

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

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

1a. Type of work: ☒ DRILL ☐ REENTER 1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other 1c. Type of Completion: ☐ Hydraulic Fracturing ☒ Single Zone ☐ Multiple Zone		5. Lease Serial No. NMLC070286 6. If Indian, Allottee or Tribe Name 7. If Unit or CA Agreement, Name and No. 8. Lease Name and Well No. ANVIL FED COM 501H
2. Name of Operator ASCENT ENERGY LLC		9. API Well No. 30 015 48630
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 / 173 FNL / 1038 FEL / LAT 32.522086 / LONG -103.984341 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
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 173 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 8587 feet / 19316 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 (Electronic Submission)	Name (Printed/Typed) BRIAN WOOD / Ph: (720) 710-8999	Date 08/10/2020
Title President		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) Cody Layton / Ph: (575) 234-5959	Date 06/18/2021
Title Assistant Field Manager Lands & Minerals		
Office 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.

(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 30-015-	² Pool Code 98008	³ Pool Name WC-015 G-04 S203032P; BONE SPRING
⁴ Property Code	⁵ Property Name ANVIL FED COM	⁶ Well Number 501H
⁷ OGRID No. 325830	⁸ Operator Name ASCENT ENERGY, LLC.	⁹ Elevation 3,383'

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		173	NORTH	1,038	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 320	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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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) Y = 553,841.7 X = 648,903.8 LAT. = 32.522086 °N LONG. = 103.984341 °W FTP (NAD83 NME) Y = 554,115.0 X = 648,800.8 LAT. = 32.522838 °N LONG. = 103.984672 °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	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. 10-19-20 Signature Date Cory Walk Printed Name cory@permitswest.com E-mail Address
	¹⁶ SHL (NAD27 NME) Y = 553,780.3 X = 607,723.9 LAT. = 32.521966 °N LONG. = 103.983838 °W FTP (NAD27 NME) Y = 554,053.5 X = 607,620.9 LAT. = 32.522718 °N LONG. = 103.984169 °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	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 Signature and Seal of Professional Surveyor: MARK DILLON HARP 23786 Certificate Number RR 2020091356

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		<u>1/1/2022</u>	<u>2/28/2022</u>	<u>3/15/2022</u>	<u>5/1/2022</u>	<u>5/15/2022</u>
Anvil Fed Com 501H		<u>1/1/2022</u>	<u>1/30/2022</u>	<u>3/15/2022</u>	<u>5/1/2022</u>	<u>5/15/2022</u>
Anvil Fed Com 601H		<u>11/1/2021</u>	<u>11/30/2021</u>	<u>3/15/2022</u>	<u>5/1/2022</u>	<u>5/15/2022</u>
Anvil Fed Com 701H		<u>11/1/2021</u>	<u>12/30/2021</u>	<u>3/15/2022</u>	<u>5/1/2022</u>	<u>5/15/2022</u>
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.

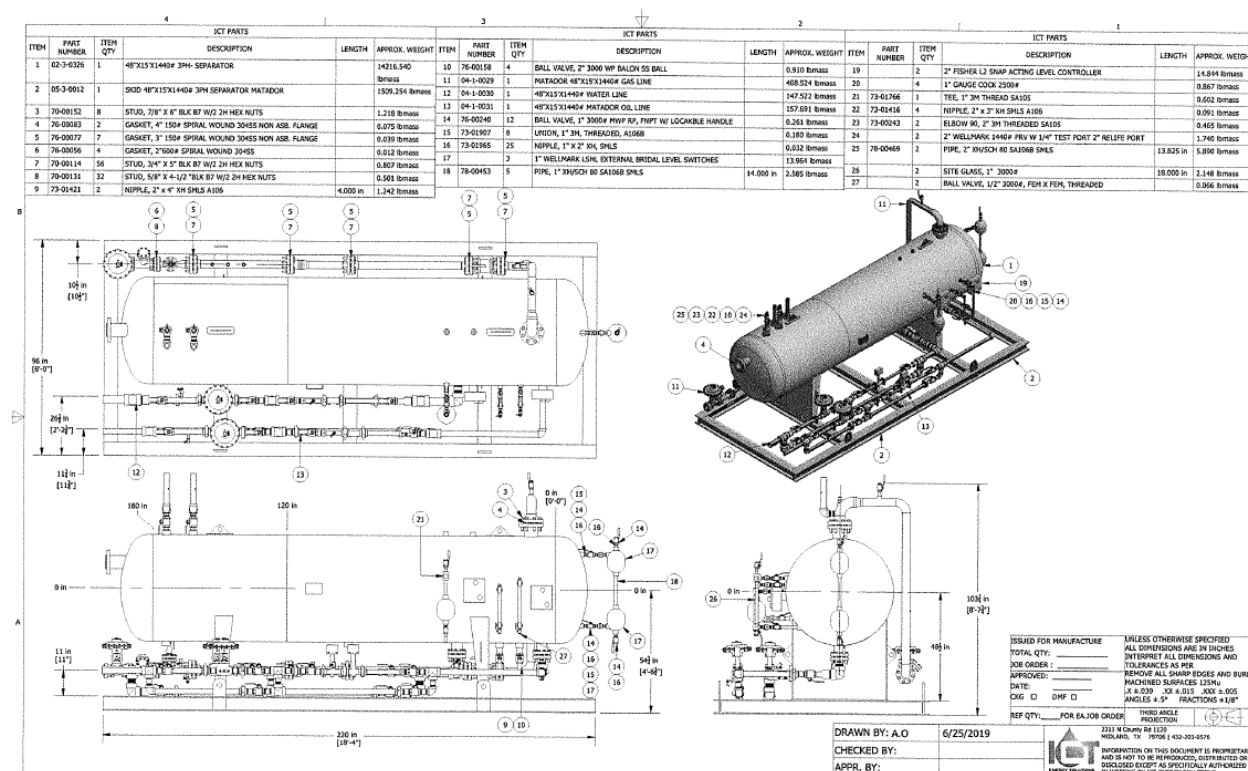
I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

Signature: <i>John Romano</i> 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 (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 mmcf. Our anticipated peak flowback rates will be between 3-4 mmcf. 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.



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

Drilling Plan Data Report

06/25/2021

APD ID: 10400060041

Submission Date: 08/10/2020

Highlighted data
reflects the most
recent changes

Operator Name: ASCENT ENERGY LLC

Well Name: ANVIL FED COM

Well Number: 501H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
812796	QUATERNARY	3383	0	0	OTHER : None	NONE	N
812797	RUSTLER ANHYDRITE	3208	175	175	ANHYDRITE	NONE	N
812798	SALADO	2938	445	445	SALT	NONE	N
812799	BASE OF SALT	2066	1317	1317	SALT	NONE	N
812800	TANSILL	1878	1505	1505	LIMESTONE	NONE	N
812801	YATES	1753	1630	1630	SANDSTONE, SHALE	NATURAL GAS, OIL	N
812802	CAPITAN REEF	1468	1915	1915	LIMESTONE	USEABLE WATER	N
812803	DELAWARE SAND	-622	4005	4028	SANDSTONE	NATURAL GAS, OIL	N
812804	CHERRY CANYON	-687	4070	4093	SANDSTONE	NATURAL GAS, OIL	N
812805	BRUSHY CANYON	-1622	5005	5028	SANDSTONE	NATURAL GAS, OIL	N
812806	BONE SPRING LIME	-3242	6625	6648	LIMESTONE, SANDSTONE	NATURAL GAS, OIL	N
812807	AVALON SAND	-3337	6720	6743	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	N
812808	BONE SPRING 1ST	-4284	7667	7690	SANDSTONE	NATURAL GAS, OIL	N
812809	BONE SPRING 2ND	-4562	7945	7968	LIMESTONE, SANDSTONE	NATURAL GAS, OIL	N
812810	BONE SPRING 2ND	-4997	8380	8434	SANDSTONE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Operator Name: ASCENT ENERGY LLC**Well Name:** ANVIL FED COM**Well Number:** 501H**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_20210329091017.pdf

BOP Diagram Attachment:

5M_BOPE_Choke_Diagram_12.03.2020_20210329091022.pdf

Operator Name: ASCENT ENERGY LLC

Well Name: ANVIL FED COM

Well Number: 501H

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	4028	0	4005	3383	-622	4028	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	19316	0	8587	3383	-5204	19316	HCP -110	20	OTHER - EZGO HT	2.85	2.83	DRY	1.84	DRY	1.84

Casing Attachments

Casing ID: 1 String Type: SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Anvil_501H_Casing_Design_Assumptions_v2_20210330095926.pdf

Operator Name: ASCENT ENERGY LLC**Well Name:** ANVIL FED COM**Well Number:** 501H**Casing Attachments**

Casing ID: 2 **String Type:** INTERMEDIATE**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**Anvil_501H_Casing_Design_Assumptions_v2_20210330095938.pdf

Casing ID: 3 **String Type:** INTERMEDIATE**Inspection Document:****Spec Document:**

7.625_P110_HC_EZGO_FJ3_Spec_Sheet_20200809075641.pdf

Tapered String Spec:**Casing Design Assumptions and Worksheet(s):**Anvil_501H_Casing_Design_Assumptions_v2_20210330095950.pdf

