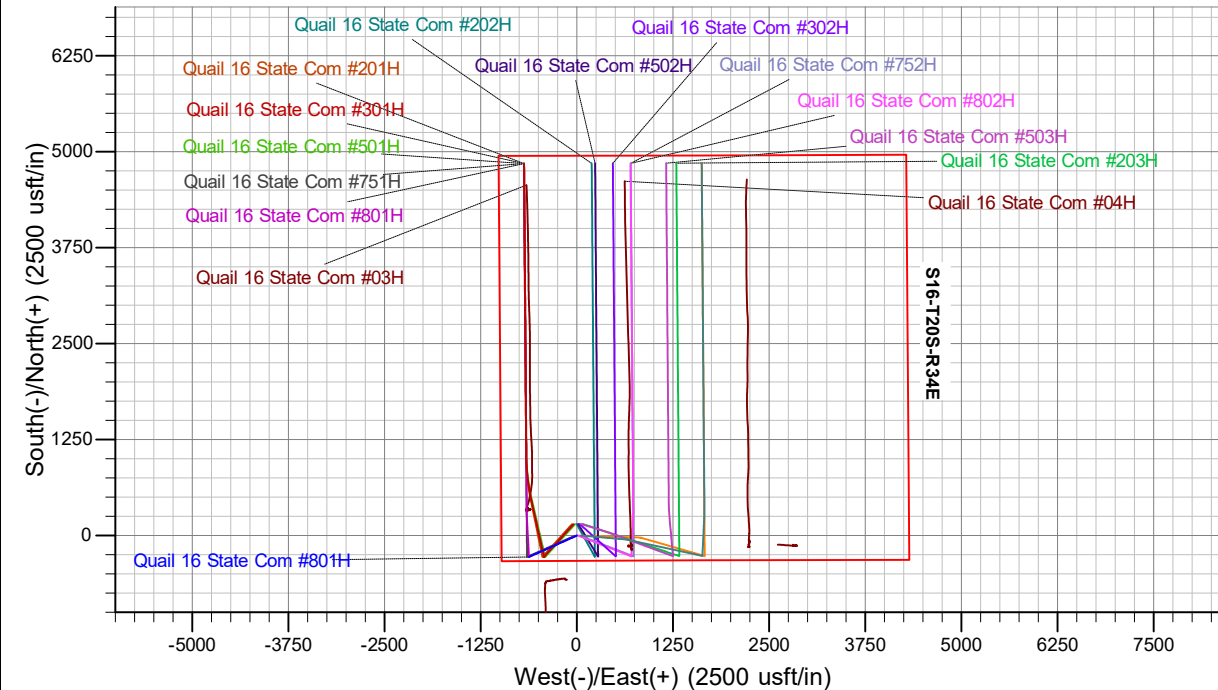
Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico Eastern Zone

System Datum: Mean Sea Level



Azimuths to Grid North
 True North: -0.41°
 Magnetic North: 7.36°

Magnetic Field
 Strength: 48998.3nT
 Dip Angle: 60.56°
 Date: 12/31/2009
 Model: IGRF200510



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	5600.0	0.00	0.00	5600.0	0.0	0.0	0.00	0.00	0.0	KOP - Start Build 2.00
3	5935.6	6.71	245.90	5934.9	-8.0	-17.9	2.00	245.90	7.9	Start 5484.9 hold at 5935.6 MD
4	11420.5	6.71	245.90	11382.1	-269.8	-603.2	0.00	0.00	265.2	Start Drop -2.00
5	11756.1	0.00	0.00	11717.0	-277.8	-621.1	2.00	180.00	273.1	Start 683.0 hold at 11756.1 MD
6	12439.1	0.00	0.00	12400.0	-277.8	-621.1	0.00	0.00	273.1	TD at 12439.1

Avant Operating II, LLC

Lea County, NM (NAD 83)

Quail 16 State Com Pad 1

Quail 16 State Com #801H

PH

Plan: Plan 0.1

Standard Planning Report

22 December, 2025

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Quail 16 State Com #801H
Company:	Avant Operating II, LLC	TVD Reference:	WELL @ 3655.0usft (3655)
Project:	Lea County, NM (NAD 83)	MD Reference:	WELL @ 3655.0usft (3655)
Site:	Quail 16 State Com Pad 1	North Reference:	Grid
Well:	Quail 16 State Com #801H	Survey Calculation Method:	Minimum Curvature
Wellbore:	PH		
Design:	Plan 0.1		

Project	Lea County, NM (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site		Quail 16 State Com Pad 1			
Site Position:		Northing:	571,105.87 usft	Latitude:	32.567724
From:	Map	Easting:	775,635.79 usft	Longitude:	-103.572789
Position Uncertainty:		0.0 usft	Slot Radius:	13-3/16 "	

Well	Quail 16 State Com #801H					
Well Position	+N/-S	0.0 usft	Northing:	570,778.79 usft	Latitude:	32.566813
	+E/-W	0.0 usft	Easting:	776,286.45 usft	Longitude:	-103.570685
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,638.0 usft
Grid Convergence:		0.41 °				

Wellbore	PH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	7.77	60.56	48,998.25910011

Design	Plan 0.1				
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	179.57	

Plan Survey Tool Program	Date	12/22/2025			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.0	12,439.1 Plan 0.1 (PH)	B001Mb_MWD+HRGM		
			OWSG MWD + HRGM		

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	
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.00	0.00	0.00	0.00	
5,935.6	6.71	245.90	5,934.9	-8.0	-17.9	2.00	2.00	0.00	245.90	
11,420.5	6.71	245.90	11,382.1	-269.8	-603.2	0.00	0.00	0.00	0.00	
11,756.1	0.00	0.00	11,717.0	-277.8	-621.1	2.00	-2.00	0.00	180.00	
12,439.1	0.00	0.00	12,400.0	-277.8	-621.1	0.00	0.00	0.00	0.00	

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Quail 16 State Com #801H
Company:	Avant Operating II, LLC	TVD Reference:	WELL @ 3655.0usft (3655)
Project:	Lea County, NM (NAD 83)	MD Reference:	WELL @ 3655.0usft (3655)
Site:	Quail 16 State Com Pad 1	North Reference:	Grid
Well:	Quail 16 State Com #801H	Survey Calculation Method:	Minimum Curvature
Wellbore:	PH		
Design:	Plan 0.1		

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
1,552.0	0.00	0.00	1,552.0	0.0	0.0	0.0	0.00	0.00	0.00
RUSTLER									
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
1,881.0	0.00	0.00	1,881.0	0.0	0.0	0.0	0.00	0.00	0.00
SOLADO									
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
3,308.0	0.00	0.00	3,308.0	0.0	0.0	0.0	0.00	0.00	0.00
BASE_OF_SALT									
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,410.0	0.00	0.00	3,410.0	0.0	0.0	0.0	0.00	0.00	0.00
YATES									
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
3,844.0	0.00	0.00	3,844.0	0.0	0.0	0.0	0.00	0.00	0.00
SVRV									
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
4,012.0	0.00	0.00	4,012.0	0.0	0.0	0.0	0.00	0.00	0.00
CAPITAN_REEF									

