



End of Well Report

Advance Energy Partners, LLC Wool Head 20 State Com, Well No. 606H Lea County, New Mexico

Rig: H&P #620

Job No.: WT-19-125

Start Date: 08/03/2019

End Date: 10/13/2019

Directional Drillers:

Omar Alaniz, Joel Johnson

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www.aimdir.com





Performance Overview

Wool Head 20 State Com 606H (WT-19-125)

2019-08-03 to 2019-10-13

Lea, New Mexico, US (32.46, -103.59)

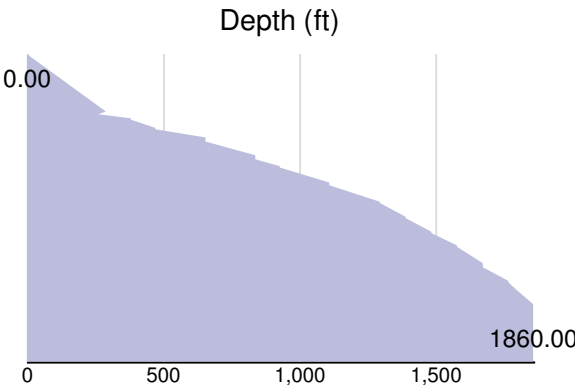
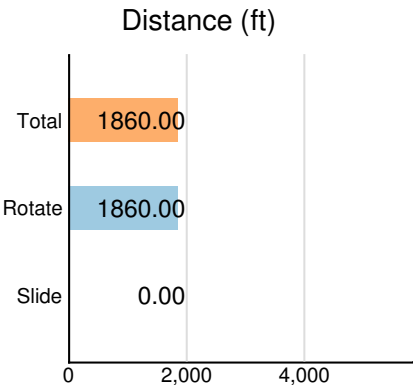
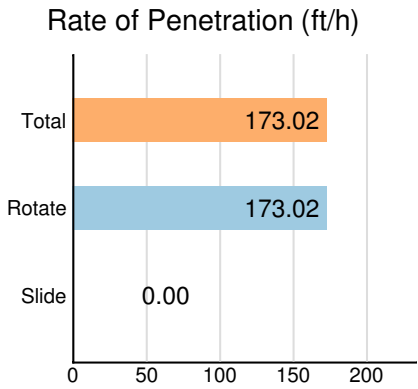
BHA Performance

BHA 1

BHA #1 (Surface)

In: 08/11/2019 04:30

Out: 08/11/2019 23:15

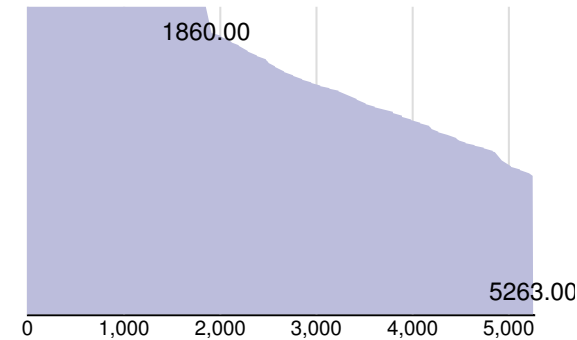
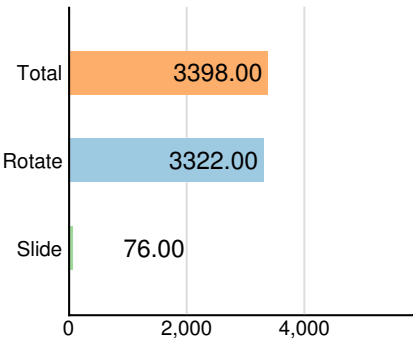
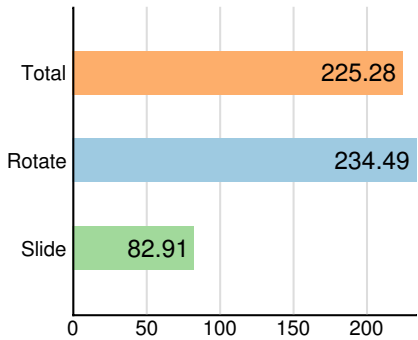


BHA 2

BHA #2 (12.25" Intermediate)

In: 08/16/2019 02:00

Out: 08/17/2019 18:00

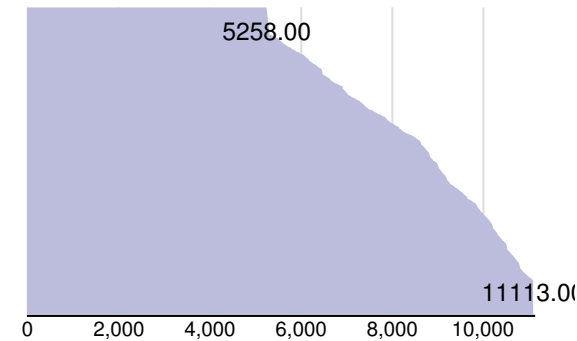
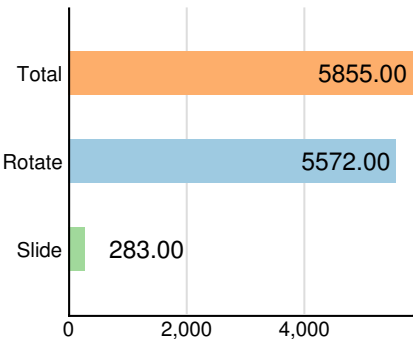
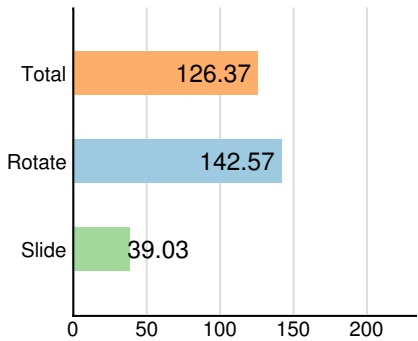


BHA 3

BHA #3 8.5" Intermediate

In: 09/11/2019 18:10

Out: 09/14/2019 11:50

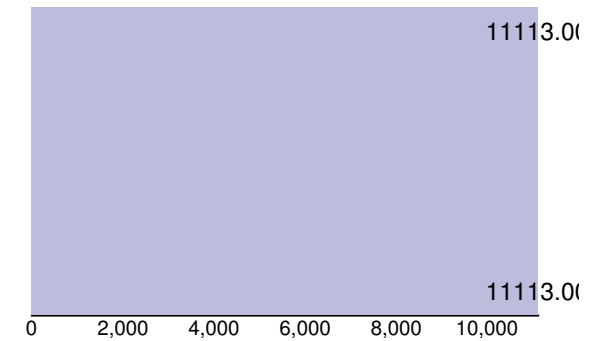
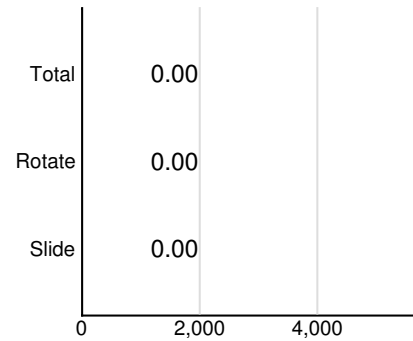
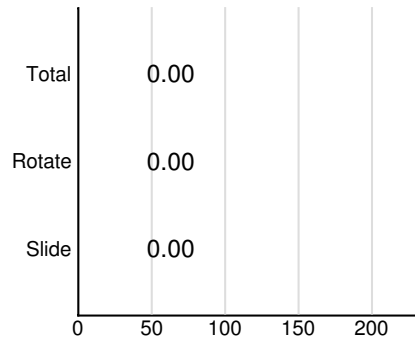


BHA 4

BHA #4

In: 10/03/2019 04:00

Out: 10/03/2019 12:00

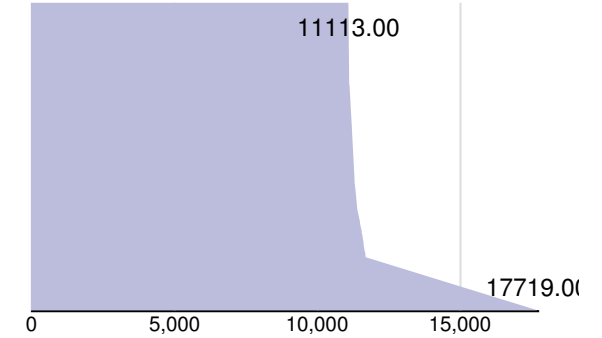
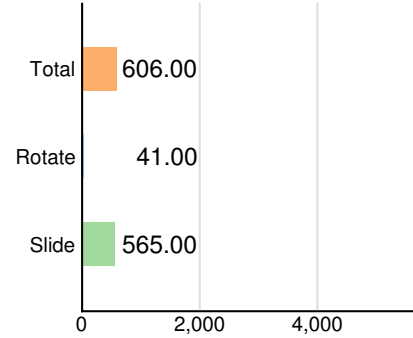
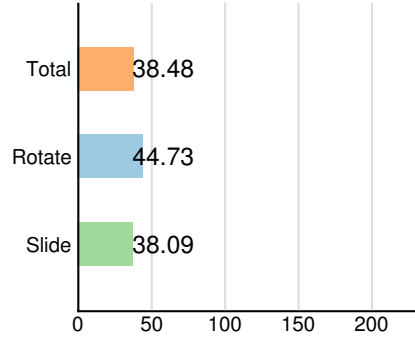


BHA 5

BHA #5 (Curve)

In: 10/03/2019 14:00

Out: 10/04/2019 19:30

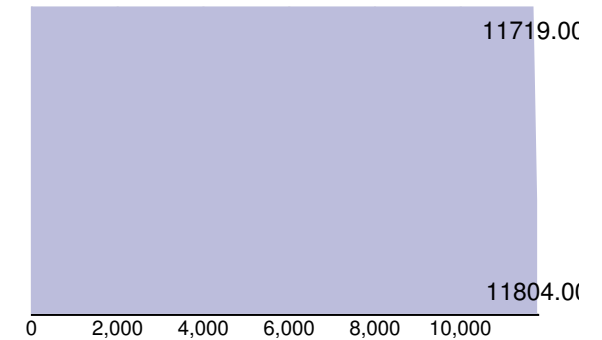
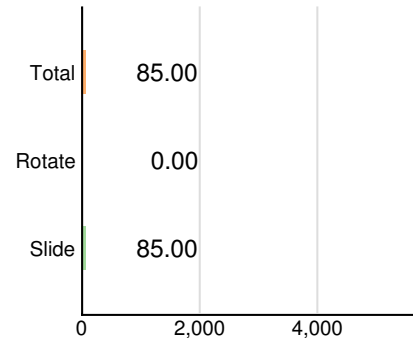
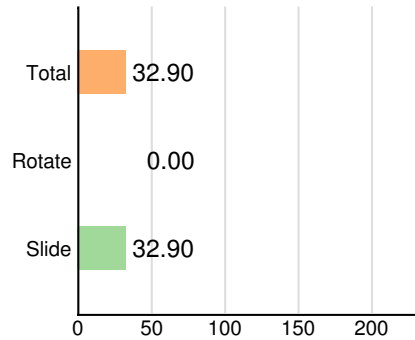


BHA 6

BHA #6 (Curve
Bailout)

In: 10/04/2019 19:30

Out: 10/05/2019 11:30

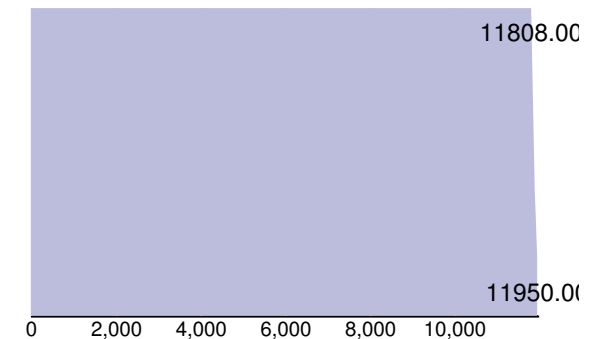
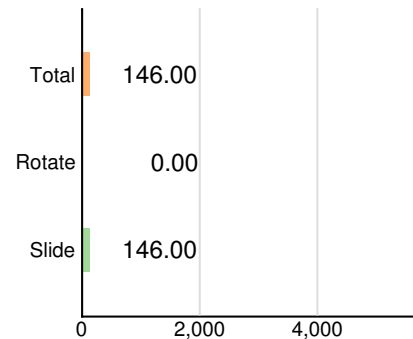
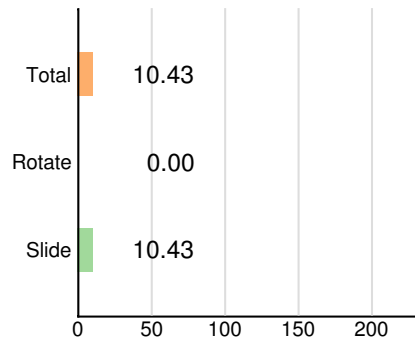


BHA 7

BHA #7 (Bail Out
3°)

In: 10/05/2019 13:00

Out: 10/06/2019 16:30

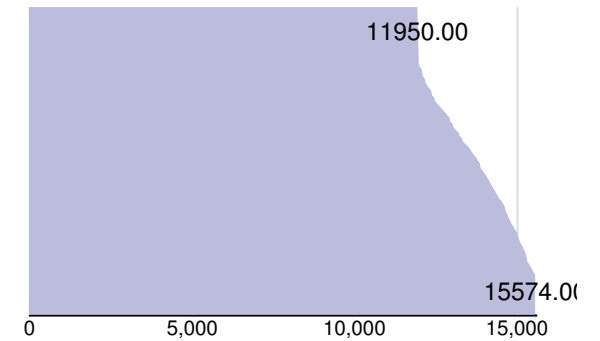
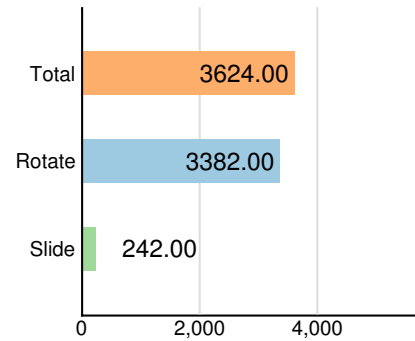
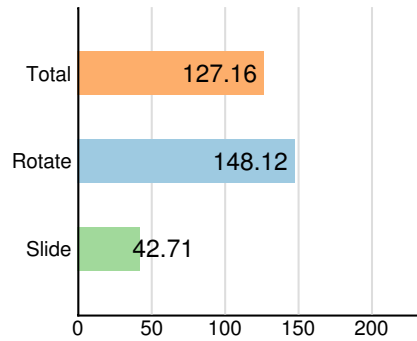


BHA 8

BHA #8 (Lateral)

In: 10/06/2019 16:30

Out: 10/08/2019 15:00

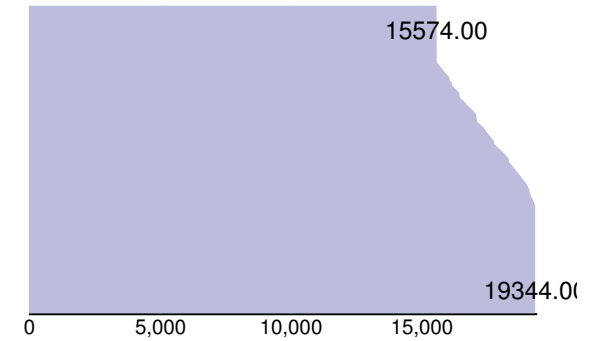
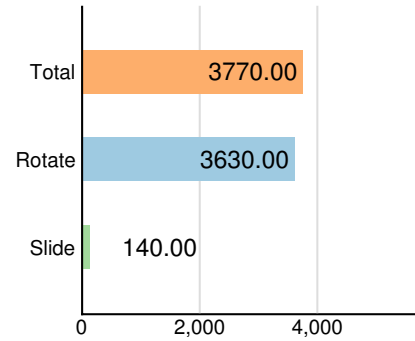
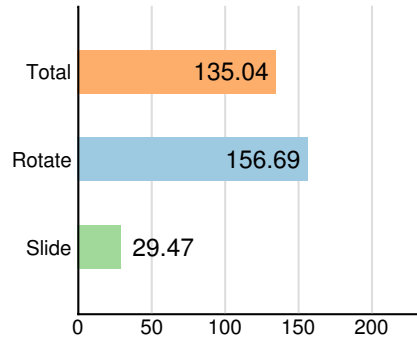


BHA 9

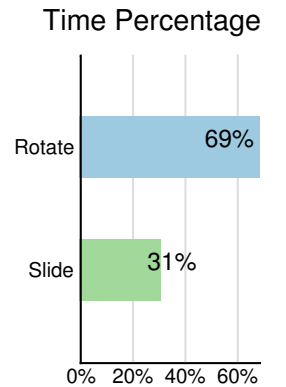
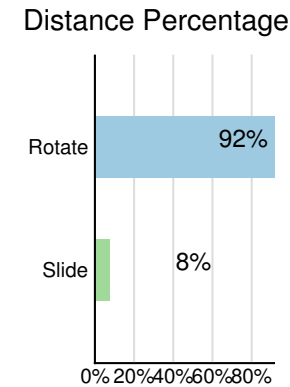
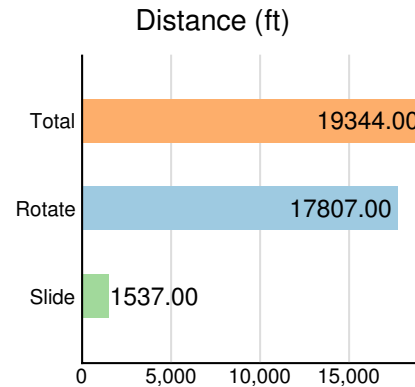
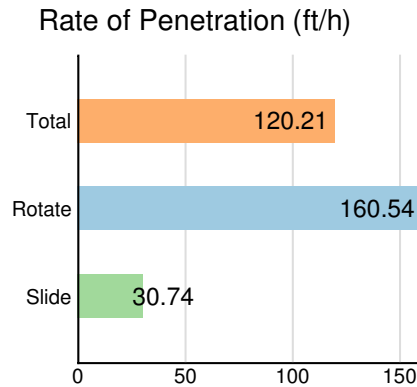
BHA #9 (Lateral)

