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

Sundry Print Report

08/06/2024

Well Name: LEA UNIT

Well Location: T20S / R34E / SEC 11 / NENE / 32.5944947 / -103.5262743

County or Parish/State: LEA / NM

Well Number: 710H

Type of Well: OIL WELL

Allottee or Tribe Name:

Lease Number: NMNM0006531

Unit or CA Name:

Unit or CA Number:

US Well Number:

Operator: AVANT OPERATING LLC

Notice of Intent

Sundry ID: 2801765

Type of Submission: Notice of Intent

Type of Action: APD Change

Date Sundry Submitted: 07/18/2024

Time Sundry Submitted: 12:03

Date proposed operation will begin: 07/31/2024

Procedure Description: Avant Operating, LLC would like to request that the following changes be made to the Lea Unit 710H APD (API# 30-025-53272, APD ID #10400082677) - Name change from the Lea Unit 710H to the Lea Unit 701H - SHL change from 140' FNL & 1215' FEL to 140' FNL & 1045' FEL - Updated surface and intermediate set points and updated cement program - TVD change to 11,000' - Offline cementing Please see the attached updated documents for this request. Thank you!

NOI Attachments

Procedure Description

Lea_Unit_701H_Plan_0.1_Report_20240718120212.pdf

Avant___Offline_Cementing_Procedure_20240718120153.pdf

Lea_Unit_701H_WBS_Prelim_20240718120143.pdf

Avant_Natural_Resources_Lea_Unit_701H_No_Pricing_20240718120133.pdf

5.500in_20.0__P_110_HC_INTREPID_SP_20240718120125.pdf

Lea_Unit_701H_C_102_20240718120111.pdf

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Well Number: 710H

Type of Well: OIL WELL

Allottee or Tribe Name:

Lease Number: NMNM0006531

Unit or CA Name:

Unit or CA Number:

US Well Number:

Operator: AVANT OPERATING LLC

Conditions of Approval

Additional

11_20_34_A_Sundry_ID_2801765_Lea_Unit_701H_Lea_NMNM06531_AVANT_OPERATING_LLC_13_22g_2_27_2024_LV_20240724092508.pdf

Lea_Unit_701H_Dr_COA_20240724092508.pdf

Operator

I certify that the foregoing is true and correct. 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. Electronic submission of Sundry Notices through this system satisfies regulations requiring a

Operator Electronic Signature: MEGHAN TWELE

Signed on: AUG 06, 2024 11:55 AM

Name: AVANT OPERATING LLC

Title: Contract Regulatory Analyst

Street Address: 1515 WYNKOOP ST SUITE 700

City: DENVER **State:** CO

Phone: (720) 339-6880

Email address: MTWELE@OUTLOOK.COM

Field

Representative Name:

Street Address:

City: **State:** **Zip:**

Phone:

Email address:

BLM Point of Contact

BLM POC Name: CHRISTOPHER WALLS

BLM POC Title: Petroleum Engineer

BLM POC Phone: 5752342234

BLM POC Email Address: cwalls@blm.gov

Disposition: Approved

Disposition Date: 08/06/2024

Signature: Chris Walls

Form 3160-5
(June 2019)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires: October 31, 2021

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE *- Other instructions on page 2*

5. Lease Serial No.

6. If Indian, Allottee or Tribe Name

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

1. Type of Well
☐ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.

2. Name of Operator

9. API Well No.

3a. Address

3b. Phone No. *(include area code)*

10. Field and Pool or Exploratory Area

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

11. Country or Parish, State

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

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

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

14. I hereby certify that the foregoing is true and correct. Name *(Printed/Typed)*

Title

Signature

Date

THE SPACE FOR FEDERAL OR STATE OFICE USE

Approved by

Title

Date

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

Office

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

(Instructions on page 2)

GENERAL INSTRUCTIONS

This form is designed for submitting proposals to perform certain well operations and reports of such operations when completed as indicated on Federal and Indian lands pursuant to applicable Federal law and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local area or regional procedures and practices, are either shown below, will be issued by or may be obtained from the local Federal office.

SPECIFIC INSTRUCTIONS

Item 4 - Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult the local Federal office for specific instructions.

Item 13: Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by the local Federal office. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to the top of any tubing left in the hole; method of closing top of well and date well site conditioned for final inspection looking for approval of the abandonment. If the proposal will involve **hydraulic fracturing operations**, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

NOTICES

The privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.
AUTHORITY: 30 U.S.C. 181 et seq., 351 et seq., 25 U.S.C. 396; 43 CFR 3160.
PRINCIPAL PURPOSE: The information is used to: (1) Evaluate, when appropriate, approve applications, and report completion of subsequent well operations, on a Federal or Indian lease; and (2) document for administrative use, information for the management, disposal and use of National Resource lands and resources, such as: (a) evaluating the equipment and procedures to be used during a proposed subsequent well operation and reviewing the completed well operations for compliance with the approved plan; (b) requesting and granting approval to perform those actions covered by 43 CFR 3162.3-2, 3162.3-3, and 3162.3-4; (c) reporting the beginning or resumption of production, as required by 43 CFR 3162.4-1(c)and (d) analyzing future applications to drill or modify operations in light of data obtained and methods used.
ROUTINE USES: Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions in connection with congressional inquiries or to consumer reporting agencies to facilitate collection of debts owed the Government.
EFFECT OF NOT PROVIDING THE INFORMATION: Filing of this notice and report and disclosure of the information is mandatory for those subsequent well operations specified in 43 CFR 3162.3-2, 3162.3-3, 3162.3-4.

The Paperwork Reduction Act of 1995 requires us to inform you that:
The BLM collects this information to evaluate proposed and/or completed subsequent well operations on Federal or Indian oil and gas leases.
Response to this request is mandatory.
The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect ofthis form to U.S. Department ofthe Interior, Bureau ofLand Management (1004-0137), Bureau Information Collection Clearance Officer (WO-630), 1849 C St., N.W., Mail Stop 401 LS, Washington, D.C. 20240

Additional Information

Location of Well

0. SHL: NENE / 140 FNL / 1215 FEL / TWSP: 20S / RANGE: 34E / SECTION: 11 / LAT: 32.5944947 / LONG: -103.5262743 (TVD: 0 feet, MD: 0 feet)

PPP: NENE / 330 FNL / 1000 FEL / TWSP: 20S / RANGE: 34E / SECTION: 11 / LAT: 32.5939702 / LONG: -103.525576 (TVD: 10992 feet, MD: 11575 feet)

PPP: SENE / 1320 FNL / 1000 FEL / TWSP: 20S / RANGE: 34E / SECTION: 11 / LAT: 32.591273 / LONG: -103.52564 (TVD: 11000 feet, MD: 12300 feet)

PPP: NENE / 0 FNL / 1037 FEL / TWSP: 20S / RANGE: 34E / SECTION: 14 / LAT: 32.580373 / LONG: -103.525638 (TVD: 11000 feet, MD: 16300 feet)

PPP: SENE / 1320 FNL / 1011 FEL / TWSP: 20S / RANGE: 34E / SECTION: 14 / LAT: 32.57675 / LONG: -103.525637 (TVD: 11000 feet, MD: 17600 feet)

BHL: SENE / 2536 FNL / 1000 FEL / TWSP: 20S / RANGE: 34E / SECTION: 14 / LAT: 32.5740166 / LONG: -103.5256361 (TVD: 11000 feet, MD: 18474 feet)

Lea Unit 701H

13 3/8	surface csg in a	17 1/2	inch hole.		Design Factors			Surface				
Segment	#/ft	Grade	Coupling	Body	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	54.50	j 55	btc	8.77	1.42	0.9	1,785	4	1.52	2.79	97,283
"B"			btc				0				0
	w/8.4#/g mud, 30min Sfc Csg Test psig: 1,132		Tail Cmt	does not	circ to sfc.	Totals:	1,785				97,283

Comparison of Proposed to Minimum Required Cement Volumes

Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd	Min Dist
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE	Hole-Cplg
17 1/2	0.6946	830	1443	1240	16	8.60	1793	2M	1.56

Burst Frac Gradient(s) for Segment(s) A, B = , b All > 0.70, OK.

9 5/8	casing inside the	13 3/8			Design Factors			Int 1			
Segment	#/ft	Grade	Coupling	Body	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	40.00	j 55	btc	2.77	1.2	0.74	4,000	1	1.36	2.04	160,000
"B"	40.00	l 80	btc	13.55	1.01	1.08	1,690	2	1.99	1.72	67,600
	w/8.4#/g mud, 30min Sfc Csg Test psig: 1,020					Totals:	5,690				227,600
	The cement volume(s) are intended to achieve a top of			0	ft from surface or a		1785				overlap.

Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd	Min Dist
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE	Hole-Cplg
12 1/4	0.3132	1220	2140	1870	14	10.30	2894	3M	0.81
D V Tool(s):							sum of sx	Σ CuFt	Σ%excess
by stage % :		#VALUE!	#VALUE!				1220	2140	14

Class 'C' tail cmt yld > 1.35

Burst Frac Gradient(s) for Segment(s): A, B, C, D = 0.99, b, c, d All > 0.70, OK.

5 1/2	casing inside the	9 5/8			Design Factors			Prod 1			
Segment	#/ft	Grade	Coupling	Body	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	20.00	p 110	gbcd	2.91	2.09	2.38	18,567	2	4.37	3.84	371,340
"B"							0				0
"C"							0				0
"D"							0				0
	w/8.4#/g mud, 30min Sfc Csg Test psig: 2,420					Totals:	18,567				371,340
	The cement volume(s) are intended to achieve a top of			5133	ft from surface or a		557				overlap.

Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd	Min Dist
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE	Hole-Cplg
8 3/4	0.2526	2900	5408	3398	59	9.30			1.23

Class 'C' tail cmt yld > 1.35

#N/A

0		5 1/2			Design Factors			<Choose Casing>			
Segment	#/ft	Grade	Coupling	#N/A	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"			0.00				0				0
"B"			0.00				0				0
	w/8.4#/g mud, 30min Sfc Csg Test psig:					Totals:	0				0
	Cmt vol calc below includes this csg, TOC intended			#N/A	ft from surface or a		#N/A				overlap.

Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd	Min Dist
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE	Hole-Cplg
0		#N/A	#N/A	0	#N/A				

#N/A Capitan Reef est top XXXX.

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**Avant Operating LLC**
LEASE NO.:	**NMNM06531**
LOCATION:	Section 11, T.20 S., R.34 E., NMPM
COUNTY:	Lea County, New Mexico

WELL NAME & NO.:	**Lea Unit 701H**
BOTTOM HOLE FOOTAGE	2536'/N & 1000'/E
ATS/API ID:	**ATS-22-607**
APD ID:	**10400082677**
Sundry ID:	**2801765**
Date APD Submitted:	**N/a**

COA

H2S	Yes		
Potash	None	None	
Cave/Karst Potential	Low		
Cave/Karst Potential	☐ Critical		
Variance	☐ None	☒ Flex Hose	☐ Other
Wellhead	Conventional and Multibowl		
Other	☐ 4 String	Capitan Reef Int 1	☐ WIPP
Other	Pilot Hole None	☐ Open Annulus	
Cementing	Contingency Squeeze None	Echo-Meter None	Primary Cement Squeeze None
Special Requirements	☐ Water Disposal/Injection	☐ COM	☑ Unit
Special Requirements	☐ Batch Sundry	Waste Prevention None	
Special Requirements Variance	☐ Break Testing	☑ Offline Cementing	☐ Casing Clearance

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the **Yates-Severn Rivers and Wolfcamp** 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 **1785 feet** (a minimum of **25 feet (Lea County)** 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.

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.

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

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing 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.**

❖ **Special Capitan Reef requirements.** If lost circulation (50% or greater) occurs below the Base of the Salt, the operator shall do the following:

- Switch to fresh water mud to protect the Capitan Reef and use fresh water mud until setting the intermediate casing. The appropriate BLM office is to be notified for a PET to witness the switch to fresh water.

- Daily drilling reports from the Base of the Salt to the setting of the intermediate casing are to be submitted to the BLM CFO engineering staff via e-mail by 0800 hours each morning. Any lost circulation encountered is to be recorded on these drilling reports. The daily drilling report should show mud volume per shift/tour. Failure to submit these reports will result in an Incidence of Non-Compliance being issued for failure to comply with the Conditions of Approval. If not already planned, the operator shall run a caliper survey for the intermediate well bore and submit to the appropriate BLM office.

❖ In Capitan Reef Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

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

   - Cement should tie-back at least **50 feet** on top of Capitan Reef top **or 200** into the previous casing, whichever is greater. Operator shall provide method of verification.
     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.

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 **9-5/8** inch intermediate casing shoe shall be **5000 (5M)** psi.

Option 2:

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)

Unit Wells

The well sign for a unit well shall include the unit number in addition to the surface and bottom hole lease numbers. This also applies to participating area numbers. If a participating area has not been established, the operator can use the general unit designation, but will replace the unit number with the participating area number when the sign is replaced.

Commercial Well Determination

A commercial well determination shall be submitted after production has been established for at least six months.

Offline Cementing

Operator has been **(Approved)** to pump the proposed cement program offline in the **Intermediate(s) interval**.

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 2nd 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. 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.

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

6. 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.

7. 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.

8. 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) 7/24/2024

Avant Operating, LLC

Lea Co., NM (NAD 83)
Lea Unit 14 11
Lea Unit 701H

OH

Plan: Plan 0.1

Standard Planning Report

16 July, 2024

Planning Report

Database:	EDM 5000.16 Single User Db	**Local Co-ordinate Reference:**	Well Lea Unit 701H
Company:	Avant Operating, LLC	**TVD Reference:**	WELL @ 3692.7usft (3692.7)
Project:	Lea Co., NM (NAD 83)	**MD Reference:**	WELL @ 3692.7usft (3692.7)
Site:	Lea Unit 14 11	**North Reference:**	Grid
Well:	Lea Unit 701H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 0.1		

Project Lea Co., NM (NAD 83)

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site Lea Unit 14 11

Site Position:		**Northing:**	573,022.18 usft	**Latitude:**	32.572704
From:	Lat/Long	**Easting:**	789,828.61 usft	**Longitude:**	-103.526675
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "		

Well Lea Unit 701H

Well Position	**+N/-S**	0.0 usft	**Northing:**	580,951.70 usft	**Latitude:**	32.594497
	+E/-W	0.0 usft	**Easting:**	789,891.99 usft	**Longitude:**	-103.526274
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,666.2 usft
Grid Convergence:		0.43 °				

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2000	12/31/2004	8.57	60.80	49,652.55867303

Design Plan 0.1

Audit Notes:

Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	177.95

Plan Survey Tool Program **Date** 7/16/2024

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	18,566.9	Plan 0.1 (OH)	B001Mb_MWD+HRGM OWSG MWD + HRGM	

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.00	0.00	0.00	0.00	
5,460.9	3.22	67.08	5,460.8	1.8	4.2	2.00	2.00	0.00	67.08	
9,445.5	3.22	67.08	9,439.2	88.9	210.2	0.00	0.00	0.00	0.00	
9,606.5	0.00	0.00	9,600.0	90.6	214.3	2.00	-2.00	0.00	180.00	KOP - Lea Unit 701H
10,529.0	0.00	0.00	10,522.5	90.6	214.3	0.00	0.00	0.00	0.00	
11,279.0	90.00	179.56	11,000.0	-386.8	218.0	12.00	12.00	0.00	179.56	
18,566.9	90.00	179.56	11,000.0	-7,674.5	274.6	0.00	0.00	0.00	0.00	LTP/BHL - Lea Unit 7(

Planning Report

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Project:	Lea Co., NM (NAD 83)	**MD Reference:**	WELL @ 3692.7usft (3692.7)
Site:	Lea Unit 14 11	**North Reference:**	Grid
Well:	Lea Unit 701H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 0.1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,620.0	0.00	0.00	1,620.0	0.0	0.0	0.0	0.00	0.00	0.00
RUSTLER									
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,415.0	0.00	0.00	3,415.0	0.0	0.0	0.0	0.00	0.00	0.00
YATES									
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00

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Well:	Lea Unit 701H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 0.1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,183.0	0.00	0.00	5,183.0	0.0	0.0	0.0	0.00	0.00	0.00
CAPITAN_REEF									
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP - Start Build 2.00									
5,400.0	2.00	67.08	5,400.0	0.7	1.6	-0.6	2.00	2.00	0.00
5,460.9	3.22	67.08	5,460.8	1.8	4.2	-1.6	2.00	2.00	0.00
Start 3984.6 hold at 5460.9 MD									
5,500.0	3.22	67.08	5,499.9	2.6	6.2	-2.4	0.00	0.00	0.00
5,590.3	3.22	67.08	5,590.0	4.6	10.9	-4.2	0.00	0.00	0.00
CHERRY_CNYN									
5,600.0	3.22	67.08	5,599.7	4.8	11.4	-4.4	0.00	0.00	0.00
5,700.0	3.22	67.08	5,699.5	7.0	16.5	-6.4	0.00	0.00	0.00
5,800.0	3.22	67.08	5,799.4	9.2	21.7	-8.4	0.00	0.00	0.00
5,900.0	3.22	67.08	5,899.2	11.4	26.9	-10.4	0.00	0.00	0.00
6,000.0	3.22	67.08	5,999.1	13.5	32.0	-12.4	0.00	0.00	0.00
6,100.0	3.22	67.08	6,098.9	15.7	37.2	-14.4	0.00	0.00	0.00
6,200.0	3.22	67.08	6,198.7	17.9	42.4	-16.4	0.00	0.00	0.00
6,300.0	3.22	67.08	6,298.6	20.1	47.5	-18.4	0.00	0.00	0.00
6,400.0	3.22	67.08	6,398.4	22.3	52.7	-20.4	0.00	0.00	0.00
6,476.7	3.22	67.08	6,475.0	24.0	56.7	-21.9	0.00	0.00	0.00
BRUSHY_CANYON									
6,500.0	3.22	67.08	6,498.3	24.5	57.9	-22.4	0.00	0.00	0.00
6,600.0	3.22	67.08	6,598.1	26.7	63.1	-24.4	0.00	0.00	0.00
6,700.0	3.22	67.08	6,698.0	28.9	68.2	-26.4	0.00	0.00	0.00
6,800.0	3.22	67.08	6,797.8	31.0	73.4	-28.4	0.00	0.00	0.00
6,900.0	3.22	67.08	6,897.6	33.2	78.6	-30.4	0.00	0.00	0.00
7,000.0	3.22	67.08	6,997.5	35.4	83.7	-32.4	0.00	0.00	0.00
7,100.0	3.22	67.08	7,097.3	37.6	88.9	-34.4	0.00	0.00	0.00
7,200.0	3.22	67.08	7,197.2	39.8	94.1	-36.4	0.00	0.00	0.00
7,300.0	3.22	67.08	7,297.0	42.0	99.2	-38.4	0.00	0.00	0.00
7,400.0	3.22	67.08	7,396.9	44.2	104.4	-40.4	0.00	0.00	0.00
7,500.0	3.22	67.08	7,496.7	46.3	109.6	-42.4	0.00	0.00	0.00
7,600.0	3.22	67.08	7,596.5	48.5	114.8	-44.4	0.00	0.00	0.00
7,700.0	3.22	67.08	7,696.4	50.7	119.9	-46.4	0.00	0.00	0.00
7,800.0	3.22	67.08	7,796.2	52.9	125.1	-48.4	0.00	0.00	0.00
7,900.0	3.22	67.08	7,896.1	55.1	130.3	-50.4	0.00	0.00	0.00
8,000.0	3.22	67.08	7,995.9	57.3	135.4	-52.4	0.00	0.00	0.00
8,100.0	3.22	67.08	8,095.8	59.5	140.6	-54.4	0.00	0.00	0.00
8,195.4	3.22	67.08	8,191.0	61.5	145.5	-56.3	0.00	0.00	0.00
BSPG_LIME *									
8,200.0	3.22	67.08	8,195.6	61.6	145.8	-56.4	0.00	0.00	0.00
8,289.5	3.22	67.08	8,285.0	63.6	150.4	-58.2	0.00	0.00	0.00
AVLN_A									
8,300.0	3.22	67.08	8,295.4	63.8	151.0	-58.4	0.00	0.00	0.00
8,400.0	3.22	67.08	8,395.3	66.0	156.1	-60.4	0.00	0.00	0.00
8,500.0	3.22	67.08	8,495.1	68.2	161.3	-62.4	0.00	0.00	0.00
8,600.0	3.22	67.08	8,595.0	70.4	166.5	-64.4	0.00	0.00	0.00
8,700.0	3.22	67.08	8,694.8	72.6	171.6	-66.4	0.00	0.00	0.00
8,786.3	3.22	67.08	8,781.0	74.5	176.1	-68.1	0.00	0.00	0.00

