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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 C-101
August 1, 2011

Permit 274312

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

1. Operator Name and Address	2. OGRID Number
ADVANCE ENERGY PARTNERS HAT MESA, LLC 11490 Westheimer Rd., Ste 950 Houston, TX 77077	372417
	3. API Number 30-025-46490

4. Property Code	5. Property Name	6. Well No.
325948	WOOL HEAD 20 STATE COM	510H

7. Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
P	20	21S	33E	P	350	S	891	E	Lea

8. Proposed Bottom Hole Location

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
I	17	21S	33E	I	2540	S	660	E	Lea

9. Pool Information

WC-025 G-08 S213304D;BONE SPRING	97895

Additional Well Information

11. Work Type	12. Well Type	13. Cable/Rotary	14. Lease Type	15. Ground Level Elevation
New Well	OIL		State	3726
16. Multiple	**17. Proposed Depth**	**18. Formation**	**19. Contractor**	**20. Spud Date**
N	18147	Bone Spring		11/11/2019
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	1800	500	0
Int1	12.25	9.625	40	4000	950	0
Int1	12.25	9.625	40	5250	330	4000
Prod	8.5	5.5	20	18147	2200	0

Casing/Cement Program: Additional Comments

22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Double Ram	5000	5000	

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 ☒ and/or 19.15.14.9 (B) NMAC ☒, if applicable.

Signature:

OIL CONSERVATION DIVISION

Printed Name:	Electronically filed by David C Harwell	Approved By:	Paul F Kautz	
Title:	VP Engineering	Title:	Geologist	
Email Address:	dharwell@advanceenergypartners.com	Approved Date:	11/12/2019	Expiration Date: 11/12/2021
Date:	11/7/2019 Phone: 832-672-4604	Conditions of Approval Attached		

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Oil Conservation Division
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Santa Fe, NM 87505

Form C-102
August 1, 2011

Permit 274312

WELL LOCATION AND ACREAGE DEDICATION PLAT

1. API Number	2. Pool Code	3. Pool Name
30-025-46490	97895	WC-025 G-08 S213304D;BONE SPRING
4. Property Code	**5. Property Name**	**6. Well No.**
325948	WOOL HEAD 20 STATE COM	510H
7. OGRID No.	**8. Operator Name**	**9. Elevation**
372417	ADVANCE ENERGY PARTNERS HAT MESA, LLC	3726

10. Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
P	20	21S	33E	P	350	S	891	E	Lea

11. Bottom Hole Location If Different From Surface

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
I	17	21S	33E	I	2540	S	660	E	Lea

12. Dedicated Acres	13. Joint or Infill	14. Consolidation Code	15. Order No.
240.00			

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

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(s) 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.

E-Signed By: David C Harwell
Title: VP Engineering
Date: 11/7/2019

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.

Surveyed By: Gary Jones
Date of Survey: 7/25/2019
Certificate Number: 7977

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GAS CAPTURE PLAN

Date: 11/12/2019

☒ Original
☐ Amended - Reason for Amendment:

Operator & OGRID No.: [372417] ADVANCE ENERGY PARTNERS HAT MESA, LLC

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomplete to new zone, re-frac) activity.

Note: Form C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule (Subsection A of 19.15.18.12 NMAC).

Well(s)/Production Facility – Name of facility

The well(s) that will be located at the production facility are shown in the table below.

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
WOOL HEAD 20 STATE COM #510H	30-025-46490	P-20-21S-33E	0350S 0891E	1000	Flared	

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to TARGA MIDSTREAM SERVICES LLC and will be connected to TARGA MIDSTREAM SERVICES LLC Low Pressure gathering system located in Lea County, New Mexico. It will require 1500' of pipeline to connect the facility to Low Pressure gathering system. ADVANCE ENERGY PARTNERS HAT MESA, LLC provides (periodically) to TARGA MIDSTREAM SERVICES LLC a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, ADVANCE ENERGY PARTNERS HAT MESA, LLC and TARGA MIDSTREAM SERVICES LLC have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at TARGA MIDSTREAM SERVICES LLC Processing Plant located in Sec. 36, Twn. 19S, Rng. 36E, Lea County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on TARGA MIDSTREAM SERVICES LLC system at that time. Based on current information, it is ADVANCE ENERGY PARTNERS HAT MESA, LLC's belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

