

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

Form C-101

August 1, 2011

Permit 294567

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 30-025-48604
4. Property Code 319607	5. Property Name WOOL HEAD 20 STATE	6. Well No. 503H

7. Surface Location

UL - Lot M	Section 20	Township 21S	Range 33E	Lot Idn M	Feet From 225	N/S Line S	Feet From 800	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 1650	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 3741
16. Multiple N	17. Proposed Depth 19060	18. Formation Bone Spring	19. Contractor	20. Spud Date 4/12/2021
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	1800	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	19060	2300	0

Casing/Cement Program: Additional Comments

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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.	OIL CONSERVATION DIVISION	
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: 4/7/2021	Expiration Date: 4/7/2023
Date: 4/6/2021	Phone: 406-300-3310	Conditions of Approval Attached

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Phone (505) 334-6176 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 and Natural Resources Department

Form C-102
Revised August 4, 2011

Submit one copy to appropriate
District Office

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025-48604	Pool Code 97895	Pool Name WC-025 G-08 S213304D;BONE SPRING
Property Code 319607	Property Name WOOL HEAD 20 STATE	Well Number 503H
OGRID No. 372417	Operator Name ADVANCE ENERGY PARTNERS HAT MESA	Elevation 3741'

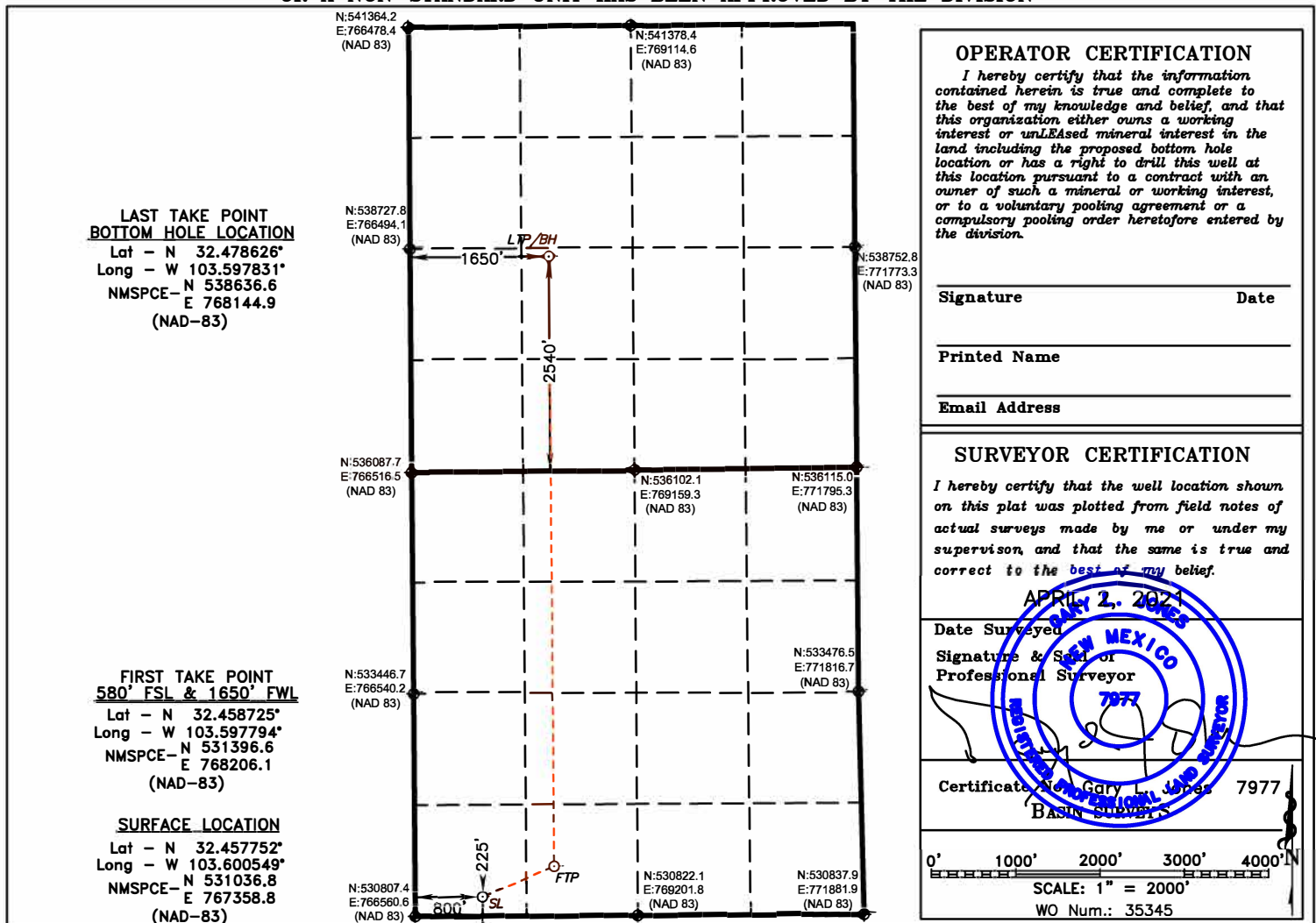
Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	SOUTH/South line	Feet from the	East/West line	County
M	20	21 S	33 E		225	SOUTH	800	WEST	LEA