In: 10/08/2019 15:00

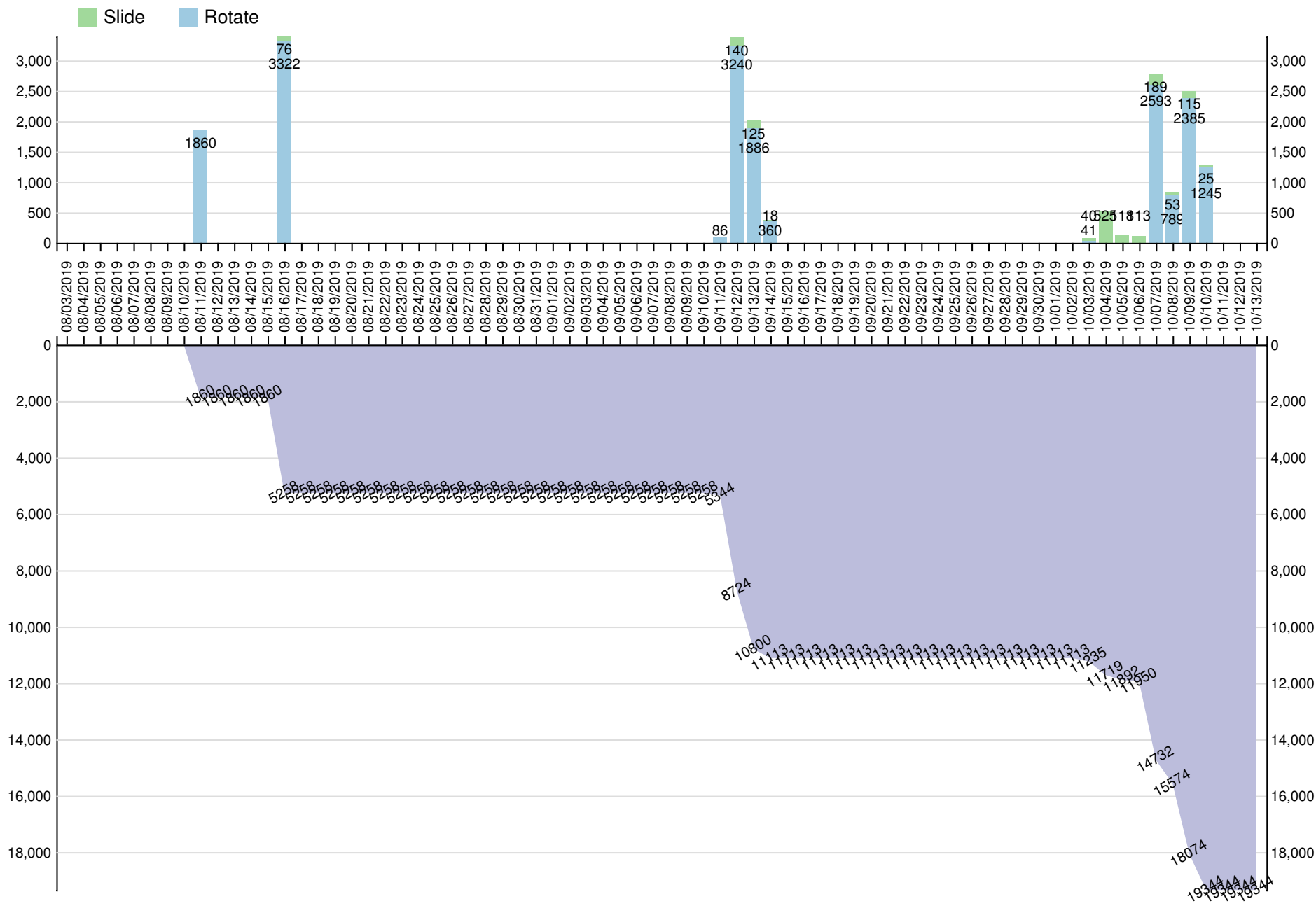
Out: 10/11/2019 12:40



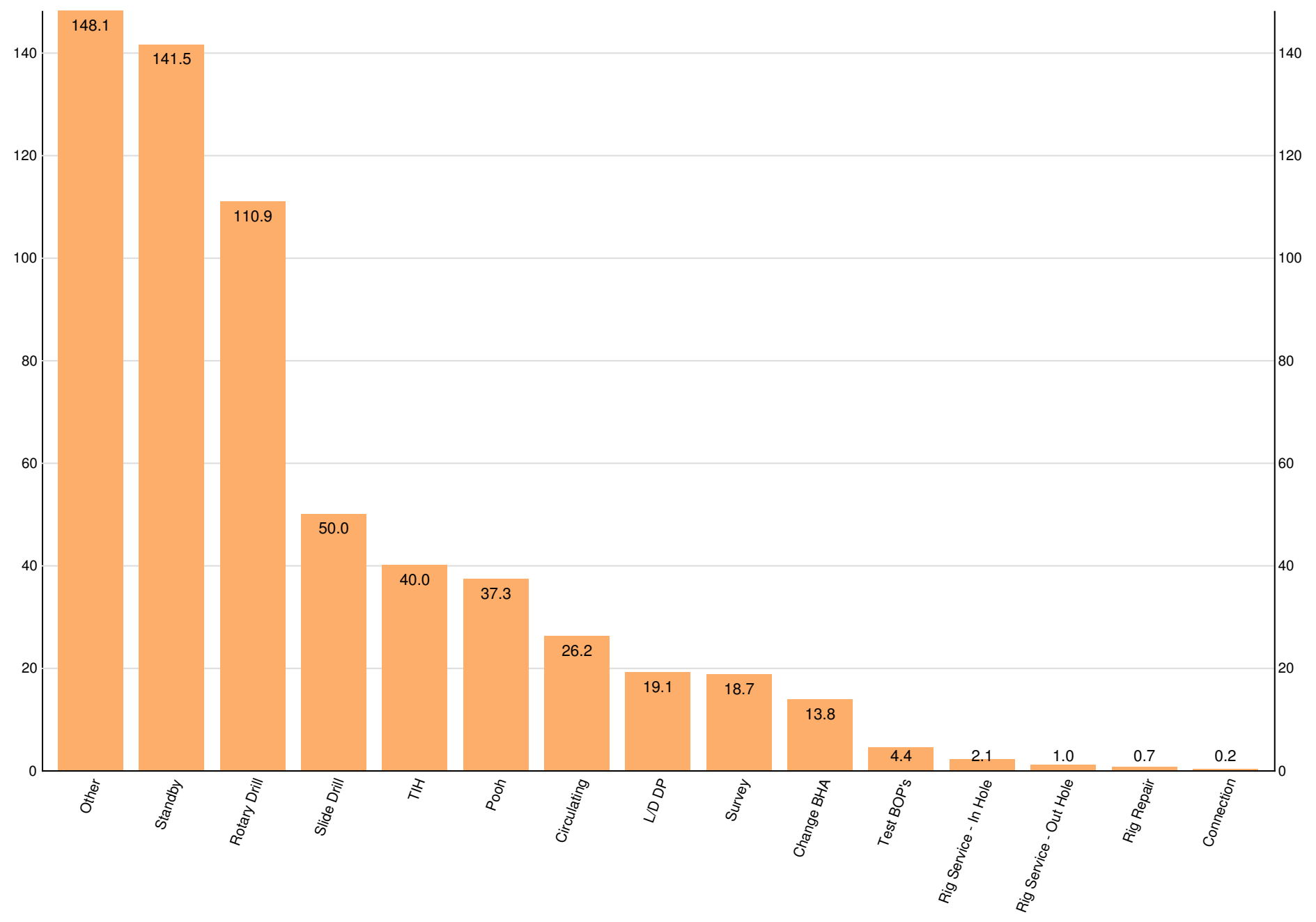
Total



Days vs. Depth



Directional Activity Hours





Proposed vs. As Drilled

Wool Head 20 State Com 606H (WT-19-125)

2019-08-03 to 2019-10-13

Lea, New Mexico, US (32.46, -103.59)

Advance Energy Partners, LLC

Wool Head 20 State Com 606H

Lea County, New Mexico

Job No. WT-19-125

H&P 620

Plan 1.0



SITE DETAILS: Wool Head 20 State Com 606H

Site Centre Northing: 530976.20
Easting: 769865.10

Positional Uncertainty: 0.00
Convergence: 0.40
Local North: Grid

PROJECT DETAILS: Lea County, New Mexico

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

System Datum: Mean Sea Level

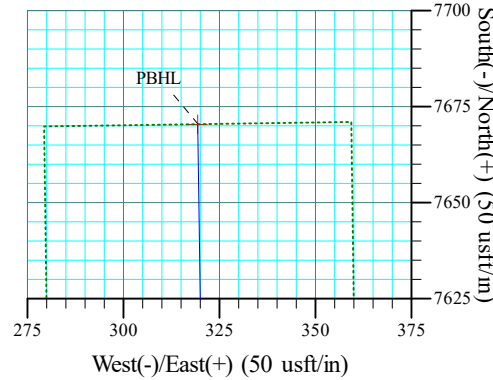
Depth Reference:
3715'GL+26.5 @ 3741.50usft (H&P 620)



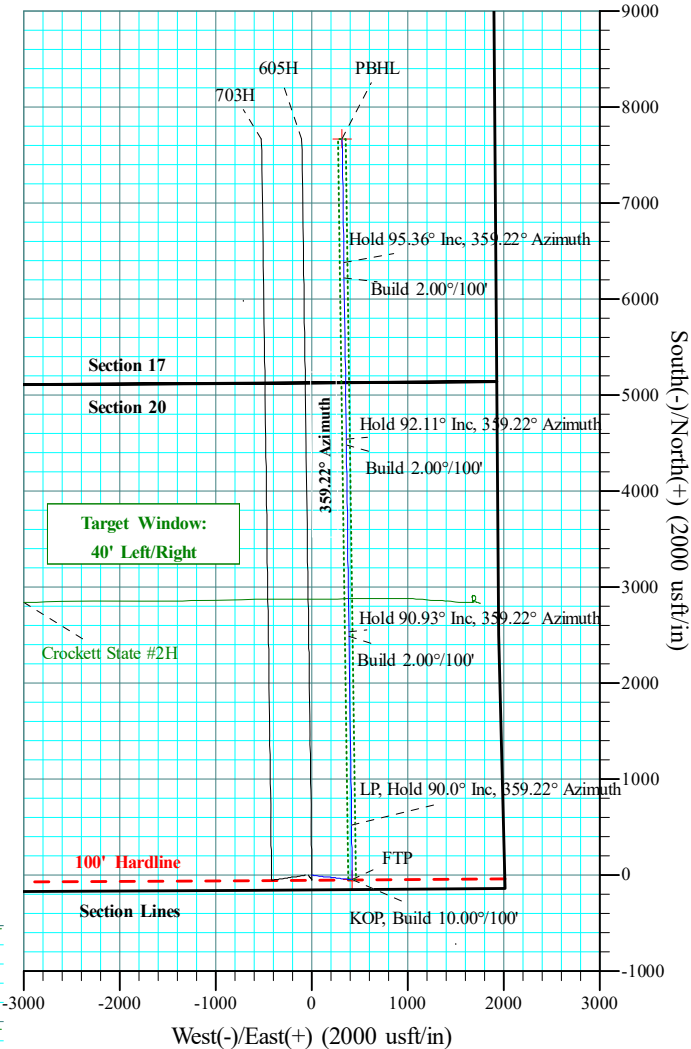
Azimuths to Grid North
True North: -0.40°
Magnetic North: 6.24°

Magnetic Field
Strength: 48100.3nT
Dip Angle: 60.25°
Date: 8/5/2019
Model: MVHD

Magnetic North: 6.24° to Grid North



*Note - Aim is not responsible for any collision issues against unknown offset wells.

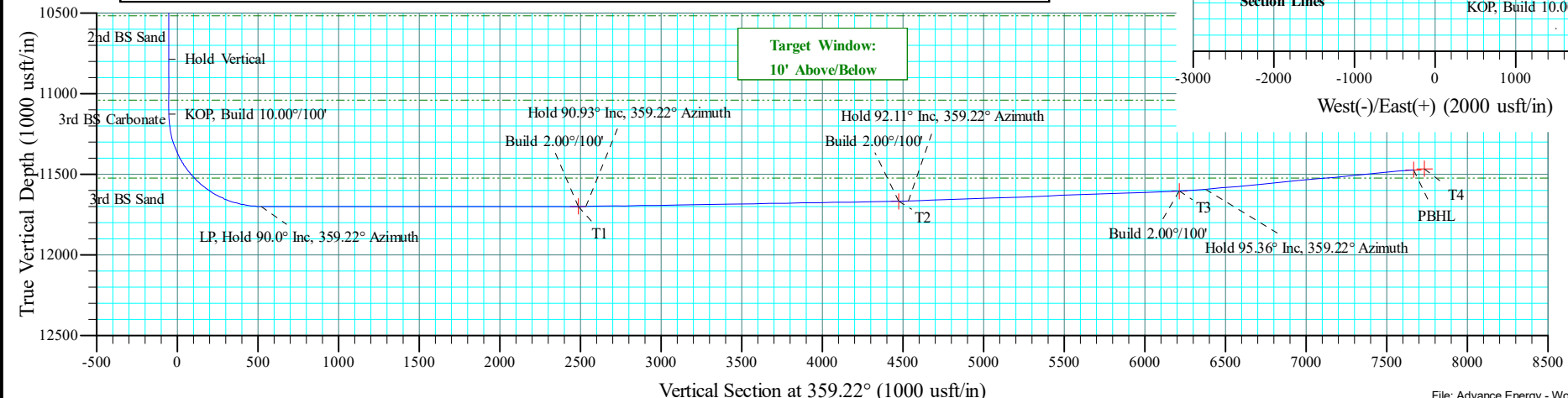


SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	5400.00	0.00	0.00	5400.00	0.00	0.00	0.00	0.00	0.00	Build 1.00°/100'
3	5900.00	5.00	96.41	5899.37	-2.43	21.67	1.00	96.41	-2.73	Hold 5.0° Inc, 96.41° Azimuth
4	10303.21	5.00	96.41	10285.82	-45.27	403.03	0.00	0.00	-50.75	Drop 1.00°/100'
5	10803.21	0.00	0.00	10785.18	-47.70	424.70	1.00	180.00	-53.48	Hold Vertical
6	11144.86	0.00	0.00	11126.84	-47.70	424.70	0.00	0.00	-53.48	KOP, Build 10.00°/100'
7	12044.86	90.00	359.22	11699.80	525.20	416.88	10.00	359.22	519.48	LP, Hold 90.0° Inc, 359.22° Azimuth
8	14011.17	90.00	359.22	11699.80	2491.33	390.06	0.00	0.00	2485.79	Build 2.00°/100'
9	14057.51	90.93	359.22	11699.42	2537.66	389.43	2.00	0.00	2532.12	Hold 90.93° Inc, 359.22° Azimuth
10	16000.13	90.93	359.22	11668.00	4479.85	362.93	0.00	0.00	4474.49	Build 2.00°/100'
11	16059.53	92.11	359.22	11666.43	4539.22	362.12	2.00	0.00	4533.87	Hold 92.11° Inc, 359.22° Azimuth
12	17740.58	92.11	359.22	11604.40	6218.96	339.20	0.00	0.00	6213.77	Build 2.00°/100'
13	17902.84	95.36	359.22	11593.82	6380.85	336.99	2.00	0.00	6375.67	Hold 95.36° Inc, 359.22° Azimuth
14	19198.18	95.36	359.22	11472.82	7670.40	319.40	0.00	0.00	7665.34	PBHL

