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

Sundry Print Report

03/05/2024

Well Name: CUTBOW 36 1 FEDERAL COM	**Well Location:** T19S / R32E / SEC 25 / SESW /	**County or Parish/State:**
Well Number: 301H	**Type of Well:** OIL WELL	**Allottee or Tribe Name:**
Lease Number: NMNM77054	**Unit or CA Name:**	**Unit or CA Number:**
US Well Number: 3002551498	**Well Status:** Approved Application for Permit to Drill	**Operator:** AVANT OPERATING LLC

Notice of Intent

Sundry ID: 2768713

Type of Submission: Notice of Intent

Type of Action: APD Change

Date Sundry Submitted: 02/07/2024

Time Sundry Submitted: 12:05

Date proposed operation will begin: 03/01/2024

Procedure Description: Avant Operating, LLC requests to move the SHL& BHL from what was originally permitted. The SHL will move from 609 FSL & 1390 FWL to 749 FSL & 1471 FWL and the BHL will move from 100 FSL & 330 FWL to 100 FSL & 430 FWL. Please see attached updated well plat and directional survey to reflect this change. Avant would also like to request a secondary drilling procedure—If full returns are lost while drilling the 12.25” intermediate hole section, a DV tool will be set @ 3,200’ and the attached 2 stage cement design job will be executed.

NOI Attachments

Procedure Description

Cutbow_301H_Sundry_Attachments_20240207120504.pdf

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Conditions of Approval

Additional

25_16_32_N_Sundry_ID_2768713_Cutbow_36_1_Federal_Com_301H_Lea_NM077054_AVANT_OPERATING_LLC_13_22d_1_24_2023_LV_20240229122637.pdf

Cutbow_36_1_Federal_Com_301H_Dr_COA_20240229122637.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:** FEB 07, 2024 12:05 PM

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: CODY LAYTON **BLM POC Title:** Assistant Field Manager Lands & Minerals

BLM POC Phone: 5752345959 **BLM POC Email Address:** clayton@blm.gov

Disposition: Approved **Disposition Date:** 03/05/2024

Signature: Cody R. Layton

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: SESW / 614 FSL / 1378 FWL / TWSP: 19S / RANGE: 32E / SECTION: 25 / LAT: 32.6257332 / LONG: -103.7237856 (TVD: 0 feet, MD: 0 feet)

PPP: SWSW / 252 FSL / 335 FWL / TWSP: 19S / RANGE: 32E / SECTION: 25 / LAT: 32.624742 / LONG: -103.7271725 (TVD: 8850 feet, MD: 9032 feet)

PPP: NWNW / 0 FNL / 330 FWL / TWSP: 19S / RANGE: 32E / SECTION: 36 / LAT: 32.624097 / LONG: -103.727205 (TVD: 8984 feet, MD: 9309 feet)

PPP: SWNW / 1320 FNL / 330 FWL / TWSP: 20S / RANGE: 32E / SECTION: 1 / LAT: 32.606051 / LONG: -103.727251 (TVD: 9000 feet, MD: 15864 feet)

BHL: SWSW / 100 FSL / 330 FWL / TWSP: 20S / RANGE: 32E / SECTION: 1 / LAT: 32.5952747 / LONG: -103.7272871 (TVD: 9000 feet, MD: 19794 feet)

25-16-32-N Sundry ID 2768713 Cutbow 36 1 Federal Com 301H Lea NM077054 AVANT OPERATING LLC 13-22d 1-24-2023 LV

Cutbow 36 1 Federal Com 301H

20	surface csg in a	24	inch hole.		Design Factors			Surface			
Segment	#/ft	Grade	Coupling	Joint	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	94.00	j 55	btc	12.69	0.85	1.31	1,175	4	2.20	1.48	110,450
"B"			btc				0				0
	w/8.4#/g mud, 30min Sfc Csg Test psig: 964		Tail Cmt	does not	circ to sfc.	Totals:	1,175				110,450

Comparison of Proposed to Minimum Required Cement Volumes

Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE	Min Dist Hole-Cplg
24	0.9599	1055	1822	1128	62	10.00	960	2M	1.50

Site plat (pipe racks S or E) as per O.O.1.III.D.4.i. not found.

13 3/8	casing inside the	20			Design Factors			Int 1			
Segment	#/ft	Grade	Coupling	Joint	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	54.50	j 55	ltc	3.20	0.7	1.37	2,950	2	2.75	1.18	160,775
"B"							0				0
	w/8.4#/g mud, 30min Sfc Csg Test psig: 631					Totals:	2,950				160,775
	The cement volume(s) are intended to achieve a top of			0	ft from surface or a		1175				overlap.

Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE	Min Dist Hole-Cplg
17 1/2	0.6946	1675	2972	2430	22	10.50	995	2M	2.06
D V Tool(s):							sum of sx	Σ CuFt	Σ%excess
t by stage % :		#VALUE!	#VALUE!				1675	2972	22

Class 'C' tail cmt yld > 1.35

9 5/8	casing inside the	13 3/8			Design Factors			Int 2			
Segment	#/ft	Grade	Coupling	Joint	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	40.00	j 55	ltc	2.83	1.47	0.86	4,000	2	1.52	2.97	160,000
"B"	40.00	hcl 80	ltc	34.88	2.11	1.25	603	3	2.21	4.25	24,120
	w/8.4#/g mud, 30min Sfc Csg Test psig: 1,020					Totals:	4,603				184,120
	The cement volume(s) are intended to achieve a top of			2450	ft from surface or a		500				overlap.

Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE	Min Dist Hole-Cplg
12 1/4	0.3132	390	595	699	-15	8.40	2602	3M	0.81
	Setting Depths for D V Tool(s):		3200				sum of sx	Σ CuFt	Σ%excess
	% excess cmt by stage:	35	538				1290	2251	222

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,

5 1/2	casing inside the	9 5/8			Design Factors			Prod 1			
Segment	#/ft	Grade	Coupling	Joint	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	20.00	hcp 110	gbcd	3.81	2.66	3.13	9,032	3	5.52	4.69	180,640
"B"	20.00	hcp 110	gbcd	∞	2.66	3.13	10,737	3	5.52	4.69	214,740
	w/8.4#/g mud, 30min Sfc Csg Test psig: 1,980					Totals:	19,769				395,380
	The cement volume(s) are intended to achieve a top of			4403	ft from surface or a		200				overlap.

Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE	Min Dist Hole-Cplg
8 3/4	0.2526	3320	5696	3883	47	9.80			1.23

Class 'H' tail cmt yld > 1.20 Capitan Reef est top XXXX.

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**Avant Operating LLC**
LEASE NO.:	**NMNM077054**
LOCATION:	Section 25, T.19 S., R.32 E., NMPM
COUNTY:	Lea County, New Mexico

WELL NAME & NO.:	**Cutbow 36 1 Federal Com 301H**
SURFACE HOLE FOOTAGE:	749'/S & 1471'/W
BOTTOM HOLE FOOTAGE	100'/S & 430'/W
ATS/API ID:	**30-025-51498**
APD ID:	**10400088008**
Sundry ID:	**2768713**

COA

H2S	Yes		
Potash	Secretary		
Cave/Karst Potential	Low		
Cave/Karst Potential	☐ Critical		
Variance	☐ None	☑ Flex Hose	☐ Other
Wellhead	Diverter		
Other	☑ 4 String	Capitan Reef Int 2	☐ 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		
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 **Delware and Bone Springs** formation. As a result, the Hydrogen Sulfide area must meet Onshore Order 6 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

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

1. The **20** inch surface casing shall be set at approximately **1175 feet** (a minimum of **25 feet (Lea County)** into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface. The surface hole shall be **24** 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 **24 hours in the Potash Area** 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 **13-3/8** 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.**

    ❖ In Secretary Potash 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 **9-5/8** inch intermediate casing is:

Option 1 (Single Stage):

- Cement should tie-back at least **50 feet** on top of Capitan Reef top **or 500 feet** into the previous casing, whichever is greater. 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.

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.

In Capitan Reef a DV tool shall be set a maximum of 200' above the top of Capitan Reef.

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 should tie-back at least **50 feet** on top of Capitan Reef top **or 500 feet** 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.

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

- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

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 tested to **1500** psi. A Diverter system is approved as a variance to drill the **13-3/8** inch intermediate casing section in a **20** inch hole.

b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **13-3/8** inch 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 **9-5/8** inch intermediate casing shoe shall be **5000 (5M)** psi.