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Quail 16 State Com #801H
Company:	Avant Operating II, LLC	TVD Reference:	WELL @ 3655.0usft (3655)
Project:	Lea County, NM (NAD 83)	MD Reference:	WELL @ 3655.0usft (3655)
Site:	Quail 16 State Com Pad 1	North Reference:	Grid
Well:	Quail 16 State Com #801H	Survey Calculation Method:	Minimum Curvature
Wellbore:	PH		
Design:	Plan 0.1		

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)
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,269.0	0.00	0.00	5,269.0	0.0	0.0	0.0	0.00	0.00	0.00
CPTN_REEF_BASE									
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00
5,559.0	0.00	0.00	5,559.0	0.0	0.0	0.0	0.00	0.00	0.00
CHERRY_CNYN									
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP - Start Build 2.00									
5,700.0	2.00	245.90	5,700.0	-0.7	-1.6	0.7	2.00	2.00	0.00
5,800.0	4.00	245.90	5,799.8	-2.8	-6.4	2.8	2.00	2.00	0.00
5,900.0	6.00	245.90	5,899.5	-6.4	-14.3	6.3	2.00	2.00	0.00
5,935.6	6.71	245.90	5,934.9	-8.0	-17.9	7.9	2.00	2.00	0.00
Start 5484.9 hold at 5935.6 MD									
6,000.0	6.71	245.90	5,998.8	-11.1	-24.8	10.9	0.00	0.00	0.00
6,100.0	6.71	245.90	6,098.1	-15.9	-35.5	15.6	0.00	0.00	0.00
6,200.0	6.71	245.90	6,197.4	-20.6	-46.1	20.3	0.00	0.00	0.00
6,300.0	6.71	245.90	6,296.7	-25.4	-56.8	25.0	0.00	0.00	0.00
6,400.0	6.71	245.90	6,396.0	-30.2	-67.5	29.7	0.00	0.00	0.00
6,500.0	6.71	245.90	6,495.4	-35.0	-78.1	34.4	0.00	0.00	0.00
6,600.0	6.71	245.90	6,594.7	-39.7	-88.8	39.1	0.00	0.00	0.00
6,625.5	6.71	245.90	6,620.0	-40.9	-91.5	40.3	0.00	0.00	0.00
BRUSHY_CANYON									
6,700.0	6.71	245.90	6,694.0	-44.5	-99.5	43.7	0.00	0.00	0.00
6,800.0	6.71	245.90	6,793.3	-49.3	-110.2	48.4	0.00	0.00	0.00
6,900.0	6.71	245.90	6,892.6	-54.0	-120.8	53.1	0.00	0.00	0.00
7,000.0	6.71	245.90	6,991.9	-58.8	-131.5	57.8	0.00	0.00	0.00
7,100.0	6.71	245.90	7,091.3	-63.6	-142.2	62.5	0.00	0.00	0.00
7,200.0	6.71	245.90	7,190.6	-68.4	-152.8	67.2	0.00	0.00	0.00
7,300.0	6.71	245.90	7,289.9	-73.1	-163.5	71.9	0.00	0.00	0.00
7,400.0	6.71	245.90	7,389.2	-77.9	-174.2	76.6	0.00	0.00	0.00
7,500.0	6.71	245.90	7,488.5	-82.7	-184.8	81.3	0.00	0.00	0.00
7,600.0	6.71	245.90	7,587.8	-87.4	-195.5	86.0	0.00	0.00	0.00
7,700.0	6.71	245.90	7,687.1	-92.2	-206.2	90.7	0.00	0.00	0.00
7,800.0	6.71	245.90	7,786.5	-97.0	-216.9	95.4	0.00	0.00	0.00
7,900.0	6.71	245.90	7,885.8	-101.8	-227.5	100.1	0.00	0.00	0.00
8,000.0	6.71	245.90	7,985.1	-106.5	-238.2	104.7	0.00	0.00	0.00
8,100.0	6.71	245.90	8,084.4	-111.3	-248.9	109.4	0.00	0.00	0.00
8,200.0	6.71	245.90	8,183.7	-116.1	-259.5	114.1	0.00	0.00	0.00
8,300.0	6.71	245.90	8,283.0	-120.9	-270.2	118.8	0.00	0.00	0.00
8,374.5	6.71	245.90	8,357.0	-124.4	-278.2	122.3	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Quail 16 State Com #801H
Company:	Avant Operating II, LLC	TVD Reference:	WELL @ 3655.0usft (3655)
Project:	Lea County, NM (NAD 83)	MD Reference:	WELL @ 3655.0usft (3655)
Site:	Quail 16 State Com Pad 1	North Reference:	Grid
Well:	Quail 16 State Com #801H	Survey Calculation Method:	Minimum Curvature
Wellbore:	PH		
Design:	Plan 0.1		

