

Form 3160-3
(June 2015)FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

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

| | | |
|--|---------------------------------------|---|
| 1a. Type of work: <input type="checkbox"/> DRILL <input type="checkbox"/> REENTER 1b. Type of Well: <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other 1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone | | 5. Lease Serial No. 6. If Indian, Allottee or Tribe Name 7. If Unit or CA Agreement, Name and No. 8. Lease Name and Well No. |
| 2. Name of Operator | | 9. API Well No. 30-025-54260 |
| 3a. Address | 3b. Phone No. (include area code) | 10. Field and Pool, or Exploratory |
| 4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone | | 11. Sec., T. R. M. or Blk. and Survey or Area |
| 14. Distance in miles and direction from nearest town or post office* | | 12. County or Parish |
| 13. State | | |
| 15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) | 16. No of acres in lease | 17. Spacing Unit dedicated to this well |
| 18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. | 19. Proposed Depth | 20. BLM/BIA Bond No. in file |
| 21. Elevations (Show whether DF, KDB, RT, GL, etc.) | 22. Approximate date work will start* | 23. Estimated duration |
| 24. Attachments | | |

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

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

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

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

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

(Continued on page 2)

*(Instructions on page 2)



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

WELL LOCATION INFORMATION

| | | |
|--|--|--|
| API Number 30-025-54260 | Pool Code 13160 | Pool Name Corbin; Bone Spring, South |
| Property Code 335608 | Property Name EMERALD FEDERAL COM | Well Number 602H |
| OGRID No. 330396 | Operator Name AVANT OPERATING, LLC | Ground Level Elevation 3671.6 |
| Surface Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input checked="" type="checkbox"/> Federal | | Mineral Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input checked="" type="checkbox"/> Federal |

Surface Location

| UL | Section | Township | Range | Lot | Ft. from N/S | Ft. from E/W | Latitude | Longitude | County |
|----|---------|----------|-------|-----|--------------|--------------|---------------|----------------|--------|
| M | 6 | 19 S | 33 E | 7 | 190 FSL | 1220 FWL | 32.6826066° N | 103.7072323° W | LEA |

Bottom Hole Location

| UL | Section | Township | Range | Lot | Ft. from N/S | Ft. from E/W | Latitude | Longitude | County |
|----|---------|----------|-------|-----|--------------|--------------|---------------|----------------|--------|
| D | 31 | 18 S | 33 E | 1 | 100 FNL | 1254 FWL | 32.7108645° N | 103.7071561° W | LEA |

| | | | | |
|---------------------------------------|--|---|---|--------------------|
| Dedicated Acres 1302.98 Ac. | Infill or Defining Well Infill | Defining Well API | Overlapping Spacing Unit (Y/N) No | Consolidation Code |
| Order Numbers. | | Well setbacks are under Common Ownership: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | |

Kick Off Point (KOP)

| UL | Section | Township | Range | Lot | Ft. from N/S | Ft. from E/W | Latitude | Longitude | County |
|----|---------|----------|-------|-----|--------------|--------------|---------------|----------------|--------|
| M | 6 | 19 S | 33 E | 7 | 50 FSL | 1254 FWL | 32.6822218° N | 103.7071209° W | LEA |

First Take Point (FTP)

| UL | Section | Township | Range | Lot | Ft. from N/S | Ft. from E/W | Latitude | Longitude | County |
|----|---------|----------|-------|-----|--------------|--------------|---------------|----------------|--------|
| M | 6 | 19 S | 33 E | 7 | 100 FSL | 1254 FWL | 32.6823592° N | 103.7071211° W | LEA |

Last Take Point (LTP)


| UL | Section | Township | Range | Lot | Ft. from N/S | Ft. from E/W | Latitude | Longitude | County |
|----|---------|----------|-------|-----|--------------|--------------|---------------|----------------|--------|
| D | 31 | 18 S | 33 E | 1 | 100 FNL | 1254 FWL | 32.7108645° N | 103.7071561° W | LEA |

| | | |
|---|--|-------------------------|
| Unitized Area or Area of Uniform Interest | Spacing Unit Type <input checked="" type="checkbox"/> Horizontal <input type="checkbox"/> Vertical | Ground Floor Elevation: |
|---|--|-------------------------|

OPERATOR CERTIFICATIONS

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is vertical or directional well, that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.

Signature  1/17/2025


Printed Name
Meghan Twele

E-mail Address
mtwele@outlook.com

SURVEYOR CERTIFICATIONS

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. I further certify that United Field Services, Inc., located at 21 Road 3520 in Flora Vista, New Mexico is the company providing this information.



Signature and Seal of Professional Surveyor 

Certificate Number **14831** Date of Field Survey **12/20/23** Date of Certification **1/10/2025**

Note: No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

ACREAGE DEDICATION PLATS

This grid represents a standard section. You may superimpose a non-standard section, or larger area, over this grid. Operators must outline the dedicated acreage in a red box, clearly show the well surface location and bottom hole location, if it is directionally drilled, with dimensions from the section lines in the cardinal directions. If this is a horizontal wellbore show on this plat the location of the First Take Point and Last Take Point, and the point within the Completed interval (other than the First Take Point or Last Take Point) that is closest to any outer boundary of the tract.

Surveyors shall use the latest United States government survey or dependent resurvey. Well locations will be in reference to the New Mexico Principal Meridian. If the land is not surveyed, contact the OCD Engineering Bureau. Independent subdivision surveys will not be acceptable.

United Field Services, Inc., located at 21 Road 3520, Flora Vista, New Mexico, is the company providing this plat.

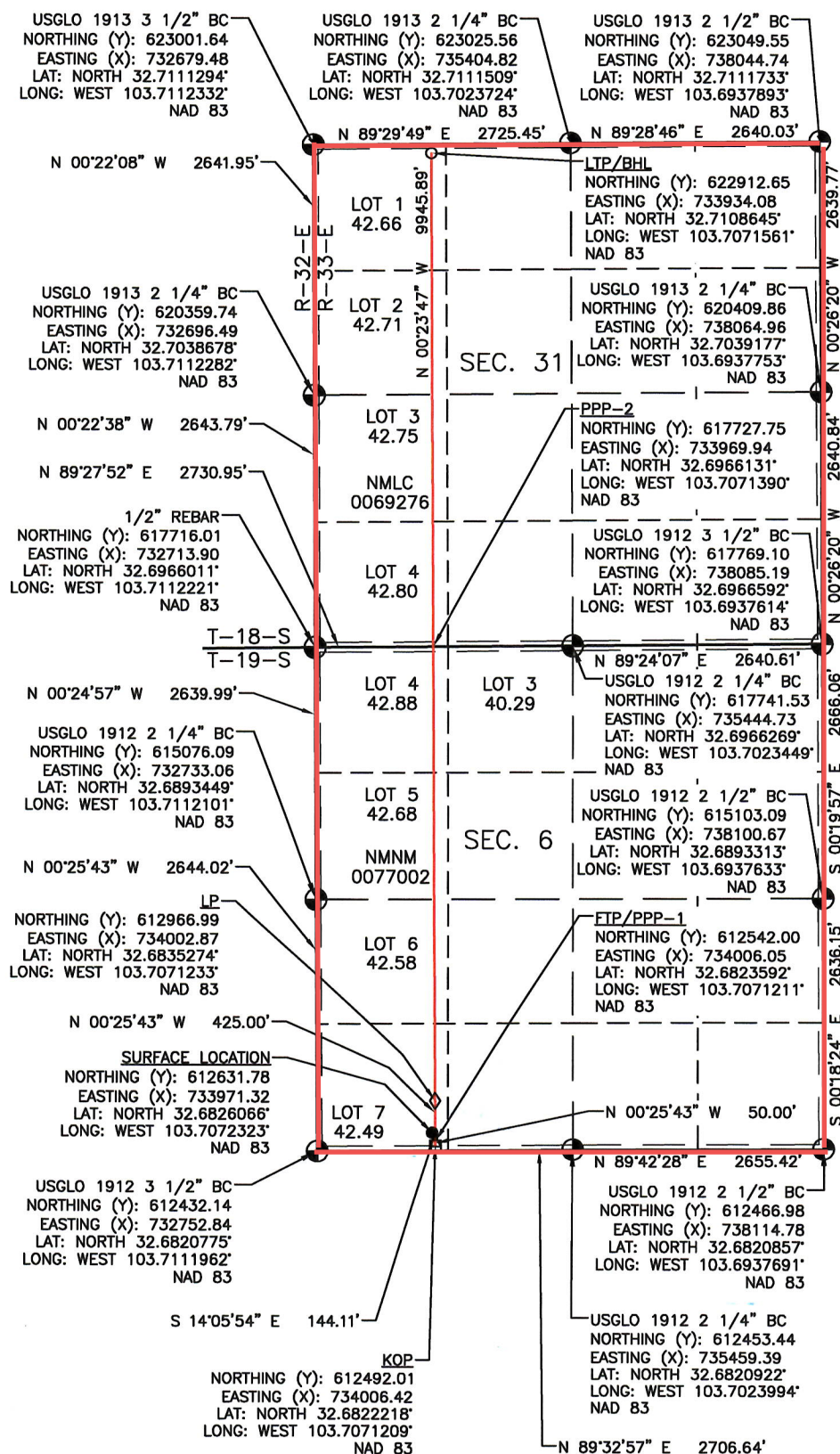
PLAT REVISED: 01/03/25

UFSI PROJECT NO. 11846

LEGEND:

- = SURFACE LOCATION (SHL)
- = KICK OFF POINT (KOP)
- △ = FTP/PPP-1
- ◇ = LANDING POINT (LP)
- = LTP/BHL
- ⊙ = FOUND MONUMENT

| AVANT OPERATING, LLC | | | |
|--------------------------|----------|-----------|-----|
| EMERALD FEDERAL COM 602H | | | |
| FOOTAGES | | | SEC |
| SHL | 190' FSL | 1220' FWL | 6 |
| KOP | 50' FSL | 1254' FWL | 6 |
| FTP/PPP-1 | 100' FSL | 1254' FWL | 6 |
| LP | 525' FSL | 1254' FWL | 6 |
| PPP-2 | 0' FSL | 1256' FWL | 31 |
| LTP/BHL | 100' FNL | 1254' FWL | 31 |



NOTE: BEARINGS AND DISTANCES SHOWN ARE REFERENCED TO THE NEW MEXICO COORDINATE SYSTEM, EAST ZONE, NAD 83, UNLESS OTHERWISE NOTED

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

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

NATURAL GAS MANAGEMENT PLAN

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

Section 1 – Plan Description

Effective May 25, 2021

I. Operator: Avant Operating, LLC **OGRID:** 330396 **Date:** 12/16/2024

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

If Other, please describe: _____

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

| Well Name | API | ULSTR | Footages | Anticipated Oil BBL/D | Anticipated Gas MCF/D | Anticipated Produced Water BBL/D |
|----------------------|-----|---------------|----------------|-----------------------|-----------------------|----------------------------------|
| Emerald Fed Com 301H | | M-6-T19S-R33E | 510FSL/1200FWL | 1250 BBL/D | 2300 MCF/D | 7000 BBL/D |
| Emerald Fed Com 302H | | M-6-T19S-R33E | 510FSL/1220FWL | 1250 BBL/D | 2300 MCF/D | 7000 BBL/D |
| Emerald Fed Com 303H | | M-6-T19S-R33E | 510FSL/1240FWL | 1250 BBL/D | 2300 MCF/D | 7000 BBL/D |
| Emerald Fed Com 501H | | M-6-T19S-R33E | 350FSL/1190FWL | 950 BBL/D | 1900 MCF/D | 5000 BBL/D |
| Emerald Fed Com 502H | | M-6-T19S-R33E | 350FSL/1210FWL | 950 BBL/D | 1900 MCF/D | 5000 BBL/D |
| Emerald Fed Com 513H | | M-6-T19S-R33E | 350FSL/1230FWL | 950 BBL/D | 1900 MCF/D | 5000 BBL/D |
| Emerald Fed Com 601H | | M-6-T19S-R33E | 190FSL/1200FWL | 1400 BBL/D | 2800 MCF/D | 7000 BBL/D |
| Emerald Fed Com 602H | | M-6-T19S-R33E | 190FSL/1220FWL | 1400 BBL/D | 2800 MCF/D | 7000 BBL/D |
| Emerald Fed Com 603H | | M-6-T19S-R33E | 190FSL/1240FWL | 1400 BBL/D | 2800 MCF/D | 7000 BBL/D |