Option 2:

a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be tested to **1500** psi. A Diverter system is approved as a variance to drill the **13-3/8** inch intermediate casing section in a **20** inch hole.

b. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the **13-3/8** inch intermediate casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the intermediate 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 OOGO2.III.A.2.i 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 Onshore Order 1 and 2.
- 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.

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)

☒ Eddy County
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

☒ 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 Onshore Oil and Gas Order No. 2 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.

3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

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, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing intergrity 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 intergrity 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 Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

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 OOGO2.III.A.2.i 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 Onshore Order 2 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 water basin (8 hours) or potash (24 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 Onshore Order No. 2.

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.

LVO 2/29/2024

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
30-025-51498	27220	Gem; Bone Spring

[4] Property Code	[5] Property Name	[6] Well Number
333338	Cutbow 36 1 Federal Com	301H

[7] OGRID No.	[8] Operator Name	[9] Elevation
330396	Avant Operating, LLC	3580

[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
N	25	19 S	32 E		749	South	1471	West	Lea

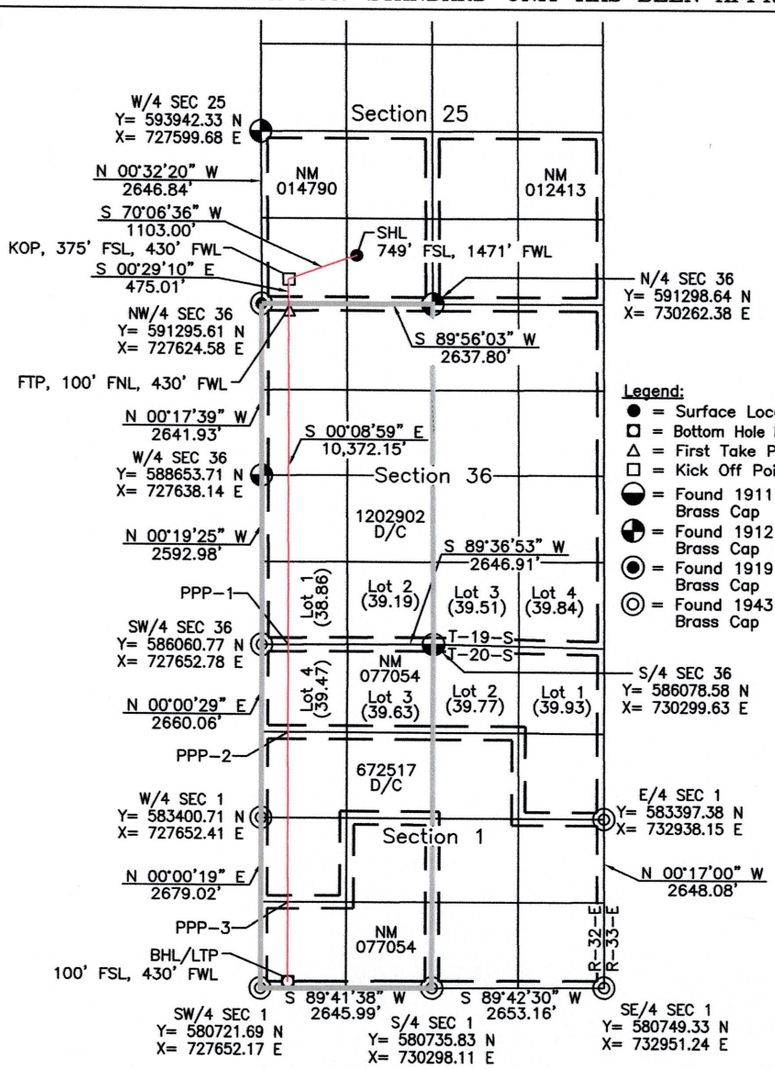
[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	1	20 S	32 E		100	South	430	West	Lea

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
SECTION 36: NW/4, N/2SW/4, LOT 1 (38.86), LOT 2 (39.19); 318.05 Ac. SECTION 1: LOT 4 (39.47), LOT 3 (39.63), S/2NW/4, SW/4; 319.10 Ac. TOTAL: 637.15 Ac.			

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



Legend:
- ● = Surface Location (SHL)
- □ = Bottom Hole Location/LTP
- △ = First Take Point (FTP)
- □ = Kick Off Point (KOP)
- ◒ = Found 1911 USGLO Brass Cap
- ◔ = Found 1912 USGLO Brass Cap
- ◉ = Found 1919 USGLO Brass Cap
- ◎ = Found 1943 USGLO Brass Cap

[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.

Signature 2/7/2024 Date

Meghan Twele
Printed Name

mtwele@outlook.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.

1/27/24
Date of Survey
Plat Revised: 1/29/24
Signature and Seal of Professional Surveyor:

17078
Certificate Number

SURFACE LOCATION
NAD 83 NMSPC ZONE 3001
Y= 592046.35 N
X= 729088.26 E
LAT.= 32.6261044° N
LONG.= 103.7234867° W

FIRST TAKE POINT
NAD 83 NMSPC ZONE 3001
100' FNL, 430' FWL
SEC. 36, T19S, R32E
Y= 591196.10 N
X= 728055.09 E
LAT.= 32.6237837° N
LONG.= 103.7268582° W

PPP-2
NAD 83 NMSPC ZONE 3001
1343' FNL, 419' FWL
SEC. 1, T20S, R32E
Y= 584720.45 N
X= 728072.00 E
LAT: 32.6059846° N
LONG: 103.7269233° W

LAST TAKE POINT
NAD 83 NMSPC ZONE 3001
100' FSL, 430' FWL
SEC. 1, T20S, R32E
Y= 580823.99 N
X= 728082.18 E
LAT.= 32.5952746° N
LONG.= 103.7269624° W

KICK OFF POINT
NAD 83 NMSPC ZONE 3001
375' FSL, 430' FWL
SEC. 25, T19S, R32E
Y= 591671.10 N
X= 728051.07 E
LAT.= 32.6250893° N
LONG.= 103.7268625° W

PPP-1
NAD 83 NMSPC ZONE 3001
0' FNL, 416' FWL
SEC. 1, T20S, R32E
Y= 586063.57 N
X= 728068.50 E
LAT: 32.6096763° N
LONG: 103.7269098° W