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)
BSPG_LIME									
8,400.0	6.71	245.90	8,382.3	-125.6	-280.9	123.5	0.00	0.00	0.00
8,500.0	6.71	245.90	8,481.7	-130.4	-291.5	128.2	0.00	0.00	0.00
8,600.0	6.71	245.90	8,581.0	-135.2	-302.2	132.9	0.00	0.00	0.00
8,700.0	6.71	245.90	8,680.3	-139.9	-312.9	137.6	0.00	0.00	0.00
8,784.3	6.71	245.90	8,764.0	-144.0	-321.9	141.5	0.00	0.00	0.00
AVALON_B									
8,800.0	6.71	245.90	8,779.6	-144.7	-323.6	142.3	0.00	0.00	0.00
8,900.0	6.71	245.90	8,878.9	-149.5	-334.2	147.0	0.00	0.00	0.00
8,995.7	6.71	245.90	8,974.0	-154.1	-344.4	151.5	0.00	0.00	0.00
200S									
9,000.0	6.71	245.90	8,978.2	-154.3	-344.9	151.7	0.00	0.00	0.00
9,100.0	6.71	245.90	9,077.5	-159.0	-355.6	156.4	0.00	0.00	0.00
9,200.0	6.71	245.90	9,176.9	-163.8	-366.2	161.1	0.00	0.00	0.00
9,300.0	6.71	245.90	9,276.2	-168.6	-376.9	165.7	0.00	0.00	0.00
9,400.0	6.71	245.90	9,375.5	-173.4	-387.6	170.4	0.00	0.00	0.00
9,500.0	6.71	245.90	9,474.8	-178.1	-398.3	175.1	0.00	0.00	0.00
9,515.3	6.71	245.90	9,490.0	-178.9	-399.9	175.9	0.00	0.00	0.00
FBSG_SD									
9,600.0	6.71	245.90	9,574.1	-182.9	-408.9	179.8	0.00	0.00	0.00
9,628.1	6.71	245.90	9,602.0	-184.2	-411.9	181.1	0.00	0.00	0.00
300'S									
9,700.0	6.71	245.90	9,673.4	-187.7	-419.6	184.5	0.00	0.00	0.00
9,800.0	6.71	245.90	9,772.7	-192.4	-430.3	189.2	0.00	0.00	0.00
9,808.3	6.71	245.90	9,781.0	-192.8	-431.1	189.6	0.00	0.00	0.00
SBSG_SHALE									
9,822.4	6.71	245.90	9,795.0	-193.5	-432.7	190.3	0.00	0.00	0.00
SBSG_CARB									
9,900.0	6.71	245.90	9,872.1	-197.2	-440.9	193.9	0.00	0.00	0.00
10,000.0	6.71	245.90	9,971.4	-202.0	-451.6	198.6	0.00	0.00	0.00
10,049.0	6.71	245.90	10,020.0	-204.3	-456.8	200.9	0.00	0.00	0.00
SBSG_SD									
10,096.3	6.71	245.90	10,067.0	-206.6	-461.9	203.1	0.00	0.00	0.00
500S_UPPER									
10,100.0	6.71	245.90	10,070.7	-206.8	-462.3	203.3	0.00	0.00	0.00
10,200.0	6.71	245.90	10,170.0	-211.5	-472.9	208.0	0.00	0.00	0.00
10,300.0	6.71	245.90	10,269.3	-216.3	-483.6	212.7	0.00	0.00	0.00
10,314.8	6.71	245.90	10,284.0	-217.0	-485.2	213.4	0.00	0.00	0.00
SBSG_SD_LWR									
10,400.0	6.71	245.90	10,368.6	-221.1	-494.3	217.4	0.00	0.00	0.00
10,413.5	6.71	245.90	10,382.0	-221.7	-495.7	218.0	0.00	0.00	0.00
500S									
10,500.0	6.71	245.90	10,467.9	-225.9	-505.0	222.1	0.00	0.00	0.00
10,578.6	6.71	245.90	10,546.0	-229.6	-513.3	225.7	0.00	0.00	0.00
TBSG_CARB									
10,600.0	6.71	245.90	10,567.3	-230.6	-515.6	226.7	0.00	0.00	0.00
10,700.0	6.71	245.90	10,666.6	-235.4	-526.3	231.4	0.00	0.00	0.00
10,752.8	6.71	245.90	10,719.0	-237.9	-531.9	233.9	0.00	0.00	0.00
TBSG_SD									
10,800.0	6.71	245.90	10,765.9	-240.2	-537.0	236.1	0.00	0.00	0.00
10,857.5	6.71	245.90	10,823.0	-242.9	-543.1	238.8	0.00	0.00	0.00
TBSG_MS									

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Quail 16 State Com #801H
Company:	Avant Operating II, LLC	TVD Reference:	WELL @ 3655.0usft (3655)
Project:	Lea County, NM (NAD 83)	MD Reference:	WELL @ 3655.0usft (3655)
Site:	Quail 16 State Com Pad 1	North Reference:	Grid
Well:	Quail 16 State Com #801H	Survey Calculation Method:	Minimum Curvature
Wellbore:	PH		
Design:	Plan 0.1		

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)
10,900.0	6.71	245.90	10,865.2	-244.9	-547.6	240.8	0.00	0.00	0.00
10,933.0	6.71	245.90	10,898.0	-246.5	-551.2	242.4	0.00	0.00	0.00
TBSG_FS									
11,000.0	6.71	245.90	10,964.5	-249.7	-558.3	245.5	0.00	0.00	0.00
11,014.6	6.71	245.90	10,979.0	-250.4	-559.9	246.2	0.00	0.00	0.00
WFMP									
11,061.9	6.71	245.90	11,026.0	-252.7	-564.9	248.4	0.00	0.00	0.00
WFMP_CL_Y									
11,093.1	6.71	245.90	11,057.0	-254.2	-568.2	249.9	0.00	0.00	0.00
WFMP_A									
11,100.0	6.71	245.90	11,063.8	-254.5	-569.0	250.2	0.00	0.00	0.00
11,200.0	6.71	245.90	11,163.1	-259.3	-579.6	254.9	0.00	0.00	0.00
11,300.0	6.71	245.90	11,262.5	-264.0	-590.3	259.6	0.00	0.00	0.00
11,355.9	6.71	245.90	11,318.0	-266.7	-596.3	262.2	0.00	0.00	0.00
WFMP_B									
11,356.9	6.71	245.90	11,319.0	-266.7	-596.4	262.3	0.00	0.00	0.00
WFMP_D_CARB									
11,400.0	6.71	245.90	11,361.8	-268.8	-601.0	264.3	0.00	0.00	0.00
11,420.5	6.71	245.90	11,382.1	-269.8	-603.2	265.2	0.00	0.00	0.00
Start Drop -2.00									
11,500.0	5.12	245.90	11,461.2	-273.1	-610.7	268.5	2.00	-2.00	0.00
11,600.0	3.12	245.90	11,560.9	-276.1	-617.2	271.4	2.00	-2.00	0.00
11,632.1	2.48	245.90	11,593.0	-276.7	-618.6	272.1	2.00	-2.00	0.00
750S									
11,700.0	1.12	245.90	11,660.9	-277.6	-620.6	272.9	2.00	-2.00	0.00
11,756.1	0.00	0.00	11,717.0	-277.8	-621.1	273.1	2.00	-2.00	0.00
Start 683.0 hold at 11756.1 MD									
11,792.1	0.00	0.00	11,753.0	-277.8	-621.1	273.1	0.00	0.00	0.00
CISCO									
11,800.0	0.00	0.00	11,760.9	-277.8	-621.1	273.1	0.00	0.00	0.00
11,900.0	0.00	0.00	11,860.9	-277.8	-621.1	273.1	0.00	0.00	0.00
12,000.0	0.00	0.00	11,960.9	-277.8	-621.1	273.1	0.00	0.00	0.00
12,100.0	0.00	0.00	12,060.9	-277.8	-621.1	273.1	0.00	0.00	0.00
12,200.0	0.00	0.00	12,160.9	-277.8	-621.1	273.1	0.00	0.00	0.00
12,201.1	0.00	0.00	12,162.0	-277.8	-621.1	273.1	0.00	0.00	0.00
LWR_PENN									
12,294.1	0.00	0.00	12,255.0	-277.8	-621.1	273.1	0.00	0.00	0.00
800S									
12,300.0	0.00	0.00	12,260.9	-277.8	-621.1	273.1	0.00	0.00	0.00
12,321.1	0.00	0.00	12,282.0	-277.8	-621.1	273.1	0.00	0.00	0.00
STRN									
12,400.0	0.00	0.00	12,360.9	-277.8	-621.1	273.1	0.00	0.00	0.00
12,439.1	0.00	0.00	12,400.0	-277.8	-621.1	273.1	0.00	0.00	0.00
TD at 12439.1									