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

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

| Well Name | API | Spud Date | TD Reached Date | Completion Commencement Date | Initial Flow Back Date | First Production Date |
|----------------------|-----|-----------|-----------------|------------------------------|------------------------|-----------------------|
| Emerald Fed Com 301H | | 3/15/2025 | 04/26/2025 | 05/01/2025 | 06/26/2025 | 06/26/2025 |
| Emerald Fed Com 302H | | 3/15/2025 | 04/26/2025 | 05/01/2025 | 06/26/2025 | 06/26/2025 |
| Emerald Fed Com 303H | | 3/15/2025 | 04/26/2025 | 05/01/2025 | 06/26/2025 | 06/26/2025 |
| Emerald Fed Com 501H | | 3/15/2025 | 04/26/2025 | 05/01/2025 | 06/26/2025 | 06/26/2025 |
| Emerald Fed Com 502H | | 3/15/2025 | 04/26/2025 | 05/01/2025 | 06/26/2025 | 06/26/2025 |
| Emerald Fed Com 513H | | 3/15/2025 | 04/26/2025 | 05/01/2025 | 06/26/2025 | 06/26/2025 |
| Emerald Fed Com 601H | | 3/15/2025 | 04/26/2025 | 05/01/2025 | 06/26/2025 | 06/26/2025 |
| Emerald Fed Com 602H | | 3/15/2025 | 04/26/2025 | 05/01/2025 | 06/26/2025 | 06/26/2025 |
| Emerald Fed Com 603H | | 3/15/2025 | 04/26/2025 | 05/01/2025 | 06/26/2025 | 06/26/2025 |

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

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

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

Section 3 - Certifications

Effective May 25, 2021

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

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

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

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

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

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

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

Section 4 - Notices

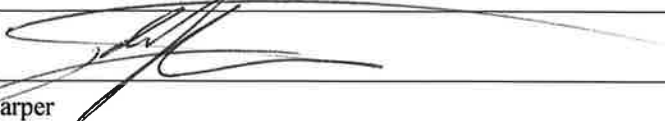
1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

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

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

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

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

| |
|--|
| Signature:  |
| Printed Name: John Harper |
| Title: SVP Assets and Exploration |
| E-mail Address: John@avantnr.com |
| Date: 07/15/24 |
| Phone: 678-988-6644 |

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

| |
|-------------------------|
| Approved By: |
| Title: |
| Approval Date: |
| Conditions of Approval: |

Avant Operating, LLC Natural Gas Management Plan

- VI. Separation equipment will be sized by construction engineering staff based on stated manufacturer daily throughput capacities and anticipated daily production rates to ensure adequate capacity. Closed vent system piping, compression needs, and VRUs will be sized utilizing ProMax modelling software to ensure adequate capacity for anticipated production volumes and conditions.
- VII. Avant Operating, LLC (Avant) will take the following actions to comply with the regulations listed in 19.15.27.8:
- A. Avant will maximize the recovery of natural gas by minimizing the waste, as defined by 19.15.2 NMAC, of natural gas through venting and flaring. Avant will ensure that well(s) will be connected to a natural gas gathering system with sufficient capacity to transport natural gas.
 - B. All drilling operations will be equipped with a rig flare located at least 100' from the nearest surface hole. Rig flare will be utilized to combust any natural gas that is brought to surface during normal drilling operations. In the case of emergency venting or flaring the volumes will be estimated and reported appropriately.
 - C. During completion operations any natural gas brought to surface will be flared. Immediately following the finish of completion operations, all well flowback will be directed to permanent separation equipment. Produced natural gas from separation equipment will be sent to sales. It is not anticipated that gas will not meet pipeline standards. However, if natural gas does not meet gathering pipeline quality specifications, Avant will flare the natural gas for 60 days or until the natural gas meets the pipeline quality specifications. Avant will ensure that the flare is sized properly and is equipped with automatic igniter or continuous pilot. The gas sample will be analyzed twice per week and the gas will be routed into a gathering system as soon as pipeline specifications are met.
 - D. Avant will comply with the performance standards requirements and provisions listed in 19.15.27.8 (1) through (8). All equipment will be designed and sized to handle maximum anticipated pressures and throughputs to minimize the waste. Production storage tanks constructed after May 25, 2021, will be equipped with automatic gauging system. Flares constructed after May 25, 2021, will be equipped with automatic igniter or continuous pilot. Flares will be located at least 100' from the well and storage tanks unless otherwise approved by the division. Avant will conduct AVO inspections as described in 19.15.27.8 E (5) (a) with frequencies specified in 19.15.27.8 E (5) (b) and (c). All emergencies will be resolved as quickly and safely as feasible to minimize waste.
 - E. The volume of natural gas that is vented or flared as the result of malfunction or emergency during drilling and completions operations will be estimated. The volume of natural gas that is vented, flared, or beneficially used during production operations, will be measured, or estimated. Avant will install equipment to measure



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

Drilling Plan Data Report

01/17/2025

APD ID: 10400099558

Submission Date: 07/05/2024

Highlighted data
reflects the most
recent changes

Operator Name: AVANT OPERATING LLC

Well Name: EMERALD FEDERAL COM

Well Number: 602H

Well Type: OIL WELL

Well Work Type: Drill

[Show Final Text](#)

Section 1 - Geologic Formations

| Formation ID | Formation Name | Elevation | True Vertical | Measured Depth | Lithologies | Mineral Resources | Producing Formatio |
|--------------|------------------------|-----------|---------------|----------------|------------------------|-------------------|--------------------|
| 14860828 | QUATERNARY | 3672 | 0 | 0 | OTHER : Caliche | USEABLE WATER | N |
| 14860829 | RUSTLER ANHYDRITE | 2212 | 1460 | 1460 | ANHYDRITE | NONE | N |
| 14860840 | SALADO | 1918 | 1754 | 1754 | LIMESTONE | NONE | N |
| 14860831 | YATES | 219 | 3453 | 3453 | DOLOMITE, SANDSTONE | NONE | N |
| 14860837 | CAPITAN REEF | -1058 | 4730 | 4730 | LIMESTONE | NATURAL GAS, OIL | N |
| 14860844 | CHERRY CANYON | -1479 | 5151 | 5151 | SANDSTONE | NATURAL GAS, OIL | N |
| 14860845 | BRUSHY CANYON | -2096 | 5768 | 5768 | SANDSTONE | NATURAL GAS, OIL | N |
| 14860842 | BONE SPRING | -3762 | 7434 | 7434 | SANDSTONE | NATURAL GAS, OIL | N |
| 14860843 | AVALON SAND | -4500 | 8172 | 8173 | SANDSTONE | NATURAL GAS, OIL | N |
| 14860846 | FIRST BONE SPRING SAND | -5055 | 8727 | 8729 | SANDSTONE | NATURAL GAS, OIL | N |
| 14860847 | BONE SPRING 2ND | -5622 | 9294 | 9297 | SANDSTONE | NATURAL GAS, OIL | N |
| 14860848 | BONE SPRING 3RD | -6309 | 9981 | 9985 | SANDSTONE | NATURAL GAS, OIL | Y |

Section 2 - Blowout Prevention

Pressure Rating (PSI): 5M

Rating Depth: 15000

Equipment: A minimum 5M system will be used. The minimum blowout preventer equipment (BOPE) shown in BOP Diagram will consist of a single ram, mud cross and double ram-type (10,000 psi WP) preventer, and an annular preventer (5000-psi WP). Both units will be hydraulically operated, and the ram-type will be equipped with blind rams on bottom and drill pipe rams on top. All BOPE will be tested in accordance with Onshore Oil & Gas Order 2.

Requesting Variance? YES

Operator Name: AVANT OPERATING LLC

Well Name: EMERALD FEDERAL COM

Well Number: 602H

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

Testing Procedure: Before drilling out of the surface casing, the ram-type BOP and accessory equipment will be tested to 5000 (high) / 250 (low) psig and the annular preventer to 3500 (high) / 250 (low) psig by an independent service company. Test charts will always be kept on site. Surface casing will be tested to 1500 psi for 30 minutes. Before drilling out of the intermediate casing, the ram-type BOP and accessory equipment will be tested to 5000 (high) / 250 (low) psig and the annular preventer to 3500 (high) / 250 (low) psig by an independent service company. Test charts will always be kept on site. Intermediate casing will be tested to 1500 psi for 30 minutes. A solid steel body pack-off will be used after running and cementing the intermediate casing. After installation, pack-off and lower flange will be pressure tested to 5000 psi. Pipe rams will be operationally checked each 24-hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. A hydraulically operated choke will be installed prior to drilling out of the intermediate casing shoe. This pressure test will be repeated at least once every 30 days, as per Onshore Order 2. Kelly cock will always be kept in the drill string. Full opening drill pipe stabbing valve (inside BOP) with proper drill pipe connections will always be kept on the rig floor. The multi-bowl wellhead will be installed by a third-party welder while being monitored by the vendors representative. All BOP equipment will be tested using a conventional test plug - not a cup or J-packer type. Both the surface and intermediate casing strings will be tested as per Onshore Order 2 to at least 0.22 psi/ft or 1500 psi, whichever is greater.

Choke Diagram Attachment:

5M_Choke_Diagram_20240130141108.pdf

BOP Diagram Attachment:

5M_BOP_Diagram_20240130141112.pdf

Section 3 - Casing

| Casing ID | String Type | Hole Size | Csg Size | Condition | Standard | Tapered String | Top Set MD | Bottom Set MD | Top Set TVD | Bottom Set TVD | Top Set MSL | Bottom Set MSL | Calculated casing length MD | Grade | Weight | Joint Type | Collapse SF | Burst SF | Joint SF Type | Joint SF | Body SF Type | Body SF |
|-----------|--------------|-----------|----------|-----------|----------|----------------|------------|---------------|-------------|----------------|-------------|----------------|-----------------------------|---------|--------|---------------|-------------|----------|---------------|----------|--------------|---------|
| 1 | SURFACE | 17.5 | 13.375 | NEW | API | N | 0 | 1485 | 0 | 1485 | 3672 | 2187 | 1485 | J-55 | 54.5 | LT&C | 1.125 | 1.125 | DRY | 1.6 | DRY | 1.6 |
| 2 | INTERMEDIATE | 12.25 | 9.625 | NEW | API | N | 0 | 5251 | 0 | 5251 | 3640 | -1579 | 5251 | J-55 | 40 | LT&C | 1.125 | 1.125 | DRY | 1.6 | DRY | 1.6 |
| 3 | PRODUCTION | 8.75 | 5.5 | NEW | NON API | N | 0 | 20750 | 0 | 10529 | 3679 | -6857 | 20750 | HCP-110 | 20 | OTHER - GB CD | 1.125 | 1.125 | DRY | 1.6 | DRY | 1.6 |

Casing Attachments

Operator Name: AVANT OPERATING LLC

Well Name: EMERALD FEDERAL COMWell Number: 602H

Casing Attachments

Casing ID: 1StringSURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Emerald_Casing_Design_Criteria_20240705132828.pdf

Casing ID: 2StringINTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Emerald_Casing_Design_Criteria_20240423154830.pdf

Casing ID: 3StringPRODUCTION

Inspection Document:

Spec Document:

5.5_Casing_Specs_20240130152531.pdf

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Emerald_Casing_Design_Criteria_20240705132818.pdf

