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 399910

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

1. Operator Name and Address	2. OGRID Number
Avant Operating II, LLC 1515 Wynkoop Street Denver, CO 80202	332947
	3. API Number 30-025-55369

4. Property Code	5. Property Name	6. Well No.
337745	QUAIL 16 STATE COM	502H

7. Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
C	16	20S	34E	C	250	N	1480	W	Lea

8. Proposed Bottom Hole Location

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
M	16	20S	34E	M	100	S	1254	W	Lea

9. Pool Information

LEA;BONE SPRING, SOUTH	37580

Additional Well Information

11. Work Type	12. Well Type	13. Cable/Rotary	14. Lease Type	15. Ground Level Elevation
New Well	OIL		State	3630
16. Multiple	**17. Proposed Depth**	**18. Formation**	**19. Contractor**	**20. Spud Date**
N	14973	1st Bone Spring Sand		12/1/2025
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	14.75	10.75	40.5	1571	760	0
Int1	9.875	8.625	32	5439	1045	0
Prod	7.875	5.5	20	14973	1470	0

Casing/Cement Program: Additional Comments

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.

Signature:

OIL CONSERVATION DIVISION

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:	10/23/2025 Expiration Date: 10/23/2027
Date:	10/20/2025 Phone: 720-854-9020	Conditions of Approval Attached	

C-102	State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION	Revised July 9, 2024
Submit Electronically Via OCD Permitting		Submittal Type: ☒ Initial Submittal ☐ Amended Report ☐ As Drilled

WELL LOCATION INFORMATION

API Number	Pool Code	Pool Name
30-025-55369	37580	Lea; Bone Spring, South

Property Code	Property Name	Well Number
337745	QUAIL 16 STATE COM	#502H

OGRID No.	Operator Name	Ground Level Elevation
332947	AVANT OPERATING II, LLC	3630'

Surface Owner: ☒ State ☐ Fee ☐ Tribal ☐ Federal

Mineral Owner: ☒ State ☐ Fee ☐ Tribal ☐ Federal

Surface Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
C	16	20 S	34 E		250' FNL	1480' FWL	32.579719°	-103.569063°	LEA

Bottom Hole Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
M	16	20 S	34 E		100' FSL	1254' FWL	32.566181°	-103.569788°	LEA

Dedicated Acres	Infill or Defining Well	Defining Well API	Overlapping Spacing Unit (Y/N)	Consolidation Code
640.00	Infill	n/a	No	n/a

Order Numbers. Pending

Well setbacks are under Common Ownership: ☐Yes ☒No

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
C	16	20 S	34 E		250' FNL	1480' FWL	32.579719°	-103.569063°	LEA

First Take Point (FTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
D	16	20 S	34 E		100' FNL	1254' FWL	32.580134°	-103.569797°	LEA

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
M	16	20 S	34 E		100' FSL	1254' FWL	32.566181°	-103.569788°	LEA

Unitized Area or Area of Uniform Interest	Spacing Unit Type ☒ Horizontal ☐ Vertical	Ground Floor Elevation:
Yes		3630'

OPERATOR CERTIFICATIONS

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.

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.

10/20/2025

Signature Date

Sarah Ferreyros

Printed Name

sarah@avantnr.com

Email Address

SURVEYOR CERTIFICATIONS

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.