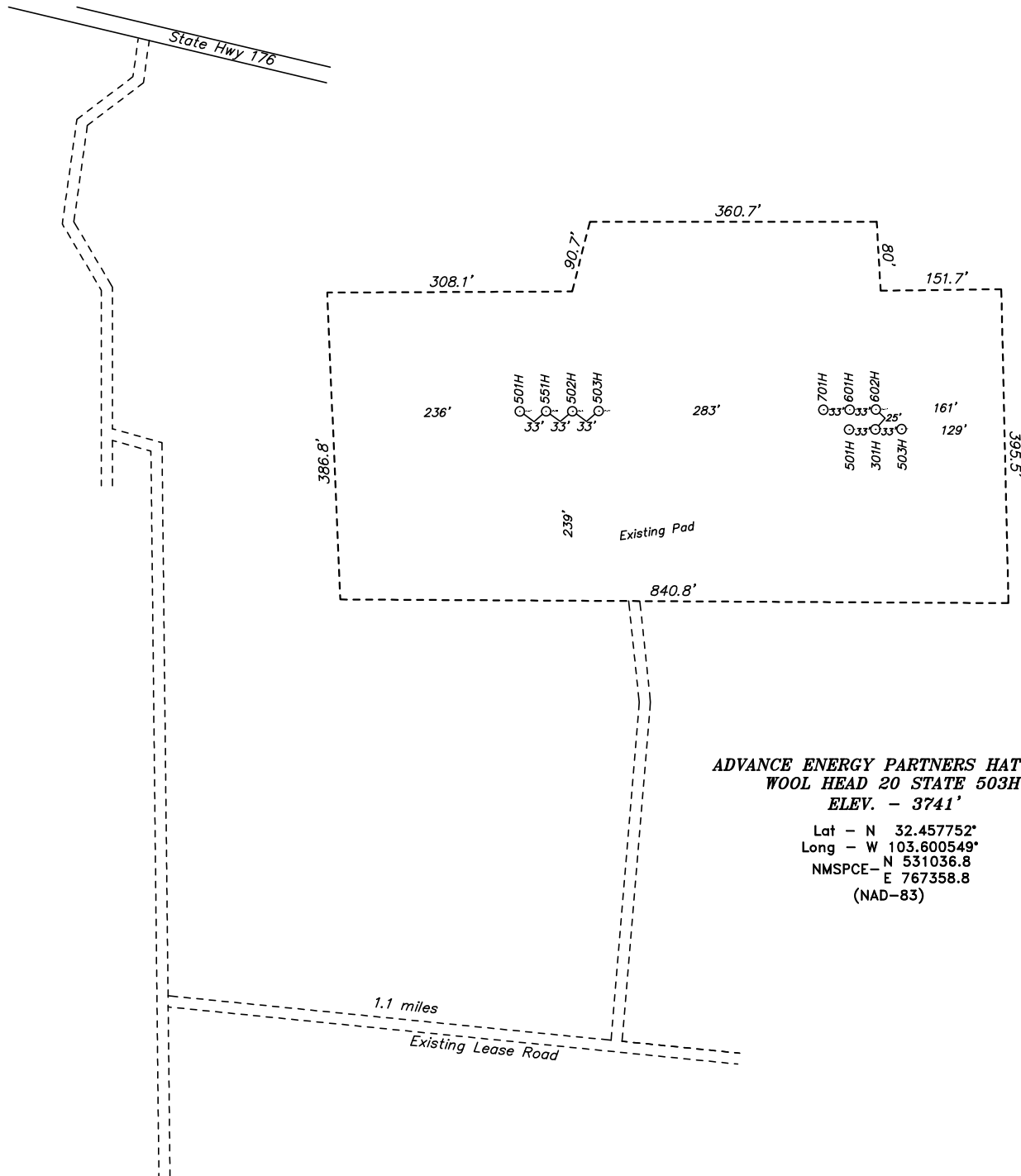
Bottom Hole Location If Different From Surface

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	1650	WEST	LEA
Dedicated Acres	Joint or Infill	Consolidation Code	Order No.						

**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 503H
ELEV. - 3741'**

Lat - N 32.457752°
Long - W 103.600549°
NMSPCE - N 531036.8
E 767358.8
(NAD-83)

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

ADVANCE ENERGY PARTNERS HAT MESA

REF: WOOL HEAD 20 STATE 503H / WELL PAD TOPO

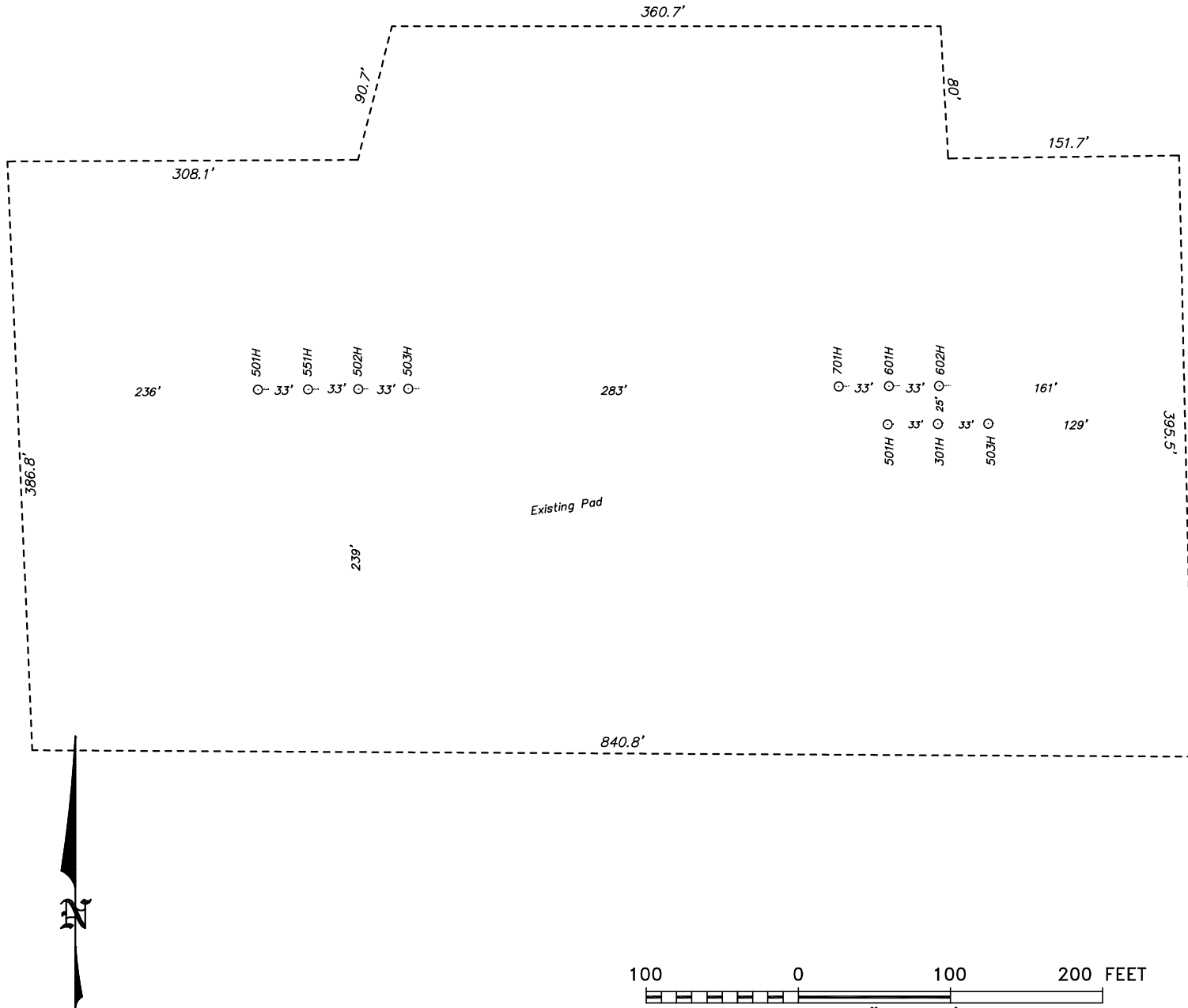
THE WOOL HEAD 20 STATE 503H LOCATED 225' FROM
THE SOUTH LINE AND 800' FROM THE WEST LINE OF
SECTION 20, TOWNSHIP 21 SOUTH, RANGE 33 EAST.