Casing ID: 4 **String Type:** PRODUCTION**Inspection Document:****Spec Document:**

5.5_P110_HC_EZGO_HT_Spec_Sheet_20200809075808.pdf

Tapered String Spec:**Casing Design Assumptions and Worksheet(s):**Anvil_501H_Casing_Design_Assumptions_v2_20210330100002.pdf

Section 4 - Cement

Operator Name: ASCENT ENERGY LLC**Well Name:** ANVIL FED COM**Well Number:** 501H

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	2729	170	2.04	12.7	344	50	Class C	None
INTERMEDIATE	Tail		2729	4028	155	1.37	14.8	196	50	Class C	None
PRODUCTION	Lead		0	5500	295	2.89	11	839	25	TXI Nine Lite	None
PRODUCTION	Tail		5500	1931 6	2970	1.47	13.2	4363	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:** 501H

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	4028	OTHER : Fresh water	8.4	8.6							
4028	1931 6	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: 1110

Anticipated Bottom Hole Temperature(F): 164

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

Describe:

Contingency Plans geohazards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

Anvil_Pad1_H2S_plan_v2_20201022160233.pdf

Operator Name: ASCENT ENERGY LLC

Well Name: ANVIL FED COM

Well Number: 501H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Anvil_501H_Horizontal_Plan_v2_20201021104014.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

Anvil_CoFlex_Certs_20200809125226.pdf

Anvil_speedhead_20200809125251.pdf

Anvil_501H_Anticollision_Report_20201021104030.pdf

Anvil_501H_Drill_Plan_v3_120320_20210318094243.pdf

Other Variance attachment:



Project: EDDY COUNTY, NEW MEXICO (NAD 83 - GRID)
Site: SEC. 4 T21S R29E N.M.P.M. (GRID)
Well: ANVIL FED COM 501H
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #2