DESIGN TARGET DETAILS

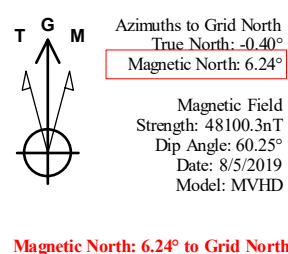
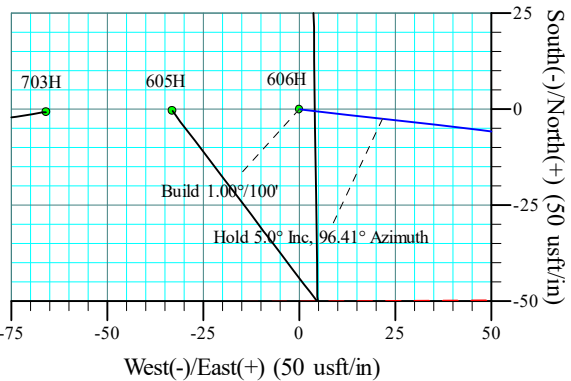
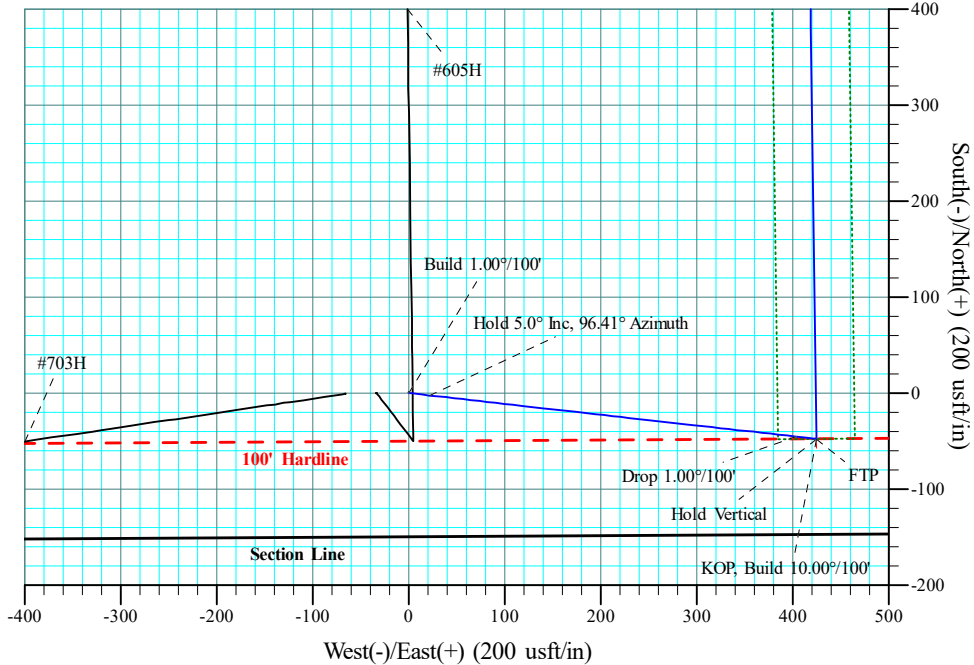
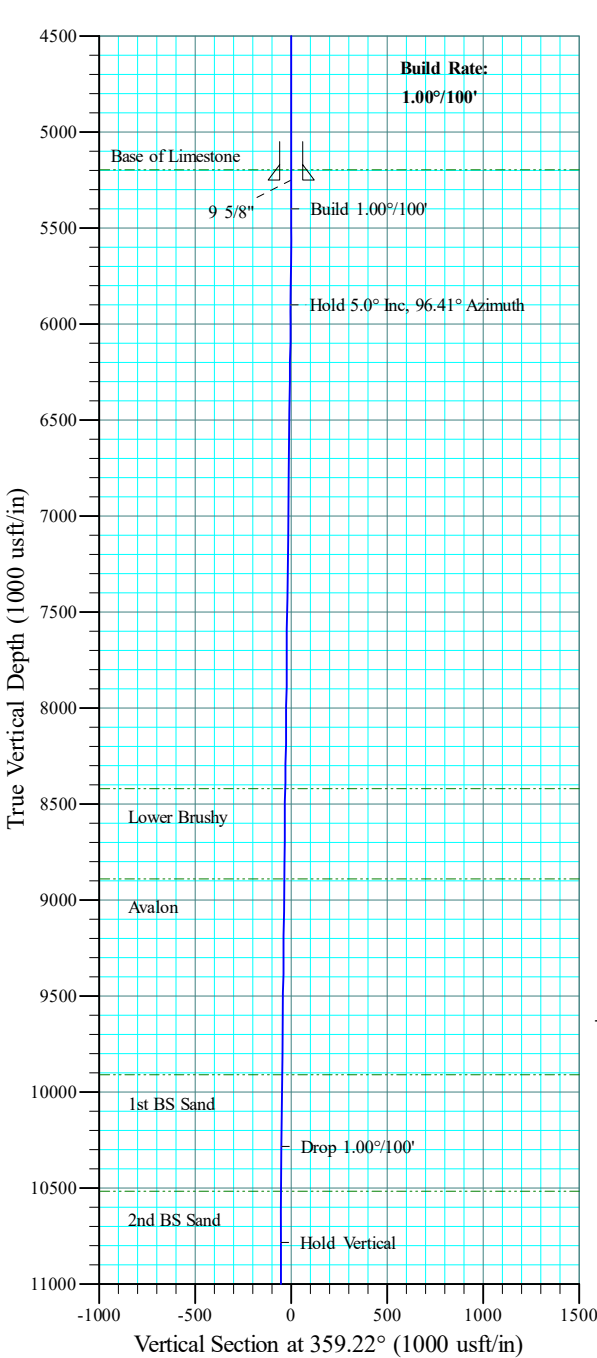
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
FTP (Wool606H)	0.00	-47.70	424.70	530928.50	770289.80	32° 27' 26.635 N	103° 35' 27.778 W
PBHL r1 (Wool606H)	11472.82	7670.40	319.40	538646.60	770184.50	32° 28' 43.012 N	103° 35' 28.380 W



Advance Energy Partners, LLC



Wool Head 20 State Com 606H
Lea County, New Mexico
Job No. WT-19-125
H&P 620
Plan 1.0



SLOTS		
Slot Name	+N/-S	+E/-W
605H	-0.40	-33.00
606H	0.00	0.00
703H	-0.70	-65.90

CASING DETAILS		
TVD	MD	Name
1850.00	1850.00	13 3/8"
5250.00	5250.00	9 5/8"

SITE DETAILS: Wool Head 20 State Com 606H	
Site Centre Northing:	530976.20
Easting:	769865.10
Positional Uncertainty:	0.00
Convergence:	0.40
Local North:	Grid
Depth Reference:	3715'GL+26.5 @ 3741.50usft (H&P 620)

PROJECT DETAILS: Lea County, New Mexico	
Geodetic System:	US State Plane 1983
Datum:	North American Datum 1983
Ellipsoid:	GRS 1980
Zone:	New Mexico Eastern Zone
System Datum:	Mean Sea Level

DESIGN TARGET DETAILS

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FTP (Wool606H)	0.00	-47.70	424.70	530928.50	770289.80	32° 27' 26.635 N	103° 35' 27.778 W
PBHL r1 (Wool606H)	11472.82	7670.40	319.40	538646.60	770184.50	32° 28' 43.012 N	103° 35' 28.380 W

*Note - Aim is not responsible for collision issues against any unknown offset wells.

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VFace	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	5400.00	0.00	0.00	5400.00	0.00	0.00	0.00	0.00	0.00	Build 1.00°/100'
3	5900.00	5.00	96.41	5899.37	-2.43	21.67	1.00	96.41	-2.73	Hold 5.0° Inc, 96.41° Azimuth
4	10303.21	5.00	96.41	10285.82	-45.27	403.03	0.00	0.00	-50.75	Drop 1.00°/100'
5	10803.21	0.00	0.00	10785.18	-47.70	424.70	1.00	180.00	-53.48	Hold Vertical
6	11144.86	0.00	0.00	11126.84	-47.70	424.70	0.00	0.00	-53.48	KOP, Build 10.00°/100'
7	12044.86	90.00	359.22	11699.80	525.20	416.88	10.00	359.22	519.48	LP, Hold 90.0° Inc, 359.22° Azimuth
8	14011.17	90.00	359.22	11699.80	2491.33	390.06	0.00	0.00	2485.79	Build 2.00°/100'
9	14057.51	90.93	359.22	11699.42	2537.66	389.43	2.00	0.00	2532.12	Hold 90.93° Inc, 359.22° Azimuth
10	16000.13	90.93	359.22	11668.00	4479.85	362.93	0.00	0.00	4474.49	Build 2.00°/100'
11	16059.53	92.11	359.22	11666.43	4539.22	362.12	2.00	0.00	4533.87	Hold 92.11° Inc, 359.22° Azimuth
12	17740.58	92.11	359.22	11604.40	6218.96	339.20	0.00	0.00	6213.77	Build 2.00°/100'
13	17902.84	95.36	359.22	11593.82	6380.85	336.99	2.00	0.00	6375.67	Hold 95.36° Inc, 359.22° Azimuth
14	19198.18	95.36	359.22	11472.82	7670.40	319.40	0.00	0.00	7665.34	PBHL

Drawn By: IG

Date Created: 7/30/2019

Date Revised: 8/5/2019

File: Advance Energy - Wool Head 20 State Com 606H Plan 1.0 Surface.wpc

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Wool Head 20 State Com 606H
Project:	Lea County, New Mexico	TVD Reference:	3715'GL+26.5 @ 3741.50usft (H&P 620)
Site:	Wool Head 20 State Com 606H	MD Reference:	3715'GL+26.5 @ 3741.50usft (H&P 620)
Well:	#606H	North Reference:	Grid
Wellbore:	Lateral 1r1	Survey Calculation Method:	Minimum Curvature
Design:	Plan 1.0	Database:	EDM 5000.1 Aim Database

Project	Lea County, New Mexico		
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 606H			
Site Position:		Northing:		530,976.20 usft	
From:		Easting:		769,865.10 usft	
Position Uncertainty:		Slot Radius:		Grid Convergence:	
Map	0.00 usft		13-3/16 "		

Well	#606H - Slot 606H					
Well Position	+N/-S	0.00 usft	Northing:	530,976.20 usft	Latitude:	32° 27' 27.136 N
	+E/-W	0.00 usft	Easting:	769,865.10 usft	Longitude:	103° 35' 32.730 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,715.00 usft

Wellbore	Lateral 1r1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	MVHD	8/5/2019	6.64	60.25	48,100.29096800

Design	Plan 1.0				
Audit Notes:					
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	359.22	

Survey Tool Program	Date	8/5/2019			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	19,198.18	Plan 1.0 (Lateral 1r1)	B001Mb_MWD+HRGM	OWSG MWD + HRGM	

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)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
FTP (Wool606H)										
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00	

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Wool Head 20 State Com 606H
Project:	Lea County, New Mexico	TVD Reference:	3715'GL+26.5 @ 3741.50usft (H&P 620)
Site:	Wool Head 20 State Com 606H	MD Reference:	3715'GL+26.5 @ 3741.50usft (H&P 620)
Well:	#606H	North Reference:	Grid
Wellbore:	Lateral 1r1	Survey Calculation Method:	Minimum Curvature
Design:	Plan 1.0	Database:	EDM 5000.1 Aim Database

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)
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,793.00	0.00	0.00	1,793.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,850.00	0.00	0.00	1,850.00	0.00	0.00	0.00	0.00	0.00	0.00
13 3/8"									
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Wool Head 20 State Com 606H
Project:	Lea County, New Mexico	TVD Reference:	3715'GL+26.5 @ 3741.50usft (H&P 620)
Site:	Wool Head 20 State Com 606H	MD Reference:	3715'GL+26.5 @ 3741.50usft (H&P 620)
Well:	#606H	North Reference:	Grid
Wellbore:	Lateral 1r1	Survey Calculation Method:	Minimum Curvature
Design:	Plan 1.0	Database:	EDM 5000.1 Aim Database

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)
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,196.00	0.00	0.00	5,196.00	0.00	0.00	0.00	0.00	0.00	0.00
Base of Limestone									
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,250.00	0.00	0.00	5,250.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"									
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
Build 1.00°/100'									
5,500.00	1.00	96.41	5,500.00	-0.10	0.87	-0.11	1.00	1.00	0.00
5,600.00	2.00	96.41	5,599.96	-0.39	3.47	-0.44	1.00	1.00	0.00
5,700.00	3.00	96.41	5,699.86	-0.88	7.80	-0.98	1.00	1.00	0.00
5,800.00	4.00	96.41	5,799.68	-1.56	13.87	-1.75	1.00	1.00	0.00
5,900.00	5.00	96.41	5,899.37	-2.43	21.67	-2.73	1.00	1.00	0.00
Hold 5.0° Inc, 96.41° Azimuth									
6,000.00	5.00	96.41	5,998.99	-3.41	30.33	-3.82	0.00	0.00	0.00
6,100.00	5.00	96.41	6,098.60	-4.38	38.99	-4.91	0.00	0.00	0.00
6,200.00	5.00	96.41	6,198.22	-5.35	47.65	-6.00	0.00	0.00	0.00
6,300.00	5.00	96.41	6,297.84	-6.32	56.31	-7.09	0.00	0.00	0.00
6,400.00	5.00	96.41	6,397.46	-7.30	64.97	-8.18	0.00	0.00	0.00
6,500.00	5.00	96.41	6,497.08	-8.27	73.63	-9.27	0.00	0.00	0.00
6,600.00	5.00	96.41	6,596.70	-9.24	82.29	-10.36	0.00	0.00	0.00
6,700.00	5.00	96.41	6,696.32	-10.22	90.96	-11.45	0.00	0.00	0.00
6,800.00	5.00	96.41	6,795.94	-11.19	99.62	-12.54	0.00	0.00	0.00
6,900.00	5.00	96.41	6,895.56	-12.16	108.28	-13.63	0.00	0.00	0.00
7,000.00	5.00	96.41	6,995.18	-13.13	116.94	-14.72	0.00	0.00	0.00
7,100.00	5.00	96.41	7,094.80	-14.11	125.60	-15.82	0.00	0.00	0.00
7,200.00	5.00	96.41	7,194.42	-15.08	134.26	-16.91	0.00	0.00	0.00
7,300.00	5.00	96.41	7,294.04	-16.05	142.92	-18.00	0.00	0.00	0.00
7,400.00	5.00	96.41	7,393.66	-17.03	151.58	-19.09	0.00	0.00	0.00
7,500.00	5.00	96.41	7,493.28	-18.00	160.24	-20.18	0.00	0.00	0.00
7,600.00	5.00	96.41	7,592.90	-18.97	168.91	-21.27	0.00	0.00	0.00
7,700.00	5.00	96.41	7,692.52	-19.94	177.57	-22.36	0.00	0.00	0.00
7,800.00	5.00	96.41	7,792.14	-20.92	186.23	-23.45	0.00	0.00	0.00
7,900.00	5.00	96.41	7,891.76	-21.89	194.89	-24.54	0.00	0.00	0.00
8,000.00	5.00	96.41	7,991.37	-22.86	203.55	-25.63	0.00	0.00	0.00
8,100.00	5.00	96.41	8,090.99	-23.83	212.21	-26.72	0.00	0.00	0.00
8,200.00	5.00	96.41	8,190.61	-24.81	220.87	-27.81	0.00	0.00	0.00
8,300.00	5.00	96.41	8,290.23	-25.78	229.53	-28.90	0.00	0.00	0.00
8,400.00	5.00	96.41	8,389.85	-26.75	238.19	-29.99	0.00	0.00	0.00
8,429.26	5.00	96.41	8,419.00	-27.04	240.73	-30.31	0.00	0.00	0.00
Lower Brushy									

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Wool Head 20 State Com 606H
Project:	Lea County, New Mexico	TVD Reference:	3715'GL+26.5 @ 3741.50usft (H&P 620)
Site:	Wool Head 20 State Com 606H	MD Reference:	3715'GL+26.5 @ 3741.50usft (H&P 620)
Well:	#606H	North Reference:	Grid
Wellbore:	Lateral 1r1	Survey Calculation Method:	Minimum Curvature
Design:	Plan 1.0	Database:	EDM 5000.1 Aim Database

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)
8,500.00	5.00	96.41	8,489.47	-27.73	246.86	-31.08	0.00	0.00	0.00
8,600.00	5.00	96.41	8,589.09	-28.70	255.52	-32.17	0.00	0.00	0.00
8,700.00	5.00	96.41	8,688.71	-29.67	264.18	-33.26	0.00	0.00	0.00
8,800.00	5.00	96.41	8,788.33	-30.64	272.84	-34.36	0.00	0.00	0.00
8,900.00	5.00	96.41	8,887.95	-31.62	281.50	-35.45	0.00	0.00	0.00
8,901.05	5.00	96.41	8,889.00	-31.63	281.59	-35.46	0.00	0.00	0.00
Avalon									
9,000.00	5.00	96.41	8,987.57	-32.59	290.16	-36.54	0.00	0.00	0.00
9,100.00	5.00	96.41	9,087.19	-33.56	298.82	-37.63	0.00	0.00	0.00
9,200.00	5.00	96.41	9,186.81	-34.53	307.48	-38.72	0.00	0.00	0.00
9,300.00	5.00	96.41	9,286.43	-35.51	316.14	-39.81	0.00	0.00	0.00
9,400.00	5.00	96.41	9,386.05	-36.48	324.81	-40.90	0.00	0.00	0.00
9,500.00	5.00	96.41	9,485.67	-37.45	333.47	-41.99	0.00	0.00	0.00
9,600.00	5.00	96.41	9,585.29	-38.43	342.13	-43.08	0.00	0.00	0.00
9,700.00	5.00	96.41	9,684.91	-39.40	350.79	-44.17	0.00	0.00	0.00
9,800.00	5.00	96.41	9,784.53	-40.37	359.45	-45.26	0.00	0.00	0.00
9,900.00	5.00	96.41	9,884.14	-41.34	368.11	-46.35	0.00	0.00	0.00
9,927.96	5.00	96.41	9,912.00	-41.62	370.53	-46.66	0.00	0.00	0.00
1st BS Sand									
10,000.00	5.00	96.41	9,983.76	-42.32	376.77	-47.44	0.00	0.00	0.00
10,100.00	5.00	96.41	10,083.38	-43.29	385.43	-48.53	0.00	0.00	0.00
10,200.00	5.00	96.41	10,183.00	-44.26	394.09	-49.62	0.00	0.00	0.00
10,303.21	5.00	96.41	10,285.82	-45.27	403.03	-50.75	0.00	0.00	0.00
Drop 1.00°/100'									
10,400.00	4.03	96.41	10,382.31	-46.12	410.61	-51.70	1.00	-1.00	0.00
10,500.00	3.03	96.41	10,482.12	-46.80	416.73	-52.47	1.00	-1.00	0.00
10,535.93	2.67	96.41	10,518.00	-47.00	418.51	-52.70	1.00	-1.00	0.00
2nd BS Sand									
10,600.00	2.03	96.41	10,582.02	-47.30	421.12	-53.03	1.00	-1.00	0.00
10,700.00	1.03	96.41	10,681.98	-47.60	423.78	-53.36	1.00	-1.00	0.00
10,803.21	0.00	0.00	10,785.18	-47.70	424.70	-53.48	1.00	-1.00	0.00
Hold Vertical									
10,900.00	0.00	0.00	10,881.98	-47.70	424.70	-53.48	0.00	0.00	0.00
11,000.00	0.00	0.00	10,981.98	-47.70	424.70	-53.48	0.00	0.00	0.00
11,057.02	0.00	0.00	11,039.00	-47.70	424.70	-53.48	0.00	0.00	0.00
3rd BS Carbonate									
11,100.00	0.00	0.00	11,081.98	-47.70	424.70	-53.48	0.00	0.00	0.00
11,144.86	0.00	0.00	11,126.84	-47.70	424.70	-53.48	0.00	0.00	0.00
KOP, Build 10.00°/100'									
11,150.00	0.51	359.22	11,131.98	-47.68	424.70	-53.45	10.00	10.00	0.00
11,200.00	5.51	359.22	11,181.89	-45.05	424.66	-50.83	10.00	10.00	0.00
11,250.00	10.51	359.22	11,231.39	-38.08	424.57	-43.86	10.00	10.00	0.00
11,300.00	15.51	359.22	11,280.09	-26.83	424.42	-32.60	10.00	10.00	0.00
11,350.00	20.51	359.22	11,327.62	-11.37	424.20	-17.15	10.00	10.00	0.00
11,400.00	25.51	359.22	11,373.63	8.17	423.94	2.40	10.00	10.00	0.00