Alternatives to Reduce Flaring

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
  - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
  - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
  - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines

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Form APD Comments

Permit 274312

PERMIT COMMENTS

Operator Name and Address:	API Number:
ADVANCE ENERGY PARTNERS HAT MESA, LLC [372417] 11490 Westheimer Rd., Ste 950 Houston, TX 77077	30-025-46490
	Well: WOOL HEAD 20 STATE COM #510H

Created By	Comment	Comment Date
pkautz	Letter of inquiry concerning potash LMR and buffer zone sent to BLM & SLO 11/08/2019	11/8/2019
pkautz	Received letter of inquiry concerning potash LMR and buffer zone from SLO. Outside LMR & buffer zone. 11/08/2019	11/8/2019

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Form APD Conditions

Permit 274312

PERMIT CONDITIONS OF APPROVAL

Operator Name and Address:	API Number:
ADVANCE ENERGY PARTNERS HAT MESA, LLC [372417] 11490 Westheimer Rd., Ste 950 Houston, TX 77077	30-025-46490
	Well: WOOL HEAD 20 STATE COM #510H

OCD Reviewer	Condition
pkautz	Will require a directional survey with the C-104
pkautz	Potash Area - Three String Casing Program - In accordance with R-111-P all strings shall be cemented to surface. Salt Protection String - If the cement fails to reach the surface or the bottom of the cellar, where required, the top of the cement shall be located by a temperature or other survey and additional cementing shall be done until the cement is brought to the surface.
pkautz	If cement does not circulate to surface, must run temperature survey or other log to determine top of cement
pkautz	Surface casing must be set 25' below top of Rustler Anhydrite in order to seal off protectable water
pkautz	1)- The Operator is to notify NMOCD by sundry (Form C-103) within ten (10) days of the well being spud 2)- Drilling Sundries Form C-103 (Casing and Cement test are to be submitted within 10 days 3)- Completion Reports & Logs are to be submitted within 45 days 4)- Deviation / Directional Drill Survey are to be filed with or prior to C-104
pkautz	It is the operator's responsibility to monitor cancellation dates of approved APDs. APD's are good for 2 years and may be extended for one year. Only one 1 year extension will be granted if submitted by C-103 before expiration date. After expiration date or after a 1 year extension must submit new APD. If an APD expires and if site construction has occurred, site remediation is required.
pkautz	Stage Tool 1) Must notify OCD Hobbs Office prior to running Stage Tool at 5753703186 2) If using Stage Tool on Surface casing, Stage Tool must be set greater than 350' from surface and a minimum of 200 feet above surface shoe. 3) When using a Stage Tool on Intermediate or Production Casing Stage must be a minimum of 50 feet below previous casing shoe.

Advance Energy Partners

Lea County, NM (NAD 83 NME)
(Wool Head)Sec20_T-21-S_R-33-E
Wool Head 20 State Com #512H

OWB

Plan: Plan 0.1

Standard Planning Report

06 November, 2019

Microsoft
Planning Report

Database:	EDM 10_13	**Local Co-ordinate Reference:**	Well Wool Head 20 State Com #512H
Company:	Advance Energy Partners	**TVD Reference:**	KB @ 3752.5usft (H&P 466)
Project:	Lea County, NM (NAD 83 NME)	**MD Reference:**	KB @ 3752.5usft (H&P 466)
Site:	(Wool Head)Sec20_T-21-S_R-33-E	**North Reference:**	Grid
Well:	Wool Head 20 State Com #512H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	Plan 0.1		

Project Lea County, NM (NAD 83 NME)

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site (Wool Head)Sec20_T-21-S_R-33-E

Site Position:		**Northing:**	531,182.60 usft	**Latitude:**	32° 27' 29.104 N
From:	Map	**Easting:**	770,949.20 usft	**Longitude:**	103° 35' 20.061 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.40 °