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Quail 16 State Com #801H
Company:	Avant Operating II, LLC	TVD Reference:	WELL @ 3655.0usft (3655)
Project:	Lea County, NM (NAD 83)	MD Reference:	WELL @ 3655.0usft (3655)
Site:	Quail 16 State Com Pad 1	North Reference:	Grid
Well:	Quail 16 State Com #801H	Survey Calculation Method:	Minimum Curvature
Wellbore:	PH		
Design:	Plan 0.1		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,552.0	1,552.0	RUSTLER				
1,881.0	1,881.0	SOLADO				
3,308.0	3,308.0	BASE_OF_SALT				
3,410.0	3,410.0	YATES				
3,844.0	3,844.0	SVRV				
4,012.0	4,012.0	CAPITAN_REEF				
5,269.0	5,269.0	CPTN_REEF_BASE				
5,559.0	5,559.0	CHERRY_CNYN				
6,625.5	6,620.0	BRUSHY_CANYON				
8,374.5	8,357.0	BSPG_LIME				
8,784.3	8,764.0	AVALON_B				
8,995.7	8,974.0	200S				
9,515.3	9,490.0	FBSG_SD				
9,628.1	9,602.0	300'S				
9,808.3	9,781.0	SBSG_SHALE				
9,822.4	9,795.0	SBSG_CARB				
10,049.0	10,020.0	SBSG_SD				
10,096.3	10,067.0	500S_UPPER				
10,314.8	10,284.0	SBSG_SD_LWR				
10,413.5	10,382.0	500S				
10,578.6	10,546.0	TBSG_CARB				
10,752.8	10,719.0	TBSG_SD				
10,857.5	10,823.0	TBSG_MS				
10,933.0	10,898.0	TBSG_FS				
11,014.6	10,979.0	WFMP				
11,061.9	11,026.0	WFMP_CL_Y				
11,093.1	11,057.0	WFMP_A				
11,355.9	11,318.0	WFMP_B				
11,356.9	11,319.0	WFMP_D_CARB				
11,632.1	11,593.0	750S				
11,792.1	11,753.0	CISCO				
12,201.1	12,162.0	LWR_PENN				
12,294.1	12,255.0	800S				
12,321.1	12,282.0	STRN				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
5,600.0	5,600.0	0.0	0.0	KOP - Start Build 2.00	
5,935.6	5,934.9	-8.0	-17.9	Start 5484.9 hold at 5935.6 MD	
11,420.5	11,382.1	-269.8	-603.2	Start Drop -2.00	
11,756.1	11,717.0	-277.8	-621.1	Start 683.0 hold at 11756.1 MD	
12,439.1	12,400.0	-277.8	-621.1	TD at 12439.1	

PROPOSAL#: 251229083200-A



CEMENT PROCEDURE & PROPOSAL

PREPARED FOR:

Mr. Ryan Harris

EMAIL: ryan@avantnr.com

PHONE NUMBER: 406-853-6490

Avant Operating II Quail 16 State Com #801H pilothole Lea County, NM

AFE Number: NM1374

Service Point

Odessa

1400 S JBS Parkway Odessa, TX 79766

432-701-8955

Technical Writer

Lucas Molina

lmolina@wtcementers.com

432-241-0471

WTC Representative

Jon Reynolds

jon@wtcementers.com

432-257-1234

.Disclaimer Notice:

The ability of West Texas Cementing & Acidizing to complete this work is subject to the availability of the raw materials required to complete the job.

This information is presented in good faith, but no warranty is given by and West Texas Cementers LLC assumes no liability for advice or recommendations made concerning results to be obtained from the use of any product or service. The results given are estimates based on calculations produced by a computer model including various assumptions on the well, reservoir and treatment. The results depend on input data provided by the Operator and estimates as to unknown data and can be no more accurate than the model, the assumptions and such input data. The information presented is WTC LLC best estimate of the actual results that may be achieved and should be used for comparison purposes rather than absolute values. The quality of input data, and hence results, may be improved through the use of certain tests and procedures which West Texas Cementers LLC can assist in selecting. The Operator has superior knowledge of the well, the reservoir, the field and conditions affecting them. If the Operator is aware of any conditions whereby a neighboring well or wells might be affected by the treatment proposed herein it is the Operator's responsibility to notify the owner or owners of the well or wells accordingly. Prices quoted are estimates only and are good for 30 days from the date of issue. Actual charges may vary depending upon time, equipment, and material ultimately required to perform these services. Freedom from infringement of patents of West Texas Cementers LLC or others is not to be inferred.

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VERSION: v0.29d

Avant Operating II
Quail 16 State Com #801H pilothole
Lea County, NM

Surface



PROPOSAL#: 251229083200-A

WELL INFORMATION						
MUD	8.4# Fresh Water					
PREVIOUS PIPE	20" 94# CSG to 120					
OPEN HOLE	17.5" OH to 1577					
CASING/INJECTION	13.375" 54.5# J-55/BTC to 1577					
MD	1577					
TVD	1577					
EST BHST/BHCT	93-F / 86-F (0.8-F/100-FT)					
NOTES	Standby charges start after WTC has been on location for more than 4-hrs.					
VOLUMES						
FLUID NAME	LENGTH (ft)	OD (in.)	ID (in.)	XS (%)	FACTOR (bbl/ft)	VOLUME (bbl)
Lead	120	19.124	13.375		0.1815	21.8
Lead	1142	17.5	13.375	50%	0.1856	211.9
Tail	315	17.5	13.375	20%	0.1485	46.8
SHOE JOINT	40	13.375	12.615		0.1546	6.2
FLUIDS						
SPACER						
Fresh Water						
VOLUME	20-bbl					
Lead						
35% B_Poz+65% Class C+6% Gel+5% SALT+0.25PPS Pol-E-Flake+0.5PPS TCA100						
VOLUME	690-SX			Slurry Volume: 233.5-bbls		
DENSITY	12.8-ppg			Mix Water Required: 168-bbls		
YIELD	1.9-cf/sx					
MIX WATER	10.19-gps					
TOP OF CEMENT	Surface					
EXCESS	50%					