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Wool Head 20 State Com 606H
Project:	Lea County, New Mexico	TVD Reference:	3715'GL+26.5 @ 3741.50usft (H&P 620)
Site:	Wool Head 20 State Com 606H	MD Reference:	3715'GL+26.5 @ 3741.50usft (H&P 620)
Well:	#606H	North Reference:	Grid
Wellbore:	Lateral 1r1	Survey Calculation Method:	Minimum Curvature
Design:	Plan 1.0	Database:	EDM 5000.1 Aim Database

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)
11,450.00	30.51	359.22	11,417.76	31.64	423.62	25.87	10.00	10.00	0.00
11,500.00	35.51	359.22	11,459.67	58.87	423.25	53.11	10.00	10.00	0.00
11,550.00	40.51	359.22	11,499.05	89.65	422.83	83.89	10.00	10.00	0.00
11,583.68	43.88	359.22	11,524.00	112.27	422.52	106.51	10.00	10.00	0.00
3rd BS Sand									
11,600.00	45.51	359.22	11,535.60	123.75	422.36	117.99	10.00	10.00	0.00
11,650.00	50.51	359.22	11,569.03	160.90	421.85	155.14	10.00	10.00	0.00
11,700.00	55.51	359.22	11,599.11	200.82	421.31	195.07	10.00	10.00	0.00
11,750.00	60.51	359.22	11,625.58	243.21	420.73	237.46	10.00	10.00	0.00
11,800.00	65.51	359.22	11,648.27	287.75	420.12	282.00	10.00	10.00	0.00
11,850.00	70.51	359.22	11,666.98	334.09	419.49	328.35	10.00	10.00	0.00
11,900.00	75.51	359.22	11,681.58	381.89	418.84	376.15	10.00	10.00	0.00
11,950.00	80.51	359.22	11,691.96	430.78	418.17	425.05	10.00	10.00	0.00
12,000.00	85.51	359.22	11,698.04	480.39	417.50	474.66	10.00	10.00	0.00
12,044.86	90.00	359.22	11,699.80	525.20	416.88	519.48	10.00	10.00	0.00
LP, Hold 90.0° Inc, 359.22° Azimuth									
12,100.00	90.00	359.22	11,699.80	580.34	416.13	574.62	0.00	0.00	0.00
12,200.00	90.00	359.22	11,699.80	680.33	414.77	674.62	0.00	0.00	0.00
12,300.00	90.00	359.22	11,699.80	780.32	413.40	774.62	0.00	0.00	0.00
12,400.00	90.00	359.22	11,699.80	880.31	412.04	874.62	0.00	0.00	0.00
12,500.00	90.00	359.22	11,699.80	980.30	410.67	974.62	0.00	0.00	0.00
12,600.00	90.00	359.22	11,699.80	1,080.29	409.31	1,074.62	0.00	0.00	0.00
12,700.00	90.00	359.22	11,699.80	1,180.28	407.95	1,174.62	0.00	0.00	0.00
12,800.00	90.00	359.22	11,699.80	1,280.27	406.58	1,274.62	0.00	0.00	0.00
12,900.00	90.00	359.22	11,699.80	1,380.26	405.22	1,374.62	0.00	0.00	0.00
13,000.00	90.00	359.22	11,699.80	1,480.25	403.85	1,474.62	0.00	0.00	0.00
13,100.00	90.00	359.22	11,699.80	1,580.24	402.49	1,574.62	0.00	0.00	0.00
13,200.00	90.00	359.22	11,699.80	1,680.23	401.13	1,674.62	0.00	0.00	0.00
13,300.00	90.00	359.22	11,699.80	1,780.22	399.76	1,774.62	0.00	0.00	0.00
13,400.00	90.00	359.22	11,699.80	1,880.21	398.40	1,874.62	0.00	0.00	0.00
13,500.00	90.00	359.22	11,699.80	1,980.20	397.03	1,974.62	0.00	0.00	0.00
13,600.00	90.00	359.22	11,699.80	2,080.20	395.67	2,074.62	0.00	0.00	0.00
13,700.00	90.00	359.22	11,699.80	2,180.19	394.30	2,174.62	0.00	0.00	0.00
13,800.00	90.00	359.22	11,699.80	2,280.18	392.94	2,274.62	0.00	0.00	0.00
13,900.00	90.00	359.22	11,699.80	2,380.17	391.58	2,374.62	0.00	0.00	0.00
14,000.00	90.00	359.22	11,699.80	2,480.16	390.21	2,474.62	0.00	0.00	0.00
14,011.17	90.00	359.22	11,699.80	2,491.33	390.06	2,485.79	0.00	0.00	0.00
Build 2.00°/100'									
14,011.19	90.00	359.22	11,699.80	2,491.34	390.06	2,485.80	0.00	0.00	0.00
T1 (Wool606H)									
14,057.51	90.93	359.22	11,699.42	2,537.66	389.43	2,532.12	2.00	2.00	0.00
Hold 90.93° Inc, 359.22° Azimuth									
14,100.00	90.93	359.22	11,698.74	2,580.14	388.85	2,574.61	0.00	0.00	0.00
14,200.00	90.93	359.22	11,697.12	2,680.12	387.48	2,674.60	0.00	0.00	0.00

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Wool Head 20 State Com 606H
Project:	Lea County, New Mexico	TVD Reference:	3715'GL+26.5 @ 3741.50usft (H&P 620)
Site:	Wool Head 20 State Com 606H	MD Reference:	3715'GL+26.5 @ 3741.50usft (H&P 620)
Well:	#606H	North Reference:	Grid
Wellbore:	Lateral 1r1	Survey Calculation Method:	Minimum Curvature
Design:	Plan 1.0	Database:	EDM 5000.1 Aim Database

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)
14,300.00	90.93	359.22	11,695.50	2,780.10	386.12	2,774.58	0.00	0.00	0.00
14,400.00	90.93	359.22	11,693.88	2,880.07	384.76	2,874.57	0.00	0.00	0.00
14,500.00	90.93	359.22	11,692.27	2,980.05	383.39	2,974.56	0.00	0.00	0.00
14,600.00	90.93	359.22	11,690.65	3,080.03	382.03	3,074.54	0.00	0.00	0.00
14,700.00	90.93	359.22	11,689.03	3,180.01	380.66	3,174.53	0.00	0.00	0.00
14,800.00	90.93	359.22	11,687.41	3,279.98	379.30	3,274.52	0.00	0.00	0.00
14,900.00	90.93	359.22	11,685.80	3,379.96	377.94	3,374.50	0.00	0.00	0.00
15,000.00	90.93	359.22	11,684.18	3,479.94	376.57	3,474.49	0.00	0.00	0.00
15,100.00	90.93	359.22	11,682.56	3,579.92	375.21	3,574.48	0.00	0.00	0.00
15,200.00	90.93	359.22	11,680.95	3,679.90	373.84	3,674.47	0.00	0.00	0.00
15,300.00	90.93	359.22	11,679.33	3,779.87	372.48	3,774.45	0.00	0.00	0.00
15,400.00	90.93	359.22	11,677.71	3,879.85	371.12	3,874.44	0.00	0.00	0.00
15,500.00	90.93	359.22	11,676.09	3,979.83	369.75	3,974.43	0.00	0.00	0.00
15,600.00	90.93	359.22	11,674.48	4,079.81	368.39	4,074.41	0.00	0.00	0.00
15,700.00	90.93	359.22	11,672.86	4,179.78	367.02	4,174.40	0.00	0.00	0.00
15,800.00	90.93	359.22	11,671.24	4,279.76	365.66	4,274.39	0.00	0.00	0.00
15,900.00	90.93	359.22	11,669.62	4,379.74	364.30	4,374.37	0.00	0.00	0.00
16,000.13	90.93	359.22	11,668.00	4,479.85	362.93	4,474.49	0.00	0.00	0.00
Build 2.00°/100'									
16,000.14	90.93	359.22	11,668.00	4,479.86	362.93	4,474.50	0.00	0.00	0.00
T2 (Wool606H)									
16,059.53	92.11	359.22	11,666.43	4,539.22	362.12	4,533.87	2.00	2.00	0.00
Hold 92.11° Inc, 359.22° Azimuth									
16,100.00	92.11	359.22	11,664.94	4,579.66	361.57	4,574.31	0.00	0.00	0.00
16,200.00	92.11	359.22	11,661.25	4,679.58	360.20	4,674.24	0.00	0.00	0.00
16,300.00	92.11	359.22	11,657.56	4,779.50	358.84	4,774.17	0.00	0.00	0.00
16,400.00	92.11	359.22	11,653.87	4,879.43	357.48	4,874.11	0.00	0.00	0.00
16,500.00	92.11	359.22	11,650.18	4,979.35	356.11	4,974.04	0.00	0.00	0.00
16,600.00	92.11	359.22	11,646.49	5,079.27	354.75	5,073.97	0.00	0.00	0.00
16,700.00	92.11	359.22	11,642.80	5,179.19	353.39	5,173.90	0.00	0.00	0.00
16,800.00	92.11	359.22	11,639.11	5,279.12	352.02	5,273.83	0.00	0.00	0.00
16,900.00	92.11	359.22	11,635.42	5,379.04	350.66	5,373.77	0.00	0.00	0.00
17,000.00	92.11	359.22	11,631.73	5,478.96	349.30	5,473.70	0.00	0.00	0.00
17,100.00	92.11	359.22	11,628.04	5,578.88	347.94	5,573.63	0.00	0.00	0.00
17,200.00	92.11	359.22	11,624.35	5,678.81	346.57	5,673.56	0.00	0.00	0.00
17,300.00	92.11	359.22	11,620.66	5,778.73	345.21	5,773.49	0.00	0.00	0.00
17,400.00	92.11	359.22	11,616.97	5,878.65	343.85	5,873.43	0.00	0.00	0.00
17,500.00	92.11	359.22	11,613.28	5,978.57	342.48	5,973.36	0.00	0.00	0.00
17,600.00	92.11	359.22	11,609.58	6,078.50	341.12	6,073.29	0.00	0.00	0.00
17,700.00	92.11	359.22	11,605.89	6,178.42	339.76	6,173.22	0.00	0.00	0.00
17,740.58	92.11	359.22	11,604.40	6,218.96	339.20	6,213.77	0.00	0.00	0.00
Build 2.00°/100'									
17,740.59	92.11	359.22	11,604.40	6,218.98	339.20	6,213.78	0.01	0.00	0.00
T3 (Wool606H)									

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Wool Head 20 State Com 606H
Project:	Lea County, New Mexico	TVD Reference:	3715'GL+26.5 @ 3741.50usft (H&P 620)
Site:	Wool Head 20 State Com 606H	MD Reference:	3715'GL+26.5 @ 3741.50usft (H&P 620)
Well:	#606H	North Reference:	Grid
Wellbore:	Lateral 1r1	Survey Calculation Method:	Minimum Curvature
Design:	Plan 1.0	Database:	EDM 5000.1 Aim Database

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)
17,800.00	93.30	359.22	11,601.59	6,278.31	338.39	6,273.13	2.00	2.00	0.00
17,902.84	95.36	359.22	11,593.82	6,380.85	336.99	6,375.67	2.00	2.00	0.00
Hold 95.36° Inc, 359.22° Azimuth									
18,000.00	95.36	359.22	11,584.75	6,477.57	335.67	6,472.40	0.00	0.00	0.00
18,100.00	95.36	359.22	11,575.40	6,577.13	334.32	6,571.96	0.00	0.00	0.00
18,200.00	95.36	359.22	11,566.06	6,676.68	332.96	6,671.53	0.00	0.00	0.00
18,300.00	95.36	359.22	11,556.72	6,776.23	331.60	6,771.09	0.00	0.00	0.00
18,400.00	95.36	359.22	11,547.38	6,875.79	330.24	6,870.65	0.00	0.00	0.00
18,500.00	95.36	359.22	11,538.04	6,975.34	328.88	6,970.22	0.00	0.00	0.00
18,600.00	95.36	359.22	11,528.70	7,074.89	327.52	7,069.78	0.00	0.00	0.00
18,700.00	95.36	359.22	11,519.36	7,174.45	326.17	7,169.34	0.00	0.00	0.00
18,800.00	95.36	359.22	11,510.02	7,274.00	324.81	7,268.90	0.00	0.00	0.00
18,900.00	95.36	359.22	11,500.67	7,373.55	323.45	7,368.47	0.00	0.00	0.00
19,000.00	95.36	359.22	11,491.33	7,473.11	322.09	7,468.03	0.00	0.00	0.00
19,100.00	95.36	359.22	11,481.99	7,572.66	320.73	7,567.59	0.00	0.00	0.00
19,198.18	95.36	359.22	11,472.82	7,670.40	319.40	7,665.34	0.00	0.00	0.00
PBHL - T4 (Wool606H) - PBHL r1 (Wool606H)									

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
FTP (Wool606H) - plan misses target center by 427.37usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) - Point	0.00	0.00	0.00	-47.70	424.70	530,928.50	770,289.80	32° 27' 26.635 N	103° 35' 27.778 W
PBHL r1 (Wool606H) - plan hits target center - Point	0.00	0.00	11,472.82	7,670.40	319.40	538,646.60	770,184.50	32° 28' 43.012 N	103° 35' 28.380 W

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,850.00	1,850.00	13 3/8"	13-3/8	17-1/2
5,250.00	5,250.00	9 5/8"	9-5/8	12-1/4

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Wool Head 20 State Com 606H
Project:	Lea County, New Mexico	TVD Reference:	3715'GL+26.5 @ 3741.50usft (H&P 620)
Site:	Wool Head 20 State Com 606H	MD Reference:	3715'GL+26.5 @ 3741.50usft (H&P 620)
Well:	#606H	North Reference:	Grid
Wellbore:	Lateral 1r1	Survey Calculation Method:	Minimum Curvature
Design:	Plan 1.0	Database:	EDM 5000.1 Aim Database

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,793.00	1,793.00	Rustler		0.00	
5,196.00	5,196.00	Base of Limestone		0.00	
8,429.26	8,419.00	Lower Brushy		0.00	
8,901.05	8,889.00	Avalon		0.00	
9,927.96	9,912.00	1st BS Sand		0.00	
10,535.93	10,518.00	2nd BS Sand		0.00	
11,057.02	11,039.00	3rd BS Carbonate		0.00	
11,583.68	11,524.00	3rd BS Sand		0.00	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
5400	5400	0	0	Build 1.00°/100'	
5900	5899	-2	22	Hold 5.0° Inc, 96.41° Azimuth	
10,303	10,286	-45	403	Drop 1.00°/100'	
10,803	10,785	-48	425	Hold Vertical	
11,145	11,127	-48	425	KOP, Build 10.00°/100'	
12,045	11,700	525	417	LP, Hold 90.0° Inc, 359.22° Azimuth	
14,011	11,700	2491	390	Build 2.00°/100'	
14,058	11,699	2538	389	Hold 90.93° Inc, 359.22° Azimuth	
16,000	11,668	4480	363	Build 2.00°/100'	
16,060	11,666	4539	362	Hold 92.11° Inc, 359.22° Azimuth	
17,741	11,604	6219	339	Build 2.00°/100'	
17,903	11,594	6381	337	Hold 95.36° Inc, 359.22° Azimuth	
19,198	11,473	7670	319	PBHL	



Advance Energy Partners, LLC

Wool Head 20 State Com 606H

Lea County, New Mexico

Job No. WT-19-125

H&P 620

Plan 1.0 Final PVA



SITE DETAILS: Wool Head 20 State Com 606H

Site Centre Northing: 530976.20
Easting: 769865.10

Positional Uncertainty: 0.00
Convergence: 0.40
Local North: Grid

PROJECT DETAILS: Lea County, New Mexico

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

System Datum: Mean Sea Level

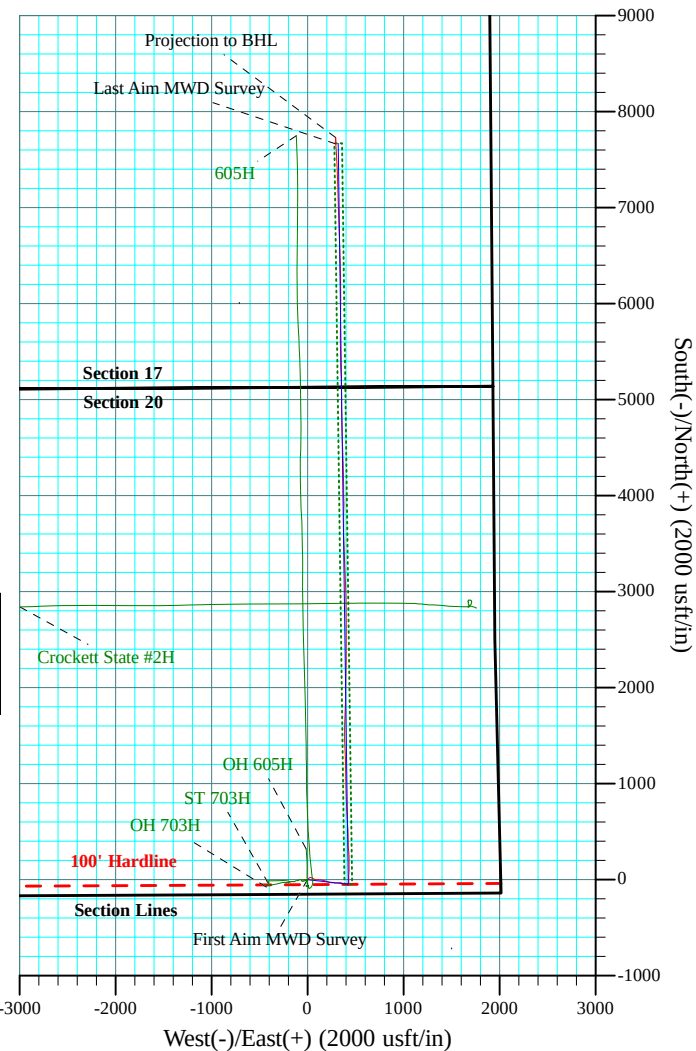
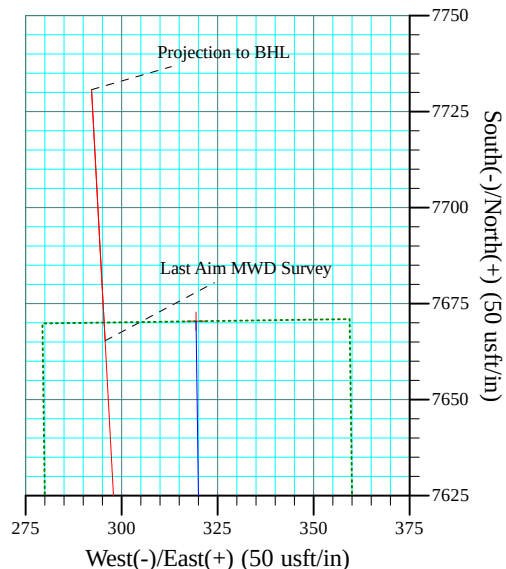
Depth Reference:
3715'GL+26.5 @ 3741.50usft (H&P 620)