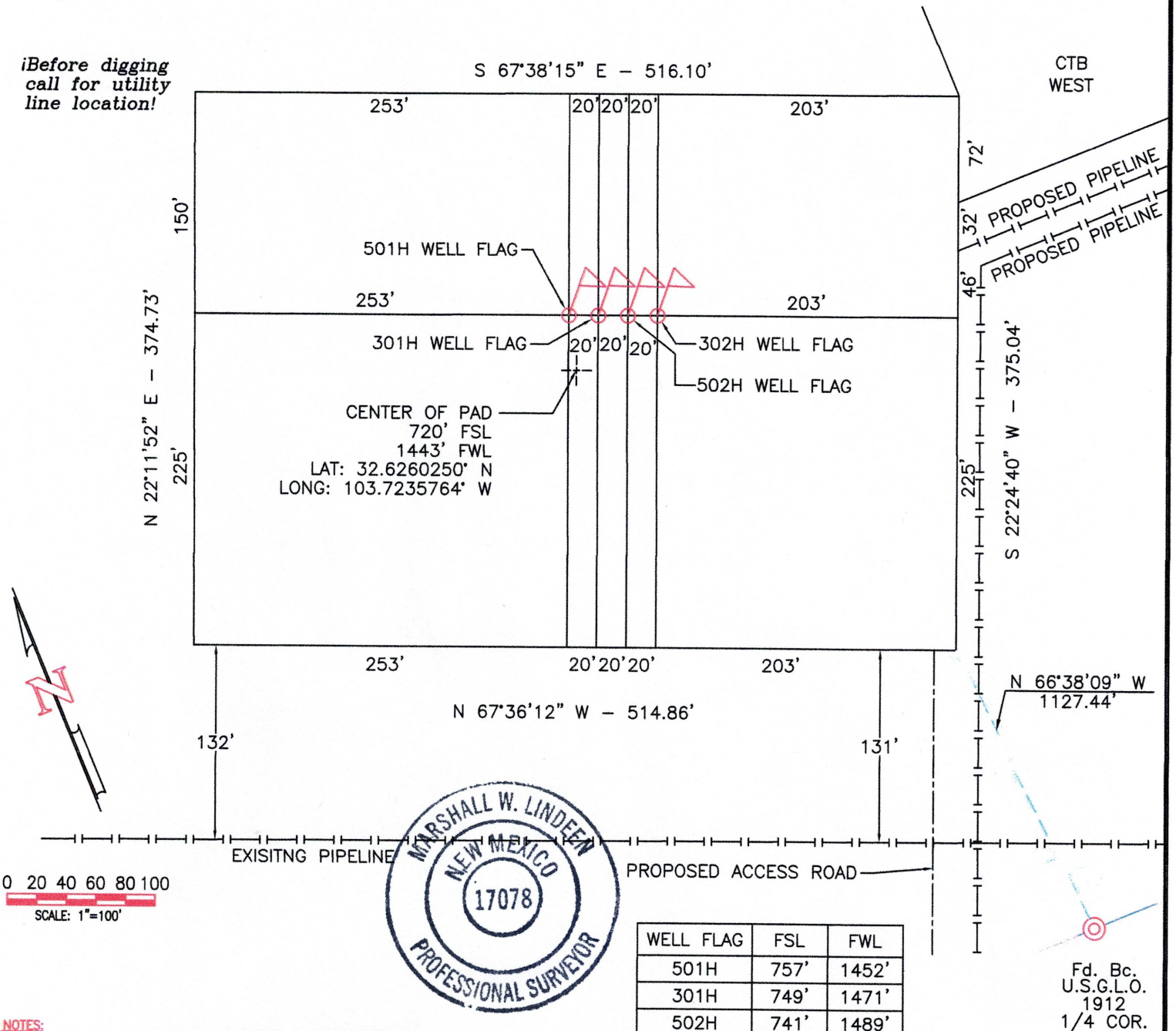
PPP-3
NAD 83 NMSPC ZONE 3001
1338' FSL, 427' FWL
SEC. 1, T20S, R32E
Y= 582062.20 N
X= 728078.94 E
LAT: 32.5986780° N
LONG: 103.7269500° W

BOTTOM HOLE LOCATION
NAD 83 NMSPC ZONE 3001
Y= 580823.99 N
X= 728082.18 E
LAT.= 32.5952746° N
LONG.= 103.7269624° W

AVANT OPERATING, LLC

CUTBOW PAD 2

SECTION 25, T-19-S, R-32-E, N.M.P.M., LEA COUNTY, N.M.



MARSHALL W. LINDEEN NEW MEXICO 17078 PROFESSIONAL SURVEYOR

WELL FLAG	FSL	FWL
501H	757'	1452'
301H	749'	1471'
502H	741'	1489'
302H	734'	1508'

NOTES:

1. ALL BEARINGS, DISTANCES & COORDINATES SHOWN ARE BASED UPON THE NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE, NAD 83, IN U.S. SURVEY FEET.
2. CONTRACTOR SHALL CONTACT "ONE-CALL" FOR LOCATION OF ANY MARKED OR UNMARKED BURIED PIPELINE OR CABLES ON WELL PAD AND/OR ACCESS ROAD AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION.
3. UNITED FIELD SERVICES, INC. IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES.

OWNER	SQ. FT.	ACRES
BUREAU OF LAND MANAGEMENT	193,371	4.439

I, MARSHALL W. LINDEEN, NEW MEXICO PROFESSIONAL SURVEYOR NO. 17078, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I FURTHER CERTIFY THAT THIS SURVEY IS NOT A LAND DIVISION OR SUBDIVISION AS DEFINED IN THE NEW MEXICO SUBDIVISION ACT.

MARSHALL W. LINDEEN P.S. #17078 — 2-6-24 DATE

AVANT OPERATING, LLC

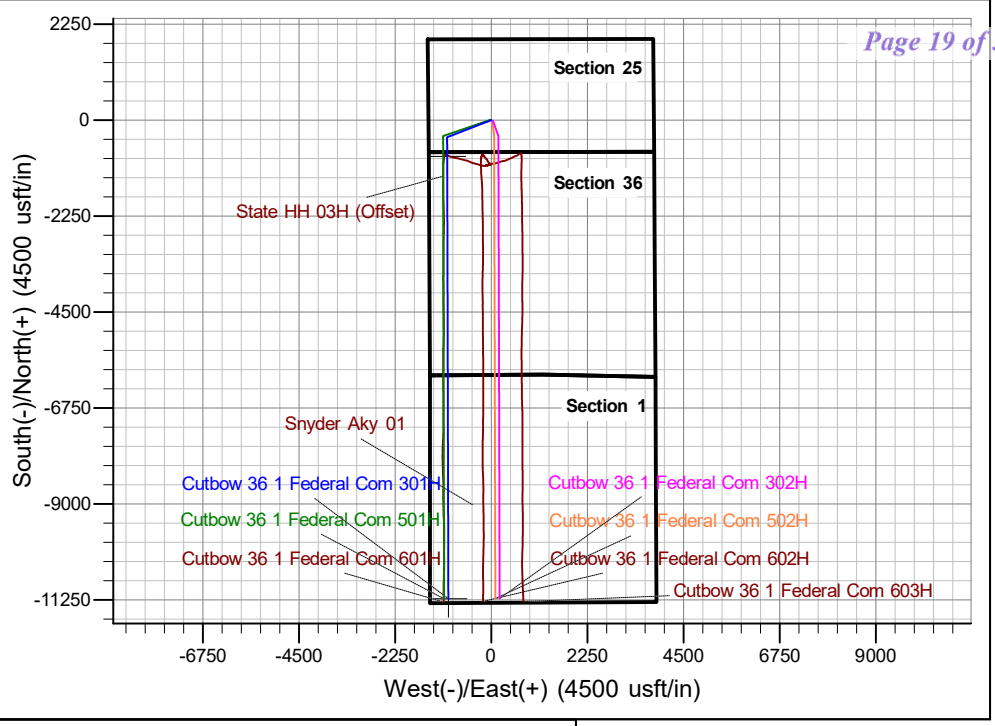
SURVEYED: 1/19/24 & 1/27/24	REV. DATE: 1/29/24	APP. BY: M.W.L.
DRAWN BY: A.A.D.	DATE DRAWN: 9/25/23	FILE NAME: 11646-Pad

UNITED FIELD SERVICES INC.
P.O. BOX 3651
FARMINGTON, NM 87499
OFFICE: (505) 334-0408

AVANT NATURAL RESOURCES

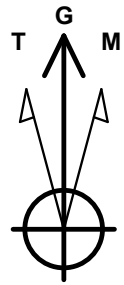
WELL DETAILS: Cutbow 36 1 Federal Com 301H					
Ground Elev: 3580.0 KB: 3606.5					
+N/-S	+E/-W	Northing	Easting	Latittude	Longitude
0.0	0.0	592046.34	729088.27	32.6261044°N	103.7234867°W

