

Form 3160-3  
(October 2024)

FORM APPROVED  
OMB No. 1004-0137  
Expires: October 31, 2027

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
**APPLICATION FOR PERMIT TO DRILL OR REENTER**

1a. Type of work: <input type="checkbox"/> DRILL <input type="checkbox"/> REENTER 1b. Type of Well: <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other 1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		5. Lease Serial No.
2. Name of Operator		6. If Indian, Allottee or Tribe Name
3a. Address		7. If Unit or CA Agreement, Name and No.
3b. Phone No. (include area code)		8. Lease Name and Well No.
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		9. API Well No. <b>30-025-56112</b>
10. Field and Pool, or Exploratory		11. Sec., T. R. M. or Blk. and Survey or Area
14. Distance in miles and direction from nearest town or post office*		12. County or Parish
		13. State
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
24. Attachments		

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

- |   |   |
|---|---|
| 1. Well plat certified by a registered surveyor.<br>2. A Drilling Plan.<br>3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office). | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).<br>5. Operator certification.<br>6. Such other site specific information and/or plans as may be requested by the BLM. |
|---|---|

25. Signature	Name (Printed/Typed)	Date
Title		
Approved by (Signature)	Name (Printed/Typed)	Date
Title		Office

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

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



(Continued on page 2)

\*(Instructions on page 2)

<b>C-102</b>  Submit Electronically Via OCD Permitting	State of New Mexico Energy, Minerals & Natural Resources Department <b>OIL CONSERVATION DIVISION</b>	Revised July 9, 2024  Submittal Type: <input checked="" type="checkbox"/> Initial Submittal <input type="checkbox"/> Amended Report <input type="checkbox"/> As Drilled
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**WELL LOCATION INFORMATION**

API Number <b>30-025-56112</b>	Pool Code 37580	Pool Name <b>LEA;BONE SPRING, SOUTH</b>
Property Code <b>339051</b>	Property Name <b>PALOMA 28 21 FED COM</b>	Well Number <b>#301H</b>
OGRID No. <b>332947</b>	Operator Name <b>AVANT OPERATING II, LLC</b>	Ground Level Elevation <b>3700'</b>
Surface Owner: <input type="checkbox"/> State <input checked="" type="checkbox"/> Fee <input type="checkbox"/> Tribal <input checked="" type="checkbox"/> Federal		Mineral Owner: <input type="checkbox"/> State <input checked="" type="checkbox"/> Fee <input type="checkbox"/> Tribal <input checked="" type="checkbox"/> Federal

**Surface Location**

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
F	28	20 S	34 E		2455' FNL	1680' FWL	32.544633°	-103.568396°	LEA

**Bottom Hole Location**

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
D	21	20 S	34 E		100' FNL	330' FWL	32.565636°	-103.572787°	LEA

Dedicated Acres 960.00	Infill or Defining Well n/a	Defining Well API n/a	Overlapping Spacing Unit (Y/N) No	Consolidation Code n/a
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Order Numbers. <b>Pending</b>	Well setbacks are under Common Ownership: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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**Kick Off Point (KOP)**

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
F	28	20 S	34 E		2455' FNL	1680' FWL	32.544633°	-103.568396°	LEA




**First Take Point (FTP)**

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
E	28	20 S	34 E		2548' FNL	330' FWL	32.544386°	-103.572777°	LEA

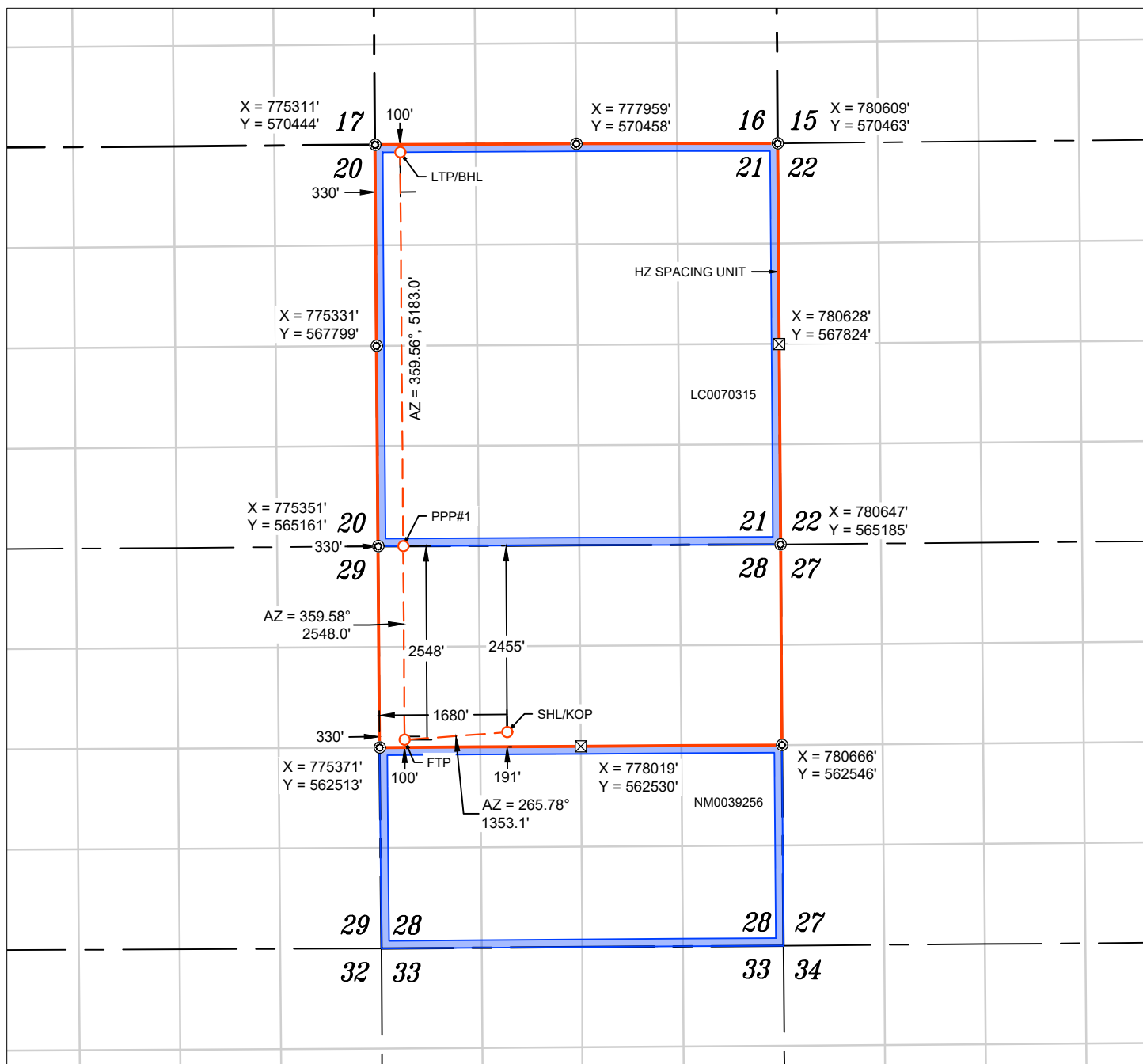
**Last Take Point (LTP)**

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
D	21	20 S	34 E		100' FNL	330' FWL	32.565636°	-103.572787°	LEA

Unitized Area or Area of Uniform Interest <b>No</b>	Spacing Unit Type <input checked="" type="checkbox"/> Horizontal <input type="checkbox"/> Vertical	Ground Floor Elevation: <b>3700'</b>
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<p><b>OPERATOR CERTIFICATIONS</b></p> <p><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></p> <p><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></p> <p style="text-align: right;">                  10/28/2025             </p>	<p><b>SURVEYOR CERTIFICATIONS</b></p> <p><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></p> <div style="text-align: right;">                    22 October 2025             </div>
Signature <b>Sarah Ferreyros</b>	Signature and Seal of Professional Surveyor <b>21209</b>
Date <b>10/28/2025</b>	Date of Survey <b>OCTOBER 9, 2025</b>
Printed Name <b>sarah@avantnr.com</b>	Certificate Number
Email Address	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: PALOMA 28 21 FED COM #301H  
 ELEVATION: 3700'

<b>NAD 83 (SHL/KOP) 2455' FNL &amp; 1680' FWL</b>
LATITUDE = 32.544633°
LONGITUDE = -103.568396°
<b>NAD 27 (SHL/KOP)</b>
LATITUDE = 32.544513°
LONGITUDE = -103.567906°
<b>STATE PLANE NAD 83 (N.M. EAST)</b>
N: 562714.83' E: 777049.62'
<b>STATE PLANE NAD 27 (N.M. EAST)</b>
N: 562653.75' E: 735868.42'

<b>NAD 83 (FTP) 2548' FNL &amp; 330' FWL</b>
LATITUDE = 32.544386°
LONGITUDE = -103.572777°
<b>NAD 27 (FTP)</b>
LATITUDE = 32.544266°
LONGITUDE = -103.572287°
<b>STATE PLANE NAD 83 (N.M. EAST)</b>
N: 562615.19' E: 775700.17'
<b>STATE PLANE NAD 27 (N.M. EAST)</b>
N: 562554.11' E: 734519.01'

APPROXIMATE WELL BORE DISTANCE FROM FTP TO LTP	
N/2 OF SEC. 28	2548.01'
LC0070315	5183.05'
TOTAL	7731.06'

<b>NAD 83 (PPP#1) 330' FWL</b>
LATITUDE = 32.551390°
LONGITUDE = -103.572779°
<b>NAD 27 (PPP#1)</b>
LATITUDE = 32.551270°
LONGITUDE = -103.572289°
<b>STATE PLANE NAD 83 (N.M. EAST)</b>
N: 565163.14' E: 775681.46'
<b>STATE PLANE NAD 27 (N.M. EAST)</b>
N: 565101.99' E: 734500.38'

<b>NAD 83 (LTP/BHL) 100' FNL &amp; 330' FWL</b>
LATITUDE = 32.565636°
LONGITUDE = -103.572787°
<b>NAD 27 (LTP/BHL)</b>
LATITUDE = 32.565516°
LONGITUDE = -103.572296°
<b>STATE PLANE NAD 83 (N.M. EAST)</b>
N: 570346.03' E: 775641.90'
<b>STATE PLANE NAD 27 (N.M. EAST)</b>
N: 570284.78' E: 734460.99'

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

**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.





**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.



U.S. Department of the Interior  
BUREAU OF LAND MANAGEMENT

# Drilling Plan Data Report

01/23/2026

APD ID: 10400108172

Submission Date: 11/04/2025

Highlighted data reflects the most recent changes

Operator Name: AVANT OPERATING II LLC

Well Name: PALOMA 28 21 FED COM

Well Number: 301H

Well Type: OIL WELL

Well Work Type: Drill

Show Final Text

## Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
17285723	QUATERNARY	3700	0	0	OTHER : Caliche	USEABLE WATER	N
17285724	RUSTLER	2087	1613	1613	ANHYDRITE	NONE	N
17285720	BASE OF SALT	327	3373	3384	SALT	NONE	N
17285725	YATES	231	3469	3483	SANDSTONE	NATURAL GAS, OIL	N
17285722	CAPITAN REEF	-244	3944	3969	LIMESTONE	USEABLE WATER	N
17285726	CHERRY CANYON	-2041	5741	5810	SANDSTONE	NATURAL GAS, OIL	N
17285727	BRUSHY CANYON	-3127	6827	6922	SANDSTONE	NATURAL GAS, OIL	N
17285718	BONE SPRING	-4878	8578	8716	LIMESTONE	NATURAL GAS, OIL	N
17285719	AVALON SAND	-5270	8970	9111	SANDSTONE	NATURAL GAS, OIL	N
17285721	FIRST BONE SPRING SAND	-5847	9547	9720	SANDSTONE	NATURAL GAS, OIL	Y

## Section 2 - Blowout Prevention

Pressure Rating (PSI): 5M

Rating Depth: 15000

**Equipment:** A minimum 5M system will be used. The minimum blowout preventer equipment (BOPE) shown in the BOP Diagram will consist of a single ram, mud cross and double ram-type (10,000 psi WP) preventer, and an annular preventer (5000-psi WP). Both units will be hydraulically operated, and the ram-type will be equipped with blind rams on top and drill pipe rams on bottom. All BOPE will be tested in accordance with 43 CFR 3172.

Requesting Variance? YES

**Variance request:** Variance is requested to use a co-flex line between the BOP and choke manifold (instead of using a 4" OD steel line). Co-flex line will be tested in accordance with highest BOP test pressures (5000 psi) before drilling out of surface casing and (5000 psi) before drilling out of intermediate casing. Pressure tests will be charted for records. The manufacturers hydrostatic test report will be kept on location for inspection.