Section 4 - Cement

Operator Name: AVANT OPERATING LLC

Well Name: EMERALD FEDERAL COM

Well Number: 602H

| String Type | Lead/Tail | Stage Tool Depth | Top MD | Bottom MD | Quantity(sx) | Yield | Density | Cu Ft | Excess% | Cement type | Additives |
|--------------|-----------|------------------|--------|-----------|--------------|-------|---------|-------|---------|-------------------------------|--|
| SURFACE | Lead | | 0 | 1485 | 650 | 1.9 | 12.8 | 1235 | 50 | 35% B_POZ & 65% Class C | 6% Gel+5% SALT+0.25PPS Pol-E-Flake+0.005GPS |
| SURFACE | Tail | | 1185 | 1485 | 215 | 1.33 | 14.8 | 286 | 20 | Class C | 1% CaCl2+0.005GPS NoFoam V1A |
| INTERMEDIATE | Lead | | 0 | 5251 | 955 | 1.9 | 12.8 | 1815 | 50 | 35% Class B Poz + 65% Class C | 6% Gel+5% SALT+0.3% R-1300+0.005GPS |
| INTERMEDIATE | Tail | | 4200 | 5251 | 305 | 1.36 | 14.8 | 415 | 20 | Class C | 5% SALT+0.005GPS NoFoam V1A |
| PRODUCTION | Lead | | 0 | 20750 | 945 | 3.38 | 10.7 | 3194 | 50 | 100% ProLite | 5PPS Plexcrete STE+2% SMS+0.65% R-1300+0.2% FL-24+3PPS Gilsonite+0.005GPS NoFoam V1A |
| PRODUCTION | Tail | | 10056 | 20750 | 2685 | 1.21 | 14.5 | 3249 | 20 | 50% B_POZ & 50% Class H | 5% SALT+0.05% RCKCAS-100+0.75% R-1201+0.5% FL-24+0.005GPS NoFoam V1A |

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

Description of the equipment for the circulating system in accordance with Onshore Order #2:

Diagram of the equipment for the circulating system in accordance with Onshore Order #2:

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

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

Circulating Medium Table

| Top Depth | Bottom Depth | Mud Type | Min Weight (lbs/gal) | Max Weight (lbs/gal) | Density (lbs/cu ft) | Gel Strength (lbs/100 sqft) | PH | Viscosity (CP) | Salinity (ppm) | Filtration (cc) | Additional Characteristics |
|-----------|--------------|----------|----------------------|----------------------|---------------------|-----------------------------|----|----------------|----------------|-----------------|----------------------------|
|-----------|--------------|----------|----------------------|----------------------|---------------------|-----------------------------|----|----------------|----------------|-----------------|----------------------------|

Operator Name: AVANT OPERATING LLC**Well Name:** EMERALD FEDERAL COM**Well Number:** 602H

| Top Depth | Bottom Depth | Mud Type | Min Weight (lbs/gal) | Max Weight (lbs/gal) | Density (lbs/cu ft) | Gel Strength (lbs/100 sqft) | PH | Viscosity (CP) | Salinity (ppm) | Filtration (cc) | Additional Characteristics |
|-----------|--------------|---------------------|----------------------|----------------------|---------------------|-----------------------------|----|----------------|----------------|-----------------|----------------------------|
| 0 | 1485 | OTHER : Fresh Water | 8.4 | 9 | | | | | | | |
| 1485 | 5251 | OTHER : Cut brine | 9.5 | 9.5 | | | | | | | |
| 5251 | 1005 6 | OTHER : Cut Brine | 9.2 | 9.5 | | | | | | | |
| 1005 6 | 1080 6 | OIL-BASED MUD | 9.5 | 9.5 | | | | | | | |
| 1080 6 | 2075 0 | OIL-BASED MUD | 9.2 | 9.2 | | | | | | | |

Section 6 - Test, Logging, Coring

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

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

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

GAMMA RAY LOG,

Coring operation description for the well:

No core or open hole or cased hole log is planned

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 5054

Anticipated Surface Pressure: 2737

Anticipated Bottom Hole Temperature(F): 170

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

Describe:

Contingency Plans geohazards description:

Contingency Plans geohazards

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations

Emerald_Pad_1_H2S_Packet_SBMT_20240703151602.pdf

Operator Name: AVANT OPERATING LLC**Well Name:** EMERALD FEDERAL COM**Well Number:** 602H**Section 8 - Other Information****Proposed horizontal/directional/multi-lateral plan submission:**

Emerald_Fed_Com_602H_Plan_0.1_Anti_Collision_20240705133407.pdf

Emerald_Fed_Com_602H_Plan_0.1_Report_20240705133410.pdf

Other proposed operations facets description:

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

Other proposed operations facets attachment:

3_string_Multi_Wellhead_Specs_20240328121436.pdf

Avant_Natural_Resources___3_String_Bone_Spring_Well___AES_VERT_MP_20240703151853.pdf

Flex_Line_Certification_20240328120404.pdf

Emerald_Federal_Com_602H_Cement_Proposal_20240705133416.pdf

Emerald_Federal_Com_602H_WBS_Prelim_20240705133419.pdf

Emerald_Pad_1_Waste_Minimization_20241223152840.pdf

Other Variance attachment:

Avant___Offline_Cementing_Procedure_20240703151927.pdf

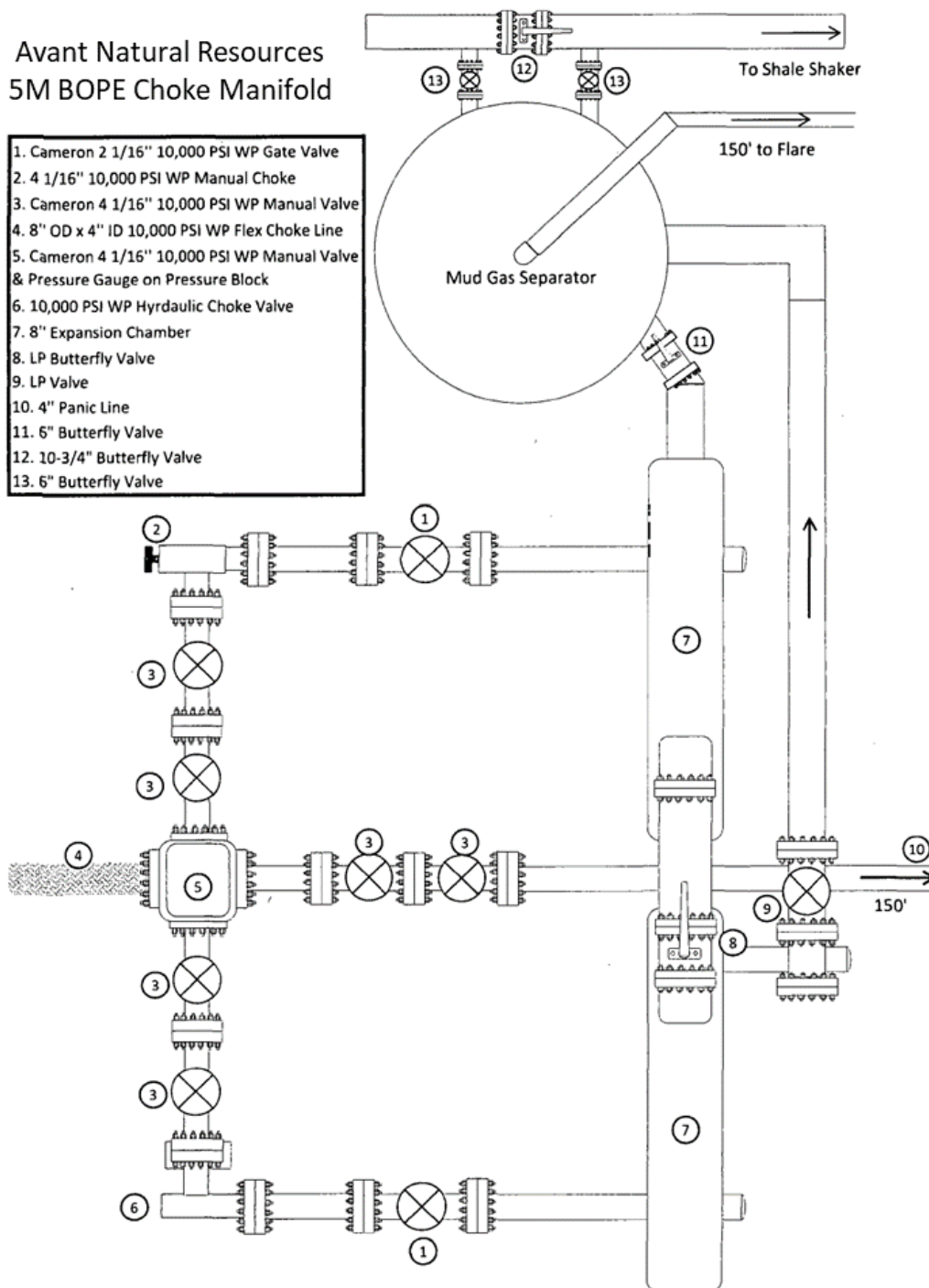
Emerald_Casing_Cement_Variance_Request_20240703151904.pdf

Avant_Surface_Casing_Cement_Variance_20241223152847.pdf

Choke Manifold Diagram

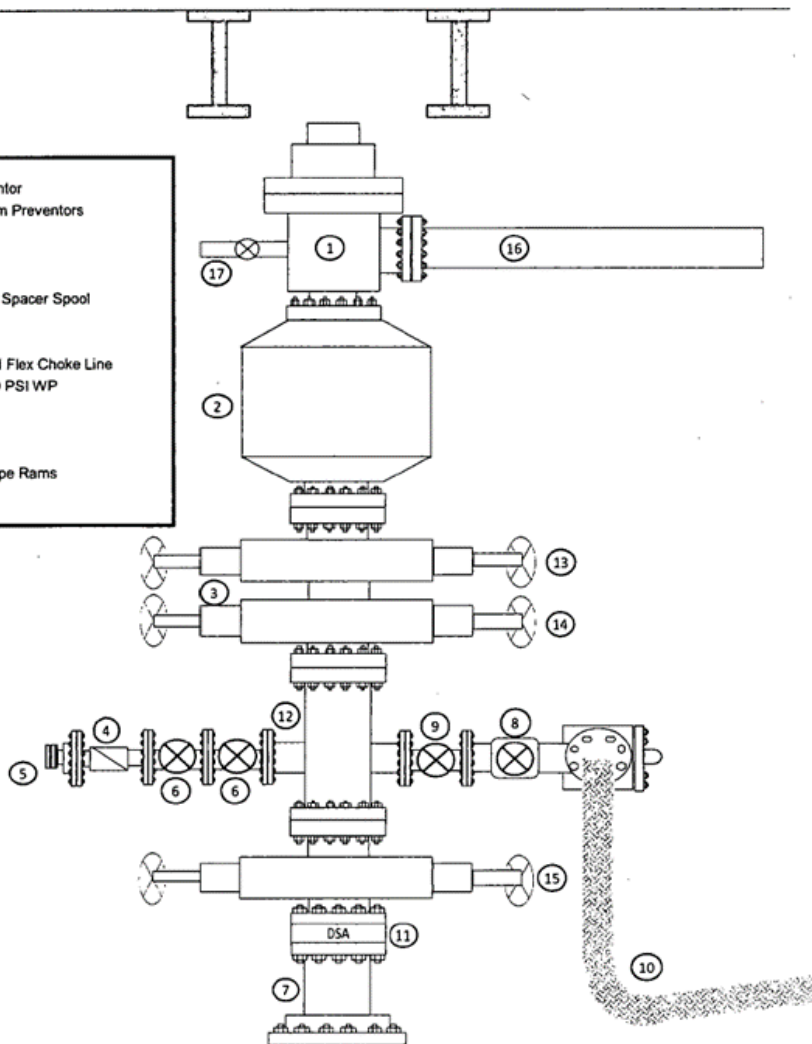
Avant Natural Resources
5M BOPE Choke Manifold

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



Avant Natural Resources 5M BOP Diagram

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





PERFORMANCE DATA SHEET

Revised May 2020

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

DIMENSIONAL DATA

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

MECHANICAL DATA

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

CONNECTION & PIPE DATA

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

Note:

This document is for general information only. It should not, therefore, be relied upon for any specific application without independent competent professional examination and verification of its accuracy, suitability, and applicability. Anyone making use of this material does so at his own risk and assumes any and all liability resulting from such use. Centric Pipe, LLC disclaims any and all expressed or implied warranties of merchantability and/or fitness for any general or particular purpose.

