

**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) 476-3462Form C-101  
August 1, 2011

Permit 304872

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

**APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE**

1. Operator Name and Address ADVANCE ENERGY PARTNERS HAT MESA, LLC 11490 Westheimer Rd., Ste 950 Houston, TX 77077		2. OGRID Number 372417
		3. API Number 30-025-49641
4. Property Code 325948	5. Property Name WOOL HEAD 20 STATE COM	6. Well No. 504H

**7. Surface Location**

UL - Lot N	Section 20	Township 21S	Range 33E	Lot Idn N	Feet From 250	N/S Line S	Feet From 2079	E/W Line W	County Lea
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**8. Proposed Bottom Hole Location**

UL - Lot K	Section 17	Township 21S	Range 33E	Lot Idn K	Feet From 2540	N/S Line S	Feet From 2310	E/W Line W	County Lea
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**9. Pool Information**

WC-025 G-08 S213304D;BONE SPRING	97895
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**Additional Well Information**

11. Work Type New Well	12. Well Type OIL	13. Cable/Rotary	14. Lease Type State	15. Ground Level Elevation 3722
16. Multiple N	17. Proposed Depth 20675	18. Formation Bone Spring	19. Contractor	20. Spud Date 12/13/2021
Depth to Ground water		Distance from nearest fresh water well		Distance to nearest surface water

☒ We will be using a closed-loop system in lieu of lined pits**21. Proposed Casing and Cement Program**

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surf	17.5	13.375	54.5	1600	500	0
Int1	12.25	9.625	40	5300	330	4000
Int1	12.25	9.625	40	4000	950	0
Prod	8.5	5.5	20	20675	2300	0

**Casing/Cement Program: Additional Comments**

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**22. Proposed Blowout Prevention Program**

Type	Working Pressure	Test Pressure	Manufacturer
Double Ram	10000	10000	

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify I have complied with 19.15.14.9 (A) NMAC <input checked="" type="checkbox"/> and/or 19.15.14.9 (B) NMAC <input checked="" type="checkbox"/> , if applicable.	<b>OIL CONSERVATION DIVISION</b>	
Signature:		
Printed Name: Electronically filed by Braden Harris	Approved By: Paul F Kautz	
Title: Vice President	Title: Geologist	
Email Address: bharris@advanceenergypartners.com	Approved Date: 12/16/2021	Expiration Date: 12/16/2023
Date: 12/8/2021	Phone: 406-300-3310	Conditions of Approval Attached

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Phone (505) 476-3480 Fax: (505) 476-3482

State of New Mexico  
Energy, Minerals and Natural Resources Department

**OIL CONSERVATION DIVISION**  
1220 South St. Francis Dr.  
Santa Fe, New Mexico 87505

Form C-102

Revised August 4, 2011

Submit one copy to appropriate  
District Office

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

☐ AMENDED REPORT

API Number <b>30-025-49641</b>	Pool Code <b>97895</b>	Pool Name <b>WC-025 G-08 S213304D; BONE SPRING</b>
Property Code <b>325948</b>	Property Name <b>WOOL HEAD 20 STATE COM</b>	Well Number <b>504H</b>
OGRID No. <b>372417</b>	Operator Name <b>ADVANCE ENERGY PARTNERS HAT MESA</b>	Elevation <b>3722'</b>

**Surface Location**

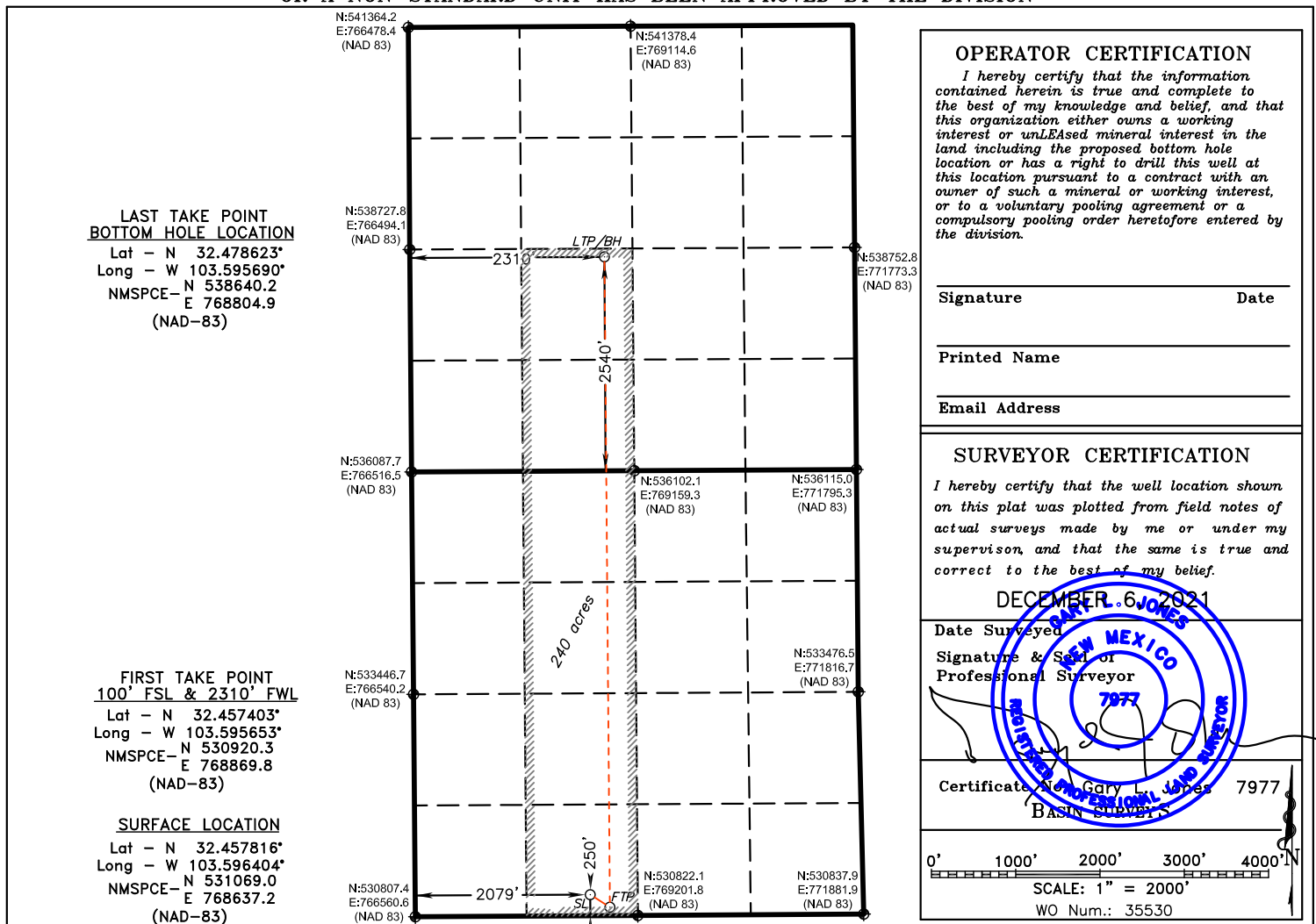
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	SOUTH/South line	Feet from the	East/West line	County
N	20	21 S	33 E		250	SOUTH	2079	WEST	LEA

**Bottom Hole Location If Different From Surface**

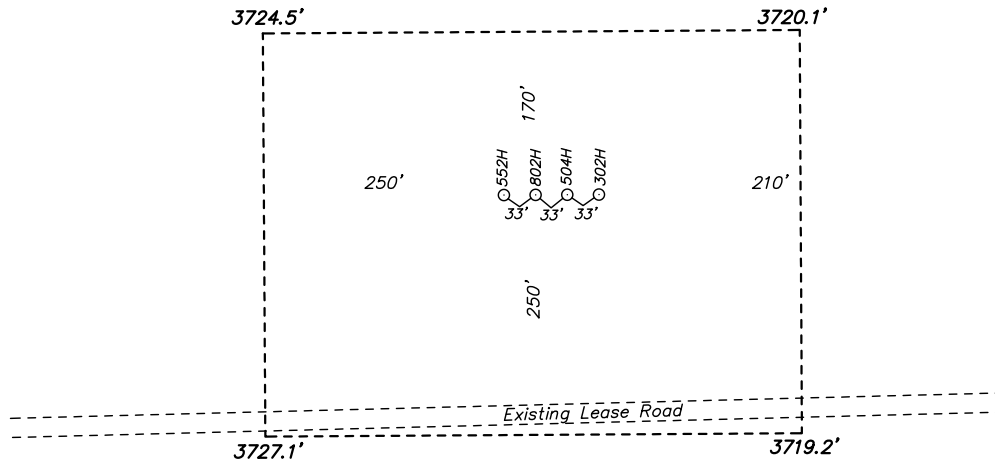
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	SOUTH/South line	Feet from the	East/West line	County
K	17	21 S	33 E		2540	SOUTH	2310	WEST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
240			

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



**SECTION 20, TOWNSHIP 21 SOUTH, RANGE 33 EAST. N.M.P.M.,  
LEA COUNTY, NEW MEXICO.**



**ADVANCE ENERGY PARTNERS HAT MESA  
WOOL HEAD 20 STATE COM 504H  
ELEV. - 3722'**

Lat - N 32.457816°  
Long - W 103.596404°  
NMSPC - N 531069.0  
E 768637.2  
(NAD-83)



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P.O. Box 1786 (575) 393-7316 - Office  
1120 N. West County Rd. (575) 392-2206 - Fax  
Hobbs, New Mexico 88241 basin-surveys.com

200 0 200 400 FEET  
SCALE: 1" = 200'