**Operator Name:** AVANT OPERATING II LLC

**Well Name:** PALOMA 28 21 FED COM

**Well Number:** 301H

**Testing Procedure:** Before drilling out of the surface casing, the ram-type BOP and accessory equipment will be tested to 5000 (high) / 250 (low) psig and the annular preventer to 3500 (high) / 250 (low) psig by an independent service company. Test charts will always be kept on location. Surface casing will be tested to 1500 psi for 30 minutes. Before drilling out of the intermediate casing, the ram-type BOP and accessory equipment will be tested to 5000 (high) / 250 (low) psig and the annular preventer to 3500 (high) / 250 (low) psig by an independent service company. Test charts will always be kept on location. Intermediate casing will be tested to 1500 psi for 30 minutes. A solid steel body pack-off will be used after running and cementing the intermediate casing. After installation, pack-off and lower flange will be pressure tested to 5000 psi. Pipe rams will be operationally checked each 24-hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. A hydraulically operated choke will be installed prior to drilling out of the intermediate casing shoe. This pressure test will be repeated at least once every 30 days, as per 43 CFR 3172. Kelly cock will always be in the drill string. Full opening drill pipe stabbing valve (inside BOP) with proper drill pipe connections will always be on the rig floor. The multi-bowl wellhead will be installed by a third-party welder while being monitored by the vendors representative. All BOP equipment will be tested using a conventional test plug - not a cup or J-packer type. Both the surface and intermediate casing strings will be tested as per 43 CFR 3172. to at least 0.22 psi/ft or 1500 psi, whichever is greater, but not to exceed 70 percent of the minimum internal yield.

**Choke Diagram Attachment:**

5M\_Choke\_Diagram\_20251104164608.pdf

**BOP Diagram Attachment:**

5M\_BOP\_Diagram\_20251104164613.pdf

**Section 3 - Casing**

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	1638	0	1638	3700	2062	1638	J-55	94	LT&C	1.25	1.25	DRY	1.6	DRY	1.6
2	INTERMEDIATE	12.25	10.75	NEW	API	N	0	3434	0	3423	3532	277	3434	J-55	40.5	LT&C	1.25	1.25	DRY	1.6	DRY	1.6
3	INTERMEDIATE	9.875	8.625	NEW	API	N	0	5760	0	5691	3532	-1991	5760	HCL-80	32	OTHER - BK	1.25	1.25	DRY	1.6	DRY	1.6
4	PRODUCTION	7.875	5.5	NEW	NON API	N	0	17409	0	9701	3532	-6001	17409	HCP-110	20	OTHER - GBCD	1.25	1.25	DRY	1.6	DRY	1.6

**Casing Attachments**

**Operator Name:** AVANT OPERATING II LLC

**Well Name:** PALOMA 28 21 FED COM

**Well Number:** 301H

**Casing Attachments**

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**Casing ID:** 1                      **String**      SURFACE

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

AVANT\_\_\_4STRING\_DESIGN\_CRITERIA\_LOAD\_CASE\_ASSUMPTIONS\_20251029151827.pdf

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**Casing ID:** 2                      **String**      INTERMEDIATE

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

AVANT\_\_\_4STRING\_DESIGN\_CRITERIA\_LOAD\_CASE\_ASSUMPTIONS\_20251029151855.pdf

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**Casing ID:** 3                      **String**      INTERMEDIATE

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

AVANT\_\_\_4STRING\_DESIGN\_CRITERIA\_LOAD\_CASE\_ASSUMPTIONS\_20251029151931.pdf

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**Operator Name:** AVANT OPERATING II LLC

**Well Name:** PALOMA 28 21 FED COM

**Well Number:** 301H

**Casing Attachments**

**Casing ID:** 4      **String**      PRODUCTION

**Inspection Document:**

**Spec Document:**

5.5in\_GBCD\_Casing\_Spec\_20251029152053.pdf

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

AVANT\_\_\_4STRING\_DESIGN\_CRITERIA\_LOAD\_CASE\_ASSUMPTIONS\_20251029152100.pdf

**Section 4 - Cement**

String Type	Lead/Tail	Stage Tool Depth	Top MID	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	1638	720	1.9	12.8	1368	50	35% M_Poz+65% Class C	6% Gel+5% SALT+0.25PPS Pol-E-Flake+0.5PPS TCA100
SURFACE	Tail		1310	1638	235	1.33	14.8	313	20	100% Class C	0.5% CaCl2+0.25PPS TCA100
INTERMEDIATE	Lead		0	3434	340	1.9	12.8	646	20	35% M_Poz+65% Class C	6% Gel+5% SALT+0.25PPS Pol-E-Flake+0.5PPS TCA100
INTERMEDIATE	Tail		2747	3434	130	1.36	14.8	177	20	100% Class C	5% SALT+0.005GPS NoFoam V1A
INTERMEDIATE	Lead		0	5760	410	1.9	12.8	779	20	35% M_Poz+65% Class C	6% Gel+5% SALT+0.15% R-1300+0.25PPS Pol-E-Flake+0.5PPS TCA100
INTERMEDIATE	Tail		4608	5760	145	1.33	14.8	193	20	100% Class C	0.005GPS NoFoam V1A
INTERMEDIATE	Lead	3700	0	5760	510	1.9	12.8	969	138	35% M_Poz+65% Class C	6% Gel+5% SALT+0.25PPS Pol-E-Flake+0.5PPS TCA100
INTERMEDIATE	Tail		2800	5760	95	1.33	14.8	126	0	100% Class C	0.005GPS NoFoam V1A
PRODUCTION	Lead		6300	1740 9	160	3.4	10.7	544	0	100% ProLite	5PPS Plexcrete STE+2% SMS+0.65% R-1300+0.2% FL-24+3PPS Gilsonite+0.5PPS TCA100SMS+0.65%

**Operator Name:** AVANT OPERATING II LLC

**Well Name:** PALOMA 28 21 FED COM

**Well Number:** 301H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
PRODUCTION	Tail		9409	1740 9	1135	1.22	14.5	1385	0	50% B_Poz+50% Class H	R-1300+0.2% FL-24+3PPS Gilsonite+0.005GPS NoFoam V1A  5% SALT+0.3% SMS+0.4% CRT-201+0.5% FL-24+0.5PPS TCA100

### Section 5 - Circulating Medium

**Mud System Type:** Closed

**Will an air or gas system be Used?** NO

**Description of the equipment for the circulating system in accordance with 43 CFR 3172:**

**Diagram of the equipment for the circulating system in accordance with 43 CFR 3172:**

**Describe what will be on location to control well or mitigate other conditions:** Sufficient mud materials (e. g., barite, bentonite, LCM) to maintain mud properties and meet minimum lost circulation and weight increase requirements will always be kept on site.

**Describe the mud monitoring system utilized:** An electronic pit volume totalizer (PVT) mud system will monitor pit volumes for gains or losses, flow rate, pump pressures, and stroke rate.

### Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	1638	OTHER : Freshwater	8.4	9.9							
1638	3434	OTHER : Brine	10	10							
3434	5760	OTHER : Freshwater	8.4	8.4							
5760	9365	OTHER : Cut Brine	9	9.2							
9365	1011 5	OIL-BASED MUD	9.2	9.2							

**Operator Name:** AVANT OPERATING II LLC

**Well Name:** PALOMA 28 21 FED COM

**Well Number:** 301H

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
1011 5	1740 9	OIL-BASED MUD	9.2	9.2							

### Section 6 - Test, Logging, Coring

**List of production tests including testing procedures, equipment and safety measures:**

GR log will be acquired by MWD tools throughout the well.

**List of open and cased hole logs run in the well:**

DIRECTIONAL SURVEY,GAMMA RAY LOG,

**Coring operation description for the well:**

No core or open hole or cased hole log is planned

### Section 7 - Pressure

**Anticipated Bottom Hole Pressure:** 4462

**Anticipated Surface Pressure:** 2327

**Anticipated Bottom Hole Temperature(F):** 162

**Anticipated abnormal pressures, temperatures, or potential geologic hazards?** NO

**Describe:**

**Contingency Plans geohazards description:**

**Contingency Plans geohazards**

**Hydrogen Sulfide drilling operations plan required?** YES

**Hydrogen sulfide drilling operations**

Paloma\_Pad\_1\_H2S\_Packet\_20251104164444.pdf

**Operator Name:** AVANT OPERATING II LLC**Well Name:** PALOMA 28 21 FED COM**Well Number:** 301H

## Section 8 - Other Information

**Proposed horizontal/directional/multi-lateral plan submission:**

Paloma\_28\_21\_Fed\_Com\_\_301H\_Plan\_0.1\_Report\_20251104174213.pdf

Paloma\_28\_21\_Fed\_Com\_\_301H\_Plan\_0.1\_AC\_20251104174216.pdf

**Other proposed operations facets description:**

Avant will be using Figure E from R111Q for your reference. All casing strings below the conductor will be pressure tested to 0.22 psi/ft x casing string length, or 1500 psi, whichever is greater, but not to exceed 70% of the minimum internal yield. If pressure declines more than 10% in 30 minutes, then corrective action will be taken.

**Other proposed operations facets attachment:**

Avant\_4\_String\_R\_111\_Q\_Multi\_Bowl\_Wellhead\_20251029151536.pdf

Avant\_II\_Flex\_Line\_Certification\_20251029151723.pdf

Avant\_Nat\_Res\_\_No\_Cost\_\_4\_string\_Bone\_Spring\_Well\_\_AES\_VERT\_\_MP\_20251029151555.pdf

Paloma\_Pad\_1\_Waste\_Minimization\_Plan\_20251029172536.pdf

Paloma\_28\_21\_Fed\_Com\_\_301H\_Prelim\_WBS\_20251104174243.pdf

Avant\_Operating\_II\_Paloma\_28\_21\_Fed\_Com\_\_301H\_Cement\_Proposal\_20251203100912.pdf

**Other Variance request(s)?:** Y**Other Variance attachment:**

Avant\_Surface\_Offline\_Cement\_Variance\_20251029151522.pdf

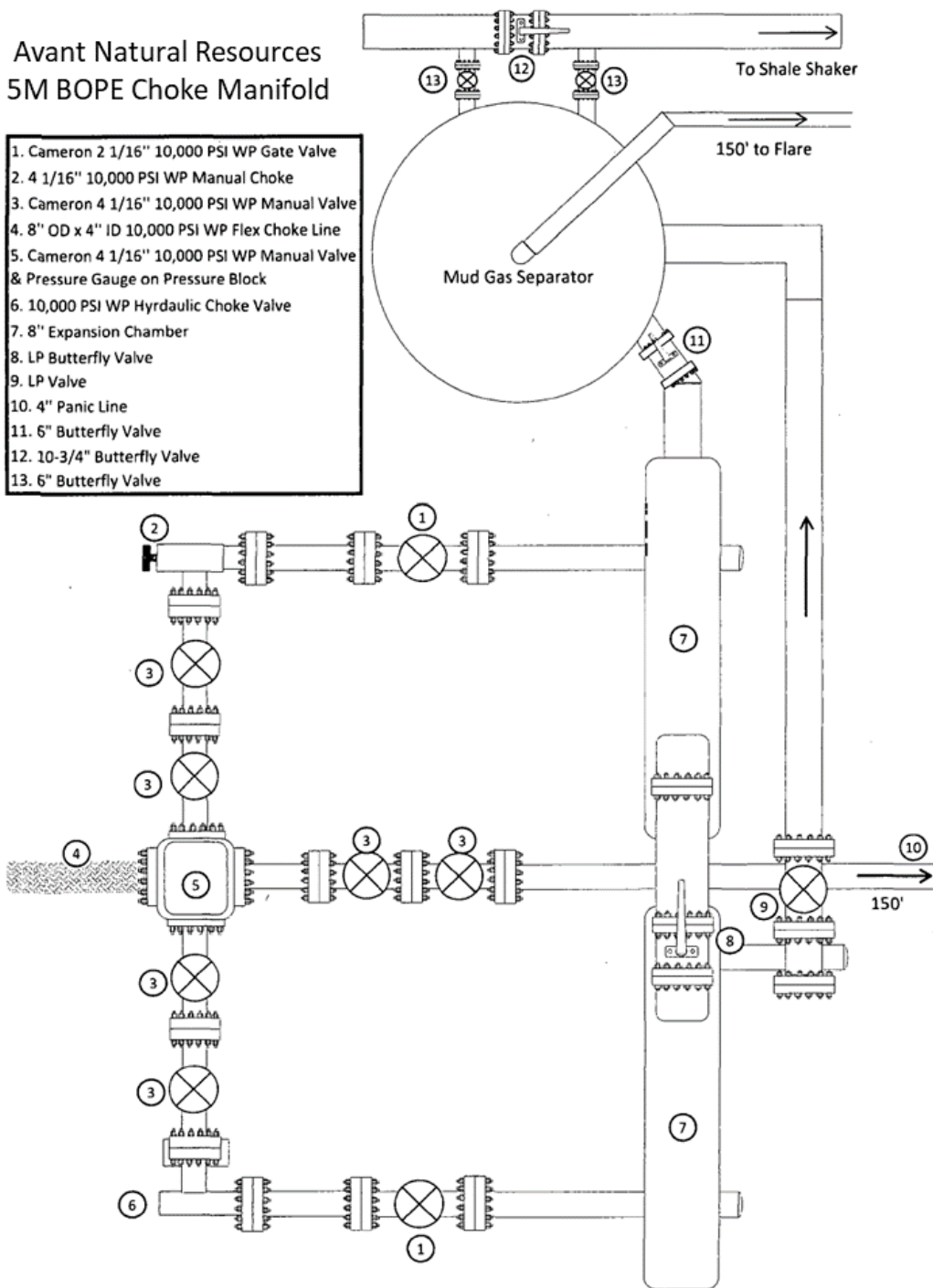
Avant\_\_Offline\_Cementing\_Procedure\_20251029151519.pdf