Avant Operating II
Quail 16 State Com #801H pilothole
Lea County, NM

Surface



PROPOSAL#: 251229083200-A

Tail		
	100% Class C+0.5% CaCl2+0.25PPS TCA100	
VOLUME	225-SX	Slurry Volume: 53.3-bbls
DENSITY	14.8-ppg	Mix Water Required: 34-bbls
YIELD	1.33-cf/sx	
MIX WATER	6.33-gps	
TOP OF CEMENT	1262-ft	
EXCESS	20%	
DISPLACEMENT		
	Displacement	
VOLUME	237.6-bbl	

Avant Operating II
Quail 16 State Com #801H pilothole
Lea County, NM

Multi-Stage Intermediate



PROPOSAL#: 251229083200-A

WELL INFORMATION						
MUD	10# Brine					
PREVIOUS PIPE	13.375" 54.5# CSG to 1577					
OPEN HOLE	12.25" OH to 5319					
CASING/INJECTION	10.75" 45.5# J-55 BTC-SCC to 5319					
MD	5319					
TVD	5319					
EST BHST/BHCT	123-F / 107-F (0.8-F/100-FT)					
DV TOOL	3800					
EST BHST/BHCT STG2	111-F / 98-F (0.8-F/100-FT)					
NOTES	Standby charges start after WTC has been on location for more than 8-hrs.					
VOLUMES						
FLUID NAME	LENGTH (ft)	OD (in.)	ID (in.)	XS (%)	FACTOR (bbl/ft)	VOLUME (bbl)
Stage 1 Lead	1577	12.615	10.75		0.0423	66.8
Stage 1 Lead	2678	12.25	10.75	20%	0.0402	107.7
Stage 1 Tail	1064	12.25	10.75	20%	0.0402	42.8
Stage 2 Lead	1577	12.615	10.75		0.0423	66.8
Stage 2 Lead	1823	12.25	10.75	20%	0.0402	73.3
Stage 2 Tail	400	12.25	10.75	0%	0.0335	13.4
SHOE JOINT	40	10.75	9.95		0.0962	3.8
FLUIDS						
SPACER						
Fresh Water						
VOLUME	25-bbl					
Stage 1 Lead						
35% B_Poz+65% Class C+10% SALT+1% SMS+0.25PPS Pol-E-Flake+0.5PPS TCA100						
VOLUME	515-SX				Slurry Volume: 174.3-bbls	
DENSITY	12.8-ppg				Mix Water Required: 126-bbls	
YIELD	1.9-cf/sx					
MIX WATER	10.21-gps					
TOP OF CEMENT	Surface					
EXCESS	20%					

Avant Operating II
 Quail 16 State Com #801H pilothole
 Lea County, NM

Multi-Stage Intermediate



PROPOSAL#: 251229083200-A

Stage 1 Tail

100% Class C+0.005GPS NoFoam V1A

VOLUME	200-SX	Slurry Volume: 47.4-bbls
DENSITY	14.8-ppg	Mix Water Required: 31-bbls
YIELD	1.33-cf/sx	
MIX WATER	6.32-gps	
TOP OF CEMENT	4255-ft	
EXCESS	20%	

DISPLACEMENT

Displacement

VOLUME 507.7-bbl

SPACER

Fresh Water

VOLUME 20-bbl

Stage 2 Lead

35% B_Poz+65% Class C+10% SALT+1% SMS+0.25PPS Pol-E-Flake+0.5PPS TCA100

VOLUME	415-SX	Slurry Volume: 140.4-bbls
DENSITY	12.8-ppg	Mix Water Required: 101-bbls
YIELD	1.9-cf/sx	
MIX WATER	10.21-gps	
TOP OF CEMENT	Surface	
EXCESS	20%	

Stage 2 Tail

100% Class C+0.005GPS NoFoam V1A

VOLUME	60-SX	Slurry Volume: 14.2-bbls
DENSITY	14.8-ppg	Mix Water Required: 10-bbls
YIELD	1.33-cf/sx	
MIX WATER	6.32-gps	
TOP OF CEMENT	3400-ft	
EXCESS	0%	

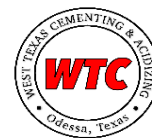
DISPLACEMENT

Displacement

VOLUME 365.4-bbl

Avant Operating II
Quail 16 State Com #801H pilothole
Lea County, NM

2nd Intermediate

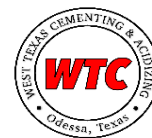


PROPOSAL#: 251229083200-A

WELL INFORMATION						
MUD	8.4# Fresh Water					
PREVIOUS PIPE	10.75" 45.5# CSG to 5319					
OPEN HOLE	9.875" OH to 9908					
CASING/INJECTION	8.625" 32# L-80/P-110 HC BK to 9908					
MD	9908					
TVD	9881					
EST BHST/BHCT	160-F / 138-F (0.8-F/100-FT)					
NOTES	Standby charges start after WTC has been on location for more than 6-hrs.					
VOLUMES						
FLUID NAME	LENGTH (ft)	OD (in.)	ID (in.)	XS (%)	FACTOR (bbl/ft)	VOLUME (bbl)
Lead	5319	9.95	8.625		0.0239	127.2
Lead	2607	9.875	8.625	20%	0.0270	70.3
Tail	1982	9.875	8.625	20%	0.0270	53.4
SHOE JOINT	40	8.625	7.921		0.0609	2.4
FLUIDS						
SPACER						
Fresh Water						
VOLUME	25-bbl					
Lead						
35% B_Poz+65% Class C+6% Gel+5% SALT+0.4% R-1300+0.25PPS Pol-E-Flake+0.5PPS TCA100						
VOLUME	585-SX		Slurry Volume: 199-bbls			
DENSITY	12.8-ppg		Mix Water Required: 143-bbls			
YIELD	1.91-cf/sx					
MIX WATER	10.2-gps					
TOP OF CEMENT	Surface					
EXCESS	20%					

Avant Operating II
Quail 16 State Com #801H pilothole
Lea County, NM

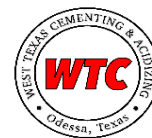
2nd Intermediate

**PROPOSAL#: 251229083200-A**

Tail		
50% B_Poz+50% Class H+5% SALT+0.2% SMS+0.3% CRT-201+0.2% FL-24+0.5PPS TCA100		
VOLUME	250-SX	Slurry Volume: 57-bbls
DENSITY	14.2-ppg	Mix Water Required: 35-bbls
YIELD	1.28-cf/sx	
MIX WATER	5.8-gps	
TOP OF CEMENT	7926-ft	
EXCESS	20%	
DISPLACEMENT		
Displacement		
VOLUME	601.4-bbl	