PROJECT DETAILS: Lea Co., 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



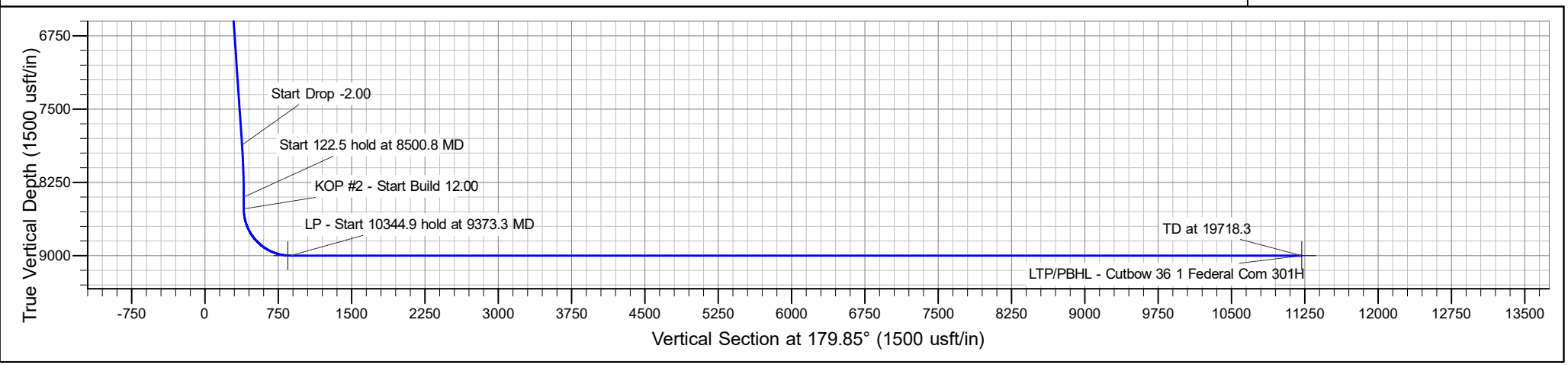
SECTION DETAILS

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	2000.0	0.00	0.00	2000.0	0.0	0.0	0.00	0.00	0.0	KOP - Start Build 2.00
3	2535.4	10.71	248.85	2532.3	-18.0	-46.5	2.00	248.85	17.9	Start 5430.0 hold at 2535.4 MD
4	7965.4	10.71	248.85	7867.7	-382.0	-987.5	0.00	0.00	379.4	Start Drop -2.00
5	8500.8	0.00	0.00	8400.0	-400.0	-1034.0	2.00	180.00	397.3	Start 122.5 hold at 8500.8 MD
6	8623.3	0.00	0.00	8522.5	-400.0	-1034.0	0.00	0.00	397.3	KOP #2 - Start Build 12.00
7	9373.3	90.00	179.85	9000.0	-877.5	-1032.8	12.00	179.85	874.8	LP - Start 10344.9 hold at 9373.3 MD
8	19718.3	90.00	179.85	9000.0	-11222.4	-1006.1	0.00	0.00	11219.7	TD at 19718.3



Azimuths to Grid North
True North: -0.33°
Magnetic North: 8.34°

Magnetic Field
Strength: 49648.3nT
Dip Angle: 60.79°
Date: 12/31/2004
Model: IGRF2000



Avant Operating, LLC

Lea Co., NM (NAD 83)
Cutbow 36 1 Federal Com Pad 2
Cutbow 36 1 Federal Com 301H

OH

Plan: Plan 0.2

Standard Planning Report

07 February, 2024

AVANT NATURAL RESOURCES

Planning Report

AVANT NATURAL RESOURCES

Database:	EDM 5000.16 Single User Db	**Local Co-ordinate Reference:**	Well Cutbow 36 1 Federal Com 301H
Company:	Avant Operating, LLC	**TVD Reference:**	WELL @ 3606.5usft (3606.5)
Project:	Lea Co., NM (NAD 83)	**MD Reference:**	WELL @ 3606.5usft (3606.5)
Site:	Cutbow 36 1 Federal Com Pad 2	**North Reference:**	Grid
Well:	Cutbow 36 1 Federal Com 301H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 0.2		

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 Cutbow 36 1 Federal Com Pad 2

Site Position:		**Northing:**	591,898.24 usft	**Latitude:**	32.6256983°N
From:	Map	**Easting:**	729,027.52 usft	**Longitude:**	103.7236868°W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "		

Well Cutbow 36 1 Federal Com 301H

Well Position	**+N/-S**	0.0 usft	**Northing:**	592,046.35 usft	**Latitude:**	32.6261044°N
	+E/-W	0.0 usft	**Easting:**	729,088.27 usft	**Longitude:**	103.7234867°W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,580.0 usft
Grid Convergence:		0.33 °				

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2000	12/31/2004	8.66	60.79	49,648.30556542

Design Plan 0.2

Audit Notes:

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

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	179.85

Plan Survey Tool Program **Date** 2/7/2024

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	19,718.3	Plan 0.2 (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	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,535.4	10.71	248.85	2,532.3	-18.0	-46.5	2.00	2.00	0.00	248.85	
7,965.4	10.71	248.85	7,867.7	-382.0	-987.5	0.00	0.00	0.00	0.00	
8,500.8	0.00	0.00	8,400.0	-400.0	-1,034.0	2.00	-2.00	0.00	180.00	
8,623.3	0.00	0.00	8,522.5	-400.0	-1,034.0	0.00	0.00	0.00	0.00	
9,373.3	90.00	179.85	9,000.0	-877.5	-1,032.8	12.00	12.00	0.00	179.85	
19,718.3	90.00	179.85	9,000.0	-11,222.4	-1,006.1	0.00	0.00	0.00	0.00	LTP/PBHL - Cutbow 3

AVANT NATURAL RESOURCES

Planning Report

AVANT NATURAL RESOURCES

Database:	EDM 5000.16 Single User Db	**Local Co-ordinate Reference:**	Well Cutbow 36 1 Federal Com 301H
Company:	Avant Operating, LLC	**TVD Reference:**	WELL @ 3606.5usft (3606.5)
Project:	Lea Co., NM (NAD 83)	**MD Reference:**	WELL @ 3606.5usft (3606.5)
Site:	Cutbow 36 1 Federal Com Pad 2	**North Reference:**	Grid
Well:	Cutbow 36 1 Federal Com 301H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 0.2		

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
1,700.0	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
KOP - Start Build 2.00									
2,100.0	2.00	248.85	2,100.0	-0.6	-1.6	0.6	2.00	2.00	0.00
2,200.0	4.00	248.85	2,199.8	-2.5	-6.5	2.5	2.00	2.00	0.00
2,300.0	6.00	248.85	2,299.5	-5.7	-14.6	5.6	2.00	2.00	0.00
2,400.0	8.00	248.85	2,398.7	-10.1	-26.0	10.0	2.00	2.00	0.00
2,500.0	10.00	248.85	2,497.5	-15.7	-40.6	15.6	2.00	2.00	0.00
2,535.4	10.71	248.85	2,532.3	-18.0	-46.5	17.9	2.00	2.00	0.00
Start 5430.0 hold at 2535.4 MD									
2,600.0	10.71	248.85	2,595.8	-22.3	-57.7	22.2	0.00	0.00	0.00
2,700.0	10.71	248.85	2,694.0	-29.0	-75.0	28.8	0.00	0.00	0.00
2,800.0	10.71	248.85	2,792.3	-35.7	-92.4	35.5	0.00	0.00	0.00
2,900.0	10.71	248.85	2,890.5	-42.4	-109.7	42.2	0.00	0.00	0.00
3,000.0	10.71	248.85	2,988.8	-49.1	-127.0	48.8	0.00	0.00	0.00
3,100.0	10.71	248.85	3,087.1	-55.8	-144.4	55.5	0.00	0.00	0.00
3,200.0	10.71	248.85	3,185.3	-62.6	-161.7	62.1	0.00	0.00	0.00
3,300.0	10.71	248.85	3,283.6	-69.3	-179.0	68.8	0.00	0.00	0.00
3,400.0	10.71	248.85	3,381.8	-76.0	-196.3	75.4	0.00	0.00	0.00
3,500.0	10.71	248.85	3,480.1	-82.7	-213.7	82.1	0.00	0.00	0.00
3,600.0	10.71	248.85	3,578.4	-89.4	-231.0	88.8	0.00	0.00	0.00
3,700.0	10.71	248.85	3,676.6	-96.1	-248.3	95.4	0.00	0.00	0.00
3,800.0	10.71	248.85	3,774.9	-102.8	-265.7	102.1	0.00	0.00	0.00
3,900.0	10.71	248.85	3,873.1	-109.5	-283.0	108.7	0.00	0.00	0.00
4,000.0	10.71	248.85	3,971.4	-116.2	-300.3	115.4	0.00	0.00	0.00
4,100.0	10.71	248.85	4,069.6	-122.9	-317.7	122.0	0.00	0.00	0.00
4,200.0	10.71	248.85	4,167.9	-129.6	-335.0	128.7	0.00	0.00	0.00
4,300.0	10.71	248.85	4,266.2	-136.3	-352.3	135.4	0.00	0.00	0.00
4,400.0	10.71	248.85	4,364.4	-143.0	-369.6	142.0	0.00	0.00	0.00
4,500.0	10.71	248.85	4,462.7	-149.7	-387.0	148.7	0.00	0.00	0.00
4,600.0	10.71	248.85	4,560.9	-156.4	-404.3	155.3	0.00	0.00	0.00
4,700.0	10.71	248.85	4,659.2	-163.1	-421.6	162.0	0.00	0.00	0.00
4,800.0	10.71	248.85	4,757.5	-169.8	-439.0	168.7	0.00	0.00	0.00
4,900.0	10.71	248.85	4,855.7	-176.5	-456.3	175.3	0.00	0.00	0.00