Azimuths to Grid North
True North: -0.40°
Magnetic North: 6.24°

Magnetic Field
Strength: 48100.3nT
Dip Angle: 60.25°
Date: 8/5/2019
Model: MVHD

Magnetic North: 6.24° to Grid North

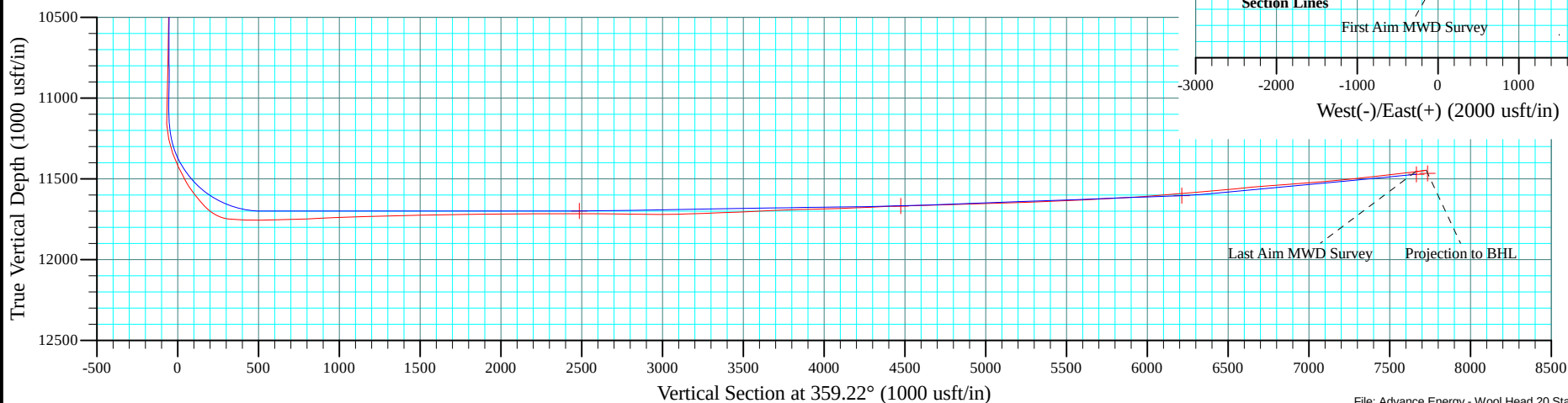


SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Annotation
1	19278.00	97.23	356.92	11456.20	7665.36	295.70	0.00	0.00	7660.62	Last Aim MWD Survey
2	19344.00	97.23	356.92	11447.89	7730.74	292.19	0.00	0.00	7726.05	Projection to BHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
FTP (Wool606H)	0.00	-47.70	424.70	530928.50	770289.80	$32^\circ 27' 26.635\text{ N}$	$103^\circ 35' 27.778\text{ W}$
PBHL r1 (Wool606H)	11472.82	7670.40	319.40	538646.60	770184.50	$32^\circ 28' 43.012\text{ N}$	$103^\circ 35' 28.380\text{ W}$





Survey Reports

Wool Head 20 State Com 606H (WT-19-125)

2019-08-03 to 2019-10-13

Lea, New Mexico, US (32.46, -103.59)

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Wool Head 20 State Com 606H
Project:	Lea County, New Mexico	TVD Reference:	3715'GL+26.5 @ 3741.50usft (H&P 620)
Site:	Wool Head 20 State Com 606H	MD Reference:	3715'GL+26.5 @ 3741.50usft (H&P 620)
Well:	#606H	North Reference:	Grid
Wellbore:	Aim MWD Surveys	Survey Calculation Method:	Minimum Curvature
Design:	Aim MWD Surveys	Database:	EDM 5000.14 Single User Db

Project	Lea County, New Mexico		
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 606H				
Site Position:		Northing:	530,976.20 usft	Latitude:	32° 27' 27.136 N
From:	Map	Easting:	769,865.10 usft	Longitude:	103° 35' 32.730 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.40 °

Well	#606H - Slot 606H					
Well Position	+N/-S	0.00 usft	Northing:	530,976.20 usft	Latitude:	32° 27' 27.136 N
	+E/-W	0.00 usft	Easting:	769,865.10 usft	Longitude:	103° 35' 32.730 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,715.00 usft

Wellbore	Aim MWD Surveys				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	MVHD	8/12/2019	6.63	60.25	48,098.19497864

Design	Aim MWD Surveys				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	359.22	

Survey Program	Date	10/11/2019			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
200.00	19,344.00	Aim MWD Surveys (Aim MWD Surveys)	B001Mb_MWD+HRGM	OWSG MWD + HRGM	

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)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.26	335.13	200.00	0.41	-0.19	0.41	0.13	0.13	0.00	
First Aim MWD Survey										
320.00	0.22	342.69	320.00	0.88	-0.37	0.88	0.04	-0.03	6.30	
410.00	0.18	225.79	410.00	0.95	-0.53	0.95	0.38	-0.04	-129.89	
594.00	0.40	295.93	594.00	1.02	-1.31	1.04	0.21	0.12	38.12	
777.00	0.35	255.59	776.99	1.16	-2.43	1.20	0.14	-0.03	-22.04	
867.00	0.26	272.99	866.99	1.11	-2.90	1.15	0.14	-0.10	19.33	
1,049.00	0.44	255.76	1,048.99	0.96	-3.99	1.01	0.11	0.10	-9.47	
1,235.00	0.62	228.87	1,234.98	0.12	-5.44	0.19	0.16	0.10	-14.46	
1,329.00	0.84	227.28	1,328.97	-0.68	-6.33	-0.60	0.24	0.23	-1.69	

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Wool Head 20 State Com 606H
Project:	Lea County, New Mexico	TVD Reference:	3715'GL+26.5 @ 3741.50usft (H&P 620)
Site:	Wool Head 20 State Com 606H	MD Reference:	3715'GL+26.5 @ 3741.50usft (H&P 620)
Well:	#606H	North Reference:	Grid
Wellbore:	Aim MWD Surveys	Survey Calculation Method:	Minimum Curvature
Design:	Aim MWD Surveys	Database:	EDM 5000.14 Single User Db

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)
1,424.00	0.84	224.82	1,423.96	-1.65	-7.33	-1.55	0.04	0.00	-2.59
1,518.00	0.70	226.85	1,517.95	-2.53	-8.23	-2.42	0.15	-0.15	2.16
1,613.00	0.88	239.77	1,612.94	-3.30	-9.29	-3.17	0.27	0.19	13.60
1,707.00	1.19	256.73	1,706.93	-3.88	-10.86	-3.73	0.46	0.33	18.04
1,798.00	1.89	270.62	1,797.90	-4.08	-13.28	-3.90	0.87	0.77	15.26
1,849.00	2.15	288.46	1,848.86	-3.77	-15.03	-3.57	1.33	0.51	34.98
1,943.00	2.64	294.26	1,942.78	-2.32	-18.68	-2.07	0.58	0.52	6.17
2,038.00	1.76	293.03	2,037.71	-0.85	-22.01	-0.55	0.93	-0.93	-1.29
2,132.00	0.62	286.26	2,131.69	-0.15	-23.83	0.18	1.22	-1.21	-7.20
2,226.00	0.48	234.05	2,225.69	-0.24	-24.64	0.10	0.53	-0.15	-55.54
2,321.00	0.22	234.84	2,320.68	-0.57	-25.11	-0.23	0.27	-0.27	0.83
2,415.00	0.31	262.18	2,414.68	-0.71	-25.51	-0.37	0.16	0.10	29.09
2,509.00	0.53	91.85	2,508.68	-0.76	-25.33	-0.42	0.89	0.23	-181.20
2,604.00	1.58	86.40	2,603.66	-0.69	-23.58	-0.37	1.11	1.11	-5.74
2,698.00	1.45	78.05	2,697.63	-0.37	-21.12	-0.08	0.27	-0.14	-8.88
2,792.00	1.23	86.40	2,791.61	-0.06	-18.95	0.20	0.31	-0.23	8.88
2,886.00	1.49	78.66	2,885.58	0.25	-16.75	0.48	0.34	0.28	-8.23
2,980.00	1.45	86.75	2,979.55	0.56	-14.36	0.75	0.22	-0.04	8.61
3,075.00	1.54	80.68	3,074.52	0.83	-11.90	0.99	0.19	0.09	-6.39
3,169.00	1.89	73.56	3,168.47	1.47	-9.17	1.60	0.44	0.37	-7.57
3,358.00	2.24	73.21	3,357.35	3.42	-2.64	3.46	0.19	0.19	-0.19
3,452.00	2.33	68.29	3,451.28	4.66	0.89	4.65	0.23	0.10	-5.23
3,546.00	2.07	64.69	3,545.21	6.09	4.20	6.03	0.31	-0.28	-3.83
3,735.00	2.07	48.25	3,734.09	9.82	9.83	9.69	0.31	0.00	-8.70
3,829.00	2.07	46.93	3,828.02	12.11	12.34	11.95	0.05	0.00	-1.40
3,924.00	2.15	45.09	3,922.96	14.54	14.86	14.34	0.11	0.08	-1.94
4,018.00	2.11	47.37	4,016.90	16.96	17.38	16.72	0.10	-0.04	2.43
4,113.00	1.89	37.97	4,111.84	19.38	19.63	19.11	0.42	-0.23	-9.89
4,207.00	1.49	60.73	4,205.80	21.20	21.65	20.90	0.82	-0.43	24.21
4,395.00	1.76	65.30	4,393.72	23.60	26.40	23.24	0.16	0.14	2.43
4,490.00	1.85	92.28	4,488.68	24.15	29.26	23.75	0.89	0.09	28.40
4,584.00	1.85	114.26	4,582.63	23.47	32.16	23.03	0.75	0.00	23.38
4,679.00	1.98	111.27	4,677.58	22.24	35.09	21.76	0.17	0.14	-3.15
4,773.00	1.67	107.58	4,771.53	21.24	37.91	20.72	0.35	-0.33	-3.93
4,962.00	1.71	108.46	4,960.45	19.51	43.21	18.92	0.03	0.02	0.47
5,056.00	2.07	106.61	5,054.39	18.58	46.16	17.95	0.39	0.38	-1.97
5,188.00	2.07	117.25	5,186.31	16.81	50.57	16.12	0.29	0.00	8.06
5,264.00	2.51	120.06	5,262.25	15.35	53.23	14.62	0.60	0.58	3.70
5,358.00	2.55	120.06	5,356.16	13.27	56.82	12.50	0.04	0.04	0.00
5,453.00	2.59	120.41	5,451.06	11.13	60.50	10.30	0.05	0.04	0.37
5,547.00	2.29	118.92	5,544.98	9.14	63.98	8.27	0.33	-0.32	-1.59
5,641.00	2.11	122.17	5,638.91	7.31	67.08	6.40	0.23	-0.19	3.46
5,736.00	1.80	118.12	5,733.85	5.68	69.88	4.73	0.36	-0.33	-4.26

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Wool Head 20 State Com 606H
Project:	Lea County, New Mexico	TVD Reference:	3715'GL+26.5 @ 3741.50usft (H&P 620)
Site:	Wool Head 20 State Com 606H	MD Reference:	3715'GL+26.5 @ 3741.50usft (H&P 620)
Well:	#606H	North Reference:	Grid
Wellbore:	Aim MWD Surveys	Survey Calculation Method:	Minimum Curvature
Design:	Aim MWD Surveys	Database:	EDM 5000.14 Single User Db

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)	
5,830.00	1.93	118.56	5,827.80	4.23	72.57	3.24	0.14	0.14	0.47	
5,924.00	1.63	116.37	5,921.76	2.88	75.16	1.85	0.33	-0.32	-2.33	
6,018.00	1.89	123.84	6,015.71	1.42	77.65	0.36	0.37	0.28	7.95	
6,113.00	1.67	130.08	6,110.67	-0.35	80.01	-1.43	0.31	-0.23	6.57	
6,207.00	1.98	87.89	6,204.62	-1.17	82.68	-2.29	1.43	0.33	-44.88	
6,301.00	2.46	84.55	6,298.55	-0.92	86.31	-2.09	0.53	0.51	-3.55	
6,395.00	3.21	103.53	6,392.44	-1.34	90.88	-2.58	1.27	0.80	20.19	
6,490.00	4.13	89.38	6,487.24	-1.93	96.88	-3.24	1.35	0.97	-14.89	
6,584.00	4.66	86.57	6,580.97	-1.66	104.08	-3.08	0.61	0.56	-2.99	
6,678.00	5.54	93.34	6,674.59	-1.70	112.42	-3.23	1.13	0.94	7.20	
6,773.00	5.71	93.95	6,769.14	-2.29	121.71	-3.95	0.19	0.18	0.64	
6,867.00	5.49	91.23	6,862.69	-2.71	130.87	-4.49	0.37	-0.23	-2.89	
6,962.00	5.19	90.97	6,957.28	-2.88	139.71	-4.78	0.32	-0.32	-0.27	
7,056.00	6.42	101.69	7,050.80	-4.01	149.11	-6.04	1.74	1.31	11.40	
7,150.00	6.59	103.36	7,144.19	-6.33	159.51	-8.50	0.27	0.18	1.78	
7,245.00	5.67	103.97	7,238.65	-8.72	169.36	-11.02	0.97	-0.97	0.64	
7,340.00	5.67	104.68	7,333.18	-11.04	178.46	-13.47	0.07	0.00	0.75	
7,434.00	5.32	106.61	7,426.75	-13.46	187.13	-16.01	0.42	-0.37	2.05	
7,529.00	5.49	108.54	7,521.33	-16.17	195.65	-18.83	0.26	0.18	2.03	
7,623.00	4.92	110.13	7,614.94	-18.98	203.70	-21.76	0.63	-0.61	1.69	
7,718.00	4.84	110.83	7,709.59	-21.81	211.27	-24.69	0.10	-0.08	0.74	
7,812.00	4.35	111.62	7,803.29	-24.54	218.29	-27.50	0.53	-0.52	0.84	
7,907.00	5.32	104.41	7,897.95	-26.96	225.91	-30.03	1.20	1.02	-7.59	
8,001.00	5.71	105.12	7,991.52	-29.26	234.64	-32.45	0.42	0.41	0.76	
8,095.00	5.14	106.52	8,085.10	-31.68	243.20	-34.99	0.62	-0.61	1.49	
8,189.00	5.49	92.64	8,178.70	-33.08	251.72	-36.51	1.41	0.37	-14.77	
8,283.00	5.27	91.32	8,272.28	-33.39	260.53	-36.93	0.27	-0.23	-1.40	
8,378.00	4.84	91.76	8,366.91	-33.61	268.90	-37.27	0.45	-0.45	0.46	
8,472.00	4.44	91.93	8,460.60	-33.86	276.50	-37.62	0.43	-0.43	0.18	
8,566.00	4.04	91.41	8,554.35	-34.06	283.45	-37.92	0.43	-0.43	-0.55	
8,660.00	4.40	88.59	8,648.09	-34.06	290.36	-38.01	0.44	0.38	-3.00	
8,754.00	4.18	90.79	8,741.83	-34.01	297.39	-38.06	0.29	-0.23	2.34	
8,849.00	5.10	87.28	8,836.52	-33.86	305.07	-38.01	1.01	0.97	-3.69	
8,943.00	4.48	81.12	8,930.19	-33.10	312.87	-37.35	0.86	-0.66	-6.55	
9,037.00	5.14	83.23	9,023.86	-32.03	320.68	-36.40	0.73	0.70	2.24	
9,132.00	4.88	82.44	9,118.49	-31.00	328.91	-35.47	0.28	-0.27	-0.83	
9,226.00	6.81	95.45	9,212.00	-31.00	338.43	-35.61	2.48	2.05	13.84	
9,321.00	5.85	102.83	9,306.43	-32.61	348.75	-37.36	1.32	-1.01	7.77	
9,415.00	5.32	105.82	9,399.98	-34.87	357.62	-39.73	0.64	-0.56	3.18	
9,509.00	4.04	106.96	9,493.66	-37.02	364.98	-41.98	1.37	-1.36	1.21	
9,604.00	3.34	114.43	9,588.47	-39.14	370.70	-44.18	0.89	-0.74	7.86	
9,698.00	3.21	117.60	9,682.31	-41.49	375.52	-46.60	0.24	-0.14	3.37	
9,793.00	2.59	127.35	9,777.19	-44.03	379.59	-49.19	0.83	-0.65	10.26	

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Wool Head 20 State Com 606H
Project:	Lea County, New Mexico	TVD Reference:	3715'GL+26.5 @ 3741.50usft (H&P 620)
Site:	Wool Head 20 State Com 606H	MD Reference:	3715'GL+26.5 @ 3741.50usft (H&P 620)
Well:	#606H	North Reference:	Grid
Wellbore:	Aim MWD Surveys	Survey Calculation Method:	Minimum Curvature
Design:	Aim MWD Surveys	Database:	EDM 5000.14 Single User Db