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Site:	Lea Unit 14 11	**North Reference:**	Grid
Well:	Lea Unit 701H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 0.1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
AVALON_B									
8,800.0	3.22	67.08	8,794.6	74.8	176.8	-68.4	0.00	0.00	0.00
8,900.0	3.22	67.08	8,894.5	77.0	182.0	-70.4	0.00	0.00	0.00
9,000.0	3.22	67.08	8,994.3	79.1	187.1	-72.4	0.00	0.00	0.00
9,100.0	3.22	67.08	9,094.2	81.3	192.3	-74.4	0.00	0.00	0.00
9,200.0	3.22	67.08	9,194.0	83.5	197.5	-76.4	0.00	0.00	0.00
9,300.0	3.22	67.08	9,293.9	85.7	202.7	-78.4	0.00	0.00	0.00
9,400.0	3.22	67.08	9,393.7	87.9	207.8	-80.4	0.00	0.00	0.00
9,445.5	3.22	67.08	9,439.2	88.9	210.2	-81.3	0.00	0.00	0.00
Start Drop -2.00									
9,500.0	2.13	67.08	9,493.6	89.9	212.5	-82.2	2.00	-2.00	0.00
9,515.4	1.82	67.08	9,509.0	90.1	213.0	-82.4	2.00	-2.00	0.00
FBSG__SD *									
9,606.5	0.00	0.00	9,600.0	90.6	214.3	-82.9	2.00	-2.00	0.00
Start 922.5 hold at 9606.5 MD - KOP - Lea Unit 701H									
9,641.5	0.00	0.00	9,635.0	90.6	214.3	-82.9	0.00	0.00	0.00
FBSG_SD_A_BASE									
9,700.0	0.00	0.00	9,693.5	90.6	214.3	-82.9	0.00	0.00	0.00
9,800.0	0.00	0.00	9,793.5	90.6	214.3	-82.9	0.00	0.00	0.00
9,803.5	0.00	0.00	9,797.0	90.6	214.3	-82.9	0.00	0.00	0.00
SBSG_CARB									
9,900.0	0.00	0.00	9,893.5	90.6	214.3	-82.9	0.00	0.00	0.00
10,000.0	0.00	0.00	9,993.5	90.6	214.3	-82.9	0.00	0.00	0.00
10,045.5	0.00	0.00	10,039.0	90.6	214.3	-82.9	0.00	0.00	0.00
SBSG_SD									
10,100.0	0.00	0.00	10,093.5	90.6	214.3	-82.9	0.00	0.00	0.00
10,200.0	0.00	0.00	10,193.5	90.6	214.3	-82.9	0.00	0.00	0.00
10,300.0	0.00	0.00	10,293.5	90.6	214.3	-82.9	0.00	0.00	0.00
10,400.0	0.00	0.00	10,393.5	90.6	214.3	-82.9	0.00	0.00	0.00
10,500.0	0.00	0.00	10,493.5	90.6	214.3	-82.9	0.00	0.00	0.00
10,529.0	0.00	0.00	10,522.5	90.6	214.3	-82.9	0.00	0.00	0.00
KOP #2 - Start Build 12.00									
10,550.0	2.52	179.56	10,543.5	90.2	214.3	-82.5	12.00	12.00	0.00
10,560.5	3.78	179.56	10,554.0	89.6	214.3	-81.9	12.00	12.00	0.00
TBSG_CARB									
10,575.0	5.52	179.56	10,568.5	88.4	214.4	-80.7	12.00	12.00	0.00
10,600.0	8.52	179.56	10,593.3	85.4	214.4	-77.6	12.00	12.00	0.00
10,625.0	11.52	179.56	10,617.9	81.0	214.4	-73.3	12.00	12.00	0.00
10,650.0	14.52	179.56	10,642.3	75.4	214.5	-67.7	12.00	12.00	0.00
10,675.0	17.52	179.56	10,666.3	68.5	214.5	-60.8	12.00	12.00	0.00
10,700.0	20.52	179.56	10,689.9	60.3	214.6	-52.6	12.00	12.00	0.00
10,708.7	21.56	179.56	10,698.0	57.2	214.6	-49.5	12.00	12.00	0.00
TBSG_SD *									
10,725.0	23.52	179.56	10,713.1	51.0	214.6	-43.3	12.00	12.00	0.00
10,750.0	26.52	179.56	10,735.7	40.4	214.7	-32.7	12.00	12.00	0.00
10,775.0	29.52	179.56	10,757.8	28.7	214.8	-21.0	12.00	12.00	0.00
10,800.0	32.52	179.56	10,779.2	15.8	214.9	-8.1	12.00	12.00	0.00
10,825.0	35.52	179.56	10,799.9	1.8	215.0	5.9	12.00	12.00	0.00
10,850.0	38.52	179.56	10,819.9	-13.3	215.1	21.0	12.00	12.00	0.00
10,875.0	41.52	179.56	10,839.0	-29.3	215.3	37.0	12.00	12.00	0.00
10,900.0	44.52	179.56	10,857.3	-46.4	215.4	54.1	12.00	12.00	0.00
10,906.6	45.31	179.56	10,862.0	-51.1	215.4	58.7	12.00	12.00	0.00
TBSG_RHS *									