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



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

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



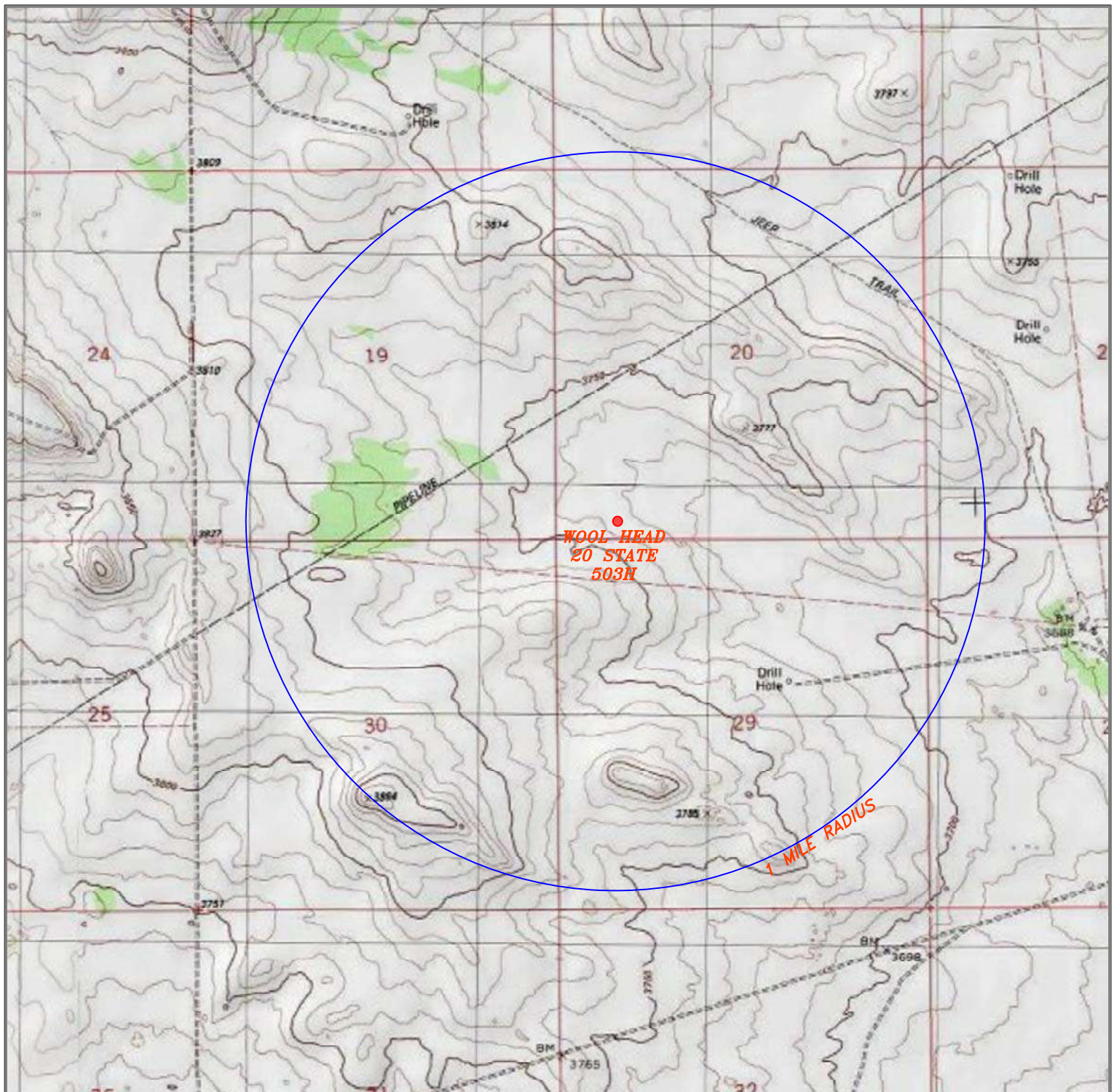
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ADVANCE ENERGY PARTNERS HAT MESA

REF: WOOL HEAD 20 STATE 503H / WELL PAD TOPO

THE WOOL HEAD 20 STATE 503H LOCATED 225' FROM
THE SOUTH LINE AND 800' FROM THE WEST LINE OF
SECTION 20, TOWNSHIP 21 SOUTH, RANGE 33 EAST.

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



WOOL HEAD 20 STATE 503H

Located 225' FSL and 800' 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'