Well Wool Head 20 State Com #512H

Well Position	**+N/-S**	0.4 usft	**Northing:**	531,183.00 usft	**Latitude:**	32° 27' 29.103 N
	+E/-W	65.9 usft	**Easting:**	771,015.10 usft	**Longitude:**	103° 35' 19.292 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**		**Ground Level:**	3,726.0 usft

Wellbore OWB

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	11/06/2019	6.72	60.24	47,826.55314995

Design Plan 0.1

Audit Notes:

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

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	3.29

Plan Survey Tool Program **Date** 11/06/2019

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	18,550.6	Plan 0.1 (OWB)	MWD	
				OWSG MWD - Standard	

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.00	0.00	0.00	0.00	
6,192.0	7.92	114.82	6,189.5	-22.9	49.6	1.00	1.00	0.00	114.82	
9,668.7	7.92	114.82	9,633.0	-224.1	484.4	0.00	0.00	0.00	0.00	
10,460.7	0.00	0.00	10,422.5	-247.0	534.0	1.00	-1.00	0.00	180.00	
10,560.7	0.00	0.00	10,522.5	-247.0	534.0	0.00	0.00	0.00	0.00	
11,310.7	90.00	359.22	11,000.0	230.4	527.5	12.00	12.00	-0.10	359.22	
18,550.6	90.00	359.22	11,000.0	7,469.7	429.1	0.00	0.00	0.00	0.00	LTP/PBHL (Wool H

Microsoft
Planning Report

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Site:	(Wool Head)Sec20_T-21-S_R-33-E	**North Reference:**	Grid
Well:	Wool Head 20 State Com #512H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	Plan 0.1		