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)
9,887.00	2.86	97.38	9,871.09	-45.62	383.60	-50.83	1.52	0.29	-31.88
9,981.00	2.90	95.01	9,964.97	-46.13	388.30	-51.41	0.13	0.04	-2.52
10,076.00	2.64	100.81	10,059.86	-46.75	392.84	-52.09	0.40	-0.27	6.11
10,170.00	2.42	96.59	10,153.77	-47.38	396.94	-52.78	0.31	-0.23	-4.49
10,264.00	2.07	112.06	10,247.70	-48.24	400.48	-53.69	0.74	-0.37	16.46
10,359.00	1.63	113.73	10,342.65	-49.43	403.31	-54.92	0.47	-0.46	1.76
10,453.00	0.75	125.33	10,436.63	-50.33	405.03	-55.84	0.97	-0.94	12.34
10,547.00	1.76	110.13	10,530.60	-51.18	406.89	-56.71	1.12	1.07	-16.17
10,642.00	2.20	113.20	10,625.55	-52.40	409.94	-57.98	0.48	0.46	3.23
10,736.00	1.89	124.54	10,719.49	-53.99	412.87	-59.60	0.54	-0.33	12.06
10,830.00	1.27	117.25	10,813.45	-55.34	415.08	-60.99	0.69	-0.66	-7.76
10,925.00	2.24	118.04	10,908.41	-56.70	417.65	-62.38	1.02	1.02	0.83
11,019.00	2.15	138.08	11,002.34	-58.88	420.45	-64.59	0.82	-0.10	21.32
11,049.00	2.33	142.12	11,032.31	-59.78	421.20	-65.50	0.80	0.60	13.47
11,082.00	2.64	142.03	11,065.28	-60.90	422.08	-66.64	0.94	0.94	-0.27
11,177.00	1.98	33.49	11,160.24	-61.26	424.33	-67.03	3.97	-0.69	-114.25
11,271.00	12.00	4.92	11,253.44	-50.14	426.07	-55.94	10.96	10.66	-30.39
11,365.00	19.52	4.75	11,343.84	-24.72	428.21	-30.54	8.00	8.00	-0.18
11,459.00	27.12	358.77	11,430.11	12.41	429.05	6.57	8.46	8.09	-6.36
11,522.00	26.59	2.64	11,486.32	40.86	429.40	35.01	2.90	-0.84	6.14
11,553.00	28.79	4.31	11,513.76	55.23	430.28	49.37	7.52	7.10	5.39
11,585.00	31.65	3.60	11,541.41	71.30	431.38	65.42	9.01	8.94	-2.22
11,616.00	35.74	1.85	11,567.20	88.47	432.19	82.58	13.56	13.19	-5.65
11,648.00	37.76	359.56	11,592.84	107.61	432.41	101.72	7.63	6.31	-7.16
11,742.00	42.20	1.85	11,664.86	167.98	433.21	162.07	4.98	4.72	2.44
11,835.00	60.75	356.92	11,722.55	240.37	432.03	234.47	20.36	19.95	-5.30
11,867.00	69.14	355.34	11,736.09	269.27	430.06	263.39	26.60	26.22	-4.94
11,893.00	76.35	355.52	11,743.80	294.00	428.08	288.15	27.74	27.73	0.69
11,931.00	85.63	357.98	11,749.74	331.43	425.97	325.60	25.24	24.42	6.47
12,025.00	87.78	359.12	11,755.15	425.24	423.60	419.43	2.59	2.29	1.21
12,119.00	91.03	356.84	11,756.12	519.15	420.28	513.39	4.22	3.46	-2.43
12,214.00	91.96	356.66	11,753.64	613.97	414.90	608.26	1.00	0.98	-0.19
12,308.00	91.12	356.66	11,751.12	707.77	409.42	702.14	0.89	-0.89	0.00
12,403.00	92.44	357.45	11,748.17	802.60	404.55	797.02	1.62	1.39	0.83
12,498.00	92.66	359.47	11,743.94	897.47	401.99	891.91	2.14	0.23	2.13
12,592.00	92.22	359.56	11,739.94	991.38	401.20	985.82	0.48	-0.47	0.10
12,687.00	91.78	358.77	11,736.62	1,086.31	399.82	1,080.77	0.95	-0.46	-0.83
12,782.00	91.38	358.07	11,734.00	1,181.24	397.20	1,175.72	0.85	-0.42	-0.74
12,876.00	91.52	357.63	11,731.62	1,275.14	393.67	1,269.66	0.49	0.15	-0.47
12,971.00	91.69	357.63	11,728.96	1,370.02	389.75	1,364.59	0.18	0.18	0.00
13,065.00	91.52	359.91	11,726.33	1,463.96	387.73	1,458.54	2.43	-0.18	2.43
13,159.00	91.69	359.91	11,723.70	1,557.92	387.58	1,552.50	0.18	0.18	0.00
13,253.00	91.03	1.32	11,721.47	1,651.88	388.59	1,646.44	1.66	-0.70	1.50
13,348.00	90.07	1.93	11,720.55	1,746.84	391.28	1,741.35	1.20	-1.01	0.64

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Wool Head 20 State Com 606H
Project:	Lea County, New Mexico	TVD Reference:	3715'GL+26.5 @ 3741.50usft (H&P 620)
Site:	Wool Head 20 State Com 606H	MD Reference:	3715'GL+26.5 @ 3741.50usft (H&P 620)
Well:	#606H	North Reference:	Grid
Wellbore:	Aim MWD Surveys	Survey Calculation Method:	Minimum Curvature
Design:	Aim MWD Surveys	Database:	EDM 5000.14 Single User Db

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)
13,442.00	90.46	1.67	11,720.12	1,840.79	394.24	1,835.26	0.50	0.41	-0.28
13,536.00	90.68	1.49	11,719.18	1,934.75	396.83	1,929.17	0.30	0.23	-0.19
13,631.00	90.64	0.97	11,718.09	2,029.72	398.87	2,024.11	0.55	-0.04	-0.55
13,725.00	90.59	1.05	11,717.08	2,123.70	400.52	2,118.05	0.10	-0.05	0.09
13,819.00	90.46	0.70	11,716.22	2,217.69	401.96	2,212.01	0.40	-0.14	-0.37
13,914.00	89.85	0.35	11,715.96	2,312.68	402.83	2,306.99	0.74	-0.64	-0.37
14,008.00	89.93	359.91	11,716.14	2,406.68	403.04	2,400.97	0.48	0.09	-0.47
14,102.00	89.89	359.82	11,716.29	2,500.68	402.82	2,494.97	0.10	-0.04	-0.10
14,197.00	89.71	359.82	11,716.62	2,595.68	402.52	2,589.96	0.19	-0.19	0.00
14,291.00	89.58	359.56	11,717.20	2,689.68	402.01	2,683.96	0.31	-0.14	-0.28
14,385.00	89.41	359.47	11,718.03	2,783.67	401.22	2,777.95	0.20	-0.18	-0.10
14,480.00	89.23	359.38	11,719.16	2,878.66	400.27	2,872.94	0.21	-0.19	-0.09
14,574.00	89.49	359.38	11,720.21	2,972.65	399.25	2,966.94	0.28	0.28	0.00
14,668.00	90.68	358.24	11,720.07	3,066.62	397.30	3,060.93	1.75	1.27	-1.21
14,762.00	92.04	357.45	11,717.84	3,160.53	393.76	3,154.88	1.67	1.45	-0.84
14,857.00	92.22	356.92	11,714.31	3,255.35	389.10	3,249.75	0.59	0.19	-0.56
14,951.00	92.00	356.66	11,710.85	3,349.14	383.84	3,343.60	0.36	-0.23	-0.28
15,046.00	92.35	358.86	11,707.24	3,443.99	380.13	3,438.50	2.34	0.37	2.32
15,140.00	92.57	359.47	11,703.21	3,537.89	378.76	3,532.41	0.69	0.23	0.65
15,234.00	92.97	359.12	11,698.66	3,631.78	377.61	3,626.30	0.57	0.43	-0.37
15,329.00	91.91	0.53	11,694.62	3,726.69	377.32	3,721.20	1.86	-1.12	1.48
15,423.00	91.74	0.18	11,691.63	3,820.64	377.90	3,815.14	0.41	-0.18	-0.37
15,517.00	91.56	0.09	11,688.92	3,914.60	378.12	3,909.09	0.21	-0.19	-0.10
15,612.00	91.60	359.65	11,686.30	4,009.56	377.90	4,004.04	0.46	0.04	-0.46
15,707.00	91.91	359.38	11,683.39	4,104.51	377.10	4,099.00	0.43	0.33	-0.28
15,801.00	92.26	358.86	11,679.97	4,198.44	375.66	4,192.93	0.67	0.37	-0.55
15,895.00	92.44	358.07	11,676.12	4,292.32	373.14	4,286.85	0.86	0.19	-0.84
15,990.00	92.70	357.54	11,671.86	4,387.16	369.51	4,381.72	0.62	0.27	-0.56
16,084.00	92.31	357.98	11,667.75	4,481.00	365.84	4,475.60	0.63	-0.41	0.47
16,178.00	91.56	358.59	11,664.57	4,574.90	363.03	4,569.53	1.03	-0.80	0.65
16,273.00	91.34	358.59	11,662.17	4,669.84	360.69	4,664.50	0.23	-0.23	0.00
16,367.00	91.16	357.89	11,660.12	4,763.77	357.80	4,758.46	0.77	-0.19	-0.74
16,462.00	91.38	359.47	11,658.01	4,858.72	355.61	4,853.43	1.68	0.23	1.66
16,556.00	91.43	359.91	11,655.71	4,952.69	355.11	4,947.40	0.47	0.05	0.47
16,650.00	91.69	359.38	11,653.15	5,046.65	354.52	5,041.36	0.63	0.28	-0.56
16,744.00	91.87	358.77	11,650.23	5,140.60	353.01	5,135.31	0.68	0.19	-0.65
16,839.00	92.22	358.42	11,646.84	5,235.51	350.68	5,230.25	0.52	0.37	-0.37
16,933.00	92.84	358.24	11,642.69	5,329.38	347.94	5,324.14	0.69	0.66	-0.19
17,028.00	92.40	357.89	11,638.35	5,424.22	344.74	5,419.03	0.59	-0.46	-0.37
17,122.00	92.84	359.82	11,634.05	5,518.10	342.86	5,512.92	2.10	0.47	2.05
17,216.00	92.88	0.09	11,629.36	5,611.98	342.79	5,606.80	0.29	0.04	0.29
17,310.00	92.75	359.91	11,624.74	5,705.87	342.79	5,700.67	0.24	-0.14	-0.19
17,405.00	92.84	0.26	11,620.11	5,800.76	342.93	5,795.55	0.38	0.09	0.37

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Wool Head 20 State Com 606H
Project:	Lea County, New Mexico	TVD Reference:	3715'GL+26.5 @ 3741.50usft (H&P 620)
Site:	Wool Head 20 State Com 606H	MD Reference:	3715'GL+26.5 @ 3741.50usft (H&P 620)
Well:	#606H	North Reference:	Grid
Wellbore:	Aim MWD Surveys	Survey Calculation Method:	Minimum Curvature
Design:	Aim MWD Surveys	Database:	EDM 5000.14 Single User Db

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)	
17,499.00	93.23	0.79	11,615.14	5,894.62	343.79	5,889.39	0.70	0.41	0.56	
17,594.00	93.67	0.70	11,609.42	5,989.44	345.02	5,984.19	0.47	0.46	-0.09	
17,688.00	95.21	0.70	11,602.14	6,083.15	346.17	6,077.87	1.64	1.64	0.00	
17,782.00	94.59	359.21	11,594.11	6,176.80	346.09	6,171.52	1.71	-0.66	-1.59	
17,877.00	94.59	358.42	11,586.51	6,271.47	344.13	6,266.21	0.83	0.00	-0.83	
17,971.00	94.68	358.24	11,578.91	6,365.13	341.40	6,359.89	0.21	0.10	-0.19	
18,066.00	95.03	358.24	11,570.87	6,459.74	338.50	6,454.54	0.37	0.37	0.00	
18,160.00	95.34	358.07	11,562.38	6,553.31	335.48	6,548.13	0.38	0.33	-0.18	
18,255.00	96.00	357.71	11,552.99	6,647.78	332.00	6,642.64	0.79	0.69	-0.38	
18,349.00	94.37	358.77	11,544.50	6,741.35	329.13	6,736.24	2.07	-1.73	1.13	
18,444.00	94.07	358.42	11,537.51	6,836.06	326.81	6,830.98	0.48	-0.32	-0.37	
18,538.00	94.46	358.33	11,530.52	6,929.76	324.15	6,924.71	0.43	0.41	-0.10	
18,633.00	94.51	358.15	11,523.09	7,024.43	321.24	7,019.40	0.20	0.05	-0.19	
18,727.00	94.86	358.33	11,515.41	7,118.07	318.36	7,113.07	0.42	0.37	0.19	
18,821.00	95.47	357.98	11,506.95	7,211.64	315.35	7,206.68	0.75	0.65	-0.37	
18,916.00	95.96	357.80	11,497.49	7,306.10	311.87	7,301.18	0.55	0.52	-0.19	
19,010.00	96.09	357.80	11,487.62	7,399.51	308.28	7,394.63	0.14	0.14	0.00	
19,105.00	96.88	357.45	11,476.89	7,493.82	304.37	7,488.98	0.91	0.83	-0.37	
19,199.00	96.70	357.01	11,465.78	7,587.05	299.86	7,582.27	0.50	-0.19	-0.47	
19,278.00	97.23	356.92	11,456.20	7,665.36	295.70	7,660.62	0.68	0.67	-0.11	
Last Aim MWD Survey										
19,344.00	97.23	356.92	11,447.89	7,730.74	292.19	7,726.05	0.00	0.00	0.00	
Projection to BHL										

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
200.00	200.00	0.41	-0.19	First Aim MWD Survey	
19,278.00	11,456.20	7,665.36	295.70	Last Aim MWD Survey	
19,344.00	11,447.89	7,730.74	292.19	Projection to BHL	



BHA Reports

Wool Head 20 State Com 606H (WT-19-125)

2019-08-03 to 2019-10-13

Lea, New Mexico, US (32.46, -103.59)



Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

BHA #1 - BHA #1 (Surface) (Directional)

Motor Details		Date/Depth/Distances	Hours
Size(in)	8.00	Date In 2019-08-11 04:30	Downhole Hours 18.75
Lobe/Stage	7/8, 4.0	Depth In (ft) 0.00	Drilling/Circulating Hours 11.92
Bend Angle	1.50	Date Out 2019-08-11 23:15	Drilling Hours 10.75
Speed (rev/gal)	0.16	Depth Out (ft) 1860.00	Circulating Hours 1.17
Wear Pad OD (in)	8.375	Distance Slid (ft) 0.00	Sliding Hours 0.00
Incident	No	Distance Rotated (ft) 1860.00	Rotating Hours 10.75
Motor Results		% Distance Sliding 0.00%	% Hours Sliding 0.00%
Average Total ROP (ft/h)	173.02	% Distance Rotating 100.00%	% Hours Rotating 100.00%
Average Slide ROP (ft/h)	0.00	BHA Objective	
Average Rotating ROP (ft/h)	173.02	Drill Surface	

Bit Details		POOH Reason/Notes	
OD (in)	17.500	Total Depth/Casing Point: Motor Performed well.	
Vendor	Baker Hughes		
S/N	5294782		
Nozzles	9x12		
Total Flow Area (in²)	0.994	Incident Notes	

MWD		
Max Downhole Temp (°F)	N/A	Directional: N/a
		MWD:

Bit Distances	Comments
Bit To Survey (Bit to Say): 62.00 ft, Bend (Bit to Bend): 6.20 ft	Directional: Motor & Bit Info: Contender: 1.5 FBH 7/8 4.0 Stg Mtr, Rev/Gal: 0.16, Max Diff: 900psi, Max Operating Torque: 14,994 ft/lbs, Protracted Angle: 1.53 / Bit; Baker Hughes DP606S, SN: 5294782, TFA: 0.994, Bit Runs: 0

Mud Properties		Parameters	
Type	Water	Flow Rate (gpm) 500.00 - 900.00	Motor RPM 80.00 - 144.00
WT	10.00	On Bottom Pressure (psi) 1300.00 - 3000.00	Surface RPM 40.00 - 70.00
VIS	30.00	Off Bottom Pressure (psi) 950.00 - 2400.00	Rotating WOB (klbs) 15.00 - 40.00
PV	1.00	Stall Pressure (psi) 899.96	Sliding WOB (klbs) 0.00 - 0.00
YP	10.00	Stalls 0	Temp (°F) 60.00 - 105.00
		NPT 0.0	

Items (Directional)									
Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: DP606S, Style: PDC, Gauge Length (in): 5.00, Size (in): 17.50	Baker Hughes	5294782	6 5/8" Reg Pin			17.500		1.75	1.75
Mud Motor Description: 1.5 FBH 7/8 4.0 Stg Mtr Slick, Size (in): 8.00, Bend Angle (°): 1.5, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 4.0	AIM	800-40-002	6 5/8" Reg Box	6 5/8" Reg Box		8.000		29.75	31.50
Stabilizer Description: 17" Stabilizer	DTI	DR39217	6 5/8" Reg Box	6 5/8" Reg Pin	3.000	8.250		7.74	39.24
UBHO Sub Description: UBHO Sub, Type: Steel	AIM	AIM800216	6 5/8" Reg Box	6 5/8" Reg Pin	3.063	8.000		2.73	41.97
Drill Collar Description: 8" NMDC (MWD Tool), Style: Slick Drill, Type: NM	AIM	AIM80001018	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.000		31.70	73.67
Drill Collar Description: 8" NMDC (Spacer), Style: Slick Drill, Type: NM	AIM	AIM80001012	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.000		30.10	103.77
Crossover Sub Description: X-over (6 5/8 Reg Pin x 4 1/2 IF Box), Type: Steel	DTI	DR38038	4 1/2" IF Box	6 5/8" Reg Pin	2.875	8.000		4.02	107.79
HWDP Description: (36 Joints) 5" HWDP, Style: Slick			4 1/2" IF Box	4 1/2" IF Pin	3.000	5.000		1095.51	1203.30