Planning Report

Database:	EDM 5000.16 Single User Db	**Local Co-ordinate Reference:**	Well Lea Unit 701H
Company:	Avant Operating, LLC	**TVD Reference:**	WELL @ 3692.7usft (3692.7)
Project:	Lea Co., NM (NAD 83)	**MD Reference:**	WELL @ 3692.7usft (3692.7)
Site:	Lea Unit 14 11	**North Reference:**	Grid
Well:	Lea Unit 701H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 0.1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,925.0	47.52	179.56	10,874.7	-64.4	215.5	72.0	12.00	12.00	0.00
10,927.9	47.87	179.56	10,876.6	-66.5	215.6	74.2	12.00	12.00	0.00
FTP - Lea Unit 701H									
10,950.0	50.52	179.56	10,891.1	-83.3	215.7	90.9	12.00	12.00	0.00
10,975.0	53.52	179.56	10,906.5	-103.0	215.8	110.6	12.00	12.00	0.00
11,000.0	56.52	179.56	10,920.8	-123.4	216.0	131.1	12.00	12.00	0.00
11,025.0	59.52	179.56	10,934.0	-144.6	216.2	152.3	12.00	12.00	0.00
11,039.1	61.21	179.56	10,941.0	-156.9	216.3	164.5	12.00	12.00	0.00
WFMP *									
11,050.0	62.52	179.56	10,946.1	-166.5	216.3	174.1	12.00	12.00	0.00
11,051.9	62.75	179.56	10,947.0	-168.2	216.3	175.8	12.00	12.00	0.00
WFMP_CL_X *									
11,075.0	65.52	179.56	10,957.1	-189.0	216.5	196.6	12.00	12.00	0.00
11,100.0	68.52	179.56	10,966.8	-212.0	216.7	219.6	12.00	12.00	0.00
11,123.8	71.38	179.56	10,975.0	-234.3	216.9	241.9	12.00	12.00	0.00
WFMP_CL_X_BASE *									
11,125.0	71.52	179.56	10,975.4	-235.5	216.9	243.1	12.00	12.00	0.00
11,150.0	74.52	179.56	10,982.7	-259.4	217.1	267.0	12.00	12.00	0.00
11,151.2	74.66	179.56	10,983.0	-260.5	217.1	268.1	12.00	12.00	0.00
WFMP_CL_Y *									
11,175.0	77.52	179.56	10,988.7	-283.6	217.2	291.2	12.00	12.00	0.00
11,200.0	80.52	179.56	10,993.5	-308.2	217.4	315.8	12.00	12.00	0.00
11,225.0	83.52	179.56	10,997.0	-332.9	217.6	340.5	12.00	12.00	0.00
11,250.0	86.52	179.56	10,999.1	-357.8	217.8	365.4	12.00	12.00	0.00
11,275.0	89.52	179.56	11,000.0	-382.8	218.0	390.4	12.00	12.00	0.00
11,279.0	90.00	179.56	11,000.0	-386.8	218.0	394.4	12.00	12.00	0.00
LP - Start 7287.9 hold at 11279.0 MD									
11,300.0	90.00	179.56	11,000.0	-407.8	218.2	415.4	0.00	0.00	0.00
11,400.0	90.00	179.56	11,000.0	-507.8	219.0	515.3	0.00	0.00	0.00
11,500.0	90.00	179.56	11,000.0	-607.8	219.8	615.3	0.00	0.00	0.00
11,600.0	90.00	179.56	11,000.0	-707.8	220.5	715.2	0.00	0.00	0.00
11,700.0	90.00	179.56	11,000.0	-807.8	221.3	815.2	0.00	0.00	0.00
11,800.0	90.00	179.56	11,000.0	-907.8	222.1	915.2	0.00	0.00	0.00
11,900.0	90.00	179.56	11,000.0	-1,007.8	222.9	1,015.1	0.00	0.00	0.00
12,000.0	90.00	179.56	11,000.0	-1,107.8	223.6	1,115.1	0.00	0.00	0.00
12,100.0	90.00	179.56	11,000.0	-1,207.8	224.4	1,215.1	0.00	0.00	0.00
12,200.0	90.00	179.56	11,000.0	-1,307.8	225.2	1,315.0	0.00	0.00	0.00
12,300.0	90.00	179.56	11,000.0	-1,407.8	226.0	1,415.0	0.00	0.00	0.00
12,400.0	90.00	179.56	11,000.0	-1,507.8	226.7	1,514.9	0.00	0.00	0.00
12,500.0	90.00	179.56	11,000.0	-1,607.8	227.5	1,614.9	0.00	0.00	0.00
12,600.0	90.00	179.56	11,000.0	-1,707.8	228.3	1,714.9	0.00	0.00	0.00
12,700.0	90.00	179.56	11,000.0	-1,807.8	229.1	1,814.8	0.00	0.00	0.00
12,800.0	90.00	179.56	11,000.0	-1,907.8	229.9	1,914.8	0.00	0.00	0.00
12,900.0	90.00	179.56	11,000.0	-2,007.8	230.6	2,014.7	0.00	0.00	0.00
13,000.0	90.00	179.56	11,000.0	-2,107.8	231.4	2,114.7	0.00	0.00	0.00
13,100.0	90.00	179.56	11,000.0	-2,207.8	232.2	2,214.7	0.00	0.00	0.00
13,200.0	90.00	179.56	11,000.0	-2,307.8	233.0	2,314.6	0.00	0.00	0.00
13,300.0	90.00	179.56	11,000.0	-2,407.8	233.7	2,414.6	0.00	0.00	0.00
13,400.0	90.00	179.56	11,000.0	-2,507.8	234.5	2,514.5	0.00	0.00	0.00
13,500.0	90.00	179.56	11,000.0	-2,607.8	235.3	2,614.5	0.00	0.00	0.00
13,600.0	90.00	179.56	11,000.0	-2,707.8	236.1	2,714.5	0.00	0.00	0.00
13,700.0	90.00	179.56	11,000.0	-2,807.7	236.8	2,814.4	0.00	0.00	0.00
13,800.0	90.00	179.56	11,000.0	-2,907.7	237.6	2,914.4	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.16 Single User Db	**Local Co-ordinate Reference:**	Well Lea Unit 701H
Company:	Avant Operating, LLC	**TVD Reference:**	WELL @ 3692.7usft (3692.7)
Project:	Lea Co., NM (NAD 83)	**MD Reference:**	WELL @ 3692.7usft (3692.7)
Site:	Lea Unit 14 11	**North Reference:**	Grid
Well:	Lea Unit 701H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 0.1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,900.0	90.00	179.56	11,000.0	-3,007.7	238.4	3,014.3	0.00	0.00	0.00
14,000.0	90.00	179.56	11,000.0	-3,107.7	239.2	3,114.3	0.00	0.00	0.00
14,100.0	90.00	179.56	11,000.0	-3,207.7	239.9	3,214.3	0.00	0.00	0.00
14,200.0	90.00	179.56	11,000.0	-3,307.7	240.7	3,314.2	0.00	0.00	0.00
14,300.0	90.00	179.56	11,000.0	-3,407.7	241.5	3,414.2	0.00	0.00	0.00
14,400.0	90.00	179.56	11,000.0	-3,507.7	242.3	3,514.1	0.00	0.00	0.00
14,500.0	90.00	179.56	11,000.0	-3,607.7	243.0	3,614.1	0.00	0.00	0.00
14,600.0	90.00	179.56	11,000.0	-3,707.7	243.8	3,714.1	0.00	0.00	0.00
14,700.0	90.00	179.56	11,000.0	-3,807.7	244.6	3,814.0	0.00	0.00	0.00
14,800.0	90.00	179.56	11,000.0	-3,907.7	245.4	3,914.0	0.00	0.00	0.00
14,900.0	90.00	179.56	11,000.0	-4,007.7	246.1	4,014.0	0.00	0.00	0.00
15,000.0	90.00	179.56	11,000.0	-4,107.7	246.9	4,113.9	0.00	0.00	0.00
15,100.0	90.00	179.56	11,000.0	-4,207.7	247.7	4,213.9	0.00	0.00	0.00
15,200.0	90.00	179.56	11,000.0	-4,307.7	248.5	4,313.8	0.00	0.00	0.00
15,300.0	90.00	179.56	11,000.0	-4,407.7	249.3	4,413.8	0.00	0.00	0.00
15,400.0	90.00	179.56	11,000.0	-4,507.7	250.0	4,513.8	0.00	0.00	0.00
15,500.0	90.00	179.56	11,000.0	-4,607.7	250.8	4,613.7	0.00	0.00	0.00
15,600.0	90.00	179.56	11,000.0	-4,707.7	251.6	4,713.7	0.00	0.00	0.00
15,700.0	90.00	179.56	11,000.0	-4,807.7	252.4	4,813.6	0.00	0.00	0.00
15,800.0	90.00	179.56	11,000.0	-4,907.7	253.1	4,913.6	0.00	0.00	0.00
15,900.0	90.00	179.56	11,000.0	-5,007.7	253.9	5,013.6	0.00	0.00	0.00
16,000.0	90.00	179.56	11,000.0	-5,107.7	254.7	5,113.5	0.00	0.00	0.00
16,100.0	90.00	179.56	11,000.0	-5,207.7	255.5	5,213.5	0.00	0.00	0.00
16,200.0	90.00	179.56	11,000.0	-5,307.7	256.2	5,313.4	0.00	0.00	0.00
16,300.0	90.00	179.56	11,000.0	-5,407.7	257.0	5,413.4	0.00	0.00	0.00
16,400.0	90.00	179.56	11,000.0	-5,507.7	257.8	5,513.4	0.00	0.00	0.00
16,500.0	90.00	179.56	11,000.0	-5,607.7	258.6	5,613.3	0.00	0.00	0.00
16,600.0	90.00	179.56	11,000.0	-5,707.7	259.3	5,713.3	0.00	0.00	0.00
16,700.0	90.00	179.56	11,000.0	-5,807.7	260.1	5,813.2	0.00	0.00	0.00
16,800.0	90.00	179.56	11,000.0	-5,907.7	260.9	5,913.2	0.00	0.00	0.00
16,900.0	90.00	179.56	11,000.0	-6,007.7	261.7	6,013.2	0.00	0.00	0.00
17,000.0	90.00	179.56	11,000.0	-6,107.7	262.4	6,113.1	0.00	0.00	0.00
17,100.0	90.00	179.56	11,000.0	-6,207.6	263.2	6,213.1	0.00	0.00	0.00
17,200.0	90.00	179.56	11,000.0	-6,307.6	264.0	6,313.1	0.00	0.00	0.00
17,300.0	90.00	179.56	11,000.0	-6,407.6	264.8	6,413.0	0.00	0.00	0.00
17,400.0	90.00	179.56	11,000.0	-6,507.6	265.6	6,513.0	0.00	0.00	0.00
17,500.0	90.00	179.56	11,000.0	-6,607.6	266.3	6,612.9	0.00	0.00	0.00
17,600.0	90.00	179.56	11,000.0	-6,707.6	267.1	6,712.9	0.00	0.00	0.00
17,700.0	90.00	179.56	11,000.0	-6,807.6	267.9	6,812.9	0.00	0.00	0.00
17,800.0	90.00	179.56	11,000.0	-6,907.6	268.7	6,912.8	0.00	0.00	0.00
17,900.0	90.00	179.56	11,000.0	-7,007.6	269.4	7,012.8	0.00	0.00	0.00
18,000.0	90.00	179.56	11,000.0	-7,107.6	270.2	7,112.7	0.00	0.00	0.00
18,100.0	90.00	179.56	11,000.0	-7,207.6	271.0	7,212.7	0.00	0.00	0.00
18,200.0	90.00	179.56	11,000.0	-7,307.6	271.8	7,312.7	0.00	0.00	0.00
18,300.0	90.00	179.56	11,000.0	-7,407.6	272.5	7,412.6	0.00	0.00	0.00
18,400.0	90.00	179.56	11,000.0	-7,507.6	273.3	7,512.6	0.00	0.00	0.00
18,500.0	90.00	179.56	11,000.0	-7,607.6	274.1	7,612.5	0.00	0.00	0.00
18,566.9	90.00	179.56	11,000.0	-7,674.5	274.6	7,679.4	0.00	0.00	0.00
TD at 18566.9 - LTP/BHL - Lea Unit 701H									

Planning Report

Database:	EDM 5000.16 Single User Db	**Local Co-ordinate Reference:**	Well Lea Unit 701H
Company:	Avant Operating, LLC	**TVD Reference:**	WELL @ 3692.7usft (3692.7)
Project:	Lea Co., NM (NAD 83)	**MD Reference:**	WELL @ 3692.7usft (3692.7)
Site:	Lea Unit 14 11	**North Reference:**	Grid
Well:	Lea Unit 701H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 0.1		

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
KOP - Lea Unit 701H - plan hits target center - Point	0.00	0.00	9,600.0	90.6	214.3	581,042.34	790,106.33	32.594742	-103.525576
FTP - Lea Unit 701H - plan misses target center by 163.4usft at 10927.9usft MD (10876.6 TVD, -66.5 N, 215.6 E) - Point	0.00	0.00	11,000.0	40.6	214.7	580,992.34	790,106.71	32.594604	-103.525576
LTP/BHL - Lea Unit 701H - plan hits target center - Point	0.00	0.01	11,000.0	-7,674.5	274.6	573,277.23	790,166.60	32.573398	-103.525572