Paloma\_Casing\_Variance\_Request\_20251029151630.pdf

### Choke Manifold Diagram

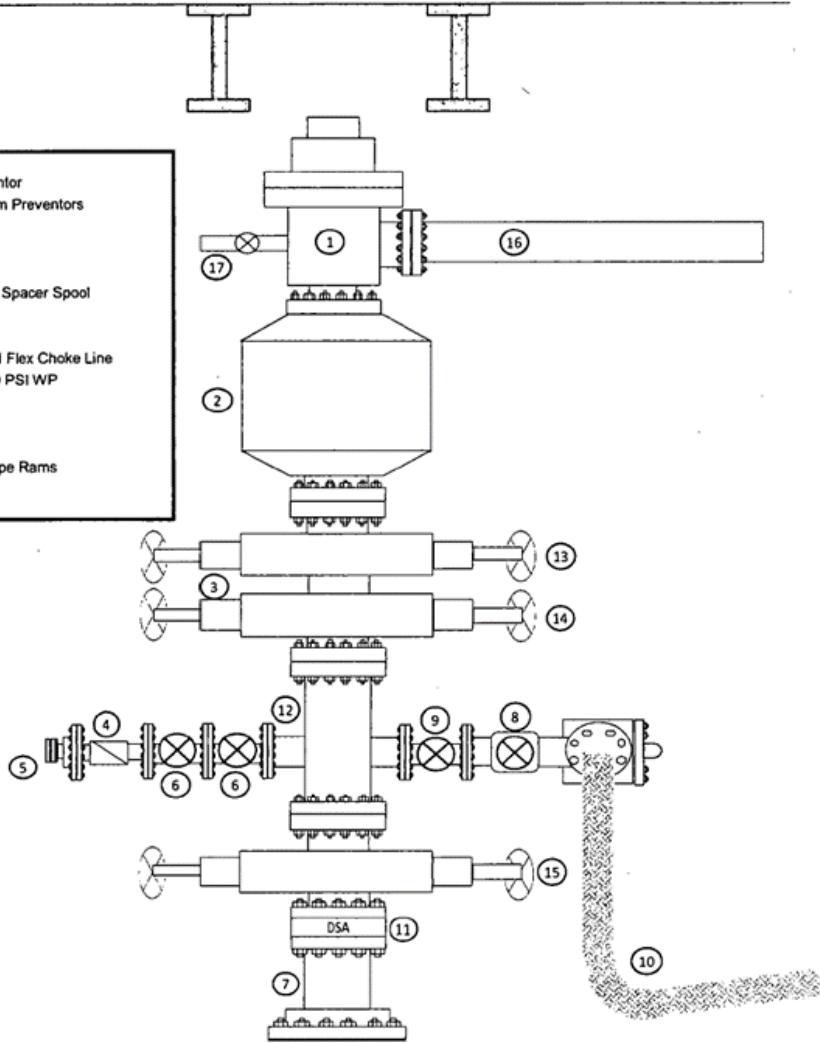
Avant Natural Resources  
5M BOPE Choke Manifold

- 1. Cameron 2 1/16" 10,000 PSI WP Gate Valve
- 2. 4 1/16" 10,000 PSI WP Manual Choke
- 3. Cameron 4 1/16" 10,000 PSI WP Manual Valve
- 4. 8" OD x 4" ID 10,000 PSI WP Flex Choke Line
- 5. Cameron 4 1/16" 10,000 PSI WP Manual Valve & Pressure Gauge on Pressure Block
- 6. 10,000 PSI WP Hydraulic Choke Valve
- 7. 8" Expansion Chamber
- 8. LP Butterfly Valve
- 9. LP Valve
- 10. 4" Panic Line
- 11. 6" Butterfly Valve
- 12. 10-3/4" Butterfly Valve
- 13. 6" Butterfly Valve



### Avant Natural Resources 5M BOP Diagram

- 1. 13 5/8" Rotating Head
- 2. NOV 13 5/8" 5,000 PSI WP GK Annular Preventor
- 3. 13 5/8" Cameron Type "U" 10,000 PSI WP Ram Preventors
- 4. 2 1/16" - 10,000 PSI WP Check Valve
- 5. 10,000 PSI WP - 1502 Union to kill line
- 6. 2 1/16" - 10,000 PSI WP Manual Valves
- 7. 13 5/8" 3,000 PSI WP x 13 5/8" 5,000 PSI WP Spacer Spool
- 8. 4 1/16" 10,000 PSI WP HCR Valve
- 9. 4 1/16" 10,000 PSI WP Manual Valve
- 10. 6" OD x 3" ID 10,000 PSI WP Steel Armoured Flex Choke Line
- 11. DSA - 13 5/8" 10,000 PSI WP x 13 5/8" 5,000 PSI WP
- 12. Mud Cross - 13 5/8" 10,000 PSI WP
- 13. Blind Rams
- 14. Pipe Rams
- 15. 13 5/8" Cameron Type "U" 10,000 PSI WP Pipe Rams
- 16. Flow Line
- 17. 2" Fill Line





## PERFORMANCE DATA SHEET

Revised May 2020

### 5.500" 20.0# IP HCP-110 with GB CD Butt

#### DIMENSIONAL DATA

Casing OD	<b>5.500 in</b>	Pipe Grade	<b>IP HCP-110</b>
Coupling OD	<b>6.300 in</b>	Coupling Grade	<b>P-110</b>
Pipe Gauge	<b>0.361 in</b>	T&C WPF	<b>20.00 lbs/ft</b>
Drift Diameter	<b>4.653 in</b>	PE WPF	<b>19.83 lbs/ft</b>

#### MECHANICAL DATA

Pipe IP Yield Minimum	<b>125,000 psi</b>	Collapse Pressure	<b>12,200 psi</b>
Pipe Tensile Minimum	<b>125,000 psi</b>	Pipe Body Internal Yield Pressure	<b>14,360 psi</b>
Coupling Yield Minimum	<b>110,000 psi</b>	Leak at E7 Plane	<b>21,500 psi</b>
Coupling Tensile Minimum	<b>125,000 psi</b>	Pipe Hydrostatic Test @ 80% SMYS	<b>13,100 psi</b>

#### CONNECTION & PIPE DATA

Thread Name	<b>GB CD Butt</b>	Coupling Thread Fracture Strength	<b>1,013,000 lbs</b>
Joint Strength	<b>685,000 lbs</b>	Pipe Body Plain End Yield	<b>729,000 lbs</b>
Minimum Makeup Torque	<b>10,000 ft-lbs</b>	Pipe Thread Fracture Strength	<b>685,000 lbs</b>
Maximum Make-up Torque	<b>20,000 ft-lbs</b>	Coupling Internal Yield Pressure	<b>16,240 psi</b>
Maximum Operating Torque	<b>33,660 ft-lbs</b>		
Connection Yield Torque	<b>35,440 ft-lbs</b>		

#### Note:

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### CASING DESIGN CRITERIA & LOAD CASE ASSUMPTIONS

**SURFACE CASING:**

SIZE (in)	INTERMEDIATE 1 CASING	ID (in)	DRIFT (in)	BURST (psi)	COLLAPSE (psi)	TENSION (k-lbs)	CONN OD (in)	JOINT STRENGTH (k-lbs)	DEPTHS
13.375"	54.5# J-55 LTC	12.615	12.459	2730	1130	853	14.375	909	0' - SCP'

Collapse:  $DF_c \geq 1.25$

- Full internal evacuation: Collapse force equal to the mud gradient in which the casing will be ran.
- Cementing: Collapse force equal to the gradient of the planned cement slurries to planned depths and an internal force equal to the fluid gradient of displacement fluid.

Burst:  $DF_B \geq 1.25$

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 with an external force equal to the gradient in which the casing will be ran.

Tension:  $DF_T \geq 1.6$

- Overpull: A downward force of 100,000 lbs is applied at the shoe along with the weight of the casing string, without considering buoyancy.

**INTERMEDIATE 1 CASING:**

SIZE (in)	INTERMEDIATE 1 CASING	ID (in)	DRIFT (in)	BURST (psi)	COLLAPSE (psi)	TENSION (k-lbs)	CONN OD (in)	JOINT STRENGTH (k-lbs)	DEPTHS
10.75"	40.5# J-55 BTC-SCC	10.05	9.894	3130	1580	629	11.25	700	0' - ICP'

Collapse:  $DF_c \geq 1.25$

- Full internal evacuation: Collapse force equal to the mud gradient in which the casing will be ran.
- Cementing: Collapse force equal to the gradient of the planned cement slurries to planned depths and an internal force equal to the fluid gradient of displacement fluid.

Burst:  $DF_B \geq 1.25$

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 with an external force equal to the gradient in which the casing will be ran.
- Gas Kick Profile: Internal burst force at the shoe will be fracture pressure at that depth. Surface burst pressure will be fracture gradient at setting depth less a gas gradient to equivalent height of 50 bbl kick with Drill Pipe inside casing and mud gradient with which the next hole section will be ran above that. External force will be equal to the mud gradient in which the casing will be ran.
- Fracture at Shoe with 1/3 BHP at Surface: Internal burst force at the shoe will be fracture pressure at setting depth. Internal burst force at surface will be 1/3 of pore pressure at setting depth. External force will be equal to the mud gradient in which the casing will be ran.

Tension:  $DF_T \geq 1.6$

- Overpull: A downward force of 100,000 lbs is applied at the shoe along with the weight of the casing string, without considering buoyancy.

**INTERMEDIATE 2 CASING:**

SIZE (in)	INTERMEDIATE 1 CASING	ID (in)	DRIFT (in)	BURST (psi)	COLLAPSE (psi)	TENSION (k-lbs)	CONN OD (in)	JOINT STRENGTH (k-lbs)	DEPTHS
8.625"	32# L-80 HC BK	7.921	7.875	5710	3820	732	9	600	0' - 12CP'

Collapse:  $DF_c \geq 1.25$

- Full internal evacuation: Collapse force equal to the mud gradient in which the casing will be ran.
- Cementing: Collapse force equal to the gradient of the planned cement slurries to planned depths and an internal force equal to the fluid gradient of displacement fluid.

Burst:  $DF_b \geq 1.25$

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 with an external force equal to the gradient in which the casing will be ran.
- Gas Kick Profile: Internal burst force at the shoe will be fracture pressure at that depth. Surface burst pressure will be fracture gradient at setting depth less a gas gradient to equivalent height of 50 bbl kick with Drill Pipe inside casing and mud gradient with which the next hole section will be ran above that. External force will be equal to the mud gradient in which the casing will be ran.
- Fracture at Shoe with 1/3 BHP at Surface: Internal burst force at the shoe will be fracture pressure at setting depth. Internal burst force at surface will be 1/3 of pore pressure at setting depth. External force will be equal to the mud gradient in which the casing will be ran.

Tension:  $DF_t \geq 1.6$

- Overpull: A downward force of 100,000 lbs is applied at the shoe along with the weight of the casing string, without considering buoyancy.

**PRODUCTION CASING:**

SIZE (in)	INTERMEDIATE 1 CASING	ID (in)	DRIFT (in)	BURST (psi)	COLLAPSE (psi)	TENSION (k-lbs)	CONN OD (in)	JOINT STRENGTH (k-lbs)	DEPTHS
5.5"	20# P-110 HC GBCD	4.778	4.653	12630	11100	641	6.3	667	0' - TD"

Collapse:  $DF_c \geq 1.25$

- Partial Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be ran. Internal force equal to gas gradient over one-third of setting depth and mud gradient with which the next hole section will be ran below that.
- Cementing: Collapse force equal to the gradient of planned cement slurries to planned depths and mud gradient in which the casing will be ran above that and an internal force equal to the fluid gradient of displacement fluid.

Burst:  $DF_B \geq 1.25$

- Pressure Test: 80% of burst casing test with an external force equal to the mud gradient in which the casing will be ran
- Injection Down Casing: 9800 psi surface injection pressure plus an internal pressure gradient of with an external force equal to the mud gradient in which the casing will be ran.

Tension:  $DF_T \geq 1.6$

- Overpull: A downward force of 100,000 lbs is applied at the shoe along with the weight of the casing string, without considering buoyancy.