ANNOTATIONS

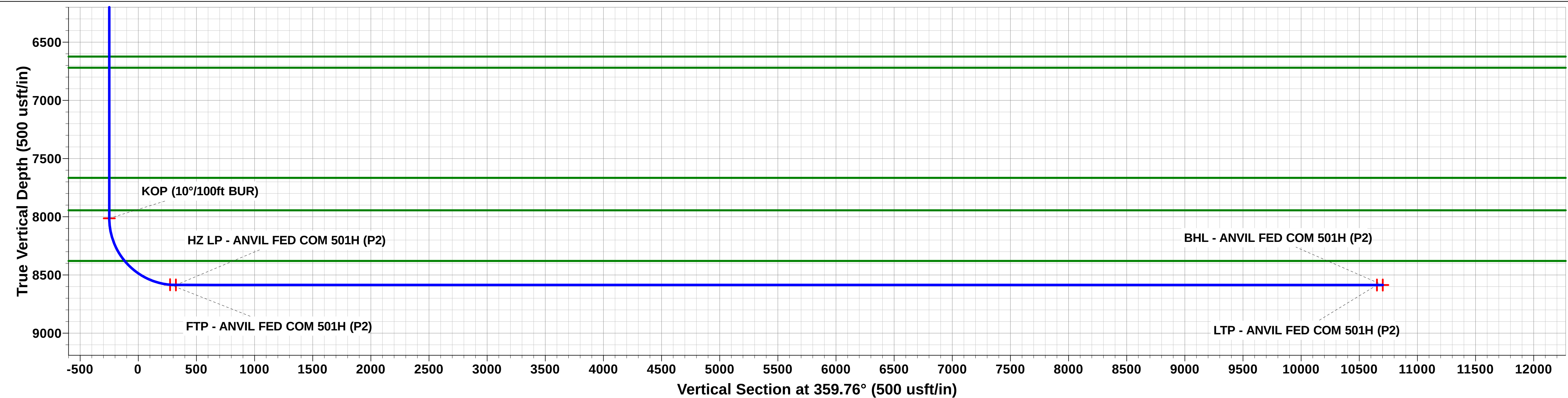
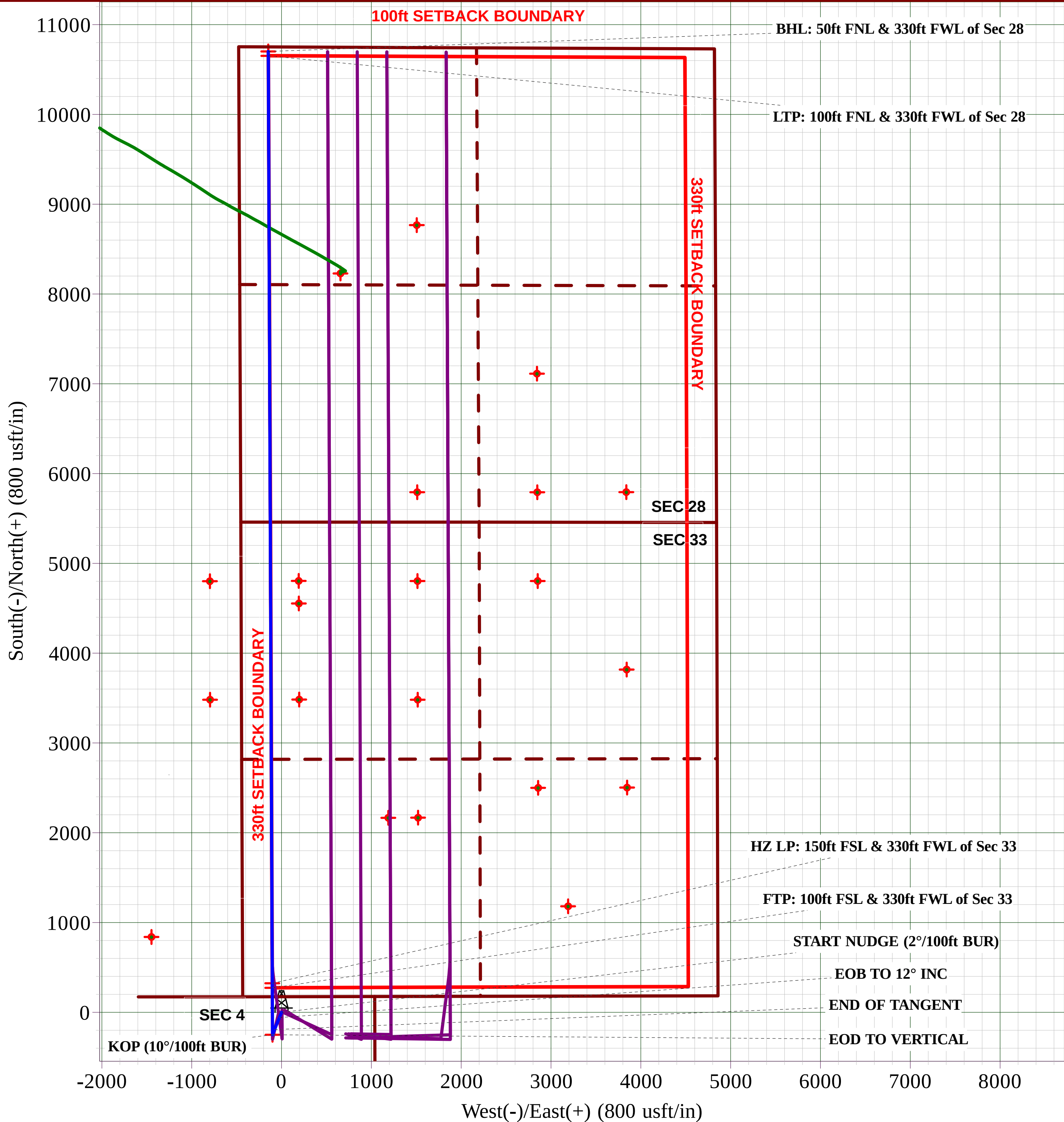
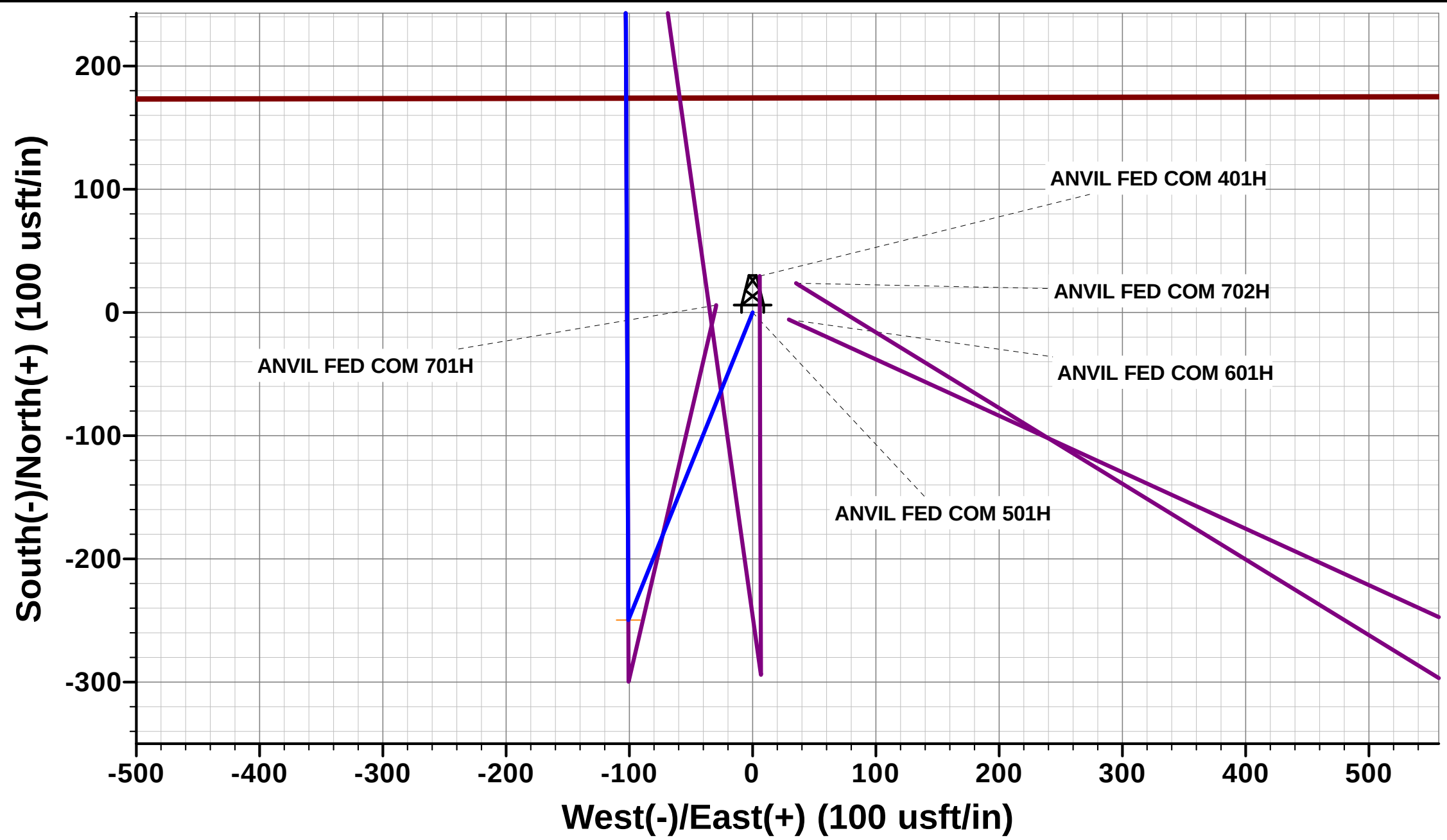
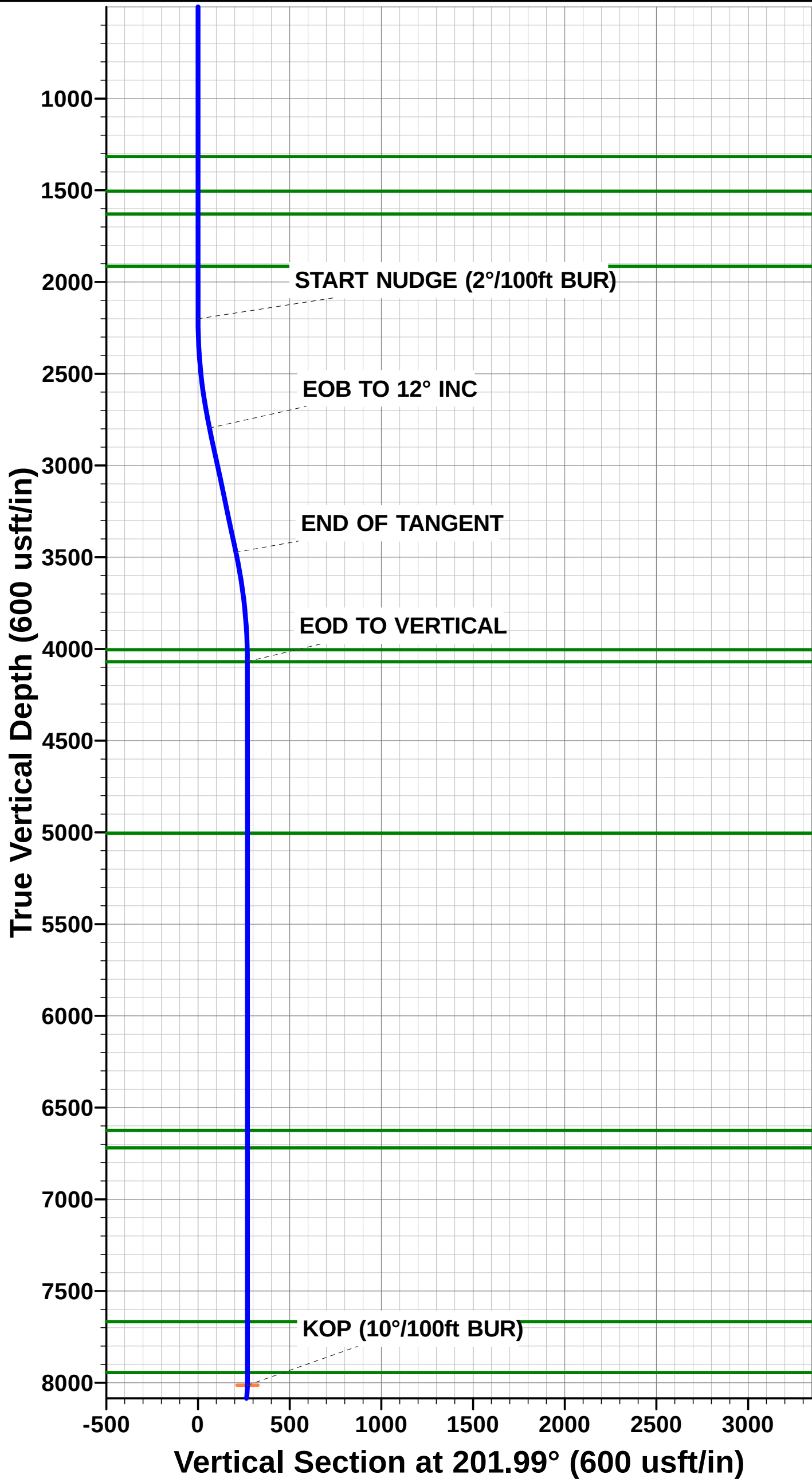
MD	Inc	Azi	TVD	+N/-S	+E/-W	VSect	Dep	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	SHL: 173ft FNL & 1038ft FEL of Sec 4
2200.00	0.00	0.00	2200.00	0.00	0.00	0.00	0.00	START NUDGE (2°/100ft BUR)
2800.00	12.00	201.99	2795.62	-58.05	-23.44	-57.95	62.60	EOB TO 12° INC
3492.68	12.00	201.99	3473.17	-191.58	-77.38	-191.26	206.62	END OF TANGENT
4092.68	0.00	0.00	4068.79	-249.63	-100.82	-249.21	269.22	EOD TO VERTICAL
8037.44	0.00	0.00	8013.55	-249.63	-100.82	-249.21	269.22	KOP (10°/100ft BUR)
8887.37	84.99	359.76	8584.31	273.32	-103.01	273.75	792.22	FTP: 100ft FSL & 330ft FWL of Sec 33
8937.43	90.00	359.76	8586.50	323.32	-103.22	323.75	842.17	HZ LP: 150ft FSL & 330ft FWL of Sec 33
19266.03	90.00	359.75	8586.50	10651.82	-147.21	10652.35	11170.77	LTP: 100ft FNL & 330ft FWL of Sec 28
19316.04	90.00	359.77	8586.50	10701.83	-147.41	10702.35	11220.78	BHL: 50ft FNL & 330ft FWL of Sec 28

PROPOSED LOCAL COORDINATES:

SHL: 173ft FNL & 1038ft FEL Sec 4
FTP: 100ft FSL & 330ft FWL of Sec 33
HZ LP : 150ft FSL & 330ft FWL 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 501H (P2)	8013.55	-249.63	-100.82	32.521401	-103.984671
HZ LP - ANVIL FED COM 501H (P2)	8586.50	323.32	-103.22	32.522976	-103.984672
LTP - ANVIL FED COM 501H (P2)	8586.50	10651.83	-147.21	32.551364	-103.984705
BHL - ANVIL FED COM 501H (P2)	8586.50	10701.83	-147.41	32.551501	-103.984705
FTP - ANVIL FED COM 501H (P2)	8584.31	273.32	-103.01	32.522838	-103.984672



Planning Report

Database:	Database 1	Local Co-ordinate Reference:	Well ANVIL FED COM 501H
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 501H	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 501H					
Well Position	+N/-S	-9.29 usft	Northing:	553,841.70 usft	Latitude:	32.522086
	+E/-W	-83.63 usft	Easting:	648,903.80 usft	Longitude:	-103.984341
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	47,698.96419955