Planned Survey

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

Microsoft
Planning Report

Database:	EDM 10_13	**Local Co-ordinate Reference:**	Well Wool Head 20 State Com #512H
Company:	Advance Energy Partners	**TVD Reference:**	KB @ 3752.5usft (H&P 466)
Project:	Lea County, NM (NAD 83 NME)	**MD Reference:**	KB @ 3752.5usft (H&P 466)
Site:	(Wool Head)Sec20_T-21-S_R-33-E	**North Reference:**	Grid
Well:	Wool Head 20 State Com #512H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	Plan 0.1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
NUDGE- Build 1.00									
5,500.0	1.00	114.82	5,500.0	-0.4	0.8	-0.3	1.00	1.00	0.00
5,600.0	2.00	114.82	5,600.0	-1.5	3.2	-1.3	1.00	1.00	0.00
5,700.0	3.00	114.82	5,699.9	-3.3	7.1	-2.9	1.00	1.00	0.00
5,800.0	4.00	114.82	5,799.7	-5.9	12.7	-5.1	1.00	1.00	0.00
5,900.0	5.00	114.82	5,899.4	-9.2	19.8	-8.0	1.00	1.00	0.00
6,000.0	6.00	114.82	5,998.9	-13.2	28.5	-11.5	1.00	1.00	0.00
6,100.0	7.00	114.82	6,098.3	-17.9	38.8	-15.7	1.00	1.00	0.00
6,192.0	7.92	114.82	6,189.5	-22.9	49.6	-20.1	1.00	1.00	0.00
HOLD- 3476.7 at 6192.0 MD									
6,200.0	7.92	114.82	6,197.4	-23.4	50.6	-20.5	0.00	0.00	0.00
6,300.0	7.92	114.82	6,296.4	-29.2	63.1	-25.5	0.00	0.00	0.00
6,400.0	7.92	114.82	6,395.5	-35.0	75.6	-30.6	0.00	0.00	0.00
6,500.0	7.92	114.82	6,494.5	-40.8	88.1	-35.6	0.00	0.00	0.00
6,600.0	7.92	114.82	6,593.6	-46.5	100.6	-40.7	0.00	0.00	0.00
6,700.0	7.92	114.82	6,692.6	-52.3	113.1	-45.8	0.00	0.00	0.00
6,800.0	7.92	114.82	6,791.7	-58.1	125.6	-50.8	0.00	0.00	0.00
6,900.0	7.92	114.82	6,890.7	-63.9	138.1	-55.9	0.00	0.00	0.00
7,000.0	7.92	114.82	6,989.8	-69.7	150.7	-60.9	0.00	0.00	0.00
7,100.0	7.92	114.82	7,088.8	-75.5	163.2	-66.0	0.00	0.00	0.00
7,200.0	7.92	114.82	7,187.9	-81.3	175.7	-71.0	0.00	0.00	0.00
7,300.0	7.92	114.82	7,286.9	-87.0	188.2	-76.1	0.00	0.00	0.00
7,400.0	7.92	114.82	7,386.0	-92.8	200.7	-81.2	0.00	0.00	0.00
7,500.0	7.92	114.82	7,485.0	-98.6	213.2	-86.2	0.00	0.00	0.00
7,600.0	7.92	114.82	7,584.0	-104.4	225.7	-91.3	0.00	0.00	0.00
7,700.0	7.92	114.82	7,683.1	-110.2	238.2	-96.3	0.00	0.00	0.00
7,800.0	7.92	114.82	7,782.1	-116.0	250.7	-101.4	0.00	0.00	0.00
7,900.0	7.92	114.82	7,881.2	-121.7	263.2	-106.4	0.00	0.00	0.00
8,000.0	7.92	114.82	7,980.2	-127.5	275.7	-111.5	0.00	0.00	0.00
8,100.0	7.92	114.82	8,079.3	-133.3	288.2	-116.6	0.00	0.00	0.00
8,200.0	7.92	114.82	8,178.3	-139.1	300.7	-121.6	0.00	0.00	0.00
8,300.0	7.92	114.82	8,277.4	-144.9	313.2	-126.7	0.00	0.00	0.00
8,400.0	7.92	114.82	8,376.4	-150.7	325.7	-131.7	0.00	0.00	0.00
8,500.0	7.92	114.82	8,475.5	-156.5	338.2	-136.8	0.00	0.00	0.00
8,600.0	7.92	114.82	8,574.5	-162.2	350.7	-141.9	0.00	0.00	0.00
8,700.0	7.92	114.82	8,673.6	-168.0	363.3	-146.9	0.00	0.00	0.00
8,800.0	7.92	114.82	8,772.6	-173.8	375.8	-152.0	0.00	0.00	0.00
8,900.0	7.92	114.82	8,871.6	-179.6	388.3	-157.0	0.00	0.00	0.00
9,000.0	7.92	114.82	8,970.7	-185.4	400.8	-162.1	0.00	0.00	0.00
9,100.0	7.92	114.82	9,069.7	-191.2	413.3	-167.1	0.00	0.00	0.00
9,200.0	7.92	114.82	9,168.8	-196.9	425.8	-172.2	0.00	0.00	0.00
9,300.0	7.92	114.82	9,267.8	-202.7	438.3	-177.3	0.00	0.00	0.00
9,400.0	7.92	114.82	9,366.9	-208.5	450.8	-182.3	0.00	0.00	0.00
9,500.0	7.92	114.82	9,465.9	-214.3	463.3	-187.4	0.00	0.00	0.00
9,600.0	7.92	114.82	9,565.0	-220.1	475.8	-192.4	0.00	0.00	0.00
9,668.7	7.92	114.82	9,633.0	-224.1	484.4	-195.9	0.00	0.00	0.00
DROP- -1.00									
9,700.0	7.61	114.82	9,664.0	-225.8	488.2	-197.5	1.00	-1.00	0.00
9,800.0	6.61	114.82	9,763.3	-231.0	499.5	-202.0	1.00	-1.00	0.00
9,900.0	5.61	114.82	9,862.7	-235.5	509.1	-205.9	1.00	-1.00	0.00
10,000.0	4.61	114.82	9,962.3	-239.2	517.2	-209.2	1.00	-1.00	0.00
10,100.0	3.61	114.82	10,062.0	-242.2	523.7	-211.8	1.00	-1.00	0.00