**WELL DETAILS: Paloma 28 21 Fed Com #301H**

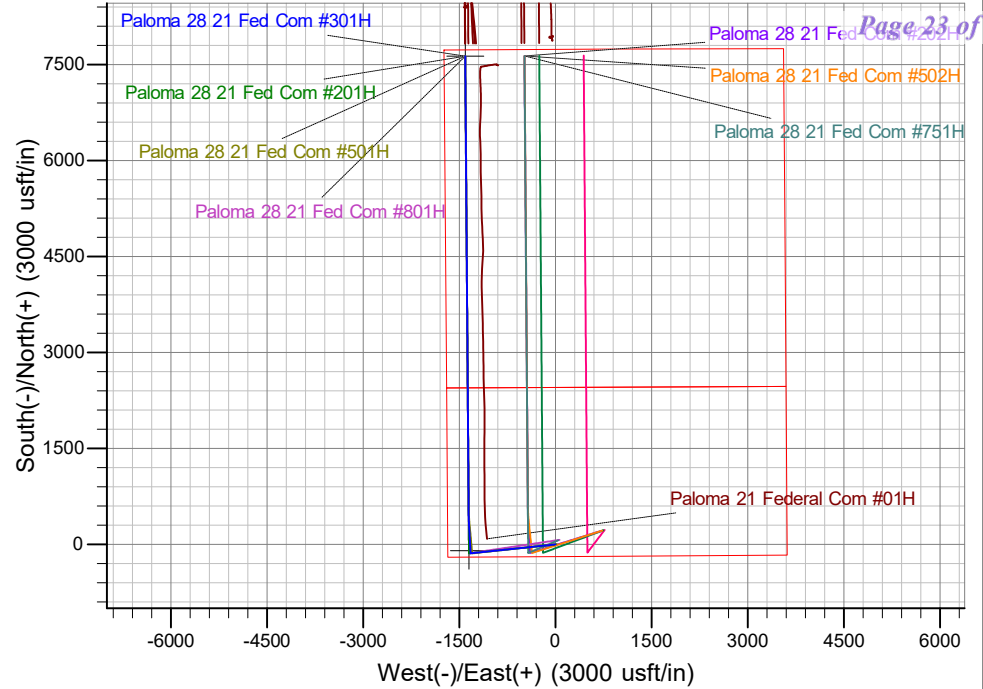
Ground Elev: 3700.0 KB: 3725

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	562714.83	777049.62	32.544633	-103.568396

**PROJECT DETAILS: Lea County, NM (NAD 83)**

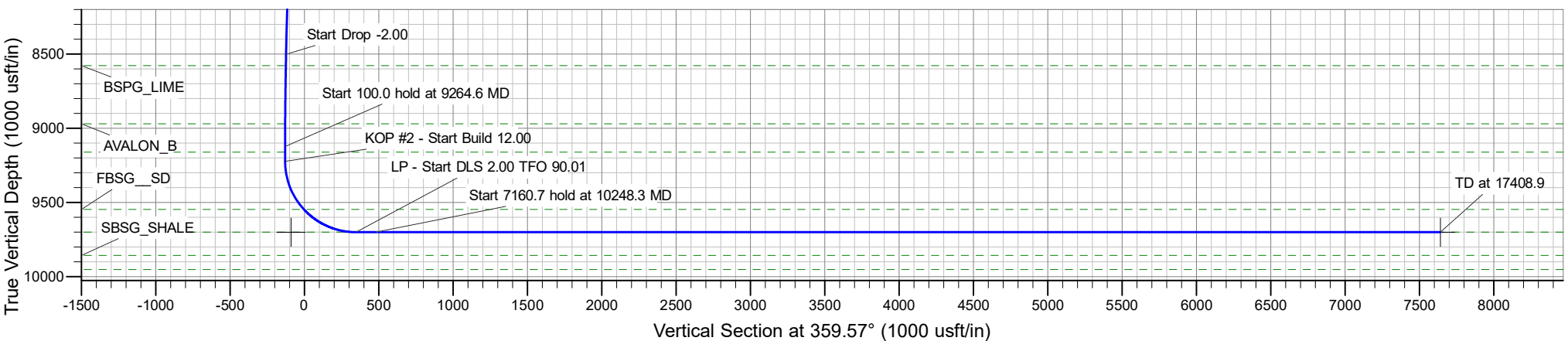
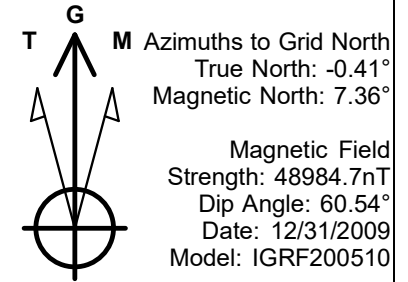
Geodetic System: US State Plane 1983  
 Datum: North American Datum 1983  
 Ellipsoid: GRS 1980  
 Zone: New Mexico Eastern Zone

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	2500.0	0.00	0.00	2500.0	0.0	0.0	0.00	0.00	0.0	KOP - Start Build 2.00
3	3126.2	12.52	263.98	3121.3	-7.1	-67.8	2.00	263.98	-6.6	Start 5512.1 hold at 3126.2 MD
4	8638.4	12.52	263.98	8502.2	-132.5	-1256.6	0.00	0.00	-123.0	Start Drop -2.00
5	9264.6	0.00	0.00	9123.5	-139.6	-1324.4	2.00	180.00	-129.7	Start 100.0 hold at 9264.6 MD
6	9364.6	0.00	0.00	9223.5	-139.6	-1324.4	0.00	0.00	-129.7	KOP #2 - Start Build 12.00
7	10114.6	90.00	356.90	9701.0	337.2	-1350.2	12.00	356.90	347.3	LP - Start DLS 2.00 TFO 90.01
8	10248.3	90.00	359.57	9701.0	470.7	-1354.3	2.00	90.01	480.9	Start 7160.7 hold at 10248.3 MD
9	17408.9	90.00	359.57	9701.0	7631.2	-1407.7	0.00	0.00	7641.6	TD at 17408.9



# **Avant Operating II, LLC**

**Lea County, NM (NAD 83)**

**Paloma 28 21 Fed Com Pad 1**

**Paloma 28 21 Fed Com #301H**

**OH**

**Plan: Plan 0.1**

## **Standard Planning Report**

**21 October, 2025**

Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Paloma 28 21 Fed Com #301H
<b>Company:</b>	Avant Operating II, LLC	<b>TVD Reference:</b>	WELL @ 3725.0usft (3725)
<b>Project:</b>	Lea County, NM (NAD 83)	<b>MD Reference:</b>	WELL @ 3725.0usft (3725)
<b>Site:</b>	Paloma 28 21 Fed Com Pad 1	<b>North Reference:</b>	Grid
<b>Well:</b>	Paloma 28 21 Fed Com #301H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan 0.1		

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

<b>Site</b>	Paloma 28 21 Fed Com Pad 1				
<b>Site Position:</b>		<b>Northing:</b>	562,709.16 usft	<b>Latitude:</b>	32.544618
<b>From:</b>	Map	<b>Easting:</b>	777,030.43 usft	<b>Longitude:</b>	-103.568458
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	13-3/16 "		

<b>Well</b>	Paloma 28 21 Fed Com #301H					
<b>Well Position</b>	<b>+N/-S</b>	0.0 usft	<b>Northing:</b>	562,714.83 usft	<b>Latitude:</b>	32.544634
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b>	777,049.61 usft	<b>Longitude:</b>	-103.568396
<b>Position Uncertainty</b>	0.0 usft		<b>Wellhead Elevation:</b>	usft	<b>Ground Level:</b>	3,700.0 usft
<b>Grid Convergence:</b>	0.41 °					

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	12/31/2009	7.77	60.54	48,984.68640423

<b>Design</b>	Plan 0.1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	359.57

<b>Plan Survey Tool Program</b>	<b>Date</b>	10/21/2025		
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.0	17,408.9	Plan 0.1 (OH)	B001Mb_MWD+HRGM OWSG MWD + HRGM

Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Paloma 28 21 Fed Com #301H
<b>Company:</b>	Avant Operating II, LLC	<b>TVD Reference:</b>	WELL @ 3725.0usft (3725)
<b>Project:</b>	Lea County, NM (NAD 83)	<b>MD Reference:</b>	WELL @ 3725.0usft (3725)
<b>Site:</b>	Paloma 28 21 Fed Com Pad 1	<b>North Reference:</b>	Grid
<b>Well:</b>	Paloma 28 21 Fed Com #301H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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	
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,126.2	12.52	263.98	3,121.3	-7.1	-67.8	2.00	2.00	0.00	263.98	
8,638.4	12.52	263.98	8,502.2	-132.5	-1,256.6	0.00	0.00	0.00	0.00	
9,264.6	0.00	0.00	9,123.5	-139.6	-1,324.4	2.00	-2.00	0.00	180.00	
9,364.6	0.00	0.00	9,223.5	-139.6	-1,324.4	0.00	0.00	0.00	0.00	
10,114.6	90.00	356.90	9,701.0	337.2	-1,350.2	12.00	12.00	0.00	356.90	
10,248.3	90.00	359.57	9,701.0	470.7	-1,354.3	2.00	0.00	2.00	90.01	
17,408.9	90.00	359.57	9,701.0	7,631.2	-1,407.7	0.00	0.00	0.00	0.00	LTP/BHL - Paloma 28

Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Paloma 28 21 Fed Com #301H
<b>Company:</b>	Avant Operating II, LLC	<b>TVD Reference:</b>	WELL @ 3725.0usft (3725)
<b>Project:</b>	Lea County, NM (NAD 83)	<b>MD Reference:</b>	WELL @ 3725.0usft (3725)
<b>Site:</b>	Paloma 28 21 Fed Com Pad 1	<b>North Reference:</b>	Grid
<b>Well:</b>	Paloma 28 21 Fed Com #301H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,613.0	0.00	0.00	1,613.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>RUSTLER</b>									
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,980.0	0.00	0.00	1,980.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>SOLADO</b>									
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
<b>KOP - Start Build 2.00</b>									
2,600.0	2.00	263.98	2,600.0	-0.2	-1.7	-0.2	2.00	2.00	0.00
2,700.0	4.00	263.98	2,699.8	-0.7	-6.9	-0.7	2.00	2.00	0.00
2,800.0	6.00	263.98	2,799.5	-1.6	-15.6	-1.5	2.00	2.00	0.00
2,900.0	8.00	263.98	2,898.7	-2.9	-27.7	-2.7	2.00	2.00	0.00
3,000.0	10.00	263.98	2,997.5	-4.6	-43.3	-4.2	2.00	2.00	0.00
3,100.0	12.00	263.98	3,095.6	-6.6	-62.3	-6.1	2.00	2.00	0.00
3,126.2	12.52	263.98	3,121.3	-7.1	-67.8	-6.6	2.00	2.00	0.00
<b>Start 5512.1 hold at 3126.2 MD</b>									
3,200.0	12.52	263.98	3,193.3	-8.8	-83.7	-8.2	0.00	0.00	0.00
3,300.0	12.52	263.98	3,290.9	-11.1	-105.3	-10.3	0.00	0.00	0.00
3,384.1	12.52	263.98	3,373.0	-13.0	-123.4	-12.1	0.00	0.00	0.00
<b>BASE_OF_SALT</b>									
3,400.0	12.52	263.98	3,388.5	-13.4	-126.8	-12.4	0.00	0.00	0.00
3,482.5	12.52	263.98	3,469.0	-15.2	-144.6	-14.2	0.00	0.00	0.00
<b>YATES</b>									
3,500.0	12.52	263.98	3,486.1	-15.6	-148.4	-14.5	0.00	0.00	0.00
3,600.0	12.52	263.98	3,583.7	-17.9	-170.0	-16.6	0.00	0.00	0.00
3,700.0	12.52	263.98	3,681.4	-20.2	-191.5	-18.8	0.00	0.00	0.00
3,744.7	12.52	263.98	3,725.0	-21.2	-201.2	-19.7	0.00	0.00	0.00
<b>STRN</b>									
3,800.0	12.52	263.98	3,779.0	-22.5	-213.1	-20.9	0.00	0.00	0.00
3,890.2	12.52	263.98	3,867.0	-24.5	-232.6	-22.8	0.00	0.00	0.00

Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Paloma 28 21 Fed Com #301H
<b>Company:</b>	Avant Operating II, LLC	<b>TVD Reference:</b>	WELL @ 3725.0usft (3725)
<b>Project:</b>	Lea County, NM (NAD 83)	<b>MD Reference:</b>	WELL @ 3725.0usft (3725)
<b>Site:</b>	Paloma 28 21 Fed Com Pad 1	<b>North Reference:</b>	Grid
<b>Well:</b>	Paloma 28 21 Fed Com #301H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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)	
<b>SVRV</b>										
3,900.0	12.52	263.98	3,876.6	-24.7	-234.7	-23.0	0.00	0.00	0.00	
3,969.0	12.52	263.98	3,944.0	-26.3	-249.6	-24.4	0.00	0.00	0.00	
<b>CAPITAN_REEF</b>										
4,000.0	12.52	263.98	3,974.2	-27.0	-256.2	-25.1	0.00	0.00	0.00	
4,100.0	12.52	263.98	4,071.9	-29.3	-277.8	-27.2	0.00	0.00	0.00	
4,200.0	12.52	263.98	4,169.5	-31.6	-299.4	-29.3	0.00	0.00	0.00	
4,300.0	12.52	263.98	4,267.1	-33.8	-320.9	-31.4	0.00	0.00	0.00	
4,400.0	12.52	263.98	4,364.7	-36.1	-342.5	-33.5	0.00	0.00	0.00	
4,500.0	12.52	263.98	4,462.3	-38.4	-364.1	-35.6	0.00	0.00	0.00	
4,600.0	12.52	263.98	4,560.0	-40.6	-385.6	-37.8	0.00	0.00	0.00	
4,700.0	12.52	263.98	4,657.6	-42.9	-407.2	-39.9	0.00	0.00	0.00	
4,800.0	12.52	263.98	4,755.2	-45.2	-428.8	-42.0	0.00	0.00	0.00	
4,900.0	12.52	263.98	4,852.8	-47.5	-450.3	-44.1	0.00	0.00	0.00	
5,000.0	12.52	263.98	4,950.4	-49.7	-471.9	-46.2	0.00	0.00	0.00	
5,100.0	12.52	263.98	5,048.1	-52.0	-493.5	-48.3	0.00	0.00	0.00	
5,200.0	12.52	263.98	5,145.7	-54.3	-515.0	-50.4	0.00	0.00	0.00	
5,300.0	12.52	263.98	5,243.3	-56.6	-536.6	-52.5	0.00	0.00	0.00	
5,400.0	12.52	263.98	5,340.9	-58.8	-558.2	-54.6	0.00	0.00	0.00	
5,500.0	12.52	263.98	5,438.5	-61.1	-579.7	-56.8	0.00	0.00	0.00	
5,600.0	12.52	263.98	5,536.2	-63.4	-601.3	-58.9	0.00	0.00	0.00	
5,700.0	12.52	263.98	5,633.8	-65.7	-622.9	-61.0	0.00	0.00	0.00	
5,800.0	12.52	263.98	5,731.4	-67.9	-644.4	-63.1	0.00	0.00	0.00	
5,809.8	12.52	263.98	5,741.0	-68.2	-646.6	-63.3	0.00	0.00	0.00	
<b>CHERRY_CNYN</b>										
5,900.0	12.52	263.98	5,829.0	-70.2	-666.0	-65.2	0.00	0.00	0.00	
6,000.0	12.52	263.98	5,926.6	-72.5	-687.6	-67.3	0.00	0.00	0.00	
6,100.0	12.52	263.98	6,024.3	-74.7	-709.1	-69.4	0.00	0.00	0.00	
6,200.0	12.52	263.98	6,121.9	-77.0	-730.7	-71.5	0.00	0.00	0.00	
6,300.0	12.52	263.98	6,219.5	-79.3	-752.3	-73.6	0.00	0.00	0.00	
6,400.0	12.52	263.98	6,317.1	-81.6	-773.8	-75.8	0.00	0.00	0.00	
6,500.0	12.52	263.98	6,414.7	-83.8	-795.4	-77.9	0.00	0.00	0.00	
6,600.0	12.52	263.98	6,512.4	-86.1	-817.0	-80.0	0.00	0.00	0.00	
6,700.0	12.52	263.98	6,610.0	-88.4	-838.5	-82.1	0.00	0.00	0.00	
6,800.0	12.52	263.98	6,707.6	-90.7	-860.1	-84.2	0.00	0.00	0.00	
6,900.0	12.52	263.98	6,805.2	-92.9	-881.7	-86.3	0.00	0.00	0.00	
6,922.3	12.52	263.98	6,827.0	-93.4	-886.5	-86.8	0.00	0.00	0.00	
<b>BRUSHY_CANYON</b>										
7,000.0	12.52	263.98	6,902.8	-95.2	-903.3	-88.4	0.00	0.00	0.00	
7,100.0	12.52	263.98	7,000.5	-97.5	-924.8	-90.5	0.00	0.00	0.00	
7,200.0	12.52	263.98	7,098.1	-99.8	-946.4	-92.6	0.00	0.00	0.00	
7,300.0	12.52	263.98	7,195.7	-102.0	-968.0	-94.8	0.00	0.00	0.00	
7,400.0	12.52	263.98	7,293.3	-104.3	-989.5	-96.9	0.00	0.00	0.00	
7,500.0	12.52	263.98	7,390.9	-106.6	-1,011.1	-99.0	0.00	0.00	0.00	
7,600.0	12.52	263.98	7,488.6	-108.8	-1,032.7	-101.1	0.00	0.00	0.00	
7,700.0	12.52	263.98	7,586.2	-111.1	-1,054.2	-103.2	0.00	0.00	0.00	
7,800.0	12.52	263.98	7,683.8	-113.4	-1,075.8	-105.3	0.00	0.00	0.00	
7,900.0	12.52	263.98	7,781.4	-115.7	-1,097.4	-107.4	0.00	0.00	0.00	
8,000.0	12.52	263.98	7,879.0	-117.9	-1,118.9	-109.5	0.00	0.00	0.00	
8,100.0	12.52	263.98	7,976.7	-120.2	-1,140.5	-111.7	0.00	0.00	0.00	
8,200.0	12.52	263.98	8,074.3	-122.5	-1,162.1	-113.8	0.00	0.00	0.00	
8,300.0	12.52	263.98	8,171.9	-124.8	-1,183.6	-115.9	0.00	0.00	0.00	
8,400.0	12.52	263.98	8,269.5	-127.0	-1,205.2	-118.0	0.00	0.00	0.00	

Planning Report

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<b>Company:</b>	Avant Operating II, LLC	<b>TVD Reference:</b>	WELL @ 3725.0usft (3725)
<b>Project:</b>	Lea County, NM (NAD 83)	<b>MD Reference:</b>	WELL @ 3725.0usft (3725)
<b>Site:</b>	Paloma 28 21 Fed Com Pad 1	<b>North Reference:</b>	Grid
<b>Well:</b>	Paloma 28 21 Fed Com #301H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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)	
8,500.0	12.52	263.98	8,367.1	-129.3	-1,226.8	-120.1	0.00	0.00	0.00	
8,600.0	12.52	263.98	8,464.8	-131.6	-1,248.3	-122.2	0.00	0.00	0.00	
8,638.4	12.52	263.98	8,502.2	-132.5	-1,256.6	-123.0	0.00	0.00	0.00	
<b>Start Drop -2.00</b>										
8,700.0	11.29	263.98	8,562.5	-133.8	-1,269.2	-124.3	2.00	-2.00	0.00	
8,715.8	10.98	263.98	8,578.0	-134.1	-1,272.3	-124.6	2.00	-2.00	0.00	
<b>BSPG_LIME</b>										
8,800.0	9.29	263.98	8,660.9	-135.7	-1,287.0	-126.0	2.00	-2.00	0.00	
8,900.0	7.29	263.98	8,759.9	-137.2	-1,301.4	-127.4	2.00	-2.00	0.00	
9,000.0	5.29	263.98	8,859.2	-138.3	-1,312.3	-128.5	2.00	-2.00	0.00	
9,100.0	3.29	263.98	8,959.0	-139.1	-1,319.7	-129.2	2.00	-2.00	0.00	
9,111.1	3.07	263.98	8,970.0	-139.2	-1,320.3	-129.3	2.00	-2.00	0.00	
<b>AVALON_B</b>										
9,200.0	1.29	263.98	9,058.9	-139.5	-1,323.7	-129.6	2.00	-2.00	0.00	
9,264.6	0.00	0.00	9,123.5	-139.6	-1,324.4	-129.7	2.00	-2.00	0.00	
<b>Start 100.0 hold at 9264.6 MD</b>										
9,300.0	0.00	0.00	9,158.9	-139.6	-1,324.4	-129.7	0.00	0.00	0.00	
9,302.1	0.00	0.00	9,161.0	-139.6	-1,324.4	-129.7	0.00	0.00	0.00	
<b>200S</b>										
9,364.6	0.00	0.00	9,223.5	-139.6	-1,324.4	-129.7	0.00	0.00	0.00	
<b>KOP #2 - Start Build 12.00</b>										
9,375.0	1.24	356.90	9,233.9	-139.5	-1,324.4	-129.5	12.00	12.00	0.00	
9,400.0	4.24	356.90	9,258.8	-138.3	-1,324.5	-128.3	12.00	12.00	0.00	
9,425.0	7.24	356.90	9,283.7	-135.8	-1,324.6	-125.8	12.00	12.00	0.00	
9,450.0	10.24	356.90	9,308.4	-132.0	-1,324.8	-122.1	12.00	12.00	0.00	
9,475.0	13.24	356.90	9,332.9	-126.9	-1,325.1	-117.0	12.00	12.00	0.00	
9,500.0	16.24	356.90	9,357.1	-120.6	-1,325.4	-110.6	12.00	12.00	0.00	
9,525.0	19.24	356.90	9,380.9	-113.0	-1,325.8	-103.0	12.00	12.00	0.00	
9,550.0	22.24	356.90	9,404.2	-104.1	-1,326.3	-94.2	12.00	12.00	0.00	
9,575.0	25.24	356.90	9,427.1	-94.1	-1,326.9	-84.1	12.00	12.00	0.00	
9,600.0	28.24	356.90	9,449.5	-82.8	-1,327.5	-72.9	12.00	12.00	0.00	
9,625.0	31.24	356.90	9,471.2	-70.5	-1,328.1	-60.5	12.00	12.00	0.00	
9,650.0	34.24	356.90	9,492.2	-57.0	-1,328.9	-47.0	12.00	12.00	0.00	
9,675.0	37.24	356.90	9,512.5	-42.4	-1,329.7	-32.4	12.00	12.00	0.00	
9,700.0	40.24	356.90	9,532.0	-26.7	-1,330.5	-16.8	12.00	12.00	0.00	
9,720.1	42.65	356.90	9,547.0	-13.5	-1,331.2	-3.5	12.00	12.00	0.00	
<b>FBSG_SD</b>										
9,725.0	43.24	356.90	9,550.6	-10.1	-1,331.4	-0.1	12.00	12.00	0.00	
9,750.0	46.24	356.90	9,568.4	7.4	-1,332.4	17.4	12.00	12.00	0.00	
9,760.7	47.53	356.90	9,575.7	15.3	-1,332.8	25.3	12.00	12.00	0.00	
<b>FTP - Paloma 28 21 Fed Com #301H</b>										
9,775.0	49.24	356.90	9,585.2	25.9	-1,333.4	35.9	12.00	12.00	0.00	
9,800.0	52.24	356.90	9,601.0	45.2	-1,334.4	55.3	12.00	12.00	0.00	
9,825.0	55.24	356.90	9,615.8	65.4	-1,335.5	75.4	12.00	12.00	0.00	
9,850.0	58.24	356.90	9,629.5	86.2	-1,336.6	96.3	12.00	12.00	0.00	
9,875.0	61.24	356.90	9,642.1	107.8	-1,337.8	117.8	12.00	12.00	0.00	
9,900.0	64.24	356.90	9,653.5	130.0	-1,339.0	140.0	12.00	12.00	0.00	
9,925.0	67.24	356.90	9,663.8	152.8	-1,340.2	162.8	12.00	12.00	0.00	
9,950.0	70.24	356.90	9,672.9	176.0	-1,341.5	186.1	12.00	12.00	0.00	
9,975.0	73.24	356.90	9,680.7	199.7	-1,342.8	209.8	12.00	12.00	0.00	
10,000.0	76.24	356.90	9,687.3	223.8	-1,344.1	233.9	12.00	12.00	0.00	
10,025.0	79.24	356.90	9,692.6	248.2	-1,345.4	258.3	12.00	12.00	0.00	
10,050.0	82.24	356.90	9,696.6	272.8	-1,346.7	282.9	12.00	12.00	0.00	