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
18,566.9	11,000.0	20" Casing	20	24

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,620.0	1,620.0	RUSTLER			
3,415.0	3,415.0	YATES			
5,183.0	5,183.0	CAPITAN_REEF			
5,590.3	5,590.0	CHERRY_CNYN			
6,476.7	6,475.0	BRUSHY_CANYON			
8,195.4	8,191.0	BSPG_LIME *			
8,289.5	8,285.0	AVLN_A			
8,786.3	8,781.0	AVALON_B			
9,515.4	9,509.0	FBSG__SD *			
9,641.5	9,635.0	FBSG_SD_A_BASE			
9,803.5	9,797.0	SBSG_CARB			
10,045.5	10,039.0	SBSG_SD			
10,560.5	10,554.0	TBSG_CARB			
10,708.7	10,698.0	TBSG_SD *			
10,906.6	10,862.0	TBSG_RHS *			
11,039.1	10,941.0	WFMP *			
11,051.9	10,947.0	WFMP_CL_X *			
11,123.8	10,975.0	WFMP_CL_X_BASE *			
11,151.2	10,983.0	WFMP_CL_Y *			

Planning Report

Database:	EDM 5000.16 Single User Db	**Local Co-ordinate Reference:**	Well Lea Unit 701H
Company:	Avant Operating, LLC	**TVD Reference:**	WELL @ 3692.7usft (3692.7)
Project:	Lea Co., NM (NAD 83)	**MD Reference:**	WELL @ 3692.7usft (3692.7)
Site:	Lea Unit 14 11	**North Reference:**	Grid
Well:	Lea Unit 701H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 0.1		

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Comment
5,300.0	5,300.0	0.0	0.0	KOP - Start Build 2.00
5,460.9	5,460.8	1.8	4.2	Start 3984.6 hold at 5460.9 MD
9,445.5	9,439.2	88.9	210.2	Start Drop -2.00
9,606.5	9,600.0	90.6	214.3	Start 922.5 hold at 9606.5 MD
10,529.0	10,522.5	90.6	214.3	KOP #2 - Start Build 12.00
11,279.0	11,000.0	-386.8	218.0	LP - Start 7287.9 hold at 11279.0 MD
18,566.9	11,000.0	-7,674.5	274.6	TD at 18566.9

Offline Cementing Summary – Intermediate Casing

<u>No changes to the cement program will take place for offline cementing.</u>

Note: Offline cementing will only be preformed within the Bone Springs and shallower with a MASP less than 5000 psi.

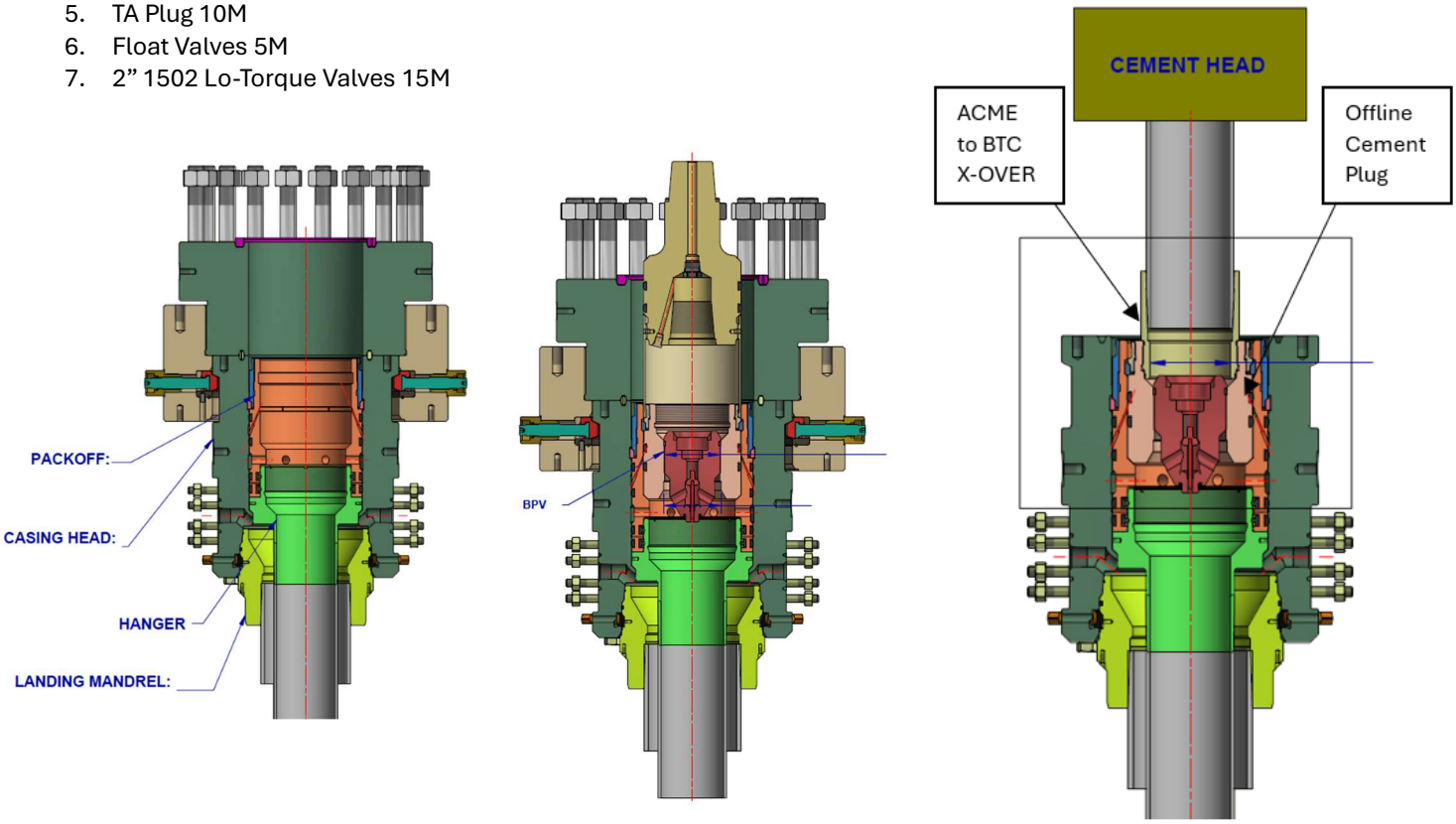
1. Run casing as per normal operations. While running casing, conduct negative pressure test and test back pressure valves.
    - **a.** Float equipment is equipped with two back pressure valves rated to a minimum of 5,000 psi.
2. Land production casing on mandrel hanger through BOP.
    - **a.** If casing is unable to be landed with a mandrel hanger, then the **casing will be cemented online**.
    - **b.** Shoe assembly shown in Figure 1.
3. Break circulation and confirm no restrictions.
    - **a.** Ensure no blockage of float equipment and appropriate annular returns.
    - **b.** Perform flow check to confirm well is static.
4. Set pack-off
    - **a.** If utilizing a fluted/ported mandrel hanger, ensure well is static on the annulus and inside the casing by filling the pipe with kill weight fluid, remove landing joint, and set annular packoff through BOP. Pressure test to 5,000 psi for 10 min.
    - **b.** If utilizing a solid mandrel hanger, ensure well is static on the annulus and inside the casing by filling the pipe with kill weight fluid. Pressure test seals to 5,000 psi for 10 min. Remove landing joint through BOP.
5. After confirmation of both annular barriers and the two casing barriers, install TA plug and pressure test to 5,000 psi for 10 min. Notify the BLM with intent to proceed with nipple down and offline cementing.
    - **a.** Minimum 4 hrs notice.
6. With the well secured and BLM notified, nipple down BOP and secure with 10k cement tool and cement head.
    - **a. Note: If any of the mechanical barriers fail to pressure test or well does not remain static, the BOP stack will not be nippled down until after the cement job has concluded and both lead and tail slurry have reached 500 psi.**
7. Skid/Walk rig off current well.
8. Rig up return lines to take returns from wellhead to pits and rig choke.
    - **a.** Test all connections and lines from wellhead to choke manifold to 5,000 psi high for 10 min.
    - **b.** If either test fails, perform corrections and retest before proceeding.
9. Rig up cementing lines.
    - **a.** Pressure test cement lines against cement head to 80% of casing burst for 10 min.
10. Break circulation on well to confirm no restrictions.
    - **a.** If gas is present on circulation, well will be shut in and returns rerouted through gas buster.
    - **b.** Max anticipated time before circulating with cement truck is 6 hrs.
11. Pump cement job as per plan.
    - **a.** At plug bump, test casing to 0.22 psi/ft or 1500 psi, whichever is greater.
    - **b.** If plug does not bump on calculated, shut down and wait 8 hrs or 500 psi compressive strength, whichever is greater before testing casing.
    - **c.** If an influx is taken while cementing, Well Control Procedure from Appendix III will be followed.
12. Confirm well is static and floats are holding after cement job.
    - **a.** With floats holding and backside static:
        - **i.** Remove cement head.
    - **b.** If floats are leaking:
        - **i.** Shut-in well and WOC (Wait on Cement) until tail slurry reaches 500 psi compressive strength and the casing is static prior to removing cement head.
    - **c.** If there is flow on the backside:
        - **i.** Shut in well and WOC until tail slurry reaches 500 psi compressive strength. Ensure that the casing is static prior to removing cement head.
    - **d.** If bradenhead cement remediation is required, Well Control Procedure from Appendix IV will be followed.
13. Remove offline cement tool.
14. Install night cap with pressure gauge for monitoring.
15. Test night cap to 5,000 psi for 10 min.

