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**

5. Lease Serial No.: NMLC070286

6. If Indian, Allotee or Tribe Name:

1a. Type of work: ☑ DRILL ☐ REENTER

1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other

1c. Type of Completion: ☐ Hydraulic Fracturing ☑ Single Zone ☐ Multiple Zone

7. If Unit or CA Agreement, Name and No.:

8. Lease Name and Well No.: ANVIL FED COM 401H

2. Name of Operator: ASCENT ENERGY LLC

9. API Well No.: 30 015 48631

3a. Address: 1621 18th Street, Suite 200, Denver, CO 80202

3b. Phone No. *(include area code)*: (720) 710-8999

10. Field and Pool, or Exploratory: WC-015 G-04 S203032P/BONE SPRING

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface: LOT 1 / 144 FNL / 1032 FEL / LAT 32.522167 / LONG -103.984322

At proposed prod. zone: NWNW / 50 FNL / 330 FWL / LAT 32.551501 / LONG -103.984705

11. Sec., T. R. M. or Blk. and Survey or Area: SEC 4/T21S/R29E/NMP

14. Distance in miles and direction from nearest town or post office*: 15 miles

12. County or Parish: EDDY

13. State: NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any): 144 feet

16. No of acres in lease:

17. Spacing Unit dedicated to this well: 320.0

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: 30 feet

19. Proposed Depth: 7845 feet / 18632 feet

20. BLM/BIA Bond No. in file: FED: NMB001698

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 3383 feet

22. Approximate date work will start*: 12/01/2020

23. Estimated duration: 90 days

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 |
|---|---|---|
| (Electronic Submission) | BRIAN WOOD / Ph: (720) 710-8999 | 09/15/2020 |

Title: President

| Approved by *(Signature)* | Name *(Printed/Typed)* | Date |
|---|---|---|
| (Electronic Submission) | Cody Layton / Ph: (575) 234-5959 | 06/18/2021 |

| Title | Office |
|---|---|
| Assistant Field Manager Lands & Minerals | Carlsbad Field 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.

APPROVED WITH CONDITIONS

(Continued on page 2)

*(Instructions on page 2)

**Approval Date: 06/18/2021**

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

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

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

☐ AMENDED REPORT

# WELL LOCATION AND ACREAGE DEDICATION PLAT

| [1] API Number | [2] Pool Code | [3] Pool Name |
|---|---|---|
| 30-015- | 98008 | WC-015 G-04 S203032P; BONE SPRING |

| [4] Property Code | [5] Property Name | [6] Well Number |
|---|---|---|
| | ANVIL FED COM | 401H |

| [7] OGRID No. | [8] Operator Name | [9] Elevation |
|---|---|---|
| 325830 | ASCENT ENERGY, LLC. | 3,381' |

## [10] Surface Location

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 4 | 21 S | 29 E | | 144 | NORTH | 1,032 | EAST | EDDY |

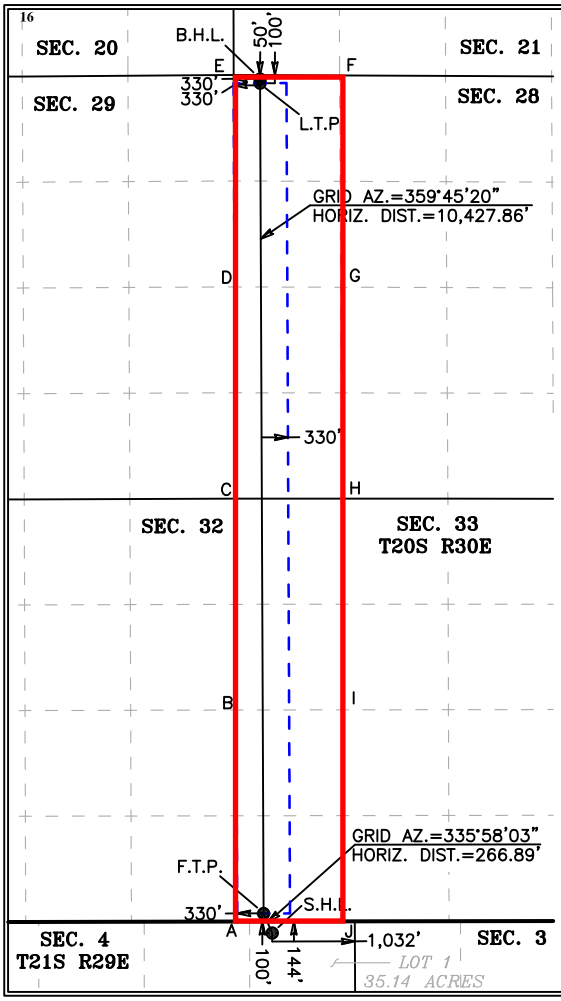
## [11] Bottom Hole Location If Different From Surface

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---|---|---|---|---|---|---|---|---|---|
| D | 28 | 20 S | 30 E | | 50 | NORTH | 330 | WEST | EDDY |

| [12] Dedicated Acres | [13] Joint or Infill | [14] Consolidation Code | [15] Order No. |
|---|---|---|---|
| 320 | | | |

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

[16]




| SHL (NAD83 NME) | | LTP (NAD83 NME) | |
|---|---|---|---|
| Y = | 553,871.2 | Y = | 564,492.7 |
| X = | 648,909.5 | X = | 648,756.6 |
| LAT. = | 32.522167 °N | LAT. = | 32.551364 °N |
| LONG. = | 103.984322 °W | LONG. = | 103.984705 °W |
| **FTP (NAD83 NME)** | | **BHL (NAD83 NME)** | |
| Y = | 554,115.0 | Y = | 564,542.7 |
| X = | 648,800.8 | X = | 648,756.4 |
| LAT. = | 32.522838 °N | LAT. = | 32.551501 °N |
| LONG. = | 103.984672 °W | LONG. = | 103.984705 °W |

**CORNER COORDINATES (NAD83 NME)**

| | | | |
|---|---|---|---|
| A - Y = | 554,014.3 N , | X = | 648,471.3 E |
| B - Y = | 556,658.4 N , | X = | 648,460.0 E |
| C - Y = | 559,300.1 N , | X = | 648,450.2 E |
| D - Y = | 561,946.0 N , | X = | 648,437.9 E |
| E - Y = | 564,594.3 N , | X = | 648,426.1 E |
| F - Y = | 564,588.1 N , | X = | 649,750.2 E |
| G - Y = | 561,942.3 N , | X = | 649,763.4 E |
| H - Y = | 559,300.0 N , | X = | 649,776.8 E |
| I - Y = | 556,660.3 N , | X = | 649,785.4 E |
| J - Y = | 554,016.8 N , | X = | 649,794.7 E |

| SHL (NAD27 NME) | | LTP (NAD27 NME) | |
|---|---|---|---|
| Y = | 553,809.7 | Y = | 564,431.1 |
| X = | 607,729.6 | X = | 607,577.0 |
| LAT. = | 32.522047 °N | LAT. = | 32.551244 °N |
| LONG. = | 103.983819 °W | LONG. = | 103.984201 °W |
| **FTP (NAD27 NME)** | | **BHL (NAD27 NME)** | |
| Y = | 554,053.5 | Y = | 564,481.1 |
| X = | 607,620.9 | X = | 607,576.8 |
| LAT. = | 32.522718 °N | LAT. = | 32.551382 °N |
| LONG. = | 103.984169 °W | LONG. = | 103.984201 °W |

**CORNER COORDINATES (NAD27 NME)**

| | | | |
|---|---|---|---|
| A - Y = | 553,952.9 N , | X = | 607,291.4 E |
| B - Y = | 556,596.9 N , | X = | 607,280.2 E |
| C - Y = | 559,238.5 N , | X = | 607,270.5 E |
| D - Y = | 561,884.5 N , | X = | 607,258.3 E |
| E - Y = | 564,532.6 N , | X = | 607,246.6 E |
| F - Y = | 564,526.5 N , | X = | 608,570.6 E |
| G - Y = | 561,880.7 N , | X = | 608,583.7 E |
| H - Y = | 559,238.5 N , | X = | 608,597.1 E |
| I - Y = | 556,598.7 N , | X = | 608,605.6 E |
| J - Y = | 553,955.3 N , | X = | 608,614.8 E |

## [17] OPERATOR CERTIFICATION

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

Cory Walk — 10-19-20
Signature — Date

Cory Walk
Printed Name

cory@permitswest.com
E-mail Address

## [18] SURVEYOR CERTIFICATION

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

10-08-2020
Date of Survey

Signatue and Seal of Professional Surveyor:

MARK DILLON HARP NEW MEXICO 23786 PROFESSIONAL SURVEYOR

MARK DILLON HARP 23786
Certificate Number — RR — 2020091355

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:** ____Ascent Energy, LLC_____ **OGRID:** ____325830_____ **Date:** _06/_01/2021

**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 |
|---|---|---|---|---|---|---|
| Anvil Fed Com 401H | | 1-4-21S-29E | 144' FNL & 1032' FEL | ~1000 | ~3000 | ~2000 |
| Anvil Fed Com 501H | | 1-4-21S-29E | 173' FNL & 1038' FEL | ~1000 | ~3000 | ~2000 |
| Anvil Fed Com 601H | | 1-4-21S-29E | 179' FNL & 1009' FEL | ~1000 | ~3000 | ~2000 |
| Anvil Fed Com 701H | | 1-4-21S-29E | 168' FNL & 1068' FEL | ~1000 | ~3000 | ~2000 |
| Anvil Fed Com 702H | | 1-4-21S-29E | 150' FNL & 1003' FEL | ~1000 | ~3000 | ~2000 |

**IV. Central Delivery Point Name:** _____ANVIL DCP CDP_____ [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 |
|---|---|---|---|---|---|---|
| Anvil Fed Com 401H | | **1/1/2022** | **2/28/2022** | **3/15/2022** | **5/1/2022** | **5/15/2022** |
| Anvil Fed Com 501H | | **1/1/2022** | **1/30/2022** | **3/15/2022** | **5/1/2022** | **5/15/2022** |
| Anvil Fed Com 601H | | **11/1/2021** | **11/30/2021** | **3/15/2022** | **5/1/2022** | **5/15/2022** |
| Anvil Fed Com 701H | | **11/1/2021** | **12/30/2021** | **3/15/2022** | **5/1/2022** | **5/15/2022** |
| Anvil Fed Com 702H | | | | | | |

**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 2 – Enhanced Plan
**EFFECTIVE APRIL 1, 2022**

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

☐ Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

**IX. Anticipated Natural Gas Production:**

| Well | API | Anticipated Average Natural Gas Rate MCF/D | Anticipated Volume of Natural Gas for the First Year MCF |
|---|---|---|---|
| | | | |
| | | | |

**X. Natural Gas Gathering System (NGGS):**

| Operator | System | ULSTR of Tie-in | Anticipated Gathering Start Date | Available Maximum Daily Capacity of System Segment Tie-in |
|---|---|---|---|---|
| | | | | |
| | | | | |

**XI. Map.** ☐ Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.

**XII. Line Capacity.** The natural gas gathering system ☐ will ☐ will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

**XIII. Line Pressure.** Operator ☐ does ☐ does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

☐ Attach Operator's plan to manage production in response to the increased line pressure.

**XIV. Confidentiality:** ☐ Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific information for which confidentiality is asserted and the basis for such assertion.

## Section 3 - Certifications

**Effective May 25, 2021**

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

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

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

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

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

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

## Section 4 - Notices

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

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

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

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

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

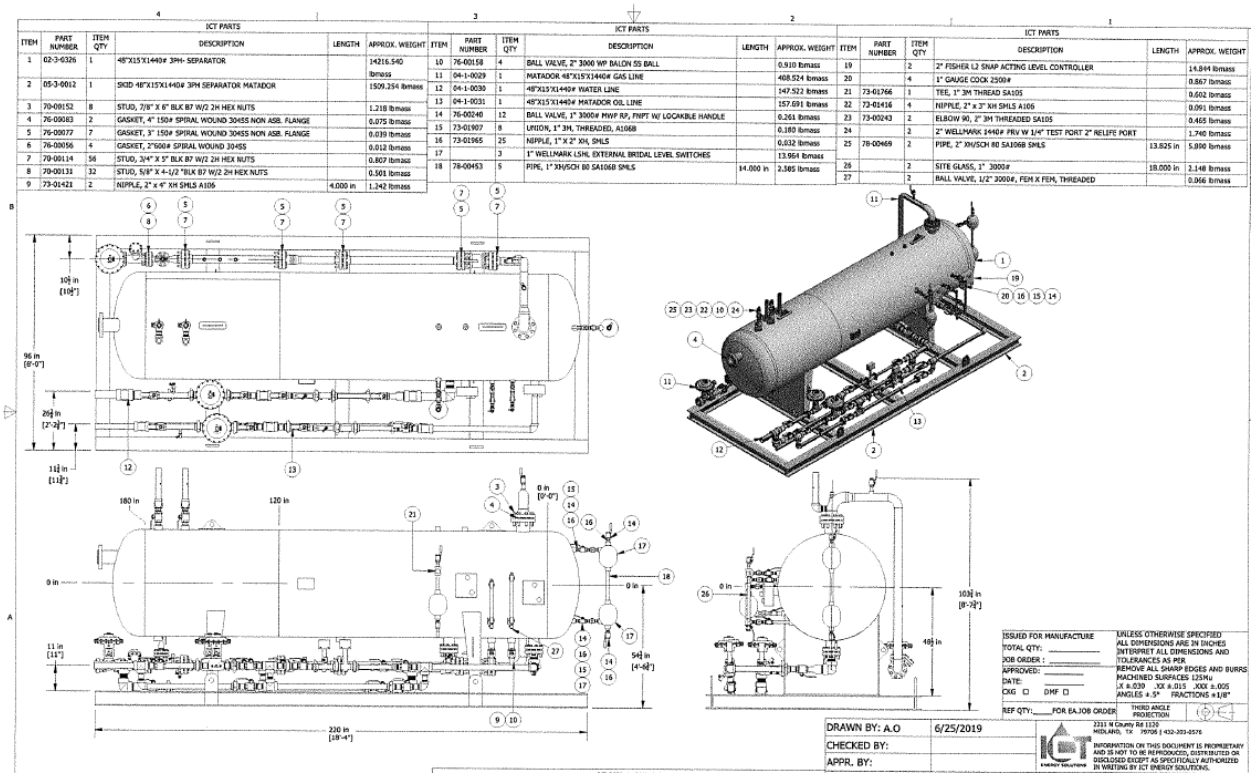
| |
|---|
| Signature: *John Romano* electronically signed |
| Printed Name: John Romano |
| Title: Vice President of Production & Facilities |
| E-mail Address: jromano@ascentenergy.us |
| Date: 6/15/2021 |
| Phone: 337.300.9204 |

| **OIL CONSERVATION DIVISION**<br>**(Only applicable when submitted as a standalone form)** |
|---|
| Approved By: |
| Title: |
| Approval Date: |
| Conditions of Approval: |