TIM C. PAPPAS NEW MEXICO 21209 PROFESSIONAL SURVEYOR

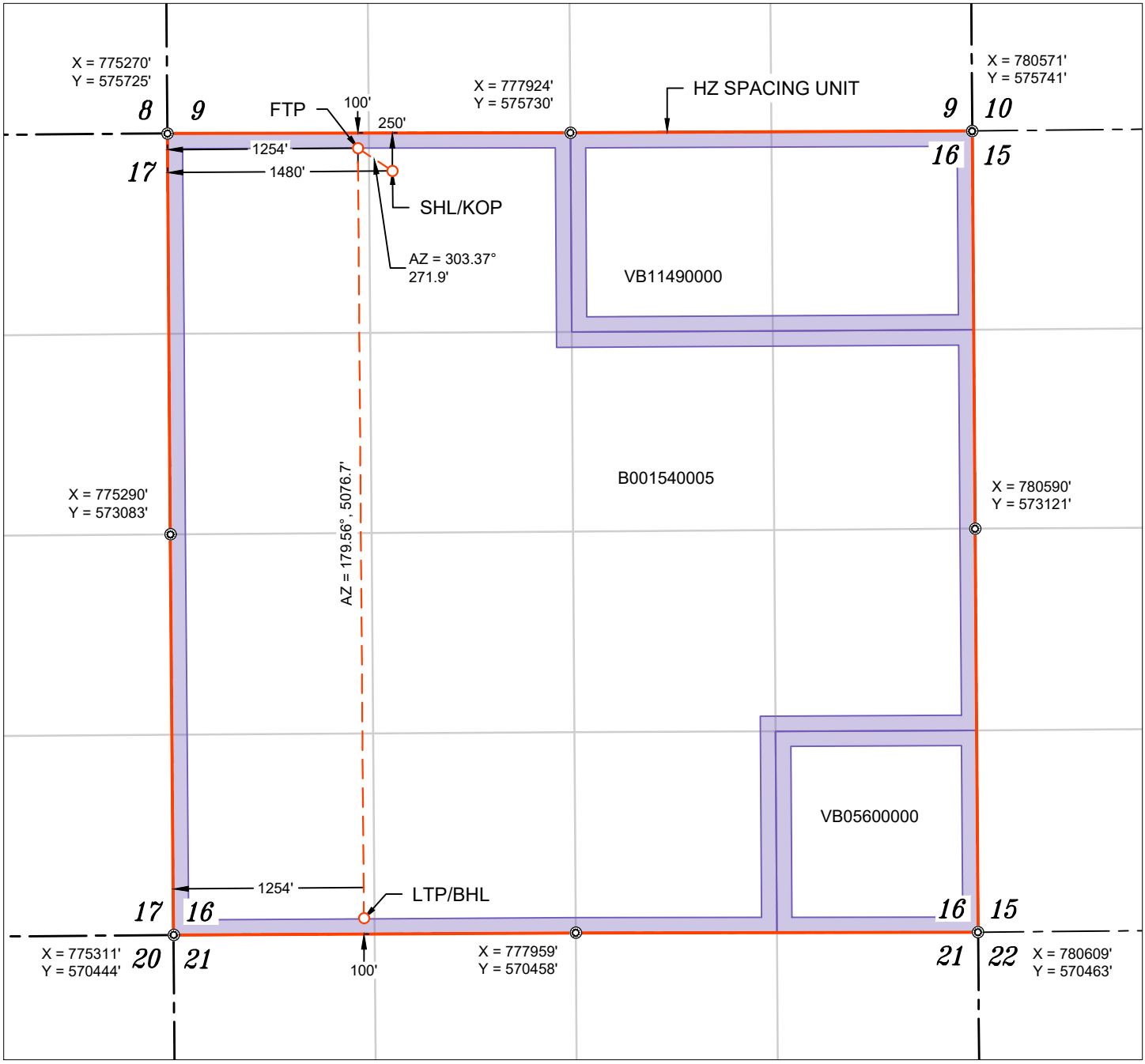
26 Sept 2025

Signature and Seal of Professional Surveyor

21209 SEPTEMBER 26, 2025

Certificate Number Date of Survey

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 #502H
ELEVATION: 3630'

NAD 83 (SHL/KOP) 250' FNL & 1480' FWL
LATITUDE = 32.579719° LONGITUDE = -103.569063°
NAD 27 (SHL/KOP)
LATITUDE = 32.579599° LONGITUDE = -103.568572°
STATE PLANE NAD 83 (N.M. EAST)
N: 575477.85' E: 776752.23'
STATE PLANE NAD 27 (N.M. EAST)
N: 575416.50' E: 735571.48'

NAD 83 (FTP) 100' FNL & 1254' FWL
LATITUDE = 32.580134° LONGITUDE = -103.569797°
NAD 27 (FTP)
LATITUDE = 32.580015° LONGITUDE = -103.569306°
STATE PLANE NAD 83 (N.M. EAST)
N: 575627.43' E: 776525.12'
STATE PLANE NAD 27 (N.M. EAST)
N: 575566.07' E: 735344.37'

NAD 83 (LTP/BHL) 100' FSL & 1254' FWL
LATITUDE = 32.566181° LONGITUDE = -103.569788°
NAD 27 (LTP/BHL)
LATITUDE = 32.566061° LONGITUDE = -103.569297°
STATE PLANE NAD 83 (N.M. EAST)
N: 570550.88' E: 776564.35'
STATE PLANE NAD 27 (N.M. EAST)
N: 570489.63' E: 735383.43'

APPROXIMATE WELL BORE DISTANCE FROM FTP TO LTP	
B001540005	5076.70'
TOTAL	5076.70'

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

0' 1000' 2000'
SCALE: 1" = 1000'

NOTES

1. 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).

2. THIS DOCUMENT IS BASED UPON AN ON THE GROUND SURVEY PERFORMED DURING OCTOBER, 2025. CERTIFICATION OF THIS DOCUMENT IS ONLY TO THE LOCATION OF THIS INFORMATION IN RELATION TO RECORDED MONUMENT OF DEEDS PROVIDED BY THE CLIENT.

3. ELEVATIONS MSL, DERIVED FROM G.N.S.S. OBSERVATION AND DERIVED FROM SAID ON-THE-GROUND SURVEY.

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

Form APD Comments

Permit 399910

PERMIT COMMENTS

Operator Name and Address:	API Number:
Avant Operating II, LLC [332947] 1515 Wynkoop Street Denver, CO 80202	30-025-55369
	Well: QUAIL 16 STATE COM #502H

Created By	Comment	Comment Date
jeffrey.harrison	Please correct the Casing and Cement table data and review and correct the NGMP before resubmittal.	10/15/2025

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

Form APD Conditions

Permit 399910

PERMIT CONDITIONS OF APPROVAL

Operator Name and Address:	API Number:
Avant Operating II, LLC [332947] 1515 Wynkoop Street Denver, CO 80202	30-025-55369
	Well: QUAIL 16 STATE COM #502H

OCD Reviewer	Condition
jeffrey.harrison	NSP required if not included in an existing order or not an infill to an appropriate defining well in the same pool and spacing unit.
jeffrey.harrison	The OCD is currently reviewing the areas containing the Capitan Reef Aquifer and may expand the designated 4-string casing area to encompass additional portions of it in the future.
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	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	A [C-103] Sub. Drilling (C-103N) is required within (10) days of spud.
jeffrey.harrison	Notify the OCD 24 hours prior to casing & cement.
jeffrey.harrison	File As Drilled C-102 and a directional Survey with C-104 completion packet.
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.
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.