CASING DESIGN CRITERIA & LOAD CASE ASSUMPTIONS

SURFACE CASING:

| SIZE (in) | SURFACE CASING | ID (in) | DRIFT (in) | BURST (psi) | COLLAPSE (psi) | TENSION (k-lbs) | JOINT STRENGTH (k-lbs) | DEPTHS |
|-----------|----------------|---------|------------|-------------|----------------|-----------------|------------------------|-----------|
| 13.375" | 54.5# J-55 LTC | 10.05 | 9.894 | 3130 | 1580 | 629 | 700 | 0' – SCP' |

Collapse: $DF_c = 1.25$

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

Burst: $DF_B = 1.25$

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

Tension: $DF_T = 1.6$

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

INTERMEIDATE CASING:

| SIZE (in) | INTERMEDIATE CASING | ID (in) | DRIFT (in) | BURST (psi) | COLLAPSE (psi) | TENSION (k-lbs) | JOINT STRENGTH (k-lbs) | DEPTHS |
|-----------|---------------------|---------|------------|-------------|----------------|-----------------|------------------------|-----------|
| 9-5/8" | 40# J-55 LTC | 6.875 | 6.75 | 9470 | 7150 | 940 | 769 | 0' – ICP' |

Collapse: $DF_c = 1.25$

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

Burst: $DF_B = 1.25$

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

- Fracture at Shoe with 1/3 BHP at Surface: Internal burst force at the shoe will be fracture pressure at setting depth. Internal burst force at surface will be 1/3 of pore pressure at setting depth. External force will be equal to the mud gradient in which the casing will be ran.

Tension: $DF_T = 1.6$

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

PRODUCTION CASING:

| SIZE (in) | PRODUCTION CASING | ID (in) | DRIFT (in) | BURST (psi) | COLLAPSE (psi) | TENSION (k-lbs) | CONN OD (in) | JOINT TENSION (k-lbs) | DEPTHS |
|--------------|-------------------|------------|---------------|----------------|-------------------|--------------------|--------------------|-----------------------------|----------|
| 5-1/2" | 20# HCP-110 GBCD | 4.778 | 4.653 | 12,640 | 12,200 | 641 | 6.300 | 641 | 0' – MD' |

Collapse: $DF_C = 1.25$

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

Burst: $DF_B = 1.25$

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

Tension: $DF_T = 1.6$

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

Avant Operating, LLC

Lea Co., NM (NAD 83)

Emerald Pad 1

Emerald Fed Com 602H

OH

Plan: Plan 0.1

Standard Planning Report

24 June, 2024

Planning Report

| | | | | | | | | | | |
|-----------|----------------------------|--|--|--|------------------------------|--|--|--|--|--|
| Database: | EDM 5000.16 Single User Db | | | | Local Co-ordinate Reference: | | Well Emerald Fed Com 602H | | | |
| Company: | Avant Operating, LLC | | | | TVD Reference: | | WELL @ 3698.1usft (Original Well Elev) | | | |
| Project: | Lea Co., NM (NAD 83) | | | | MD Reference: | | WELL @ 3698.1usft (Original Well Elev) | | | |
| Site: | Emerald Pad 1 | | | | North Reference: | | Grid | | | |
| Well: | Emerald Fed Com 602H | | | | 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 | Emerald Pad 1 | | | | | | | | | |
|------|---------------|--|--|--|--|--|--|--|--|--|

| | | | | | | | | | |
|-----------------------|----------|--|--------------|-----------------|--|------------|-------------|--|--|
| Site Position: | | | Northing: | 612,951.58 usft | | Latitude: | 32.683486 | | |
| From: | Lat/Long | | Easting: | 733,949.09 usft | | Longitude: | -103.707299 | | |
| Position Uncertainty: | 0.0 usft | | Slot Radius: | 13-3/16 " | | | | | |

| | | | | | | | | | | |
|------|----------------------|--|--|--|--|--|--|--|--|--|
| Well | Emerald Fed Com 602H | | | | | | | | | |
|------|----------------------|--|--|--|--|--|--|--|--|--|

| | | | | | | | | | |
|----------------------|----------|----------|---------------------|-----------------|--|---------------|--------------|--|--|
| Well Position | +N/-S | 0.0 usft | Northing: | 612,631.78 usft | | Latitude: | 32.682607 | | |
| | +E/-W | 0.0 usft | Easting: | 733,971.32 usft | | Longitude: | -103.707233 | | |
| Position Uncertainty | 0.0 usft | | Wellhead Elevation: | usft | | Ground Level: | 3,671.6 usft | | |
| Grid Convergence: | 0.34 ° | | | | | | | | |

| | | | | | | | | | | |
|----------|----|--|--|--|--|--|--|--|--|--|
| Wellbore | OH | | | | | | | | | |
|----------|----|--|--|--|--|--|--|--|--|--|

| | | | | | | | | | | |
|-----------|------------|--|-------------|--|-----------------|--|---------------|--|---------------------|--|
| Magnetics | Model Name | | Sample Date | | Declination (°) | | Dip Angle (°) | | Field Strength (nT) | |
| | IGRF2000 | | 12/31/2004 | | 8.66 | | 60.84 | | 49,684.11720996 | |

| | | | | | | | | | | |
|--------|----------|--|--|--|--|--|--|--|--|--|
| Design | Plan 0.1 | | | | | | | | | |
|--------|----------|--|--|--|--|--|--|--|--|--|

| | | | | | | | | | | |
|-------------------|--|--|-------------------------|--------------|--|---------------|-----|---------------|--|--|
| Audit Notes: | | | | | | | | | | |
| Version: | | | Phase: | PROTOTYPE | | Tie On Depth: | 0.0 | | | |
| Vertical Section: | | | Depth From (TVD) (usft) | +N/-S (usft) | | +E/-W (usft) | | Direction (°) | | |
| | | | 0.0 | 0.0 | | 0.0 | | 359.79 | | |

| | | | | | | | | | | |
|--------------------------|-----------------|-------------------|---------------|-----------|-----------------|---------|--|--|--|--|
| Plan Survey Tool Program | Date | 6/24/2024 | | | | | | | | |
| Depth From (usft) | Depth To (usft) | Survey (Wellbore) | | Tool Name | | Remarks | | | | |
| 1 | 0.0 | 20,749.4 | 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 | |
| 7,500.0 | 0.00 | 0.00 | 7,500.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 7,681.7 | 3.63 | 165.90 | 7,681.6 | -5.6 | 1.4 | 2.00 | 2.00 | 0.00 | 165.90 | |
| 9,773.8 | 3.63 | 165.90 | 9,769.4 | -134.2 | 33.7 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 9,955.4 | 0.00 | 0.00 | 9,951.0 | -139.8 | 35.1 | 2.00 | -2.00 | 0.00 | 180.00 | KOP - Emerald Fed C |
| 10,056.0 | 0.00 | 0.00 | 10,051.5 | -139.8 | 35.1 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 10,806.0 | 90.00 | 359.60 | 10,529.0 | 337.7 | 31.8 | 12.00 | 12.00 | 0.00 | 359.60 | |
| 20,749.4 | 90.00 | 359.60 | 10,529.0 | 10,280.9 | -37.2 | 0.00 | 0.00 | 0.00 | 0.00 | LTP/BHL - Emerald Fed C |

Planning Report

| | | | |
|-----------|----------------------------|------------------------------|--|
| Database: | EDM 5000.16 Single User Db | Local Co-ordinate Reference: | Well Emerald Fed Com 602H |
| Company: | Avant Operating, LLC | TVD Reference: | WELL @ 3698.1usft (Original Well Elev) |
| Project: | Lea Co., NM (NAD 83) | MD Reference: | WELL @ 3698.1usft (Original Well Elev) |
| Site: | Emerald Pad 1 | North Reference: | Grid |
| Well: | Emerald Fed Com 602H | 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 |
| 1,460.0 | 0.00 | 0.00 | 1,460.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| RUSTLER | | | | | | | | | |
| 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 |
| 1,754.0 | 0.00 | 0.00 | 1,754.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| SOLADO | | | | | | | | | |
| 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 |
| 3,453.0 | 0.00 | 0.00 | 3,453.0 | 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 |

Planning Report

| | | | |
|-----------|----------------------------|------------------------------|--|
| Database: | EDM 5000.16 Single User Db | Local Co-ordinate Reference: | Well Emerald Fed Com 602H |
| Company: | Avant Operating, LLC | TVD Reference: | WELL @ 3698.1usft (Original Well Elev) |
| Project: | Lea Co., NM (NAD 83) | MD Reference: | WELL @ 3698.1usft (Original Well Elev) |
| Site: | Emerald Pad 1 | North Reference: | Grid |
| Well: | Emerald Fed Com 602H | 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) |
| 4,700.0 | 0.00 | 0.00 | 4,700.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 4,730.0 | 0.00 | 0.00 | 4,730.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| CAPITAN_REEF | | | | | | | | | |
| 4,800.0 | 0.00 | 0.00 | 4,800.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 4,900.0 | 0.00 | 0.00 | 4,900.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 5,000.0 | 0.00 | 0.00 | 5,000.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 5,100.0 | 0.00 | 0.00 | 5,100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 5,151.0 | 0.00 | 0.00 | 5,151.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| CHERRY_CNYN | | | | | | | | | |
| 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 |
| 5,400.0 | 0.00 | 0.00 | 5,400.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 5,500.0 | 0.00 | 0.00 | 5,500.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 5,600.0 | 0.00 | 0.00 | 5,600.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 5,700.0 | 0.00 | 0.00 | 5,700.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 5,768.0 | 0.00 | 0.00 | 5,768.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| BRUSHY_CANYON | | | | | | | | | |
| 5,800.0 | 0.00 | 0.00 | 5,800.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 5,900.0 | 0.00 | 0.00 | 5,900.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 6,000.0 | 0.00 | 0.00 | 6,000.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 6,100.0 | 0.00 | 0.00 | 6,100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 6,200.0 | 0.00 | 0.00 | 6,200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 6,300.0 | 0.00 | 0.00 | 6,300.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 6,400.0 | 0.00 | 0.00 | 6,400.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 6,500.0 | 0.00 | 0.00 | 6,500.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 6,600.0 | 0.00 | 0.00 | 6,600.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 6,700.0 | 0.00 | 0.00 | 6,700.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 6,800.0 | 0.00 | 0.00 | 6,800.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 6,900.0 | 0.00 | 0.00 | 6,900.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 7,000.0 | 0.00 | 0.00 | 7,000.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 7,100.0 | 0.00 | 0.00 | 7,100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 7,200.0 | 0.00 | 0.00 | 7,200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 7,300.0 | 0.00 | 0.00 | 7,300.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 7,400.0 | 0.00 | 0.00 | 7,400.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 7,434.0 | 0.00 | 0.00 | 7,434.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| BSPG_LIME * | | | | | | | | | |
| 7,500.0 | 0.00 | 0.00 | 7,500.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| KOP - Start Build 2.00 | | | | | | | | | |
| 7,600.0 | 2.00 | 165.90 | 7,600.0 | -1.7 | 0.4 | -1.7 | 2.00 | 2.00 | 0.00 |
| 7,681.7 | 3.63 | 165.90 | 7,681.6 | -5.6 | 1.4 | -5.6 | 2.00 | 2.00 | 0.00 |
| Start 2092.1 hold at 7681.7 MD | | | | | | | | | |
| 7,700.0 | 3.63 | 165.90 | 7,699.8 | -6.7 | 1.7 | -6.7 | 0.00 | 0.00 | 0.00 |
| 7,800.0 | 3.63 | 165.90 | 7,799.6 | -12.9 | 3.2 | -12.9 | 0.00 | 0.00 | 0.00 |
| 7,900.0 | 3.63 | 165.90 | 7,899.4 | -19.0 | 4.8 | -19.0 | 0.00 | 0.00 | 0.00 |
| 8,000.0 | 3.63 | 165.90 | 7,999.2 | -25.2 | 6.3 | -25.2 | 0.00 | 0.00 | 0.00 |
| 8,100.0 | 3.63 | 165.90 | 8,099.0 | -31.3 | 7.9 | -31.3 | 0.00 | 0.00 | 0.00 |
| 8,173.1 | 3.63 | 165.90 | 8,172.0 | -35.8 | 9.0 | -35.8 | 0.00 | 0.00 | 0.00 |
| AVALON_B | | | | | | | | | |
| 8,200.0 | 3.63 | 165.90 | 8,198.8 | -37.4 | 9.4 | -37.5 | 0.00 | 0.00 | 0.00 |
| 8,300.0 | 3.63 | 165.90 | 8,298.6 | -43.6 | 10.9 | -43.6 | 0.00 | 0.00 | 0.00 |
| 8,400.0 | 3.63 | 165.90 | 8,398.4 | -49.7 | 12.5 | -49.8 | 0.00 | 0.00 | 0.00 |
| 8,500.0 | 3.63 | 165.90 | 8,498.2 | -55.9 | 14.0 | -55.9 | 0.00 | 0.00 | 0.00 |
| 8,600.0 | 3.63 | 165.90 | 8,598.0 | -62.0 | 15.6 | -62.1 | 0.00 | 0.00 | 0.00 |