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

**Ascent Energy will sufficiently size the 3-phase test separator with the capability and flexibility of handling gas volumes over 3 times the anticipated IP gas rate. Below is a schematic of the 48"x15' 3 phase 1440 psi ASME code test separator skid outfitted with 3" Daniels Senior Meter run. The 1440 psi pressure rating allows for large flexibility in operating pressure to handle large gas volumes. If the operating pressure in the vessel is raised to 1000 psi it can handle over 15 mmcfd. Our anticipated peak flowback rates will be between 3-4 mmcfd. The size of the vessel along with 3" oil/water outlets, and 3" senior meter run is sufficiently sized to be able to separate large volumes of gas and liquids.**

**The Daniels Senior meter run allows the orifice plate to be changed without shutting in or blowing down further reducing emissions.**




**VII. Operational Practices:** ☒ **After 3 phase 1440 psi test separator we'll have a 125 psi ASME code 8'x20' heater treater as a second separation mechanism tied into a flash gas sales meter sending heater treater flash gas to sales. Oil will then dump from the heater treater into our oil tanks. The oil/water tank vent piping will have necessary PVRV's (pressure valve/relief valve) and oil/water storage tanks will be 16 oz. The tank vent piping will be sized properly to handle vent gas (6" piping). This vent piping will have a VRU (vapor recovery unit) designed to capture tank vent gas and send to sales. The VRU will be equipped with a recycling system to keep it constantly running to be able to handle slug flow. Additionally, there will be a high pressure/low pressure combo flare that will be oversized to handle 150% of expected IP gas rates at a 98.5% combustion efficiency.**

**The oil/water tanks will also be equipped with pressure transmitters to ensure the tank pressures are not exceeded in a further effort to minimize venting.**

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

**The tank battery will be equipped with bypasses to service meters while still producing to sales. In the event a flare line, flame arrestor, or anything in the flare system needs to be serviced, we will shut the wells in and service once gas is blown down to flare. This will minimize any venting. Additionally, the VRU will have bypasses to send tank vent gas to flare if VRU is down or being serviced. The flare will be an HP/LP combo flare designed with air assist to ensure 98.5% combustion efficiency. Lease operators will be visiting the location daily to check and maintain all equipment ensuring all scrubbers, flame arrestors, and flare ignitor is functioning properly.**

AFMSS

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

# Drilling Plan Data Report

06/25/2021

**APD ID:** 10400061790

**Submission Date:** 09/15/2020

**Operator Name:** ASCENT ENERGY LLC

**Well Name:** ANVIL FED COM

**Well Number:** 401H

**Well Type:** OIL WELL

**Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

## Section 1 - Geologic Formations

| Formation ID | Formation Name | Elevation | True Vertical Depth | Measured Depth | Lithologies | Mineral Resources | Producing Formation |
|---|---|---|---|---|---|---|---|
| 867635 | QUATERNARY | 3381 | 0 | 0 | OTHER : None | NONE | N |
| 867636 | RUSTLER ANHYDRITE | 3206 | 175 | 175 | ANHYDRITE | NONE | N |
| 867637 | SALADO | 2936 | 445 | 445 | SALT | NONE | N |
| 867638 | BASE OF SALT | 2064 | 1317 | 1317 | SALT | NONE | N |
| 867639 | TANSILL | 1876 | 1505 | 1505 | LIMESTONE | NONE | N |
| 867640 | YATES | 1751 | 1630 | 1630 | SANDSTONE, SHALE | NATURAL GAS, OIL | N |
| 867641 | CAPITAN REEF | 1466 | 1915 | 1915 | LIMESTONE | USEABLE WATER | N |
| 867642 | DELAWARE SAND | -624 | 4005 | 4031 | SANDSTONE | NATURAL GAS, OIL | N |
| 867643 | CHERRY CANYON | -689 | 4070 | 4097 | SANDSTONE | NATURAL GAS, OIL | N |
| 867644 | BRUSHY CANYON | -1624 | 5005 | 5034 | SANDSTONE | NATURAL GAS, OIL | N |
| 867645 | BONE SPRING LIME | -3244 | 6625 | 6654 | LIMESTONE, SANDSTONE | NATURAL GAS, OIL | N |
| 867646 | AVALON SAND | -3339 | 6720 | 6749 | LIMESTONE, SANDSTONE, SHALE | NATURAL GAS, OIL | N |
| 867647 | BONE SPRING 1ST | -4286 | 7667 | 7737 | SANDSTONE | NATURAL GAS, OIL | Y |

## Section 2 - Blowout Prevention

**Operator Name:** ASCENT ENERGY LLC

**Well Name:** ANVIL FED COM **Well Number:** 401H

**Pressure Rating (PSI):** 5M **Rating Depth:** 15000

**Equipment:** A 15,000 a 5,000 psi BOP stack consisting of 3 rams with 2 pipe rams, 1 blind ram, and 1 annular preventer will be used below surface casing to TD. See attachments for BOP and choke manifold diagrams. Also present will be an accumulator that meets the requirements of Onshore Order #2 for the pressure rating of the BOP stack. A rotating head will also be installed as needed. BOP will be inspected and operated as recommended in Onshore Order #2. A top drive check valve and sub equipped with a full opening valve sized to fit the drill pipe and collars will be available on the rig floor in the open position. The wellhead will be a multi-bowl speed head.
**Requesting Variance?** YES

**Variance request:** Ascent requests a variance to run a multi-bowl speed head for setting the Intermediate 1, Intermediate 2, and Production Strings. Ascent requests a variance to drill this well using a co-flex line between the BOP and choke manifold (instead of the 4” OD steel line). Certification for proposed co-flex hose is attached. The hose is not required by the manufacturer to be anchored. In the event the specific hose is not available, one of equal or higher rating will be used. Ascent requests a variance to have the option of batch drilling this well with other wells on the same pad. In the even the wells are batch drilled, after drilling surface, 1st intermediate, and 2nd intermediate hole sections and cementing 2nd intermediate casing, a 10M dry hole cap with bleed off valve will be installed. The rig will then walk to another well on the pad. When the rig returns to this well and BOPs are installed, the operator will perform a full BOP test. 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. Ascent requests a variance to wave the centralizer requirement for the run 7-5/8” EZGO FJ3 casing inside 8.75” hole. Variance is also requested to wave any centralizer requirements for the 5-1/2” EZGO HT casing the 6-3/4” hole size. Ascent requests approval to possibly utilize a spudder rig to drill and set casing for the surface interval on this well. The spudder rig will be possibly utilized in order to reduce cost and save time. The wellhead will be installed and tested as soon as the surface casing is cut off per the existing COAs. A blind flange with the same pressure rating as the wellhead will be installed on the well. Once the spudder rig is removed, Ascent will secure the wellhead area by placing a guard rail around the cellar. Pressure will be monitored and a means for intervention will be maintained while the drilling rig is not over the well. Spudder rig operations are expected to take 2-3 days per well. Three wells on the pad will have surface casing set by the spudder rig as a part of this operation. The BLM will be notified 24 hours prior to commencing spudder rig operations. Within 90 days of the departure of the spudder rig, drilling operations will recommence on these wells. This rig will have a BOP stack equal or greater to the pressure rating required in the COAs. The BLM will be notified 24 hours before the larger rig moves on the pre-set wells. Ascent will have supervision on the spudder rig to ensure compliance with all BLM and NMOCD regulations.
**Testing Procedure:** After surface casing is set and the BOP is nipped up, the BOP pressure tests will be made with a third-party tester to 250 psi low, 5000 psi high, and the annular preventer will be tested to 2,500 psi. The BOP will be tested in this manner after nipple-up if any break of the stack occurs as wells as every 30 days.
**Choke Diagram Attachment:**

5M_BOPE_Choke_Diagram_12.03.2020_20210330095631.pdf

**BOP Diagram Attachment:**

5M_BOPE_Choke_Diagram_12.03.2020_20210318093120.pdf

**Operator Name:** ASCENT ENERGY LLC

**Well Name:** ANVIL FED COM **Well Number:** 401H

## 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 | 245 | 0 | 245 | 3383 | 3138 | 245 | J-55 | 54.5 | ST&C | 9.24 | 18.89 | DRY | 4.53 | DRY | 4.53 |
| 2 | INTERMEDIATE | 12.25 | 9.625 | NEW | API | N | 0 | 1605 | 0 | 1605 | 3383 | 1778 | 1605 | J-55 | 40 | LT&C | 3.08 | 3.72 | DRY | 2.76 | DRY | 2.76 |
| 3 | INTERMEDIATE | 8.75 | 7.625 | NEW | NON API | N | 0 | 4031 | 0 | 4005 | 3383 | -622 | 4031 | HCP-110 | 29.7 | OTHER - EZGO FJ3 | 4.91 | 3.21 | DRY | 2.78 | DRY | 2.78 |
| 4 | PRODUCTION | 6.75 | 5.5 | NEW | NON API | N | 0 | 18632 | 0 | 7845 | 3383 | -4462 | 18632 | HCP-110 | 20 | OTHER - EZGO HT | 3.12 | 3.1 | DRY | 1.94 | DRY | 1.94 |

**Casing Attachments**

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

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

Anvil_401H_Casing_Design_Assumptions_v2_20210330095706.pdf

**Operator Name:** ASCENT ENERGY LLC

**Well Name:** ANVIL FED COM **Well Number:** 401H

**Casing Attachments**

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

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

Anvil_401H_Casing_Design_Assumptions_v2_20210330095649.pdf

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

**Inspection Document:**

**Spec Document:**

7.625_P110_HC_EZGO_FJ3_Spec_Sheet_20200915072834.pdf

**Tapered String Spec:**

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

Anvil_401H_Casing_Design_Assumptions_v2_20210330095718.pdf

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

**Inspection Document:**

**Spec Document:**

5.5_P110_HC_EZGO_HT_Spec_Sheet_20200915072906.pdf

**Tapered String Spec:**

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

Anvil_401H_Casing_Design_Assumptions_v2_20210330095732.pdf

## Section 4 - Cement

**Operator Name:** ASCENT ENERGY LLC

**Well Name:** ANVIL FED COM **Well Number:** 401H

| String Type | Lead/Tail | Stage Tool Depth | Top MD | Bottom MD | Quantity(sx) | Yield | Density | Cu Ft | Excess% | Cement type | Additives |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SURFACE | Lead | | 0 | 145 | 95 | 1.73 | 13.5 | 160 | 100 | Class C | None |
| SURFACE | Tail | | 145 | 245 | 135 | 1.33 | 14.8 | 139 | 200 | Class C | None |
| INTERMEDIATE | Lead | | 0 | 605 | 185 | 1.73 | 12.7 | 314 | 100 | Class C | None |
| INTERMEDIATE | Tail | | 605 | 1605 | 485 | 1.33 | 14.8 | 626 | 100 | Class C | None |
| INTERMEDIATE | Lead | | 0 | 2731 | 170 | 2.04 | 12.7 | 344 | 50 | Class C | None |
| INTERMEDIATE | Tail | | 2731 | 4031 | 155 | 1.37 | 14.8 | 196 | 50 | Class C | None |
| PRODUCTION | Lead | | 0 | 5500 | 295 | 2.89 | 11 | 838 | 25 | TXI Nine Lite | None |
| PRODUCTION | Tail | | 5500 | 18632 | 2825 | 1.47 | 13.2 | 4147 | 25 | 35/65 Poz H | None |

## 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:** All necessary mud products (e. g., barite, cedar bark) for weight addition and fluid loss control will always be on site. Mud program is subject to change due to hole conditions.

**Describe the mud monitoring system utilized:** Electronic Pason mud monitor system complying with Onshore Order 1 will be used.

## Circulating Medium Table

| Top Depth | Bottom Depth | Mud Type | Min Weight (lbs/gal) | Max Weight (lbs/gal) | Density (lbs/cu ft) | Gel Strength (lbs/100 sqft) | PH | Viscosity (CP) | Salinity (ppm) | Filtration (cc) | Additional Characteristics |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 245 | OTHER : Fresh water | 8.4 | 9.6 | | | | | | | |

**Operator Name:** ASCENT ENERGY LLC

**Well Name:** ANVIL FED COM **Well Number:** 401H

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 245 | 1605 | OTHER : Brine water | 10 | 10 | | | | | | | |
| 1605 | 4031 | OTHER : Fresh water | 8.4 | 8.6 | | | | | | | |
| 4031 | 18632 | OIL-BASED MUD | 9 | 9.5 | | | | | | | |

## Section 6 - Test, Logging, Coring

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

Electric Logging Program: No open-hole logs are planned at this time for the pilot hole.

GR will be collected while drilling through the MWD tools from 9.625 casing shoe to TD.

A 2-person mud logging program will be used from 9.625 casing shoe to TD.

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

GAMMA RAY LOG,MUD LOG/GEOLOGICAL LITHOLOGY LOG,

**Coring operation description for the well:**

No DSTs or cores are planned at this time.