PROPOSAL#: 250922102948-A

CEMENT PROCEDURE & PROPOSAL

PREPARED FOR:

Mr. Braden Harris
EMAIL: braden@avantnr.com
PHONE NUMBER: 406-600-3310

Avant Operating II

Quail 16 State Com #502H

Lea County, NM

AFE Number: NM1369

Service Point

Odessa
1400 S JBS Parkway Odessa, TX 79766
432-701-8955

Technical Writer
Jonathan Smith
jonathan@wtcementers.com
432-701-3719

WTC Representative
Jon Reynolds
jon@wtcementers.com
432-257-1234

PRINTED 9/22/2025 10:34 VERSION: v0.29d

Avant Operating II
Quail 16 State Com #502H
Lea County, NM

Surface

PROPOSAL#: 250922102948-A

WELL INFORMATION	
MUD	8.4# Fresh Water
PREVIOUS PIPE	20'' 94# CSG to 120
OPEN HOLE	14.75'' OH to 1571
CASING/INJECTION	10.75'' 40.5# J-55/LTC to 1571
MD	1571
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	10.75		0.2430	29.2
Lead	1137	14.75	10.75	50%	0.1486	169.0
Tail	314	14.75	10.75	20%	0.1189	37.3
SHOE JOINT	40	10.75	10.05		0.0981	3.9

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	585-SX	Slurry Volume: *198-bbls*
DENSITY	12.8-ppg	Mix Water Required: *142-bbls*
YIELD	1.9-cf/sx	
MIX WATER	10.19-gps	
TOP OF CEMENT	Surface	
EXCESS	50%	

Avant Operating II
Quail 16 State Com #502H
Lea County, NM

Surface

PROPOSAL#: 250922102948-A

Tail		
	100% Class C+0.5% CaCl2+0.25PPS TCA100	
VOLUME	175-SX	Slurry Volume: *41.5-bbls*
DENSITY	14.8-ppg	Mix Water Required: *27-bbls*
YIELD	1.33-cf/sx	
MIX WATER	6.33-gps	
TOP OF CEMENT	1257-ft	
EXCESS	20%	
DISPLACEMENT		
	Displacement	
VOLUME	150.2-bbl	

Avant Operating II
Quail 16 State Com #502H
Lea County, NM

Multi-Stage Intermediate

PROPOSAL#: 250922102948-A

WELL INFORMATION	
MUD	10# Brine
PREVIOUS PIPE	10.75'' 40.5# CSG to 1571
OPEN HOLE	9.875'' OH to 5439
CASING/INJECTION	8.625'' 32# L-80 HC BK to 5439
MD	5439
TVD	5438
EST BHST/BHCT	124-F / 108-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	1571	10.05	8.625		0.0258	40.6
Stage 1 Lead	2780	9.875	8.625	20%	0.0270	74.9
Stage 1 Tail	1088	9.875	8.625	20%	0.0270	29.3
Stage 2 Lead	1571	10.05	8.625		0.0258	40.6
Stage 2 Lead	2079	9.875	8.625	106%	0.0463	96.2
Stage 2 Tail	150	9.875	8.625	570%	0.1505	22.6
SHOE JOINT	40	8.625	7.921		0.0609	2.4

FLUIDS

SPACER

Fresh Water

VOLUME	25-bbl

Stage 1 Lead

35% M_Poz+65% Class C+4% Gel+5% SALT+0.1% SMS+0.15% R-1300+0.25PPS Pol-E-Flake+0.5PPS TCA100

VOLUME	370-SX	Slurry Volume: *116.6-bbls*
DENSITY	12.8-ppg	Mix Water Required: *81-bbls*
YIELD	1.77-cf/sx	
MIX WATER	9.19-gps	
TOP OF CEMENT	Surface	
EXCESS	20%	

Avant Operating II
Quail 16 State Com #502H
Lea County, NM

Multi-Stage Intermediate

PROPOSAL#: 250922102948-A

Stage 1 Tail		
100% Class C+0.005GPS NoFoam V1A		
VOLUME	135-SX	Slurry Volume: *32-bbls*
DENSITY	14.8-ppg	Mix Water Required: *21-bbls*
YIELD	1.33-cf/sx	
MIX WATER	6.32-gps	
TOP OF CEMENT	4351-ft	
EXCESS	20%	
DISPLACEMENT		
Displacement		
VOLUME	329-bbl	
SPACER		
Fresh Water		
VOLUME	20-bbl	
Stage 2 Lead		
35% M_Poz+65% Class C+4% Gel+5% SALT+0.1% SMS+0.25PPS Pol-E-Flake+0.5PPS TCA100		
VOLUME	440-SX	Slurry Volume: *137.9-bbls*
DENSITY	12.8-ppg	Mix Water Required: *97-bbls*
YIELD	1.76-cf/sx	
MIX WATER	9.18-gps	
TOP OF CEMENT	Surface	
EXCESS	106%	
Stage 2 Tail		
100% Class C+0.005GPS NoFoam V1A		
VOLUME	100-SX	Slurry Volume: *23.7-bbls*
DENSITY	14.8-ppg	Mix Water Required: *16-bbls*
YIELD	1.33-cf/sx	
MIX WATER	6.32-gps	
TOP OF CEMENT	3650-ft	
EXCESS	570%	
DISPLACEMENT		
Displacement		
VOLUME	231.6-bbl	