Planning Report

| | | | |
|------------------|----------------------------|-------------------------------------|--|
| Database: | EDM 5000.16 Single User Db | Local Co-ordinate Reference: | Well Emerald Fed Com 602H |
| Company: | Avant Operating, LLC | TVD Reference: | WELL @ 3698.1usft (Original Well Elev) |
| Project: | Lea Co., NM (NAD 83) | MD Reference: | WELL @ 3698.1usft (Original Well Elev) |
| Site: | Emerald Pad 1 | North Reference: | Grid |
| Well: | Emerald Fed Com 602H | 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) |
| 8,700.0 | 3.63 | 165.90 | 8,697.8 | -68.2 | 17.1 | -68.2 | 0.00 | 0.00 | 0.00 |
| 8,729.2 | 3.63 | 165.90 | 8,727.0 | -70.0 | 17.6 | -70.0 | 0.00 | 0.00 | 0.00 |
| FBSG_SD * | | | | | | | | | |
| 8,800.0 | 3.63 | 165.90 | 8,797.6 | -74.3 | 18.7 | -74.4 | 0.00 | 0.00 | 0.00 |
| 8,900.0 | 3.63 | 165.90 | 8,897.4 | -80.5 | 20.2 | -80.5 | 0.00 | 0.00 | 0.00 |
| 9,000.0 | 3.63 | 165.90 | 8,997.2 | -86.6 | 21.8 | -86.7 | 0.00 | 0.00 | 0.00 |
| 9,100.0 | 3.63 | 165.90 | 9,097.0 | -92.8 | 23.3 | -92.9 | 0.00 | 0.00 | 0.00 |
| 9,107.0 | 3.63 | 165.90 | 9,104.0 | -93.2 | 23.4 | -93.3 | 0.00 | 0.00 | 0.00 |
| SBSG_CARB | | | | | | | | | |
| 9,200.0 | 3.63 | 165.90 | 9,196.8 | -98.9 | 24.8 | -99.0 | 0.00 | 0.00 | 0.00 |
| 9,297.4 | 3.63 | 165.90 | 9,294.0 | -104.9 | 26.3 | -105.0 | 0.00 | 0.00 | 0.00 |
| SBSG_SD | | | | | | | | | |
| 9,300.0 | 3.63 | 165.90 | 9,296.6 | -105.1 | 26.4 | -105.2 | 0.00 | 0.00 | 0.00 |
| 9,400.0 | 3.63 | 165.90 | 9,396.4 | -111.2 | 27.9 | -111.3 | 0.00 | 0.00 | 0.00 |
| 9,500.0 | 3.63 | 165.90 | 9,496.2 | -117.4 | 29.5 | -117.5 | 0.00 | 0.00 | 0.00 |
| 9,600.0 | 3.63 | 165.90 | 9,596.0 | -123.5 | 31.0 | -123.6 | 0.00 | 0.00 | 0.00 |
| 9,700.0 | 3.63 | 165.90 | 9,695.8 | -129.6 | 32.6 | -129.8 | 0.00 | 0.00 | 0.00 |
| 9,773.8 | 3.63 | 165.90 | 9,769.4 | -134.2 | 33.7 | -134.3 | 0.00 | 0.00 | 0.00 |
| Start Drop -2.00 | | | | | | | | | |
| 9,800.0 | 3.11 | 165.90 | 9,795.6 | -135.7 | 34.1 | -135.8 | 2.00 | -2.00 | 0.00 |
| 9,900.0 | 1.11 | 165.90 | 9,895.6 | -139.2 | 35.0 | -139.4 | 2.00 | -2.00 | 0.00 |
| 9,955.4 | 0.00 | 0.00 | 9,951.0 | -139.8 | 35.1 | -139.9 | 2.00 | -2.00 | 0.00 |
| Start 100.5 hold at 9955.4 MD - KOP - Emerald Fed Com 602H | | | | | | | | | |
| 9,985.4 | 0.00 | 0.00 | 9,981.0 | -139.8 | 35.1 | -139.9 | 0.00 | 0.00 | 0.00 |
| TBSG_CARB | | | | | | | | | |
| 10,000.0 | 0.00 | 0.00 | 9,995.6 | -139.8 | 35.1 | -139.9 | 0.00 | 0.00 | 0.00 |
| 10,056.0 | 0.00 | 0.00 | 10,051.5 | -139.8 | 35.1 | -139.9 | 0.00 | 0.00 | 0.00 |
| KOP #2 - Start Build 12.00 | | | | | | | | | |
| 10,075.0 | 2.28 | 359.60 | 10,070.5 | -139.4 | 35.1 | -139.5 | 12.00 | 12.00 | 0.00 |
| 10,100.0 | 5.28 | 359.60 | 10,095.5 | -137.7 | 35.1 | -137.9 | 12.00 | 12.00 | 0.00 |
| 10,125.0 | 8.28 | 359.60 | 10,120.3 | -134.8 | 35.1 | -134.9 | 12.00 | 12.00 | 0.00 |
| 10,150.0 | 11.28 | 359.60 | 10,144.9 | -130.5 | 35.0 | -130.7 | 12.00 | 12.00 | 0.00 |
| 10,175.0 | 14.28 | 359.60 | 10,169.3 | -125.0 | 35.0 | -125.1 | 12.00 | 12.00 | 0.00 |
| 10,200.0 | 17.28 | 359.60 | 10,193.4 | -118.2 | 35.0 | -118.3 | 12.00 | 12.00 | 0.00 |
| 10,225.0 | 20.28 | 359.60 | 10,217.0 | -110.2 | 34.9 | -110.3 | 12.00 | 12.00 | 0.00 |
| 10,250.0 | 23.28 | 359.60 | 10,240.3 | -100.9 | 34.8 | -101.0 | 12.00 | 12.00 | 0.00 |
| 10,275.0 | 26.28 | 359.60 | 10,263.0 | -90.4 | 34.8 | -90.5 | 12.00 | 12.00 | 0.00 |
| 10,300.0 | 29.28 | 359.60 | 10,285.1 | -78.8 | 34.7 | -78.9 | 12.00 | 12.00 | 0.00 |
| 10,325.0 | 32.28 | 359.60 | 10,306.5 | -66.0 | 34.6 | -66.1 | 12.00 | 12.00 | 0.00 |
| 10,350.0 | 35.28 | 359.60 | 10,327.3 | -52.1 | 34.5 | -52.2 | 12.00 | 12.00 | 0.00 |
| 10,375.0 | 38.28 | 359.60 | 10,347.3 | -37.1 | 34.4 | -37.2 | 12.00 | 12.00 | 0.00 |
| 10,400.0 | 41.28 | 359.60 | 10,366.5 | -21.1 | 34.3 | -21.2 | 12.00 | 12.00 | 0.00 |
| 10,425.0 | 44.28 | 359.60 | 10,384.9 | -4.1 | 34.2 | -4.3 | 12.00 | 12.00 | 0.00 |
| 10,450.0 | 47.28 | 359.60 | 10,402.3 | 13.8 | 34.0 | 13.7 | 12.00 | 12.00 | 0.00 |
| 10,455.6 | 47.95 | 359.60 | 10,406.1 | 17.9 | 34.0 | 17.8 | 12.00 | 12.00 | 0.00 |
| FTP - Emerald Fed Com 602H | | | | | | | | | |
| 10,475.0 | 50.28 | 359.60 | 10,418.8 | 32.6 | 33.9 | 32.5 | 12.00 | 12.00 | 0.00 |
| 10,500.0 | 53.28 | 359.60 | 10,434.3 | 52.2 | 33.8 | 52.1 | 12.00 | 12.00 | 0.00 |
| 10,525.0 | 56.28 | 359.60 | 10,448.7 | 72.6 | 33.6 | 72.5 | 12.00 | 12.00 | 0.00 |
| 10,550.0 | 59.28 | 359.60 | 10,462.0 | 93.8 | 33.5 | 93.7 | 12.00 | 12.00 | 0.00 |
| 10,575.0 | 62.28 | 359.60 | 10,474.2 | 115.6 | 33.3 | 115.5 | 12.00 | 12.00 | 0.00 |
| 10,600.0 | 65.28 | 359.60 | 10,485.3 | 138.0 | 33.2 | 137.9 | 12.00 | 12.00 | 0.00 |
| 10,625.0 | 68.28 | 359.60 | 10,495.1 | 161.0 | 33.0 | 160.9 | 12.00 | 12.00 | 0.00 |