## Section 7 - Pressure

**Anticipated Bottom Hole Pressure:** 3000 **Anticipated Surface Pressure:** 1274

**Anticipated Bottom Hole Temperature(F):** 156

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

**Describe:**

**Contingency Plans geoharzards description:**

**Contingency Plans geohazards attachment:**

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

**Hydrogen sulfide drilling operations plan:**

Anvil_Pad1_H2S_plan_v2_20201022154539.pdf

**Operator Name:** ASCENT ENERGY LLC

**Well Name:** ANVIL FED COM **Well Number:** 401H

## Section 8 - Other Information

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

Anvil_401H_Horizontal_Plan_v2_20201021102700.pdf

**Other proposed operations facets description:**

**Other proposed operations facets attachment:**

Anvil_CoFlex_Certs_20200915073529.pdf
Anvil_speedhead_20200915073545.pdf
Anvil_401H_Anticollision_Report_v2_20201021102719.pdf
Anvil_401H_Drill_Plan_v3_20210318093130.pdf

**Other Variance attachment:**

ASCENT ENERGY

Project: EDDY COUNTY, NEW MEXICO (NAD 83 - GRID)
Site: SEC. 4 T21S R29E N.M.P.M. (GRID)
Well: ANVIL FED COM 401H
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #2

**ANNOTATIONS**

| MD | Inc | Azi | TVD | +N/-S | +E/-W | VSect | Dep | Annotation |
|---|---|---|---|---|---|---|---|---|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | SHL: 144ft FNL & 1032ft FEL of Sec 4 |
| 2400.00 | 0.00 | 0.00 | 2400.00 | 0.00 | 0.00 | 0.00 | 0.00 | START NUDGE (2°/100ft BUR) |
| 3000.00 | 12.00 | 179.82 | 2995.62 | -62.60 | 0.20 | -62.60 | 62.60 | EOB TO 12° INC |
| 3954.04 | 12.00 | 179.82 | 3928.82 | -260.96 | 0.83 | -260.96 | 260.96 | END OF TANGENT |
| 4554.04 | 0.00 | 0.00 | 4524.44 | -323.56 | 1.03 | -323.56 | 323.56 | EOD TO VERTICAL |
| 7301.14 | 0.00 | 0.00 | 7271.54 | -323.56 | 1.03 | -323.56 | 323.56 | KOP (10°/100ft BUR) |
| 8201.14 | 90.00 | 352.00 | 7844.50 | 243.82 | -78.71 | 244.15 | 896.52 | FTP *NEW*: 100ft FSL & 360ft FWL of Sec 33 |
| 8301.14 | 90.00 | 352.00 | 7844.50 | 342.85 | -92.63 | 343.23 | 996.52 | END OF TANGENT |
| 8559.86 | 90.00 | 359.76 | 7844.50 | 600.70 | -111.20 | 601.16 | 1255.24 | EOT TO 359.76° AZ |
| 18581.57 | 90.00 | 359.76 | 7844.50 | 10622.32 | -152.91 | 10622.87 | 11276.95 | LTP: 100ft FNL & 330ft FWL of Sec 28 |
| 18631.58 | 90.00 | 359.77 | 7844.50 | 10672.33 | -153.11 | 10672.88 | 11326.95 | BHL: 50ft FNL & 330ft FWL of Sec 28 |

**PROPOSED LOCAL COORDINATES:**

SHL: 144ft FNL & 1032ft FEL Sec 4

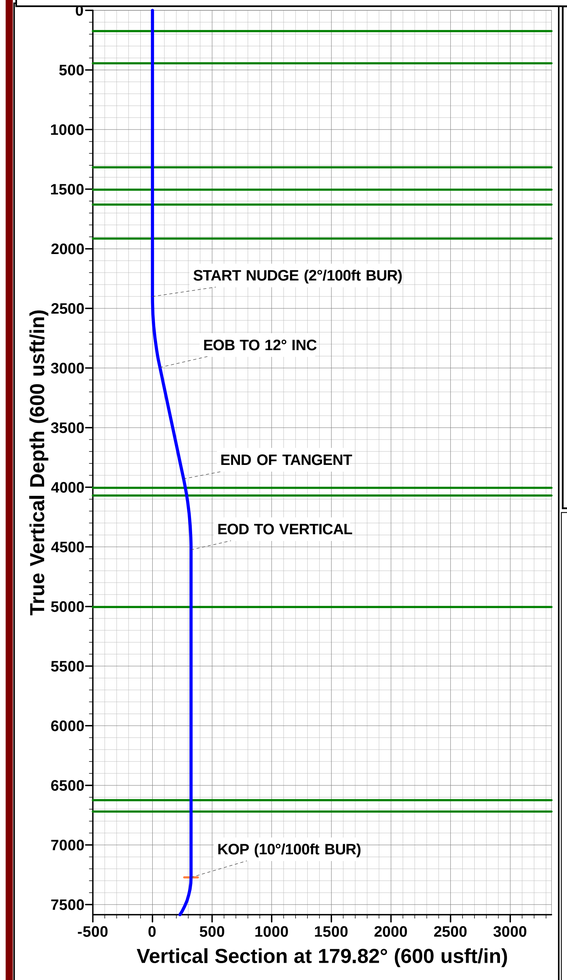
FTP *NEW*: 100ft FSL & 360ft FWL of Sec 33

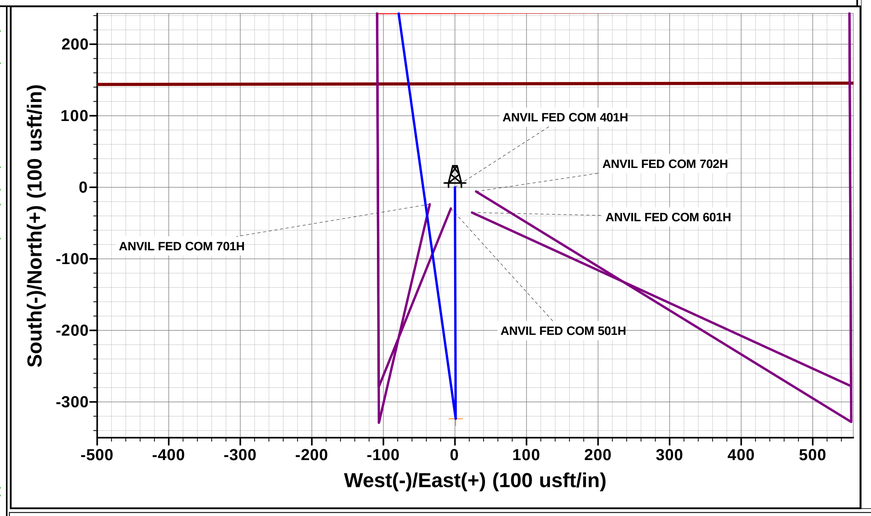
LTP : 100ft FNL & 330ft FWL Sec 28

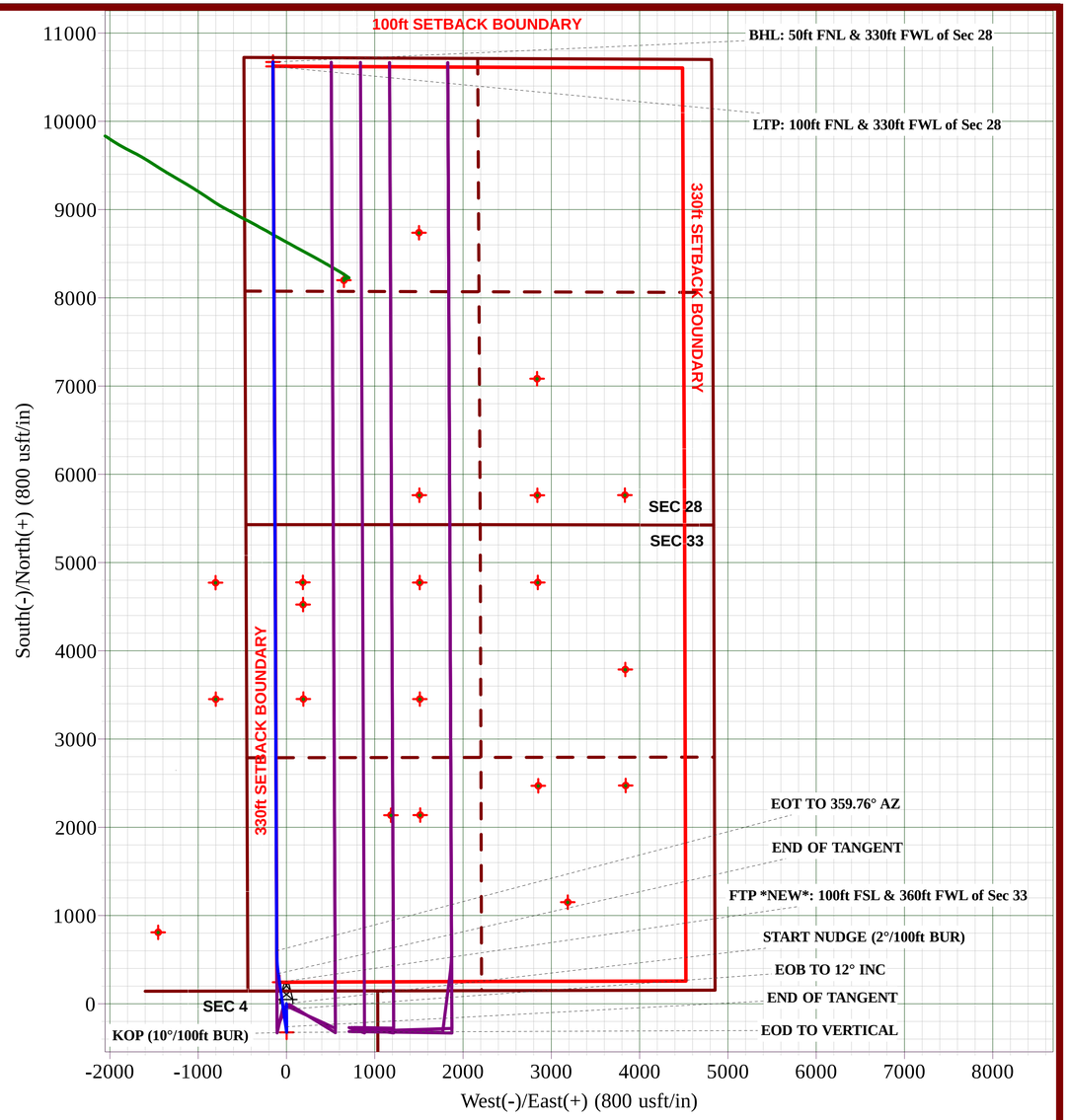
BHL : 50ft FNL & 330ft FWL Sec 28

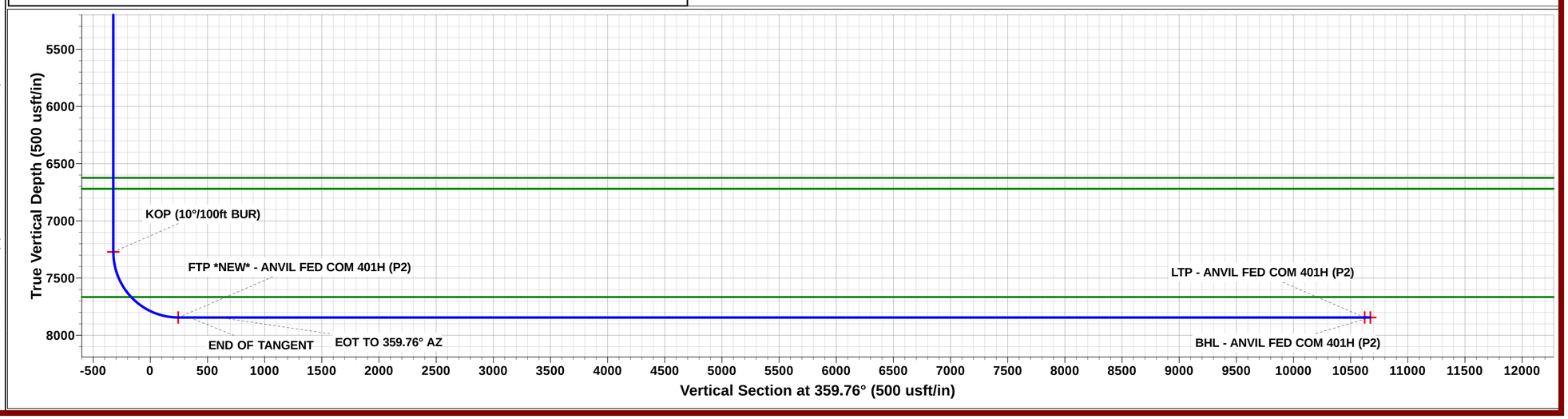
**WELLBORE TARGET DETAILS (LAT/LONG)**

| Name | TVD | +N/-S | +E/-W | Latitude | Longitude |
|---|---|---|---|---|---|
| KOP - ANVIL FED COM 401H (P2) | 7271.54 | -323.56 | 1.03 | 32.521278 | -103.984322 |
| FTP *NEW* - ANVIL FED COM 401H (P2) | 7844.50 | 243.82 | -78.71 | 32.522838 | -103.984575 |
| LTP - ANVIL FED COM 401H (P2) | 7844.50 | 10622.32 | -152.91 | 32.551364 | -103.984705 |
| BHL - ANVIL FED COM 401H (P2) | 7844.50 | 10672.33 | -153.11 | 32.551501 | -103.984705 |