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	
2,200.00	0.00	0.00	2,200.00	-1,204.50	0.00	0.00	0.00	0.00	0.00	0.00	
2,800.00	12.00	201.99	2,795.62	-608.88	-58.05	-23.44	2.00	2.00	0.00	201.99	
3,492.68	12.00	201.99	3,473.16	68.66	-191.58	-77.38	0.00	0.00	0.00	0.00	
4,092.68	0.00	0.00	4,068.79	664.29	-249.63	-100.82	2.00	-2.00	0.00	180.00	
8,037.44	0.00	0.00	8,013.55	4,609.05	-249.63	-100.82	0.00	0.00	0.00	0.00	KOP - ANVIL FED C
8,937.43	90.00	359.76	8,586.50	5,182.00	323.32	-103.22	10.00	10.00	-0.03	359.76	HZ LP - ANVIL FED
19,266.03	90.00	359.75	8,586.50	5,182.00	10,651.83	-147.21	0.00	0.00	0.00	-97.11	LTP - ANVIL FED C
19,266.64	90.00	359.77	8,586.50	5,182.00	10,652.43	-147.21	3.00	0.00	3.00	90.00	
19,316.04	90.00	359.77	8,586.50	5,182.00	10,701.83	-147.41	0.00	0.00	0.00	0.00	BHL - ANVIL FED C

Planning Report

Database:	Database 1	Local Co-ordinate Reference:	Well ANVIL FED COM 501H
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 501H	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: 173ft FNL & 1038ft 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
START NUDGE (2°/100ft BUR)										
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	2.00	201.99	2,299.98	1,104.52	-1.62	-0.65	-1.62	2.00	2.00	0.00
2,400.00	4.00	201.99	2,399.84	1,004.66	-6.47	-2.61	-6.46	2.00	2.00	0.00
2,500.00	6.00	201.99	2,499.45	905.05	-14.55	-5.88	-14.53	2.00	2.00	0.00
2,600.00	8.00	201.99	2,598.70	805.80	-25.85	-10.44	-25.81	2.00	2.00	0.00
2,700.00	10.00	201.99	2,697.47	707.03	-40.36	-16.30	-40.29	2.00	2.00	0.00
EOB TO 12° INC										
2,800.00	12.00	201.99	2,795.62	608.88	-58.05	-23.44	-57.95	2.00	2.00	0.00
2,900.00	12.00	201.99	2,893.44	511.06	-77.33	-31.23	-77.19	0.00	0.00	0.00
3,000.00	12.00	201.99	2,991.25	413.25	-96.60	-39.02	-96.44	0.00	0.00	0.00
3,100.00	12.00	201.99	3,089.07	315.43	-115.88	-46.80	-115.68	0.00	0.00	0.00
3,200.00	12.00	201.99	3,186.88	217.62	-135.16	-54.59	-134.93	0.00	0.00	0.00
3,300.00	12.00	201.99	3,284.70	119.80	-154.44	-62.37	-154.18	0.00	0.00	0.00
3,400.00	12.00	201.99	3,382.51	21.99	-173.72	-70.16	-173.42	0.00	0.00	0.00
END OF TANGENT										
3,492.68	12.00	201.99	3,473.17	-68.67	-191.58	-77.38	-191.26	0.00	0.00	0.00

Planning Report

Database:	Database 1	Local Co-ordinate Reference:	Well ANVIL FED COM 501H
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 501H	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)
3,500.00	11.85	201.99	3,480.33	-75.83	-192.99	-77.94	-192.66	2.00	-2.00	0.00
3,600.00	9.85	201.99	3,578.53	-174.03	-210.44	-84.99	-210.09	2.00	-2.00	0.00
3,700.00	7.85	201.99	3,677.34	-272.84	-224.72	-90.76	-224.33	2.00	-2.00	0.00
3,800.00	5.85	201.99	3,776.62	-372.12	-235.78	-95.23	-235.38	2.00	-2.00	0.00
3,900.00	3.85	201.99	3,876.25	-471.75	-243.62	-98.39	-243.21	2.00	-2.00	0.00
4,000.00	1.85	201.99	3,976.13	-571.63	-248.24	-100.26	-247.82	2.00	-2.00	0.00
TOP DELAWARE SAND										
4,028.39	1.29	201.99	4,004.50	-600.00	-248.96	-100.55	-248.54	2.00	-2.00	0.00
EOD TO VERTICAL										
4,092.68	0.00	0.00	4,068.79	-664.29	-249.63	-100.82	-249.21	2.00	-2.00	0.00
CHERRY CANYON										
4,093.39	0.00	0.00	4,069.50	-665.00	-249.63	-100.82	-249.21	0.00	0.00	0.00
4,100.00	0.00	0.00	4,076.11	-671.61	-249.63	-100.82	-249.21	0.00	0.00	0.00
4,200.00	0.00	0.00	4,176.11	-771.61	-249.63	-100.82	-249.21	0.00	0.00	0.00
4,300.00	0.00	0.00	4,276.11	-871.61	-249.63	-100.82	-249.21	0.00	0.00	0.00
4,400.00	0.00	0.00	4,376.11	-971.61	-249.63	-100.82	-249.21	0.00	0.00	0.00
4,500.00	0.00	0.00	4,476.11	-1,071.61	-249.63	-100.82	-249.21	0.00	0.00	0.00
4,600.00	0.00	0.00	4,576.11	-1,171.61	-249.63	-100.82	-249.21	0.00	0.00	0.00
4,700.00	0.00	0.00	4,676.11	-1,271.61	-249.63	-100.82	-249.21	0.00	0.00	0.00
4,800.00	0.00	0.00	4,776.11	-1,371.61	-249.63	-100.82	-249.21	0.00	0.00	0.00
4,900.00	0.00	0.00	4,876.11	-1,471.61	-249.63	-100.82	-249.21	0.00	0.00	0.00
5,000.00	0.00	0.00	4,976.11	-1,571.61	-249.63	-100.82	-249.21	0.00	0.00	0.00
BRUSHY CANYON										
5,028.39	0.00	0.00	5,004.50	-1,600.00	-249.63	-100.82	-249.21	0.00	0.00	0.00
5,100.00	0.00	0.00	5,076.11	-1,671.61	-249.63	-100.82	-249.21	0.00	0.00	0.00
5,200.00	0.00	0.00	5,176.11	-1,771.61	-249.63	-100.82	-249.21	0.00	0.00	0.00
5,300.00	0.00	0.00	5,276.11	-1,871.61	-249.63	-100.82	-249.21	0.00	0.00	0.00
5,400.00	0.00	0.00	5,376.11	-1,971.61	-249.63	-100.82	-249.21	0.00	0.00	0.00
5,500.00	0.00	0.00	5,476.11	-2,071.61	-249.63	-100.82	-249.21	0.00	0.00	0.00
5,600.00	0.00	0.00	5,576.11	-2,171.61	-249.63	-100.82	-249.21	0.00	0.00	0.00
5,700.00	0.00	0.00	5,676.11	-2,271.61	-249.63	-100.82	-249.21	0.00	0.00	0.00
5,800.00	0.00	0.00	5,776.11	-2,371.61	-249.63	-100.82	-249.21	0.00	0.00	0.00
5,900.00	0.00	0.00	5,876.11	-2,471.61	-249.63	-100.82	-249.21	0.00	0.00	0.00
6,000.00	0.00	0.00	5,976.11	-2,571.61	-249.63	-100.82	-249.21	0.00	0.00	0.00
6,100.00	0.00	0.00	6,076.11	-2,671.61	-249.63	-100.82	-249.21	0.00	0.00	0.00
6,200.00	0.00	0.00	6,176.11	-2,771.61	-249.63	-100.82	-249.21	0.00	0.00	0.00
6,300.00	0.00	0.00	6,276.11	-2,871.61	-249.63	-100.82	-249.21	0.00	0.00	0.00
6,400.00	0.00	0.00	6,376.11	-2,971.61	-249.63	-100.82	-249.21	0.00	0.00	0.00
6,500.00	0.00	0.00	6,476.11	-3,071.61	-249.63	-100.82	-249.21	0.00	0.00	0.00
6,600.00	0.00	0.00	6,576.11	-3,171.61	-249.63	-100.82	-249.21	0.00	0.00	0.00
BSPG LIME										
6,648.39	0.00	0.00	6,624.50	-3,220.00	-249.63	-100.82	-249.21	0.00	0.00	0.00
6,700.00	0.00	0.00	6,676.11	-3,271.61	-249.63	-100.82	-249.21	0.00	0.00	0.00
AVLN										
6,743.39	0.00	0.00	6,719.50	-3,315.00	-249.63	-100.82	-249.21	0.00	0.00	0.00
6,800.00	0.00	0.00	6,776.11	-3,371.61	-249.63	-100.82	-249.21	0.00	0.00	0.00
6,900.00	0.00	0.00	6,876.11	-3,471.61	-249.63	-100.82	-249.21	0.00	0.00	0.00
7,000.00	0.00	0.00	6,976.11	-3,571.61	-249.63	-100.82	-249.21	0.00	0.00	0.00
7,100.00	0.00	0.00	7,076.11	-3,671.61	-249.63	-100.82	-249.21	0.00	0.00	0.00
7,200.00	0.00	0.00	7,176.11	-3,771.61	-249.63	-100.82	-249.21	0.00	0.00	0.00
7,300.00	0.00	0.00	7,276.11	-3,871.61	-249.63	-100.82	-249.21	0.00	0.00	0.00
7,400.00	0.00	0.00	7,376.11	-3,971.61	-249.63	-100.82	-249.21	0.00	0.00	0.00