Microsoft
Planning Report

Database:	EDM 10_13	**Local Co-ordinate Reference:**	Well Wool Head 20 State Com #512H
Company:	Advance Energy Partners	**TVD Reference:**	KB @ 3752.5usft (H&P 466)
Project:	Lea County, NM (NAD 83 NME)	**MD Reference:**	KB @ 3752.5usft (H&P 466)
Site:	(Wool Head)Sec20_T-21-S_R-33-E	**North Reference:**	Grid
Well:	Wool Head 20 State Com #512H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	Plan 0.1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,200.0	2.61	114.82	10,161.9	-244.5	528.6	-213.8	1.00	-1.00	0.00
10,300.0	1.61	114.82	10,261.8	-246.1	532.0	-215.1	1.00	-1.00	0.00
10,400.0	0.61	114.82	10,361.8	-246.9	533.7	-215.9	1.00	-1.00	0.00
10,460.7	0.00	0.00	10,422.5	-247.0	534.0	-216.0	1.00	-1.00	0.00
HOLD- 100.0 at 10460.7 MD									
10,500.0	0.00	0.00	10,461.8	-247.0	534.0	-216.0	0.00	0.00	0.00
10,560.7	0.00	0.00	10,522.5	-247.0	534.0	-216.0	0.00	0.00	0.00
KOP- DLS 12.00 TFO 359.22									
10,575.0	1.72	359.22	10,536.8	-246.8	534.0	-215.8	12.00	12.00	0.00
10,600.0	4.72	359.22	10,561.8	-245.4	534.0	-214.4	12.00	12.00	0.00
10,625.0	7.72	359.22	10,586.6	-242.7	533.9	-211.7	12.00	12.00	0.00
10,650.0	10.72	359.22	10,611.3	-238.7	533.9	-207.7	12.00	12.00	0.00
10,675.0	13.72	359.22	10,635.7	-233.4	533.8	-202.4	12.00	12.00	0.00
10,700.0	16.72	359.22	10,659.8	-226.8	533.7	-195.8	12.00	12.00	0.00
10,725.0	19.72	359.22	10,683.6	-219.0	533.6	-188.0	12.00	12.00	0.00
10,750.0	22.72	359.22	10,706.9	-210.0	533.5	-179.0	12.00	12.00	0.00
10,775.0	25.72	359.22	10,729.7	-199.7	533.4	-168.8	12.00	12.00	0.00
10,800.0	28.72	359.22	10,751.9	-188.3	533.2	-157.4	12.00	12.00	0.00
10,825.0	31.72	359.22	10,773.5	-175.7	533.0	-144.8	12.00	12.00	0.00
10,850.0	34.72	359.22	10,794.4	-162.0	532.8	-131.2	12.00	12.00	0.00
10,875.0	37.72	359.22	10,814.6	-147.2	532.6	-116.5	12.00	12.00	0.00
10,900.0	40.72	359.22	10,834.0	-131.4	532.4	-100.7	12.00	12.00	0.00
10,925.0	43.72	359.22	10,852.5	-114.6	532.2	-83.9	12.00	12.00	0.00
10,950.0	46.72	359.22	10,870.1	-96.9	532.0	-66.2	12.00	12.00	0.00
10,975.0	49.72	359.22	10,886.7	-78.3	531.7	-47.6	12.00	12.00	0.00
11,000.0	52.72	359.22	10,902.4	-58.8	531.4	-28.2	12.00	12.00	0.00
11,025.0	55.72	359.22	10,917.0	-38.5	531.2	-8.0	12.00	12.00	0.00
11,050.0	58.72	359.22	10,930.5	-17.5	530.9	13.0	12.00	12.00	0.00
11,075.0	61.72	359.22	10,943.0	4.2	530.6	34.6	12.00	12.00	0.00
11,100.0	64.72	359.22	10,954.2	26.5	530.3	56.9	12.00	12.00	0.00
11,125.0	67.72	359.22	10,964.3	49.4	530.0	79.7	12.00	12.00	0.00
11,150.0	70.72	359.22	10,973.2	72.8	529.7	103.0	12.00	12.00	0.00
11,175.0	73.72	359.22	10,980.8	96.6	529.3	126.7	12.00	12.00	0.00
11,200.0	76.72	359.22	10,987.2	120.7	529.0	150.9	12.00	12.00	0.00
11,225.0	79.72	359.22	10,992.3	145.2	528.7	175.3	12.00	12.00	0.00
11,250.0	82.72	359.22	10,996.1	169.9	528.3	199.9	12.00	12.00	0.00
11,275.0	85.72	359.22	10,998.6	194.8	528.0	224.7	12.00	12.00	0.00
11,300.0	88.72	359.22	10,999.8	219.7	527.7	249.6	12.00	12.00	0.00
11,310.7	90.00	359.22	11,000.0	230.4	527.5	260.3	12.00	12.00	0.00
EOC- 7240.0 hold at 11310.7 MD									
11,400.0	90.00	359.22	11,000.0	319.7	526.3	349.4	0.00	0.00	0.00
11,500.0	90.00	359.22	11,000.0	419.7	524.9	449.1	0.00	0.00	0.00
11,600.0	90.00	359.22	11,000.0	519.7	523.6	548.9	0.00	0.00	0.00
11,700.0	90.00	359.22	11,000.0	619.7	522.2	648.6	0.00	0.00	0.00
11,800.0	90.00	359.22	11,000.0	719.7	520.9	748.4	0.00	0.00	0.00
11,900.0	90.00	359.22	11,000.0	819.7	519.5	848.1	0.00	0.00	0.00
12,000.0	90.00	359.22	11,000.0	919.7	518.1	947.9	0.00	0.00	0.00
12,100.0	90.00	359.22	11,000.0	1,019.6	516.8	1,047.6	0.00	0.00	0.00
12,200.0	90.00	359.22	11,000.0	1,119.6	515.4	1,147.4	0.00	0.00	0.00
12,300.0	90.00	359.22	11,000.0	1,219.6	514.1	1,247.1	0.00	0.00	0.00
12,400.0	90.00	359.22	11,000.0	1,319.6	512.7	1,346.8	0.00	0.00	0.00
12,500.0	90.00	359.22	11,000.0	1,419.6	511.3	1,446.6	0.00	0.00	0.00
12,600.0	90.00	359.22	11,000.0	1,519.6	510.0	1,546.3	0.00	0.00	0.00