# Planning Report

| | | | |
|---|---|---|---|
| **Database:** | Database 1 | **Local Co-ordinate Reference:** | Well ANVIL FED COM 401H |
| **Company:** | ASCENT ENERGY | **TVD Reference:** | KB 25' @ 3404.50usft |
| **Project:** | EDDY COUNTY, NEW MEXICO (NAD 83 - GRID) | **MD Reference:** | KB 25' @ 3404.50usft |
| **Site:** | SEC. 4 T21S R29E N.M.P.M. (GRID) | **North Reference:** | Grid |
| **Well:** | ANVIL FED COM 401H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | ORIGINAL WELLBORE | | |
| **Design:** | PROPOSAL #2 | | |

| **Project** | EDDY COUNTY, NEW MEXICO (NAD 83 - GRID) | | |
|---|---|---|---|
| **Map System:** | US State Plane 1983 | **System Datum:** | Mean Sea Level |
| **Geo Datum:** | North American Datum 1983 | | |
| **Map Zone:** | New Mexico Eastern Zone | | Using geodetic scale factor |

| **Site** | SEC. 4 T21S R29E N.M.P.M. (GRID) | | | | |
|---|---|---|---|---|---|
| **Site Position:** | | **Northing:** | 553,850.99 usft | **Latitude:** | 32.522111 |
| **From:** | Map | **Easting:** | 648,987.43 usft | **Longitude:** | -103.984069 |
| **Position Uncertainty:** | 0.00 usft | **Slot Radius:** | 1.10 ft | **Grid Convergence:** | 0.19 ° |

| **Well** | ANVIL FED COM 401H | | | | | |
|---|---|---|---|---|---|---|
| **Well Position** | **+N/-S** | 20.21 usft | **Northing:** | 553,871.20 usft | **Latitude:** | 32.522167 |
| | **+E/-W** | -77.93 usft | **Easting:** | 648,909.50 usft | **Longitude:** | -103.984322 |
| **Position Uncertainty** | | 0.00 usft | **Wellhead Elevation:** | usft | **Ground Level:** | 3,379.50 usft |

| **Wellbore** | ORIGINAL WELLBORE | | | | |
|---|---|---|---|---|---|
| **Magnetics** | **Model Name** | **Sample Date** | **Declination (°)** | **Dip Angle (°)** | **Field Strength (nT)** |
| | IGRF2020 | 2020-10-08 | 6.84 | 60.13 | 47,699.03957592 |

| **Design** | PROPOSAL #2 | | | | |
|---|---|---|---|---|---|
| **Audit Notes:** | | | | | |
| **Version:** | | **Phase:** | PROTOTYPE | **Tie On Depth:** | 0.00 |
| **Vertical Section:** | **Depth From (TVD) (usft)** | **+N/-S (usft)** | **+E/-W (usft)** | **Direction (°)** | |
| | 0.00 | 0.00 | 0.00 | 359.76 | |

**Plan Sections**

| MD (usft) | Inc (°) | Azi (°) | Vertical Depth | SS (usft) | +N/-S (usft) | +E/-W (usft) | Dogleg Rate (°/100usf | Build Rate (°/100usf | Turn Rate (°/100usf | TFO (°) | Target |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0.00 | 0.00 | 0.00 | -3,404.50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 2,400.00 | 0.00 | 0.00 | 2,400.00 | -1,004.50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 3,000.00 | 12.00 | 179.82 | 2,995.62 | -408.88 | -62.60 | 0.20 | 2.00 | 2.00 | 0.00 | 179.82 | |
| 3,954.04 | 12.00 | 179.82 | 3,928.82 | 524.32 | -260.96 | 0.83 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 4,554.04 | 0.00 | 0.00 | 4,524.44 | 1,119.94 | -323.56 | 1.03 | 2.00 | -2.00 | 0.00 | 180.00 | |
| 7,301.14 | 0.00 | 0.00 | 7,271.54 | 3,867.04 | -323.56 | 1.03 | 0.00 | 0.00 | 0.00 | 0.00 | KOP - ANVIL FED ( |
| 8,201.14 | 90.00 | 352.00 | 7,844.50 | 4,440.00 | 243.82 | -78.71 | 10.00 | 10.00 | -0.89 | 352.00 | FTP *NEW* - ANVII |
| 8,301.14 | 90.00 | 352.00 | 7,844.50 | 4,440.00 | 342.85 | -92.63 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 8,559.86 | 90.00 | 359.76 | 7,844.50 | 4,440.00 | 600.70 | -111.20 | 3.00 | 0.00 | 3.00 | 90.00 | |
| 18,581.57 | 90.00 | 359.76 | 7,844.50 | 4,440.00 | 10,622.32 | -152.91 | 0.00 | 0.00 | 0.00 | 0.00 | LTP - ANVIL FED C |
| 18,581.85 | 90.00 | 359.77 | 7,844.50 | 4,440.00 | 10,622.61 | -152.91 | 3.00 | 0.00 | 3.00 | 90.00 | |
| 18,631.58 | 90.00 | 359.77 | 7,844.50 | 4,440.00 | 10,672.33 | -153.11 | 0.00 | 0.00 | 0.00 | 0.00 | BHL - ANVIL FED ( |

# Planning Report

| | | | |
|---|---|---|---|
| **Database:** | Database 1 | **Local Co-ordinate Reference:** | Well ANVIL FED COM 401H |
| **Company:** | ASCENT ENERGY | **TVD Reference:** | KB 25' @ 3404.50usft |
| **Project:** | EDDY COUNTY, NEW MEXICO (NAD 83 - GRID) | **MD Reference:** | KB 25' @ 3404.50usft |
| **Site:** | SEC. 4 T21S R29E N.M.P.M. (GRID) | **North Reference:** | Grid |
| **Well:** | ANVIL FED COM 401H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | ORIGINAL WELLBORE | | |
| **Design:** | PROPOSAL #2 | | |

**Planned Survey**

| MD (usft) | Inc (°) | Azi (°) | TVD (usft) | SS (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---|---|---|---|---|---|---|---|---|---|---|
| **SHL: 144ft FNL & 1032ft FEL of Sec 4** | | | | | | | | | | |
| ***0.00*** | ***0.00*** | ***0.00*** | ***0.00*** | ***3,404.50*** | ***0.00*** | ***0.00*** | ***0.00*** | ***0.00*** | ***0.00*** | ***0.00*** |
| 100.00 | 0.00 | 0.00 | 100.00 | 3,304.50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **RSTLR** | | | | | | | | | | |
| ***174.50*** | ***0.00*** | ***0.00*** | ***174.50*** | ***3,230.00*** | ***0.00*** | ***0.00*** | ***0.00*** | ***0.00*** | ***0.00*** | ***0.00*** |
| 200.00 | 0.00 | 0.00 | 200.00 | 3,204.50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 300.00 | 0.00 | 0.00 | 300.00 | 3,104.50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 400.00 | 0.00 | 0.00 | 400.00 | 3,004.50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **SALDO** | | | | | | | | | | |
| ***444.50*** | ***0.00*** | ***0.00*** | ***444.50*** | ***2,960.00*** | ***0.00*** | ***0.00*** | ***0.00*** | ***0.00*** | ***0.00*** | ***0.00*** |
| 500.00 | 0.00 | 0.00 | 500.00 | 2,904.50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 600.00 | 0.00 | 0.00 | 600.00 | 2,804.50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 700.00 | 0.00 | 0.00 | 700.00 | 2,704.50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 800.00 | 0.00 | 0.00 | 800.00 | 2,604.50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 900.00 | 0.00 | 0.00 | 900.00 | 2,504.50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,000.00 | 0.00 | 0.00 | 1,000.00 | 2,404.50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,100.00 | 0.00 | 0.00 | 1,100.00 | 2,304.50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,200.00 | 0.00 | 0.00 | 1,200.00 | 2,204.50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,300.00 | 0.00 | 0.00 | 1,300.00 | 2,104.50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **BASE_SALADO_SALTS** | | | | | | | | | | |
| ***1,316.50*** | ***0.00*** | ***0.00*** | ***1,316.50*** | ***2,088.00*** | ***0.00*** | ***0.00*** | ***0.00*** | ***0.00*** | ***0.00*** | ***0.00*** |
| 1,400.00 | 0.00 | 0.00 | 1,400.00 | 2,004.50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,500.00 | 0.00 | 0.00 | 1,500.00 | 1,904.50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **TANSIL** | | | | | | | | | | |
| ***1,504.50*** | ***0.00*** | ***0.00*** | ***1,504.50*** | ***1,900.00*** | ***0.00*** | ***0.00*** | ***0.00*** | ***0.00*** | ***0.00*** | ***0.00*** |
| 1,600.00 | 0.00 | 0.00 | 1,600.00 | 1,804.50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **YATES** | | | | | | | | | | |
| ***1,629.50*** | ***0.00*** | ***0.00*** | ***1,629.50*** | ***1,775.00*** | ***0.00*** | ***0.00*** | ***0.00*** | ***0.00*** | ***0.00*** | ***0.00*** |
| 1,700.00 | 0.00 | 0.00 | 1,700.00 | 1,704.50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,800.00 | 0.00 | 0.00 | 1,800.00 | 1,604.50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,900.00 | 0.00 | 0.00 | 1,900.00 | 1,504.50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **CAPITAN_REEF_TOP** | | | | | | | | | | |
| ***1,914.50*** | ***0.00*** | ***0.00*** | ***1,914.50*** | ***1,490.00*** | ***0.00*** | ***0.00*** | ***0.00*** | ***0.00*** | ***0.00*** | ***0.00*** |
| 2,000.00 | 0.00 | 0.00 | 2,000.00 | 1,404.50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,100.00 | 0.00 | 0.00 | 2,100.00 | 1,304.50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,200.00 | 0.00 | 0.00 | 2,200.00 | 1,204.50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,300.00 | 0.00 | 0.00 | 2,300.00 | 1,104.50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **START NUDGE (2°/100ft BUR)** | | | | | | | | | | |
| ***2,400.00*** | ***0.00*** | ***0.00*** | ***2,400.00*** | ***1,004.50*** | ***0.00*** | ***0.00*** | ***0.00*** | ***0.00*** | ***0.00*** | ***0.00*** |
| 2,500.00 | 2.00 | 179.82 | 2,499.98 | 904.52 | -1.75 | 0.01 | -1.75 | 2.00 | 2.00 | 0.00 |
| 2,600.00 | 4.00 | 179.82 | 2,599.84 | 804.66 | -6.98 | 0.02 | -6.98 | 2.00 | 2.00 | 0.00 |
| 2,700.00 | 6.00 | 179.82 | 2,699.45 | 705.05 | -15.69 | 0.05 | -15.69 | 2.00 | 2.00 | 0.00 |
| 2,800.00 | 8.00 | 179.82 | 2,798.70 | 605.80 | -27.88 | 0.09 | -27.88 | 2.00 | 2.00 | 0.00 |
| 2,900.00 | 10.00 | 179.82 | 2,897.47 | 507.03 | -43.52 | 0.14 | -43.52 | 2.00 | 2.00 | 0.00 |
| **EOB TO 12° INC** | | | | | | | | | | |
| ***3,000.00*** | ***12.00*** | ***179.82*** | ***2,995.62*** | ***408.88*** | ***-62.60*** | ***0.20*** | ***-62.60*** | ***2.00*** | ***2.00*** | ***0.00*** |
| 3,100.00 | 12.00 | 179.82 | 3,093.44 | 311.06 | -83.39 | 0.27 | -83.39 | 0.00 | 0.00 | 0.00 |
| 3,200.00 | 12.00 | 179.82 | 3,191.25 | 213.25 | -104.18 | 0.33 | -104.18 | 0.00 | 0.00 | 0.00 |
| 3,300.00 | 12.00 | 179.82 | 3,289.07 | 115.43 | -124.98 | 0.40 | -124.98 | 0.00 | 0.00 | 0.00 |
| 3,400.00 | 12.00 | 179.82 | 3,386.88 | 17.62 | -145.77 | 0.46 | -145.77 | 0.00 | 0.00 | 0.00 |
| 3,500.00 | 12.00 | 179.82 | 3,484.70 | -80.20 | -166.56 | 0.53 | -166.56 | 0.00 | 0.00 | 0.00 |
| 3,600.00 | 12.00 | 179.82 | 3,582.51 | -178.01 | -187.35 | 0.60 | -187.35 | 0.00 | 0.00 | 0.00 |

# Planning Report

| | | | |
|---|---|---|---|
| **Database:** | Database 1 | **Local Co-ordinate Reference:** | Well ANVIL FED COM 401H |
| **Company:** | ASCENT ENERGY | **TVD Reference:** | KB 25' @ 3404.50usft |
| **Project:** | EDDY COUNTY, NEW MEXICO (NAD 83 - GRID) | **MD Reference:** | KB 25' @ 3404.50usft |
| **Site:** | SEC. 4 T21S R29E N.M.P.M. (GRID) | **North Reference:** | Grid |
| **Well:** | ANVIL FED COM 401H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | ORIGINAL WELLBORE | | |
| **Design:** | PROPOSAL #2 | | |