Planning Report

Database:	Database 1	Local Co-ordinate Reference:	Well ANVIL FED COM 501H
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 501H	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)
7,500.00	0.00	0.00	7,476.11	-4,071.61	-249.63	-100.82	-249.21	0.00	0.00	0.00
7,600.00	0.00	0.00	7,576.11	-4,171.61	-249.63	-100.82	-249.21	0.00	0.00	0.00
1ST BSPG SND										
7,690.39	0.00	0.00	7,666.50	-4,262.00	-249.63	-100.82	-249.21	0.00	0.00	0.00
7,700.00	0.00	0.00	7,676.11	-4,271.61	-249.63	-100.82	-249.21	0.00	0.00	0.00
7,800.00	0.00	0.00	7,776.11	-4,371.61	-249.63	-100.82	-249.21	0.00	0.00	0.00
7,900.00	0.00	0.00	7,876.11	-4,471.61	-249.63	-100.82	-249.21	0.00	0.00	0.00
2ND BSPG										
7,968.39	0.00	0.00	7,944.50	-4,540.00	-249.63	-100.82	-249.21	0.00	0.00	0.00
8,000.00	0.00	0.00	7,976.11	-4,571.61	-249.63	-100.82	-249.21	0.00	0.00	0.00
KOP (10°/100ft BUR)										
8,037.44	0.00	0.00	8,013.55	-4,609.05	-249.63	-100.82	-249.21	0.00	0.00	0.00
8,100.00	6.26	359.76	8,075.99	-4,671.49	-246.22	-100.83	-245.79	10.00	10.00	0.00
8,200.00	16.26	359.76	8,173.94	-4,769.44	-226.72	-100.92	-226.30	10.00	10.00	0.00
8,300.00	26.26	359.76	8,267.02	-4,862.52	-190.52	-101.07	-190.09	10.00	10.00	0.00
8,400.00	36.26	359.76	8,352.39	-4,947.89	-138.70	-101.28	-138.27	10.00	10.00	0.00
2ND BSPG SND										
8,434.39	39.70	359.76	8,379.50	-4,975.00	-117.54	-101.37	-117.11	10.00	10.00	0.00
8,500.00	46.26	359.76	8,427.47	-5,022.97	-72.84	-101.56	-72.41	10.00	10.00	0.00
8,600.00	56.26	359.76	8,489.98	-5,085.48	5.06	-101.89	5.49	10.00	10.00	0.00
8,700.00	66.26	359.76	8,538.01	-5,133.51	92.63	-102.25	93.05	10.00	10.00	0.00
8,800.00	76.26	359.76	8,570.10	-5,165.60	187.20	-102.65	187.63	10.00	10.00	0.00
FTP: 100ft FSL & 330ft FWL of Sec 33										
8,887.37	84.99	359.76	8,584.31	-5,179.81	273.32	-103.01	273.75	10.00	10.00	0.00
8,900.00	86.26	359.76	8,585.28	-5,180.78	285.91	-103.06	286.34	10.00	10.00	0.00
HZ LP: 150ft FSL & 330ft FWL of Sec 33										
8,937.43	90.00	359.76	8,586.50	-5,182.00	323.32	-103.22	323.75	10.00	10.00	0.00
9,000.00	90.00	359.76	8,586.50	-5,182.00	385.89	-103.48	386.32	0.00	0.00	0.00
9,100.00	90.00	359.76	8,586.50	-5,182.00	485.89	-103.90	486.32	0.00	0.00	0.00
9,200.00	90.00	359.76	8,586.50	-5,182.00	585.88	-104.32	586.32	0.00	0.00	0.00
9,300.00	90.00	359.76	8,586.50	-5,182.00	685.88	-104.74	686.32	0.00	0.00	0.00
9,400.00	90.00	359.76	8,586.50	-5,182.00	785.88	-105.16	786.32	0.00	0.00	0.00
9,500.00	90.00	359.76	8,586.50	-5,182.00	885.88	-105.58	886.32	0.00	0.00	0.00
9,600.00	90.00	359.76	8,586.49	-5,181.99	985.88	-106.00	986.32	0.00	0.00	0.00
9,700.00	90.00	359.76	8,586.49	-5,181.99	1,085.88	-106.42	1,086.32	0.00	0.00	0.00
9,800.00	90.00	359.76	8,586.49	-5,181.99	1,185.88	-106.84	1,186.32	0.00	0.00	0.00
9,900.00	90.00	359.76	8,586.49	-5,181.99	1,285.88	-107.26	1,286.32	0.00	0.00	0.00
10,000.00	90.00	359.76	8,586.49	-5,181.99	1,385.88	-107.68	1,386.32	0.00	0.00	0.00
10,100.00	90.00	359.76	8,586.49	-5,181.99	1,485.88	-108.10	1,486.32	0.00	0.00	0.00
10,200.00	90.00	359.76	8,586.49	-5,181.99	1,585.88	-108.52	1,586.32	0.00	0.00	0.00
10,300.00	90.00	359.76	8,586.49	-5,181.99	1,685.87	-108.94	1,686.32	0.00	0.00	0.00
10,400.00	90.00	359.76	8,586.49	-5,181.99	1,785.87	-109.36	1,786.32	0.00	0.00	0.00
10,500.00	90.00	359.76	8,586.49	-5,181.99	1,885.87	-109.78	1,886.32	0.00	0.00	0.00
10,600.00	90.00	359.76	8,586.49	-5,181.99	1,985.87	-110.20	1,986.32	0.00	0.00	0.00
10,700.00	90.00	359.76	8,586.49	-5,181.99	2,085.87	-110.62	2,086.32	0.00	0.00	0.00
10,800.00	90.00	359.76	8,586.49	-5,181.99	2,185.87	-111.05	2,186.32	0.00	0.00	0.00
10,900.00	90.00	359.76	8,586.49	-5,181.99	2,285.87	-111.47	2,286.32	0.00	0.00	0.00
11,000.00	90.00	359.76	8,586.49	-5,181.99	2,385.87	-111.89	2,386.32	0.00	0.00	0.00
11,100.00	90.00	359.76	8,586.48	-5,181.98	2,485.87	-112.31	2,486.32	0.00	0.00	0.00
11,200.00	90.00	359.76	8,586.48	-5,181.98	2,585.87	-112.73	2,586.32	0.00	0.00	0.00
11,300.00	90.00	359.76	8,586.48	-5,181.98	2,685.87	-113.15	2,686.32	0.00	0.00	0.00
11,400.00	90.00	359.76	8,586.48	-5,181.98	2,785.87	-113.58	2,786.32	0.00	0.00	0.00