Appendix

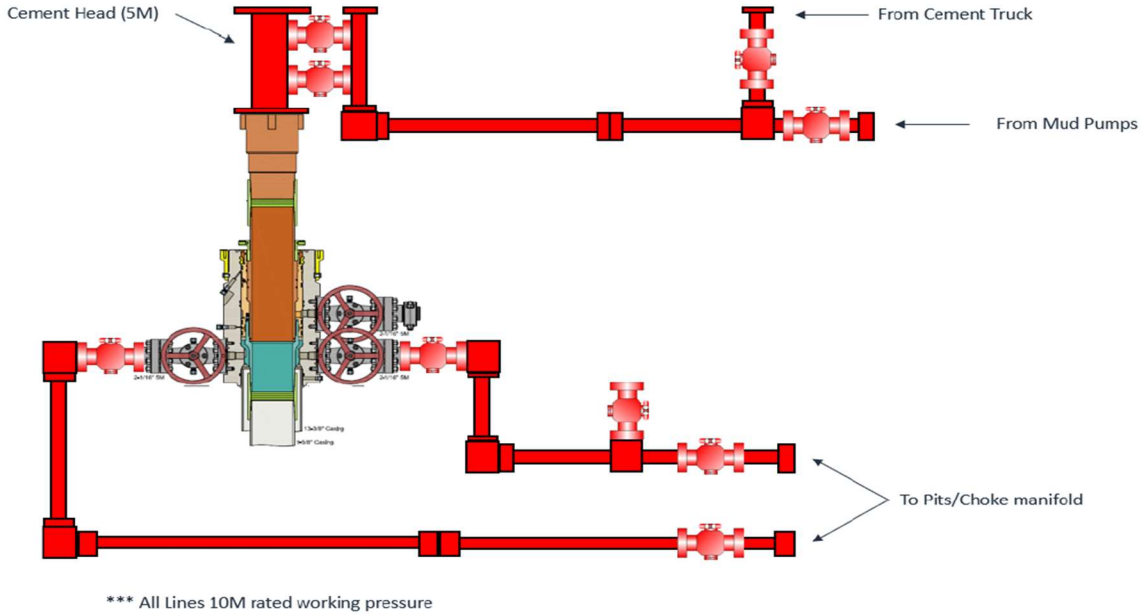
I. Offline cementing equipment ratings – 5M requirement

Component RWP

1. Pack-off 10M
2. Cement head 10M
3. Casing Wellhead Valves 10M
4. Annular Wellhead Valves 5M
5. TA Plug 10M
6. Float Valves 5M
7. 2” 1502 Lo-Torque Valves 15M



II. Cementing Instrumentation Diagram



III. Well Control Procedure (Influx occurs while cementing)

8. Alert location and shut down pumps.
9. Shut-in the well and record pressures and pit levels
10. Open choke and resume pumping to take returns through choke manifold to mud/gas separator.
11. Bump plug, close choke and cement head.
12. Record time, SICP, annulus pressure, pit gain.
13. Shut in annulus valves on wellhead and bleed of return line through the choke.

IV. Well Control Procedure (Remediation – Bradenhead squeeze)

a. If well is static:

1. Rig up cement pump to annulus wellhead valve
2. Close choke and cement head
3. Pump planned cement volume down annulus
4. Shut-in the well and record pressures and pit levels
5. Record time, SICP, annulus pressure.
6. Shut in annulus valves on wellhead and bleed of return line through the choke.

b. If well is not static:

1. Rig up mud pump to annulus wellhead valve as shown in Figure 2.
2. Close choke and cement head
3. Bullhead kill fluid down annulus while monitoring casing pressure.
4. Shut-in the well and record pressures and pit levels.
5. Once well kill is confirmed, continue with cement remediation.

FIGURE 2: Well Control

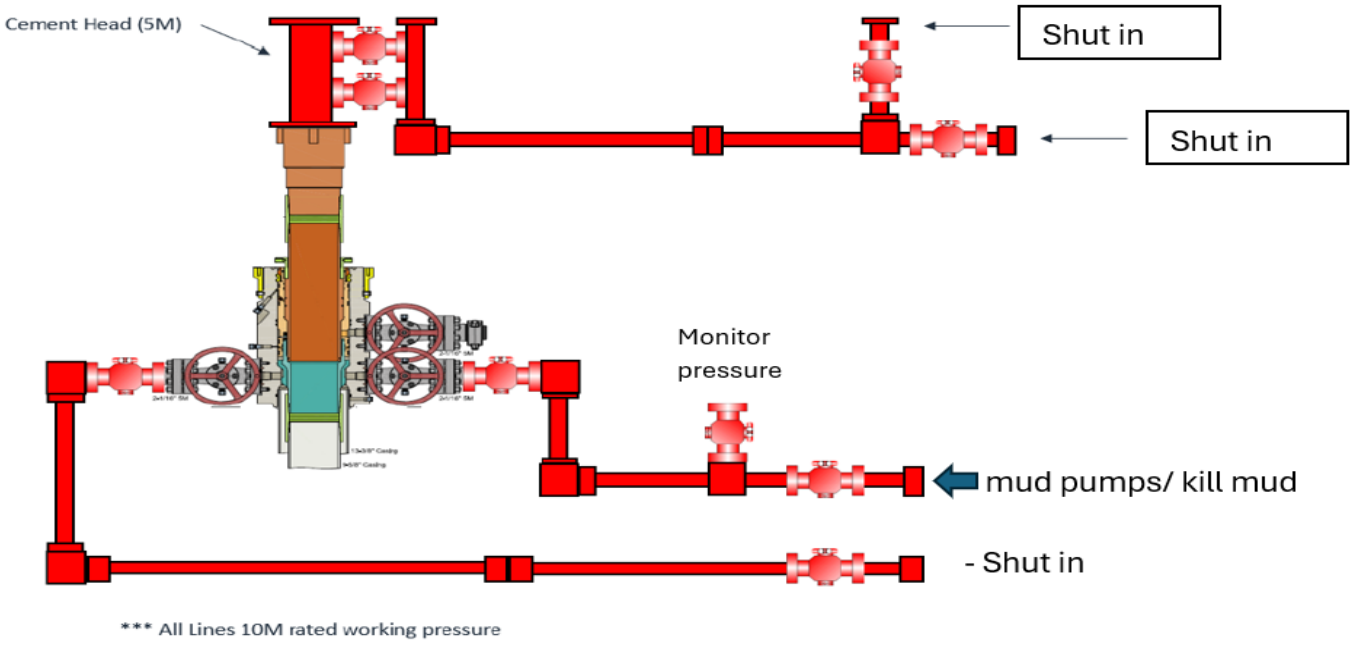
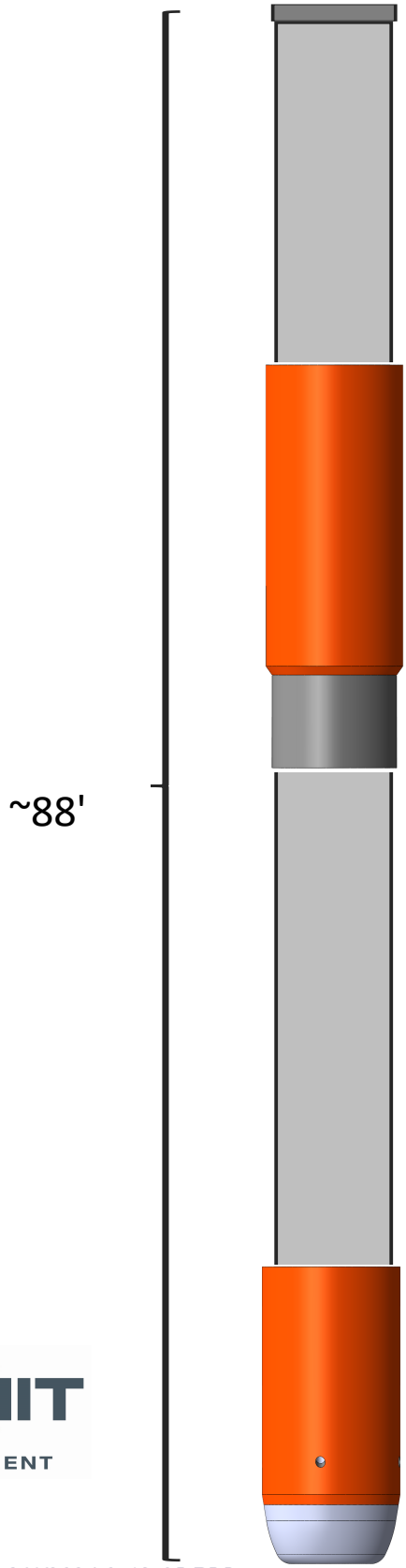


Figure 1: Shoe Assembly - Intermediate



42'
Full Length Joint

Float Collar - 1.78'

~88'

42'
Full Length Joint

Float Shoe - 1.80'

SUMMIT
CASING EQUIPMENT

Tanner Osborn
432-813-3595

AFE:

API:

REGULATORY: NMOCD

PERMIT #

RIG: H&P 255

KB: 3691.5 (25.5')

GL: 3666'

Lea Unit #701H

Wolfcamp

Lea County, NM

CAMERON WELLHEAD
9-5/8" x 7"11"
5K SSD-II

SHL: *Sec. 11, T-20S, R-34E; 140 FNL, 1045 FEL*

Lat: 32.5944947, Long: -103.5257222 (NAD83)