AVANT NATURAL RESOURCES

Planning Report

AVANT NATURAL RESOURCES

Database:	EDM 5000.16 Single User Db	**Local Co-ordinate Reference:**	Well Cutbow 36 1 Federal Com 301H
Company:	Avant Operating, LLC	**TVD Reference:**	WELL @ 3606.5usft (3606.5)
Project:	Lea Co., NM (NAD 83)	**MD Reference:**	WELL @ 3606.5usft (3606.5)
Site:	Cutbow 36 1 Federal Com Pad 2	**North Reference:**	Grid
Well:	Cutbow 36 1 Federal Com 301H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 0.2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,000.0	10.71	248.85	4,954.0	-183.2	-473.6	182.0	0.00	0.00	0.00
5,100.0	10.71	248.85	5,052.2	-189.9	-490.9	188.6	0.00	0.00	0.00
5,200.0	10.71	248.85	5,150.5	-196.6	-508.3	195.3	0.00	0.00	0.00
5,300.0	10.71	248.85	5,248.7	-203.3	-525.6	201.9	0.00	0.00	0.00
5,400.0	10.71	248.85	5,347.0	-210.0	-542.9	208.6	0.00	0.00	0.00
5,500.0	10.71	248.85	5,445.3	-216.7	-560.3	215.3	0.00	0.00	0.00
5,600.0	10.71	248.85	5,543.5	-223.4	-577.6	221.9	0.00	0.00	0.00
5,700.0	10.71	248.85	5,641.8	-230.1	-594.9	228.6	0.00	0.00	0.00
5,800.0	10.71	248.85	5,740.0	-236.8	-612.2	235.2	0.00	0.00	0.00
5,900.0	10.71	248.85	5,838.3	-243.5	-629.6	241.9	0.00	0.00	0.00
6,000.0	10.71	248.85	5,936.6	-250.3	-646.9	248.6	0.00	0.00	0.00
6,100.0	10.71	248.85	6,034.8	-257.0	-664.2	255.2	0.00	0.00	0.00
6,200.0	10.71	248.85	6,133.1	-263.7	-681.6	261.9	0.00	0.00	0.00
6,300.0	10.71	248.85	6,231.3	-270.4	-698.9	268.5	0.00	0.00	0.00
6,400.0	10.71	248.85	6,329.6	-277.1	-716.2	275.2	0.00	0.00	0.00
6,500.0	10.71	248.85	6,427.9	-283.8	-733.5	281.8	0.00	0.00	0.00
6,600.0	10.71	248.85	6,526.1	-290.5	-750.9	288.5	0.00	0.00	0.00
6,700.0	10.71	248.85	6,624.4	-297.2	-768.2	295.2	0.00	0.00	0.00
6,800.0	10.71	248.85	6,722.6	-303.9	-785.5	301.8	0.00	0.00	0.00
6,900.0	10.71	248.85	6,820.9	-310.6	-802.9	308.5	0.00	0.00	0.00
7,000.0	10.71	248.85	6,919.1	-317.3	-820.2	315.1	0.00	0.00	0.00
7,100.0	10.71	248.85	7,017.4	-324.0	-837.5	321.8	0.00	0.00	0.00
7,200.0	10.71	248.85	7,115.7	-330.7	-854.8	328.5	0.00	0.00	0.00
7,300.0	10.71	248.85	7,213.9	-337.4	-872.2	335.1	0.00	0.00	0.00
7,400.0	10.71	248.85	7,312.2	-344.1	-889.5	341.8	0.00	0.00	0.00
7,500.0	10.71	248.85	7,410.4	-350.8	-906.8	348.4	0.00	0.00	0.00
7,600.0	10.71	248.85	7,508.7	-357.5	-924.2	355.1	0.00	0.00	0.00
7,700.0	10.71	248.85	7,607.0	-364.2	-941.5	361.7	0.00	0.00	0.00
7,800.0	10.71	248.85	7,705.2	-370.9	-958.8	368.4	0.00	0.00	0.00
7,900.0	10.71	248.85	7,803.5	-377.6	-976.1	375.1	0.00	0.00	0.00
7,965.4	10.71	248.85	7,867.7	-382.0	-987.5	379.4	0.00	0.00	0.00
Start Drop -2.00									
8,000.0	10.02	248.85	7,901.8	-384.2	-993.3	381.6	2.00	-2.00	0.00
8,100.0	8.02	248.85	8,000.5	-389.9	-1,007.9	387.3	2.00	-2.00	0.00
8,200.0	6.02	248.85	8,099.8	-394.3	-1,019.3	391.6	2.00	-2.00	0.00
8,300.0	4.02	248.85	8,199.4	-397.5	-1,027.4	394.8	2.00	-2.00	0.00
8,400.0	2.02	248.85	8,299.2	-399.4	-1,032.3	396.7	2.00	-2.00	0.00
8,500.0	0.02	248.85	8,399.2	-400.0	-1,034.0	397.3	2.00	-2.00	0.00
8,500.8	0.00	0.00	8,400.0	-400.0	-1,034.0	397.3	2.00	-2.00	14,356.92
Start 122.5 hold at 8500.8 MD									
8,600.0	0.00	0.00	8,499.2	-400.0	-1,034.0	397.3	0.00	0.00	0.00
8,623.3	0.00	0.00	8,522.5	-400.0	-1,034.0	397.3	0.00	0.00	0.00
KOP #2 - Start Build 12.00									
8,700.0	9.20	179.85	8,598.9	-406.1	-1,034.0	403.4	12.00	12.00	0.00
8,800.0	21.20	179.85	8,695.2	-432.3	-1,033.9	429.6	12.00	12.00	0.00
8,900.0	33.20	179.85	8,784.0	-478.0	-1,033.8	475.2	12.00	12.00	0.00
9,000.0	45.20	179.85	8,861.3	-541.0	-1,033.6	538.3	12.00	12.00	0.00
9,100.0	57.20	179.85	8,923.9	-618.8	-1,033.4	616.1	12.00	12.00	0.00
9,200.0	69.20	179.85	8,968.9	-707.9	-1,033.2	705.2	12.00	12.00	0.00
9,300.0	81.20	179.85	8,994.4	-804.4	-1,033.0	801.7	12.00	12.00	0.00
9,346.1	86.74	179.85	8,999.2	-850.3	-1,032.8	847.6	12.00	12.00	0.00
FTP - Cutbow 36 1 Federal Com 301H									
9,373.3	90.00	179.85	9,000.0	-877.5	-1,032.8	874.8	12.00	12.00	0.00
LP - Start 10344.9 hold at 9373.3 MD									

AVANT NATURAL RESOURCES

Planning Report

AVANT NATURAL RESOURCES

Database:	EDM 5000.16 Single User Db	**Local Co-ordinate Reference:**	Well Cutbow 36 1 Federal Com 301H
Company:	Avant Operating, LLC	**TVD Reference:**	WELL @ 3606.5usft (3606.5)
Project:	Lea Co., NM (NAD 83)	**MD Reference:**	WELL @ 3606.5usft (3606.5)
Site:	Cutbow 36 1 Federal Com Pad 2	**North Reference:**	Grid
Well:	Cutbow 36 1 Federal Com 301H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 0.2		