Planning Report

| | | | |
|------------------|----------------------------|-------------------------------------|--|
| Database: | EDM 5000.16 Single User Db | Local Co-ordinate Reference: | Well Emerald Fed Com 602H |
| Company: | Avant Operating, LLC | TVD Reference: | WELL @ 3698.1usft (Original Well Elev) |
| Project: | Lea Co., NM (NAD 83) | MD Reference: | WELL @ 3698.1usft (Original Well Elev) |
| Site: | Emerald Pad 1 | North Reference: | Grid |
| Well: | Emerald Fed Com 602H | 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) |
| 10,650.0 | 71.28 | 359.60 | 10,503.7 | 184.5 | 32.8 | 184.3 | 12.00 | 12.00 | 0.00 |
| 10,675.0 | 74.28 | 359.60 | 10,511.1 | 208.3 | 32.7 | 208.2 | 12.00 | 12.00 | 0.00 |
| 10,700.0 | 77.28 | 359.60 | 10,517.3 | 232.6 | 32.5 | 232.5 | 12.00 | 12.00 | 0.00 |
| 10,725.0 | 80.28 | 359.60 | 10,522.1 | 257.1 | 32.3 | 257.0 | 12.00 | 12.00 | 0.00 |
| 10,750.0 | 83.28 | 359.60 | 10,525.7 | 281.8 | 32.2 | 281.7 | 12.00 | 12.00 | 0.00 |
| 10,775.0 | 86.28 | 359.60 | 10,528.0 | 306.7 | 32.0 | 306.6 | 12.00 | 12.00 | 0.00 |
| 10,800.0 | 89.28 | 359.60 | 10,529.0 | 331.7 | 31.8 | 331.6 | 12.00 | 12.00 | 0.00 |
| 10,806.0 | 90.00 | 359.60 | 10,529.0 | 337.7 | 31.8 | 337.6 | 12.00 | 12.00 | 0.00 |
| LP - Start 9943.4 hold at 10806.0 MD | | | | | | | | | |
| 10,900.0 | 90.00 | 359.60 | 10,529.0 | 431.7 | 31.1 | 431.6 | 0.00 | 0.00 | 0.00 |
| 11,000.0 | 90.00 | 359.60 | 10,529.0 | 531.7 | 30.4 | 531.6 | 0.00 | 0.00 | 0.00 |
| 11,100.0 | 90.00 | 359.60 | 10,529.0 | 631.7 | 29.7 | 631.6 | 0.00 | 0.00 | 0.00 |
| 11,200.0 | 90.00 | 359.60 | 10,529.0 | 731.7 | 29.1 | 731.6 | 0.00 | 0.00 | 0.00 |
| 11,300.0 | 90.00 | 359.60 | 10,529.0 | 831.7 | 28.4 | 831.6 | 0.00 | 0.00 | 0.00 |
| 11,400.0 | 90.00 | 359.60 | 10,529.0 | 931.7 | 27.7 | 931.6 | 0.00 | 0.00 | 0.00 |
| 11,500.0 | 90.00 | 359.60 | 10,529.0 | 1,031.7 | 27.0 | 1,031.6 | 0.00 | 0.00 | 0.00 |
| 11,600.0 | 90.00 | 359.60 | 10,529.0 | 1,131.7 | 26.3 | 1,131.6 | 0.00 | 0.00 | 0.00 |
| 11,700.0 | 90.00 | 359.60 | 10,529.0 | 1,231.7 | 25.6 | 1,231.6 | 0.00 | 0.00 | 0.00 |
| 11,800.0 | 90.00 | 359.60 | 10,529.0 | 1,331.7 | 24.9 | 1,331.6 | 0.00 | 0.00 | 0.00 |
| 11,900.0 | 90.00 | 359.60 | 10,529.0 | 1,431.7 | 24.2 | 1,431.6 | 0.00 | 0.00 | 0.00 |
| 12,000.0 | 90.00 | 359.60 | 10,529.0 | 1,531.7 | 23.5 | 1,531.6 | 0.00 | 0.00 | 0.00 |
| 12,100.0 | 90.00 | 359.60 | 10,529.0 | 1,631.7 | 22.8 | 1,631.6 | 0.00 | 0.00 | 0.00 |
| 12,200.0 | 90.00 | 359.60 | 10,529.0 | 1,731.7 | 22.1 | 1,731.6 | 0.00 | 0.00 | 0.00 |
| 12,300.0 | 90.00 | 359.60 | 10,529.0 | 1,831.7 | 21.4 | 1,831.6 | 0.00 | 0.00 | 0.00 |
| 12,400.0 | 90.00 | 359.60 | 10,529.0 | 1,931.7 | 20.7 | 1,931.6 | 0.00 | 0.00 | 0.00 |
| 12,500.0 | 90.00 | 359.60 | 10,529.0 | 2,031.7 | 20.0 | 2,031.6 | 0.00 | 0.00 | 0.00 |
| 12,600.0 | 90.00 | 359.60 | 10,529.0 | 2,131.7 | 19.3 | 2,131.6 | 0.00 | 0.00 | 0.00 |
| 12,700.0 | 90.00 | 359.60 | 10,529.0 | 2,231.7 | 18.6 | 2,231.6 | 0.00 | 0.00 | 0.00 |
| 12,800.0 | 90.00 | 359.60 | 10,529.0 | 2,331.7 | 17.9 | 2,331.6 | 0.00 | 0.00 | 0.00 |
| 12,900.0 | 90.00 | 359.60 | 10,529.0 | 2,431.6 | 17.2 | 2,431.6 | 0.00 | 0.00 | 0.00 |
| 13,000.0 | 90.00 | 359.60 | 10,529.0 | 2,531.6 | 16.6 | 2,531.6 | 0.00 | 0.00 | 0.00 |
| 13,100.0 | 90.00 | 359.60 | 10,529.0 | 2,631.6 | 15.9 | 2,631.6 | 0.00 | 0.00 | 0.00 |
| 13,200.0 | 90.00 | 359.60 | 10,529.0 | 2,731.6 | 15.2 | 2,731.6 | 0.00 | 0.00 | 0.00 |
| 13,300.0 | 90.00 | 359.60 | 10,529.0 | 2,831.6 | 14.5 | 2,831.6 | 0.00 | 0.00 | 0.00 |
| 13,400.0 | 90.00 | 359.60 | 10,529.0 | 2,931.6 | 13.8 | 2,931.6 | 0.00 | 0.00 | 0.00 |
| 13,500.0 | 90.00 | 359.60 | 10,529.0 | 3,031.6 | 13.1 | 3,031.6 | 0.00 | 0.00 | 0.00 |
| 13,600.0 | 90.00 | 359.60 | 10,529.0 | 3,131.6 | 12.4 | 3,131.6 | 0.00 | 0.00 | 0.00 |
| 13,700.0 | 90.00 | 359.60 | 10,529.0 | 3,231.6 | 11.7 | 3,231.6 | 0.00 | 0.00 | 0.00 |
| 13,800.0 | 90.00 | 359.60 | 10,529.0 | 3,331.6 | 11.0 | 3,331.6 | 0.00 | 0.00 | 0.00 |
| 13,900.0 | 90.00 | 359.60 | 10,529.0 | 3,431.6 | 10.3 | 3,431.6 | 0.00 | 0.00 | 0.00 |
| 14,000.0 | 90.00 | 359.60 | 10,529.0 | 3,531.6 | 9.6 | 3,531.6 | 0.00 | 0.00 | 0.00 |
| 14,100.0 | 90.00 | 359.60 | 10,529.0 | 3,631.6 | 8.9 | 3,631.6 | 0.00 | 0.00 | 0.00 |
| 14,200.0 | 90.00 | 359.60 | 10,529.0 | 3,731.6 | 8.2 | 3,731.6 | 0.00 | 0.00 | 0.00 |
| 14,300.0 | 90.00 | 359.60 | 10,529.0 | 3,831.6 | 7.5 | 3,831.6 | 0.00 | 0.00 | 0.00 |
| 14,400.0 | 90.00 | 359.60 | 10,529.0 | 3,931.6 | 6.8 | 3,931.6 | 0.00 | 0.00 | 0.00 |
| 14,500.0 | 90.00 | 359.60 | 10,529.0 | 4,031.6 | 6.1 | 4,031.6 | 0.00 | 0.00 | 0.00 |
| 14,600.0 | 90.00 | 359.60 | 10,529.0 | 4,131.6 | 5.4 | 4,131.6 | 0.00 | 0.00 | 0.00 |
| 14,700.0 | 90.00 | 359.60 | 10,529.0 | 4,231.6 | 4.8 | 4,231.6 | 0.00 | 0.00 | 0.00 |
| 14,800.0 | 90.00 | 359.60 | 10,529.0 | 4,331.6 | 4.1 | 4,331.6 | 0.00 | 0.00 | 0.00 |
| 14,900.0 | 90.00 | 359.60 | 10,529.0 | 4,431.6 | 3.4 | 4,431.6 | 0.00 | 0.00 | 0.00 |
| 15,000.0 | 90.00 | 359.60 | 10,529.0 | 4,531.6 | 2.7 | 4,531.6 | 0.00 | 0.00 | 0.00 |
| 15,100.0 | 90.00 | 359.60 | 10,529.0 | 4,631.6 | 2.0 | 4,631.6 | 0.00 | 0.00 | 0.00 |
| 15,200.0 | 90.00 | 359.60 | 10,529.0 | 4,731.6 | 1.3 | 4,731.6 | 0.00 | 0.00 | 0.00 |
| 15,300.0 | 90.00 | 359.60 | 10,529.0 | 4,831.6 | 0.6 | 4,831.6 | 0.00 | 0.00 | 0.00 |

Planning Report

| | | | |
|------------------|----------------------------|-------------------------------------|--|
| Database: | EDM 5000.16 Single User Db | Local Co-ordinate Reference: | Well Emerald Fed Com 602H |
| Company: | Avant Operating, LLC | TVD Reference: | WELL @ 3698.1usft (Original Well Elev) |
| Project: | Lea Co., NM (NAD 83) | MD Reference: | WELL @ 3698.1usft (Original Well Elev) |
| Site: | Emerald Pad 1 | North Reference: | Grid |
| Well: | Emerald Fed Com 602H | 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) | |
| 15,400.0 | 90.00 | 359.60 | 10,529.0 | 4,931.6 | -0.1 | 4,931.6 | 0.00 | 0.00 | 0.00 | |
| 15,500.0 | 90.00 | 359.60 | 10,529.0 | 5,031.6 | -0.8 | 5,031.6 | 0.00 | 0.00 | 0.00 | |
| 15,600.0 | 90.00 | 359.60 | 10,529.0 | 5,131.6 | -1.5 | 5,131.6 | 0.00 | 0.00 | 0.00 | |
| 15,700.0 | 90.00 | 359.60 | 10,529.0 | 5,231.6 | -2.2 | 5,231.6 | 0.00 | 0.00 | 0.00 | |
| 15,800.0 | 90.00 | 359.60 | 10,529.0 | 5,331.6 | -2.9 | 5,331.6 | 0.00 | 0.00 | 0.00 | |
| 15,900.0 | 90.00 | 359.60 | 10,529.0 | 5,431.6 | -3.6 | 5,431.6 | 0.00 | 0.00 | 0.00 | |
| 16,000.0 | 90.00 | 359.60 | 10,529.0 | 5,531.6 | -4.3 | 5,531.6 | 0.00 | 0.00 | 0.00 | |
| 16,100.0 | 90.00 | 359.60 | 10,529.0 | 5,631.6 | -5.0 | 5,631.6 | 0.00 | 0.00 | 0.00 | |
| 16,200.0 | 90.00 | 359.60 | 10,529.0 | 5,731.6 | -5.7 | 5,731.6 | 0.00 | 0.00 | 0.00 | |
| 16,300.0 | 90.00 | 359.60 | 10,529.0 | 5,831.6 | -6.4 | 5,831.6 | 0.00 | 0.00 | 0.00 | |
| 16,400.0 | 90.00 | 359.60 | 10,529.0 | 5,931.6 | -7.0 | 5,931.6 | 0.00 | 0.00 | 0.00 | |
| 16,500.0 | 90.00 | 359.60 | 10,529.0 | 6,031.6 | -7.7 | 6,031.5 | 0.00 | 0.00 | 0.00 | |
| 16,600.0 | 90.00 | 359.60 | 10,529.0 | 6,131.6 | -8.4 | 6,131.5 | 0.00 | 0.00 | 0.00 | |
| 16,700.0 | 90.00 | 359.60 | 10,529.0 | 6,231.6 | -9.1 | 6,231.5 | 0.00 | 0.00 | 0.00 | |
| 16,800.0 | 90.00 | 359.60 | 10,529.0 | 6,331.6 | -9.8 | 6,331.5 | 0.00 | 0.00 | 0.00 | |
| 16,900.0 | 90.00 | 359.60 | 10,529.0 | 6,431.6 | -10.5 | 6,431.5 | 0.00 | 0.00 | 0.00 | |
| 17,000.0 | 90.00 | 359.60 | 10,529.0 | 6,531.5 | -11.2 | 6,531.5 | 0.00 | 0.00 | 0.00 | |
| 17,100.0 | 90.00 | 359.60 | 10,529.0 | 6,631.5 | -11.9 | 6,631.5 | 0.00 | 0.00 | 0.00 | |
| 17,200.0 | 90.00 | 359.60 | 10,529.0 | 6,731.5 | -12.6 | 6,731.5 | 0.00 | 0.00 | 0.00 | |
| 17,300.0 | 90.00 | 359.60 | 10,529.0 | 6,831.5 | -13.3 | 6,831.5 | 0.00 | 0.00 | 0.00 | |
| 17,400.0 | 90.00 | 359.60 | 10,529.0 | 6,931.5 | -14.0 | 6,931.5 | 0.00 | 0.00 | 0.00 | |
| 17,500.0 | 90.00 | 359.60 | 10,529.0 | 7,031.5 | -14.7 | 7,031.5 | 0.00 | 0.00 | 0.00 | |
| 17,600.0 | 90.00 | 359.60 | 10,529.0 | 7,131.5 | -15.4 | 7,131.5 | 0.00 | 0.00 | 0.00 | |
| 17,700.0 | 90.00 | 359.60 | 10,529.0 | 7,231.5 | -16.1 | 7,231.5 | 0.00 | 0.00 | 0.00 | |
| 17,800.0 | 90.00 | 359.60 | 10,529.0 | 7,331.5 | -16.8 | 7,331.5 | 0.00 | 0.00 | 0.00 | |
| 17,900.0 | 90.00 | 359.60 | 10,529.0 | 7,431.5 | -17.5 | 7,431.5 | 0.00 | 0.00 | 0.00 | |
| 18,000.0 | 90.00 | 359.60 | 10,529.0 | 7,531.5 | -18.2 | 7,531.5 | 0.00 | 0.00 | 0.00 | |
| 18,100.0 | 90.00 | 359.60 | 10,529.0 | 7,631.5 | -18.8 | 7,631.5 | 0.00 | 0.00 | 0.00 | |
| 18,200.0 | 90.00 | 359.60 | 10,529.0 | 7,731.5 | -19.5 | 7,731.5 | 0.00 | 0.00 | 0.00 | |
| 18,300.0 | 90.00 | 359.60 | 10,529.0 | 7,831.5 | -20.2 | 7,831.5 | 0.00 | 0.00 | 0.00 | |
| 18,400.0 | 90.00 | 359.60 | 10,529.0 | 7,931.5 | -20.9 | 7,931.5 | 0.00 | 0.00 | 0.00 | |
| 18,500.0 | 90.00 | 359.60 | 10,529.0 | 8,031.5 | -21.6 | 8,031.5 | 0.00 | 0.00 | 0.00 | |
| 18,600.0 | 90.00 | 359.60 | 10,529.0 | 8,131.5 | -22.3 | 8,131.5 | 0.00 | 0.00 | 0.00 | |
| 18,700.0 | 90.00 | 359.60 | 10,529.0 | 8,231.5 | -23.0 | 8,231.5 | 0.00 | 0.00 | 0.00 | |
| 18,800.0 | 90.00 | 359.60 | 10,529.0 | 8,331.5 | -23.7 | 8,331.5 | 0.00 | 0.00 | 0.00 | |
| 18,900.0 | 90.00 | 359.60 | 10,529.0 | 8,431.5 | -24.4 | 8,431.5 | 0.00 | 0.00 | 0.00 | |
| 19,000.0 | 90.00 | 359.60 | 10,529.0 | 8,531.5 | -25.1 | 8,531.5 | 0.00 | 0.00 | 0.00 | |
| 19,100.0 | 90.00 | 359.60 | 10,529.0 | 8,631.5 | -25.8 | 8,631.5 | 0.00 | 0.00 | 0.00 | |
| 19,200.0 | 90.00 | 359.60 | 10,529.0 | 8,731.5 | -26.5 | 8,731.5 | 0.00 | 0.00 | 0.00 | |
| 19,300.0 | 90.00 | 359.60 | 10,529.0 | 8,831.5 | -27.2 | 8,831.5 | 0.00 | 0.00 | 0.00 | |
| 19,400.0 | 90.00 | 359.60 | 10,529.0 | 8,931.5 | -27.9 | 8,931.5 | 0.00 | 0.00 | 0.00 | |
| 19,500.0 | 90.00 | 359.60 | 10,529.0 | 9,031.5 | -28.6 | 9,031.5 | 0.00 | 0.00 | 0.00 | |
| 19,600.0 | 90.00 | 359.60 | 10,529.0 | 9,131.5 | -29.3 | 9,131.5 | 0.00 | 0.00 | 0.00 | |
| 19,700.0 | 90.00 | 359.60 | 10,529.0 | 9,231.5 | -30.0 | 9,231.5 | 0.00 | 0.00 | 0.00 | |
| 19,800.0 | 90.00 | 359.60 | 10,529.0 | 9,331.5 | -30.6 | 9,331.5 | 0.00 | 0.00 | 0.00 | |
| 19,900.0 | 90.00 | 359.60 | 10,529.0 | 9,431.5 | -31.3 | 9,431.5 | 0.00 | 0.00 | 0.00 | |
| 20,000.0 | 90.00 | 359.60 | 10,529.0 | 9,531.5 | -32.0 | 9,531.5 | 0.00 | 0.00 | 0.00 | |
| 20,100.0 | 90.00 | 359.60 | 10,529.0 | 9,631.5 | -32.7 | 9,631.5 | 0.00 | 0.00 | 0.00 | |
| 20,200.0 | 90.00 | 359.60 | 10,529.0 | 9,731.5 | -33.4 | 9,731.5 | 0.00 | 0.00 | 0.00 | |
| 20,300.0 | 90.00 | 359.60 | 10,529.0 | 9,831.5 | -34.1 | 9,831.5 | 0.00 | 0.00 | 0.00 | |
| 20,400.0 | 90.00 | 359.60 | 10,529.0 | 9,931.5 | -34.8 | 9,931.5 | 0.00 | 0.00 | 0.00 | |
| 20,500.0 | 90.00 | 359.60 | 10,529.0 | 10,031.5 | -35.5 | 10,031.5 | 0.00 | 0.00 | 0.00 | |
| 20,600.0 | 90.00 | 359.60 | 10,529.0 | 10,131.5 | -36.2 | 10,131.5 | 0.00 | 0.00 | 0.00 | |
| 20,700.0 | 90.00 | 359.60 | 10,529.0 | 10,231.5 | -36.9 | 10,231.5 | 0.00 | 0.00 | 0.00 | |