Planning Report

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<b>Site:</b>	Paloma 28 21 Fed Com Pad 1	<b>North Reference:</b>	Grid
<b>Well:</b>	Paloma 28 21 Fed Com #301H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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)	
10,075.0	85.24	356.90	9,699.3	297.6	-1,348.1	307.7	12.00	12.00	0.00	
10,100.0	88.24	356.90	9,700.7	322.6	-1,349.4	332.7	12.00	12.00	0.00	
10,114.6	90.00	356.90	9,701.0	337.2	-1,350.2	347.3	12.00	12.00	0.00	
<b>LP - Start DLS 2.00 TFO 90.01 - 300'S</b>										
10,200.0	90.00	358.61	9,701.0	422.5	-1,353.6	432.6	2.00	0.00	2.00	
10,248.3	90.00	359.57	9,701.0	470.7	-1,354.3	480.9	2.00	0.00	2.00	
<b>Start 7160.7 hold at 10248.3 MD</b>										
10,300.0	90.00	359.57	9,701.0	522.5	-1,354.7	532.6	0.00	0.00	0.00	
10,400.0	90.00	359.57	9,701.0	622.5	-1,355.5	632.6	0.00	0.00	0.00	
10,500.0	90.00	359.57	9,701.0	722.5	-1,356.2	732.6	0.00	0.00	0.00	
10,600.0	90.00	359.57	9,701.0	822.5	-1,357.0	832.6	0.00	0.00	0.00	
10,700.0	90.00	359.57	9,701.0	922.4	-1,357.7	932.6	0.00	0.00	0.00	
10,800.0	90.00	359.57	9,701.0	1,022.4	-1,358.4	1,032.6	0.00	0.00	0.00	
10,900.0	90.00	359.57	9,701.0	1,122.4	-1,359.2	1,132.6	0.00	0.00	0.00	
11,000.0	90.00	359.57	9,701.0	1,222.4	-1,359.9	1,232.6	0.00	0.00	0.00	
11,100.0	90.00	359.57	9,701.0	1,322.4	-1,360.7	1,332.6	0.00	0.00	0.00	
11,200.0	90.00	359.57	9,701.0	1,422.4	-1,361.4	1,432.6	0.00	0.00	0.00	
11,300.0	90.00	359.57	9,701.0	1,522.4	-1,362.2	1,532.6	0.00	0.00	0.00	
11,400.0	90.00	359.57	9,701.0	1,622.4	-1,362.9	1,632.6	0.00	0.00	0.00	
11,500.0	90.00	359.57	9,701.0	1,722.4	-1,363.7	1,732.6	0.00	0.00	0.00	
11,600.0	90.00	359.57	9,701.0	1,822.4	-1,364.4	1,832.6	0.00	0.00	0.00	
11,700.0	90.00	359.57	9,701.0	1,922.4	-1,365.2	1,932.6	0.00	0.00	0.00	
11,800.0	90.00	359.57	9,701.0	2,022.4	-1,365.9	2,032.6	0.00	0.00	0.00	
11,900.0	90.00	359.57	9,701.0	2,122.4	-1,366.6	2,132.6	0.00	0.00	0.00	
12,000.0	90.00	359.57	9,701.0	2,222.4	-1,367.4	2,232.6	0.00	0.00	0.00	
12,100.0	90.00	359.57	9,701.0	2,322.4	-1,368.1	2,332.6	0.00	0.00	0.00	
12,200.0	90.00	359.57	9,701.0	2,422.4	-1,368.9	2,432.6	0.00	0.00	0.00	
12,300.0	90.00	359.57	9,701.0	2,522.4	-1,369.6	2,532.6	0.00	0.00	0.00	
12,400.0	90.00	359.57	9,701.0	2,622.4	-1,370.4	2,632.6	0.00	0.00	0.00	
12,500.0	90.00	359.57	9,701.0	2,722.4	-1,371.1	2,732.6	0.00	0.00	0.00	
12,600.0	90.00	359.57	9,701.0	2,822.4	-1,371.9	2,832.6	0.00	0.00	0.00	
12,700.0	90.00	359.57	9,701.0	2,922.4	-1,372.6	2,932.6	0.00	0.00	0.00	
12,800.0	90.00	359.57	9,701.0	3,022.4	-1,373.4	3,032.6	0.00	0.00	0.00	
12,900.0	90.00	359.57	9,701.0	3,122.4	-1,374.1	3,132.6	0.00	0.00	0.00	
13,000.0	90.00	359.57	9,701.0	3,222.4	-1,374.8	3,232.6	0.00	0.00	0.00	
13,100.0	90.00	359.57	9,701.0	3,322.4	-1,375.6	3,332.6	0.00	0.00	0.00	
13,200.0	90.00	359.57	9,701.0	3,422.4	-1,376.3	3,432.6	0.00	0.00	0.00	
13,300.0	90.00	359.57	9,701.0	3,522.4	-1,377.1	3,532.6	0.00	0.00	0.00	
13,400.0	90.00	359.57	9,701.0	3,622.4	-1,377.8	3,632.6	0.00	0.00	0.00	
13,500.0	90.00	359.57	9,701.0	3,722.4	-1,378.6	3,732.6	0.00	0.00	0.00	
13,600.0	90.00	359.57	9,701.0	3,822.4	-1,379.3	3,832.6	0.00	0.00	0.00	
13,700.0	90.00	359.57	9,701.0	3,922.4	-1,380.1	3,932.6	0.00	0.00	0.00	
13,800.0	90.00	359.57	9,701.0	4,022.4	-1,380.8	4,032.6	0.00	0.00	0.00	
13,900.0	90.00	359.57	9,701.0	4,122.4	-1,381.6	4,132.6	0.00	0.00	0.00	
14,000.0	90.00	359.57	9,701.0	4,222.4	-1,382.3	4,232.6	0.00	0.00	0.00	
14,100.0	90.00	359.57	9,701.0	4,322.4	-1,383.0	4,332.6	0.00	0.00	0.00	
14,200.0	90.00	359.57	9,701.0	4,422.4	-1,383.8	4,432.6	0.00	0.00	0.00	
14,300.0	90.00	359.57	9,701.0	4,522.3	-1,384.5	4,532.6	0.00	0.00	0.00	
14,400.0	90.00	359.57	9,701.0	4,622.3	-1,385.3	4,632.6	0.00	0.00	0.00	
14,500.0	90.00	359.57	9,701.0	4,722.3	-1,386.0	4,732.6	0.00	0.00	0.00	
14,600.0	90.00	359.57	9,701.0	4,822.3	-1,386.8	4,832.6	0.00	0.00	0.00	
14,700.0	90.00	359.57	9,701.0	4,922.3	-1,387.5	4,932.6	0.00	0.00	0.00	
14,800.0	90.00	359.57	9,701.0	5,022.3	-1,388.3	5,032.6	0.00	0.00	0.00	
14,900.0	90.00	359.57	9,701.0	5,122.3	-1,389.0	5,132.6	0.00	0.00	0.00	

Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Paloma 28 21 Fed Com #301H
<b>Company:</b>	Avant Operating II, LLC	<b>TVD Reference:</b>	WELL @ 3725.0usft (3725)
<b>Project:</b>	Lea County, NM (NAD 83)	<b>MD Reference:</b>	WELL @ 3725.0usft (3725)
<b>Site:</b>	Paloma 28 21 Fed Com Pad 1	<b>North Reference:</b>	Grid
<b>Well:</b>	Paloma 28 21 Fed Com #301H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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)	
15,000.0	90.00	359.57	9,701.0	5,222.3	-1,389.8	5,232.6	0.00	0.00	0.00	
15,100.0	90.00	359.57	9,701.0	5,322.3	-1,390.5	5,332.6	0.00	0.00	0.00	
15,200.0	90.00	359.57	9,701.0	5,422.3	-1,391.3	5,432.6	0.00	0.00	0.00	
15,300.0	90.00	359.57	9,701.0	5,522.3	-1,392.0	5,532.6	0.00	0.00	0.00	
15,400.0	90.00	359.57	9,701.0	5,622.3	-1,392.7	5,632.6	0.00	0.00	0.00	
15,500.0	90.00	359.57	9,701.0	5,722.3	-1,393.5	5,732.6	0.00	0.00	0.00	
15,600.0	90.00	359.57	9,701.0	5,822.3	-1,394.2	5,832.6	0.00	0.00	0.00	
15,700.0	90.00	359.57	9,701.0	5,922.3	-1,395.0	5,932.6	0.00	0.00	0.00	
15,800.0	90.00	359.57	9,701.0	6,022.3	-1,395.7	6,032.6	0.00	0.00	0.00	
15,900.0	90.00	359.57	9,701.0	6,122.3	-1,396.5	6,132.6	0.00	0.00	0.00	
16,000.0	90.00	359.57	9,701.0	6,222.3	-1,397.2	6,232.6	0.00	0.00	0.00	
16,100.0	90.00	359.57	9,701.0	6,322.3	-1,398.0	6,332.6	0.00	0.00	0.00	
16,200.0	90.00	359.57	9,701.0	6,422.3	-1,398.7	6,432.6	0.00	0.00	0.00	
16,300.0	90.00	359.57	9,701.0	6,522.3	-1,399.5	6,532.6	0.00	0.00	0.00	
16,400.0	90.00	359.57	9,701.0	6,622.3	-1,400.2	6,632.6	0.00	0.00	0.00	
16,500.0	90.00	359.57	9,701.0	6,722.3	-1,400.9	6,732.6	0.00	0.00	0.00	
16,600.0	90.00	359.57	9,701.0	6,822.3	-1,401.7	6,832.6	0.00	0.00	0.00	
16,700.0	90.00	359.57	9,701.0	6,922.3	-1,402.4	6,932.6	0.00	0.00	0.00	
16,800.0	90.00	359.57	9,701.0	7,022.3	-1,403.2	7,032.6	0.00	0.00	0.00	
16,900.0	90.00	359.57	9,701.0	7,122.3	-1,403.9	7,132.6	0.00	0.00	0.00	
17,000.0	90.00	359.57	9,701.0	7,222.3	-1,404.7	7,232.6	0.00	0.00	0.00	
17,100.0	90.00	359.57	9,701.0	7,322.3	-1,405.4	7,332.6	0.00	0.00	0.00	
17,200.0	90.00	359.57	9,701.0	7,422.3	-1,406.2	7,432.6	0.00	0.00	0.00	
17,300.0	90.00	359.57	9,701.0	7,522.3	-1,406.9	7,532.6	0.00	0.00	0.00	
17,408.9	90.00	359.57	9,701.0	7,631.2	-1,407.7	7,641.6	0.00	0.00	0.00	
TD at 17408.9 - LTP/BHL - Paloma 28 21 Fed Com #301H										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
FTP - Paloma 28 21 Fec - hit/miss target - Shape - Point	0.00	0.00	9,701.0	-99.6	-1,349.4	562,615.20	775,700.17	32.544386	-103.572777	- plan misses target center by 170.8usft at 9760.7usft MD (9575.7 TVD, 15.3 N, -1332.8 E)
LTP/BHL - Paloma 28 21 - plan hits target center - Point	0.00	0.00	9,701.0	7,631.2	-1,407.7	570,346.04	775,641.89	32.565636	-103.572787	

Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Paloma 28 21 Fed Com #301H
<b>Company:</b>	Avant Operating II, LLC	<b>TVD Reference:</b>	WELL @ 3725.0usft (3725)
<b>Project:</b>	Lea County, NM (NAD 83)	<b>MD Reference:</b>	WELL @ 3725.0usft (3725)
<b>Site:</b>	Paloma 28 21 Fed Com Pad 1	<b>North Reference:</b>	Grid
<b>Well:</b>	Paloma 28 21 Fed Com #301H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan 0.1		

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,613.0	1,613.0	RUSTLER			
1,980.0	1,980.0	SOLADO			
3,384.1	3,373.0	BASE_OF_SALT			
3,482.5	3,469.0	YATES			
3,744.7	3,725.0	STRN			
3,890.2	3,867.0	SVRV			
3,969.0	3,944.0	CAPITAN_REEF			
5,809.8	5,741.0	CHERRY_CNYN			
6,922.3	6,827.0	BRUSHY_CANYON			
8,715.8	8,578.0	BSPG_LIME			
9,111.1	8,970.0	AVALON_B			
9,302.1	9,161.0	200S			
9,720.1	9,547.0	FBSG_SD			
10,114.6	9,701.0	300'S			

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,500.0	2,500.0	0.0	0.0	KOP - Start Build 2.00
3,126.2	3,121.3	-7.1	-67.8	Start 5512.1 hold at 3126.2 MD
8,638.4	8,502.2	-132.5	-1,256.6	Start Drop -2.00
9,264.6	9,123.5	-139.6	-1,324.4	Start 100.0 hold at 9264.6 MD
9,364.6	9,223.5	-139.6	-1,324.4	KOP #2 - Start Build 12.00
10,114.6	9,701.0	337.2	-1,350.2	LP - Start DLS 2.00 TFO 90.01
10,248.3	9,701.0	470.7	-1,354.3	Start 7160.7 hold at 10248.3 MD
17,408.9	9,701.0	7,631.2	-1,407.7	TD at 17408.9

## Paloma 28 21 FED COM 301H

### **APD - Geology COAs (Potash or WIPP)**

- For at least one well per pad (deepest well within initial development preferred) the record of the drilling rate (ROP) along with the Gamma Ray (GR) and Neutron (CNL) well logs run from TVD to surface in the vertical section of the hole shall be submitted to the BLM office as well as all other logs run on the full borehole 30 days from completion. Any other logs run on the wellbore, excluding cement remediation, should also be sent. Only digital copies of the logs in .TIF or .LAS formats are necessary; paper logs are no longer required. Logs shall be emailed to [blm-cfo-geology@doimspp.onmicrosoft.com](mailto:blm-cfo-geology@doimspp.onmicrosoft.com). Well completion report should have .pdf copies of any CBLs or Temp Logs run on the wellbore.
- Exceptions: In areas where there is extensive log coverage (in particular the salt zone adjacent to a pad), Operators are encouraged to contact BLM Geologists to discuss if additional GR and N logs are necessary on a pad. Operator may request a waiver of the GR and N log requirement due to good well control or other reasons to be approved by BLM Geologist prior to well completion. A waiver approved by BLM must be attached to completion well report to satisfy COAs.
- The top of the Rustler, top and bottom of the Salt, and the top of the Capitan Reef (if present) are to be recorded on the Completion Report.
- H2S has been reported within one mile of the proposed project. Measurements up to 500 ppm were recorded from the Double X Delaware Group.

#### **Drilling COAs within Known Potash Leasing Area:**

Any oil and gas well operator within the KPLA must notify both potash operators as soon as possible if any of the following conditions are encountered during oil and gas operations: (1) Indication of any well collision event, (2) Suspected well fluid flow (oil, gas, or produced water) outside of casing, (3) Sustained annulus pressure between the 1st intermediate and next innermost casing string in excess of 500 psi above the baseline pressure of the well, or above 1500 psi total, (4) Increasing pressure buildup rates (psi/day) across multiple successive bleed-off cycles on the annulus between the 1st intermediate and next innermost casing during well production, or (5) Sustained losses in excess of 50% through the salt interval during drilling.

Questions? Contact Thomas Evans, BLM Geologist at 575-234-5965 or [tvevans@blm.gov](mailto:tvevans@blm.gov)

## **SPECIAL REQUIREMENTS**

### **WILDLIFE**

#### **Lesser Prairie Chicken**

Timing Limitation Stipulation/Condition of Approval for Lesser Prairie-Chicken:

Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

Timing Limitation Exceptions:

The Carlsbad Field Office will publish an annual map of where the LPC timing and noise stipulations and conditions of approval (Limitations) will apply for the identified year (between March 1 and June 15) based on the latest survey information. The LPC Timing Area map will identify areas which are Habitat Areas (HA), Isolated Population Area (IPA), and Primary Population Area (PPA). The LPC Timing Area map will also have an area in red crosshatch. The red crosshatch area is the only area where an operator is required to submit a request for exception to the LPC Limitations. If an operator is operating outside the red crosshatch area, the LPC Limitations do not apply for that year and an exception to LPC Limitations is not required.