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)
9,400.0	90.00	179.85	9,000.0	-904.2	-1,032.7	901.4	0.00	0.00	0.00
9,500.0	90.00	179.85	9,000.0	-1,004.2	-1,032.4	1,001.4	0.00	0.00	0.00
9,600.0	90.00	179.85	9,000.0	-1,104.2	-1,032.2	1,101.4	0.00	0.00	0.00
9,700.0	90.00	179.85	9,000.0	-1,204.2	-1,031.9	1,201.4	0.00	0.00	0.00
9,800.0	90.00	179.85	9,000.0	-1,304.2	-1,031.7	1,301.4	0.00	0.00	0.00
9,900.0	90.00	179.85	9,000.0	-1,404.2	-1,031.4	1,401.4	0.00	0.00	0.00
10,000.0	90.00	179.85	9,000.0	-1,504.2	-1,031.2	1,501.4	0.00	0.00	0.00
10,100.0	90.00	179.85	9,000.0	-1,604.2	-1,030.9	1,601.4	0.00	0.00	0.00
10,200.0	90.00	179.85	9,000.0	-1,704.2	-1,030.6	1,701.4	0.00	0.00	0.00
10,300.0	90.00	179.85	9,000.0	-1,804.2	-1,030.4	1,801.4	0.00	0.00	0.00
10,400.0	90.00	179.85	9,000.0	-1,904.2	-1,030.1	1,901.4	0.00	0.00	0.00
10,500.0	90.00	179.85	9,000.0	-2,004.2	-1,029.9	2,001.4	0.00	0.00	0.00
10,600.0	90.00	179.85	9,000.0	-2,104.1	-1,029.6	2,101.4	0.00	0.00	0.00
10,700.0	90.00	179.85	9,000.0	-2,204.1	-1,029.3	2,201.4	0.00	0.00	0.00
10,800.0	90.00	179.85	9,000.0	-2,304.1	-1,029.1	2,301.4	0.00	0.00	0.00
10,900.0	90.00	179.85	9,000.0	-2,404.1	-1,028.8	2,401.4	0.00	0.00	0.00
11,000.0	90.00	179.85	9,000.0	-2,504.1	-1,028.6	2,501.4	0.00	0.00	0.00
11,100.0	90.00	179.85	9,000.0	-2,604.1	-1,028.3	2,601.4	0.00	0.00	0.00
11,200.0	90.00	179.85	9,000.0	-2,704.1	-1,028.1	2,701.4	0.00	0.00	0.00
11,300.0	90.00	179.85	9,000.0	-2,804.1	-1,027.8	2,801.4	0.00	0.00	0.00
11,400.0	90.00	179.85	9,000.0	-2,904.1	-1,027.5	2,901.4	0.00	0.00	0.00
11,500.0	90.00	179.85	9,000.0	-3,004.1	-1,027.3	3,001.4	0.00	0.00	0.00
11,600.0	90.00	179.85	9,000.0	-3,104.1	-1,027.0	3,101.4	0.00	0.00	0.00
11,700.0	90.00	179.85	9,000.0	-3,204.1	-1,026.8	3,201.4	0.00	0.00	0.00
11,800.0	90.00	179.85	9,000.0	-3,304.1	-1,026.5	3,301.4	0.00	0.00	0.00
11,900.0	90.00	179.85	9,000.0	-3,404.1	-1,026.3	3,401.4	0.00	0.00	0.00
12,000.0	90.00	179.85	9,000.0	-3,504.1	-1,026.0	3,501.4	0.00	0.00	0.00
12,100.0	90.00	179.85	9,000.0	-3,604.1	-1,025.7	3,601.4	0.00	0.00	0.00
12,200.0	90.00	179.85	9,000.0	-3,704.1	-1,025.5	3,701.4	0.00	0.00	0.00
12,300.0	90.00	179.85	9,000.0	-3,804.1	-1,025.2	3,801.4	0.00	0.00	0.00
12,400.0	90.00	179.85	9,000.0	-3,904.1	-1,025.0	3,901.4	0.00	0.00	0.00
12,500.0	90.00	179.85	9,000.0	-4,004.1	-1,024.7	4,001.4	0.00	0.00	0.00
12,600.0	90.00	179.85	9,000.0	-4,104.1	-1,024.4	4,101.4	0.00	0.00	0.00
12,700.0	90.00	179.85	9,000.0	-4,204.1	-1,024.2	4,201.4	0.00	0.00	0.00
12,800.0	90.00	179.85	9,000.0	-4,304.1	-1,023.9	4,301.4	0.00	0.00	0.00
12,900.0	90.00	179.85	9,000.0	-4,404.1	-1,023.7	4,401.4	0.00	0.00	0.00
13,000.0	90.00	179.85	9,000.0	-4,504.1	-1,023.4	4,501.4	0.00	0.00	0.00
13,100.0	90.00	179.85	9,000.0	-4,604.1	-1,023.2	4,601.4	0.00	0.00	0.00
13,200.0	90.00	179.85	9,000.0	-4,704.1	-1,022.9	4,701.4	0.00	0.00	0.00
13,300.0	90.00	179.85	9,000.0	-4,804.1	-1,022.6	4,801.4	0.00	0.00	0.00
13,400.0	90.00	179.85	9,000.0	-4,904.1	-1,022.4	4,901.4	0.00	0.00	0.00
13,500.0	90.00	179.85	9,000.0	-5,004.1	-1,022.1	5,001.4	0.00	0.00	0.00
13,600.0	90.00	179.85	9,000.0	-5,104.1	-1,021.9	5,101.4	0.00	0.00	0.00
13,700.0	90.00	179.85	9,000.0	-5,204.1	-1,021.6	5,201.4	0.00	0.00	0.00
13,800.0	90.00	179.85	9,000.0	-5,304.1	-1,021.4	5,301.4	0.00	0.00	0.00
13,900.0	90.00	179.85	9,000.0	-5,404.1	-1,021.1	5,401.4	0.00	0.00	0.00
14,000.0	90.00	179.85	9,000.0	-5,504.1	-1,020.8	5,501.4	0.00	0.00	0.00
14,100.0	90.00	179.85	9,000.0	-5,604.1	-1,020.6	5,601.4	0.00	0.00	0.00
14,200.0	90.00	179.85	9,000.0	-5,704.1	-1,020.3	5,701.4	0.00	0.00	0.00
14,300.0	90.00	179.85	9,000.0	-5,804.1	-1,020.1	5,801.4	0.00	0.00	0.00
14,400.0	90.00	179.85	9,000.0	-5,904.1	-1,019.8	5,901.4	0.00	0.00	0.00
14,500.0	90.00	179.85	9,000.0	-6,004.1	-1,019.5	6,001.4	0.00	0.00	0.00
14,600.0	90.00	179.85	9,000.0	-6,104.1	-1,019.3	6,101.4	0.00	0.00	0.00
14,700.0	90.00	179.85	9,000.0	-6,204.1	-1,019.0	6,201.4	0.00	0.00	0.00

AVANT NATURAL RESOURCES

Planning Report

AVANT NATURAL RESOURCES

Database:	EDM 5000.16 Single User Db	**Local Co-ordinate Reference:**	Well Cutbow 36 1 Federal Com 301H
Company:	Avant Operating, LLC	**TVD Reference:**	WELL @ 3606.5usft (3606.5)
Project:	Lea Co., NM (NAD 83)	**MD Reference:**	WELL @ 3606.5usft (3606.5)
Site:	Cutbow 36 1 Federal Com Pad 2	**North Reference:**	Grid
Well:	Cutbow 36 1 Federal Com 301H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 0.2		