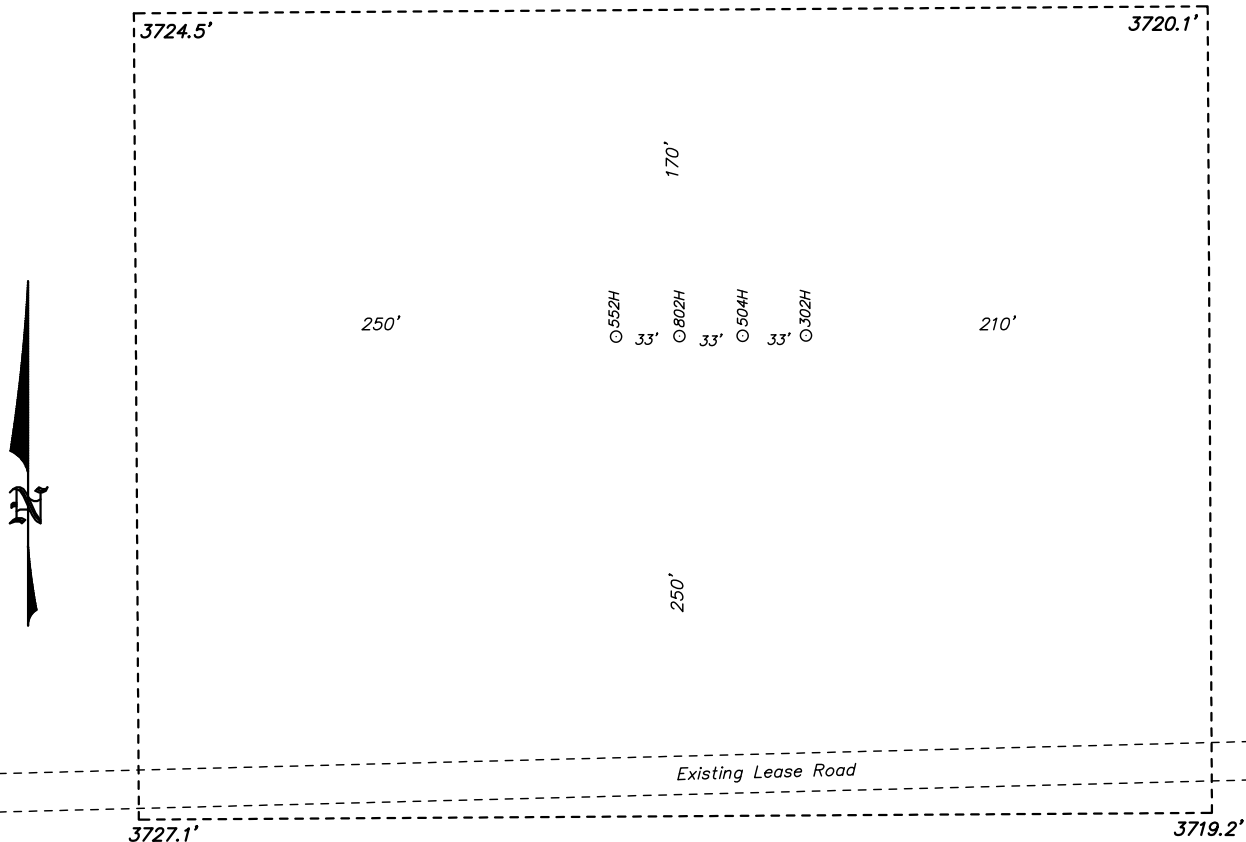
**ADVANCE ENERGY PARTNERS HAT MESA**

REF: WOOL HEAD 20 STATE COM 504H / WELL PAD TOPO

THE WOOL HEAD 20 STATE COM 504H LOCATED 250' FROM  
THE SOUTH LINE AND 2079' FROM THE WEST LINE OF  
SECTION 20, TOWNSHIP 21 SOUTH, RANGE 33 EAST.

N.M.P.M., LEA COUNTY, NEW MEXICO.

**SECTION 20, TOWNSHIP 21 SOUTH, RANGE 33 EAST. N.M.P.M.,  
LEA COUNTY, NEW MEXICO.**



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SCALE: 1" = 100'

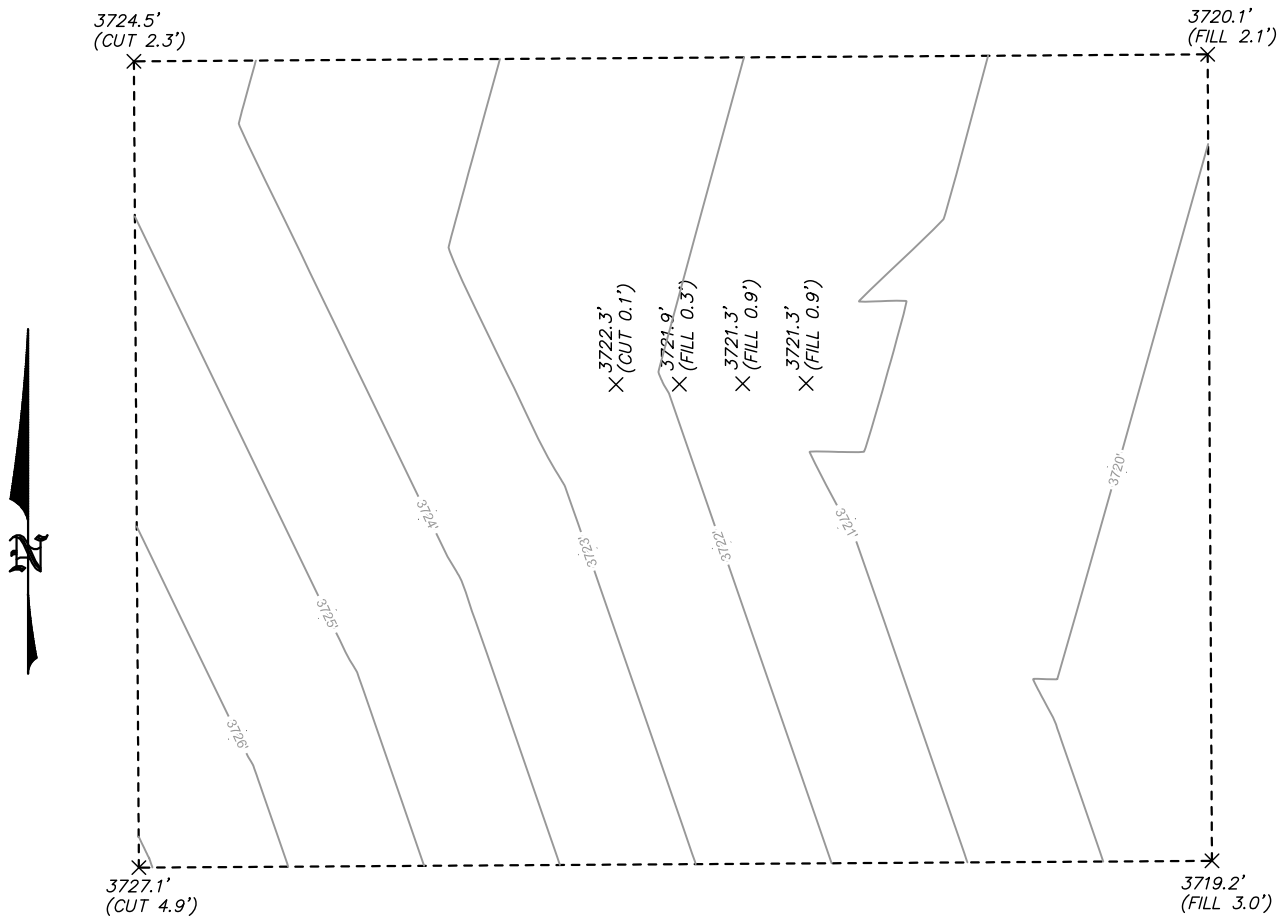
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N.M.P.M., LEA COUNTY, NEW MEXICO.

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LEA COUNTY, NEW MEXICO.**



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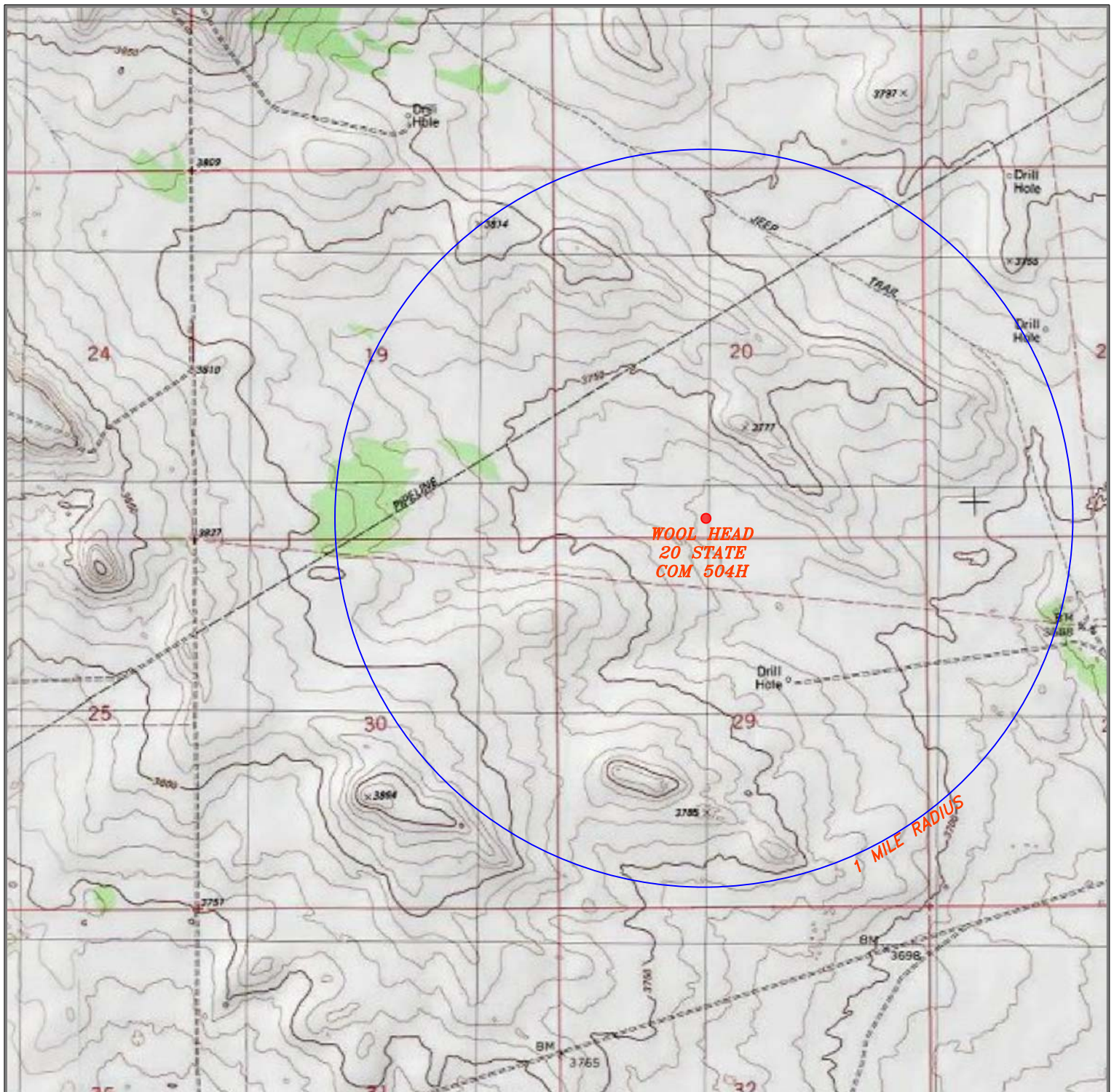
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SCALE: 1" = 100'