Planning Report

Database:	Database 1	Local Co-ordinate Reference:	Well ANVIL FED COM 501H
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 501H	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)
11,500.00	90.00	359.76	8,586.48	-5,181.98	2,885.86	-114.00	2,886.32	0.00	0.00	0.00
11,600.00	90.00	359.76	8,586.48	-5,181.98	2,985.86	-114.42	2,986.32	0.00	0.00	0.00
11,700.00	90.00	359.76	8,586.48	-5,181.98	3,085.86	-114.84	3,086.32	0.00	0.00	0.00
11,800.00	90.00	359.76	8,586.48	-5,181.98	3,185.86	-115.27	3,186.32	0.00	0.00	0.00
11,900.00	90.00	359.76	8,586.48	-5,181.98	3,285.86	-115.69	3,286.32	0.00	0.00	0.00
12,000.00	90.00	359.76	8,586.48	-5,181.98	3,385.86	-116.11	3,386.32	0.00	0.00	0.00
12,100.00	90.00	359.76	8,586.48	-5,181.98	3,485.86	-116.54	3,486.32	0.00	0.00	0.00
12,200.00	90.00	359.76	8,586.48	-5,181.98	3,585.86	-116.96	3,586.32	0.00	0.00	0.00
12,300.00	90.00	359.76	8,586.48	-5,181.98	3,685.86	-117.38	3,686.32	0.00	0.00	0.00
12,400.00	90.00	359.76	8,586.48	-5,181.98	3,785.86	-117.81	3,786.32	0.00	0.00	0.00
12,500.00	90.00	359.76	8,586.48	-5,181.98	3,885.86	-118.23	3,886.32	0.00	0.00	0.00
12,600.00	90.00	359.76	8,586.48	-5,181.98	3,985.85	-118.65	3,986.32	0.00	0.00	0.00
12,700.00	90.00	359.76	8,586.48	-5,181.98	4,085.85	-119.08	4,086.32	0.00	0.00	0.00
12,800.00	90.00	359.76	8,586.48	-5,181.98	4,185.85	-119.50	4,186.32	0.00	0.00	0.00
12,900.00	90.00	359.76	8,586.48	-5,181.98	4,285.85	-119.93	4,286.32	0.00	0.00	0.00
13,000.00	90.00	359.76	8,586.48	-5,181.98	4,385.85	-120.35	4,386.32	0.00	0.00	0.00
13,100.00	90.00	359.76	8,586.48	-5,181.98	4,485.85	-120.77	4,486.32	0.00	0.00	0.00
13,200.00	90.00	359.76	8,586.48	-5,181.98	4,585.85	-121.20	4,586.32	0.00	0.00	0.00
13,300.00	90.00	359.76	8,586.48	-5,181.98	4,685.85	-121.62	4,686.32	0.00	0.00	0.00
13,400.00	90.00	359.76	8,586.48	-5,181.98	4,785.85	-122.05	4,786.32	0.00	0.00	0.00
13,500.00	90.00	359.76	8,586.48	-5,181.98	4,885.85	-122.47	4,886.32	0.00	0.00	0.00
13,600.00	90.00	359.76	8,586.48	-5,181.98	4,985.85	-122.90	4,986.32	0.00	0.00	0.00
13,700.00	90.00	359.76	8,586.48	-5,181.98	5,085.84	-123.32	5,086.32	0.00	0.00	0.00
13,800.00	90.00	359.76	8,586.48	-5,181.98	5,185.84	-123.75	5,186.32	0.00	0.00	0.00
13,900.00	90.00	359.76	8,586.48	-5,181.98	5,285.84	-124.18	5,286.32	0.00	0.00	0.00
14,000.00	90.00	359.76	8,586.48	-5,181.98	5,385.84	-124.60	5,386.32	0.00	0.00	0.00
14,100.00	90.00	359.76	8,586.48	-5,181.98	5,485.84	-125.03	5,486.32	0.00	0.00	0.00
14,200.00	90.00	359.76	8,586.48	-5,181.98	5,585.84	-125.45	5,586.32	0.00	0.00	0.00
14,300.00	90.00	359.76	8,586.48	-5,181.98	5,685.84	-125.88	5,686.32	0.00	0.00	0.00
14,400.00	90.00	359.76	8,586.48	-5,181.98	5,785.84	-126.30	5,786.32	0.00	0.00	0.00
14,500.00	90.00	359.76	8,586.48	-5,181.98	5,885.84	-126.73	5,886.32	0.00	0.00	0.00
14,600.00	90.00	359.76	8,586.48	-5,181.98	5,985.84	-127.16	5,986.32	0.00	0.00	0.00
14,700.00	90.00	359.76	8,586.48	-5,181.98	6,085.84	-127.58	6,086.32	0.00	0.00	0.00
14,800.00	90.00	359.76	8,586.48	-5,181.98	6,185.83	-128.01	6,186.32	0.00	0.00	0.00
14,900.00	90.00	359.76	8,586.48	-5,181.98	6,285.83	-128.44	6,286.32	0.00	0.00	0.00
15,000.00	90.00	359.76	8,586.48	-5,181.98	6,385.83	-128.87	6,386.32	0.00	0.00	0.00
15,100.00	90.00	359.76	8,586.48	-5,181.98	6,485.83	-129.29	6,486.32	0.00	0.00	0.00
15,200.00	90.00	359.76	8,586.48	-5,181.98	6,585.83	-129.72	6,586.32	0.00	0.00	0.00
15,300.00	90.00	359.76	8,586.48	-5,181.98	6,685.83	-130.15	6,686.32	0.00	0.00	0.00
15,400.00	90.00	359.75	8,586.48	-5,181.98	6,785.83	-130.58	6,786.32	0.00	0.00	0.00
15,500.00	90.00	359.75	8,586.48	-5,181.98	6,885.83	-131.00	6,886.32	0.00	0.00	0.00
15,600.00	90.00	359.75	8,586.48	-5,181.98	6,985.83	-131.43	6,986.32	0.00	0.00	0.00
15,700.00	90.00	359.75	8,586.48	-5,181.98	7,085.83	-131.86	7,086.32	0.00	0.00	0.00
15,800.00	90.00	359.75	8,586.48	-5,181.98	7,185.83	-132.29	7,186.32	0.00	0.00	0.00
15,900.00	90.00	359.75	8,586.48	-5,181.98	7,285.82	-132.72	7,286.32	0.00	0.00	0.00
16,000.00	90.00	359.75	8,586.48	-5,181.98	7,385.82	-133.14	7,386.32	0.00	0.00	0.00
16,100.00	90.00	359.75	8,586.48	-5,181.98	7,485.82	-133.57	7,486.32	0.00	0.00	0.00
16,200.00	90.00	359.75	8,586.48	-5,181.98	7,585.82	-134.00	7,586.32	0.00	0.00	0.00
16,300.00	90.00	359.75	8,586.48	-5,181.98	7,685.82	-134.43	7,686.32	0.00	0.00	0.00
16,400.00	90.00	359.75	8,586.48	-5,181.98	7,785.82	-134.86	7,786.32	0.00	0.00	0.00
16,500.00	90.00	359.75	8,586.48	-5,181.98	7,885.82	-135.29	7,886.32	0.00	0.00	0.00
16,600.00	90.00	359.75	8,586.48	-5,181.98	7,985.82	-135.72	7,986.32	0.00	0.00	0.00
16,700.00	90.00	359.75	8,586.48	-5,181.98	8,085.82	-136.15	8,086.32	0.00	0.00	0.00

Planning Report

Database:	Database 1	Local Co-ordinate Reference:	Well ANVIL FED COM 501H
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 501H	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)
16,800.00	90.00	359.75	8,586.48	-5,181.98	8,185.82	-136.58	8,186.32	0.00	0.00	0.00
16,900.00	90.00	359.75	8,586.48	-5,181.98	8,285.82	-137.01	8,286.32	0.00	0.00	0.00
17,000.00	90.00	359.75	8,586.48	-5,181.98	8,385.81	-137.44	8,386.32	0.00	0.00	0.00
17,100.00	90.00	359.75	8,586.48	-5,181.98	8,485.81	-137.87	8,486.32	0.00	0.00	0.00
17,200.00	90.00	359.75	8,586.49	-5,181.99	8,585.81	-138.30	8,586.32	0.00	0.00	0.00
17,300.00	90.00	359.75	8,586.49	-5,181.99	8,685.81	-138.73	8,686.32	0.00	0.00	0.00
17,400.00	90.00	359.75	8,586.49	-5,181.99	8,785.81	-139.16	8,786.32	0.00	0.00	0.00
17,500.00	90.00	359.75	8,586.49	-5,181.99	8,885.81	-139.59	8,886.32	0.00	0.00	0.00
17,600.00	90.00	359.75	8,586.49	-5,181.99	8,985.81	-140.02	8,986.32	0.00	0.00	0.00
17,700.00	90.00	359.75	8,586.49	-5,181.99	9,085.81	-140.45	9,086.32	0.00	0.00	0.00
17,800.00	90.00	359.75	8,586.49	-5,181.99	9,185.81	-140.88	9,186.32	0.00	0.00	0.00
17,900.00	90.00	359.75	8,586.49	-5,181.99	9,285.81	-141.31	9,286.32	0.00	0.00	0.00
18,000.00	90.00	359.75	8,586.49	-5,181.99	9,385.80	-141.74	9,386.32	0.00	0.00	0.00
18,100.00	90.00	359.75	8,586.49	-5,181.99	9,485.80	-142.17	9,486.32	0.00	0.00	0.00
18,200.00	90.00	359.75	8,586.49	-5,181.99	9,585.80	-142.60	9,586.32	0.00	0.00	0.00
18,300.00	90.00	359.75	8,586.49	-5,181.99	9,685.80	-143.04	9,686.32	0.00	0.00	0.00
18,400.00	90.00	359.75	8,586.49	-5,181.99	9,785.80	-143.47	9,786.32	0.00	0.00	0.00
18,500.00	90.00	359.75	8,586.49	-5,181.99	9,885.80	-143.90	9,886.32	0.00	0.00	0.00
18,600.00	90.00	359.75	8,586.49	-5,181.99	9,985.80	-144.33	9,986.32	0.00	0.00	0.00
18,700.00	90.00	359.75	8,586.50	-5,182.00	10,085.80	-144.76	10,086.32	0.00	0.00	0.00
18,800.00	90.00	359.75	8,586.50	-5,182.00	10,185.80	-145.20	10,186.32	0.00	0.00	0.00
18,900.00	90.00	359.75	8,586.50	-5,182.00	10,285.80	-145.63	10,286.32	0.00	0.00	0.00
19,000.00	90.00	359.75	8,586.50	-5,182.00	10,385.80	-146.06	10,386.32	0.00	0.00	0.00
19,100.00	90.00	359.75	8,586.50	-5,182.00	10,485.79	-146.49	10,486.32	0.00	0.00	0.00
19,200.00	90.00	359.75	8,586.50	-5,182.00	10,585.79	-146.93	10,586.32	0.00	0.00	0.00
LTP: 100ft FNL & 330ft FWL of Sec 28										
19,266.03	90.00	359.75	8,586.50	-5,182.00	10,651.82	-147.21	10,652.35	0.00	0.00	0.00
19,266.64	90.00	359.77	8,586.50	-5,182.00	10,652.43	-147.21	10,652.95	2.97	0.00	2.97
19,300.00	90.00	359.77	8,586.50	-5,182.00	10,685.79	-147.35	10,686.32	0.00	0.00	0.00
BHL: 50ft FNL & 330ft FWL of Sec 28										
19,316.04	90.00	359.77	8,586.50	-5,182.00	10,701.83	-147.41	10,702.35	0.00	0.00	0.00