Avant Operating II
 Quail 16 State Com #801H pilothole
 Lea County, NM

Kick Off Plug /Pilotheole



PROPOSAL#: 251229083200-A

WELL INFORMATION						
MUD	9.2# Cut Brine					
PREVIOUS PIPE	8.625" 32# CSG to 9908					
OPEN HOLE	7.875" OH to 12439					
MD	12371					
TVD	12400					
EST BHST/BHCT	190-F / 150-F (0.88-F/100-FT)					
DRILL PIPE	12,371' 5" 19.5# Drill Pipe					
NOTES	Standby charges start after WTC has been on location for more than 6-hrs.					
VOLUMES						
FLUID NAME	LENGTH (ft)	OD (in.)	ID (in.)	XS (%)	FACTOR (bbl/ft)	VOLUME (bbl)
Plug Slurry	954	7.875	0	0%	0.0602	57.5
FLUIDS						
SPACER						
Spacer Ahead 37.53GPB Water+8PPB PolyScrub 4320+89.94PPB Barite+1GPB HoleScrub 4311+1PPB R-1300						
VOLUME	20-bbl					
DENSITY	10-ppg					
Plug Slurry						
100% Class H+5% SALT+1.6% CD-22+0.25PPS TCA100						
VOLUME	365-SX				Slurry Volume: 58.5-bbls	
DENSITY	18-ppg				Mix Water Required: 26-bbls	
YIELD	0.9-cf/sx					
MIX WATER	2.96-gps					
TOP OF CEMENT	11417-ft					
EXCESS	0%					
SPACER						
Spacer Behind 37.53GPB Water+8PPB PolyScrub 4320+89.94PPB Barite+1GPB HoleScrub 4311+1PPB R-1300						
VOLUME	10-bbl					
DENSITY	10-ppg					

Avant Operating II
Quail 16 State Com #801H pilothole
Lea County, NM

Kick Off Plug /Pilothole



PROPOSAL#: 251229083200-A

DISPLACEMENT	
WB Fluid	
VOLUME	191-bbl

Avant Operating II
Quail 16 State Com #801H pilothole
Lea County, NM

Production



PROPOSAL#: 251229083200-A

WELL INFORMATION						
MUD	9.2# OBM					
PREVIOUS PIPE	8.625" 32# CSG to 9908					
OPEN HOLE	7.875" OH to 17215					
CASING/INJECTION	5.5" 20# P-110 HC GBCD to 17215					
MD	17215					
TVD	12255					
EST BHST/BHCT	188-F / 188-F (0.88-F/100-FT)					
KOP	11817					
NOTES	Standby charges start after WTC has been on location for more than 6-hrs.					
VOLUMES						
FLUID NAME	LENGTH (ft)	OD (in.)	ID (in.)	XS (%)	FACTOR (bbl/ft)	VOLUME (bbl)
Lead	500	7.921	5.5		0.0316	15.8
Lead	1909	7.875	5.5	0%	0.0309	58.9
Tail	5398	7.875	5.5	0%	0.0309	166.6
SHOE JOINT	80	5.5	4.778		0.0222	1.8
FLUIDS						
SPACER						
Wt. Spacer 37.97GPB Water+8PPB PolyScrub 4320+73.68PPB Barite+1GPB HoleScrub 4311+1PPB R-1300+1PPB TCA100						
VOLUME	40-bbl					
DENSITY	9.7-ppg					
Lead						
100% ProLite+5PPS Plexcrete STE+2% SMS+0.65% R-1300+0.5% FL-24+0.5% MagBond+3PPS Gilsonite+0.5PPS TCA100						
VOLUME	125-SX				Slurry Volume: 76.1-bbls	
DENSITY	10.7-ppg				Mix Water Required: 64-bbls	
YIELD	3.42-cf/sx					
MIX WATER	21.26-gps					
TOP OF CEMENT	9408-ft					
EXCESS	0%					

Avant Operating II
Quail 16 State Com #801H pilothole
Lea County, NM

Production



PROPOSAL#: 251229083200-A

Tail		
50% B_Poz+50% Class H+5% SALT+0.3% SMS+0.4% CRT-201+0.5% FL-24+0.5% MagBond+0.5PPS TCA100		
VOLUME	775-SX	Slurry Volume: 168.4-bbls
DENSITY	14.5-ppg	Mix Water Required: 99-bbls
YIELD	1.22-cf/sx	
MIX WATER	5.34-gps	
TOP OF CEMENT	11817-ft	
EXCESS	0%	
DISPLACEMENT		
Fresh Water + 0.25GPT Plexicide 24L+1GPT Corplex		
VOLUME	380-bbl	
DENSITY	8.34-ppg	

CHEMICAL DESCRIPTIONS		
CHEMICAL NAME	CODE	DESCRIPTION
B_Poz	WTC228	Poz - Fly Ash, Extender
Class H	WTC101	API Cement
Class C	WTC100	API Cement
M_Poz	WTC280	Poz - Fly Ash, Extender
ProLite		Blended Based Cement
Plexcrete SFA	WTC129	Cement Strength Enhancer
Gel	WTC102	Extender
GB-52	WTC008	Microspheres, Extender
Micro Shell	WTC209	Cement Strength Enhancer
WTC1	WTC250	Extender
CS-9	WTC285	Cement Strength Enhancer
Plexcrete STE	WTC127	Cement Strength Enhancer
CSE-NP	WTC236	Cement Strength Enhancer
Gypsum	WTC111	Free Water Control, Extender
CaCl2	WTC112	Accelerator
SMS	WTC115	Free Water Control, Extender
RCKCAS-100	WTC276	Free Water Control, Anti-Settling Agent
R-1300	WTC201	Low Temperature Retarder
CR-150	WTC275	Lignosulfonate Retarder
CRT-201	WTC278	Lignosulfonate Retarder
CD-22	WTC290	Dispersant, Friction Reducer
CFL-312	WTC265	Fluid Loss and Gas Migration Control
FL-24	WTC277	Fluid Loss (polymers/copolymers - 300-F max)
FL-17	WTC130	Fluid Loss and Gas Migration Control (400-F max)
MagBond	WTC271	Expanding Agent
Gilsonite	WTC003	Premium Lost Circulation Material, Free Water Control
Pol-E-Flake	WTC106	Lost Circulation Material
Web Seal	WTC133	Premium Fiber Lost Circulation Material
TCA100	WTC284	Powdered Defoamer
NoFoam V1A	WTC105	Liquid Defoamer
Water		Fresh Water
PolyScrub 4320	WTC232	Spacer Gelling Agent
RCKCAS-100	WTC276	Free Water Control, Anti-Settling Agent
Barite	WTC116	Weighting Agent
HoleScrub 4311	WTC281	Surfactant
HoleScrub 4305	WTC213	Surfactant
Soda Ash	WTC164	pH Control
R-1300	WTC201	Low Temperature Retarder
RCKCAS-100	WTC276	Free Water Control, Anti-Settling Agent
Sugar	WTC119	Retarder
TCA100	WTC284	Powdered Defoamer
Plexcide 24L	WTC166	Biocide
Corplex	WTC134	Corrosion Inhibitor
Clay Max	WTC096	KCL Substitute
Zone Seal	WTC207	Premium Lost Circulation Material