Avant Operating II
Quail 16 State Com #502H
Lea County, NM

Production

PROPOSAL#: 250922102948-A

WELL INFORMATION	
MUD	9.2# OBM
PREVIOUS PIPE	8.625'' 32# CSG to 5439
OPEN HOLE	7.875'' OH to 14973
CASING/INJECTION	5.5'' 20# P-110 HC GBCD to 14973
MD	14973
TVD	10046
EST BHST/BHCT	165-F / 165-F (0.84-F/100-FT)
KOP	9579
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)
Lead	5439	7.921	5.5		0.0316	171.7
Lead	4140	7.875	5.5	20%	0.0370	153.3
Tail	5394	7.875	5.5	20%	0.0370	199.7
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+0.2% FL-24+3PPS Gilsonite+0.5PPS TCA100

VOLUME	540-SX	Slurry Volume: *326-bbls*
DENSITY	10.7-ppg	Mix Water Required: *272-bbls*
YIELD	3.39-cf/sx	
MIX WATER	21.13-gps	
TOP OF CEMENT	Surface	
EXCESS	20%	

Avant Operating II
Quail 16 State Com #502H
Lea County, NM

Production

PROPOSAL#: 250922102948-A

Tail		
50% B_Poz+50% Class H+5% SALT+0.3% SMS+0.4% CRT-201+0.5% FL-24+0.5PPS TCA100		
VOLUME	930-SX	Slurry Volume: *202.1-bbls*
DENSITY	14.5-ppg	Mix Water Required: *118-bbls*
YIELD	1.22-cf/sx	
MIX WATER	5.3-gps	
TOP OF CEMENT	9579-ft	
EXCESS	20%	
DISPLACEMENT		
Fresh Water+ 0.25GPT Plexcide 24L+1GPT Corplex		
VOLUME	330.3-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

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

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 #

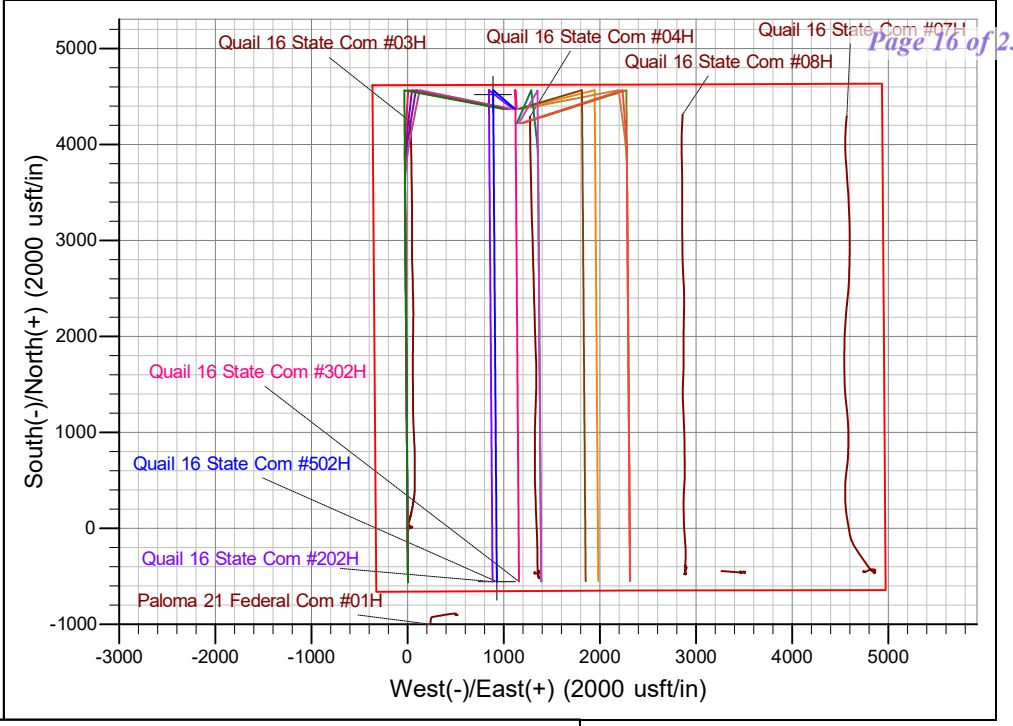
Operator Name:	Property Name:	Well Number

KZ 06/29/2018

AVANT NATURAL RESOURCES

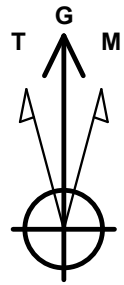
WELL DETAILS: Quail 16 State Com #502H					
Ground Elev: 3630.0 KB: 3655					
+N/-S	+E/-W	Northing	Easting	Latittude	Longitude
4372.1	1116.6	575477.96	776752.38	32.579719	-103.569063