**Planned Survey**

| MD (usft) | Inc (°) | Azi (°) | TVD (usft) | SS (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---|---|---|---|---|---|---|---|---|---|---|
| 3,700.00 | 12.00 | 179.82 | 3,680.33 | -275.83 | -208.14 | 0.66 | -208.14 | 0.00 | 0.00 | 0.00 |
| 3,800.00 | 12.00 | 179.82 | 3,778.14 | -373.64 | -228.93 | 0.73 | -228.93 | 0.00 | 0.00 | 0.00 |
| 3,900.00 | 12.00 | 179.82 | 3,875.96 | -471.46 | -249.72 | 0.79 | -249.72 | 0.00 | 0.00 | 0.00 |
| **END OF TANGENT** | | | | | | | | | | |
| ***3,954.04*** | ***12.00*** | ***179.82*** | ***3,928.82*** | ***-524.32*** | ***-260.96*** | ***0.83*** | ***-260.96*** | ***0.00*** | ***0.00*** | ***0.00*** |
| 4,000.00 | 11.08 | 179.82 | 3,973.85 | -569.35 | -270.15 | 0.86 | -270.15 | 2.00 | -2.00 | 0.00 |
| **TOP_DELAWARE_SAND** | | | | | | | | | | |
| ***4,031.20*** | ***10.46*** | ***179.82*** | ***4,004.50*** | ***-600.00*** | ***-275.98*** | ***0.88*** | ***-275.98*** | ***2.00*** | ***-2.00*** | ***0.00*** |
| **CHERRY_CANYON** | | | | | | | | | | |
| ***4,097.17*** | ***9.14*** | ***179.82*** | ***4,069.50*** | ***-665.00*** | ***-287.21*** | ***0.91*** | ***-287.21*** | ***2.00*** | ***-2.00*** | ***0.00*** |
| 4,100.00 | 9.08 | 179.82 | 4,072.30 | -667.80 | -287.65 | 0.92 | -287.66 | 2.00 | -2.00 | 0.00 |
| 4,200.00 | 7.08 | 179.82 | 4,171.30 | -766.80 | -301.71 | 0.96 | -301.71 | 2.00 | -2.00 | 0.00 |
| 4,300.00 | 5.08 | 179.82 | 4,270.73 | -866.23 | -312.30 | 0.99 | -312.30 | 2.00 | -2.00 | 0.00 |
| 4,400.00 | 3.08 | 179.82 | 4,370.47 | -965.97 | -319.42 | 1.02 | -319.42 | 2.00 | -2.00 | 0.00 |
| 4,500.00 | 1.08 | 179.82 | 4,470.40 | -1,065.90 | -323.05 | 1.03 | -323.05 | 2.00 | -2.00 | 0.00 |
| **EOD TO VERTICAL** | | | | | | | | | | |
| ***4,554.04*** | ***0.00*** | ***0.00*** | ***4,524.44*** | ***-1,119.94*** | ***-323.56*** | ***1.03*** | ***-323.56*** | ***2.00*** | ***-2.00*** | ***-332.75*** |
| 4,600.00 | 0.00 | 0.00 | 4,570.40 | -1,165.90 | -323.56 | 1.03 | -323.56 | 0.00 | 0.00 | 0.00 |
| 4,700.00 | 0.00 | 0.00 | 4,670.40 | -1,265.90 | -323.56 | 1.03 | -323.56 | 0.00 | 0.00 | 0.00 |
| 4,800.00 | 0.00 | 0.00 | 4,770.40 | -1,365.90 | -323.56 | 1.03 | -323.56 | 0.00 | 0.00 | 0.00 |
| 4,900.00 | 0.00 | 0.00 | 4,870.40 | -1,465.90 | -323.56 | 1.03 | -323.56 | 0.00 | 0.00 | 0.00 |
| 5,000.00 | 0.00 | 0.00 | 4,970.40 | -1,565.90 | -323.56 | 1.03 | -323.56 | 0.00 | 0.00 | 0.00 |
| **BRUSHY_CANYON** | | | | | | | | | | |
| ***5,034.10*** | ***0.00*** | ***0.00*** | ***5,004.50*** | ***-1,600.00*** | ***-323.56*** | ***1.03*** | ***-323.56*** | ***0.00*** | ***0.00*** | ***0.00*** |
| 5,100.00 | 0.00 | 0.00 | 5,070.40 | -1,665.90 | -323.56 | 1.03 | -323.56 | 0.00 | 0.00 | 0.00 |
| 5,200.00 | 0.00 | 0.00 | 5,170.40 | -1,765.90 | -323.56 | 1.03 | -323.56 | 0.00 | 0.00 | 0.00 |
| 5,300.00 | 0.00 | 0.00 | 5,270.40 | -1,865.90 | -323.56 | 1.03 | -323.56 | 0.00 | 0.00 | 0.00 |
| 5,400.00 | 0.00 | 0.00 | 5,370.40 | -1,965.90 | -323.56 | 1.03 | -323.56 | 0.00 | 0.00 | 0.00 |
| 5,500.00 | 0.00 | 0.00 | 5,470.40 | -2,065.90 | -323.56 | 1.03 | -323.56 | 0.00 | 0.00 | 0.00 |
| 5,600.00 | 0.00 | 0.00 | 5,570.40 | -2,165.90 | -323.56 | 1.03 | -323.56 | 0.00 | 0.00 | 0.00 |
| 5,700.00 | 0.00 | 0.00 | 5,670.40 | -2,265.90 | -323.56 | 1.03 | -323.56 | 0.00 | 0.00 | 0.00 |
| 5,800.00 | 0.00 | 0.00 | 5,770.40 | -2,365.90 | -323.56 | 1.03 | -323.56 | 0.00 | 0.00 | 0.00 |
| 5,900.00 | 0.00 | 0.00 | 5,870.40 | -2,465.90 | -323.56 | 1.03 | -323.56 | 0.00 | 0.00 | 0.00 |
| 6,000.00 | 0.00 | 0.00 | 5,970.40 | -2,565.90 | -323.56 | 1.03 | -323.56 | 0.00 | 0.00 | 0.00 |
| 6,100.00 | 0.00 | 0.00 | 6,070.40 | -2,665.90 | -323.56 | 1.03 | -323.56 | 0.00 | 0.00 | 0.00 |
| 6,200.00 | 0.00 | 0.00 | 6,170.40 | -2,765.90 | -323.56 | 1.03 | -323.56 | 0.00 | 0.00 | 0.00 |
| 6,300.00 | 0.00 | 0.00 | 6,270.40 | -2,865.90 | -323.56 | 1.03 | -323.56 | 0.00 | 0.00 | 0.00 |
| 6,400.00 | 0.00 | 0.00 | 6,370.40 | -2,965.90 | -323.56 | 1.03 | -323.56 | 0.00 | 0.00 | 0.00 |
| 6,500.00 | 0.00 | 0.00 | 6,470.40 | -3,065.90 | -323.56 | 1.03 | -323.56 | 0.00 | 0.00 | 0.00 |
| 6,600.00 | 0.00 | 0.00 | 6,570.40 | -3,165.90 | -323.56 | 1.03 | -323.56 | 0.00 | 0.00 | 0.00 |
| **BSPG_LIME** | | | | | | | | | | |
| ***6,654.10*** | ***0.00*** | ***0.00*** | ***6,624.50*** | ***-3,220.00*** | ***-323.56*** | ***1.03*** | ***-323.56*** | ***0.00*** | ***0.00*** | ***0.00*** |
| 6,700.00 | 0.00 | 0.00 | 6,670.40 | -3,265.90 | -323.56 | 1.03 | -323.56 | 0.00 | 0.00 | 0.00 |
| **AVLN** | | | | | | | | | | |
| ***6,749.10*** | ***0.00*** | ***0.00*** | ***6,719.50*** | ***-3,315.00*** | ***-323.56*** | ***1.03*** | ***-323.56*** | ***0.00*** | ***0.00*** | ***0.00*** |
| 6,800.00 | 0.00 | 0.00 | 6,770.40 | -3,365.90 | -323.56 | 1.03 | -323.56 | 0.00 | 0.00 | 0.00 |
| 6,900.00 | 0.00 | 0.00 | 6,870.40 | -3,465.90 | -323.56 | 1.03 | -323.56 | 0.00 | 0.00 | 0.00 |
| 7,000.00 | 0.00 | 0.00 | 6,970.40 | -3,565.90 | -323.56 | 1.03 | -323.56 | 0.00 | 0.00 | 0.00 |
| 7,100.00 | 0.00 | 0.00 | 7,070.40 | -3,665.90 | -323.56 | 1.03 | -323.56 | 0.00 | 0.00 | 0.00 |
| 7,200.00 | 0.00 | 0.00 | 7,170.40 | -3,765.90 | -323.56 | 1.03 | -323.56 | 0.00 | 0.00 | 0.00 |
| 7,300.00 | 0.00 | 0.00 | 7,270.40 | -3,865.90 | -323.56 | 1.03 | -323.56 | 0.00 | 0.00 | 0.00 |
| **KOP (10°/100ft BUR)** | | | | | | | | | | |

# Planning Report

| | | | |
|---|---|---|---|
| **Database:** | Database 1 | **Local Co-ordinate Reference:** | Well ANVIL FED COM 401H |
| **Company:** | ASCENT ENERGY | **TVD Reference:** | KB 25' @ 3404.50usft |
| **Project:** | EDDY COUNTY, NEW MEXICO (NAD 83 - GRID) | **MD Reference:** | KB 25' @ 3404.50usft |
| **Site:** | SEC. 4 T21S R29E N.M.P.M. (GRID) | **North Reference:** | Grid |
| **Well:** | ANVIL FED COM 401H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | ORIGINAL WELLBORE | | |
| **Design:** | PROPOSAL #2 | | |

**Planned Survey**

| MD (usft) | Inc (°) | Azi (°) | TVD (usft) | SS (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---|---|---|---|---|---|---|---|---|---|---|
| ***7,301.14*** | ***0.00*** | ***0.00*** | ***7,271.54*** | ***-3,867.04*** | ***-323.56*** | ***1.03*** | ***-323.56*** | ***0.00*** | ***0.00*** | ***0.00*** |
| 7,400.00 | 9.89 | 352.00 | 7,369.91 | -3,965.41 | -315.14 | -0.15 | -315.13 | 10.00 | 10.00 | 0.00 |
| 7,500.00 | 19.89 | 352.00 | 7,466.43 | -4,061.93 | -289.73 | -3.72 | -289.71 | 10.00 | 10.00 | 0.00 |
| 7,600.00 | 29.89 | 352.00 | 7,557.03 | -4,152.53 | -248.11 | -9.57 | -248.07 | 10.00 | 10.00 | 0.00 |
| 7,700.00 | 39.89 | 352.00 | 7,638.95 | -4,234.45 | -191.54 | -17.52 | -191.47 | 10.00 | 10.00 | 0.00 |
| **1ST_BSPG_SND** | | | | | | | | | | |
| ***7,736.92*** | ***43.58*** | ***352.00*** | ***7,666.50*** | ***-4,262.00*** | ***-167.21*** | ***-20.94*** | ***-167.13*** | ***10.00*** | ***10.00*** | ***0.00*** |
| 7,800.00 | 49.89 | 352.00 | 7,709.72 | -4,305.22 | -121.75 | -27.33 | -121.63 | 10.00 | 10.00 | 0.00 |
| 7,900.00 | 59.89 | 352.00 | 7,767.16 | -4,362.66 | -40.85 | -38.70 | -40.69 | 10.00 | 10.00 | 0.00 |
| 8,000.00 | 69.89 | 352.00 | 7,809.55 | -4,405.05 | 48.70 | -51.29 | 48.92 | 10.00 | 10.00 | 0.00 |
| 8,100.00 | 79.89 | 352.00 | 7,835.60 | -4,431.10 | 144.18 | -64.71 | 144.45 | 10.00 | 10.00 | 0.00 |
| 8,200.00 | 89.89 | 352.00 | 7,844.50 | -4,440.00 | 242.69 | -78.55 | 243.02 | 10.00 | 10.00 | 0.00 |
| **FTP *NEW*: 100ft FSL & 360ft FWL of Sec 33** | | | | | | | | | | |
| ***8,201.14*** | ***90.00*** | ***352.00*** | ***7,844.50*** | ***-4,440.00*** | ***243.82*** | ***-78.71*** | ***244.15*** | ***10.00*** | ***10.00*** | ***0.00*** |
| 8,300.00 | 90.00 | 352.00 | 7,844.50 | -4,440.00 | 341.72 | -92.47 | 342.10 | 0.00 | 0.00 | 0.00 |
| **END OF TANGENT** | | | | | | | | | | |
| ***8,301.14*** | ***90.00*** | ***352.00*** | ***7,844.50*** | ***-4,440.00*** | ***342.85*** | ***-92.63*** | ***343.23*** | ***0.00*** | ***0.00*** | ***0.00*** |
| 8,400.00 | 90.00 | 354.97 | 7,844.50 | -4,440.00 | 441.06 | -103.85 | 441.49 | 3.00 | 0.00 | 3.00 |
| 8,500.00 | 90.00 | 357.97 | 7,844.50 | -4,440.00 | 540.85 | -110.01 | 541.31 | 3.00 | 0.00 | 3.00 |
| **EOT TO 359.76° AZ** | | | | | | | | | | |
| ***8,559.86*** | ***90.00*** | ***359.76*** | ***7,844.50*** | ***-4,440.00*** | ***600.70*** | ***-111.20*** | ***601.16*** | ***3.00*** | ***0.00*** | ***3.00*** |
| 8,600.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 640.84 | -111.36 | 641.30 | 0.00 | 0.00 | 0.00 |
| 8,700.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 740.84 | -111.78 | 741.30 | 0.00 | 0.00 | 0.00 |
| 8,800.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 840.84 | -112.20 | 841.30 | 0.00 | 0.00 | 0.00 |
| 8,900.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 940.84 | -112.61 | 941.30 | 0.00 | 0.00 | 0.00 |
| 9,000.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 1,040.84 | -113.03 | 1,041.30 | 0.00 | 0.00 | 0.00 |
| 9,100.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 1,140.84 | -113.45 | 1,141.30 | 0.00 | 0.00 | 0.00 |
| 9,200.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 1,240.83 | -113.86 | 1,241.30 | 0.00 | 0.00 | 0.00 |
| 9,300.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 1,340.83 | -114.28 | 1,341.30 | 0.00 | 0.00 | 0.00 |
| 9,400.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 1,440.83 | -114.69 | 1,441.30 | 0.00 | 0.00 | 0.00 |
| 9,500.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 1,540.83 | -115.11 | 1,541.30 | 0.00 | 0.00 | 0.00 |
| 9,600.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 1,640.83 | -115.53 | 1,641.30 | 0.00 | 0.00 | 0.00 |
| 9,700.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 1,740.83 | -115.94 | 1,741.30 | 0.00 | 0.00 | 0.00 |
| 9,800.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 1,840.83 | -116.36 | 1,841.30 | 0.00 | 0.00 | 0.00 |
| 9,900.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 1,940.83 | -116.78 | 1,941.30 | 0.00 | 0.00 | 0.00 |
| 10,000.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 2,040.83 | -117.19 | 2,041.30 | 0.00 | 0.00 | 0.00 |
| 10,100.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 2,140.83 | -117.61 | 2,141.30 | 0.00 | 0.00 | 0.00 |
| 10,200.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 2,240.83 | -118.02 | 2,241.30 | 0.00 | 0.00 | 0.00 |
| 10,300.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 2,340.82 | -118.44 | 2,341.30 | 0.00 | 0.00 | 0.00 |
| 10,400.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 2,440.82 | -118.86 | 2,441.30 | 0.00 | 0.00 | 0.00 |
| 10,500.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 2,540.82 | -119.27 | 2,541.30 | 0.00 | 0.00 | 0.00 |
| 10,600.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 2,640.82 | -119.69 | 2,641.30 | 0.00 | 0.00 | 0.00 |
| 10,700.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 2,740.82 | -120.11 | 2,741.30 | 0.00 | 0.00 | 0.00 |
| 10,800.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 2,840.82 | -120.52 | 2,841.30 | 0.00 | 0.00 | 0.00 |
| 10,900.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 2,940.82 | -120.94 | 2,941.30 | 0.00 | 0.00 | 0.00 |
| 11,000.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 3,040.82 | -121.35 | 3,041.30 | 0.00 | 0.00 | 0.00 |
| 11,100.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 3,140.82 | -121.77 | 3,141.30 | 0.00 | 0.00 | 0.00 |
| 11,200.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 3,240.82 | -122.19 | 3,241.30 | 0.00 | 0.00 | 0.00 |
| 11,300.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 3,340.82 | -122.60 | 3,341.30 | 0.00 | 0.00 | 0.00 |
| 11,400.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 3,440.82 | -123.02 | 3,441.30 | 0.00 | 0.00 | 0.00 |
| 11,500.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 3,540.81 | -123.44 | 3,541.30 | 0.00 | 0.00 | 0.00 |
| 11,600.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 3,640.81 | -123.85 | 3,641.30 | 0.00 | 0.00 | 0.00 |