Job Number WT-19-125	Operator Advance Energy Partners	Rig Name H&P #620
Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H	Legal Well Name AFE Wool Head 20 State Com 606H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

BHA #2 - BHA #2 (12.25" Intermediate) (Directional)

Motor Details		Date/Depth/Distances	Hours
Size(in)	8.00	Date In	2019-08-16 02:00
Lobe/Stage	7/8, 5.9	Depth In (ft)	1860.00
Bend Angle	1.50	Date Out	2019-08-17 18:00
Speed (rev/gal)	0.16	Depth Out (ft)	5263.00
Wear Pad OD (in)	8.375	Distance Slid (ft)	76.00
Incident	No	Distance Rotated (ft)	3322.00
Motor Results		% Distance Sliding	2.24%
Average Total ROP (ft/h)	225.28	% Distance Rotating	97.76%
Average Slide ROP (ft/h)	82.91		
Average Rotating ROP (ft/h)	234.49		

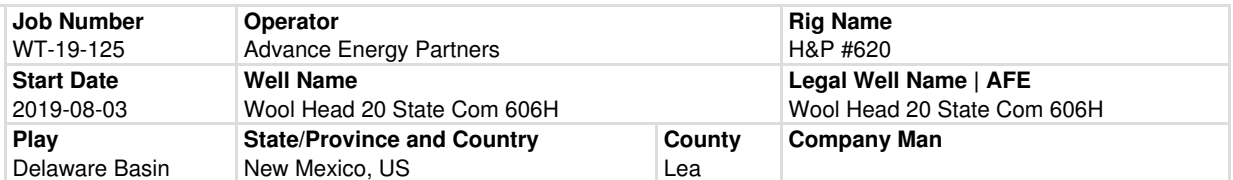
Bit Details		BHA Objective
OD (in)	12.250	Drill 12.25" Intermediate Section
Vendor	Baker Hughes	
S/N	7163483	
Nozzles	9x12	
Total Flow Area (in²)	0.994	

Bit Details	
OD (in)	12.250
Vendor	Baker Hughes
S/N	7163483
Nozzles	9x12
Total Flow Area (in²)	0.994

POOH Reason/Notes	
Total Depth/Casing Point: POOH to run intermediate casing	

Items (Directional)									
Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: T806FX, Style: PDC, Gauge Length (in): 3.00, Size (in): 12.25	Baker Hughes	7163483	6 5/8" Reg Pin			12.250		1.20	1.20
Mud Motor Description: 1.5 FBH 7/8 5.9 Stg Mtr w/ 12" NB Stabilizer, Size (in): 8.00, Bend Angle (°): 1.5, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 5.9	Butches	BDT800-017	6 5/8" Reg Box	6 5/8" Reg Box		8.000		37.57	38.77
Stabilizer Description: 12" Stabilizer	DTI	DR39406	6 5/8" Reg Box	6 5/8" Reg Pin	2.875	8.250		7.92	46.69
UBHO Sub Description: UBHO Sub, Type: Steel	AIM	800605	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.125		3.00	49.69
Drill Collar Description: 8" NMDC (MWD Tool), Style: Slick Drill, Type: NM	AIM	AIM80001018	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.000		31.70	81.39
Drill Collar Description: 8" NMDC (Spacer), Style: Slick Drill, Type: NM	AIM	AIM80001012	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.000		30.10	111.49
Crossover Sub Description: X-Over (6 5/8 Reg Pin x 4 1/2 XH Box), Type: Steel	DTI	DR32366	4 1/2" XH Box	6 5/8" Reg Pin	2.813	7.875		2.60	114.09
Drill Collar Description: (21 Joints) 6.5" DC, Style: Slick Drill, Type: Steel	RIG	RIG	4 1/2" XH Box	4 1/2" XH Pin	2.875	6.500		612.86	726.95
Crossover Sub Description: X-Over (4 1/2 IF Box x 4 1/2 XH Pin), Type: Steel	DTI	DR37313	4 1/2" IF Box	4 1/2" XH Pin	2.875	6.625		2.72	729.67
HWDP Description: (36 Joints) 5" HWDP, Style: Slick			4 1/2" IF Box	4 1/2" IF Pin	3.000	5.000		1095.51	1825.18





Motor Details		Date/Depth/Distances		Hours	
Size(in)	7.00	Date In	2019-09-11 18:10	Downhole Hours	65.67
Lobe/Stage	7/8, 8.5	Depth In (ft)	5258.00	Drilling/Circulating Hours	48.75
Bend Angle	1.50	Date Out	2019-09-14 11:50	Drilling Hours	46.33
Speed (rev/gal)	0.26	Depth Out (ft)	11113.00	Circulating Hours	2.42
Wear Pad OD (in)	7.250	Distance Slid (ft)	283.00	Sliding Hours	7.25
Incident	No	Distance Rotated (ft)	5572.00	Rotating Hours	39.08
Motor Results		% Distance Sliding	4.83%	% Hours Sliding	15.65%
Average Total ROP (ft/h)	126.37	% Distance Rotating	95.17%	% Hours Rotating	84.35%

Bit Details		POOH Reason/Notes Total Depth/Casing Point: Well TD @ 11113
OD (in)	8.500	
Vendor	Halliburton	
S/N	13266539	
Nozzles	6 x 12	
Total Flow Area (in²)	0.663	

Max Downhole Temp (°F)	N/A	Directional: N/a
		MWD:

Bit To Survey (Bit to Say): 64.00 ft, **Gamma (Gamma):** 54.00 ft

Type	Brine	Flow Rate (gpm)	700.00 - 751.00	Motor RPM	130.00 - 195.00
WT	9.40	On Bottom Pressure (psi)	3200.00 - 4000.00	Surface RPM	30.00 - 90.00
VIS	27.00	Off Bottom Pressure (psi)	2900.00 - 3750.00	Rotating WOB (klbs)	32.00 - 45.00
PV	1.00	Stall Pressure (psi)	1910.00	Sliding WOB (klbs)	18.00 - 30.00
YP	1.00	Stalls	0	Temp (°F)	98.60 - 156.00
		NPT	0.4166666666666667		

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: <i>MM65DRM</i> , Style: <i>PDC</i> , Gauge Length (in): <i>3.00</i> , Size (in): <i>8.50</i>	Halliburton	13266539	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: <i>1.5 FBH 7/8 8.5 Stg Mtr w/ 8.25" NB Stabilizer</i> , Size (in): <i>7.00</i> , Bend Angle (°): <i>1.5</i> , Rotor Lobe: <i>7</i> , Stator Lobe: <i>8</i> , Stator Stage: <i>8.5</i>	Contender	700-40-035	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.19	37.19
Stabilizer Description: <i>8.25" STAB</i>	Gator	GT67271	4 1/2" IF Box	4 1/2" IF Pin	2.750	6.750		4.91	42.10
UBHO Sub Description: <i>UBHO Sub</i> , Type: <i>NM</i>	AIM	6751558	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		3.51	45.61
Drill Collar Description: <i>6.75" NMDC (MWD Tool)</i> , Style: <i>Slick Drill</i> , Type: <i>NM</i>	DTI	DR41281	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		28.53	74.14
Drill Collar Description: <i>6.75" NMDC (Spacer)</i> , Style: <i>Slick Drill</i> , Type: <i>NM</i>	DTI	DR33220	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		29.37	103.51
Crossover Sub Description: <i>X-Over (4 1/2 IF Pin x 4 1/2 XH Box)</i> , Type: <i>Steel</i>	DTI	DR5523	4 1/2" XH Box	4 1/2" IF Pin	2.813	6.750		3.05	106.56
Drill Collar Description: <i>(18 Joints) 6.5" DC</i> , Style: <i>Slick Drill</i> , Type: <i>Steel</i>	RIG	RIG	4 1/2" XH Box	4 1/2" XH Pin	2.875	6.500		531.96	638.52
Crossover Sub Description: <i>X-Over (4 1/2 XH Pin x 4 1/2 IF Box)</i> , Type: <i>Steel</i>	DTI	DR19241	4 1/2" IF Box	4 1/2" XH Pin	2.813	6.750		2.65	641.17
HWDP Description: <i>(30 Joints) 5" HWDP</i> , Style: <i>Slick</i>			4 1/2" IF Box	4 1/2" IF Pin	3.000	5.000		914.14	1555.31





Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

BHA #4 - BHA #4 (Directional)

Motor Details		Date/Depth/Distances		Hours	
Size(in)	6.75	Date In	2019-10-03 04:00	Downhole Hours	8.00
Lobe/Stage	7/5, 5.0	Depth In (ft)	11113.00	Drilling/Circulating Hours	0.25
Bend Angle	2.12	Date Out	2019-10-03 12:00	Drilling Hours	0.00
Speed (rev/gal)	0.26	Depth Out (ft)	11113.00	Circulating Hours	0.25
Wear Pad OD (in)	7.063	Distance Slid (ft)	0.00	Sliding Hours	0.00
Incident	No	Distance Rotated (ft)	0.00	Rotating Hours	0.00
Motor Results		% Distance Sliding	0%	% Hours Sliding	0.00%
Average Total ROP (ft/h)	0.00	% Distance Rotating	0%	% Hours Rotating	0.00%
Average Slide ROP (ft/h)	0.00	BHA Objective			
Average Rotating ROP (ft/h)	0.00	Drill Curve to landing point 10°/100'			

Bit Details		POOH Reason/Notes	
OD (in)	8.500	Other: POOH to inspect BHA, Do to DP U tubing while TIH to casing shoe	
Vendor	Halliburton		
S/N	13291183		
Nozzles	6 x 22		
Total Flow Area (in²)	2.227		

MWD		Incident Notes	
Max Downhole Temp (°F)	N/A	Directional: On surface float valve rubbers where cut, C/O bit do to chipped cutter in gauge, P/U float sub & TIH MWD:	

Bit Distances		Comments	
Bit To Survey (Bit to Say): 56.00 ft, Gamma (Gamma): 52.00 ft		Directional: Contender: 2.12 FBH 7/8 5.0 Stg Mtr, Rev/Gal: 0.28, Flow Range: 300-600, Max Diff: 1505 psi, Max Operating Torque: 12813 ft/lbs, Protracted Angle: 2.15 / Bit; Halliburton 8.5" " Type: GTD64C , SN:,13291183 TFA: 2.227 , Jets: 6 x 22s, Bit Runs: 1	

Mud Properties		Parameters	
Type	Oil Based	Flow Rate (gpm)	0.00 - 0.00
WT	9.40	On Bottom Pressure (psi)	0.00 - 0.00
VIS	78.00	Off Bottom Pressure (psi)	0.00 - 0.00
PV	19.00	Stall Pressure (psi)	0.00
YP	6.00	Stalls	0
		NPT	0.0
		Motor RPM	0.00 - 0.00
		Surface RPM	0.00 - 0.00
		Rotating WOB (klbs)	0.00 - 0.00
		Sliding WOB (klbs)	0.00 - 0.00
		Temp (°F)	120.00 - 120.00

Items (Directional)									
Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: <i>GTD64C</i> , Style: <i>PDC</i> , Gauge Length (in): <i>3.00</i> , Size (in): <i>8.50</i>	Halliburton	13291183	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: <i>2.12 FBH 7/8 5.0 Slick</i> , Size (in): <i>6.75</i> , Bend Angle (°): <i>2.12</i> , Rotor Lobe: <i>7</i> , Stator Lobe: <i>5.0</i> , Stator Stage: <i>5.0</i>	Contender	650-016	4 1/2" IF Box	4 1/2" Reg Box		6.750		25.65	26.65
Drill Collar Description: <i>NM Pony</i> , Style: <i>Pony</i> , Type: <i>NM</i>	DTI	DR34595	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		13.14	39.79
UBHO Sub Description: <i>UBHO Sub</i> , Type: <i>NM</i>	DTI	DR43487	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		3.80	43.59
Drill Collar Description: <i>6.75" NMDC (MWD Tool)</i> , Style: <i>Slick Drill</i> , Type: <i>NM</i>	DTI	DR41068	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		28.16	71.75
Drill Collar Description: <i>6.75" NMDC (Spacer)</i> , Style: <i>Slick Drill</i> , Type: <i>NM</i>	DTI	DR41336	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		29.46	101.21





Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

BHA #5 - BHA #5 (Curve) (Directional)

Motor Details		Date/Depth/Distances		Hours	
Size(in)	6.75	Date In	2019-10-03 14:00	Downhole Hours	29.50
Lobe/Stage	7/5, 5.0	Depth In (ft)	11113.00	Drilling/Circulating Hours	17.67
Bend Angle	2.12	Date Out	2019-10-04 19:30	Drilling Hours	15.75
Speed (rev/gal)	0.28	Depth Out (ft)	17719.00	Circulating Hours	1.92
Wear Pad OD (in)	7.063	Distance Slid (ft)	565.00	Sliding Hours	14.83
Incident	No	Distance Rotated (ft)	41.00	Rotating Hours	0.92
Motor Results		% Distance Sliding	93.23%	% Hours Sliding	94.18%
Average Total ROP (ft/h)	38.48	% Distance Rotating	6.77%	% Hours Rotating	5.82%
Average Slide ROP (ft/h)	38.09	BHA Objective			
Average Rotating ROP (ft/h)	44.73	Drill Curve 10°/100'			

Bit Details		POOH Reason/Notes	
OD (in)	8.500	Build Rate: Pooh for build rates. Dialing up to a 2.6 ABH	
Vendor	Halliburton		
S/N	13192807		
Nozzles	5 x 22		
Total Flow Area (in²)	1.856		

MWD		Incident Notes
Max Downhole Temp (°F)	N/A	Directional: On surface motor drained good, no visible damage
		MWD:

Bit Distances		Comments
Bit To Survey (Bit to Say): 58.00 ft, Gamma (Gamma): 54.00 ft		Directional: 2.12 FBH 7/8 5.0 Stg Mtr, Rev/Gal: 0.28, Flow Range: 300-600, Max Diff: 1505 psi, Max Operating Torque: 12813 ft/lbs, Protracted Angle: 2.15 / Bit; Halliburton 8.5" " Type: GTD55DM , SN:,13192807 TFA: 1.856 , Jets:5 x 22s, Bit Runs: 3

Mud Properties		Parameters	
Type	Oil Based	Flow Rate (gpm)	550.00 - 600.00
WT	9.30	On Bottom Pressure (psi)	3100.00 - 3551.00
VIS	81.00	Off Bottom Pressure (psi)	2900.00 - 3200.00
PV	19.00	Stall Pressure (psi)	0.00
YP	6.00	Stalls	0
		NPT	0.0

Items (Directional)									
Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: <i>GTD55DM</i> , Style: <i>PDC</i> , Gauge Length (in): <i>3.00</i> , Size (in): <i>8.50</i>	Halliburton	13192807	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: <i>2.12 FBH 7/8 5.0 Slick</i> , Size (in): <i>6.75</i> , Bend Angle (°): <i>2.12</i> , Rotor Lobe: <i>7</i> , Stator Lobe: <i>5</i> , Stator Stage: <i>5</i>	Contender	650-016	4 1/2" IF Box	4 1/2" Reg Box		6.750		25.65	26.65
Float Sub Description: <i>Float Sub</i> , Type: <i>Steel</i>	DTI	DR19268	4 1/2" IF Box	4 1/2" IF Pin	2.875	6.500		2.50	29.15
Drill Collar Description: <i>NM Pony</i> , Style: <i>Pony</i> , Type: <i>NM</i>	DTI	DR34595	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		13.14	42.29
UBHO Sub Description: <i>UBHO Sub</i> , Type: <i>NM</i>	DTI	DR43487	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		3.80	46.09
Drill Collar Description: <i>6.75" NMDC (MWD Tool)</i> , Style: <i>Slick Drill</i> , Type: <i>NM</i>	DTI	DR41068	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		28.16	74.25
Drill Collar Description: <i>6.75" NMDC (Spacer)</i> , Style: <i>Slick Drill</i> , Type: <i>NM</i>	DTI	DR41336	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		29.46	103.71





Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

BHA #6 - BHA #6 (Curve Bailout) (Directional)

Motor Details		Date/Depth/Distances		Hours	
Size(in)	6.75	Date In	2019-10-04 19:30	Downhole Hours	16.00
Lobe/Stage	7/6, 5.7	Depth In (ft)	11719.00	Drilling/Circulating Hours	4.42
Bend Angle	2.60	Date Out	2019-10-05 11:30	Drilling Hours	2.58
Speed (rev/gal)	0.24	Depth Out (ft)	11804.00	Circulating Hours	1.83
Wear Pad OD (in)	7.250	Distance Slid (ft)	85.00	Sliding Hours	2.58
Incident	No	Distance Rotated (ft)	0.00	Rotating Hours	0.00
Motor Results		% Distance Sliding	100.00%	% Hours Sliding	100.00%
Average Total ROP (ft/h)	32.90	% Distance Rotating	0.00%	% Hours Rotating	0.00%
Average Slide ROP (ft/h)	32.90	BHA Objective			
Average Rotating ROP (ft/h)	0.00	Bail Out Curve			

Bit Details		POOH Reason/Notes	
OD (in)	8.500	Build Rate: POOH for Build Rates	
Vendor	Halliburton		
S/N	13241997		
Nozzles	6 x 22		
Total Flow Area (in²)	2.227		

MWD		Incident Notes
Max Downhole Temp (°F)	N/A	Directional: On surface motor drained good with no visible damage
		MWD:

Bit Distances	Comments
Bit To Survey (Bit to Say): 62.00 ft, Gamma (Gamma): 57.00 ft	Directional: Contender: 2.6 ABH 7/8 5.7 Stg Mtr, Rev/Gal: 0.24, Flow Range: 300-600, Max Diff: 1645 psi, Max Operating Torque: 15,922 ft/lbs, Protracted Angle: 2.60° / Bit; Halliburton 8.5" " Type: GTD64C , SN: 13241997 TFA: 2.227 , Jets: 6 x 22s, Bit Runs: 3