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



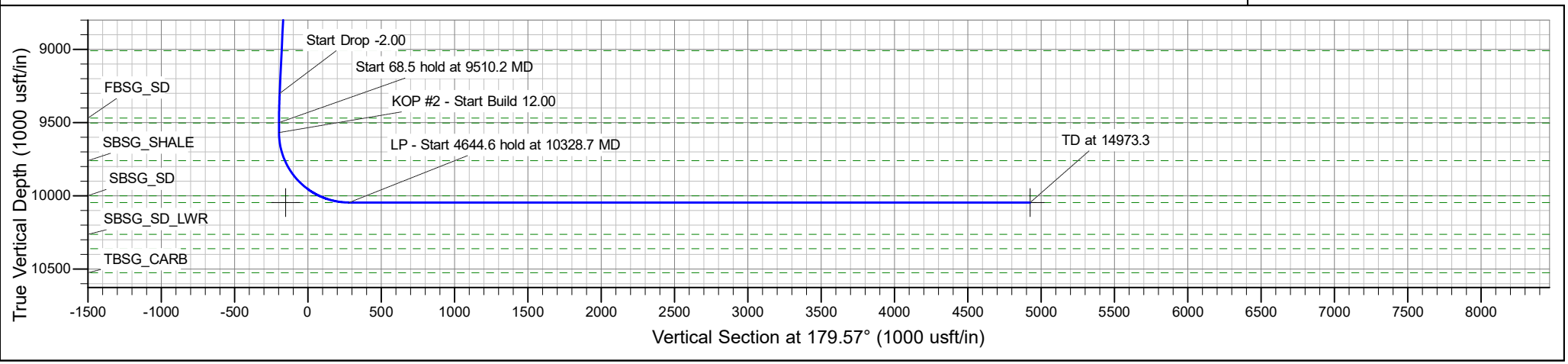
SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
1	0.0	0.00	0.00	0.0	4372.1	1116.6	0.00	0.00	0.0	
2	5000.0	0.00	0.00	5000.0	4372.1	1116.6	0.00	0.00	0.0	KOP - Start Build 2.00
3	5198.5	3.97	310.79	5198.3	4376.6	1111.4	2.00	310.79	-4.5	Start 4113.2 hold at 5198.5 MD
4	9311.7	3.97	310.79	9301.7	4562.6	895.8	0.00	0.00	-192.2	Start Drop -2.00
5	9510.2	0.00	0.00	9500.0	4567.1	890.6	2.00	180.00	-196.7	Start 68.5 hold at 9510.2 MD
6	9578.7	0.00	0.00	9568.5	4567.1	890.6	0.00	0.00	-196.7	KOP #2 - Start Build 12.00
7	10328.7	90.00	179.57	10046.0	4089.6	894.1	12.00	179.57	280.8	LP - Start 4644.6 hold at 10328.7 MD
8	14973.3	90.00	179.57	10046.0	-554.8	928.6	0.00	0.00	4925.4	TD at 14973.3



Azimuths to Grid North
True North: -0.41°
Magnetic North: 7.37°

Magnetic Field
Strength: 49006.3nT
Dip Angle: 60.57°
Date: 12/31/2009
Model: IGRF200510



Avant Operating II, LLC

Lea County, NM (NAD 83)
Quail 16 State Com Pad 1
Quail 16 State Com #502H

OH

Plan: Plan 0.1

Standard Planning Report

22 October, 2025

Planning Report

Database:	EDM 5000.16 Single User Db	**Local Co-ordinate Reference:**	Well Quail 16 State Com #502H
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 #502H	**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 #502H

Well Position	**+N/-S**	0.0 usft	**Northing:**	575,477.96 usft	**Latitude:**	32.579719
	+E/-W	0.0 usft	**Easting:**	776,752.37 usft	**Longitude:**	-103.569063
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,630.0 usft
Grid Convergence:		0.41 °				

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	7.77	60.57	49,006.27263114

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** 9/23/2025

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	14,973.3	Plan 0.1 (OH)	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	
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
5,198.5	3.97	310.79	5,198.3	4.5	-5.2	2.00	2.00	0.00	310.79	
9,311.7	3.97	310.79	9,301.7	190.5	-220.8	0.00	0.00	0.00	0.00	
9,510.2	0.00	0.00	9,500.0	195.0	-226.0	2.00	-2.00	0.00	180.00	
9,578.7	0.00	0.00	9,568.5	195.0	-226.0	0.00	0.00	0.00	0.00	
10,328.7	90.00	179.57	10,046.0	-282.5	-222.5	12.00	12.00	0.00	179.57	
14,973.3	90.00	179.57	10,046.0	-4,926.9	-188.0	0.00	0.00	0.00	0.00	Quail 16 State Com #

Planning Report

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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 #502H	**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
1,546.0	0.00	0.00	1,546.0	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
1,875.0	0.00	0.00	1,875.0	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
3,302.0	0.00	0.00	3,302.0	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
3,404.0	0.00	0.00	3,404.0	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
3,655.0	0.00	0.00	3,655.0	0.0	0.0	0.0	0.00	0.00	0.00
STRN									
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
3,823.0	0.00	0.00	3,823.0	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
3,991.0	0.00	0.00	3,991.0	0.0	0.0	0.0	0.00	0.00	0.00