**ADVANCE ENERGY PARTNERS HAT MESA**

REF: WOOL HEAD 20 STATE COM WELL PAD / CUT & FILL

THE WOOL HEAD 20 STATE COM WELL PAD LOCATED IN  
SECTION 20, TOWNSHIP 21 SOUTH, RANGE 33 EAST.  
N.M.P.M., LEA COUNTY, NEW MEXICO.





### WOOL HEAD 20 STATE COM 504H

Located 250' FSL and 2079' FWL  
 Section 20, Township 21 South, Range 33 East,  
 N.M.P.M., Lea County, New Mexico.



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0' 1000' 2000' 3000' 4000'  
 SCALE: 1" = 2000'

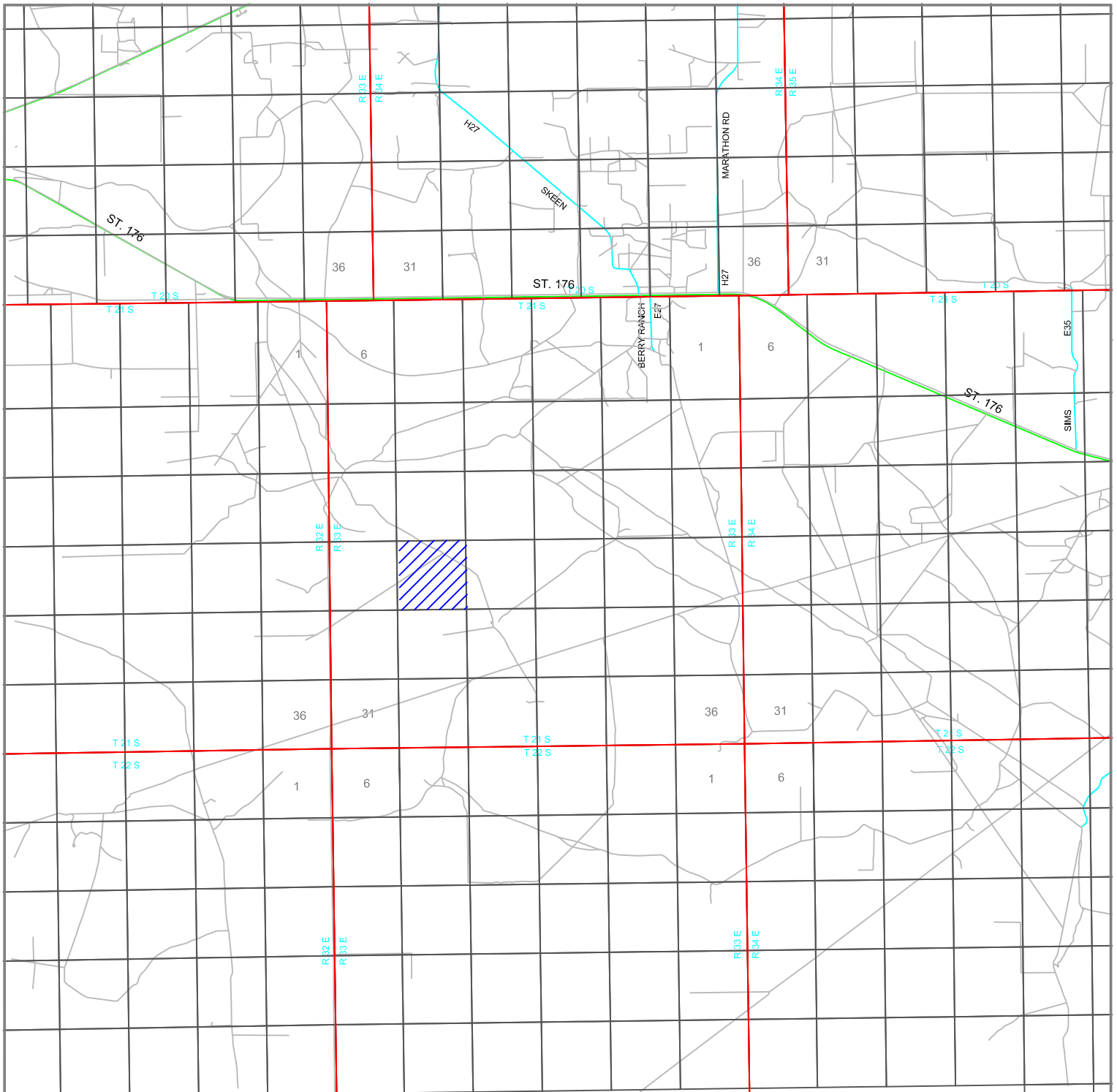
W.O. Number: KJG 35530

Survey Date: 12-06-2021

YELLOW TINT - USA LAND  
 BLUE TINT - STATE LAND  
 NATURAL COLOR - FEE LAND



**ADVANCE  
 ENERGY  
 PARTNERS  
 HAT MESA**



## WOOL HEAD 20 STATE COM 504H

Located 250' FSL and 2079' FWL  
 Section 20, Township 21 South, Range 33 East,  
 N.M.P.M., Lea County, New Mexico.



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0 1 MI 2 MI 3 MI 4 MI

SCALE: 1" = 2 MILES

W.O. Number: KJG 35530

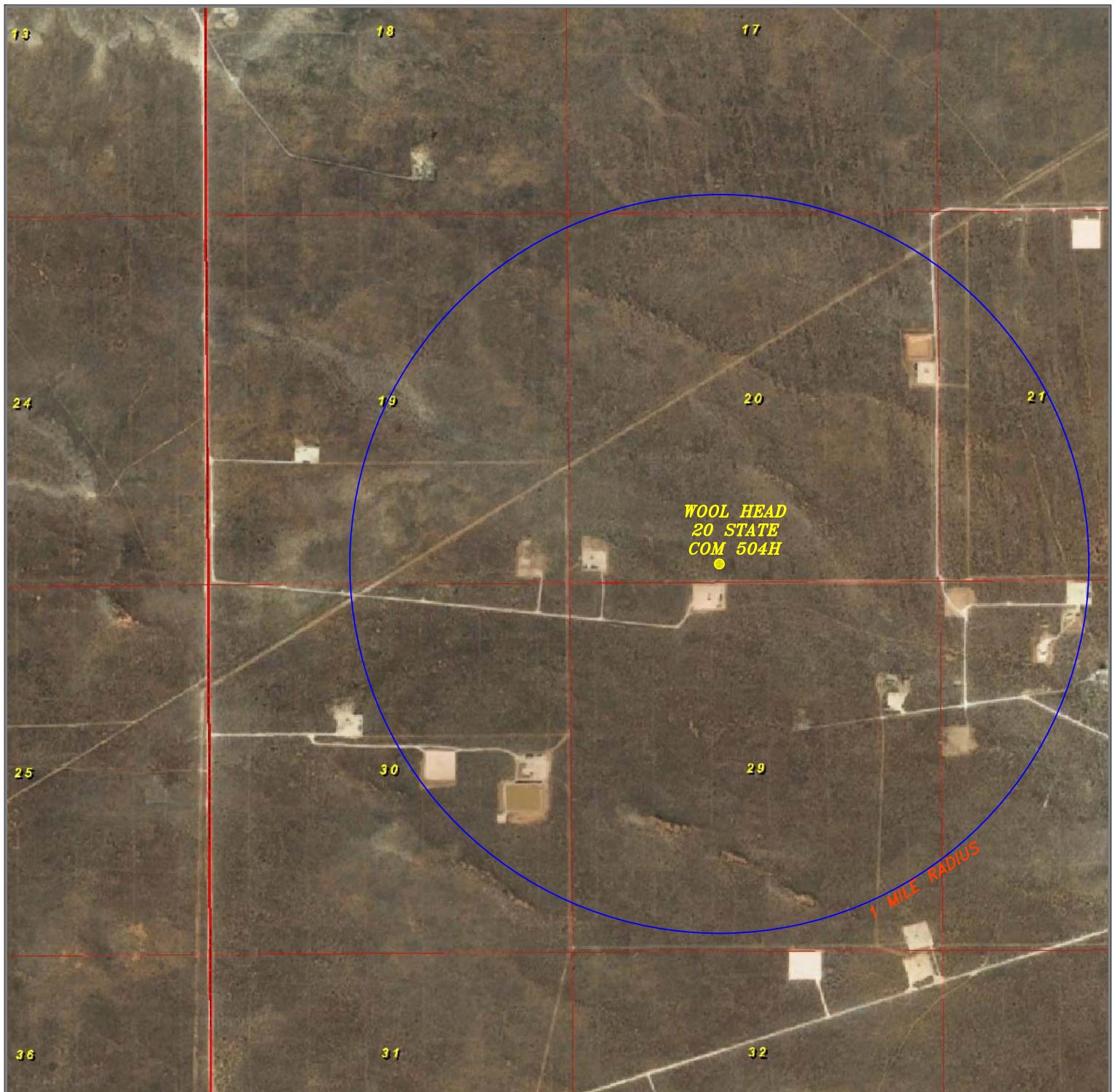
Survey Date: 12-06-2021

YELLOW TINT - USA LAND  
 BLUE TINT - STATE LAND  
 NATURAL COLOR - FEE LAND



**ADVANCE  
 ENERGY  
 PARTNERS  
 HAT MESA**





## WOOL HEAD 20 STATE COM 504H

Located 250' FSL and 2079' FWL  
 Section 20, Township 21 South, Range 33 East,  
 N.M.P.M., Lea County, New Mexico.