Ground-level Abandoned Well Marker to avoid raptor perching:

Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Carlsbad Field Office at [BLM\\_NM\\_CFO\\_Construction\\_Reclamation@blm.gov](mailto:BLM_NM_CFO_Construction_Reclamation@blm.gov).

### PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

<b>OPERATOR'S NAME:</b>	Avant Operating II LLC
<b>LOCATION:</b>	Section 28, T.20 S., R.34 E., NMPM
<b>COUNTY:</b>	Lea County, New Mexico

<b>WELL NAME &amp; NO.:</b>	Paloma 28 21 Fed Com 201H
<b>ATS/API ID:</b>	ATS-26-179
<b>APD ID:</b>	10400108063
<b>Sundry ID:</b>	N/a

<b>WELL NAME &amp; NO.:</b>	Paloma 28 21 Fed Com 202H
<b>ATS/API ID:</b>	ATS-26-203
<b>APD ID:</b>	10400108078
<b>Sundry ID:</b>	N/a

<b>WELL NAME &amp; NO.:</b>	Paloma 28 21 Fed Com 203H
<b>ATS/API ID:</b>	ATS-26-204
<b>APD ID:</b>	10400108319
<b>Sundry ID:</b>	N/a

<b>WELL NAME &amp; NO.:</b>	Paloma 28 21 Fed Com 204H
<b>ATS/API ID:</b>	ATS-26-205
<b>APD ID:</b>	10400108320
<b>Sundry ID:</b>	N/a

<b>WELL NAME &amp; NO.:</b>	Paloma 28 21 Fed Com 301H
<b>ATS/API ID:</b>	ATS-26-178
<b>APD ID:</b>	10400108172
<b>Sundry ID:</b>	N/a

COA

H2S	Yes		
Potash	R-111-Q	Figure E	
Cave/Karst Potential	Low		
Cave/Karst Potential	<input type="checkbox"/> Critical		
Variance	<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> Flex Hose	<input checked="" type="checkbox"/> Other
Wellhead	Conventional and Multibowl		
Other	<input checked="" type="checkbox"/> 4 String <input type="checkbox"/> 5 String	Capitan Reef Int 2	<input type="checkbox"/> WIPP
Other	Pilot Hole None	<input checked="" type="checkbox"/> Open Annulus	
Cementing	Contingency Squeeze None	Echo-Meter Prod	Primary Cement Squeeze None
Special Requirements	<input type="checkbox"/> Water Disposal/Injection	<input checked="" type="checkbox"/> COM	<input type="checkbox"/> Unit
Special Requirements	<input type="checkbox"/> Batch Sundry	Waste Prevention Waste MP	
Special Requirements Variance	<input type="checkbox"/> BOPE Break Testing <input type="checkbox"/> Offline BOPE Testing	<input checked="" type="checkbox"/> Offline Cementing	<input type="checkbox"/> Casing Clearance

## A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H<sub>2</sub>S) Drilling Plan shall be activated 500 feet prior to drilling into the **Delaware** formation. As a result, the Hydrogen Sulfide area must meet **43 CFR part 3170 Subpart 3176** requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

## B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **1680 feet** (a minimum of 70 feet into the Rustler Anhydrite and above the salt when present, and below usable fresh water) and cemented to the surface. The surface hole shall be **17 1/2** inch in diameter.
  - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
  - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
  - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
  - d. If cement falls back, remedial cementing will be done prior to drilling out that string.

**Intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.**

2. The minimum required fill of cement behind the **10-3/4** inch intermediate casing shall be set at approximately **3550 feet** is:
  - Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, potash or capitan reef. Cement excess is less than 25%, more cement is required if washout occurs. Adjust cement volume and excess based on a fluid caliper or similar method that reflects the as-drilled size of the wellbore.**

3. The minimum required fill of cement behind the 8-5/8 inch intermediate casing casing shall be set at approximately 5590 feet is:

**Option 1 (Single Stage):**

- Cement to surface. If cement does not circulate see B.1.a, c-d above.  
**Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, potash or capitan reef. Cement excess is less than 25%, more cement is required if washout occurs. Adjust cement volume and excess based on a fluid caliper or similar method that reflects the as-drilled size of the wellbore.**

**Option 2:**

Operator has proposed a DV tool(s), the depth may be adjusted as long as the cement is changed proportionally. The DV tool(s) may be cancelled if cement circulates to surface on the first stage.

DV tool(s) shall be set a minimum of 50' below previous shoe and a minimum of 200' above current shoe. Operator shall contact the BLM if DV tool(s) depth cannot be set in this range. If an ECP is used, it is to be set a minimum of 50' below the shoe to provide cement across the shoe. If it cannot be set below the shoe, a CBL shall be run to verify cement coverage.

- a. First stage to DV tool(s): Cement to circulate. If cement does not circulate off the DV tool(s), contact the appropriate BLM office before proceeding with second stage cement job.
  - b. Second stage above DV tool(s):
    - Cement to surface. If cement does not circulate, contact the appropriate BLM office.  
**Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, potash or capitan reef. Cement excess is less than 25%, more cement is required if washout occurs. Adjust cement volume and excess based on a fluid caliper or similar method that reflects the as-drilled size of the wellbore.**
4. The minimum required fill of cement behind the 5-1/2 inch production casing is:
- The top of cement in the annulus between the 2<sup>st</sup> intermediate and the production casing strings shall stand un-cemented at least 500 feet below the 2<sup>st</sup> intermediate shoe. Zero percent excess shall be pumped on the production cement slurry.

- After hydraulic fracturing operations have been concluded and no longer than 180 days after the well is brought online, the operator shall bradenhead cement at least **500 feet** tie-back into the previous casing but not higher than USGS Marker Bed No. 126. **(Squeeze 160 sxs Class C and 161 bbls Displacement Fluid)**  
**Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, potash or capitan reef.**

Operator has proposed to pump down **8 5/8" X 5-1/2"** annulus post completion. Operator must run Echo-meter to verify Cement Slurry/Fluid top in the annulus or operator shall run a CBL from TD of the 5-1/2" casing to surface to verify TOC. Adjust cement volume and excess based on a fluid caliper or similar method that reflects the as-drilled size of the wellbore. Report the amount of fluid utilized to pump the cement slurry and the calculated top of cement slurry to the BLM. Operator may conduct a negative and positive pressure test during completion to remediate sustained casing pressure and ensure cement tie-back requirement.

Operator has proposed an open annulus completion in R-111-Q. Submit results to the BLM. Pressure monitoring device and Pressure Safety Valves must be installed at surface on the 8 5/8" x 5-1/2" annulus.

In the event of a casing failure during completion, the operator must contact the BLM at (575-706-2779) and (575-689-5981 Lea County).

### C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'
- 2.

#### Option 1:

- a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi.
- b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **10-3/4** intermediate casing shoe shall be **3000 (3M)** psi.
- c. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **8-5/8** inch intermediate casing shoe shall be **5000 (5M)** psi.

**Option 2:**

- a. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the **13-3/8** inch surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.
  - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
  - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
  - c. Manufacturer representative shall install the test plug for the initial BOP test.
  - d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
  - e. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.

**D. SPECIAL REQUIREMENT (S)****Communitization Agreement**

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- The operator will submit an as-drilled survey well plat of the well completion, but are not limited to, those specified in **43 CFR part 3170 Subpart 3171**
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

**Offline Cementing**

Operator has been **(Approved)** to pump the proposed cement program offline in the **Surface and intermediate(s) intervals.**

Offline cementing should commence within 24 hours of landing the casing for the interval.

Notify the BLM 4hrs prior to cementing offline at **Lea County: 575-689-5981.**

## GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

- a. Spudding well (minimum of 24 hours)
- b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
- c. BOPE tests (minimum of 4 hours)

**Lea County**

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240,  
(575) 689-5981

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
  - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
  - b. When the operator proposes to set surface casing with Spudder Rig
    - Notify the BLM when moving in and removing the Spudder Rig.
    - Notify the BLM when moving in the 2<sup>nd</sup> Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
    - BOP/BOPE test to be conducted per **43 CFR part 3170 Subpart 3172** as soon as 2nd Rig is rigged up on well.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

### A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends of both lead and tail cement, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Acceptable Method of Cement Verifications:
  - a. Observing cement circulated to surface.
  - b. Cement bond log (CBL).
  - c. Temperature log within 8-10 hours after completing the cement job.
  - d. Echometer (if a second-stage bradenhead squeeze is being used).
5. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
6. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
7. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
8. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
9. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in **43 CFR part 3170 Subpart 3172 and API STD 53 Sec. 5.3**.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
  - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
  - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
  - c. Manufacturer representative shall install the test plug for the initial BOP test.
  - d. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.
  - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
  - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead cement), whichever is greater. However, if the float does not hold, cut-

off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

- b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve open. (only applies to single stage cement jobs, prior to the cement setting up.)
  - c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to **43 CFR part 3170 Subpart 3172** with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for 8 hours or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
  - d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
  - e. The results of the test shall be reported to the appropriate BLM office.
  - f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
  - g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
  - h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per **43 CFR part 3170 Subpart 3172**.
- C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

D. WASTE MATERIAL AND FLUIDS

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

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

Long Vo (LVO) 12/22/2025

## Hydrogen Sulfide Plan Summary

- A. All personnel shall receive proper H<sub>2</sub>S training in accordance with Onshore Order III.C.3.a.
- B. Briefing Area: two perpendicular areas will be designated by signs and readily accessible.
- C. Required Emergency Equipment:

- Well control equipment
  - a. Flare line 150' from wellhead to be ignited by flare gun.
  - b. Choke manifold with a remotely operated choke.
  - c. Mud/gas separator
- Protective equipment for essential personnel.

Breathing apparatus:

- a. Rescue Packs (SCBA) — 1 unit shall be placed at each breathing area, 2 shall be stored in the safety trailer.
- b. Work/Escape packs — 4 packs shall be stored on the rig floor th sufficient air hose not to restrict work activity.
- c. Emergency Escape Packs — 4 packs shall be stored in the doghouse for emergency evacuation.

Auxiliary Rescue Equipment:

- a. Stretcher
  - b. Two OSHA full body harness
  - c. 100 ft 5/8 inch OSHA approved rope
  - d. 1-20# class ABC fire extinguisher
- H<sub>2</sub>S detection and monitoring equipment:

The stationary detector with three sensors will be placed in the upper dog house if equipped, set to visually alarm @ 10 ppm and audible @ 14 ppm. Calibrate a minimum of every 30 days or as needed. The sensors will be placed in the following places: Rig floor / Bell nipple / End of flow line or where well bore fluid is being discharged.

(Gas sample tubes will be stored in the safety trailer)
  - Visual warning systems.
    - a. One color code condition sign will be placed at the entrance to the site reflecting the possible conditions at the site.
    - b. A colored condition flag will be on display, reflecting the current condition at the site at the time.
    - c. Two wind socks will be placed in strategic locations, visible from all angles.



- **Mud program:**  
The mud program has been designed to minimize the volume of H2S circulated to surface. The operator will have the necessary mud products to minimize hazards while drilling in H2S bearing zones.
- **Metallurgy:**  
All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H2S service.
- **Communication:**  
Communication will be via cell phones and land lines where available.

Company Personnel to be Notified

John Harper, Vice President of Geoscience	Office: (720) 746-5045
	Mobile: (678) 988-6644
Braden Harris, Engineer	Mobile: (406) 600-3310

Local & County Agencies

Maljamar Volunter Fire Department	911 or (575) 676-4100
Lea County Sheriff (Lovington)	911 or (575) 396-3611
Lea County Emergency Management (Lovington)	(575) 396-8602
Lea Regional Medical Center Hopital (Hobbs)	(575) 492-5000

State Agencies

NM State Police (Hobbs)	(575) 392-5588
NM Oil Conservation (Hobbs)	(575) 370-3186
NM Oil Conservation (Santa Fe)	(505) 476-3440
NM Dept. of Transportation (Roswell)	(575) 637-7201



Federal Agencies

BLM (Carlsbad)	(575) 234-5972
BLM (Hobbs)	(575) 393-3612
National Response Center	(800) 424-8802
US EPA Region 6 (Dallas)	(800) 887-6063
	(214) 665-6444

Veterinarians

Lovington Veterinary Clinic	(575) 396-7387
Hobbs Animal Clinic	(575) 392-5563
Dal Paso Animal Hospital (Hobbs)	(575) 397-2286

Residents within 2 miles

None

Air Evacuation

AeroCare (Lubbock)	(800) 627-2376
Med Flight Air Ambulance (Albuquerque)	(800) 842-4431
Lifeguard (Albuquerque)	(888) 866-7256



**LEA COUNTY, NEW MEXICO**  
**SECTION 28, TOWNSHIP 20 SOUTH, RANGE 34 EAST**

LINE	BEARING	DISTANCE
L1	N 73°32'34" E	400.00'
L2	S 16°27'26" E	450.00'
L3	S 73°32'34" W	327.89'
L4	S 89°38'41" W	75.06'
L5	N 16°27'26" W	429.18'

TOP OF PAD ELEVATION = 3,699.45'  
 CUT SLOPE = 33.33% - 3,000:1 - 18.43°  
 FILL SLOPE = 33.33% - 3,000:1 - 18.43°

CUT VOLUME: 163,364.04 C.F. - 6,050.52 C.Y.  
 FILL VOLUME: 141,106.66 C.F. - 5,226.18 C.Y.  
 NET VOLUME: 22,257.18 C.F. - 824.34 C.Y.  
 PAD AREA: 179,249 SQ.FT. - 4.115 ACRES