# Planning Report

| | | | |
|---|---|---|---|
| **Database:** | Database 1 | **Local Co-ordinate Reference:** | Well ANVIL FED COM 401H |
| **Company:** | ASCENT ENERGY | **TVD Reference:** | KB 25' @ 3404.50usft |
| **Project:** | EDDY COUNTY, NEW MEXICO (NAD 83 - GRID) | **MD Reference:** | KB 25' @ 3404.50usft |
| **Site:** | SEC. 4 T21S R29E N.M.P.M. (GRID) | **North Reference:** | Grid |
| **Well:** | ANVIL FED COM 401H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | ORIGINAL WELLBORE | | |
| **Design:** | PROPOSAL #2 | | |

**Planned Survey**

| MD (usft) | Inc (°) | Azi (°) | TVD (usft) | SS (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---|---|---|---|---|---|---|---|---|---|---|
| 11,700.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 3,740.81 | -124.27 | 3,741.30 | 0.00 | 0.00 | 0.00 |
| 11,800.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 3,840.81 | -124.68 | 3,841.30 | 0.00 | 0.00 | 0.00 |
| 11,900.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 3,940.81 | -125.10 | 3,941.30 | 0.00 | 0.00 | 0.00 |
| 12,000.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 4,040.81 | -125.52 | 4,041.30 | 0.00 | 0.00 | 0.00 |
| 12,100.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 4,140.81 | -125.93 | 4,141.30 | 0.00 | 0.00 | 0.00 |
| 12,200.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 4,240.81 | -126.35 | 4,241.30 | 0.00 | 0.00 | 0.00 |
| 12,300.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 4,340.81 | -126.77 | 4,341.30 | 0.00 | 0.00 | 0.00 |
| 12,400.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 4,440.81 | -127.18 | 4,441.30 | 0.00 | 0.00 | 0.00 |
| 12,500.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 4,540.81 | -127.60 | 4,541.30 | 0.00 | 0.00 | 0.00 |
| 12,600.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 4,640.80 | -128.01 | 4,641.30 | 0.00 | 0.00 | 0.00 |
| 12,700.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 4,740.80 | -128.43 | 4,741.30 | 0.00 | 0.00 | 0.00 |
| 12,800.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 4,840.80 | -128.85 | 4,841.30 | 0.00 | 0.00 | 0.00 |
| 12,900.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 4,940.80 | -129.26 | 4,941.30 | 0.00 | 0.00 | 0.00 |
| 13,000.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 5,040.80 | -129.68 | 5,041.30 | 0.00 | 0.00 | 0.00 |
| 13,100.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 5,140.80 | -130.10 | 5,141.30 | 0.00 | 0.00 | 0.00 |
| 13,200.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 5,240.80 | -130.51 | 5,241.30 | 0.00 | 0.00 | 0.00 |
| 13,300.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 5,340.80 | -130.93 | 5,341.30 | 0.00 | 0.00 | 0.00 |
| 13,400.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 5,440.80 | -131.34 | 5,441.30 | 0.00 | 0.00 | 0.00 |
| 13,500.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 5,540.80 | -131.76 | 5,541.30 | 0.00 | 0.00 | 0.00 |
| 13,600.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 5,640.80 | -132.18 | 5,641.30 | 0.00 | 0.00 | 0.00 |
| 13,700.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 5,740.80 | -132.59 | 5,741.30 | 0.00 | 0.00 | 0.00 |
| 13,800.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 5,840.79 | -133.01 | 5,841.30 | 0.00 | 0.00 | 0.00 |
| 13,900.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 5,940.79 | -133.43 | 5,941.30 | 0.00 | 0.00 | 0.00 |
| 14,000.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 6,040.79 | -133.84 | 6,041.30 | 0.00 | 0.00 | 0.00 |
| 14,100.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 6,140.79 | -134.26 | 6,141.30 | 0.00 | 0.00 | 0.00 |
| 14,200.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 6,240.79 | -134.67 | 6,241.30 | 0.00 | 0.00 | 0.00 |
| 14,300.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 6,340.79 | -135.09 | 6,341.30 | 0.00 | 0.00 | 0.00 |
| 14,400.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 6,440.79 | -135.51 | 6,441.30 | 0.00 | 0.00 | 0.00 |
| 14,500.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 6,540.79 | -135.92 | 6,541.30 | 0.00 | 0.00 | 0.00 |
| 14,600.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 6,640.79 | -136.34 | 6,641.30 | 0.00 | 0.00 | 0.00 |
| 14,700.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 6,740.79 | -136.76 | 6,741.30 | 0.00 | 0.00 | 0.00 |
| 14,800.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 6,840.79 | -137.17 | 6,841.30 | 0.00 | 0.00 | 0.00 |
| 14,900.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 6,940.78 | -137.59 | 6,941.30 | 0.00 | 0.00 | 0.00 |
| 15,000.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 7,040.78 | -138.00 | 7,041.30 | 0.00 | 0.00 | 0.00 |
| 15,100.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 7,140.78 | -138.42 | 7,141.30 | 0.00 | 0.00 | 0.00 |
| 15,200.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 7,240.78 | -138.84 | 7,241.30 | 0.00 | 0.00 | 0.00 |
| 15,300.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 7,340.78 | -139.25 | 7,341.30 | 0.00 | 0.00 | 0.00 |
| 15,400.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 7,440.78 | -139.67 | 7,441.30 | 0.00 | 0.00 | 0.00 |
| 15,500.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 7,540.78 | -140.09 | 7,541.30 | 0.00 | 0.00 | 0.00 |
| 15,600.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 7,640.78 | -140.50 | 7,641.30 | 0.00 | 0.00 | 0.00 |
| 15,700.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 7,740.78 | -140.92 | 7,741.30 | 0.00 | 0.00 | 0.00 |
| 15,800.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 7,840.78 | -141.33 | 7,841.30 | 0.00 | 0.00 | 0.00 |
| 15,900.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 7,940.78 | -141.75 | 7,941.30 | 0.00 | 0.00 | 0.00 |
| 16,000.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 8,040.78 | -142.17 | 8,041.30 | 0.00 | 0.00 | 0.00 |
| 16,100.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 8,140.77 | -142.58 | 8,141.30 | 0.00 | 0.00 | 0.00 |
| 16,200.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 8,240.77 | -143.00 | 8,241.30 | 0.00 | 0.00 | 0.00 |
| 16,300.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 8,340.77 | -143.42 | 8,341.30 | 0.00 | 0.00 | 0.00 |
| 16,400.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 8,440.77 | -143.83 | 8,441.30 | 0.00 | 0.00 | 0.00 |
| 16,500.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 8,540.77 | -144.25 | 8,541.30 | 0.00 | 0.00 | 0.00 |
| 16,600.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 8,640.77 | -144.66 | 8,641.30 | 0.00 | 0.00 | 0.00 |
| 16,700.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 8,740.77 | -145.08 | 8,741.30 | 0.00 | 0.00 | 0.00 |
| 16,800.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 8,840.77 | -145.50 | 8,841.30 | 0.00 | 0.00 | 0.00 |
| 16,900.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 8,940.77 | -145.91 | 8,941.30 | 0.00 | 0.00 | 0.00 |

# Planning Report

| | | | |
|---|---|---|---|
| **Database:** | Database 1 | **Local Co-ordinate Reference:** | Well ANVIL FED COM 401H |
| **Company:** | ASCENT ENERGY | **TVD Reference:** | KB 25' @ 3404.50usft |
| **Project:** | EDDY COUNTY, NEW MEXICO (NAD 83 - GRID) | **MD Reference:** | KB 25' @ 3404.50usft |
| **Site:** | SEC. 4 T21S R29E N.M.P.M. (GRID) | **North Reference:** | Grid |
| **Well:** | ANVIL FED COM 401H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | ORIGINAL WELLBORE | | |
| **Design:** | PROPOSAL #2 | | |

**Planned Survey**

| MD (usft) | Inc (°) | Azi (°) | TVD (usft) | SS (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---|---|---|---|---|---|---|---|---|---|---|
| 17,000.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 9,040.77 | -146.33 | 9,041.30 | 0.00 | 0.00 | 0.00 |
| 17,100.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 9,140.77 | -146.74 | 9,141.30 | 0.00 | 0.00 | 0.00 |
| 17,200.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 9,240.77 | -147.16 | 9,241.30 | 0.00 | 0.00 | 0.00 |
| 17,300.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 9,340.76 | -147.58 | 9,341.30 | 0.00 | 0.00 | 0.00 |
| 17,400.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 9,440.76 | -147.99 | 9,441.30 | 0.00 | 0.00 | 0.00 |
| 17,500.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 9,540.76 | -148.41 | 9,541.30 | 0.00 | 0.00 | 0.00 |
| 17,600.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 9,640.76 | -148.83 | 9,641.30 | 0.00 | 0.00 | 0.00 |
| 17,700.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 9,740.76 | -149.24 | 9,741.30 | 0.00 | 0.00 | 0.00 |
| 17,800.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 9,840.76 | -149.66 | 9,841.30 | 0.00 | 0.00 | 0.00 |
| 17,900.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 9,940.76 | -150.07 | 9,941.30 | 0.00 | 0.00 | 0.00 |
| 18,000.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 10,040.76 | -150.49 | 10,041.30 | 0.00 | 0.00 | 0.00 |
| 18,100.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 10,140.76 | -150.91 | 10,141.30 | 0.00 | 0.00 | 0.00 |
| 18,200.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 10,240.76 | -151.32 | 10,241.30 | 0.00 | 0.00 | 0.00 |
| 18,300.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 10,340.76 | -151.74 | 10,341.30 | 0.00 | 0.00 | 0.00 |
| 18,400.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 10,440.75 | -152.16 | 10,441.30 | 0.00 | 0.00 | 0.00 |
| 18,500.00 | 90.00 | 359.76 | 7,844.50 | -4,440.00 | 10,540.75 | -152.57 | 10,541.30 | 0.00 | 0.00 | 0.00 |
| **LTP: 100ft FNL & 330ft FWL of Sec 28** | | | | | | | | | | |
| ***18,581.57*** | ***90.00*** | ***359.76*** | ***7,844.50*** | ***-4,440.00*** | ***10,622.32*** | ***-152.91*** | ***10,622.87*** | ***0.00*** | ***0.00*** | ***0.00*** |
| 18,581.85 | 90.00 | 359.77 | 7,844.50 | -4,440.00 | 10,622.61 | -152.91 | 10,623.16 | 2.98 | 0.00 | 2.98 |
| 18,600.00 | 90.00 | 359.77 | 7,844.50 | -4,440.00 | 10,640.75 | -152.99 | 10,641.30 | 0.00 | 0.00 | 0.00 |
| **BHL: 50ft FNL & 330ft FWL of Sec 28** | | | | | | | | | | |
| ***18,631.58*** | ***90.00*** | ***359.77*** | ***7,844.50*** | ***-4,440.00*** | ***10,672.33*** | ***-153.11*** | ***10,672.88*** | ***0.00*** | ***0.00*** | ***0.00*** |

**Formations**

| MD (usft) | TVD (usft) | Name | Lithology | Dip (°) | Dip Direction (°) |
|---|---|---|---|---|---|
| 174.50 | 174.50 | RSTLR | | 0.00 | |
| 444.50 | 444.50 | SALDO | | 0.00 | |
| 1,316.50 | 1,316.50 | BASE_SALADO_SALTS | | 0.00 | |
| 1,504.50 | 1,504.50 | TANSIL | | 0.00 | |
| 1,629.50 | 1,629.50 | YATES | | 0.00 | |
| 1,914.50 | 1,914.50 | CAPITAN_REEF_TOP | | 0.00 | |
| 4,031.20 | 4,004.50 | TOP_DELAWARE_SAND | | 0.00 | |
| 4,097.17 | 4,069.50 | CHERRY_CANYON | | 0.00 | |
| 5,034.10 | 5,004.50 | BRUSHY_CANYON | | 0.00 | |
| 6,654.10 | 6,624.50 | BSPG_LIME | | 0.00 | |
| 6,749.10 | 6,719.50 | AVLN | | 0.00 | |
| 7,736.92 | 7,666.50 | 1ST_BSPG_SND | | 0.00 | |

# Planning Report

| | | | |
|---|---|---|---|
| **Database:** | Database 1 | **Local Co-ordinate Reference:** | Well ANVIL FED COM 401H |
| **Company:** | ASCENT ENERGY | **TVD Reference:** | KB 25' @ 3404.50usft |
| **Project:** | EDDY COUNTY, NEW MEXICO (NAD 83 - GRID) | **MD Reference:** | KB 25' @ 3404.50usft |
| **Site:** | SEC. 4 T21S R29E N.M.P.M. (GRID) | **North Reference:** | Grid |
| **Well:** | ANVIL FED COM 401H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | ORIGINAL WELLBORE | | |
| **Design:** | PROPOSAL #2 | | |