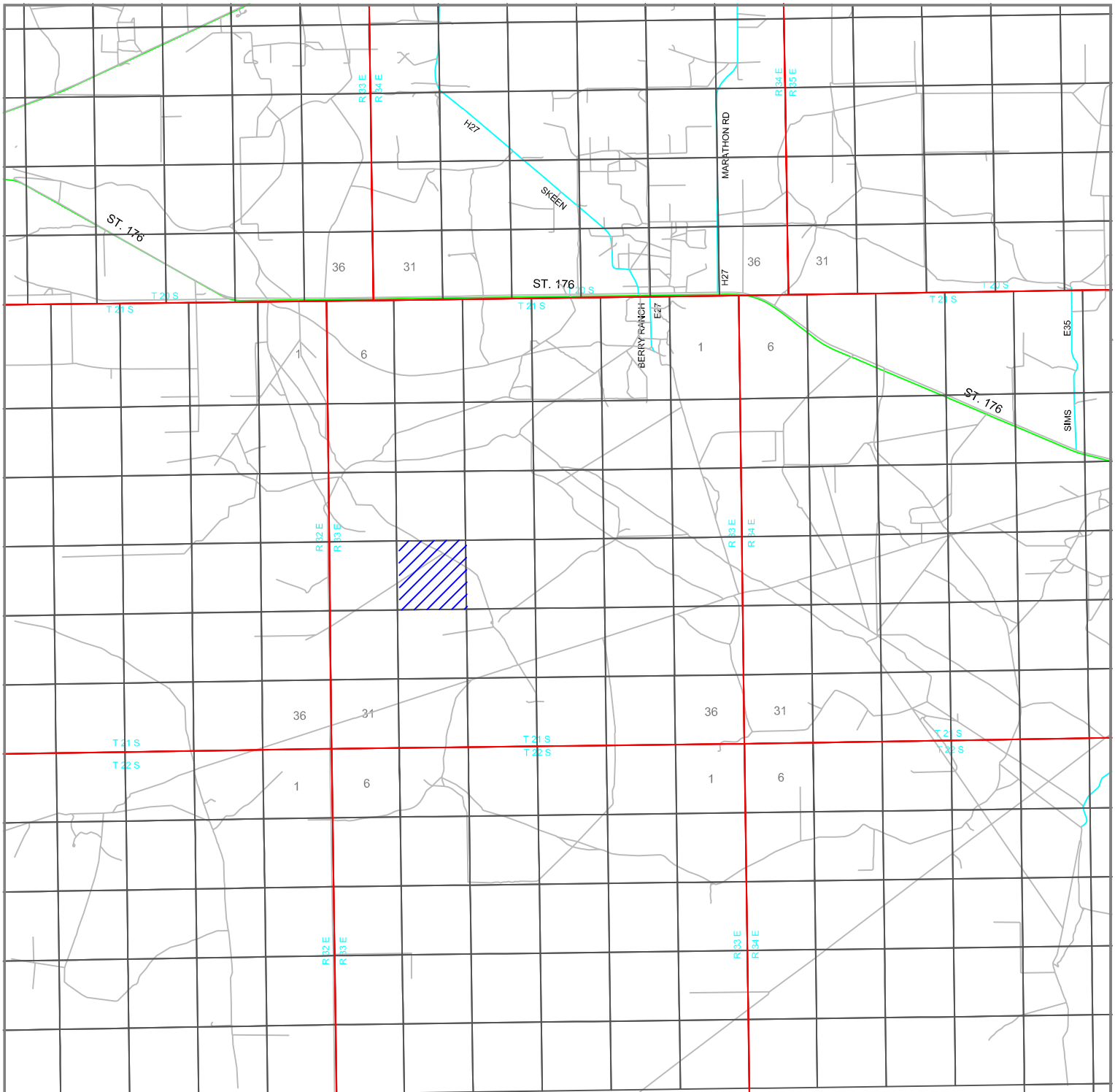
W.O. Number: KJG 35345

Survey Date: 04-02-2021

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



**ADVANCE
 ENERGY
 PARTNERS
 HAT MESA**



WOOL HEAD 20 STATE 503H

Located 225' FSL and 800' 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

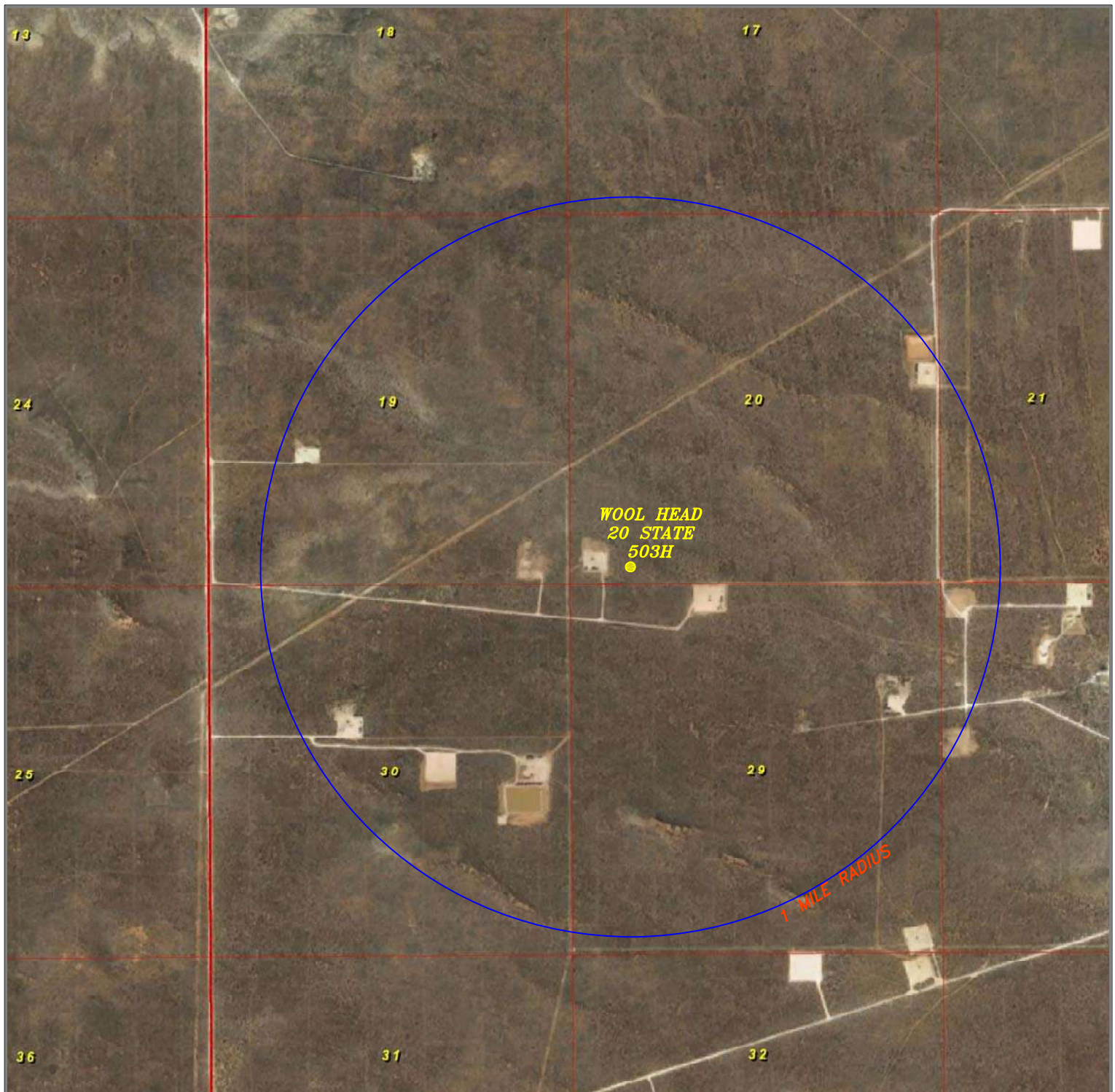
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**ADVANCE
 ENERGY
 PARTNERS
 HAT MESA**



WOOL HEAD 20 STATE 503H

Located 225' FSL and 800' FWL
Section 20, Township 21 South, Range 33 East,
N.M.P.M., Lea County, New Mexico.