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0' 1000' 2000' 3000' 4000'  
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State of New Mexico  
Energy, Minerals and Natural Resources  
Oil Conservation Division  
1220 S. St Francis Dr.  
Santa Fe, NM 87505

Form APD Comments

Permit 304872

PERMIT COMMENTS

Operator Name and Address: ADVANCE ENERGY PARTNERS HAT MESA, LLC [372417] 11490 Westheimer Rd., Ste 950 Houston, TX 77077		API Number: 30-025-49641
		Well: WOOL HEAD 20 STATE COM #504H
Created By	Comment	Comment Date
pkautz	HOLD NGMP INCOMPLETE	12/13/2021

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

Form APD Conditions

Permit 304872

**PERMIT CONDITIONS OF APPROVAL**

Operator Name and Address: ADVANCE ENERGY PARTNERS HAT MESA, LLC [372417] 11490 Westheimer Rd., Ste 950 Houston, TX 77077	API Number: 30-025-49641
	Well: WOOL HEAD 20 STATE COM #504H

OCD Reviewer	Condition
pkautz	Notify OCD 24 hours prior to casing & cement
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104
pkautz	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string
pkautz	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system
pkautz	1) SURFACE & INTERMEDIATE CASING - Cement must circulate to surface -- 2) PRODUCTION CASING - Cement must tie back into intermediate casing --
pkautz	The Operator is to notify NMOCD by sundry (Form C-103) within ten (10) days of the well being spud



11490 Westheimer Road, Suite 950, Houston, Texas 77077 • Phone 832-672-4700 • Fax 832-672-4609

Date: February 17, 2020

Intrepid Potash-New Mexico, LLC  
1996 Potash Mines Road.  
Carlsbad, New Mexico 88220

Attention: Mr. Robert Baldrige

Re: Proposed Well APDs – Wool Head Wells  
State Lands in Section 20, T21S-R33E and  
S/2 Section 17, T21S-R33E  
Lea County, New Mexico

Dear Mr. Baldrige,

This letter is to request waivers from Intrepid Potash-New Mexico, LLC (Intrepid) for the wells Advance Energy Partners Hat Mesa, LLC (Advance) plans to drill, having surface locations in the S/2SW/4 of Sec 20 and bottom-hole locations in the N/2SW/4 of Section 17 in T21S-R33E. The planned wells include, but are not necessarily limited to, the wells listed in the attached Exhibit "A". In the event Advance desires to drill additional wells in the above stated lands, Intrepid agrees to grant waivers for such additional wells.

Please provide your waiver by signing below and returning one signed counterpart of this letter to my attention at Advance. Please feel free to contact me about this request if you have any questions.

Sincerely,

Advance Energy Partners Hat Mesa, LLC

A handwritten signature in black ink, appearing to read "Paul Burdick".

Paul Burdick

Land Advisor

(832) 672-4623

Email: [PBurdick@AdvanceEnergyPartners.com](mailto:PBurdick@AdvanceEnergyPartners.com)

Waiver Granted this \_\_\_\_ day of February, 2020

Intrepid Potash-New Mexico, LLC

By: A handwritten signature in black ink, appearing to read "Robert Baldrige".

Name: ROBERT BALDRIDGE

*Intrepid Potash*  
*February 17, 2020*  
 Page 2

# EXHIBIT A

## WELLS

Well Name	Surface Location	Bottom-hole Location
Wool Head 20 State Com 501H	SW4SW/4 Sec 20-21S-33E	NW/4SW/4 Sec 17-21S-33E
Wool Head 20 State Com 502H	SW4SW/4 Sec 20-21S-33E	NW/4SW/4 Sec 17-21S-33E
Wool Head 20 State Com 503H	SE4SW/4 Sec 20-21S-33E	NE/4SW/4 Sec 17-21S-33E
Wool Head 20 State Com 504H	SE4SW/4 Sec 20-21S-33E	NE/4SW/4 Sec 17-21S-33E
Wool Head 20 State Com 551H	SW4SW/4 Sec 20-21S-33E	NW/4SW/4 Sec 17-21S-33E
Wool Head 20 State Com 552H	SE4SW/4 Sec 20-21S-33E	NE/4SW/4 Sec 17-21S-33E
Wool Head 20 State Com 601H	SW4SW/4 Sec 20-21S-33E	NW/4SW/4 Sec 17-21S-33E
Wool Head 20 State Com 602H	SW4SW/4 Sec 20-21S-33E	NW/4SW/4 Sec 17-21S-33E
Wool Head 20 State Com 603H	SE4SW/4 Sec 20-21S-33E	NE/4SW/4 Sec 17-21S-33E
Wool Head 20 State Com 604H	SE4SW/4 Sec 20-21S-33E	NE/4SW/4 Sec 17-21S-33E
Wool Head 20 State Com 801H	SW4SW/4 Sec 20-21S-33E	NW/4SW/4 Sec 17-21S-33E
Wool Head 20 State Com 802H	SE4SW/4 Sec 20-21S-33E	NE/4SW/4 Sec 17-21S-33E



**Natural Gas Management Plan - Attachment**

- VI. Separation equipment will be sized by construction engineering staff based on stated manufacturer daily throughput capacities and anticipated daily production rates to ensure adequate capacity. Closed vent system piping, compression needs, and VRUs will be sized utilizing ProMax modelling software to ensure adequate capacity for anticipated production volumes and conditions.
- VII. Advance Energy Partners Hat Mesa, LLC (AEP) will take the following actions to comply with the regulations listed in 19.15.27.8:
- A. AEP will maximize the recovery of natural gas by minimizing the waste, as defined by 19.15.2 NMAC, of natural gas through venting and flaring. AEP will ensure that well(s) will be connected to a natural gas gathering system with sufficient capacity to transport natural gas. If there is no adequate takeaway for the gas, well(s) will be shut in until the natural gas gathering system is available.
  - B. All drilling operations will be equipped with a rig flare located at least 100' from the nearest surface hole. Rig flare will be utilized to combust any natural gas that is brought to surface during normal drilling operations. In the case of emergency venting or flaring the volumes will be estimated and reported appropriately.
  - C. During completion operations any natural gas brought to surface will be flared. Immediately following the finish of completion operations, all well flowback will be directed to permanent separation equipment. Produced natural gas from separation equipment will be sent to sales. It is not anticipated that gas will not meet pipeline standards. However, if natural gas does not meet gathering pipeline quality specifications, AEP will flare the natural gas for 60 days or until the natural gas meets the pipeline quality specifications, whichever is sooner. AEP will ensure that the flare is sized properly and is equipped with automatic igniter or continuous pilot. The gas sample will be analyzed twice per week and the gas will be routed into a gathering system as soon as pipeline specifications are met.
  - D. Natural gas will not be flared with the exceptions and provisions listed in the 19.15.27.8 D.(I) through (4). If there is no adequate takeaway for the separator gas, well(s) will be shut in until the natural gas gathering system is available with exception of emergency or malfunction situations. Venting and/or flaring volumes will be estimated and reported appropriately.
  - E. AEP will comply with the performance standards requirements and provisions listed in 19.15.27.8 E.(I) through (8). All equipment will be designed and sized to handle maximum anticipated pressures and throughputs to minimize the waste. Production storage tanks constructed after May 25, 2021, will be equipped with automatic gauging system. Flares constructed after May 25, 2021, will be equipped with automatic igniter or continuous pilot. Flares will be located at least 100' from the well and storage tanks unless otherwise approved by the division. AEP will conduct AVO inspections as described in 19.15.27.8 E (5) (a) with frequencies specified in 19.15.27.8 E (5) (b) and (c). All emergencies will be resolved as quickly and safely as feasible to minimize waste.
  - F. The volume of natural gas that is vented or flared as the result of malfunction or emergency during drilling and completions operations will be estimated. The volume of natural gas that is vented, flared, or beneficially used during production operations, will be measured, or estimated. AEP will install equipment to measure

the volume of natural gas flared from existing process piping, or a flowline piped from equipment such as high-pressure separators, heater treaters, or vapor recovery units associated with a well or facility associated with a well authorized by an APD issued after May 25, 2021, that has an average daily production greater than 60 Mcf/day. If metering is not practicable due to circumstances such as low flow rate or low pressure venting and flaring, AEP will estimate the volume of vented or flared natural gas. Measuring equipment will conform to industry standards and will not be designed or equipped with a manifold that allows the diversion of natural gas around the metering element except for the sole purpose of inspecting and servicing the measurement equipment.

- VIII. For maintenance activities involving production equipment and compression, venting will be limited to the depressurization of the subject equipment to ensure safe working conditions. For maintenance of production and compression equipment the associated producing wells will be shut in to eliminate venting. For maintenance of VRUs all gas normally routed to the VRU will be routed to flare to eliminate venting.