HOLE SIZE	MD	FORMATION	TVD	MUD	CASING	CEMENT	SPECIAL INSTRUCTIONS
	120	20" Conductor	120	SPUD MW 8.4 ppg	13 3/8 " 54.5# J-55 BTC +/- 13 Bowsprings 1 20' pup jt *1 joint shoe track*	**LEAD: 12.8 PPG** Top of Lead: 0 20% Excess **TAIL: 14.8 PPG** Top of Tail: 1316' 20% Excess	**Circ cement to surface is a NMOCD requirement** Casing must be set 25' into the Rustler MUD: Fresh water only
17 1/2 "	1,620	Rustler	1,620	Fresh			
	1,645	SURF CSG PT	1,645	8.6 ppg			
	3,415	Yates	3,415	DRLOUT MW 9.8 ppg	*SPLIT STRING* 9 5/8 " 40# J-55 BTC *0' - 4000'* 1 20' pup jt 40# L-80 HC BTC *4000' - 5690'* +/- 9 Bowsprings *1 joint shoe track*	**LEAD: 12.8 PPG** Top of Lead: 0' 20% excess **TAIL: 14.8 PPG** Top of Tail: 4552' 20% Excess	**Circ cement to surface is a NMOCD requirement**
	5,183	Capitan Reef	5,183	Brine			
12 1/4 "	5,590	Cherry Canyon	5,590	TD MW 10.3 ppg			
	5,690	INTRM CSG PT	5,690				
	6,477	Brushy Canyon	6,475	DRLOUT MW 8.8			
	8,195	Bone Spring	8,191	Cut Brine			
	9,515	1st BS Sand	9,509	KOP MW 9.3			
8 3/4 " VERTICAL	10,046	2nd BS Sand	10,039	EOC MW 9.3 OBM			
	10,529	**KOP**	**10,523**	Lat MW 9.3 OBM TD MW 9.3			**18,567 ' MD**
	10,709	3rd BS Sand	10,698				*7,679 ' VS*
8 3/4 " CURVE	11,039	Wolfcamp	10,941	*WET SHOE*			11,000 ' TVD
	11,279	**EOC**	**11,000**				*BHL: 2535 FNL, 1000 FEL*
8 3/4 " LATERAL					5 1/2 " 20# P-110 HC GBCD 1 20' pup jt 2 20' Marker Jts +/- 39 Bowsprings +/- 27 Doublebows +/- 173 Solid Bodies	**LEAD: 11 PPG** Top of Lead: 0 20% Excess **TAIL: 14.8 PPG** Top of Tail: 0 20% Excess All aqueous fluids (spacer and disp) left inside or outside of pipe must have biocide & corrision inhibitor	

12°/ 100'

EOC VS = 394' *Lat. Azi = VS Azi. = 179.56°* Est BHST = 175°F, Est BHCT = 158°F

DIRECTIONAL PLAN

MD	INC	INC	TVD	ANNOTATION

DIRECTIONS TO LOCAITON:

Drilling Engineer: Braden Harris

Lea Unit #701H (H&P 255)

Date: 7/17/2024

PROPOSAL#: 240717130958-A

CEMENT PROCEDURE & PROPOSAL

PREPARED FOR:

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

Avant Natural Resources

Lea Unit #701H

Lea County, NM
Rig: H&P 255

Service Point

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

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

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

PRINTED 7/17/2024 15:09 VERSION: v0.29b

Avant Natural Resources
Lea Unit #701H
Lea County, NM
Rig: H&P 255

Surface

PROPOSAL#: 240717130958-A

WELL INFORMATION	
MUD	8.4# Fresh Water
PREVIOUS PIPE	20'' 94# CSG to 120
OPEN HOLE	17.5'' OH to 1645
CASING/INJECTION	13.375'' 54.5# J-55/BTC to 1645
MD	1645
EST BHST/BHCT	94-F / 86-F (0.8-F/100-FT)
NOTES	Standby charges start after WTC has been on location for more than 4-hrs.

VOLUMES

FLUID NAME	LENGTH (ft)	OD (in.)	ID (in.)	XS (%)	FACTOR (bbl/ft)	VOLUME (bbl)
Lead	120	19.124	13.375		0.1815	21.8
Lead	1196	17.5	13.375	20%	0.1485	177.6
Tail	329	17.5	13.375	20%	0.1485	48.8
SHOE JOINT	40	13.375	12.615		0.1546	6.2

FLUIDS

SPACER

Fresh Water

VOLUME 20-bbl

Lead

35% B_Poz+65% Class C+6% Gel+5% SALT+0.25PPS Pol-E-Flake+0.005GPS NoFoam V1A

VOLUME	595-SX	Slurry Volume: *201.3-bbls*
DENSITY	12.8-ppg	Mix Water Required: *145-bbls*
YIELD	1.9-cf/sx	
MIX WATER	10.17-gps	
TOP OF CEMENT	Surface	
EXCESS	20%	

Avant Natural Resources
Lea Unit #701H
Lea County, NM
Rig: H&P 255

Surface

PROPOSAL#: 240717130958-A

Tail		
100% Class C+1% CaCl2+0.005GPS NoFoam V1A		
VOLUME	235-SX	Slurry Volume: *55.7-bbls*
DENSITY	14.8-ppg	Mix Water Required: *36-bbls*
YIELD	1.33-cf/sx	
MIX WATER	6.34-gps	
TOP OF CEMENT	1316-ft	
EXCESS	20%	
DISPLACEMENT		
Displacement		
VOLUME	248.1-bbl	

Avant Natural Resources
Lea Unit #701H
Lea County, NM
Rig: H&P 255

Intermediate

PROPOSAL#: 240717130958-A

WELL INFORMATION	
MUD	10.3# Brine
PREVIOUS PIPE	13.375'' 54.5# CSG to 1645
OPEN HOLE	12.25'' OH to 5690
CASING/INJECTION	9.625'' 40# J-55/L-80 HC/BTC to 5690
MD	5690
TVD	5690
EST BHST/BHCT	126-F / 110-F (0.8-F/100-FT)
NOTES	Standby charges start after WTC has been on location for more than 4-hrs.

VOLUMES

FLUID NAME	LENGTH (ft)	OD (in.)	ID (in.)	XS (%)	FACTOR (bbl/ft)	VOLUME (bbl)
Lead	1645	12.615	9.625		0.0646	106.3
Lead	2907	12.25	9.625	20%	0.0669	194.6
Tail	1138	12.25	9.625	20%	0.0669	76.2
SHOE JOINT	40	9.625	8.835		0.0758	3.0

FLUIDS

SPACER

Fresh Water

VOLUME 25-bbl

Lead

35% B_Poz+65% Class C+6% Gel+5% SALT+0.5% R-1300+0.25PPS Pol-E-Flake+0.005GPS NoFoam V1A

VOLUME	890-SX	Slurry Volume: *301.2-bbls*
DENSITY	12.8-ppg	Mix Water Required: *216-bbls*
YIELD	1.9-cf/sx	
MIX WATER	10.18-gps	
TOP OF CEMENT	Surface	
EXCESS	20%	

Avant Natural Resources
Lea Unit #701H
Lea County, NM
Rig: H&P 255

Intermediate

PROPOSAL#: 240717130958-A

Tail		
100% Class C+5% SALT+0.005GPS NoFoam V1A		
VOLUME	330-SX	Slurry Volume: *79.9-bbls*
DENSITY	14.8-ppg	Mix Water Required: *52-bbls*
YIELD	1.36-cf/sx	
MIX WATER	6.51-gps	
TOP OF CEMENT	4552-ft	
EXCESS	20%	
DISPLACEMENT		
Displacement		
VOLUME	428.4-bbl	

Avant Natural Resources
Lea Unit #701H
Lea County, NM
Rig: H&P 255

Production

PROPOSAL#: 240717130958-A

WELL INFORMATION	
MUD	9.3# OBM
PREVIOUS PIPE	9.625'' 40# CSG to 5690
OPEN HOLE	8.75'' OH to 18567
CASING/INJECTION	5.5'' 20# P-110 HC/GBCD to 18567
MD	18567
TVD	11000
EST BHST/BHCT	175-F / 175-F (0.86-F/100-FT)
KOP	10529
NOTES	Standby charges start after WTC has been on location for more than 8-hrs.

VOLUMES

FLUID NAME	LENGTH (ft)	OD (in.)	ID (in.)	XS (%)	FACTOR (bbl/ft)	VOLUME (bbl)
Lead	5690	8.835	5.5		0.0464	264.2
Lead	4839	8.75	5.5	20%	0.0540	261.2
Tail	8038	8.75	5.5	20%	0.0540	433.9
SHOE JOINT	80	5.5	4.778		0.0222	1.8

FLUIDS

SPACER

Wt. Spacer 37.85GPB Water+8PPB PolyScrub 4320+78.84PPB Barite+1GPB HoleScrub 4311+1PPB R-1300

VOLUME	40-bbl
DENSITY	9.8-ppg

Lead

100% ProLite+5PPS Plexcrete STE+2% SMS+0.65% R-1300+0.2% FL-24+3PPS Gilsonite+0.005GPS NoFoam V1A

VOLUME	875-SX	Slurry Volume: *526.7-bbls*
DENSITY	10.7-ppg	Mix Water Required: *439-bbls*
YIELD	3.38-cf/sx	
MIX WATER	21.06-gps	
TOP OF CEMENT	Surface	
EXCESS	20%	

Avant Natural Resources
Lea Unit #701H
Lea County, NM
Rig: H&P 255

Production

PROPOSAL#: 240717130958-A

Tail		
50% B_Poz+50% Class H+5% SALT+0.05% RCKCAS-100+0.75% FR-5+0.5% FL-24+0.005GPS NoFoam V1A		
VOLUME	2025-SX	Slurry Volume: *436.4-bbls*
DENSITY	14.5-ppg	Mix Water Required: *255-bbls*
YIELD	1.21-cf/sx	
MIX WATER	5.28-gps	
TOP OF CEMENT	10529-ft	
EXCESS	20%	
DISPLACEMENT		
Fresh Water+ 0.25GPT Plexcide 24L+1GPT Corplex		
VOLUME	410-bbl	
DENSITY	8.34-ppg	