Microsoft
Planning Report

Database:	EDM 10_13	**Local Co-ordinate Reference:**	Well Wool Head 20 State Com #512H
Company:	Advance Energy Partners	**TVD Reference:**	KB @ 3752.5usft (H&P 466)
Project:	Lea County, NM (NAD 83 NME)	**MD Reference:**	KB @ 3752.5usft (H&P 466)
Site:	(Wool Head)Sec20_T-21-S_R-33-E	**North Reference:**	Grid
Well:	Wool Head 20 State Com #512H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	Plan 0.1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
12,700.0	90.00	359.22	11,000.0	1,619.6	508.6	1,646.1	0.00	0.00	0.00
12,800.0	90.00	359.22	11,000.0	1,719.6	507.3	1,745.8	0.00	0.00	0.00
12,900.0	90.00	359.22	11,000.0	1,819.6	505.9	1,845.6	0.00	0.00	0.00
13,000.0	90.00	359.22	11,000.0	1,919.6	504.5	1,945.3	0.00	0.00	0.00
13,100.0	90.00	359.22	11,000.0	2,019.6	503.2	2,045.1	0.00	0.00	0.00
13,200.0	90.00	359.22	11,000.0	2,119.5	501.8	2,144.8	0.00	0.00	0.00
13,300.0	90.00	359.22	11,000.0	2,219.5	500.5	2,244.6	0.00	0.00	0.00
13,400.0	90.00	359.22	11,000.0	2,319.5	499.1	2,344.3	0.00	0.00	0.00
13,500.0	90.00	359.22	11,000.0	2,419.5	497.8	2,444.1	0.00	0.00	0.00
13,600.0	90.00	359.22	11,000.0	2,519.5	496.4	2,543.8	0.00	0.00	0.00
13,700.0	90.00	359.22	11,000.0	2,619.5	495.0	2,643.6	0.00	0.00	0.00
13,800.0	90.00	359.22	11,000.0	2,719.5	493.7	2,743.3	0.00	0.00	0.00
13,900.0	90.00	359.22	11,000.0	2,819.5	492.3	2,843.1	0.00	0.00	0.00
14,000.0	90.00	359.22	11,000.0	2,919.5	491.0	2,942.8	0.00	0.00	0.00
14,100.0	90.00	359.22	11,000.0	3,019.5	489.6	3,042.6	0.00	0.00	0.00
14,200.0	90.00	359.22	11,000.0	3,119.5	488.2	3,142.3	0.00	0.00	0.00
14,300.0	90.00	359.22	11,000.0	3,219.4	486.9	3,242.1	0.00	0.00	0.00
14,400.0	90.00	359.22	11,000.0	3,319.4	485.5	3,341.8	0.00	0.00	0.00
14,500.0	90.00	359.22	11,000.0	3,419.4	484.2	3,441.6	0.00	0.00	0.00
14,600.0	90.00	359.22	11,000.0	3,519.4	482.8	3,541.3	0.00	0.00	0.00
14,700.0	90.00	359.22	11,000.0	3,619.4	481.4	3,641.1	0.00	0.00	0.00
14,800.0	90.00	359.22	11,000.0	3,719.4	480.1	3,740.8	0.00	0.00	0.00
14,900.0	90.00	359.22	11,000.0	3,819.4	478.7	3,840.6	0.00	0.00	0.00