**Plan Annotations**

| MD (usft) | TVD (usft) | Local Coordinates +N/-S (usft) | Local Coordinates +E/-W (usft) | Comment |
|---|---|---|---|---|
| 0.00 | 0.00 | 0.00 | 0.00 | SHL: 144ft FNL & 1032ft FEL of Sec 4 |
| 2,400.00 | 2,400.00 | 0.00 | 0.00 | START NUDGE (2°/100ft BUR) |
| 3,000.00 | 2,995.62 | -62.60 | 0.20 | EOB TO 12° INC |
| 3,954.04 | 3,928.82 | -260.96 | 0.83 | END OF TANGENT |
| 4,554.04 | 4,524.44 | -323.56 | 1.03 | EOD TO VERTICAL |
| 7,301.14 | 7,271.54 | -323.56 | 1.03 | KOP (10°/100ft BUR) |
| 8,201.14 | 7,844.50 | 243.82 | -78.71 | FTP *NEW*: 100ft FSL & 360ft FWL of Sec 33 |
| 8,301.14 | 7,844.50 | 342.85 | -92.63 | END OF TANGENT |
| 8,559.86 | 7,844.50 | 600.70 | -111.20 | EOT TO 359.76° AZ |
| 18,581.57 | 7,844.50 | 10,622.32 | -152.91 | LTP: 100ft FNL & 330ft FWL of Sec 28 |
| 18,631.58 | 7,844.50 | 10,672.33 | -153.11 | BHL: 50ft FNL & 330ft FWL of Sec 28 |

# PECOS DISTRICT
# DRILLING CONDITIONS OF APPROVAL

| | |
|---|---|
| **OPERATOR'S NAME:** | **Ascent Energy LLC** |
| **LEASE NO.:** | **NMLC070286** |
| **WELL NAME & NO.:** | Anvil Federal Com 401H |
| **SURFACE HOLE FOOTAGE:** | 144'/N & 1032'/E |
| **BOTTOM HOLE FOOTAGE** | 50'/N & 330'/W |
| **LOCATION:** | Section 4, T.21 S., R.29 E., NMPM |
| **COUNTY:** | Eddy County, New Mexico |

COA

| | | | |
|---|---|---|---|
| H2S | (•) Yes | ( ) No | |
| Potash | ( ) None | ( ) Secretary | (•) R-111-P |
| Cave/Karst Potential | ( ) Low | ( ) Medium | (•) High |
| Cave/Karst Potential | ( ) Critical | | |
| Variance | ( ) None | (•) Flex Hose | ( ) Other |
| Wellhead | ( ) Conventional | (•) Multibowl | ( ) Both |
| Other | [x] 4 String Area | [x] Capitan Reef | [ ] WIPP |
| Other | [ ] Fluid Filled | [ ] Cement Squeeze | [ ] Pilot Hole |
| Special Requirements | [ ] Water Disposal | [x] COM | [ ] Unit |

## A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the **unknown** formation. As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

## B. CASING

1. The **13-3/8 inch** surface casing shall be set at approximately **350 feet** (a minimum of **70 feet (Eddy County)** into the Rustler Anhydrite and above the salt) and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

b. Wait on cement (WOC) time for a primary cement job will be a minimum of **24 hours in the Potash Area** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **9-5/8 inch** intermediate 1 casing and shall be set at approximately **1,602 feet** is:

- Cement to surface. If cement does not circulate see B.1.a, c-d above.

**Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.**

❖ In High Cave/Karst 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.

❖ In R111 Potash Areas if cement does not circulate to surface on the first two salt protection casing strings, the cement on the 3rd casing string must come to surface.

❖ 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.

❖ **Special Capitan Reef requirements.** If lost circulation (50% or greater) occurs below the Base of the Salt, the operator shall do the following:
**(Use this for 3 string wells in the Capitan Reef, if 4 string well ensure FW based mud used across the capitan interval)**

- 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.

3. The minimum required fill of cement behind the **7-5/8 inch** intermediate 2 casing and shall be set at approximately **4,002 feet** is:

    - Cement to surface. If cement does not circulate see B.1.a, c-d above.

      **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, potash or capitan reef.**

4. The minimum required fill of cement behind the **5-1/2 inch** production casing with a tie-back into the previous casing to the surface is:

    - Cement should tie-back at least **50 feet** on top of Capitan Reef top **or 200 feet** into the previous casing, whichever is greater. If cement does not circulate see B.1.a, c-d above.

      **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, potash or capitan reef.**

## 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. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface, intermediate 1, and intermediate 2 casing shoe shall be **5000 (5M)** psi.

    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.
    d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
    e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

## D. SPECIAL REQUIREMENT (S)

**Communitization Agreement**

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

# GENERAL REQUIREMENTS

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

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

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

☒ Lea County
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 393-3612

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
   b. When the operator proposes to set surface casing with Spudder Rig
      - Notify the BLM when moving in and removing the Spudder Rig.
      - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
      - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

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

A. CASING

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

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

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

6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.

7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:

    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.
    d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
    e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.

5. The appropriate BLM office shall be notified a minimum of **4** hours in advance for a representative to witness the tests.

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including

lead when specified), 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 plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).

c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

e. The results of the test shall be reported to the appropriate BLM office.

f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.

g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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

**YJ (04/05/2021)**

ASCENT ENERGY

## $H_2S$ Drilling Operations Plan

a. All personnel will be trained in $H_2S$ working conditions as required by Onshore Order 6 before drilling out of the surface casing.

b. Two briefing areas will be established. Each briefing area will be ≥150' from the wellhead, perpendicular from one another, and easily entered and exited. See $H_2S$ page 5 for more details.

c. $H_2S$ Safety Equipment/Systems:

i. Well Control Equipment

- Flare line will be ≥150' from the wellhead and ignited by a flare gun.
- Beware of $SO_2$ created by flaring.
- Choke manifold will have a remotely operated choke.
- Mud gas separator

ii. Protective Equipment for Personnel

- Every person on site will wear a personal $H_2S$ and $SO_2$ monitor at all times while on site. Monitors will not be worn on hard hats. Monitors will be worn on the front of the waist or chest.
- One self-contained breathing apparatus (SCBA) 30-minute rescue pack will be at each briefing area. Two 30-minute SCBA packs will be stored in the safety trailer.
- Four work/escape packs will be on the rig floor. Each pack will have a sufficiently long hose to allow unimpaired work activity.
- Four emergency escape packs will be in the doghouse for emergency evacuation.
- Hand signals will be used when wearing protective breathing apparatus.
- Stokes litter or stretcher
- Two full OSHA compliant body harnesses
- A 100' long x 5/8" OSHA compliant rope
- One 20-pound ABC fire extinguisher

iii. $H_2S$ Detection & Monitoring Equipment

- Every person on site will wear a personal $H_2S$ and $SO_2$ monitor at all times while on site. Monitors will not be worn on hard hats. Monitors will be worn on the front of the waist or chest.

- A stationary detector with three sensors will be in the doghouse.
- Sensors will be installed on the rig floor, bell nipple, and at the end of the flow line or where drilling fluids are discharged.
- Visual alarm will be triggered at 10 ppm.
- Audible alarm will be triggered at 10 ppm.
- Calibration will occur at least every 30 days. Gas sample tubes will be kept in the safety trailer.

iv. Visual Warning System

- A color-coded $H_2S$ condition sign will be set at each pad entrance.
- Color-coded condition flag will be installed to indicate current $H_2S$ conditions.
- Two wind socks will be installed that will be visible from all sides.

v. Mud Program

- A water based mud with a pH of $\geq$10 will be maintained to control corrosion, $H_2S$ gas returns to the surface, and minimize sulfide stress cracking and embrittlement.
- Drilling mud containing $H_2S$ gas will be degassed at an optimum location for the rig configuration.
- This gas will be piped into the flare system.
- Enough mud additives will be on site to scavenge and/or neutralize $H_2S$ where formation pressures are unknown.

vi. Metallurgy

- All equipment that has the potential to be exposed to $H_2S$ will be suitable for $H_2S$ service.
- Equipment that will meet these metallurgical standards include the drill string, casing, wellhead, BOP assembly, casing head and spool, rotating head, kill lines, choke, choke manifold and lines, valves, mud-gas separators, DST tools, test units, tubing, flanges, and other related equipment (elastomer packings and seals).

vii. Communication from well site

- Cell phones and/or two-way radios will be used to communicate from the well site.

d. A remote-controlled choke, mud-gas separator, and a rotating head will be installed before drilling or testing any formation expected to contain $H_2S$.

Company Personnel to be Notified

| | |
|---|---|
| Dean Gimbel, Vice President Completions | Office: (720) 710-8995 |
| | Mobile: (303) 945-1323 |
| Matt Ward, Chief Operations Officer | Mobile: (303) 506-6647 |
| Ascent Emergency Contact Number | (303) 281-9951 |

Local & County Agencies

| | |
|---|---|
| Monument Fire Department | 911 or (575) 393-4339 |
| Hobbs Fire Marshal | (575) 391-8185 |
| Lea County Sheriff (Lovington) | 911 or (575) 396-3611 |
| Lea County Emergency Management (Lovington) | (575) 396-8602 |
| Lea Regional Medical Center Hospital (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 Field Office | (575) 234-5972 |
| BLM Hobbs Field Station | (575) 393-3612 |
| National Response Center | (800) 424-8802 |
| US EPA Region 6 (Dallas) | (800) 887-6063 |
| | (214) 665-6444 |

Veterinarians

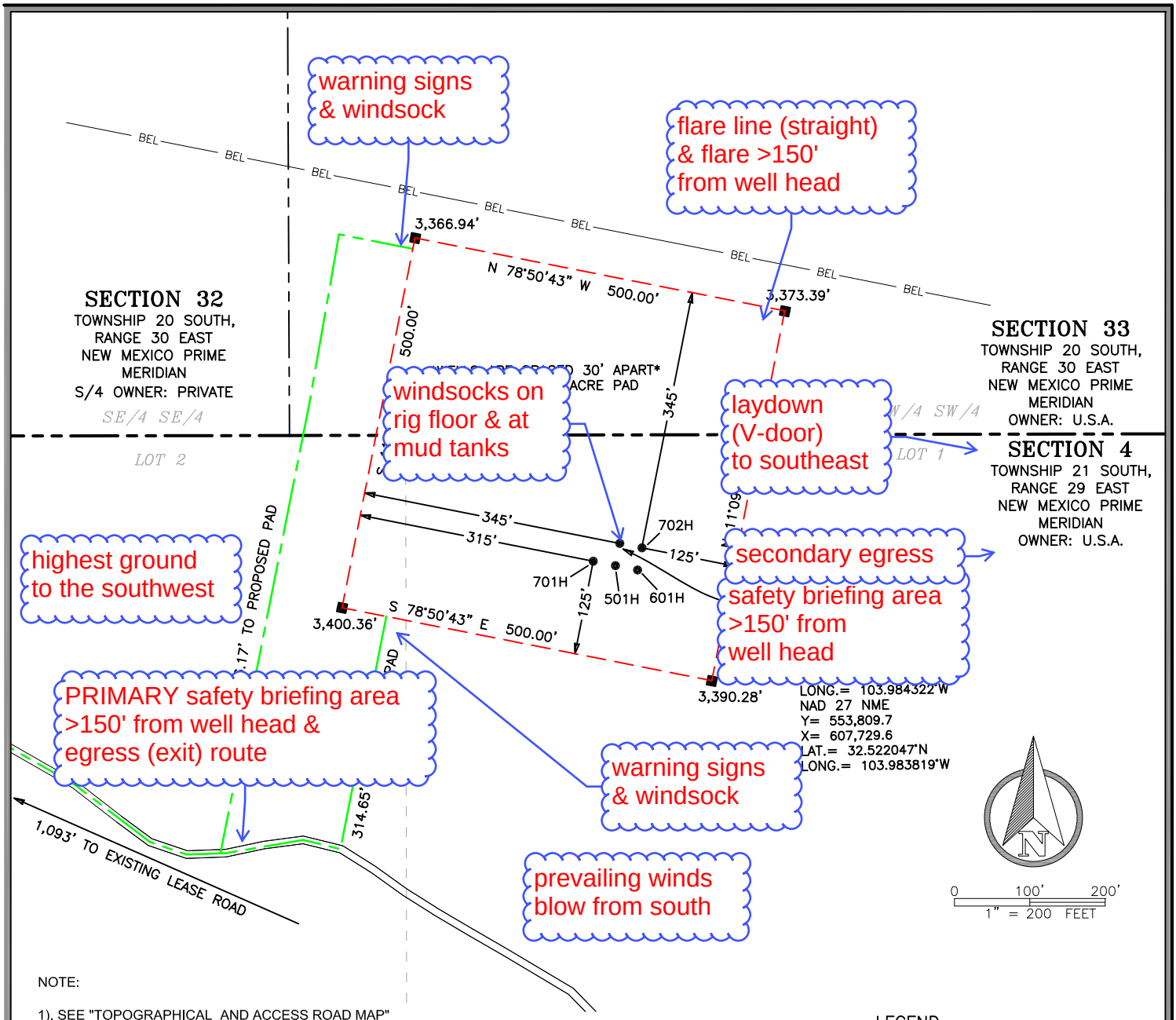
| | |
|---|---|
| Dal Paso Animal Hospital (Hobbs) | (575) 397-2286 |
| Hobbs Animal Clinic & Pet Care (Hobbs) | (575) 392-5563 |
| Great Plains Veterinary Clinic & Hospital (Hobbs) | (575) 392-5513 |

Residents within 2 miles

No residents are within 2 miles.

Air Evacuation

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




NOTE:

1). SEE "TOPOGRAPHICAL AND ACCESS ROAD MAP" FOR PROPOSED ROAD LOCATION

DIRECTIONS TO THIS LOCATION:

FROM THE INTERSECTION OF HOBBS HIGHWAY (US HIGHWAY 62) AND POTASH MINES ROAD GO NORTHWEST ON HOBBS HIGHWAY (US HIGHWAY 62) APPROX. 0.85 MILES TO A GRAVEL LEASE ROAD, ALSO BEING THE BEGINNING OF THE PROPOSED ACCESS ROAD. TURN LEFT (SOUTH) ONTO GRAVEL LEASE ROAD AND GO APPROX. 0.2 MILES TO A TWO TRACK ROAD . HEAD SOUTHEAST ON TWO TRACK ROAD APPROX. 0.14 MILES TURN LEFT (NORTH) AND LOCATION IS TO THE NORTH.