API: 0
REGULATORY: NM State
PERMIT # 0



AFE: NM1374

Quail 16 State Com #801H

Wolfcamp

Lea County, NM

RIG: 0
KB: 26.5
GL: 3638

SHL:

Sec. 16, T-20S, R-34E; 329 FSL, 978 FWL

Lat: 32.566812, Long: -103.570685 (NAD83)

HOLE SIZE	MD	FORMATION	TVD	MUD	CASING	CEMENT	SPECIAL INSTRUCTIONS
17.5"	120	20" Conductor	120	SPUD MW 8.4 ppg Fresh TD MW 9.9 ppg	13 3/8 " 54.5# J-55 BTC +/- 21 Bowsprings 1 joint shoe track	LEAD: 12.8 PPG Top of Lead: 0 50% Excess TAIL: 14.8 PPG Top of Tail: 1261.6' 20% Excess	Circ cmt to surface is a regulatory requirement Casing must be set 25' into the Rustler MUD: Fresh water only
12.25"	1,552	Rustler	1,552	DRLOUT MW 10.0 ppg Brine TD MW 10 ppg	10 3/4 " 45.5# J-55 BTC-SCC +/- 25 Bowsprings 1 joint shoe track	2 STAGE CEMENT LEAD: 12.5 PPG Top of Lead: 0' 20% excess TAIL: 14.5 PPG Top of Tail: 4255' 20% Excess LEAD: 12.5 PPG Top of Lead: 0' 20% Excess TAIL: 14.2 PPG Top of Tail: 3400' no excess	Circ cmt to surface is a regulatory requirement
	3,308	Solado Yates	3,410				
	3,800	DV TOOL & PACKER	3,800				
	4,012	Capitan Reef	4,012				
	5,269	Base of Capitan	5,269				
	5,319	INTRM1 CSG PT	5,319				
9.875"	5,559	Cherry Canyon	5,559	DRILLOUT MW 8.4 ppg Cut Brine TD MW 8.4 ppg	SPLIT STRING 8 5/8 " 32# L-80 HC BK 5600' - 6000' (10 joints) R-111-Q FIGURE F 32# P-110 HC BK 0' - 5600' - 6000' - 9908' +/- 30 Bowsprings 1 joint shoe track	LEAD: 12.5 PPG Top of Lead: 0' 20% Excess' TAIL: 14.2 PPG Top of Tail: 7926' 20% Excess	Pump stage 1 as designed. If cement is not circulated to surface, shift DV tool and pump stage 2. CBL required if cement is not circulated off DV tool during stage 2 job. Alternate Drift of 7-7/8"
	6,626	Brushy Canyon	6,620				
	8,375	Bone Spring	8,357				
	9,515	1st BS Sand	9,490				
	9,808	2nd BS Shale	9,781				
	9,908	INTRM2 CSG PT	9,881				
VERT	10,753	3BS Sand	10,719	DRLOUT MW 9 ppg Cut Brine KOP MW 9.2 ppg	5 1/2 " 20# P-110 HC GBCD 0' - TD	LEAD: 10.7 PPG Top of Lead: 9408' No Excess TAIL: 14.8 PPG Top of Tail: 11817' (KOP) No Excess R-111-Q FIGURE F	Annular Capacity above top of lead: 297 bbls +/- 93 Bowsprings +/- 26 Doublebows +/- 410 Solid Bodies
CRV	11,417 11,817	CEMENT PLUG TOP KOP	11,378 11,778	OBM	EOC MW 9.2 ppg	OBM	TD MW 9.2 ppg
7.875"	12,567	EOC VS = 204'	12,255				
LAT	12,321	Strawn	12,256				
	12,371	CEMENT PLUG BTM	12,306				
	12,439	PILOT HOLE	12,400				
7.875"				CEMENT PLUG Pilot OD = 7.875"	Lat. Azi = VS Azi. = 359.56° PH TD MW 10	Est BHST = 188°F, Est BHCT = 171°F	Expected BH Pressure: 5637 Expected Pilot BH Pressure: 5704
DIRECTIONS TO LOCATION:							

PRELIMINARY

PRELIMINARY

Drilling Engineer: Ryan Harris

0

DATE: 12/23/2025

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

Section 1 – Plan Description

Effective May 25, 2021

I. Operator: Avant Operating II, LLC **OGRID:** 332947 **Date:** 09/29/2025

II. Type: ☒ Original ☐ Amendment due to ☐ 19.15.27.9.D(6)(a) NMAC ☐ 19.15.27.9.D(6)(b) NMAC ☐ Other.

If Other, please describe: _____

III. Well(s): Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
Quail 16 State Com 201H		M-16-T20S-R34E	480FSL/919FWL	1200 BBL/D	3600 MCF/D	6000 BBL/D
Quail 16 State Com 202H		M-16-T20S-R34E	479FSL/979FWL	1200 BBL/D	3600 MCF/D	6000 BBL/D
Quail 16 State Com 203H		M-16-T20S-R34E	479FSL/1059FWL	1200 BBL/D	3600 MCF/D	6000 BBL/D
Quail 16 State Com 301H		M-16-T20S-R34E	480FSL/939FWL	950 BBL/D	2000 MCF/D	6650 BBL/D
Quail 16 State Com 302H		M-16-T20S-R34E	479FSL/1019FWL	950 BBL/D	2000 MCF/D	6650 BBL/D
Quail 16 State Com 501H		M-16-T20S-R34E	479FSL/959FEL	1400 BBL/D	2400 MCF/D	7500 BBL/D
Quail 16 State Com 502H		M-16-T20S-R34E	479FSL/999FWL	1400 BBL/D	2400 MCF/D	7500 BBL/D
Quail 16 State Com 503H		M-16-T20S-R34E	479FSL/1039FWL	1400 BBL/D	2400 MCF/D	7500 BBL/D
Quail 16 State Com 751H		M-16-T20S-R34E	329FSL/958FWL	1250 BBL/D	2600 MCF/D	7500 BBL/D
Quail 16 State Com 752H		M-16-T20S-R34E	329FSL/1018FWL	1250 BBL/D	2600 MCF/D	7500 BBL/D
Quail 16 State Com 753H		M-16-T20S-R34E	329FSL/1058FWL	1250 BBL/D	2600 MCF/D	7500 BBL/D
Quail 16 State Com 801H		M-16-T20S-R34E	329FSL/978FWL	1200 BBL/D	2500 MCF/D	6000 BBL/D
Quail 16 State Com 802H		M-16-T20S-R34E	329FSL/998FWL	1200 BBL/D	2500 MCF/D	6000 BBL/D
Quail 16 State Com 803H		M-16-T20S-R34E	329FSL/1038FWL	1200 BBL/D	2500 MCF/D	6000 BBL/D