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)
14,800.0	90.00	179.85	9,000.0	-6,304.1	-1,018.8	6,301.4	0.00	0.00	0.00
14,900.0	90.00	179.85	9,000.0	-6,404.1	-1,018.5	6,401.4	0.00	0.00	0.00
15,000.0	90.00	179.85	9,000.0	-6,504.1	-1,018.3	6,501.4	0.00	0.00	0.00
15,100.0	90.00	179.85	9,000.0	-6,604.1	-1,018.0	6,601.4	0.00	0.00	0.00
15,200.0	90.00	179.85	9,000.0	-6,704.1	-1,017.7	6,701.4	0.00	0.00	0.00
15,300.0	90.00	179.85	9,000.0	-6,804.1	-1,017.5	6,801.4	0.00	0.00	0.00
15,400.0	90.00	179.85	9,000.0	-6,904.1	-1,017.2	6,901.4	0.00	0.00	0.00
15,500.0	90.00	179.85	9,000.0	-7,004.1	-1,017.0	7,001.4	0.00	0.00	0.00
15,600.0	90.00	179.85	9,000.0	-7,104.1	-1,016.7	7,101.4	0.00	0.00	0.00
15,700.0	90.00	179.85	9,000.0	-7,204.1	-1,016.5	7,201.4	0.00	0.00	0.00
15,800.0	90.00	179.85	9,000.0	-7,304.1	-1,016.2	7,301.4	0.00	0.00	0.00
15,900.0	90.00	179.85	9,000.0	-7,404.1	-1,015.9	7,401.4	0.00	0.00	0.00
16,000.0	90.00	179.85	9,000.0	-7,504.1	-1,015.7	7,501.4	0.00	0.00	0.00
16,100.0	90.00	179.85	9,000.0	-7,604.1	-1,015.4	7,601.4	0.00	0.00	0.00
16,200.0	90.00	179.85	9,000.0	-7,704.1	-1,015.2	7,701.4	0.00	0.00	0.00
16,300.0	90.00	179.85	9,000.0	-7,804.1	-1,014.9	7,801.4	0.00	0.00	0.00
16,400.0	90.00	179.85	9,000.0	-7,904.1	-1,014.6	7,901.4	0.00	0.00	0.00
16,500.0	90.00	179.85	9,000.0	-8,004.1	-1,014.4	8,001.4	0.00	0.00	0.00
16,600.0	90.00	179.85	9,000.0	-8,104.1	-1,014.1	8,101.4	0.00	0.00	0.00
16,700.0	90.00	179.85	9,000.0	-8,204.1	-1,013.9	8,201.4	0.00	0.00	0.00
16,800.0	90.00	179.85	9,000.0	-8,304.1	-1,013.6	8,301.4	0.00	0.00	0.00
16,900.0	90.00	179.85	9,000.0	-8,404.1	-1,013.4	8,401.4	0.00	0.00	0.00
17,000.0	90.00	179.85	9,000.0	-8,504.1	-1,013.1	8,501.4	0.00	0.00	0.00
17,100.0	90.00	179.85	9,000.0	-8,604.1	-1,012.8	8,601.4	0.00	0.00	0.00
17,200.0	90.00	179.85	9,000.0	-8,704.1	-1,012.6	8,701.4	0.00	0.00	0.00
17,300.0	90.00	179.85	9,000.0	-8,804.1	-1,012.3	8,801.4	0.00	0.00	0.00
17,400.0	90.00	179.85	9,000.0	-8,904.1	-1,012.1	8,901.4	0.00	0.00	0.00
17,500.0	90.00	179.85	9,000.0	-9,004.1	-1,011.8	9,001.4	0.00	0.00	0.00
17,600.0	90.00	179.85	9,000.0	-9,104.1	-1,011.6	9,101.4	0.00	0.00	0.00
17,700.0	90.00	179.85	9,000.0	-9,204.1	-1,011.3	9,201.4	0.00	0.00	0.00
17,800.0	90.00	179.85	9,000.0	-9,304.1	-1,011.0	9,301.4	0.00	0.00	0.00
17,900.0	90.00	179.85	9,000.0	-9,404.1	-1,010.8	9,401.4	0.00	0.00	0.00
18,000.0	90.00	179.85	9,000.0	-9,504.1	-1,010.5	9,501.4	0.00	0.00	0.00
18,100.0	90.00	179.85	9,000.0	-9,604.1	-1,010.3	9,601.4	0.00	0.00	0.00
18,200.0	90.00	179.85	9,000.0	-9,704.1	-1,010.0	9,701.4	0.00	0.00	0.00
18,300.0	90.00	179.85	9,000.0	-9,804.1	-1,009.7	9,801.4	0.00	0.00	0.00
18,400.0	90.00	179.85	9,000.0	-9,904.1	-1,009.5	9,901.4	0.00	0.00	0.00
18,500.0	90.00	179.85	9,000.0	-10,004.1	-1,009.2	10,001.4	0.00	0.00	0.00
18,600.0	90.00	179.85	9,000.0	-10,104.1	-1,009.0	10,101.4	0.00	0.00	0.00
18,700.0	90.00	179.85	9,000.0	-10,204.1	-1,008.7	10,201.4	0.00	0.00	0.00
18,800.0	90.00	179.85	9,000.0	-10,304.1	-1,008.5	10,301.4	0.00	0.00	0.00
18,900.0	90.00	179.85	9,000.0	-10,404.1	-1,008.2	10,401.4	0.00	0.00	0.00
19,000.0	90.00	179.85	9,000.0	-10,504.1	-1,007.9	10,501.4	0.00	0.00	0.00
19,100.0	90.00	179.85	9,000.0	-10,604.1	-1,007.7	10,601.4	0.00	0.00	0.00
19,200.0	90.00	179.85	9,000.0	-10,704.1	-1,007.4	10,701.4	0.00	0.00	0.00
19,300.0	90.00	179.85	9,000.0	-10,804.1	-1,007.2	10,801.4	0.00	0.00	0.00
19,400.0	90.00	179.85	9,000.0	-10,904.1	-1,006.9	10,901.4	0.00	0.00	0.00
19,500.0	90.00	179.85	9,000.0	-11,004.1	-1,006.7	11,001.4	0.00	0.00	0.00
19,600.0	90.00	179.85	9,000.0	-11,104.1	-1,006.4	11,101.4	0.00	0.00	0.00
19,700.0	90.00	179.85	9,000.0	-11,204.1	-1,006.1	11,201.4	0.00	0.00	0.00
19,718.3	90.00	179.85	9,000.0	-11,222.4	-1,006.1	11,219.7	0.00	0.00	0.00

TD at 19718.3 - LTP/PBHL - Cutbow 36 1 Federal Com 301H

AVANT NATURAL RESOURCES

Planning Report

AVANT NATURAL RESOURCES

Database:	EDM 5000.16 Single User Db	**Local Co-ordinate Reference:**	Well Cutbow 36 1 Federal Com 301H
Company:	Avant Operating, LLC	**TVD Reference:**	WELL @ 3606.5usft (3606.5)
Project:	Lea Co., NM (NAD 83)	**MD Reference:**	WELL @ 3606.5usft (3606.5)
Site:	Cutbow 36 1 Federal Com Pad 2	**North Reference:**	Grid
Well:	Cutbow 36 1 Federal Com 301H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 0.2		

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
FTP - Cutbow 36 1 Fede - plan misses target center by 0.8usft at 9346.1usft MD (8999.2 TVD, -850.3 N, -1032.8 E) - Point	0.00	0.00	9,000.0	-850.2	-1,033.2	591,196.11	728,055.10	32.6237837°N	103.7268582°W
LTP/PBHL - Cutbow 36 ' - plan hits target center - Point	0.00	0.00	9,000.0	-11,222.4	-1,006.1	580,823.97	728,082.18	32.5952746°N	103.7269624°W

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
9,373.3	9,000.0	LP	5-1/2	6

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
2,000.0	2,000.0	0.0	0.0	KOP - Start Build 2.00
2,535.4	2,532.3	-18.0	-46.5	Start 5430.0 hold at 2535.4 MD
7,965.4	7,867.7	-382.0	-987.5	Start Drop -2.00
8,500.8	8,400.0	-400.0	-1,034.0	Start 122.5 hold at 8500.8 MD
8,623.3	8,522.5	-400.0	-1,034.0	KOP #2 - Start Build 12.00
9,373.3	9,000.0	-877.5	-1,032.8	LP - Start 10344.9 hold at 9373.3 MD
19,718.3	9,000.0	-11,222.4	-1,006.1	TD at 19718.3

PROPOSAL#: 220810143215-I

CEMENT PROCEDURE & PROPOSAL

PREPARED FOR:

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

Avant Natural Resources

Cutbow 36-1 Fed Com #301H

Lea County, NM

API Number: 30-025-51498

Service Point

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

Technical Writer
Jonathan Smith
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432-701-3719

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

PRINTED 1/25/2024 15:12 VERSION: v0.29

Avant Natural Resources
Cutbow 36-1 Fed Com #301H
Lea County, NM

Surface

PROPOSAL#: 220810143215-I

WELL INFORMATION	
MUD	8.4# Fresh Water
PREVIOUS PIPE	30" 98.89# CSG to 120
OPEN HOLE	24" OH to 1175
CASING/INJECTION	20" 94# J-55/BTC to 1175
MD	1175
EST BHST/BHCT	90-F / 82-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	29.376	20		0.4497	54.0
Lead	755	24	20	50%	0.2564	193.6
Tail	300	24	20	20%	0.2052	61.5
SHOE JOINT	40	20	19.124		0.3553	14.2

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	735-SX	*248.7-bbls*
DENSITY	12.8-ppg	
YIELD	1.9-cf/sx	
MIX WATER	10.17-gps	
TOP OF CEMENT	Surface	
EXCESS	50%	

Avant Natural Resources
Cutbow 36-1 Fed Com #301H
Lea County, NM

Surface

PROPOSAL#: 220810143215-I

Tail		
	100% Class C+1% CaCl2+0.005GPS NoFoam V1A	
VOLUME	320-SX	*75.8-bbls*
DENSITY	14.8-ppg	
YIELD	1.33-cf/sx	
MIX WATER	6.34-gps	
TOP OF CEMENT	875-ft	
EXCESS	20%	
DISPLACEMENT		
	Displacement	
VOLUME	403.2-bbl	