Planning Report

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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 #502H	**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)
CAPITAN_REEF									
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
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
KOP - Start Build 2.00									
5,100.0	2.00	310.79	5,100.0	1.1	-1.3	-1.1	2.00	2.00	0.00
5,198.5	3.97	310.79	5,198.3	4.5	-5.2	-4.5	2.00	2.00	0.00
Start 4113.2 hold at 5198.5 MD									
5,200.0	3.97	310.79	5,199.8	4.6	-5.3	-4.6	0.00	0.00	0.00
5,300.0	3.97	310.79	5,299.6	9.1	-10.5	-9.2	0.00	0.00	0.00
5,400.0	3.97	310.79	5,399.4	13.6	-15.8	-13.7	0.00	0.00	0.00
5,500.0	3.97	310.79	5,499.1	18.1	-21.0	-18.3	0.00	0.00	0.00
5,539.0	3.97	310.79	5,538.0	19.9	-23.1	-20.1	0.00	0.00	0.00
CHERRY_CNYN									
5,600.0	3.97	310.79	5,598.9	22.6	-26.2	-22.8	0.00	0.00	0.00
5,700.0	3.97	310.79	5,698.6	27.2	-31.5	-27.4	0.00	0.00	0.00
5,800.0	3.97	310.79	5,798.4	31.7	-36.7	-32.0	0.00	0.00	0.00
5,900.0	3.97	310.79	5,898.2	36.2	-42.0	-36.5	0.00	0.00	0.00
6,000.0	3.97	310.79	5,997.9	40.7	-47.2	-41.1	0.00	0.00	0.00
6,100.0	3.97	310.79	6,097.7	45.3	-52.5	-45.7	0.00	0.00	0.00
6,200.0	3.97	310.79	6,197.4	49.8	-57.7	-50.2	0.00	0.00	0.00
6,300.0	3.97	310.79	6,297.2	54.3	-62.9	-54.8	0.00	0.00	0.00
6,400.0	3.97	310.79	6,397.0	58.8	-68.2	-59.3	0.00	0.00	0.00
6,500.0	3.97	310.79	6,496.7	63.4	-73.4	-63.9	0.00	0.00	0.00
6,600.0	3.97	310.79	6,596.5	67.9	-78.7	-68.5	0.00	0.00	0.00
6,602.5	3.97	310.79	6,599.0	68.0	-78.8	-68.6	0.00	0.00	0.00
BRUSHY_CANYON									
6,700.0	3.97	310.79	6,696.2	72.4	-83.9	-73.0	0.00	0.00	0.00
6,800.0	3.97	310.79	6,796.0	76.9	-89.1	-77.6	0.00	0.00	0.00
6,900.0	3.97	310.79	6,895.8	81.4	-94.4	-82.1	0.00	0.00	0.00
7,000.0	3.97	310.79	6,995.5	86.0	-99.6	-86.7	0.00	0.00	0.00
7,100.0	3.97	310.79	7,095.3	90.5	-104.9	-91.3	0.00	0.00	0.00
7,200.0	3.97	310.79	7,195.0	95.0	-110.1	-95.8	0.00	0.00	0.00
7,300.0	3.97	310.79	7,294.8	99.5	-115.4	-100.4	0.00	0.00	0.00
7,400.0	3.97	310.79	7,394.6	104.1	-120.6	-105.0	0.00	0.00	0.00
7,500.0	3.97	310.79	7,494.3	108.6	-125.8	-109.5	0.00	0.00	0.00
7,600.0	3.97	310.79	7,594.1	113.1	-131.1	-114.1	0.00	0.00	0.00
7,700.0	3.97	310.79	7,693.8	117.6	-136.3	-118.6	0.00	0.00	0.00
7,800.0	3.97	310.79	7,793.6	122.1	-141.6	-123.2	0.00	0.00	0.00
7,900.0	3.97	310.79	7,893.4	126.7	-146.8	-127.8	0.00	0.00	0.00
8,000.0	3.97	310.79	7,993.1	131.2	-152.0	-132.3	0.00	0.00	0.00
8,100.0	3.97	310.79	8,092.9	135.7	-157.3	-136.9	0.00	0.00	0.00
8,200.0	3.97	310.79	8,192.6	140.2	-162.5	-141.4	0.00	0.00	0.00
8,300.0	3.97	310.79	8,292.4	144.8	-167.8	-146.0	0.00	0.00	0.00
8,343.7	3.97	310.79	8,336.0	146.7	-170.1	-148.0	0.00	0.00	0.00