Planning Report

| | | | |
|-----------|----------------------------|------------------------------|--|
| Database: | EDM 5000.16 Single User Db | Local Co-ordinate Reference: | Well Emerald Fed Com 602H |
| Company: | Avant Operating, LLC | TVD Reference: | WELL @ 3698.1usft (Original Well Elev) |
| Project: | Lea Co., NM (NAD 83) | MD Reference: | WELL @ 3698.1usft (Original Well Elev) |
| Site: | Emerald Pad 1 | North Reference: | Grid |
| Well: | Emerald Fed Com 602H | 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) |
| 20,749.4 | 90.00 | 359.60 | 10,529.0 | 10,280.9 | -37.2 | 10,280.9 | 0.00 | 0.00 | 0.00 |
| TD at 20749.4 - LTP/BHL - Emerald Fed Com 602H | | | | | | | | | |

| Design Targets | | | | | | | | | |
|--|---------------|--------------|------------|--------------|--------------|-----------------|----------------|-----------|-------------|
| Target Name | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude | Longitude |
| - hit/miss target | | | | | | | | | |
| - Shape | | | | | | | | | |
| KOP - Emerald Fed Con | 0.00 | 0.00 | 9,951.0 | -139.8 | 35.1 | 612,492.01 | 734,006.42 | 32.682222 | -103.707121 |
| - plan hits target center | | | | | | | | | |
| - Point | | | | | | | | | |
| FTP - Emerald Fed Com | 0.00 | 0.00 | 10,529.0 | -89.8 | 34.7 | 612,542.00 | 734,006.05 | 32.682359 | -103.707121 |
| - plan misses target center by 163.4usft at 10455.6usft MD (10406.1 TVD, 17.9 N, 34.0 E) | | | | | | | | | |
| - Point | | | | | | | | | |
| LTP/BHL - Emerald Fed | 0.00 | 0.00 | 10,529.0 | 10,280.9 | -37.2 | 622,912.65 | 733,934.08 | 32.710865 | -103.707156 |
| - plan hits target center | | | | | | | | | |
| - Point | | | | | | | | | |

| Casing Points | | | | | |
|-----------------------|-----------------------|------------|--|---------------------|-------------------|
| Measured Depth (usft) | Vertical Depth (usft) | Name | | Casing Diameter (") | Hole Diameter (") |
| 20,749.4 | 10,529.0 | 20" Casing | | 20 | 24 |

| Formations | | | | | | |
|-----------------------|-----------------------|---------------|-----------|---------|-------------------|--|
| Measured Depth (usft) | Vertical Depth (usft) | Name | Lithology | Dip (°) | Dip Direction (°) | |
| 1,460.0 | 1,460.0 | RUSTLER | | | | |
| 1,754.0 | 1,754.0 | SOLADO | | | | |
| 3,453.0 | 3,453.0 | YATES | | | | |
| 4,730.0 | 4,730.0 | CAPITAN_REEF | | | | |
| 5,151.0 | 5,151.0 | CHERRY_CNYN | | | | |
| 5,768.0 | 5,768.0 | BRUSHY_CANYON | | | | |
| 7,434.0 | 7,434.0 | BSPG_LIME * | | | | |
| 8,173.1 | 8,172.0 | AVALON_B | | | | |
| 8,729.2 | 8,727.0 | FBSG__SD * | | | | |
| 9,107.0 | 9,104.0 | SBSG_CARB | | | | |
| 9,297.4 | 9,294.0 | SBSG_SD | | | | |
| 9,985.4 | 9,981.0 | TBSG_CARB | | | | |

Planning Report

| | | | |
|-----------|----------------------------|------------------------------|--|
| Database: | EDM 5000.16 Single User Db | Local Co-ordinate Reference: | Well Emerald Fed Com 602H |
| Company: | Avant Operating, LLC | TVD Reference: | WELL @ 3698.1usft (Original Well Elev) |
| Project: | Lea Co., NM (NAD 83) | MD Reference: | WELL @ 3698.1usft (Original Well Elev) |
| Site: | Emerald Pad 1 | North Reference: | Grid |
| Well: | Emerald Fed Com 602H | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | OH | | |
| Design: | Plan 0.1 | | |

| Plan Annotations | | | | |
|-----------------------------|-----------------------------|-------------------|-----------------|--------------------------------------|
| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates | | Comment |
| | | +N/-S (usft) | +E/-W (usft) | |
| 7,500.0 | 7,500.0 | 0.0 | 0.0 | KOP - Start Build 2.00 |
| 7,681.7 | 7,681.6 | -5.6 | 1.4 | Start 2092.1 hold at 7681.7 MD |
| 9,773.8 | 9,769.4 | -134.2 | 33.7 | Start Drop -2.00 |
| 9,955.4 | 9,951.0 | -139.8 | 35.1 | Start 100.5 hold at 9955.4 MD |
| 10,056.0 | 10,051.5 | -139.8 | 35.1 | KOP #2 - Start Build 12.00 |
| 10,806.0 | 10,529.0 | 337.7 | 31.8 | LP - Start 9943.4 hold at 10806.0 MD |
| 20,749.4 | 10,529.0 | 10,280.9 | -37.2 | TD at 20749.4 |

**PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL**

| | |
|-------------------------|-----------------------------------|
| OPERATOR'S NAME: | Avant Operating LLC |
| LOCATION: | Section 6, T.19 S., R.33 E., NMPM |
| COUNTY: | Lea County, New Mexico |

| | |
|-----------------------------|--------------------------|
| WELL NAME & NO.: | Emerald Federal Com 301H |
| ATS/API ID: | ATS-24-2142 |
| APD ID: | 10400099511 |
| Sundry ID: | N/a |

| | |
|-----------------------------|--------------------------|
| WELL NAME & NO.: | Emerald Federal Com 302H |
| ATS/API ID: | ATS-24-2143 |
| APD ID: | 10400099520 |
| Sundry ID: | N/a |

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|-----------------------------|--------------------------|
| WELL NAME & NO.: | Emerald Federal Com 304H |
| ATS/API ID: | ATS-24-2206 |
| APD ID: | 10400099668 |
| Sundry ID: | N/a |

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|-----------------------------|--------------------------|
| WELL NAME & NO.: | Emerald Federal Com 305H |
| ATS/API ID: | ATS-24-2204 |
| APD ID: | 10400099707 |
| Sundry ID: | N/a |

| | |
|-----------------------------|--------------------------|
| WELL NAME & NO.: | Emerald Federal Com 306H |
| ATS/API ID: | ATS-24-2202 |
| APD ID: | 10400099709 |
| Sundry ID: | N/a |

| | |
|-----------------------------|--------------------------|
| WELL NAME & NO.: | Emerald Federal Com 602H |
| ATS/API ID: | ATS-24-2146 |
| APD ID: | 10400099558 |
| Sundry ID: | N/a |

| | |
|-----------------------------|--------------------------|
| WELL NAME & NO.: | Emerald Federal Com 603H |
| ATS/API ID: | ATS-24-2147 |
| APD ID: | 10400099559 |
| Sundry ID: | N/a |

| | |
|-----------------------------|---------------------------------|
| WELL NAME & NO.: | Emerald Federal Com 604H |
| ATS/API ID: | ATS-24-2205 |
| APD ID: | 10400099700 |
| Sundry ID: | N/a |

| | |
|-----------------------------|---------------------------------|
| WELL NAME & NO.: | Emerald Federal Com 605H |
| ATS/API ID: | ATS-24-2201 |
| APD ID: | 10400099710 |
| Sundry ID: | N/a |

| | |
|-----------------------------|---------------------------------|
| WELL NAME & NO.: | Emerald Federal Com 606H |
| ATS/API ID: | ATS-24-2200 |
| APD ID: | 10400099711 |
| Sundry ID: | N/a |

COA

| | | | |
|-------------------------------|---|---|---|
| H2S | Yes | | |
| Potash | None | None | |
| Cave/Karst Potential | Low | | |
| Cave/Karst Potential | <input type="checkbox"/> Critical | | |
| Variance | <input checked="" type="checkbox"/> None | <input checked="" type="checkbox"/> Flex Hose | <input checked="" type="checkbox"/> Other |
| Wellhead | Conventional and Multibowl | | |
| Other | <input type="checkbox"/> 4 String <input type="checkbox"/> 5 String | Capitan Reef Int 1 | <input type="checkbox"/> WIPP |
| Other | Pilot Hole None | <input type="checkbox"/> Open Annulus | |
| Cementing | Contingency Squeeze None | Echo-Meter None | Primary Cement Squeeze None |
| Special Requirements | <input type="checkbox"/> Water Disposal/Injection | <input checked="" type="checkbox"/> COM | <input type="checkbox"/> Unit |
| Special Requirements | <input type="checkbox"/> Batch Sundry | Waste Prevention Waste MP | |
| Special Requirements Variance | <input type="checkbox"/> Break Testing | <input checked="" type="checkbox"/> Offline Cementing | <input type="checkbox"/> Casing Clearance |

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H₂S) Drilling Plan shall be activated 500 feet prior to drilling into the **Morrow** 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 **1610 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.