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HAT MESA**

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GAS CAPTURE PLAN

Date: 4/7/2021

☒ Original

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

☐ Amended - Reason for
Amendment: _____

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomple 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 #503H	30-025-48604	M-20-21S-33E	0225S 0800W	1500	None	Flare during testing and initial cleanup

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 250' 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. 20, Twn. 21S, Rng. 33E, 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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Energy, Minerals and Natural Resources
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Santa Fe, NM 87505

Form APD Conditions

Permit 294567

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: 30-025-48604
	Well: WOOL HEAD 20 STATE #503H

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	Three String Casing Program - In accordance with R-111-P all strings shall be cemented to 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.



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

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



Advance Energy Partners

Hat Mesa

Wool Head 20 State Com Pad D

Wool Head 20 State Com 503H

Wool Head 20 State Com 503H

Plan: Wool Head 20 State Com 503H - Prelim

Standard Planning Report

05 April, 2021



Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Wool Head 20 State Com 503H
Company:	Advance Energy Partners	TVD Reference:	WELL @ 3773.5usft (Original Well Elev)
Project:	Hat Mesa	MD Reference:	WELL @ 3773.5usft (Original Well Elev)
Site:	Wool Head 20 State Com Pad D	North Reference:	Grid
Well:	Wool Head 20 State Com 503H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wool Head 20 State Com 503H		
Design:	Wool Head 20 State Com 503H - Prelim		

Project	Hat Mesa, Lea County, NM		
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 20 State Com Pad D			
Site Position:		Northing:	531,061.49 usft	Latitude:	32° 27' 28.156 N
From:	Lat/Long	Easting:	767,293.49 usft	Longitude:	103° 36' 2.736 W
Position Uncertainty:		0.0 usft	Slot Radius:	13-3/16 "	

Well	Wool Head 20 State Com 503H					
Well Position	+N/-S	0.0 usft	Northing:	531,036.84 usft	Latitude:	32° 27' 27.907 N
	+E/-W	0.0 usft	Easting:	767,358.74 usft	Longitude:	103° 36' 1.976 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,741.0 usft
Grid Convergence:		0.39 °				

Wellbore	Wool Head 20 State Com 503H				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	4/2/2021	6.57	60.22	47,680.30520643

Design	Wool Head 20 State Com 503H - Prelim				
Audit Notes:					
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0	
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	5.90	

Plan Survey Tool Program	Date	4/5/2021			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.0	18,021.4	Wool Head 20 State Com 503H -	MWD+HRGM	
			OWSG MWD + HRGM		



Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Wool Head 20 State Com 503H
Company:	Advance Energy Partners	TVD Reference:	WELL @ 3773.5usft (Original Well Elev)
Project:	Hat Mesa	MD Reference:	WELL @ 3773.5usft (Original Well Elev)
Site:	Wool Head 20 State Com Pad D	North Reference:	Grid
Well:	Wool Head 20 State Com 503H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wool Head 20 State Com 503H		
Design:	Wool Head 20 State Com 503H - Prelim		

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	
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
5,500.0	5.00	106.29	5,499.4	-6.1	20.9	1.00	1.00	0.00	106.29	
8,884.7	5.00	106.29	8,871.2	-88.9	304.1	0.00	0.00	0.00	0.00	
9,384.7	0.00	0.00	9,370.5	-95.0	325.0	1.00	-1.00	0.00	180.00	
9,575.1	0.00	0.00	9,561.0	-95.0	325.0	0.00	0.00	0.00	0.00	
9,953.5	45.39	101.45	9,901.0	-123.2	464.4	12.00	12.00	0.00	101.45	
10,774.2	90.00	359.52	10,290.0	352.4	846.2	12.00	5.44	-12.42	-98.44	
18,022.0	90.00	359.53	10,290.0	7,599.9	786.0	0.00	0.00	0.00	90.00	Wool Head 20 State C



Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Wool Head 20 State Com 503H
Company:	Advance Energy Partners	TVD Reference:	WELL @ 3773.5usft (Original Well Elev)
Project:	Hat Mesa	MD Reference:	WELL @ 3773.5usft (Original Well Elev)
Site:	Wool Head 20 State Com Pad D	North Reference:	Grid
Well:	Wool Head 20 State Com 503H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wool Head 20 State Com 503H		
Design:	Wool Head 20 State Com 503H - Prelim		

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
KOP - Start Build 1.00									
5,100.0	1.00	106.29	5,100.0	-0.2	0.8	-0.2	1.00	1.00	0.00
5,200.0	2.00	106.29	5,200.0	-1.0	3.4	-0.6	1.00	1.00	0.00



Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Wool Head 20 State Com 503H
Company:	Advance Energy Partners	TVD Reference:	WELL @ 3773.5usft (Original Well Elev)
Project:	Hat Mesa	MD Reference:	WELL @ 3773.5usft (Original Well Elev)
Site:	Wool Head 20 State Com Pad D	North Reference:	Grid
Well:	Wool Head 20 State Com 503H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wool Head 20 State Com 503H		
Design:	Wool Head 20 State Com 503H - Prelim		