Avant Natural Resources
Cutbow 36-1 Fed Com #301H
Lea County, NM

1st Intermediate

PROPOSAL#: 220810143215-I

WELL INFORMATION	
MUD	10.5# Brine
PREVIOUS PIPE	20'' 94# CSG to 1175
OPEN HOLE	17.5'' OH to 2950
CASING/INJECTION	13.375'' 54.5# J-55/LTC to 2950
MD	2950
EST BHST/BHCT	104-F / 94-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	1175	19.124	13.375		0.1815	213.2
Lead	1185	17.5	13.375	50%	0.1856	219.9
Tail	590	17.5	13.375	20%	0.1485	87.6
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+0.05% R-1300+0.25PPS Pol-E-Flake+0.005GPS NoFoam V1A

VOLUME	1285-SX	*434.8-bbls*
DENSITY	12.8-ppg	
YIELD	1.9-cf/sx	
MIX WATER	10.17-gps	
TOP OF CEMENT	Surface	
EXCESS	50%	

Avant Natural Resources
Cutbow 36-1 Fed Com #301H
Lea County, NM

1st Intermediate

PROPOSAL#: 220810143215-I

Tail		
	100% Class C+5% SALT+0.005GPS NoFoam V1A	
VOLUME	390-SX	*94.5-bbls*
DENSITY	14.8-ppg	
YIELD	1.36-cf/sx	
MIX WATER	6.51-gps	
TOP OF CEMENT	2360-ft	
EXCESS	20%	
DISPLACEMENT		
	Displacement	
VOLUME	449.8-bbl	

Avant Natural Resources
Cutbow 36-1 Fed Com #301H
Lea County, NM

2nd Multi-Stage Intermediate

PROPOSAL#: 220810143215-I

WELL INFORMATION	
MUD	8.4# Fresh Water
PREVIOUS PIPE	13.375'' 54.5# CSG to 2950
OPEN HOLE	12.25'' OH to 4603
CASING/INJECTION	9.625'' 40# J-55/LTC/L-80/HC to 4603
MD	4603
TVD	4600
EST BHST/BHCT	117-F / 103-F (0.8-F/100-FT)
DV TOOL	3200
EST BHST/BHCT STG2	106-F / 95-F (0.8-F/100-FT)
NOTES	Standby charges start after WTC has been on location for more than 8-hrs.

VOLUMES

FLUID NAME	LENGTH (ft)	OD (in.)	ID (in.)	XS (%)	FACTOR (bbl/ft)	VOLUME (bbl)
Stage 1 Lead	482	12.25	9.625	50%	0.0837	40.3
Stage 1 Tail	921	12.25	9.625	20%	0.0669	61.6
Stage 2 Lead	2790	12.615	9.625	50%	0.0969	270.3
Stage 2 Tail	160	12.615	9.625	0%	0.0646	10.3
Stage 2 Tail	250	12.25	9.625	0%	0.0558	13.9
SHOE JOINT	40	9.625	8.835		0.0758	3.0

FLUIDS

SPACER

Fresh Water

VOLUME	25-bbl

Stage 1 Lead

35% B_Poz+65% Class C+6% Gel+5% SALT+0.4% R-1300+0.25PPS Pol-E-Flake+0.005GPS NoFoam V1A

VOLUME	120-SX	*40.6-bbls*
DENSITY	12.8-ppg	
YIELD	1.9-cf/sx	
MIX WATER	10.18-gps	
TOP OF CEMENT	3200-ft	
EXCESS	50%	

Avant Natural Resources
Cutbow 36-1 Fed Com #301H
Lea County, NM

2nd Multi-Stage Intermediate

PROPOSAL#: 220810143215-I

Stage 1 Tail		
100% Class C+5% SALT+0.25% CRT-201+0.005GPS NoFoam V1A		
VOLUME	270-SX	*65.4-bbls*
DENSITY	14.8-ppg	
YIELD	1.36-cf/sx	
MIX WATER	6.49-gps	
TOP OF CEMENT	3682-ft	
EXCESS	20%	
DISPLACEMENT		
Displacement		
VOLUME	346-bbl	
SPACER		
Fresh Water		
VOLUME	20-bbl	
Stage 2 Lead		
35% B_Poz+65% Class C+6% Gel+5% SALT+0.2% R-1300+0.25PPS Pol-E-Flake+0.005GPS NoFoam V1A		
VOLUME	800-SX	*270.7-bbls*
DENSITY	12.8-ppg	
YIELD	1.9-cf/sx	
MIX WATER	10.18-gps	
TOP OF CEMENT	Surface	
EXCESS	50%	
Stage 2 Tail		
100% Class C+5% SALT+0.005GPS NoFoam V1A		
VOLUME	100-SX	*24.2-bbls*
DENSITY	14.8-ppg	
YIELD	1.36-cf/sx	
MIX WATER	6.51-gps	
TOP OF CEMENT	2790-ft	
EXCESS	0%	
DISPLACEMENT		
Displacement		
VOLUME	242.6-bbl	

Avant Natural Resources
Cutbow 36-1 Fed Com #301H
Lea County, NM

Production

PROPOSAL#: 220810143215-I

WELL INFORMATION	
MUD	9.8# OBM
PREVIOUS PIPE	9.625'' 40# CSG to 4603
OPEN HOLE	8.75'' OH to 19769
CASING/INJECTION	5.5'' 20# P-110/HC/GBCD to 19769
MD	19769
TVD	9000
EST BHST/BHCT	201-F / 184-F (1.34-F/100-FT)
KOP	8647
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	4603	8.835	5.5		0.0464	213.8
Lead	4044	8.75	5.5	50%	0.0675	272.9
Tail	11122	8.75	5.5	20%	0.0540	600.4
SHOE JOINT	80	5.5	4.778		0.0222	1.8

FLUIDS

SPACER

Wt. Spacer 37.16GPB Water+8PPB PolyScrub 4320+105.54PPB Barite+1GPB HoleScrub 4311+1PPB R-1300

VOLUME	40-bbl
DENSITY	10.3-ppg

Lead

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

VOLUME	810-SX	*487.6-bbls*
DENSITY	10.7-ppg	
YIELD	3.38-cf/sx	
MIX WATER	21.06-gps	
TOP OF CEMENT	Surface	
EXCESS	50%	

Avant Natural Resources
Cutbow 36-1 Fed Com #301H
Lea County, NM

Production

PROPOSAL#: 220810143215-I

Tail		
50% B_Poz+50% Class H+5% SALT+0.05% RCKCAS-100+0.75% R-1201+0.5% FL-24+0.005GPS NoFoam V1A		
VOLUME	2795-SX	*602.3-bbls*
DENSITY	14.5-ppg	
YIELD	1.21-cf/sx	
MIX WATER	5.28-gps	
TOP OF CEMENT	8647-ft	
EXCESS	20%	
DISPLACEMENT		
Fresh Water+ 0.25GPT Plexcide 24L+1GPT Corplex		
VOLUME	436.6-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
Premium C	WTC270	API Cement
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
Plexcrete STE	WTC127	Cement Strength Enhancer
FAR-2	WTC260	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
SA-1	WTC264	Free Water Control, Extender
R-33	WTC243	Lignosulfonate Retarder
R-1300	WTC201	Low Temperature Retarder
R-1201	WTC253	Lignosulfonate Retarder
CRT-201	WTC278	Lignosulfonate Retarder
C-37	WTC224	Dispersant, Friction Reducer
FL-24	WTC277	Fluid Loss (polymers/copolymers - 300-F max)
EC-10	WTC120	Expanding Agent
Gas Bond	WTC126	Gas Migration Control (Hydrogen Generating)
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
SuspendaCem 6302	WTC005	Free Water Control, Anti-Settling Agent
Sugar	WTC119	Retarder
AI-1, Acid Inhibitor	WTC015	Corrosion Inhibitor
Plexcide 24L	WTC166	Biocide
Corplex	WTC134	Corrosion Inhibitor
Clay Max	WTC096	KCL Substitute
Zone Seal	WTC207	Premium Lost Circulation Material

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

Operator: Avant Operating, LLC 1515 Wynkoop Street Denver, CO 80202	OGRID: 330396
	Action Number: 320505
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
pkautz	None	3/29/2024