I, MATTHEW B. TOMERLIN, NEW MEXICO PROFESSIONAL SURVEYOR NO. 23203, DO HEREBY CERTIFY THAT THIS PLAN AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT THIS SURVEY MEETS OR EXCEEDS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF

*[Signature]*  
 MATTHEW B. TOMERLIN, N.M. P.L.S. NO. 23203

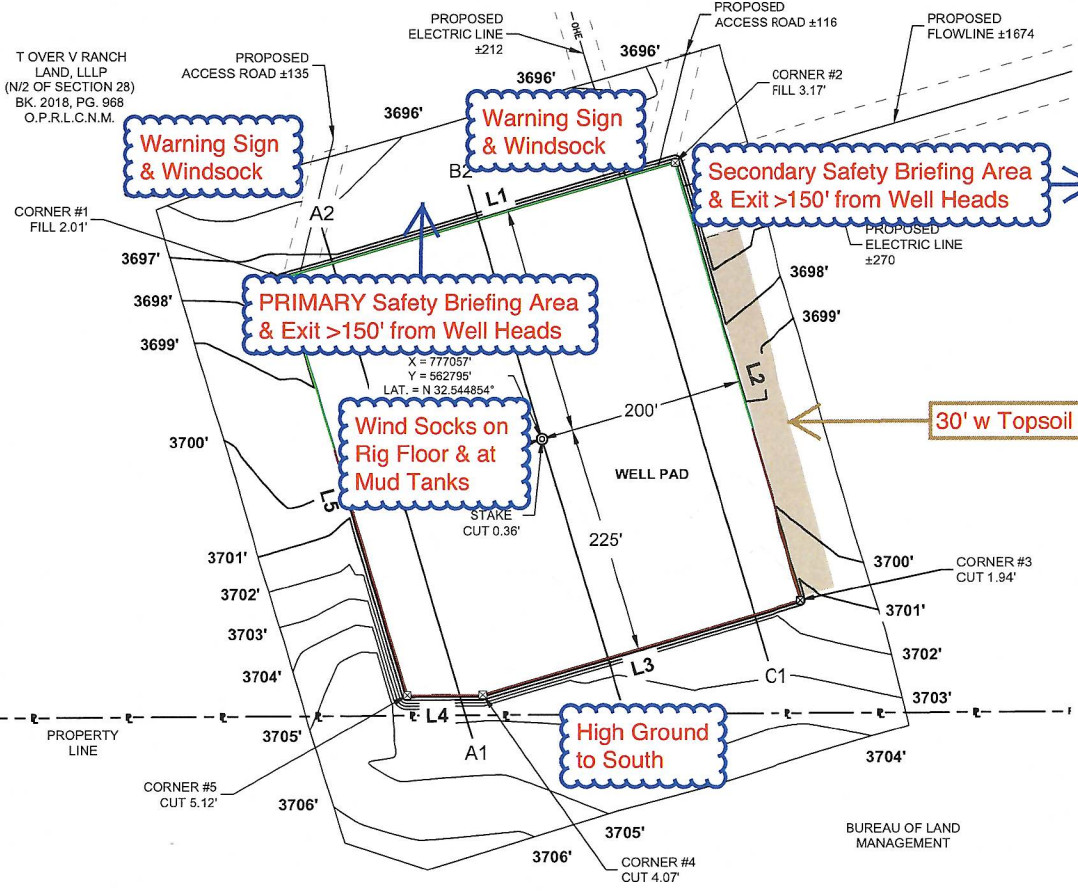
**AVANT OPERATING II, LLC**

Situated in  
 SECTION 28, TOWNSHIP 20 SOUTH,  
 RANGE 34 EAST, N.M.P.M.,  
 LEA COUNTY, NEW MEXICO  
**PALOMA 28 21 FED COM PAD 1**  
 T OVER V RANCH LAND, LLLP  
 CUT & FILL PRELIM

**DATAPoint**  
 ENGINEERING • LAND SURVEYING • GIS • UAS

12400 Network Blvd. - Suite 130  
 San Antonio, TX 78249  
 Phone: 726-777-4240

DRAWN BY: JW	DATE: 10/16/2025	REV. 2
CHECKED BY: JH	DATE: 10/16/2025	
AFE #	PROJECT ID: 25-08-5832	SHEET 1 OF 2



Prevailing Winds  
 Blow from South



**DISCLAIMER**

1. THE CUT/FILL DESIGN SHOWN HEREIN IS FOR PERMITTING PURPOSES ONLY. DATAPoint DOES NOT ACCEPT LIABILITY FOR ANY FUTURE USE OF THE INCLUDED DESIGN AS A BASIS FOR CONSTRUCTION, OR ADDITIONAL ENGINEERING CONSIDERATIONS.

**NOTES**

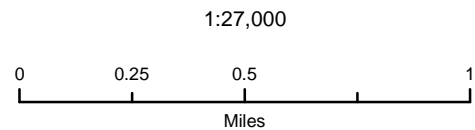
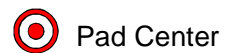
- ALL COORDINATES, BEARINGS, AND DISTANCES CONTAINED HEREIN ARE GRID (U.S. SURVEY FEET), BASED UPON THE NEW MEXICO STATE PLANE COORDINATES SYSTEM, NORTH AMERICAN DATUM 83, EAST ZONE (3001), NAVD 88.
- THIS DOCUMENT IS BASED UPON AN ON THE GROUND SURVEY PERFORMED DURING OCTOBER, 2025. CERTIFICATION OF THIS DOCUMENT IS ONLY TO THE LOCATION OF THIS EASEMENT IN RELATION TO RECORDED MONUMENTATION OF DEEDS PROVIDED BY THE CLIENT.

Z:\2025\AVANT OPERATING II, LLC\25-08-5832 - Paloma 28 21 Fed Com Development\PLATS\CUT-FILL DIAGRAM\PAD 1\20251015\NM-AVANT-PALOMA 28 21 FED COM PAD 1 CUT-FILL-SEC 28-T-20-S-R-34-E-PRIVATE\_R2.dwg 10/15/2025 7:00 PM JOSH WILSON

# Avant Operating II, LLC

Paloma 28 21 Fed Com - Pad 1  
H2S Contingency Plan:  
Radius Map

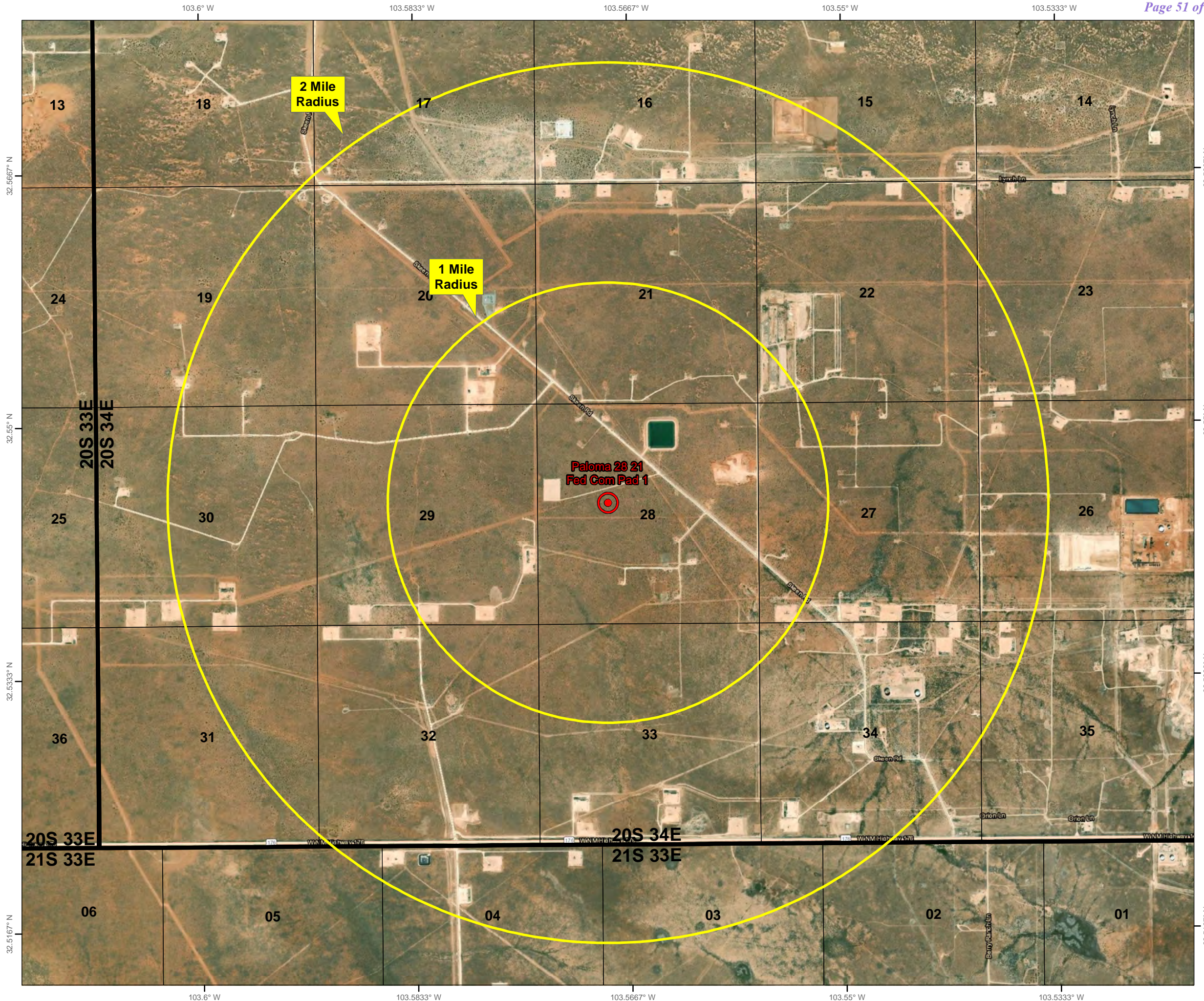
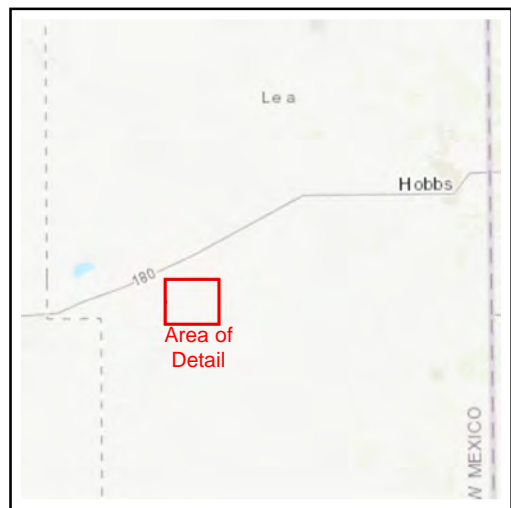
Section 28, Township 20S, Range 34E  
Lea County, New Mexico



NAD 1983 New Mexico State Plane East  
FIPS 3001 Feet



Prepared by Permits West, Inc., September 26, 2025  
for Avant Operating II, LLC



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**

ACKNOWLEDGMENTS

Action 545925

**ACKNOWLEDGMENTS**

Operator: Avant Operating II, LLC 1515 Wynkoop Street Denver, CO 80202	OGRID: 332947
	Action Number: 545925
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

**ACKNOWLEDGMENTS**

<input checked="" type="checkbox"/>	I hereby certify that no additives containing PFAS chemicals will be added to the completion or recompletion of this well.
-------------------------------------	--

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**

CONDITIONS

Action 545925

**CONDITIONS**

Operator: Avant Operating II, LLC 1515 Wynkoop Street Denver, CO 80202	OGRID: 332947
	Action Number: 545925
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

**CONDITIONS**

Created By	Condition	Condition Date
twelem	Cement is required to circulate on both surface and intermediate1 strings of casing.	1/23/2026
jeffrey.harrison	If the method of isolation was not by circulation, a CBL must be performed; if strata isolation is not achieved, then remediation will be required before further operations.	4/9/2026
jeffrey.harrison	All logs run on the well must be submitted to NMOCD.	4/9/2026
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.	4/9/2026
jeffrey.harrison	NSL required IF planned FTP/LTP is < 100' from north or south edge of spacing unit.	4/9/2026
jeffrey.harrison	This well is within the R-111-Q defined boundary. Operator must follow all procedures and requirements listed within the order.	4/9/2026
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.	4/9/2026
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 above the Capitan Reef. The second intermediate string shall be set and cemented back to surface immediately below the base of the Capitan Reef.	4/9/2026
jeffrey.harrison	Once the DV tool is opened and circulation is established, it needs to be noted if cement is circulated off of the top of the DV tool and how much.	4/9/2026
jeffrey.harrison	If cement is not circulated off of the top of the DV tool, then a CBL will be required. Depending upon the results of the CBL, remedial action may be required prior to drilling operations continuing.	4/9/2026
jeffrey.harrison	File As Drilled C-102 and a directional Survey with C-104 completion packet.	4/9/2026
jeffrey.harrison	Notify the OCD 24 hours prior to casing & cement.	4/9/2026
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.	4/9/2026
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.	4/9/2026