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	3.00	106.29	5,299.9	-2.2	7.5	-1.4	1.00	1.00	0.00
5,400.0	4.00	106.29	5,399.7	-3.9	13.4	-2.5	1.00	1.00	0.00
5,500.0	5.00	106.29	5,499.4	-6.1	20.9	-3.9	1.00	1.00	0.00
Start 3384.7 hold at 5500.0 MD									
5,600.0	5.00	106.29	5,599.0	-8.6	29.3	-5.5	0.00	0.00	0.00
5,700.0	5.00	106.29	5,698.6	-11.0	37.7	-7.1	0.00	0.00	0.00
5,800.0	5.00	106.29	5,798.2	-13.5	46.0	-8.6	0.00	0.00	0.00
5,900.0	5.00	106.29	5,897.8	-15.9	54.4	-10.2	0.00	0.00	0.00
6,000.0	5.00	106.29	5,997.5	-18.3	62.8	-11.8	0.00	0.00	0.00
6,100.0	5.00	106.29	6,097.1	-20.8	71.1	-13.4	0.00	0.00	0.00
6,200.0	5.00	106.29	6,196.7	-23.2	79.5	-14.9	0.00	0.00	0.00
6,300.0	5.00	106.29	6,296.3	-25.7	87.9	-16.5	0.00	0.00	0.00
6,400.0	5.00	106.29	6,395.9	-28.1	96.2	-18.1	0.00	0.00	0.00
6,500.0	5.00	106.29	6,495.6	-30.6	104.6	-19.6	0.00	0.00	0.00
6,600.0	5.00	106.29	6,595.2	-33.0	112.9	-21.2	0.00	0.00	0.00
6,700.0	5.00	106.29	6,694.8	-35.5	121.3	-22.8	0.00	0.00	0.00
6,800.0	5.00	106.29	6,794.4	-37.9	129.7	-24.4	0.00	0.00	0.00
6,900.0	5.00	106.29	6,894.0	-40.4	138.0	-25.9	0.00	0.00	0.00
7,000.0	5.00	106.29	6,993.7	-42.8	146.4	-27.5	0.00	0.00	0.00
7,100.0	5.00	106.29	7,093.3	-45.2	154.8	-29.1	0.00	0.00	0.00
7,200.0	5.00	106.29	7,192.9	-47.7	163.1	-30.7	0.00	0.00	0.00
7,300.0	5.00	106.29	7,292.5	-50.1	171.5	-32.2	0.00	0.00	0.00
7,400.0	5.00	106.29	7,392.1	-52.6	179.9	-33.8	0.00	0.00	0.00
7,500.0	5.00	106.29	7,491.8	-55.0	188.2	-35.4	0.00	0.00	0.00
7,600.0	5.00	106.29	7,591.4	-57.5	196.6	-36.9	0.00	0.00	0.00
7,700.0	5.00	106.29	7,691.0	-59.9	205.0	-38.5	0.00	0.00	0.00
7,800.0	5.00	106.29	7,790.6	-62.4	213.3	-40.1	0.00	0.00	0.00
7,900.0	5.00	106.29	7,890.2	-64.8	221.7	-41.7	0.00	0.00	0.00
8,000.0	5.00	106.29	7,989.9	-67.2	230.1	-43.2	0.00	0.00	0.00
8,100.0	5.00	106.29	8,089.5	-69.7	238.4	-44.8	0.00	0.00	0.00
8,200.0	5.00	106.29	8,189.1	-72.1	246.8	-46.4	0.00	0.00	0.00
8,300.0	5.00	106.29	8,288.7	-74.6	255.2	-47.9	0.00	0.00	0.00
8,400.0	5.00	106.29	8,388.3	-77.0	263.5	-49.5	0.00	0.00	0.00
8,500.0	5.00	106.29	8,487.9	-79.5	271.9	-51.1	0.00	0.00	0.00
8,600.0	5.00	106.29	8,587.6	-81.9	280.3	-52.7	0.00	0.00	0.00
8,700.0	5.00	106.29	8,687.2	-84.4	288.6	-54.2	0.00	0.00	0.00
8,800.0	5.00	106.29	8,786.8	-86.8	297.0	-55.8	0.00	0.00	0.00
8,884.7	5.00	106.29	8,871.2	-88.9	304.1	-57.1	0.00	0.00	0.00
Start Drop -1.00									
8,900.0	4.85	106.29	8,886.4	-89.3	305.3	-57.4	1.00	-1.00	0.00
9,000.0	3.85	106.29	8,986.1	-91.4	312.6	-58.7	1.00	-1.00	0.00
9,100.0	2.85	106.29	9,086.0	-93.0	318.2	-59.8	1.00	-1.00	0.00
9,200.0	1.85	106.29	9,185.9	-94.2	322.1	-60.5	1.00	-1.00	0.00
9,300.0	0.85	106.29	9,285.9	-94.8	324.4	-60.9	1.00	-1.00	0.00
9,384.7	0.00	0.00	9,370.5	-95.0	325.0	-61.1	1.00	-1.00	0.00
Start 190.5 hold at 9384.7 MD									
9,400.0	0.00	0.00	9,385.9	-95.0	325.0	-61.1	0.00	0.00	0.00
9,500.0	0.00	0.00	9,485.9	-95.0	325.0	-61.1	0.00	0.00	0.00
9,575.1	0.00	0.00	9,561.0	-95.0	325.0	-61.1	0.00	0.00	0.00
KOP #2 - Start Build 12.00									
9,600.0	2.98	101.45	9,585.8	-95.1	325.6	-61.1	12.00	12.00	0.00
9,700.0	14.98	101.45	9,684.4	-98.2	340.9	-62.6	12.00	12.00	0.00
9,800.0	26.97	101.45	9,777.6	-105.3	375.9	-66.1	12.00	12.00	0.00



Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Wool Head 20 State Com 503H
Company:	Advance Energy Partners	TVD Reference:	WELL @ 3773.5usft (Original Well Elev)
Project:	Hat Mesa	MD Reference:	WELL @ 3773.5usft (Original Well Elev)
Site:	Wool Head 20 State Com Pad D	North Reference:	Grid
Well:	Wool Head 20 State Com 503H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wool Head 20 State Com 503H		
Design:	Wool Head 20 State Com 503H - Prelim		