Planning Report

Database:	Database 1	Local Co-ordinate Reference:	Well ANVIL FED COM 501H
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 501H	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #2		

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	
4,028.39	4,004.50	TOP_DELAWARE_SAND		0.00	
4,093.39	4,069.50	CHERRY_CANYON		0.00	
5,028.39	5,004.50	BRUSHY_CANYON		0.00	
6,648.39	6,624.50	BSPG_LIME		0.00	
6,743.39	6,719.50	AVLN		0.00	
7,690.39	7,666.50	1ST_BSPG_SND		0.00	
7,968.39	7,944.50	2ND_BSPG		0.00	
8,434.39	8,379.50	2ND_BSPG_SND		0.00	

Plan Annotations				
MD (usft)	TVD (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
0.00	0.00	0.00	0.00	SHL: 173ft FNL & 1038ft FEL of Sec 4
2,200.00	2,200.00	0.00	0.00	START NUDGE (2°/100ft BUR)
2,800.00	2,795.62	-58.05	-23.44	EOB TO 12° INC
3,492.68	3,473.17	-191.58	-77.38	END OF TANGENT
4,092.68	4,068.79	-249.63	-100.82	EOD TO VERTICAL
8,037.44	8,013.55	-249.63	-100.82	KOP (10°/100ft BUR)
8,887.37	8,584.31	273.32	-103.01	FTP: 100ft FSL & 330ft FWL of Sec 33
8,937.43	8,586.50	323.32	-103.22	HZ LP: 150ft FSL & 330ft FWL of Sec 33
19,266.03	8,586.50	10,651.82	-147.21	LTP: 100ft FNL & 330ft FWL of Sec 28
19,316.04	8,586.50	10,701.83	-147.41	BHL: 50ft FNL & 330ft FWL of Sec 28

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Ascent Energy LLC
LEASE NO.:	NMNM070286
WELL NAME & NO.:	Anvil Federal Com 501H
SURFACE HOLE FOOTAGE:	173'/N & 1038'/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	☒ 4 String Area	☒ Capitan Reef	☐ WIPP
Other	☐ Fluid Filled	☐ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	☒ 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 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 integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in 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 (06-07-2021)

ASCENT
ENERGY

H₂S Drilling Operations Plan

- a. All personnel will be trained in H₂S 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 $\geq 150'$ from the wellhead, perpendicular from one another, and easily entered and exited. See H₂S page 5 for more details.
- c. H₂S Safety Equipment/Systems:
 - i. Well Control Equipment
 - Flare line will be $\geq 150'$ from the wellhead and ignited by a flare gun.
 - Beware of SO₂ 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 H₂S and SO₂ 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. H₂S Detection & Monitoring Equipment
 - Every person on site will wear a personal H₂S and SO₂ 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 H₂S condition sign will be set at each pad entrance.
- Color-coded condition flag will be installed to indicate current H₂S 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 ≥ 10 will be maintained to control corrosion, H₂S gas returns to the surface, and minimize sulfide stress cracking and embrittlement.
- Drilling mud containing H₂S 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 H₂S where formation pressures are unknown.

vi. Metallurgy

- All equipment that has the potential to be exposed to H₂S will be suitable for H₂S 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 H₂S.

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

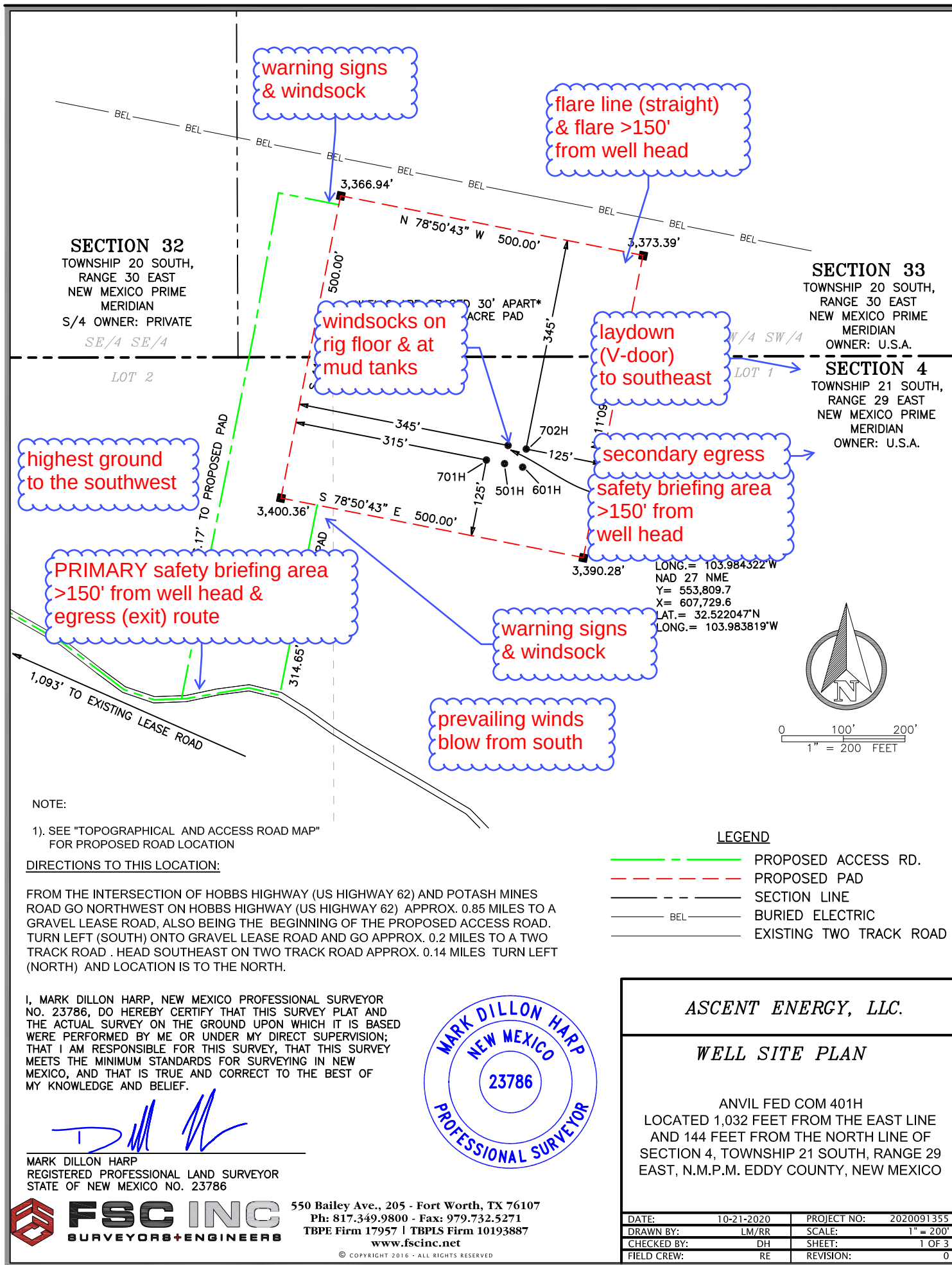
Dal Paso Animal Hospital (Hobbs)	(575) 397-2286
Hobbs Animal Clinic & Pet Care (Hobbs)	(575) 392-5563
Great Plains Veterinary Clinic & Hospital (Hobbs)	(575) 392-5513