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.
 - ❖ **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)

Communitization Agreement

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

Offline Cementing

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

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

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

GENERAL REQUIREMENTS

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

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

☒ Lea County

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

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
 - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
 - b. When the operator proposes to set surface casing with Spudder Rig
 - Notify the BLM when moving in and removing the Spudder Rig.
 - Notify the BLM when moving in the 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) 1/14/2025

Hydrogen Sulfide Plan Summary

- A. All personnel shall receive proper H₂S training in accordance with Onshore Order III.C.3.a.
- B. Briefing Area: two perpendicular areas will be designated by signs and readily accessible.
- C. Required Emergency Equipment:

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

- Protective equipment for essential personnel.

Breathing apparatus:

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

Auxiliary Rescue Equipment:

- a. Stretcher
- b. Two OSHA full body harness
- c. 100 ft 5/8 inch OSHA approved rope
- d. 1-20# class ABC fire extinguisher

- H₂S detection and monitoring equipment:

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

(Gas sample tubes will be stored in the safety trailer)

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



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

Company Personnel to be Notified

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

Local & County Agencies

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

State Agencies

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



Federal Agencies

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

Veterinarians

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

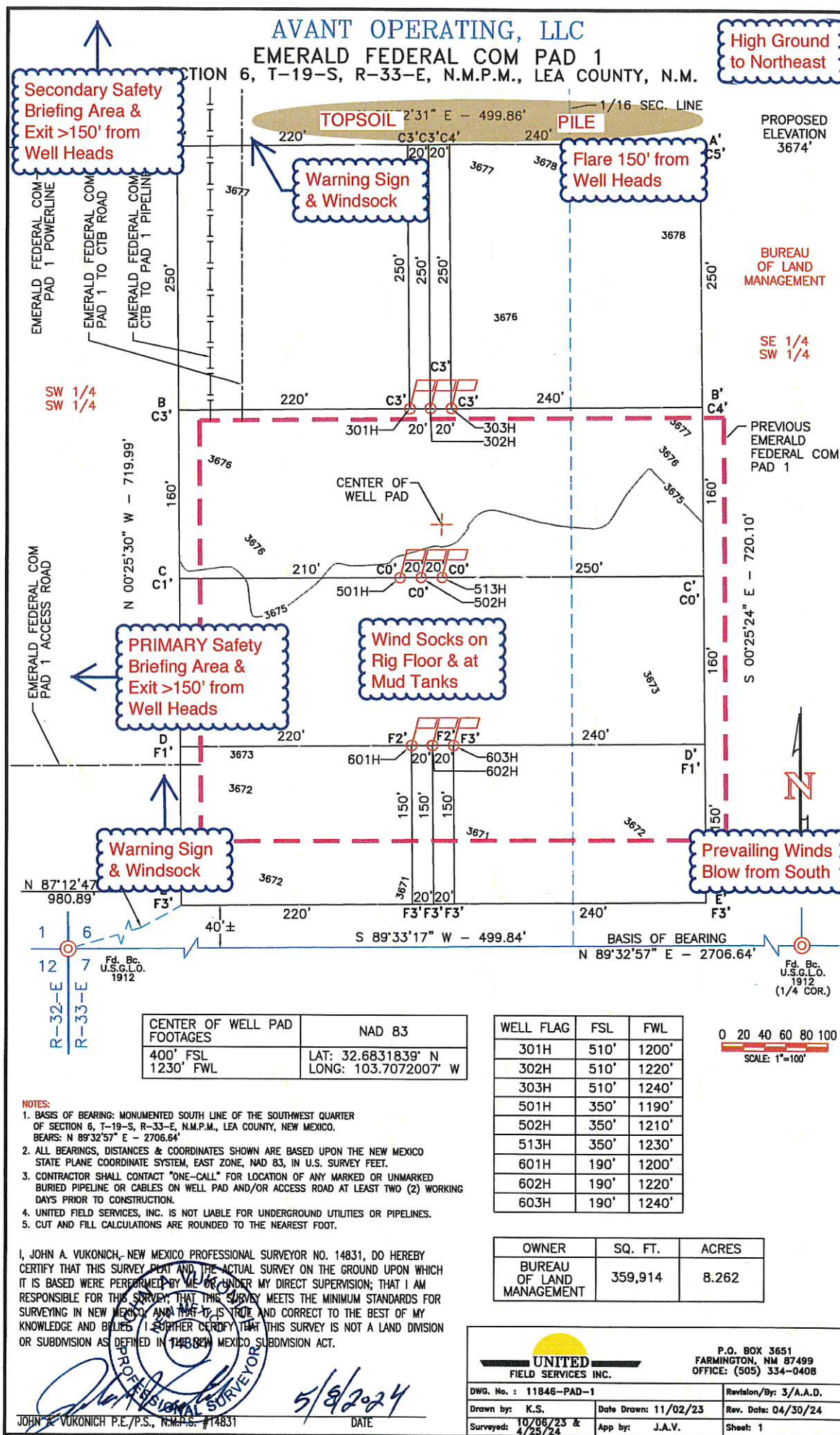
Residents within 2 miles

None

Air Evacuation

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

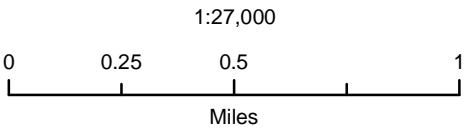
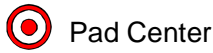




Avant Operating, LLC

**Emerald Federal Com
Pad 1
H2S Contingency Plan:
Radius Map**

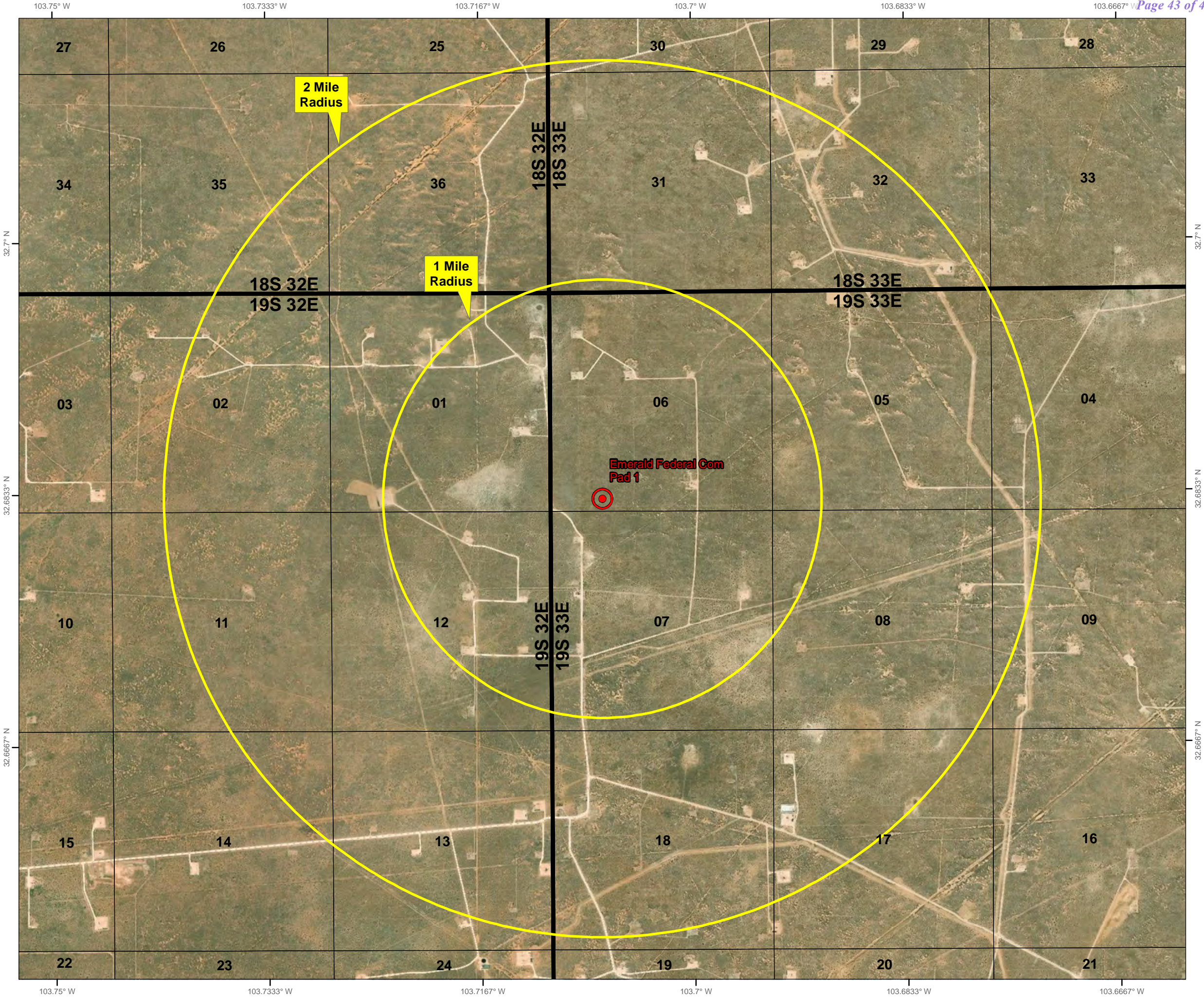
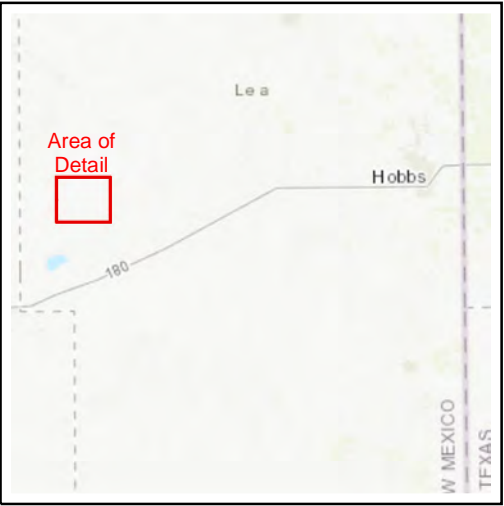
Section 6, Township 19S, Range 33E
Lea County, New Mexico



NAD 1983 New Mexico State Plane East
FIPS 3001 Feet



Prepared by Permits West, Inc., February 20, 2024
for Avant Operating, LLC



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

General Information
Phone: (505) 629-6116

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

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

CONDITIONS

Action 422106

CONDITIONS

| | |
|--|---|
| Operator: Avant Operating, LLC 1515 Wynkoop Street Denver, CO 80202 | OGRID: 330396 |
| | Action Number: 422106 |
| | Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3) |

CONDITIONS

| Created By | Condition | Condition Date |
|------------|---|----------------|
| twelem | Cement is required to circulate on both surface and intermediate1 strings of casing. | 1/17/2025 |
| twelem | If cement does not circulate on any string, a Cement Bond Log (CBL) is required for that string of casing. | 1/17/2025 |
| pkautz | Administrative order required for non-standard spacing unit prior to production. | 1/24/2025 |
| pkautz | File As Drilled C-102 and a directional Survey with C-104 completion packet. | 1/24/2025 |
| pkautz | Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string. | 1/24/2025 |
| pkautz | Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system. | 1/24/2025 |