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)
9,900.0	38.97	101.45	9,861.4	-116.1	429.2	-71.3	12.00	12.00	0.00
9,953.5	45.39	101.45	9,901.0	-123.2	464.4	-74.8	12.00	12.00	0.00
Start DLS 12.00 TFO -98.44									
10,000.0	44.84	93.61	9,933.8	-127.5	497.0	-75.7	12.00	-1.19	-16.86
10,100.0	45.49	76.69	10,004.6	-121.5	567.1	-62.5	12.00	0.65	-16.92
10,200.0	48.52	60.79	10,073.0	-94.9	634.7	-29.1	12.00	3.03	-15.90
10,300.0	53.51	46.72	10,136.1	-48.9	696.9	23.0	12.00	4.99	-14.06
10,400.0	59.92	34.58	10,191.1	14.5	750.9	91.7	12.00	6.42	-12.15
10,500.0	67.32	24.01	10,235.6	92.5	794.4	173.8	12.00	7.39	-10.56
10,600.0	75.33	14.57	10,267.7	181.8	825.5	265.8	12.00	8.01	-9.44
10,700.0	83.69	5.82	10,285.9	278.4	842.8	363.6	12.00	8.36	-8.76
10,774.2	90.00	359.52	10,290.0	352.4	846.2	437.6	12.00	8.50	-8.48
LP - Start DLS 0.00 TFO 90.00									
10,800.0	90.00	359.52	10,290.0	378.2	846.0	463.2	0.00	0.00	0.00
10,900.0	90.00	359.52	10,290.0	478.1	845.1	562.6	0.00	0.00	0.00
11,000.0	90.00	359.52	10,290.0	578.1	844.3	661.9	0.00	0.00	0.00
11,100.0	90.00	359.52	10,290.0	678.1	843.5	761.3	0.00	0.00	0.00
11,200.0	90.00	359.52	10,290.0	778.1	842.6	860.7	0.00	0.00	0.00
11,300.0	90.00	359.52	10,290.0	878.1	841.8	960.1	0.00	0.00	0.00
11,400.0	90.00	359.52	10,290.0	978.1	841.0	1,059.5	0.00	0.00	0.00
11,500.0	90.00	359.52	10,290.0	1,078.1	840.1	1,158.8	0.00	0.00	0.00
11,600.0	90.00	359.52	10,290.0	1,178.1	839.3	1,258.2	0.00	0.00	0.00
11,700.0	90.00	359.52	10,290.0	1,278.1	838.5	1,357.6	0.00	0.00	0.00
11,800.0	90.00	359.52	10,290.0	1,378.1	837.6	1,457.0	0.00	0.00	0.00
11,900.0	90.00	359.52	10,290.0	1,478.1	836.8	1,556.4	0.00	0.00	0.00
12,000.0	90.00	359.52	10,290.0	1,578.1	835.9	1,655.7	0.00	0.00	0.00
12,100.0	90.00	359.52	10,290.0	1,678.1	835.1	1,755.1	0.00	0.00	0.00
12,200.0	90.00	359.52	10,290.0	1,778.1	834.3	1,854.5	0.00	0.00	0.00
12,300.0	90.00	359.52	10,290.0	1,878.1	833.4	1,953.9	0.00	0.00	0.00
12,400.0	90.00	359.52	10,290.0	1,978.1	832.6	2,053.3	0.00	0.00	0.00
12,500.0	90.00	359.52	10,290.0	2,078.1	831.8	2,152.6	0.00	0.00	0.00
12,600.0	90.00	359.52	10,290.0	2,178.1	830.9	2,252.0	0.00	0.00	0.00
12,700.0	90.00	359.52	10,290.0	2,278.1	830.1	2,351.4	0.00	0.00	0.00
12,800.0	90.00	359.52	10,290.0	2,378.1	829.3	2,450.8	0.00	0.00	0.00
12,900.0	90.00	359.52	10,290.0	2,478.1	828.4	2,550.2	0.00	0.00	0.00
13,000.0	90.00	359.52	10,290.0	2,578.1	827.6	2,649.5	0.00	0.00	0.00
13,100.0	90.00	359.52	10,290.0	2,678.1	826.8	2,748.9	0.00	0.00	0.00
13,200.0	90.00	359.52	10,290.0	2,778.1	825.9	2,848.3	0.00	0.00	0.00
13,300.0	90.00	359.52	10,290.0	2,878.1	825.1	2,947.7	0.00	0.00	0.00
13,400.0	90.00	359.52	10,290.0	2,978.1	824.3	3,047.1	0.00	0.00	0.00
13,500.0	90.00	359.52	10,290.0	3,078.1	823.4	3,146.4	0.00	0.00	0.00
13,600.0	90.00	359.52	10,290.0	3,178.1	822.6	3,245.8	0.00	0.00	0.00
13,700.0	90.00	359.52	10,290.0	3,278.0	821.8	3,345.2	0.00	0.00	0.00
13,800.0	90.00	359.52	10,290.0	3,378.0	820.9	3,444.6	0.00	0.00	0.00
13,900.0	90.00	359.52	10,290.0	3,478.0	820.1	3,544.0	0.00	0.00	0.00
14,000.0	90.00	359.52	10,290.0	3,578.0	819.3	3,643.3	0.00	0.00	0.00
14,100.0	90.00	359.52	10,290.0	3,678.0	818.5	3,742.7	0.00	0.00	0.00
14,200.0	90.00	359.52	10,290.0	3,778.0	817.6	3,842.1	0.00	0.00	0.00
14,300.0	90.00	359.52	10,290.0	3,878.0	816.8	3,941.5	0.00	0.00	0.00
14,400.0	90.00	359.52	10,290.0	3,978.0	816.0	4,040.9	0.00	0.00	0.00
14,500.0	90.00	359.52	10,290.0	4,078.0	815.1	4,140.2	0.00	0.00	0.00
14,600.0	90.00	359.52	10,290.0	4,178.0	814.3	4,239.6	0.00	0.00	0.00
14,700.0	90.00	359.52	10,290.0	4,278.0	813.5	4,339.0	0.00	0.00	0.00
14,800.0	90.00	359.52	10,290.0	4,378.0	812.6	4,438.4	0.00	0.00	0.00



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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)	
14,900.0	90.00	359.52	10,290.0	4,478.0	811.8	4,537.8	0.00	0.00	0.00	
15,000.0	90.00	359.53	10,290.0	4,578.0	811.0	4,637.1	0.00	0.00	0.00	
15,100.0	90.00	359.53	10,290.0	4,678.0	810.2	4,736.5	0.00	0.00	0.00	
15,200.0	90.00	359.53	10,290.0	4,778.0	809.3	4,835.9	0.00	0.00	0.00	
15,300.0	90.00	359.53	10,290.0	4,878.0	808.5	4,935.3	0.00	0.00	0.00	
15,400.0	90.00	359.53	10,290.0	4,978.0	807.7	5,034.7	0.00	0.00	0.00	
15,500.0	90.00	359.53	10,290.0	5,078.0	806.8	5,134.1	0.00	0.00	0.00	
15,600.0	90.00	359.53	10,290.0	5,178.0	806.0	5,233.4	0.00	0.00	0.00	
15,700.0	90.00	359.53	10,290.0	5,278.0	805.2	5,332.8	0.00	0.00	0.00	
15,800.0	90.00	359.53	10,290.0	5,378.0	804.4	5,432.2	0.00	0.00	0.00	
15,900.0	90.00	359.53	10,290.0	5,478.0	803.5	5,531.6	0.00	0.00	0.00	
16,000.0	90.00	359.53	10,290.0	5,578.0	802.7	5,631.0	0.00	0.00	0.00	
16,100.0	90.00	359.53	10,290.0	5,678.0	801.9	5,730.3	0.00	0.00	0.00	
16,200.0	90.00	359.53	10,290.0	5,778.0	801.1	5,829.7	0.00	0.00	0.00	
16,300.0	90.00	359.53	10,290.0	5,878.0	800.2	5,929.1	0.00	0.00	0.00	
16,400.0	90.00	359.53	10,290.0	5,978.0	799.4	6,028.5	0.00	0.00	0.00	
16,500.0	90.00	359.53	10,290.0	6,078.0	798.6	6,127.9	0.00	0.00	0.00	
16,600.0	90.00	359.53	10,290.0	6,178.0	797.7	6,227.2	0.00	0.00	0.00	
16,700.0	90.00	359.53	10,290.0	6,277.9	796.9	6,326.6	0.00	0.00	0.00	
16,800.0	90.00	359.53	10,290.0	6,377.9	796.1	6,426.0	0.00	0.00	0.00	
16,900.0	90.00	359.53	10,290.0	6,477.9	795.3	6,525.4	0.00	0.00	0.00	
17,000.0	90.00	359.53	10,290.0	6,577.9	794.4	6,624.8	0.00	0.00	0.00	
17,100.0	90.00	359.53	10,290.0	6,677.9	793.6	6,724.1	0.00	0.00	0.00	
17,200.0	90.00	359.53	10,290.0	6,777.9	792.8	6,823.5	0.00	0.00	0.00	
17,300.0	90.00	359.53	10,290.0	6,877.9	792.0	6,922.9	0.00	0.00	0.00	
17,400.0	90.00	359.53	10,290.0	6,977.9	791.1	7,022.3	0.00	0.00	0.00	
17,500.0	90.00	359.53	10,290.0	7,077.9	790.3	7,121.7	0.00	0.00	0.00	
17,600.0	90.00	359.53	10,290.0	7,177.9	789.5	7,221.1	0.00	0.00	0.00	
17,700.0	90.00	359.53	10,290.0	7,277.9	788.7	7,320.4	0.00	0.00	0.00	
17,800.0	90.00	359.53	10,290.0	7,377.9	787.9	7,419.8	0.00	0.00	0.00	
17,900.0	90.00	359.53	10,290.0	7,477.9	787.0	7,519.2	0.00	0.00	0.00	
18,000.0	90.00	359.53	10,290.0	7,577.9	786.2	7,618.6	0.00	0.00	0.00	
18,022.0	90.00	359.53	10,290.0	7,599.9	786.0	7,640.4	0.00	0.00	0.00	
TD at 18022.0 - Wool Head 20 State Com 503H 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	10,290.0	7,599.9	786.0	538,636.73	768,144.77	32° 28' 43.054 N	103° 35' 52.192 W	
- plan hits target center										
- Point										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
10,774.2	10,290.0	LP	5-1/2	5-1/2	



Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Wool Head 20 State Com 503H
Company:	Advance Energy Partners	TVD Reference:	WELL @ 3773.5usft (Original Well Elev)
Project:	Hat Mesa	MD Reference:	WELL @ 3773.5usft (Original Well Elev)
Site:	Wool Head 20 State Com Pad D	North Reference:	Grid
Well:	Wool Head 20 State Com 503H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wool Head 20 State Com 503H		
Design:	Wool Head 20 State Com 503H - Prelim		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5,000.0	5,000.0	0.0	0.0	KOP - Start Build 1.00
5,500.0	5,499.4	-6.1	20.9	Start 3384.7 hold at 5500.0 MD
8,884.7	8,871.2	-88.9	304.1	Start Drop -1.00
9,384.7	9,370.5	-95.0	325.0	Start 190.5 hold at 9384.7 MD
9,575.1	9,561.0	-95.0	325.0	KOP #2 - Start Build 12.00
9,953.5	9,901.0	-123.2	464.4	Start DLS 12.00 TFO -98.44
10,774.2	10,290.0	352.4	846.2	LP - Start DLS 0.00 TFO 90.00
18,022.0	10,290.0	7,599.9	786.0	TD at 18022.0

WELL DETAILS: Wool Head 20 State Com 503H

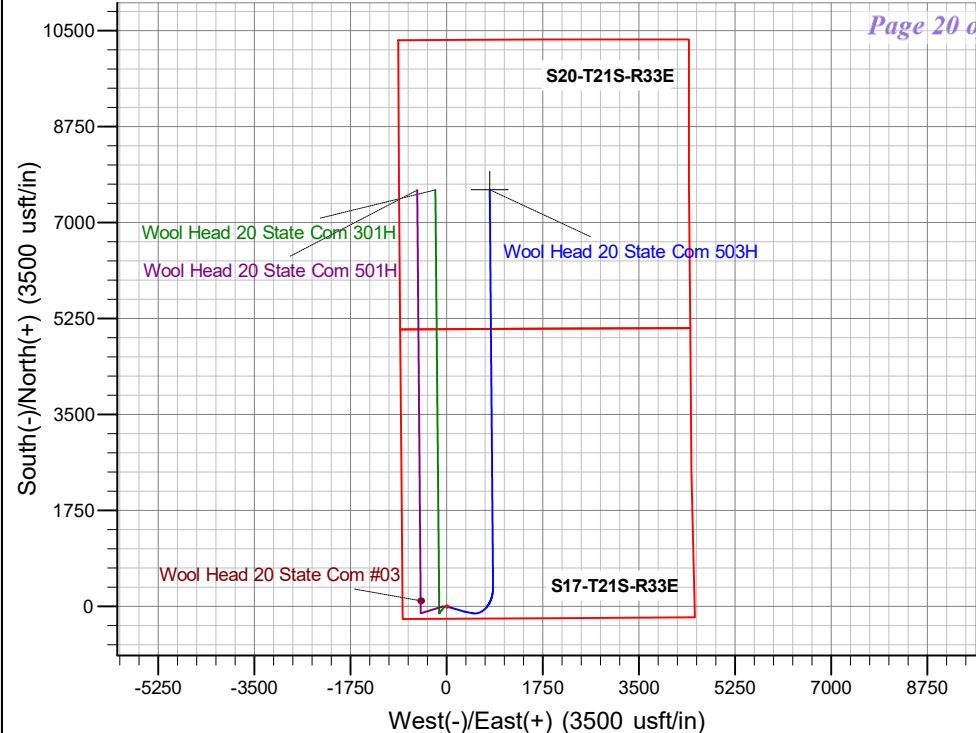
Ground Elev: 3741.0 KB: 3773.5

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	531036.83	767358.75	32° 27' 27.907 N	103° 36' 1.976 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	VSect	Annotation
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	5000.0	0.00	0.00	5000.0	0.0	0.0	0.00	0.00	0.0	KOP - Start Build 1.00
3	5500.0	5.00	106.29	5499.4	-6.1	20.9	1.00	106.29	-3.9	Start 3384.7 hold at 5500.0 MD
4	8884.7	5.00	106.29	8871.2	-88.9	304.1	0.00	0.00	-57.1	Start Drop -1.00
5	9384.7	0.00	0.00	9370.5	-95.0	325.0	1.00	180.00	-61.1	Start 190.5 hold at 9384.7 MD
6	9575.1	0.00	0.00	9561.0	-95.0	325.0	0.00	0.00	-61.1	KOP #2 - Start Build 12.00
7	9953.5	45.39	101.45	9901.0	-123.2	464.4	12.00	101.45	-74.8	Start DLS 12.00 TFO -98.44
8	10774.2	90.00	359.52	10290.0	352.4	846.2	12.00	-98.44	437.6	LP - Start DLS 0.00 TFO 90.00
9	18022.0	90.00	359.53	10290.0	7599.9	786.0	0.00	90.00	7640.4	TD at 18022.0



Azimuths to Grid North
True North: -0.39°
Magnetic North: 6.18°

Magnetic Field
Strength: 47680.3nT
Dip Angle: 60.22°
Date: 4/2/2021
Model: IGRF2015