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

Submit Electronically  
Via E-permitting

## NATURAL GAS MANAGEMENT PLAN

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

### Section 1 – Plan Description

Effective May 25, 2021

**I. Operator:** Advance Energy Partners Hat Mesa **OGRID:** 372417 **Date:** 12 /8/21

**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
Wool Head 20 Fed Com 504H		N-20-21S-33E	250 FSL & 2079 FWL	1000	1590	3100

**IV. Central Delivery Point Name:** Wool Head Fed Com Pad C [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
Wool Head 20 Fed Com # 504H		12/14/2021	12/26/2021	01/15/2022	03/01/2022	04/01/2022

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

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

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

**Section 3 - Certifications****Effective May 25, 2021**

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

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

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

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

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

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

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

**Section 4 - Notices**

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

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

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

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



**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.

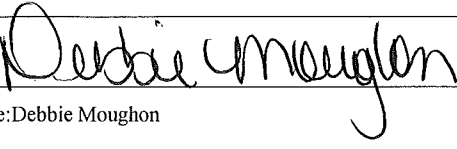
**XII. Line Capacity.** The natural gas gathering system ☐ will ☐ will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

**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.

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

Signature: 
Printed Name: Debbie Moughon
Title: Eng. Tech
E-mail Address: dmoughon@advanceenergypartners.com
Date: 12/8/2021
Phone: 713-447-0744
<p style="text-align: center;"><b>OIL CONSERVATION DIVISION</b> (Only applicable when submitted as a standalone form)</p>
Approved By:
Title:
Approval Date:
Conditions of Approval:



## **Advance Energy Partners**

**Hat Mesa**

**Wool Head 20 State Com Pad C**

**Wool Head 20 State Com 504H**

**Wool Head 20 State Com 504H**

**Wool Head 20 State Com 504H**

## **Anticollision Summary Report**

**08 December, 2021**



## Anticollision Summary Report

<b>Company:</b>	Advance Energy Partners	<b>Local Co-ordinate Reference:</b>	Well Wool Head 20 State Com 504H
<b>Project:</b>	Hat Mesa	<b>TVD Reference:</b>	WELL @ 3754.5usft (Original Well Elev)
<b>Reference Site:</b>	Wool Head 20 State Com Pad C	<b>MD Reference:</b>	WELL @ 3754.5usft (Original Well Elev)
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Wool Head 20 State Com 504H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 usft	<b>Output errors are at</b>	2.79 sigma
<b>Reference Wellbore</b>	Wool Head 20 State Com 504H	<b>Database:</b>	EDM 5000.16 Single User Db
<b>Reference Design:</b>	Wool Head 20 State Com 504H	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Wool Head 20 State Com 504H		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	Stations	<b>Error Model:</b>	ISCWSA
<b>Depth Range:</b>	Unlimited	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum centre distance of 1,000.0usft	<b>Error Surface:</b>	Pedal Curve
<b>Warning Levels Evaluated at:</b>	2.79 Sigma	<b>Casing Method:</b>	Not applied

<b>Survey Tool Program</b>	<b>Date</b>	12/8/2021		
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	18,459.2	Wool Head 20 State Com 504H (Wool Hea	MWD+HRGM	OWSG MWD + HRGM

<b>Summary</b>						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
<b>Offset Well - Wellbore - Design</b>						
Wool Head 20 State Com Pad C						
Wool Head 20 State Com 302H - Wool Head 20 State Co	5,000.0	5,000.0	33.0	6.9	1.263	Level 3, CC, ES, SF
Wool Head 20 State Com 552H - Wool Head 20 State Co	5,000.0	5,000.0	66.0	39.9	2.527	CC, ES, SF
Wool Head 20 State Com 802H - Wool Head 20 State Co	5,200.0	5,200.0	33.0	6.3	1.234	Level 3, CC, ES, SF
Wool Head 20 State Com Pad D						
Crockett State #02 - Crockett State #02 - Crockett State	13,500.0	14,364.1	920.4	824.4	9.587	SF
Crockett State #02 - Crockett State #02 - Crockett State	13,718.6	14,363.0	894.0	801.1	9.625	CC, ES
Wool Head 20 State Com #03 - Wool Head 20 State Com						Out of range
Wool Head 20 State Com 301H - Wool Head 20 State Co						Out of range
Wool Head 20 State Com 501H - Wool Head 20 State Co						Out of range
Wool Head 20 State Com 503H - Wool Head 20 State Co	10,282.2	10,505.8	688.5	605.7	8.315	CC, ES
Wool Head 20 State Com 503H - Wool Head 20 State Co	18,459.2	17,973.6	972.3	729.9	4.011	SF



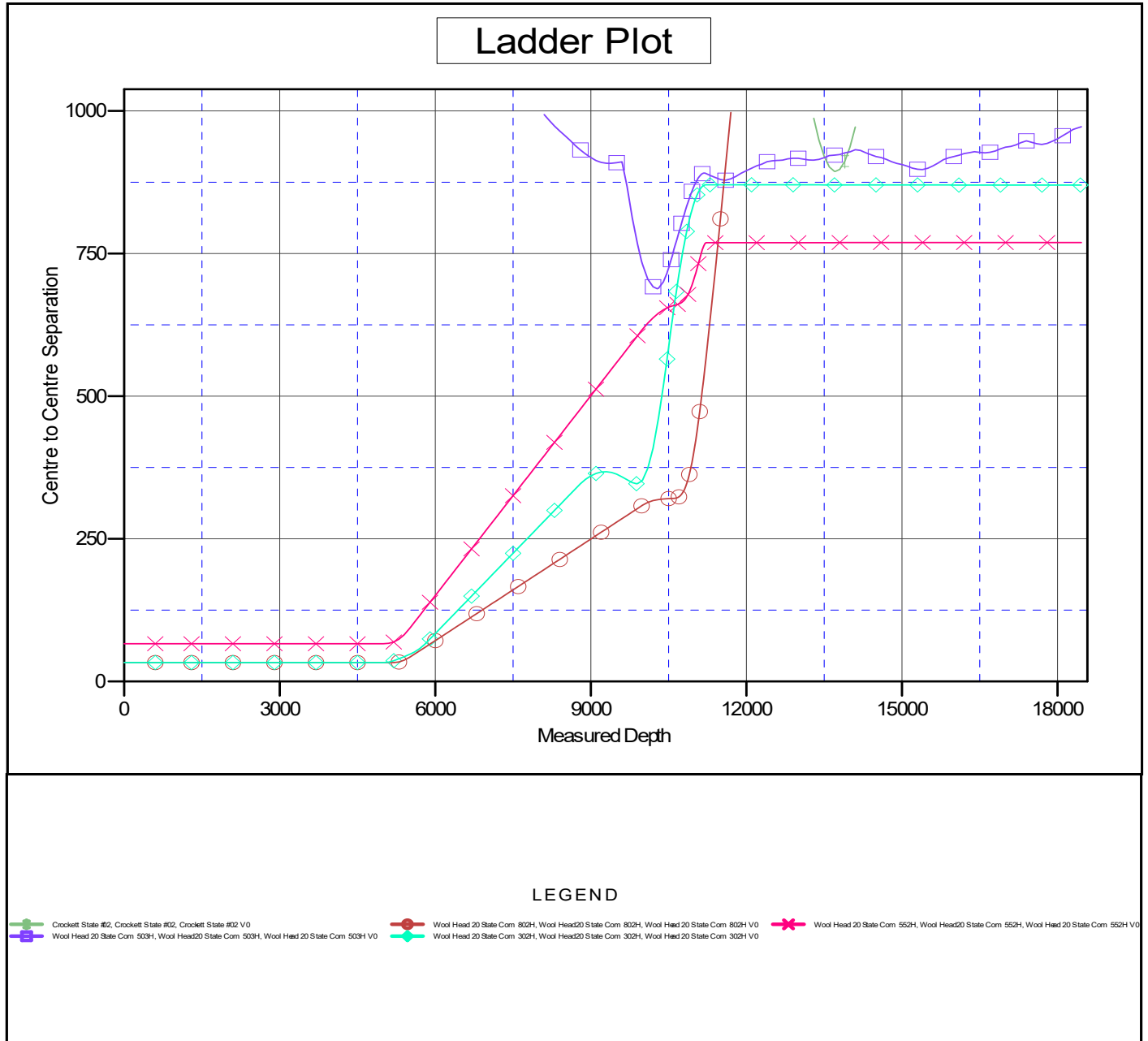


## Anticollision Summary Report

<b>Company:</b>	Advance Energy Partners	<b>Local Co-ordinate Reference:</b>	Well Wool Head 20 State Com 504H
<b>Project:</b>	Hat Mesa	<b>TVD Reference:</b>	WELL @ 3754.5usft (Original Well Elev)
<b>Reference Site:</b>	Wool Head 20 State Com Pad C	<b>MD Reference:</b>	WELL @ 3754.5usft (Original Well Elev)
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Wool Head 20 State Com 504H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 usft	<b>Output errors are at</b>	2.79 sigma
<b>Reference Wellbore</b>	Wool Head 20 State Com 504H	<b>Database:</b>	EDM 5000.16 Single User Db
<b>Reference Design:</b>	Wool Head 20 State Com 504H	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 3754.5usft (Original Well Ele)  
 Offset Depths are relative to Offset Datum  
 Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: Wool Head 20 State Com 504H  
 Coordinate System is US State Plane 1983, New Mexico Eastern Zone  
 Grid Convergence at Surface is: 0.40°



CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



## Anticollision Summary Report

<b>Company:</b>	Advance Energy Partners	<b>Local Co-ordinate Reference:</b>	Well Wool Head 20 State Com 504H
<b>Project:</b>	Hat Mesa	<b>TVD Reference:</b>	WELL @ 3754.5usft (Original Well Elev)
<b>Reference Site:</b>	Wool Head 20 State Com Pad C	<b>MD Reference:</b>	WELL @ 3754.5usft (Original Well Elev)
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Wool Head 20 State Com 504H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 usft	<b>Output errors are at</b>	2.79 sigma
<b>Reference Wellbore</b>	Wool Head 20 State Com 504H	<b>Database:</b>	EDM 5000.16 Single User Db
<b>Reference Design:</b>	Wool Head 20 State Com 504H	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 3754.5usft (Original Well Ele