LEGEND

- PROPOSED ACCESS RD.
- PROPOSED PAD
- SECTION LINE
- BEL — BURIED ELECTRIC
- EXISTING TWO TRACK ROAD

I, MARK DILLON HARP, NEW MEXICO PROFESSIONAL SURVEYOR NO. 23786, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO, AND THAT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

MARK DILLON HARP
REGISTERED PROFESSIONAL LAND SURVEYOR
STATE OF NEW MEXICO NO. 23786

MARK DILLON HARP NEW MEXICO 23786 PROFESSIONAL SURVEYOR

FSC INC SURVEYORS+ENGINEERS
550 Bailey Ave., 205 - Fort Worth, TX 76107
Ph: 817.349.9800 - Fax: 979.732.5271
TBPE Firm 17957 | TBPLS Firm 10193887
www.fscinc.net


## ASCENT ENERGY, LLC.

## WELL SITE PLAN

ANVIL FED COM 401H
LOCATED 1,032 FEET FROM THE EAST LINE AND 144 FEET FROM THE NORTH LINE OF SECTION 4, TOWNSHIP 21 SOUTH, RANGE 29 EAST, N.M.P.M. EDDY COUNTY, NEW MEXICO

| | | | |
|---|---|---|---|
| DATE: | 10-21-2020 | PROJECT NO: | 2020091355 |
| DRAWN BY: | LM/RR | SCALE: | 1" = 200' |
| CHECKED BY: | DH | SHEET: | 1 OF 3 |
| FIELD CREW: | RE | REVISION: | 0 |

# Ascent Energy, LLC

**Anvil Fed Com**
**$H_2S$ Contingency Plan:**
**Radius Map**

Section 04, Township 21S, Range 29E
Eddy County, New Mexico

Surface Hole Location

1:26,000

0 0.225 0.45 0.9

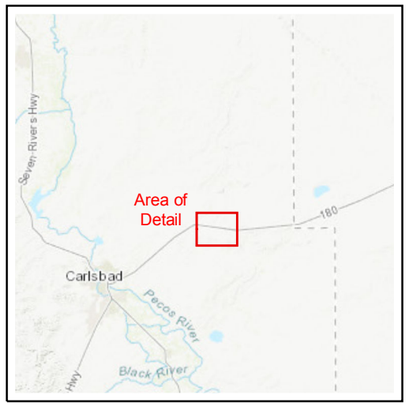
Miles

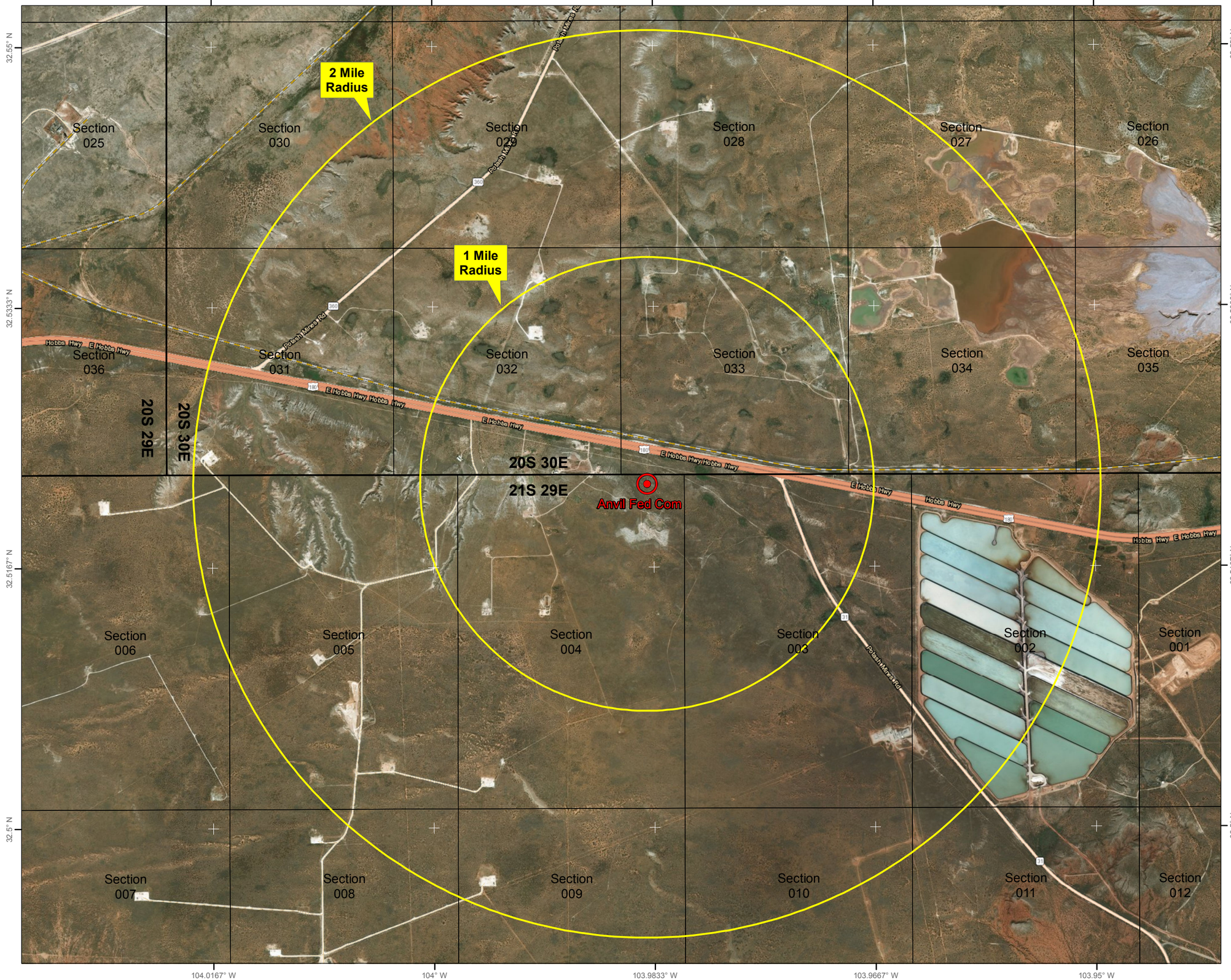
N

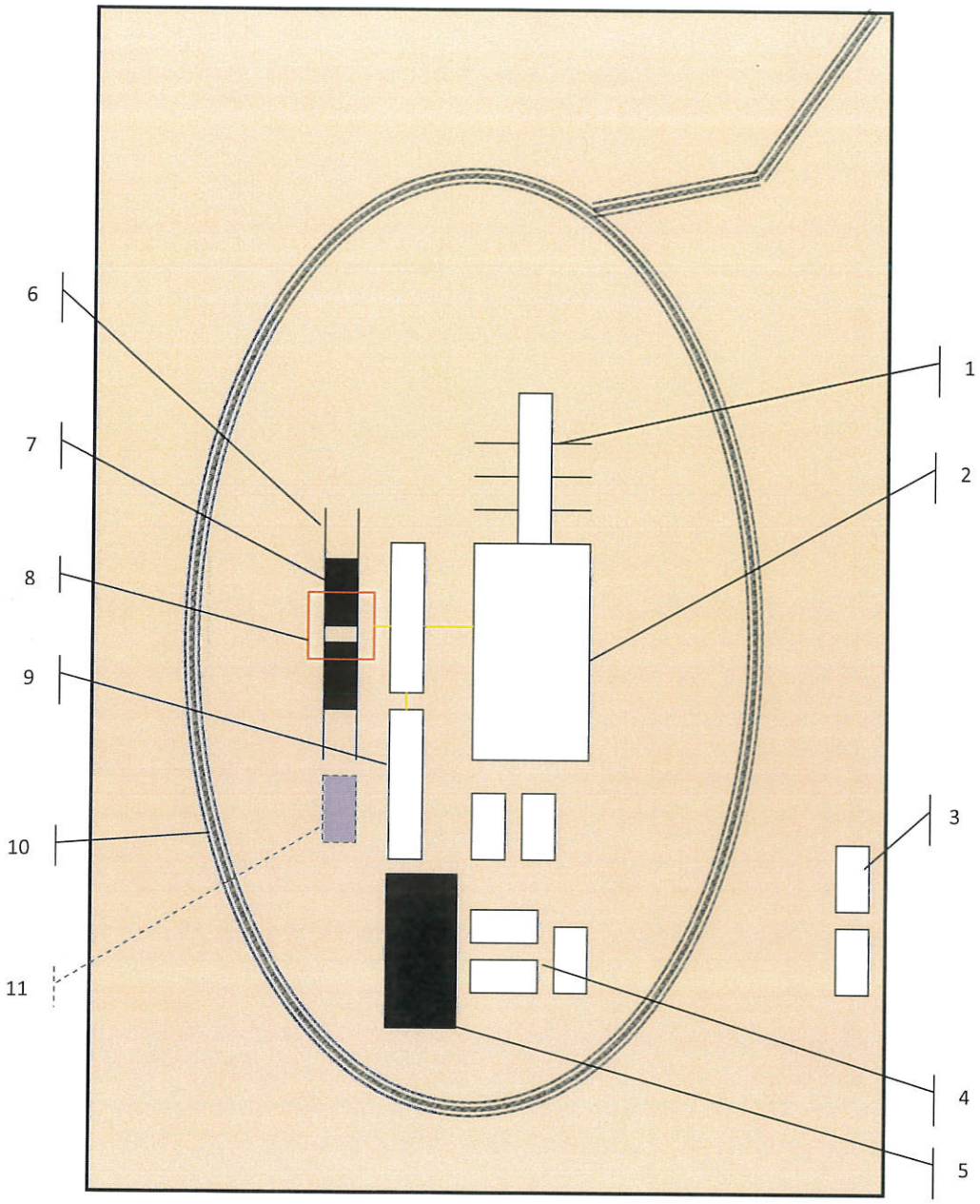
NAD 1983 New Mexico State Plane East
FIPS 3001 Feet

PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS

Prepared by Permits West, Inc., June 12, 2018
for Ascent Energy, LLC






**Schematic Closed Loop Drilling Rig***

1. Pipe Rack
2. Drill Rig
3. House Trailers/ Offices
4. Generator/Fuel/Storage
5. Overflow-Frac Tank
6. Skids
7. Roll Offs
8. Hopper or Centrifuge
9. Mud Tanks
10. Loop Drive
11. Generator (only for use with centrifuge)

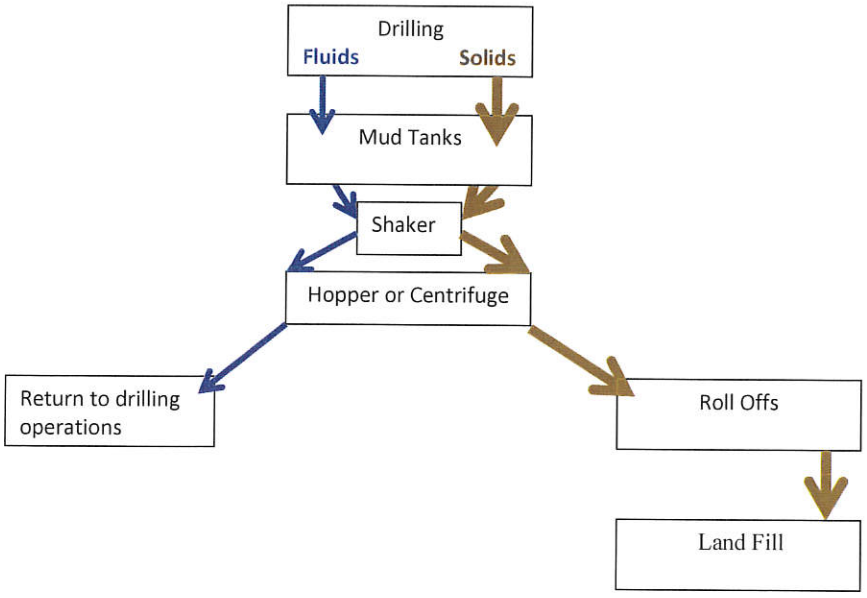
*Not drawn to scale: Closed loop system requires at least 30 feet beyond mud tanks. Ideally 60 feet would be available

Above: Centrifugal Closed Loop System

PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS
37Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120


**Closed Loop Drilling System:** Mud tanks to right (1)
Hopper in air to settle out solids (2)
Water return pipe (3)
Shaker between hopper and mud tanks (4)
Roll offs on skids (5)

## Flow Chart for Drilling Fluids and Solids




Photos Courtesy of Gandy Corporation Oil Field Service

PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS
37Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120

**District I**
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
**District II**
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
**District III**
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
**District IV**
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

COMMENTS

Action 33908

## COMMENTS

| | |
|---|---|
| Operator:<br>ASCENT ENERGY, LLC.<br>1125 17th St<br>Denver, CO 80202 | OGRID:<br>325830 |
| | Action Number:<br>33908 |
| | Action Type:<br>[C-101] BLM - Federal/Indian Land Lease (Form 3160-3) |

**COMMENTS**

| Created By | Comment | Comment Date |
|---|---|---|
| kpickford | KP GEO Review 6/28/2021 | 6/28/2021 |

**District I**
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
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Phone:(505) 334-6178 Fax:(505) 334-6170
**District IV**
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 33908

## CONDITIONS

| Operator: | OGRID: |
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| ASCENT ENERGY, LLC.<br>1125 17th St<br>Denver, CO 80202 | 325830 |
| | Action Number:<br>33908 |
| | Action Type:<br>[C-101] BLM - Federal/Indian Land Lease (Form 3160-3) |

**CONDITIONS**

| Created By | Condition | Condition Date |
|---|---|---|
| kpickford | Notify OCD 24 hours prior to casing & cement | 6/28/2021 |
| kpickford | Will require a File As Drilled C-102 and a Directional Survey with the C-104 | 6/28/2021 |
| kpickford | 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 | 6/28/2021 |
| kpickford | Cement is required to circulate on both surface and intermediate1 strings of casing | 6/28/2021 |
| kpickford | 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 | 6/28/2021 |