CHEMICAL DESCRIPTIONS		
CHEMICAL NAME	**CODE**	**DESCRIPTION**
B_Poz	WTC228	Poz - Fly Ash, Extender
Class H	WTC101	API Cement
Class C	WTC100	API Cement
M_Poz	WTC280	Poz - Fly Ash, Extender
ProLite		Blended Based Cement
Plexcrete SFA	WTC129	Cement Strength Enhancer
Gel	WTC102	Extender
Micro Crystal	WTC212	Cement Strength Enhancer
Micro Shell	WTC209	Cement Strength Enhancer
WTC1	WTC250	Extender
GB-52	WTC008	Microspheres, Extender
Plexcrete STE	WTC127	Cement Strength Enhancer
CSE-NP	WTC236	Cement Strength Enhancer
Gypsum	WTC111	Free Water Control, Extender
CaCl2	WTC112	Accelerator
SMS	WTC115	Free Water Control, Extender
RCKCAS-100	WTC276	Free Water Control, Anti-Settling Agent
R-1300	WTC201	Low Temperature Retarder
CRT-201	WTC278	Lignosulfonate Retarder
FR-5	WTC258	Lignosulfonate Retarder
C-37	WTC224	Dispersant, Friction Reducer
CFL-312	WTC265	Fluid Loss and Gas Migration Control
FL-24	WTC277	Fluid Loss (polymers/copolymers - 300-F max)
FL-17	WTC130	Fluid Loss and Gas Migration Control (400-F max)
MagBond	WTC271	Expanding Agent
Gilsonite	WTC003	Premium Lost Circulation Material, Free Water Control
Pol-E-Flake	WTC106	Lost Circulation Material
Web Seal	WTC133	Premium Fiber Lost Circulation Material
Zone Seal	WTC207	Premium Lost Circulation Material
NoFoam V1A	WTC105	Liquid Defoamer
Water		Fresh Water
PolyScrub 4320	WTC232	Spacer Gelling Agent
Barite	WTC116	Weighting Agent
HoleScrub 4311	WTC281	Surfactant
HoleScrub 4305	WTC213	Surfactant
HoleScrub 4308	WTC215	Surfactant
Soda Ash	WTC164	pH Control
R-1300	WTC201	Low Temperature Retarder
RCKCAS-100	WTC276	Free Water Control, Anti-Settling Agent
Sugar	WTC119	Retarder
R-33	WTC243	Lignosulfonate Retarder
Plexcide 24L	WTC166	Biocide
Corplex	WTC134	Corrosion Inhibitor
Clay Max	WTC096	KCL Substitute
Zone Seal	WTC207	Premium Lost Circulation Material

Performance Data Sheet

Issued on: 01.09.2023

INTERPIPE

OD Label	LM Label	Grade	Connection
5 1/2	20.00	P110HC	INTREPID-SP®

PIPE BODY PROPERTIES

Nominal OD	Nominal ID	Nominal WT	Nominal LM
5.500 inch 139,70 mm	4.778 inch 121,36 mm	0.361 inch 9,17 mm	20.00 ppf 29,76 kg/m

Standard Drift	Minimal YS	Maximal YS	Minimal UTS
4.653 inch 118,19 mm	110 ksi 758 MPa	140 ksi 965 MPa	125 ksi 862 MPa

CONNECTION PROPERTIES & PERFORMANCES

Name	Type	Coupling OD	Connection ID
INTREPID-SP®	Semi-Premium T&C	6.300 inch 160,02 mm	4.778 inch 121,36 mm

Coupling length	Tension efficiency	Compression Efficiency	Make-up loss
9.449 inch 240,00 mm	641 klb 2 850 kN 100 % PB	641 klb 2 850 kN 100 % PB	4.126 inch 104,80 mm

Burst	Collapse	Max. Bending	Max. Load on Coupling Face
12 640 Psi 87,1 MPa 100 % PB	12 200 Psi 84,1 MPa 100 % PB	46 °/100 ft 46 °/30 m	583 klb 2 591 kN

FIELD TORQE VALUES

	[ft-lb]	[N·m]		[ft-lb]	[N·m]
Min. Make-Up Torque	12 400	16 800	**Operational Torque**	21 500	29 150
Opt. Make-Up Torque	13 800	18 700			
Max. Make-Up Torque	15 200	20 600	**Yield Torque**	23 900	32 400

The Performance Data Sheet contains general information that is correct at the time of issue. In the interests of continuous development, the Interpipe company reserves the right to change the format and contents of the Data Sheet at any time without warning and without incurring any obligations.
For any questions regarding mentioned data, please mail to Yuriy.Kuratsapov@m.interpipe.biz

DISTRICT I
1625 N. French Dr., Hobbs, N.M. 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
DISTRICT II
811 S. First St., Artesia, N.M. 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, N.M. 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, N.M. 87505

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-025-53272	98247	WC-025 G-09 S263504N1WC Wolfcamp

[4] Property Code	[5] Property Name	[6] Well Number
	LEA UNIT	701H

[7] OGRID No.	[8] Operator Name	[9] Elevation
330396	AVANT OPERATING, LLC	3666.1

[10] Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	11	20 S	34 E		140	NORTH	1045	EAST	LEA

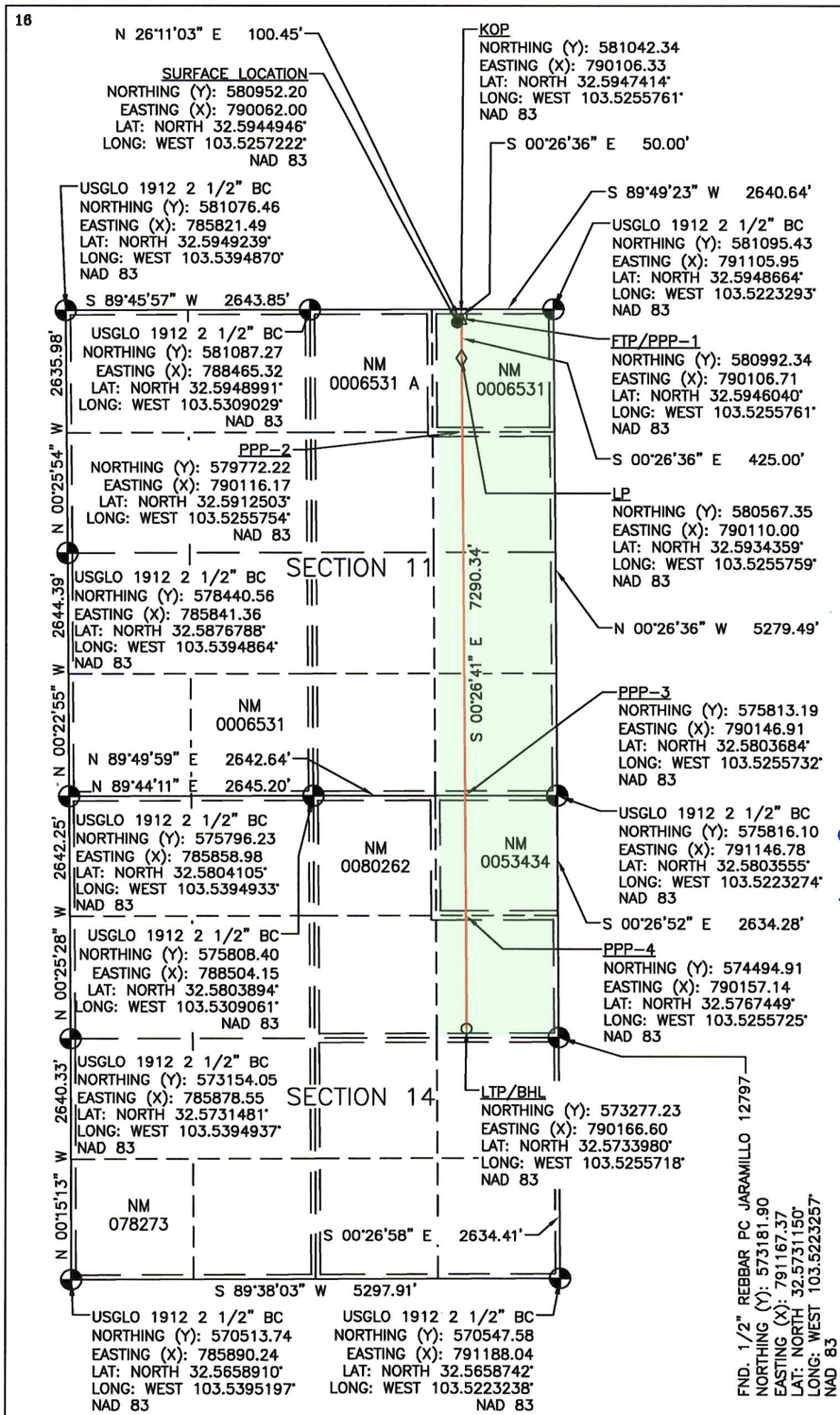
[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	14	20 S	34 E		2536	NORTH	1000	EAST	LEA

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
240 Total Acres.			

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

16



[17] OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and 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 such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Sarah Ferreyros 7/18/24
Signature Date

Sarah Ferreyros
Printed Name

sarah@avantnr.com
E-mail Address

[18] SURVEYOR CERTIFICATION

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

7/11/24
Date of Survey

Signature and Seal of Professional Surveyor:

JOHN A. VUKONICH NEW MEXICO 14831 PROFESSIONAL SURVEYOR 7/12/2024

Certificate Number 14831

LEGEND:
- ● = SURFACE LOCATION (SHL)
- □ = KICK OFF POINT (KOP)
- △ = FTP/PPP-1
- ◇ = LANDING POINT (LP)
- ○ = LTP/BHL
- ⊕ = FOUND MONUMENT

FOOTAGES		
SHL	140' FNL	1045' FEL
KOP	50' FNL	1000' FEL
FTP/PPP-1	100' FNL	1000' FEL
LP	525' FNL	1000' FEL
PPP-2	1320' FNL	1000' FEL
PPP-3	0' FNL	1000' FEL
PPP-4	1318' FNL	1000' FEL
LTP/BHL	2536' FNL	1000' FEL

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Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 370962

CONDITIONS

Operator: Avant Operating, LLC 1515 Wynkoop Street Denver, CO 80202	OGRID: 330396
	Action Number: 370962
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
pkautz	None	8/6/2024