Offset Depths are relative to Offset Datum

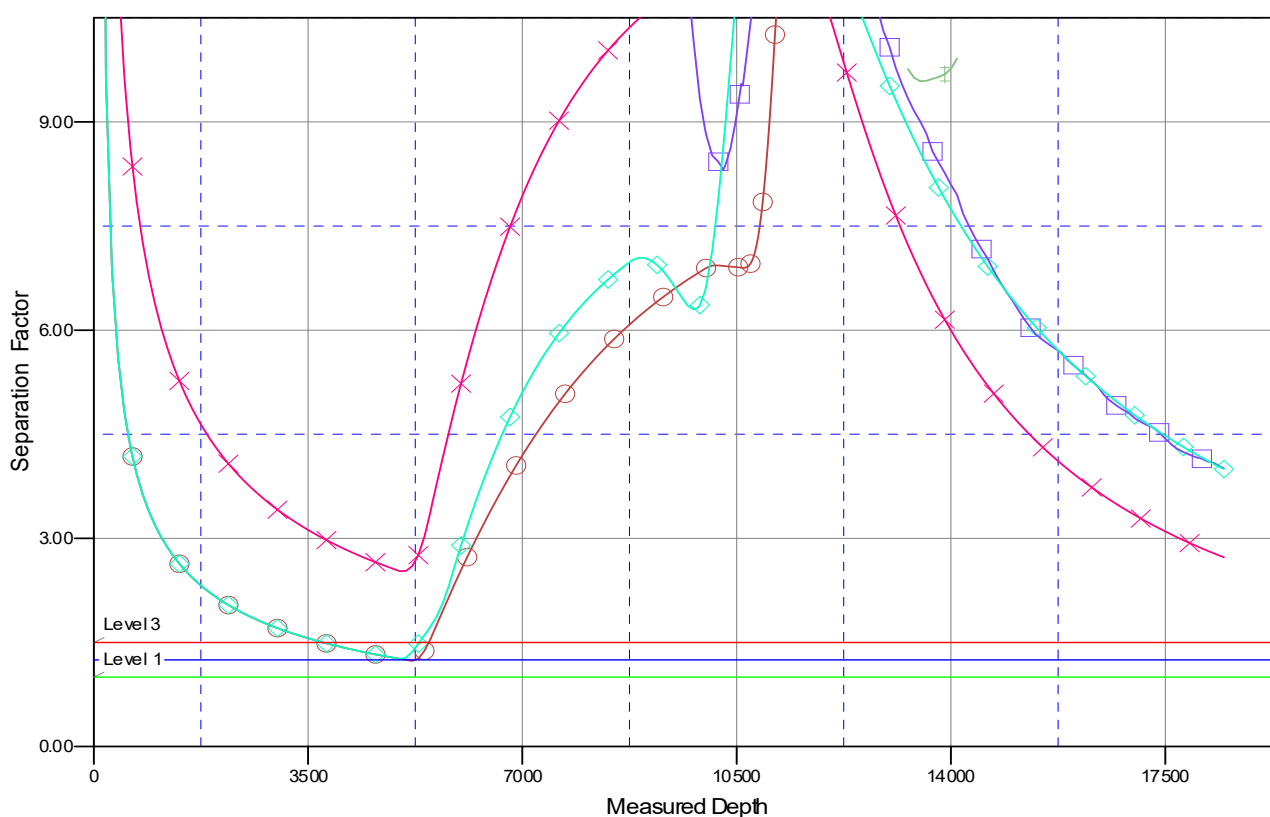
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: Wool Head 20 State Com 504H

Coordinate System is US State Plane 1983, New Mexico Eastern Zone

Grid Convergence at Surface is: 0.40°

## Separation Factor Plot



## LEGEND

—●— Crockett State #02, Crockett State #02, Crockett State #02 V0    
 —●— Wool Head 20 State Com 802H, Wool Head 20 State Com 802H, Wool Head 20 State Com 802H V0    
 —x— Wool Head 20 State Com 502H, Wool Head 20 State Com 502H, Wool Head 20 State Com 502H V0  
—■— Wool Head 20 State Com 503H, Wool Head 20 State Com 503H, Wool Head 20 State Com 503H V0    
 —■— Wool Head 20 State Com 302H, Wool Head 20 State Com 302H, Wool Head 20 State Com 302H V0



## **Advance Energy Partners**

**Hat Mesa**

**Wool Head 20 State Com Pad C**

**Wool Head 20 State Com 504H**

**Wool Head 20 State Com 504H**

**Plan: Wool Head 20 State Com 504H**

## **Standard Planning Report**

**08 December, 2021**



## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Wool Head 20 State Com 504H
<b>Company:</b>	Advance Energy Partners	<b>TVD Reference:</b>	WELL @ 3754.5usft (Original Well Elev)
<b>Project:</b>	Hat Mesa	<b>MD Reference:</b>	WELL @ 3754.5usft (Original Well Elev)
<b>Site:</b>	Wool Head 20 State Com Pad C	<b>North Reference:</b>	Grid
<b>Well:</b>	Wool Head 20 State Com 504H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wool Head 20 State Com 504H		
<b>Design:</b>	Wool Head 20 State Com 504H		

<b>Project</b>	Hat Mesa, Lea County, NM		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	New Mexico Eastern Zone		

Site	Wool Head 20 State Com Pad C				
Site Position:		Northing:	531,069.15 usft	Latitude:	32° 27' 28.138 N
From:	Lat/Long	Easting:	768,670.11 usft	Longitude:	103° 35' 46.669 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "		

Well	Wool Head 20 State Com 504H					
Well Position	+N/-S	0.0 usft	Northing:	531,068.92 usft	Latitude:	32° 27' 28.138 N
	+E/-W	0.0 usft	Easting:	768,637.10 usft	Longitude:	103° 35' 47.054 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,722.0 usft
Grid Convergence:	0.40 °					

<b>Wellbore</b>	Wool Head 20 State Com 504H				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	12/8/2021	6.49	60.21	47,610.29627960

<b>Design</b>	Wool Head 20 State Com 504H			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	1.27

<b>Plan Survey Tool Program</b>	<b>Date</b>	12/8/2021		
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.0	18,459.2 Wool Head 20 State Com 504H (	MWD+HRGM	
			OWSG MWD + HRGM	

<b>Plan Sections</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	<b>TFO (°)</b>	<b>Target</b>
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.00	0.00	0.00	0.00	
5,527.1	3.27	122.12	5,526.9	-5.0	7.9	1.00	1.00	0.00	122.12	
9,980.6	3.27	122.12	9,973.1	-140.0	223.1	0.00	0.00	0.00	0.00	
10,307.6	0.00	0.00	10,300.0	-145.0	231.0	1.00	-1.00	0.00	180.00	
10,470.1	0.00	0.00	10,462.5	-145.0	231.0	0.00	0.00	0.00	0.00	
11,220.1	90.00	359.53	10,940.0	332.4	227.1	12.00	12.00	0.00	359.53	
18,459.2	90.00	359.53	10,940.0	7,571.3	167.9	0.00	0.00	0.00	0.00	Wool Head 20 State C



## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Wool Head 20 State Com 504H
<b>Company:</b>	Advance Energy Partners	<b>TVD Reference:</b>	WELL @ 3754.5usft (Original Well Elev)
<b>Project:</b>	Hat Mesa	<b>MD Reference:</b>	WELL @ 3754.5usft (Original Well Elev)
<b>Site:</b>	Wool Head 20 State Com Pad C	<b>North Reference:</b>	Grid
<b>Well:</b>	Wool Head 20 State Com 504H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wool Head 20 State Com 504H		
<b>Design:</b>	Wool Head 20 State Com 504H		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP - Start Build 1.00									





## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Wool Head 20 State Com 504H
<b>Company:</b>	Advance Energy Partners	<b>TVD Reference:</b>	WELL @ 3754.5usft (Original Well Elev)
<b>Project:</b>	Hat Mesa	<b>MD Reference:</b>	WELL @ 3754.5usft (Original Well Elev)
<b>Site:</b>	Wool Head 20 State Com Pad C	<b>North Reference:</b>	Grid
<b>Well:</b>	Wool Head 20 State Com 504H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wool Head 20 State Com 504H		
<b>Design:</b>	Wool Head 20 State Com 504H		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,300.0	1.00	122.12	5,300.0	-0.5	0.7	-0.4	1.00	1.00	0.00
5,400.0	2.00	122.12	5,400.0	-1.9	3.0	-1.8	1.00	1.00	0.00
5,500.0	3.00	122.12	5,499.9	-4.2	6.7	-4.0	1.00	1.00	0.00
5,527.1	3.27	122.12	5,526.9	-5.0	7.9	-4.8	1.00	1.00	0.00
Start 4453.5 hold at 5527.1 MD									
5,600.0	3.27	122.12	5,599.7	-7.2	11.4	-6.9	0.00	0.00	0.00
5,700.0	3.27	122.12	5,699.5	-10.2	16.3	-9.8	0.00	0.00	0.00
5,800.0	3.27	122.12	5,799.4	-13.2	21.1	-12.8	0.00	0.00	0.00
5,900.0	3.27	122.12	5,899.2	-16.3	25.9	-15.7	0.00	0.00	0.00
6,000.0	3.27	122.12	5,999.1	-19.3	30.8	-18.6	0.00	0.00	0.00
6,100.0	3.27	122.12	6,098.9	-22.3	35.6	-21.5	0.00	0.00	0.00
6,200.0	3.27	122.12	6,198.7	-25.4	40.4	-24.5	0.00	0.00	0.00
6,300.0	3.27	122.12	6,298.6	-28.4	45.3	-27.4	0.00	0.00	0.00
6,400.0	3.27	122.12	6,398.4	-31.4	50.1	-30.3	0.00	0.00	0.00
6,500.0	3.27	122.12	6,498.2	-34.5	54.9	-33.2	0.00	0.00	0.00
6,600.0	3.27	122.12	6,598.1	-37.5	59.7	-36.2	0.00	0.00	0.00
6,700.0	3.27	122.12	6,697.9	-40.5	64.6	-39.1	0.00	0.00	0.00
6,800.0	3.27	122.12	6,797.7	-43.6	69.4	-42.0	0.00	0.00	0.00
6,900.0	3.27	122.12	6,897.6	-46.6	74.2	-44.9	0.00	0.00	0.00
7,000.0	3.27	122.12	6,997.4	-49.6	79.1	-47.9	0.00	0.00	0.00
7,100.0	3.27	122.12	7,097.3	-52.7	83.9	-50.8	0.00	0.00	0.00
7,200.0	3.27	122.12	7,197.1	-55.7	88.7	-53.7	0.00	0.00	0.00
7,300.0	3.27	122.12	7,296.9	-58.7	93.6	-56.6	0.00	0.00	0.00
7,400.0	3.27	122.12	7,396.8	-61.8	98.4	-59.6	0.00	0.00	0.00
7,500.0	3.27	122.12	7,496.6	-64.8	103.2	-62.5	0.00	0.00	0.00
7,600.0	3.27	122.12	7,596.4	-67.8	108.1	-65.4	0.00	0.00	0.00
7,700.0	3.27	122.12	7,696.3	-70.9	112.9	-68.3	0.00	0.00	0.00
7,800.0	3.27	122.12	7,796.1	-73.9	117.7	-71.3	0.00	0.00	0.00
7,900.0	3.27	122.12	7,896.0	-76.9	122.6	-74.2	0.00	0.00	0.00
8,000.0	3.27	122.12	7,995.8	-80.0	127.4	-77.1	0.00	0.00	0.00
8,100.0	3.27	122.12	8,095.6	-83.0	132.2	-80.0	0.00	0.00	0.00
8,200.0	3.27	122.12	8,195.5	-86.0	137.1	-83.0	0.00	0.00	0.00
8,300.0	3.27	122.12	8,295.3	-89.1	141.9	-85.9	0.00	0.00	0.00
8,400.0	3.27	122.12	8,395.1	-92.1	146.7	-88.8	0.00	0.00	0.00
8,500.0	3.27	122.12	8,495.0	-95.1	151.6	-91.7	0.00	0.00	0.00
8,600.0	3.27	122.12	8,594.8	-98.2	156.4	-94.7	0.00	0.00	0.00
8,700.0	3.27	122.12	8,694.7	-101.2	161.2	-97.6	0.00	0.00	0.00
8,800.0	3.27	122.12	8,794.5	-104.2	166.1	-100.5	0.00	0.00	0.00
8,900.0	3.27	122.12	8,894.3	-107.3	170.9	-103.4	0.00	0.00	0.00
9,000.0	3.27	122.12	8,994.2	-110.3	175.7	-106.4	0.00	0.00	0.00
9,100.0	3.27	122.12	9,094.0	-113.3	180.5	-109.3	0.00	0.00	0.00
9,200.0	3.27	122.12	9,193.8	-116.4	185.4	-112.2	0.00	0.00	0.00
9,300.0	3.27	122.12	9,293.7	-119.4	190.2	-115.2	0.00	0.00	0.00
9,400.0	3.27	122.12	9,393.5	-122.4	195.0	-118.1	0.00	0.00	0.00
9,500.0	3.27	122.12	9,493.4	-125.5	199.9	-121.0	0.00	0.00	0.00
9,600.0	3.27	122.12	9,593.2	-128.5	204.7	-123.9	0.00	0.00	0.00
9,700.0	3.27	122.12	9,693.0	-131.5	209.5	-126.9	0.00	0.00	0.00
9,800.0	3.27	122.12	9,792.9	-134.6	214.4	-129.8	0.00	0.00	0.00
9,900.0	3.27	122.12	9,892.7	-137.6	219.2	-132.7	0.00	0.00	0.00
9,980.6	3.27	122.12	9,973.1	-140.0	223.1	-135.1	0.00	0.00	0.00
Start Drop -1.00									
10,000.0	3.08	122.12	9,992.5	-140.6	224.0	-135.6	1.00	-1.00	0.00
10,100.0	2.08	122.12	10,092.4	-143.0	227.8	-137.9	1.00	-1.00	0.00
10,200.0	1.08	122.12	10,192.4	-144.5	230.1	-139.3	1.00	-1.00	0.00



## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Wool Head 20 State Com 504H
<b>Company:</b>	Advance Energy Partners	<b>TVD Reference:</b>	WELL @ 3754.5usft (Original Well Elev)
<b>Project:</b>	Hat Mesa	<b>MD Reference:</b>	WELL @ 3754.5usft (Original Well Elev)
<b>Site:</b>	Wool Head 20 State Com Pad C	<b>North Reference:</b>	Grid
<b>Well:</b>	Wool Head 20 State Com 504H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wool Head 20 State Com 504H		
<b>Design:</b>	Wool Head 20 State Com 504H		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,300.0	0.08	122.12	10,292.4	-145.0	231.0	-139.8	1.00	-1.00	0.00
10,307.6	0.00	0.00	10,300.0	-145.0	231.0	-139.8	1.00	-1.00	0.00
<b>Start 162.5 hold at 10307.6 MD</b>									
10,400.0	0.00	0.00	10,392.4	-145.0	231.0	-139.8	0.00	0.00	0.00
10,470.1	0.00	0.00	10,462.5	-145.0	231.0	-139.8	0.00	0.00	0.00
<b>KOP #2 - Start Build 12.00</b>									
10,500.0	3.58	359.53	10,492.4	-144.1	231.0	-138.9	12.00	12.00	0.00
10,600.0	15.58	359.53	10,590.8	-127.5	230.9	-122.3	12.00	12.00	0.00
10,700.0	27.58	359.53	10,683.6	-90.7	230.6	-85.6	12.00	12.00	0.00
10,800.0	39.58	359.53	10,766.8	-35.5	230.1	-30.4	12.00	12.00	0.00
10,900.0	51.58	359.53	10,836.6	35.8	229.5	40.9	12.00	12.00	0.00
11,000.0	63.58	359.53	10,890.1	120.0	228.8	125.1	12.00	12.00	0.00
11,100.0	75.58	359.53	10,925.0	213.6	228.1	218.6	12.00	12.00	0.00
11,200.0	87.58	359.53	10,939.6	312.3	227.3	317.3	12.00	12.00	0.00
11,220.1	90.00	359.53	10,940.0	332.4	227.1	337.4	12.00	12.00	0.00
<b>LP - Start 7239.1 hold at 11220.1 MD</b>									
11,300.0	90.00	359.53	10,940.0	412.3	226.4	417.2	0.00	0.00	0.00
11,400.0	90.00	359.53	10,940.0	512.3	225.6	517.2	0.00	0.00	0.00
11,500.0	90.00	359.53	10,940.0	612.3	224.8	617.1	0.00	0.00	0.00
11,600.0	90.00	359.53	10,940.0	712.3	224.0	717.1	0.00	0.00	0.00
11,700.0	90.00	359.53	10,940.0	812.3	223.2	817.0	0.00	0.00	0.00
11,800.0	90.00	359.53	10,940.0	912.3	222.4	917.0	0.00	0.00	0.00
11,900.0	90.00	359.53	10,940.0	1,012.3	221.5	1,016.9	0.00	0.00	0.00
12,000.0	90.00	359.53	10,940.0	1,112.3	220.7	1,116.9	0.00	0.00	0.00
12,100.0	90.00	359.53	10,940.0	1,212.3	219.9	1,216.9	0.00	0.00	0.00
12,200.0	90.00	359.53	10,940.0	1,312.3	219.1	1,316.8	0.00	0.00	0.00
12,300.0	90.00	359.53	10,940.0	1,412.3	218.3	1,416.8	0.00	0.00	0.00
12,400.0	90.00	359.53	10,940.0	1,512.3	217.5	1,516.7	0.00	0.00	0.00
12,500.0	90.00	359.53	10,940.0	1,612.3	216.6	1,616.7	0.00	0.00	0.00
12,600.0	90.00	359.53	10,940.0	1,712.3	215.8	1,716.6	0.00	0.00	0.00
12,700.0	90.00	359.53	10,940.0	1,812.3	215.0	1,816.6	0.00	0.00	0.00
12,800.0	90.00	359.53	10,940.0	1,912.3	214.2	1,916.5	0.00	0.00	0.00
12,900.0	90.00	359.53	10,940.0	2,012.2	213.4	2,016.5	0.00	0.00	0.00
13,000.0	90.00	359.53	10,940.0	2,112.2	212.5	2,116.4	0.00	0.00	0.00
13,100.0	90.00	359.53	10,940.0	2,212.2	211.7	2,216.4	0.00	0.00	0.00
13,200.0	90.00	359.53	10,940.0	2,312.2	210.9	2,316.3	0.00	0.00	0.00
13,300.0	90.00	359.53	10,940.0	2,412.2	210.1	2,416.3	0.00	0.00	0.00
13,400.0	90.00	359.53	10,940.0	2,512.2	209.3	2,516.3	0.00	0.00	0.00
13,500.0	90.00	359.53	10,940.0	2,612.2	208.5	2,616.2	0.00	0.00	0.00
13,600.0	90.00	359.53	10,940.0	2,712.2	207.6	2,716.2	0.00	0.00	0.00
13,700.0	90.00	359.53	10,940.0	2,812.2	206.8	2,816.1	0.00	0.00	0.00
13,800.0	90.00	359.53	10,940.0	2,912.2	206.0	2,916.1	0.00	0.00	0.00
13,900.0	90.00	359.53	10,940.0	3,012.2	205.2	3,016.0	0.00	0.00	0.00
14,000.0	90.00	359.53	10,940.0	3,112.2	204.4	3,116.0	0.00	0.00	0.00
14,100.0	90.00	359.53	10,940.0	3,212.2	203.6	3,215.9	0.00	0.00	0.00
14,200.0	90.00	359.53	10,940.0	3,312.2	202.7	3,315.9	0.00	0.00	0.00
14,300.0	90.00	359.53	10,940.0	3,412.2	201.9	3,415.8	0.00	0.00	0.00
14,400.0	90.00	359.53	10,940.0	3,512.2	201.1	3,515.8	0.00	0.00	0.00
14,500.0	90.00	359.53	10,940.0	3,612.2	200.3	3,615.7	0.00	0.00	0.00
14,600.0	90.00	359.53	10,940.0	3,712.2	199.5	3,715.7	0.00	0.00	0.00
14,700.0	90.00	359.53	10,940.0	3,812.2	198.6	3,815.7	0.00	0.00	0.00
14,800.0	90.00	359.53	10,940.0	3,912.2	197.8	3,915.6	0.00	0.00	0.00
14,900.0	90.00	359.53	10,940.0	4,012.2	197.0	4,015.6	0.00	0.00	0.00



## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Wool Head 20 State Com 504H
<b>Company:</b>	Advance Energy Partners	<b>TVD Reference:</b>	WELL @ 3754.5usft (Original Well Elev)
<b>Project:</b>	Hat Mesa	<b>MD Reference:</b>	WELL @ 3754.5usft (Original Well Elev)
<b>Site:</b>	Wool Head 20 State Com Pad C	<b>North Reference:</b>	Grid
<b>Well:</b>	Wool Head 20 State Com 504H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wool Head 20 State Com 504H		
<b>Design:</b>	Wool Head 20 State Com 504H		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
15,000.0	90.00	359.53	10,940.0	4,112.2	196.2	4,115.5	0.00	0.00	0.00	
15,100.0	90.00	359.53	10,940.0	4,212.2	195.4	4,215.5	0.00	0.00	0.00	
15,200.0	90.00	359.53	10,940.0	4,312.2	194.6	4,315.4	0.00	0.00	0.00	
15,300.0	90.00	359.53	10,940.0	4,412.2	193.7	4,415.4	0.00	0.00	0.00	
15,400.0	90.00	359.53	10,940.0	4,512.2	192.9	4,515.3	0.00	0.00	0.00	
15,500.0	90.00	359.53	10,940.0	4,612.2	192.1	4,615.3	0.00	0.00	0.00	
15,600.0	90.00	359.53	10,940.0	4,712.2	191.3	4,715.2	0.00	0.00	0.00	
15,700.0	90.00	359.53	10,940.0	4,812.2	190.5	4,815.2	0.00	0.00	0.00	
15,800.0	90.00	359.53	10,940.0	4,912.2	189.7	4,915.1	0.00	0.00	0.00	
15,900.0	90.00	359.53	10,940.0	5,012.1	188.8	5,015.1	0.00	0.00	0.00	
16,000.0	90.00	359.53	10,940.0	5,112.1	188.0	5,115.1	0.00	0.00	0.00	
16,100.0	90.00	359.53	10,940.0	5,212.1	187.2	5,215.0	0.00	0.00	0.00	
16,200.0	90.00	359.53	10,940.0	5,312.1	186.4	5,315.0	0.00	0.00	0.00	
16,300.0	90.00	359.53	10,940.0	5,412.1	185.6	5,414.9	0.00	0.00	0.00	
16,400.0	90.00	359.53	10,940.0	5,512.1	184.7	5,514.9	0.00	0.00	0.00	
16,500.0	90.00	359.53	10,940.0	5,612.1	183.9	5,614.8	0.00	0.00	0.00	
16,600.0	90.00	359.53	10,940.0	5,712.1	183.1	5,714.8	0.00	0.00	0.00	
16,700.0	90.00	359.53	10,940.0	5,812.1	182.3	5,814.7	0.00	0.00	0.00	
16,800.0	90.00	359.53	10,940.0	5,912.1	181.5	5,914.7	0.00	0.00	0.00	
16,900.0	90.00	359.53	10,940.0	6,012.1	180.7	6,014.6	0.00	0.00	0.00	
17,000.0	90.00	359.53	10,940.0	6,112.1	179.8	6,114.6	0.00	0.00	0.00	
17,100.0	90.00	359.53	10,940.0	6,212.1	179.0	6,214.6	0.00	0.00	0.00	
17,200.0	90.00	359.53	10,940.0	6,312.1	178.2	6,314.5	0.00	0.00	0.00	
17,300.0	90.00	359.53	10,940.0	6,412.1	177.4	6,414.5	0.00	0.00	0.00	
17,400.0	90.00	359.53	10,940.0	6,512.1	176.6	6,514.4	0.00	0.00	0.00	
17,500.0	90.00	359.53	10,940.0	6,612.1	175.8	6,614.4	0.00	0.00	0.00	
17,600.0	90.00	359.53	10,940.0	6,712.1	174.9	6,714.3	0.00	0.00	0.00	
17,700.0	90.00	359.53	10,940.0	6,812.1	174.1	6,814.3	0.00	0.00	0.00	
17,800.0	90.00	359.53	10,940.0	6,912.1	173.3	6,914.2	0.00	0.00	0.00	
17,900.0	90.00	359.53	10,940.0	7,012.1	172.5	7,014.2	0.00	0.00	0.00	
18,000.0	90.00	359.53	10,940.0	7,112.1	171.7	7,114.1	0.00	0.00	0.00	
18,100.0	90.00	359.53	10,940.0	7,212.1	170.8	7,214.1	0.00	0.00	0.00	
18,200.0	90.00	359.53	10,940.0	7,312.1	170.0	7,314.0	0.00	0.00	0.00	
18,300.0	90.00	359.53	10,940.0	7,412.1	169.2	7,414.0	0.00	0.00	0.00	
18,400.0	90.00	359.53	10,940.0	7,512.1	168.4	7,514.0	0.00	0.00	0.00	
18,459.2	90.00	359.53	10,940.0	7,571.3	167.9	7,573.1	0.00	0.00	0.00	
TD at 18459.2 - Wool Head 20 State Com 504H BHL										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude		Longitude
- hit/miss target										
- Shape										
Wool Head 20 State Cor	0.00	0.00	10,940.0	7,571.3	167.9	538,640.19	768,805.01	32° 28' 43.043 N		103° 35' 44.484 W
- plan hits target center										
- Point										



## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Wool Head 20 State Com 504H
<b>Company:</b>	Advance Energy Partners	<b>TVD Reference:</b>	WELL @ 3754.5usft (Original Well Elev)
<b>Project:</b>	Hat Mesa	<b>MD Reference:</b>	WELL @ 3754.5usft (Original Well Elev)
<b>Site:</b>	Wool Head 20 State Com Pad C	<b>North Reference:</b>	Grid
<b>Well:</b>	Wool Head 20 State Com 504H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wool Head 20 State Com 504H		
<b>Design:</b>	Wool Head 20 State Com 504H		

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
11,220.1	10,940.0	LP	5-1/2	5-1/2	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
5,200.0	5,200.0	0.0	0.0	KOP - Start Build 1.00	
5,527.1	5,526.9	-5.0	7.9	Start 4453.5 hold at 5527.1 MD	
9,980.6	9,973.1	-140.0	223.1	Start Drop -1.00	
10,307.6	10,300.0	-145.0	231.0	Start 162.5 hold at 10307.6 MD	
10,470.1	10,462.5	-145.0	231.0	KOP #2 - Start Build 12.00	
11,220.1	10,940.0	332.4	227.1	LP - Start 7239.1 hold at 11220.1 MD	
18,459.2	10,940.0	7,571.3	167.9	TD at 18459.2	

**WELL DETAILS: Wool Head 20 State Com 504H**

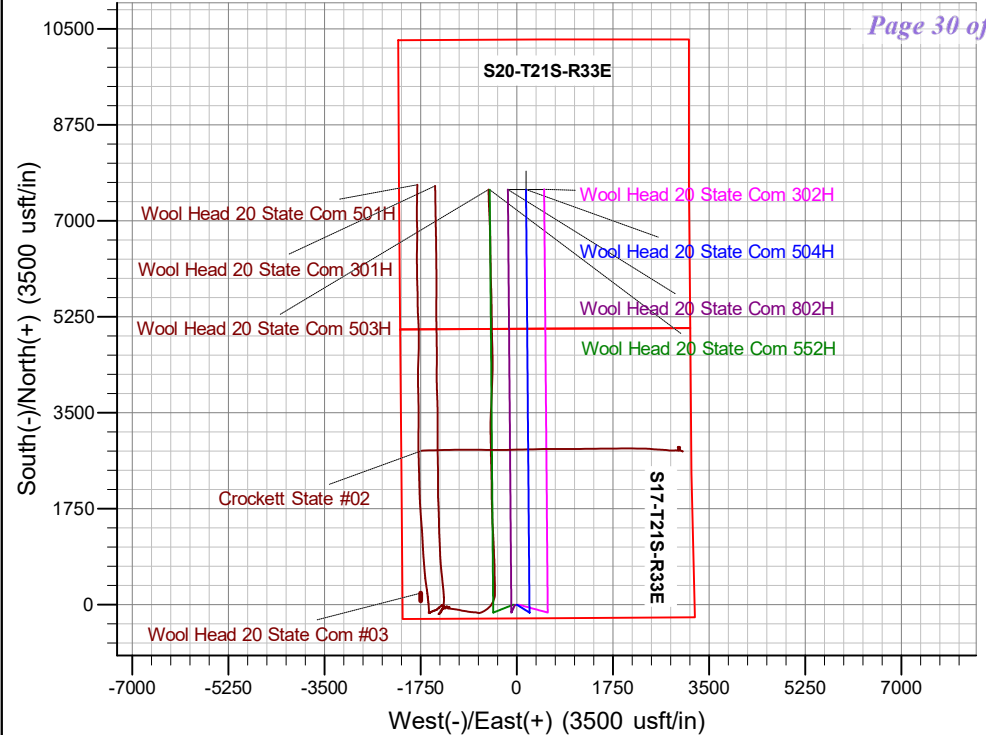
Ground Elev: 3722.0 KB: 3754.5

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	531068.92	768637.11	32° 27' 28.138 N	103° 35' 47.054 W

**PROJECT DETAILS: Hat Mesa**

Geodetic System: US State Plane 1983  
 Datum: North American Datum 1983  
 Ellipsoid: GRS 1980  
 Zone: New Mexico Eastern Zone

System Datum: Mean Sea Level

**SECTION DETAILS**

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Annotation
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	5200.0	0.00	0.00	5200.0	0.0	0.0	0.00	0.00	0.0	KOP - Start Build 1.00
3	5527.1	3.27	122.12	5526.9	-5.0	7.9	1.00	122.12	-4.8	Start 4453.5 hold at 5527.1 MD
4	9980.6	3.27	122.12	9973.1	-140.0	223.1	0.00	0.00	-135.1	Start Drop -1.00
5	10307.6	0.00	0.00	10300.0	-145.0	231.0	1.00	180.00	-139.8	Start 162.5 hold at 10307.6 MD
6	10470.1	0.00	0.00	10462.5	-145.0	231.0	0.00	0.00	-139.8	KOP #2 - Start Build 12.00
7	11220.1	90.00	359.53	10940.0	332.4	227.1	12.00	359.53	337.4	LP - Start 7239.1 hold at 11220.1 MD
8	18459.2	90.00	359.53	10940.0	7571.3	167.9	0.00	0.00	7573.1	TD at 18459.2



Azimuths to Grid North  
 True North: -0.40°  
 Magnetic North: 6.10°

Magnetic Field  
 Strength: 47610.3nT  
 Dip Angle: 60.21°  
 Date: 12/8/2021  
 Model: IGRF2015