Planning Report

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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 #502H	**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	3.97	310.79	8,392.2	149.3	-173.0	-150.6	0.00	0.00	0.00
8,500.0	3.97	310.79	8,491.9	153.8	-178.3	-155.1	0.00	0.00	0.00
8,600.0	3.97	310.79	8,591.7	158.3	-183.5	-159.7	0.00	0.00	0.00
8,700.0	3.97	310.79	8,691.4	162.8	-188.7	-164.3	0.00	0.00	0.00
8,751.7	3.97	310.79	8,743.0	165.2	-191.4	-166.6	0.00	0.00	0.00
AVALON_B									
8,800.0	3.97	310.79	8,791.2	167.4	-194.0	-168.8	0.00	0.00	0.00
8,900.0	3.97	310.79	8,891.0	171.9	-199.2	-173.4	0.00	0.00	0.00
9,000.0	3.97	310.79	8,990.7	176.4	-204.5	-177.9	0.00	0.00	0.00
9,018.3	3.97	310.79	9,009.0	177.2	-205.4	-178.8	0.00	0.00	0.00
200S									
9,100.0	3.97	310.79	9,090.5	180.9	-209.7	-182.5	0.00	0.00	0.00
9,200.0	3.97	310.79	9,190.2	185.5	-214.9	-187.1	0.00	0.00	0.00
9,300.0	3.97	310.79	9,290.0	190.0	-220.2	-191.6	0.00	0.00	0.00
9,311.7	3.97	310.79	9,301.7	190.5	-220.8	-192.2	0.00	0.00	0.00
Start Drop -2.00									
9,400.0	2.20	310.79	9,389.8	193.6	-224.4	-195.3	2.00	-2.00	0.00
9,479.2	0.62	310.79	9,469.0	194.9	-225.9	-196.6	2.00	-2.00	0.00
FBSG_SD									
9,500.0	0.20	310.79	9,489.8	195.0	-226.0	-196.7	2.00	-2.00	0.00
9,510.2	0.00	0.00	9,500.0	195.0	-226.0	-196.7	2.00	-2.00	0.00
Start 68.5 hold at 9510.2 MD									
9,513.2	0.00	0.00	9,503.0	195.0	-226.0	-196.7	0.00	0.00	0.00
300'S									
9,578.7	0.00	0.00	9,568.5	195.0	-226.0	-196.7	0.00	0.00	0.00
KOP #2 - Start Build 12.00									
9,600.0	2.55	179.57	9,589.8	194.5	-226.0	-196.2	12.00	12.00	0.00
9,700.0	14.55	179.57	9,688.5	179.7	-225.9	-181.4	12.00	12.00	0.00
9,775.7	23.64	179.57	9,760.0	154.9	-225.7	-156.6	12.00	12.00	0.00
SBSG_SHALE									
9,800.0	26.55	179.57	9,782.0	144.6	-225.6	-146.3	12.00	12.00	0.00
9,900.0	38.55	179.57	9,866.1	90.9	-225.2	-92.6	12.00	12.00	0.00
9,987.3	49.03	179.57	9,929.1	30.6	-224.8	-32.3	12.00	12.00	0.00
Quail 16 State Com #502H FTP									
10,000.0	50.55	179.57	9,937.2	20.9	-224.7	-22.6	12.00	12.00	0.00
10,100.0	62.55	179.57	9,992.3	-62.4	-224.1	60.7	12.00	12.00	0.00
10,115.1	64.36	179.57	9,999.0	-75.9	-224.0	74.2	12.00	12.00	0.00
SBSG_SD									
10,200.0	74.55	179.57	10,028.8	-155.3	-223.4	153.6	12.00	12.00	0.00
10,300.0	86.55	179.57	10,045.1	-253.7	-222.7	252.1	12.00	12.00	0.00
10,326.9	89.55	179.57	10,046.0	-280.6	-222.5	278.9	11.17	11.17	0.00
500S_UPPER									
10,328.7	90.00	179.57	10,046.0	-282.5	-222.5	280.8	24.00	24.00	0.00
LP - Start 4644.6 hold at 10328.7 MD									
10,400.0	90.00	179.57	10,046.0	-353.7	-221.9	352.1	0.00	0.00	0.00
10,500.0	90.00	179.57	10,046.0	-453.7	-221.2	452.1	0.00	0.00	0.00
10,600.0	90.00	179.57	10,046.0	-553.7	-220.4	552.1	0.00	0.00	0.00
10,700.0	90.00	179.57	10,046.0	-653.7	-219.7	652.1	0.00	0.00	0.00
10,800.0	90.00	179.57	10,046.0	-753.7	-219.0	752.1	0.00	0.00	0.00
10,900.0	90.00	179.57	10,046.0	-853.7	-218.2	852.1	0.00	0.00	0.00
11,000.0	90.00	179.57	10,046.0	-953.7	-217.5	952.1	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.16 Single User Db	**Local Co-ordinate Reference:**	Well Quail 16 State Com #502H
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 #502H	**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)
11,100.0	90.00	179.57	10,046.0	-1,053.7	-216.7	1,052.1	0.00	0.00	0.00
11,200.0	90.00	179.57	10,046.0	-1,153.7	-216.0	1,152.1	0.00	0.00	0.00
11,300.0	90.00	179.57	10,046.0	-1,253.7	-215.2	1,252.1	0.00	0.00	0.00
11,400.0	90.00	179.57	10,046.0	-1,353.7	-214.5	1,352.1	0.00	0.00	0.00
11,500.0	90.00	179.57	10,046.0	-1,453.7	-213.8	1,452.1	0.00	0.00	0.00
11,600.0	90.00	179.57	10,046.0	-1,553.7	-213.0	1,552.1	0.00	0.00	0.00
11,700.0	90.00	179.57	10,046.0	-1,653.7	-212.3	1,652.1	0.00	0.00	0.00
11,800.0	90.00	179.57	10,046.0	-1,753.7	-211.5	1,752.1	0.00	0.00	0.00
11,900.0	90.00	179.57	10,046.0	-1,853.7	-210.8	1,852.1	0.00	0.00	0.00
12,000.0	90.00	179.57	10,046.0	-1,953.7	-210.1	1,952.1	0.00	0.00	0.00
12,100.0	90.00	179.57	10,046.0	-2,053.7	-209.3	2,052.1	0.00	0.00	0.00
12,200.0	90.00	179.57	10,046.0	-2,153.7	-208.6	2,152.1	0.00	0.00	0.00
12,300.0	90.00	179.57	10,046.0	-2,253.7	-207.8	2,252.1	0.00	0.00	0.00
12,400.0	90.00	179.57	10,046.0	-2,353.7	-207.1	2,352.1	0.00	0.00	0.00
12,500.0	90.00	179.57	10,046.0	-2,453.7	-206.3	2,452.1	0.00	0.00	0.00
12,600.0	90.00	179.57	10,046.0	-2,553.7	-205.6	2,552.1	0.00	0.00	0.00
12,700.0	90.00	179.57	10,046.0	-2,653.7	-204.9	2,652.1	0.00	0.00	0.00
12,800.0	90.00	179.57	10,046.0	-2,753.7	-204.1	2,752.1	0.00	0.00	0.00
12,900.0	90.00	179.57	10,046.0	-2,853.7	-203.4	2,852.1	0.00	0.00	0.00
13,000.0	90.00	179.57	10,046.0	-2,953.7	-202.6	2,952.1	0.00	0.00	0.00
13,100.0	90.00	179.57	10,046.0	-3,053.7	-201.9	3,052.1	0.00	0.00	0.00
13,200.0	90.00	179.57	10,046.0	-3,153.7	-201.1	3,152.1	0.00	0.00	0.00
13,300.0	90.00	179.57	10,046.0	-3,253.6	-200.4	3,252.1	0.00	0.00	0.00
13,400.0	90.00	179.57	10,046.0	-3,353.6	-199.7	3,352.1	0.00	0.00	0.00
13,500.0	90.00	179.57	10,046.0	-3,453.6	-198.9	3,452.1	0.00	0.00	0.00
13,600.0	90.00	179.57	10,046.0	-3,553.6	-198.2	3,552.1	0.00	0.00	0.00
13,700.0	90.00	179.57	10,046.0	-3,653.6	-197.4	3,652.1	0.00	0.00	0.00
13,800.0	90.00	179.57	10,046.0	-3,753.6	-196.7	3,752.1	0.00	0.00	0.00
13,900.0	90.00	179.57	10,046.0	-3,853.6	-196.0	3,852.1	0.00	0.00	0.00
14,000.0	90.00	179.57	10,046.0	-3,953.6	-195.2	3,952.1	0.00	0.00	0.00
14,100.0	90.00	179.57	10,046.0	-4,053.6	-194.5	4,052.1	0.00	0.00	0.00
14,200.0	90.00	179.57	10,046.0	-4,153.6	-193.7	4,152.1	0.00	0.00	0.00
14,300.0	90.00	179.57	10,046.0	-4,253.6	-193.0	4,252.1	0.00	0.00	0.00
14,400.0	90.00	179.57	10,046.0	-4,353.6	-192.2	4,352.1	0.00	0.00	0.00
14,500.0	90.00	179.57	10,046.0	-4,453.6	-191.5	4,452.1	0.00	0.00	0.00
14,600.0	90.00	179.57	10,046.0	-4,553.6	-190.8	4,552.1	0.00	0.00	0.00
14,700.0	90.00	179.57	10,046.0	-4,653.6	-190.0	4,652.1	0.00	0.00	0.00
14,800.0	90.00	179.57	10,046.0	-4,753.6	-189.3	4,752.1	0.00	0.00	0.00
14,900.0	90.00	179.57	10,046.0	-4,853.6	-188.5	4,852.1	0.00	0.00	0.00
14,973.3	90.00	179.57	10,046.0	-4,926.9	-188.0	4,925.4	0.00	0.00	0.00
TD at 14973.3 - Quail 16 State Com #502H LTP/BHL									