Residents within 2 miles

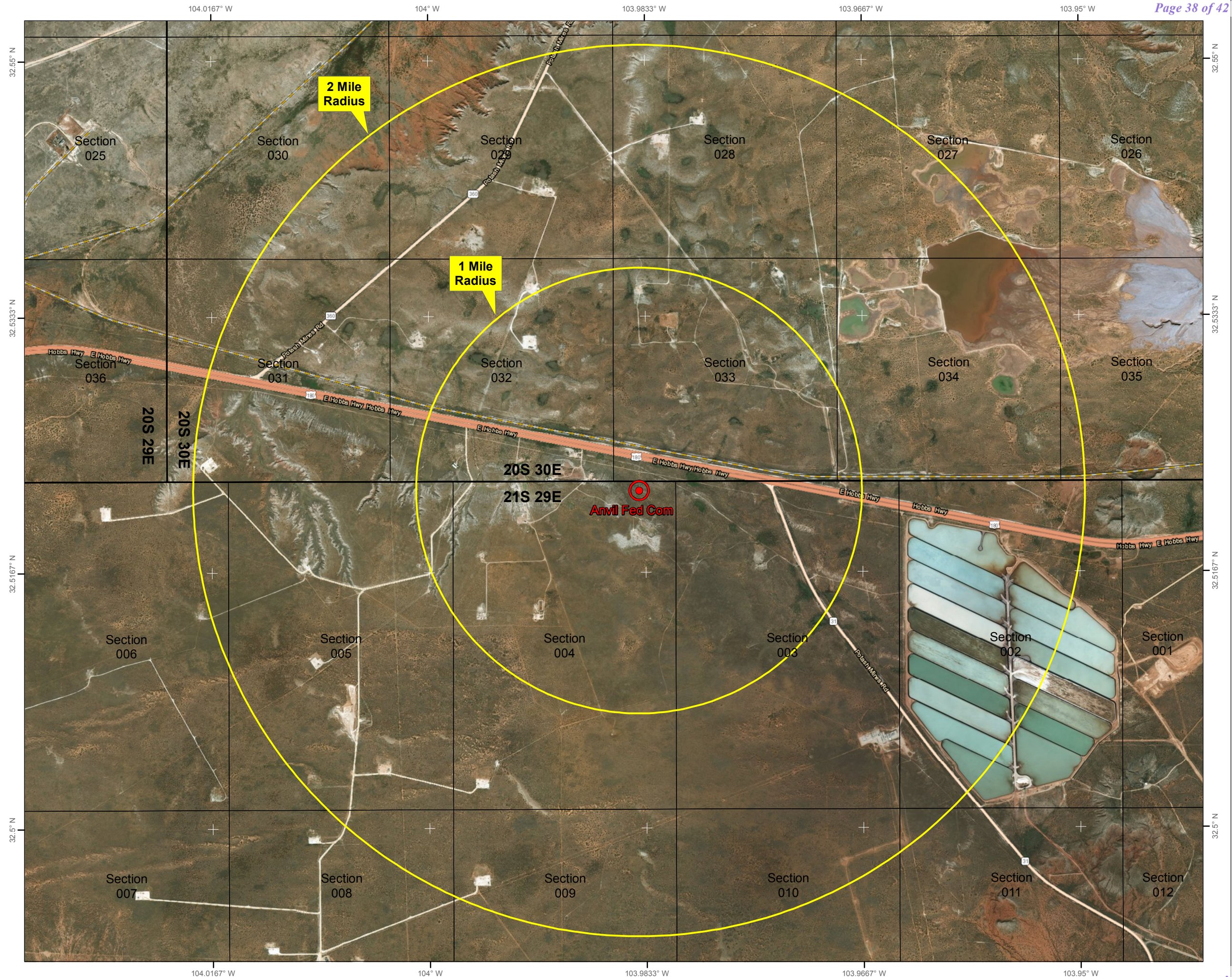
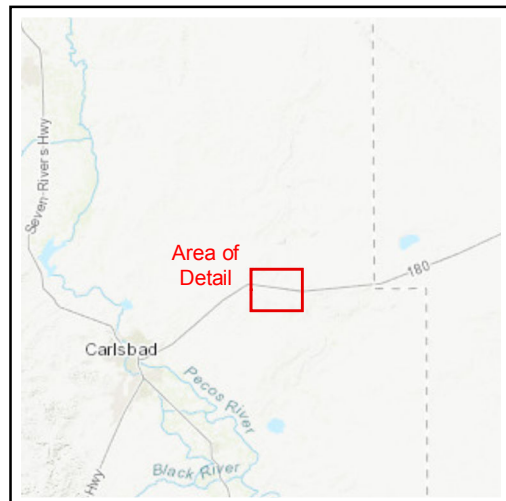
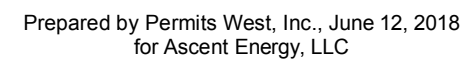
No residents are within 2 miles.

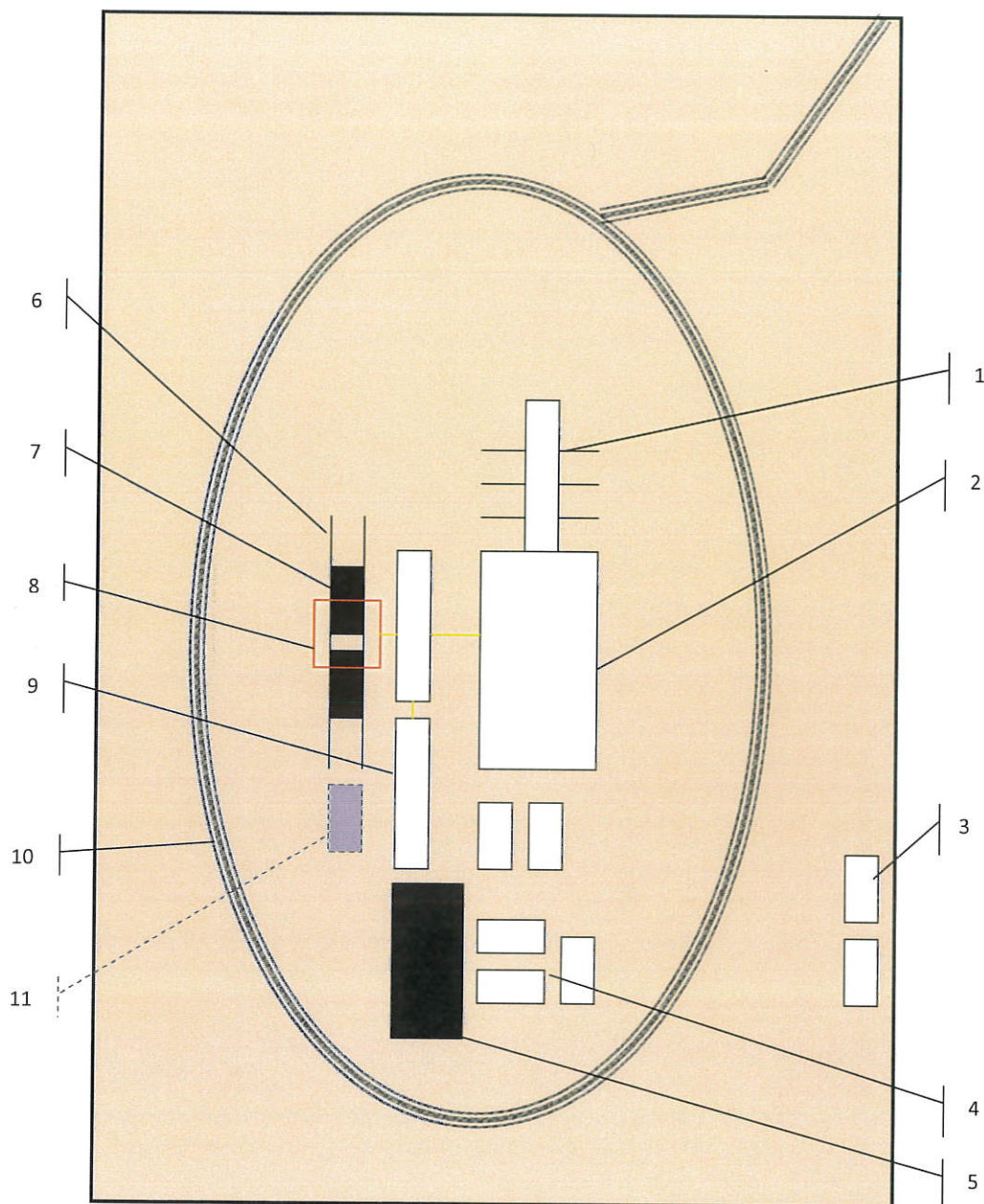
Air Evacuation

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



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





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

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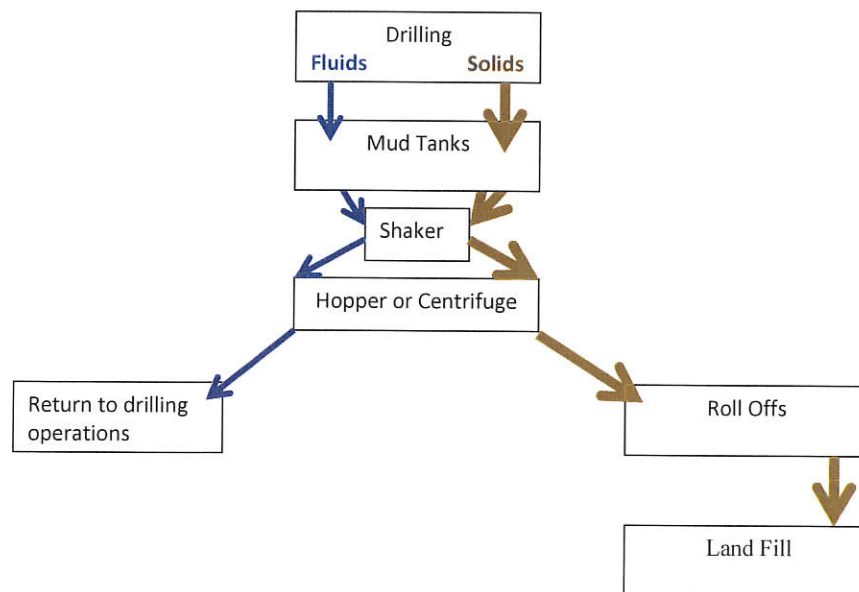


Above: Centrifugal Closed Loop System



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

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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 33910

COMMENTS

Operator: ASCENT ENERGY, LLC. 1125 17th St Denver, CO 80202	OGRID:
	325830
	Action Number:
	33910
Action Type:	
[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

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CONDITIONS

Action 33910

CONDITIONS

Operator: ASCENT ENERGY, LLC. 1125 17th St Denver, CO 80202	OGRID: 325830
	Action Number: 33910
	Action Type: [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