IV. Central Delivery Point Name: Quail 16 State CTB [See 19.15.27.9(D)(1) NMAC]

V. Anticipated Schedule: Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Quail 16 State Com 201H		02/15/2026	03/30/2026	05/01/2026	07/01/2026	07/01/2026
Quail 16 State Com 202H		02/15/2026	03/30/2026	05/01/2026	07/01/2026	07/01/2026
Quail 16 State Com 203H		02/15/2026	03/30/2026	05/01/2026	07/01/2026	07/01/2026
Quail 16 State Com 301H		02/15/2026	03/30/2026	05/01/2026	07/01/2026	07/01/2026
Quail 16 State Com 302H		02/15/2026	03/30/2026	05/01/2026	07/01/2026	07/01/2026
Quail 16 State Com 501H		02/15/2026	03/30/2026	05/01/2026	07/01/2026	07/01/2026
Quail 16 State Com 502H		02/15/2026	03/30/2026	05/01/2026	07/01/2026	07/01/2026
Quail 16 State Com 503H		02/15/2026	03/30/2026	05/01/2026	07/01/2026	07/01/2026
Quail 16 State Com 751H		02/15/2026	03/30/2026	05/01/2026	07/01/2026	07/01/2026
Quail 16 State Com 752H		02/15/2026	03/30/2026	05/01/2026	07/01/2026	07/01/2026
Quail 16 State Com 753H		02/15/2026	03/30/2026	05/01/2026	07/01/2026	07/01/2026
Quail 16 State Com 801H		02/15/2026	03/30/2026	05/01/2026	07/01/2026	07/01/2026
Quail 16 State Com 802H		02/15/2026	03/30/2026	05/01/2026	07/01/2026	07/01/2026
Quail 16 State Com 803H		02/15/2026	03/30/2026	05/01/2026	07/01/2026	07/01/2026

VI. Separation Equipment: ☒ Attach a complete description of how Operator will size separation equipment to optimize gas capture.

VII. Operational Practices: ☒ Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

VIII. Best Management Practices: ☒ Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

Section 2 – Enhanced Plan
EFFECTIVE APRIL 1, 2022

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

☒ Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

IX. Anticipated Natural Gas Production:

Well	API	Anticipated Average Natural Gas Rate MCF/D	Anticipated Volume of Natural Gas for the First Year MCF

X. Natural Gas Gathering System (NGGS):

Operator	System	ULSTR of Tie-in	Anticipated Gathering Start Date	Available Maximum Daily Capacity of System Segment Tie-in

XI. Map. ☐ Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.

XII. Line Capacity. The natural gas gathering system ☐ will ☐ will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

XIII. Line Pressure. Operator ☐ does ☐ does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

☐ Attach Operator's plan to manage production in response to the increased line pressure.

XIV. Confidentiality: ☐ Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific information for which confidentiality is asserted and the basis for such assertion.

Section 3 - Certifications

Effective May 25, 2021

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

☒ Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or

☐ Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system.

If Operator checks this box, Operator will select one of the following:

Well Shut-In. ☐ Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

Venting and Flaring Plan. ☐ Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- (a) power generation on lease;
- (b) power generation for grid;
- (c) compression on lease;
- (d) liquids removal on lease;
- (e) reinjection for underground storage;
- (f) reinjection for temporary storage;
- (g) reinjection for enhanced oil recovery;
- (h) fuel cell production; and
- (i) other alternative beneficial uses approved by the division.

Section 4 - Notices

1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or

(b) Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

Signature:



Printed Name: John Harper

Title: SVP – Assets and Exploration

E-mail Address: John@avantnr.com

Date: 08/15/25

Phone: 678-988-6644

OIL CONSERVATION DIVISION
(Only applicable when submitted as a standalone form)

Approved By:

Title:

Approval Date:

Conditions of Approval:

Avant Operating II, LLC Natural Gas Management Plan

VI. Separation equipment will be sized by construction engineering staff based on stated manufacturer daily throughput capacities and anticipated daily production rates to ensure adequate capacity. Closed vent system piping, compression needs, and VRUs will be sized utilizing ProMax modelling software to ensure adequate capacity for anticipated production volumes and conditions.

VII. Avant Operating, LLC (Avant) will take the following actions to comply with the regulations listed in 19.15.27.8:

- A. Avant will maximize the recovery of natural gas by minimizing the waste, as defined by 19.15.2 NMAC, of natural gas through venting and flaring. Avant will ensure that well(s) will be connected to a natural gas gathering system with sufficient capacity to transport natural gas.
- B. All drilling operations will be equipped with a rig flare located at least 100' from the nearest surface hole. Rig flare will be utilized to combust any natural gas that is brought to surface during normal drilling operations. In the case of emergency venting or flaring the volumes will be estimated and reported appropriately.
- C. During completion operations any natural gas brought to surface will be flared. Immediately following the finish of completion operations, all well flowback will be directed to permanent separation equipment. Produced natural gas from separation equipment will be sent to sales. Avant will ensure that the flare is sized properly and is equipped with automatic igniter or continuous pilot. The gas sample will be analyzed twice per week, and the gas will be routed into a gathering system as soon as pipeline specifications are met.
- D. Avant will comply with the performance standards requirements and provisions listed in 19.15.27.8 (1) through (8). All equipment will be designed and sized to handle maximum anticipated pressures and throughputs to minimize the waste. Production storage tanks constructed after May 25, 2021, will be equipped with automatic gauging system. Flares constructed after May 25, 2021, will be equipped with automatic igniter or continuous pilot. Flares will be located at least 100' from the well and storage tanks unless otherwise approved by the division. Avant will conduct AVO inspections as described in 19.15.27.8 E (5) (a) with frequencies specified in 19.15.27.8 E (5) (b) and (c). All emergencies will be resolved as quickly and safely as feasible to minimize waste.
- E. The volume of natural gas that is vented or flared as the result of malfunction or emergency during drilling and completions operations will be estimated. The volume of natural gas that is vented, flared, or beneficially used during production operations, will be measured, or estimated. Avant will install equipment to measure
- F. Measurement meters will be in place for low- and high-pressure gas that is flared due to not being able to use for reuse or sales. Equipment will be installed off tanks to reduce vented gas and the gas will be measured with a meter.

VIII. Best Management Practices: Avant plans to communicate consistently with midstream partners to ensure sufficient takeaway capacity is available and understand planned maintenance to minimize venting. Avant will depressurize equipment and capture vented gases for reuse before any maintenance occurs. Avant will use vapor recovery units for the vented gas off the tanks to capture for reuse or sales to minimize venting during active operations. Avant will be proactive on inspections to identify and fix leaks before they escalate.