15,000.0	90.00	359.22	11,000.0	3,919.4	477.4	3,940.3	0.00	0.00	0.00
15,100.0	90.00	359.22	11,000.0	4,019.4	476.0	4,040.1	0.00	0.00	0.00
15,200.0	90.00	359.22	11,000.0	4,119.4	474.6	4,139.8	0.00	0.00	0.00
15,300.0	90.00	359.22	11,000.0	4,219.3	473.3	4,239.5	0.00	0.00	0.00
15,400.0	90.00	359.22	11,000.0	4,319.3	471.9	4,339.3	0.00	0.00	0.00
15,500.0	90.00	359.22	11,000.0	4,419.3	470.6	4,439.0	0.00	0.00	0.00
15,600.0	90.00	359.22	11,000.0	4,519.3	469.2	4,538.8	0.00	0.00	0.00
15,700.0	90.00	359.22	11,000.0	4,619.3	467.8	4,638.5	0.00	0.00	0.00
15,800.0	90.00	359.22	11,000.0	4,719.3	466.5	4,738.3	0.00	0.00	0.00
15,900.0	90.00	359.22	11,000.0	4,819.3	465.1	4,838.0	0.00	0.00	0.00
16,000.0	90.00	359.22	11,000.0	4,919.3	463.8	4,937.8	0.00	0.00	0.00
16,100.0	90.00	359.22	11,000.0	5,019.3	462.4	5,037.5	0.00	0.00	0.00
16,200.0	90.00	359.22	11,000.0	5,119.3	461.1	5,137.3	0.00	0.00	0.00
16,300.0	90.00	359.22	11,000.0	5,219.3	459.7	5,237.0	0.00	0.00	0.00
16,400.0	90.00	359.22	11,000.0	5,319.2	458.3	5,336.8	0.00	0.00	0.00
16,500.0	90.00	359.22	11,000.0	5,419.2	457.0	5,436.5	0.00	0.00	0.00
16,600.0	90.00	359.22	11,000.0	5,519.2	455.6	5,536.3	0.00	0.00	0.00
16,700.0	90.00	359.22	11,000.0	5,619.2	454.3	5,636.0	0.00	0.00	0.00
16,800.0	90.00	359.22	11,000.0	5,719.2	452.9	5,735.8	0.00	0.00	0.00
16,900.0	90.00	359.22	11,000.0	5,819.2	451.5	5,835.5	0.00	0.00	0.00
17,000.0	90.00	359.22	11,000.0	5,919.2	450.2	5,935.3	0.00	0.00	0.00
17,100.0	90.00	359.22	11,000.0	6,019.2	448.8	6,035.0	0.00	0.00	0.00
17,200.0	90.00	359.22	11,000.0	6,119.2	447.5	6,134.8	0.00	0.00	0.00
17,300.0	90.00	359.22	11,000.0	6,219.2	446.1	6,234.5	0.00	0.00	0.00
17,400.0	90.00	359.22	11,000.0	6,319.2	444.7	6,334.3	0.00	0.00	0.00
17,500.0	90.00	359.22	11,000.0	6,419.1	443.4	6,434.0	0.00	0.00	0.00
17,600.0	90.00	359.22	11,000.0	6,519.1	442.0	6,533.8	0.00	0.00	0.00
17,700.0	90.00	359.22	11,000.0	6,619.1	440.7	6,633.5	0.00	0.00	0.00
17,800.0	90.00	359.22	11,000.0	6,719.1	439.3	6,733.3	0.00	0.00	0.00
17,900.0	90.00	359.22	11,000.0	6,819.1	437.9	6,833.0	0.00	0.00	0.00
18,000.0	90.00	359.22	11,000.0	6,919.1	436.6	6,932.8	0.00	0.00	0.00