Planning Report

Database:	EDM 5000.16 Single User Db	**Local Co-ordinate Reference:**	Well Quail 16 State Com #502H
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 #502H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 0.1		

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
Quail 16 State Com #50:	0.00	0.00	10,046.0	149.4	-227.2	575,627.32	776,525.19	32.580134	-103.569797
- plan misses target center by 166.7usft at 9987.3usft MD (9929.1 TVD, 30.6 N, -224.8 E)									
- Point									
Quail 16 State Com #50:	0.00	0.00	10,046.0	-4,926.9	-188.0	570,551.03	776,564.39	32.566181	-103.569788
- plan hits target center									
- Point									

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,546.0	1,546.0	RUSTLER			
1,875.0	1,875.0	SOLADO			
3,302.0	3,302.0	BASE_OF_SALT			
3,404.0	3,404.0	YATES			
3,655.0	3,655.0	STRN			
3,823.0	3,823.0	SVRV			
3,991.0	3,991.0	CAPITAN_REEF			
5,539.0	5,538.0	CHERRY_CNYN			
6,602.5	6,599.0	BRUSHY_CANYON			
8,343.7	8,336.0	BSPG_LIME			
8,751.7	8,743.0	AVALON_B			
9,018.3	9,009.0	200S			
9,479.2	9,469.0	FBSG_SD			
9,513.2	9,503.0	300'S			
9,775.7	9,760.0	SBSG_SHALE			
10,115.1	9,999.0	SBSG_SD			
10,326.9	10,046.0	500S_UPPER			

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
5,000.0	5,000.0	0.0	0.0	KOP - Start Build 2.00
5,198.5	5,198.3	4.5	-5.2	Start 4113.2 hold at 5198.5 MD
9,311.7	9,301.7	190.5	-220.8	Start Drop -2.00
9,510.2	9,500.0	195.0	-226.0	Start 68.5 hold at 9510.2 MD
9,578.7	9,568.5	195.0	-226.0	KOP #2 - Start Build 12.00
10,328.7	10,046.0	-282.5	-222.5	LP - Start 4644.6 hold at 10328.7 MD
14,973.3	10,046.0	-4,926.9	-188.0	TD at 14973.3