Microsoft
Planning Report

Database:	EDM 10_13	**Local Co-ordinate Reference:**	Well Wool Head 20 State Com #512H
Company:	Advance Energy Partners	**TVD Reference:**	KB @ 3752.5usft (H&P 466)
Project:	Lea County, NM (NAD 83 NME)	**MD Reference:**	KB @ 3752.5usft (H&P 466)
Site:	(Wool Head)Sec20_T-21-S_R-33-E	**North Reference:**	Grid
Well:	Wool Head 20 State Com #512H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	Plan 0.1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
18,100.0	90.00	359.22	11,000.0	7,019.1	435.2	7,032.5	0.00	0.00	0.00
18,200.0	90.00	359.22	11,000.0	7,119.1	433.9	7,132.2	0.00	0.00	0.00
18,300.0	90.00	359.22	11,000.0	7,219.1	432.5	7,232.0	0.00	0.00	0.00
18,400.0	90.00	359.22	11,000.0	7,319.1	431.1	7,331.7	0.00	0.00	0.00
18,500.0	90.00	359.22	11,000.0	7,419.1	429.8	7,431.5	0.00	0.00	0.00
18,550.6	90.00	359.22	11,000.0	7,469.7	429.1	7,482.0	0.00	0.00	0.00
TD at 18550.7									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
LTP/PBHL (Wool Hea - plan hits target center - Point	0.00	0.00	11,000.0	7,469.7	429.1	538,652.70	771,444.20	32° 28' 42.985 N	103° 35' 13.675 W
FTP (Wool Head 20 S - plan misses target center by 197.9usft at 10934.9usft MD (10859.6 TVD, -107.7 N, 532.1 E) - Point	0.00	0.00	11,000.0	-247.1	534.4	530,935.90	771,549.50	32° 27' 26.621 N	103° 35' 13.075 W

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
5,400.0	5,400.0	0.0	0.0	NUDGE- Build 1.00
6,192.0	6,189.5	-22.9	49.6	HOLD- 3476.7 at 6192.0 MD
9,668.7	9,633.0	-224.1	484.4	DROP- -1.00
10,460.7	10,422.5	-247.0	534.0	HOLD- 100.0 at 10460.7 MD
10,560.7	10,522.5	-247.0	534.0	KOP- DLS 12.00 TFO 359.22
11,310.7	11,000.0	230.4	527.5	EOC- 7240.0 hold at 11310.7 MD
18,550.6	11,000.0	7,469.7	429.1	TD at 18550.7