Mud Properties		Parameters	
Type	Oil Based	Flow Rate (gpm)	500.00 - 500.00
WT	9.40	On Bottom Pressure (psi)	3300.00 - 3300.00
VIS	87.00	Off Bottom Pressure (psi)	3000.00 - 3000.00
PV	20.00	Stall Pressure (psi)	0.00
YP	6.00	Stalls	0
		NPT	0.0

Items (Directional)									
Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: <i>GTD64C</i> , Style: <i>PDC</i> , Gauge Length (in): <i>3.00</i> , Size (in): <i>8.50</i>	Halliburton	13241997	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: <i>2.60° ABH 7/8 5.7 Stg Mtr Slick Sleeve</i> , Size (in): <i>6.75</i> , Bend Angle (°): <i>2.6</i> , Rotor Lobe: <i>7</i> , Stator Lobe: <i>5.7</i> , Stator Stage: <i>5.7</i>	Contender	CDM 650-011	4 1/2" IF Box	4 1/2" Reg Box		6.750		31.55	32.55
Drill Collar Description: <i>NM Pony</i> , Style: <i>Pony</i> , Type: <i>NM</i>	DTI	DR34595	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		13.14	45.69
UBHO Sub Description: <i>UBHO Sub</i> , Type: <i>NM</i>	DTI	DR43487	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		3.80	49.49
Drill Collar Description: <i>6.75" NMDC (MWD Tool)</i> , Style: <i>Slick Drill</i> , Type: <i>NM</i>	DTI	DR41068	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		28.16	77.65
Drill Collar Description: <i>6.75" NMDC (Spacer)</i> , Style: <i>Slick Drill</i> , Type: <i>NM</i>	DTI	DR41336	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		29.46	107.11





Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

BHA #7 - BHA #7 (Bail Out 3°) (Directional)

Motor Details		Date/Depth/Distances	Hours
Size(in)	6.75	Date In	2019-10-05 13:00
Lobe/Stage	7/8, 5.0	Depth In (ft)	11808.00
Bend Angle	3.00	Date Out	2019-10-06 16:30
Speed (rev/gal)	0.28	Depth Out (ft)	11950.00
Wear Pad OD (in)	7.250	Distance Slid (ft)	146.00
Incident	No	Distance Rotated (ft)	0.00
Motor Results		% Distance Sliding	100.00%
Average Total ROP (ft/h)	10.43	% Distance Rotating	0.00%
Average Slide ROP (ft/h)	10.43		
Average Rotating ROP (ft/h)	0.00		

Bit Details		BHA Objective	
OD (in)	8.500	Drill Curve	

Vendor	Baker Hughes	POOH Reason/Notes	
S/N	5291888	Change Bottom Hole Assembly: motor performed well	
Nozzles	3 x 22		
Total Flow Area (in²)	1.113		

MWD		Incident Notes	
Max Downhole Temp (°F)	N/A	Directional: None	
		MWD:	

Bit Distances		Comments	
Bit To Survey (Bit to Svy): 57.00 ft, Gamma (Gamma): 52.00 ft, Bend: 5.10 ft		Directional: Contender 3° ABH 7/8 5.0 Stg Mtr, Rev/Gal: 0.28, Flow Range: 300-600, Max Diff: 1505 psi, Max Operating Torque: 12813 ft/lbs, Protracted Angle: / Bit; Baker Hughes 8.5" " Type: GX-30C , SN:5291888 TFA: 1.113 , Jets: 3 x 22s, Bit Runs: 0	

Mud Properties		Parameters	
Type	Oil Based	Flow Rate (gpm)	600.00 - 600.00
WT	9.50	On Bottom Pressure (psi)	3500.00 - 3500.00
VIS	58.00	Off Bottom Pressure (psi)	3450.00 - 3450.00
PV	1.00	Stall Pressure (psi)	1279.96
YP	11.00	Stalls	0
		NPT	0.0

Items (Directional)									
Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: GX-30C, Style: Roller Cone, Gauge Length (in): 3.25, Size (in): 8.50	Baker Hughes	5291888	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 3.0° ABH 7/8 5.0 Stg Mtr w/ 8 1/8" Stab, Size (in): 6.75, Bend Angle (°): 3, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 5	Contender	650-012	4 1/2" IF Box	4 1/2" Reg Box		6.750		26.07	27.07
Drill Collar Description: NM Pony, Style: Pony, Type: NM	DTI	DR34595	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		13.14	40.21
UBHO Sub Description: UBHO Sub, Type: NM	DTI	DR43487	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		3.80	44.01
Drill Collar Description: 6.75" NMDC (MWD Tool), Style: Slick Drill, Type: NM	DTI	DR41068	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		28.16	72.17
Drill Collar Description: 6.75" NMDC (Spacer), Style: Slick Drill, Type: NM	DTI	DR41336	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		29.46	101.63





Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

BHA #8 - BHA #8 (Lateral) (Directional)

Motor Details		Date/Depth/Distances	Hours
Size(in)	7.00	Date In	2019-10-06 16:30
Lobe/Stage	6/7, 8.4	Depth In (ft)	11950.00
Bend Angle	1.75	Date Out	2019-10-08 15:00
Speed (rev/gal)	0.30	Depth Out (ft)	15574.00
Wear Pad OD (in)	7.250	Distance Slid (ft)	242.00
Incident	Yes	Distance Rotated (ft)	3382.00
Motor Results		% Distance Sliding	6.68%
Average Total ROP (ft/h)	127.16	% Distance Rotating	93.32%
Average Slide ROP (ft/h)	42.71	BHA Objective	
Average Rotating ROP (ft/h)	148.12	Drill Lateral to TD	

Bit Details		POOH Reason/Notes	
OD (in)	8.500	Downhole Motor Incident: Pooh due to motor pressuring up repeatedly while rotating. Motor began pressure spiking around 14,000' and continued to get worse. WOB never topped out @ 46K and averaged 40-42 for most of the run.	
Vendor	Baker Hughes		
S/N	5299085		
Nozzles	6 x 22	Incident Notes	
Total Flow Area (in²)	2.270		

MWD		Incident Notes	
Max Downhole Temp (°F)	N/A	Directional: Motor Drained properly on surface, with a half inch or more in bearing squat. No Rubber in the bit but rubber chunks were found coming over the shakers around 1800 of the first day of drilling.	
		MWD:	

Bit Distances		Comments
Bit To Survey (Bit to Svy): 64.00 ft, Gamma (Gamma): 61.00 ft, Bend: 5.35 ft		Directional: 1.75 FBH 6/7 6.4 Stg Mtr, Rev/Gal: 0.30, Flow Range: 350-750, Max Diff: 1980 psi, Max Operating Torque: 16550 ft/lbs, Protracted Angle: 1.77 / Bit; Halliburton 8.5" Type: DD506TWX , SN: 5299085 TFA: 2.27 , Jets: 6 x 22s, Bit Runs: 2

Mud Properties		Parameters	
Type	Oil Based	Flow Rate (gpm)	650.00 - 750.00
WT	9.50	On Bottom Pressure (psi)	4500.00 - 5500.00
VIS	65.00	Off Bottom Pressure (psi)	3750.00 - 4700.00
PV	21.00	Stall Pressure (psi)	1750.03
YP	6.00	Stalls	25
		NPT	0.0

Items (Directional)									
Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: DD506TWX, Style: PDC, Gauge Length (in): 3.50, Size (in): 8.50	Baker Hughes	5299085	4 1/2" Reg Pin			8.500		1.20	1.20
Mud Motor Description: 1.75 FBH 6/7 8.4 Stg Mtr Slick, Size (in): 7.00, Bend Angle (°): 1.75, Rotor Lobe: 6, Stator Lobe: 7, Stator Stage: 8.4	Contender	700-40-025	4 1/2" IF Box	4 1/2" Reg Box		7.000		34.13	35.33
Drill Collar Description: NM Pony, Style: Pony, Type: NM	DTI	DR34595	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		13.14	48.47
UBHO Sub Description: UBHO Sub, Type: NM	DTI	DR43487	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		3.80	52.27
Drill Collar Description: 6.75" NMDC (MWD Tool), Style: Slick Drill, Type: NM	DTI	DR41068	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		28.16	80.43
Drill Collar Description: 6.75" NMDC (Spacer), Style: Slick Drill, Type: NM	DTI	DR41336	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		29.46	109.89





Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

BHA #9 - BHA #9 (Lateral) (Directional)

Motor Details		Date/Depth/Distances		Hours	
Size(in)	7.00	Date In	2019-10-08 15:00	Downhole Hours	69.67
Lobe/Stage	7/8, 8.5	Depth In (ft)	15574.00	Drilling/Circulating Hours	33.83
Bend Angle	1.75	Date Out	2019-10-11 12:40	Drilling Hours	27.92
Speed (rev/gal)	0.26	Depth Out (ft)	19344.00	Circulating Hours	5.92
Wear Pad OD (in)	7.250	Distance Slid (ft)	140.00	Sliding Hours	4.75
Incident	No	Distance Rotated (ft)	3630.00	Rotating Hours	23.17
Motor Results		% Distance Sliding	3.71%	% Hours Sliding	17.01%
Average Total ROP (ft/h)	135.04	% Distance Rotating	96.29%	% Hours Rotating	82.99%
Average Slide ROP (ft/h)	29.47	BHA Objective			
Average Rotating ROP (ft/h)	156.69	Drill F/ 15574' - TD			

Bit Details		POOH Reason/Notes	
OD (in)	8.500	Total Depth/Casing Point: Motor performed well. yielded 8-10. minimal slack in bearings, drained well with no visual damage.	
Vendor	Baker Hughes		
S/N	5292927		
Nozzles	6 x 22		
Total Flow Area (in²)	2.270		

MWD		Incident Notes	
Max Downhole Temp (°F)	N/A	Directional: N/a	
		MWD:	

Bit Distances		Comments	
Bit To Survey (Bit to Svy): 66.00 ft, Gamma (Gamma): 62.00 ft, Bend: 5.35 ft		Directional: 1.75 FBH 7/8 8.5 Stg Mtr, Rev/Gal: 0.26, Flow Range: 400-750, Max Diff: 1910 psi, Max Operating Torque: 18710 ft/lbs, Protracted Angle: 1.74 / Bit; Halliburton 8.5" Type: DD506TWX , SN:5292927 TFA: 2.27 , Jets: 6 x 22s, Bit Runs: 2	

Mud Properties		Parameters	
Type	Oil Based	Flow Rate (gpm)	730.00 - 750.00
WT	9.50	On Bottom Pressure (psi)	5300.00 - 5900.00
VIS	57.00	Off Bottom Pressure (psi)	5000.00 - 5300.00
PV	16.00	Stall Pressure (psi)	1910.00
YP	3.00	Stalls	0
		NPT	0.0

Items (Directional)									
Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: DD506TWX, Style: PDC, Gauge Length (in): 3.50, Size (in): 8.50	Baker Hughes	5292927	4 1/2" Reg Pin			8.500		1.20	1.20
Mud Motor Description: 1.75 FBH 7/8 8.5 Stg Mtr Slick, Size (in): 7.00, Bend Angle (°): 1.75, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5	Contender	700-40-015	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.12	37.32
Drill Collar Description: NM Pony, Style: Pony, Type: NM	DTI	DR34595	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		13.14	50.46
UBHO Sub Description: UBHO Sub, Type: NM	DTI	DR43487	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		3.80	54.26
Drill Collar Description: 6.75" NMDC (MWD Tool), Style: Slick Drill, Type: NM	DTI	DR41068	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		28.16	82.42
Drill Collar Description: 6.75" NMDC (Spacer), Style: Slick Drill, Type: NM	DTI	DR41336	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		29.46	111.88





Mud Motor Reports

Wool Head 20 State Com 606H (WT-19-125)

2019-08-03 to 2019-10-13

Lea, New Mexico, US (32.46, -103.59)

	Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Mud Motor Report - BHA 1 (BHA #1 (Surface))				
Motor Details		Date/Depth/Distances		Hours
S/N	800-40-002	Date In	2019-08-11 04:30	Downhole Hours 18.75
Size (in)	8.0	Depth In (ft)	0.00	Drilling/Circulating Hours 11.92
Lobe/Stage	7/8, 4.00	Date Out	2019-08-11 23:15	
Bend Angle	1.5	Depth Out (ft)	1860.00	Circulating Hours 1.17
Speed (rev/gal)	0.16	Total Drilled (ft)	1860.00	Drilling Hours 10.75
Wear Pad OD (in)	8.375	Distance Slid (ft)	0.00	Sliding Hours 0.00
Manufacturer	N/A	Distance Rotated (ft)	1860.00	Rotating Hours 10.75
Motor Results		% Distance Sliding	0.00%	% Hours Rotating 100.00%
Motor Incident	No	% Distance Rotating	100.00%	% Hours Sliding 0.00%
Average Total ROP (ft/h)	173.02	BHA Parameters		
Average Slide ROP (ft/h)	0.00	Flow Rate (gpm)	500.00 - 900.00	Motor RPM 80.00 - 144.00
Average Rotating ROP (ft/h)	173.02	Stalls	0	Surface RPM 40.00 - 70.00
Bit Details		Stall Pressure (psi)	899.96	Rotating WOB (klbs) 15.00 - 40.00
OD (in)	17.500	On Bottom Pressure (psi)	1300.00 - 3000.00	Sliding WOB (klbs) 0.00 - 0.00
Vendor	Baker Hughes	Off Bottom Pressure (psi)	950.00 - 2400.00	Temp (°F) 60.00 - 105.00
S/N	5294782	NPT	0.0	
Nozzles	9x12	BHA Objective		
Total Flow Area (in²)	0.994	Drill Surface		
Bit Type	PDC			
Bit Distances				
Survey (Bit to Say): 62.00 ft, Bend (Bit to Bend): 6.20 ft				
Mud Properties				
Type	Water			
WT	10.00			
VIS	30.00			
PV	1.00			
YP	10.00			
POOH Reason/Notes				
Total Depth/Casing Point: Motor Performed well.				
Incident Notes				
Directional: N/a				
MWD:				
Comments				
Directional: Motor & Bit Info: Contender: 1.5 FBH 7/8 4.0 Stg Mtr, Rev/Gal: 0.16, Max Diff: 900psi, Max Operating Torque: 14,994 ft/lbs, Protracted Angle: 1.53 / Bit; Baker Hughes DP606S, SN: 5294782, TFA: 0.994, Bit Runs: 0				
MWD:				



Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Mud Motor Report - BHA 2 (BHA #2 (12.25" Intermediate))

Motor Details		Date/Depth/Distances		Hours	
S/N	BDT800-017	Date In	2019-08-16 02:00	Downhole Hours	40.00
Size (in)	8.0	Depth In (ft)	1860.00	Drilling/Circulating Hours	23.92
Lobe/Stage	7/8, 5.90	Date Out	2019-08-17 18:00		
Bend Angle	1.5	Depth Out (ft)	5263.00	Circulating Hours	8.83
Speed (rev/gal)	0.16	Total Drilled (ft)	3398.00	Drilling Hours	15.08
Wear Pad OD (in)	8.375	Distance Slid (ft)	76.00	Sliding Hours	0.92
Manufacturer	N/A	Distance Rotated (ft)	3322.00	Rotating Hours	14.17
Motor Results		% Distance Sliding	2.24%	% Hours Rotating	93.92%
Motor Incident	No	% Distance Rotating	97.76%	% Hours Sliding	6.08%
Average Total ROP (ft/h)	225.28	BHA Parameters			
Average Slide ROP (ft/h)	82.91	Flow Rate (gpm)	645.00 - 900.00	Motor RPM	80.00 - 144.00
Average Rotating ROP (ft/h)	234.49	Stalls	0	Surface RPM	40.00 - 70.00
Bit Details		Stall Pressure (psi)	0.00	Rotating WOB (klbs)	25.00 - 65.00
OD (in)	12.250	On Bottom Pressure (psi)	2600.00 - 4400.00	Sliding WOB (klbs)	15.00 - 30.00
Vendor	Baker Hughes	Off Bottom Pressure (psi)	2200.00 - 4000.00	Temp (°F)	50.00 - 75.00
S/N	7163483	NPT	0.25		
Nozzles	9x12	BHA Objective			
Total Flow Area (in²)	0.994	Drill 12.25" Intermediate Section			
Bit Type	PDC				
Bit Distances					
Survey (Bit to Say): 70.00 ft, Bend (Bit to Bend): 6.00 ft					
Mud Properties					
Type	Brine				
WT	10.10				
VIS	29.00				
PV	3.00				
YP	2.00				
POOH Reason/Notes					
Total Depth/Casing Point: POOH to run intermediate casing					
Incident Notes					
Directional: On surface motor drained good with no visible. Bit had missing cutters on the face and nose					
MWD:					
Comments					
Directional: Butchesr: 1.50 FBH 7/8 5.9 Stg Mtr, Rev/Gal: 0.16, Max Diff: 1390 psi, Max Operating Torque: 21,870 ft/lbs, Protracted Angle: 1.55 / Bit; Baker Hughes 12.25" Type: T806FX, SN:7163483, TFA: 0.994, Jets:9 x 12's, Bit Runs: 0					
MWD:					

	Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Mud Motor Report - BHA 3 (BHA #3 8.5" Intermediate)				
Motor Details		Date/Depth/Distances		Hours
S/N	700-40-035	Date In	2019-09-11 18:10	Downhole Hours
Size (in)	7.0	Depth In (ft)	5258.00	Drilling/Circulating Hours
Lobe/Stage	7/8, 8.50	Date Out	2019-09-14 11:50	
Bend Angle	1.5	Depth Out (ft)	11113.00	Circulating Hours
Speed (rev/gal)	0.26	Total Drilled (ft)	5855.00	Drilling Hours
Wear Pad OD (in)	7.250	Distance Slid (ft)	283.00	Sliding Hours
Manufacturer	N/A	Distance Rotated (ft)	5572.00	Rotating Hours
Motor Results		% Distance Sliding	4.83%	% Hours Rotating
Motor Incident	No	% Distance Rotating	95.17%	% Hours Sliding
Average Total ROP (ft/h)	126.37	BHA Parameters		
Average Slide ROP (ft/h)	39.03	Flow Rate (gpm)	700.00 - 751.00	Motor RPM
Average Rotating ROP (ft/h)	142.57	Stalls	0	Surface RPM
Bit Details		Stall Pressure (psi)	1910.00	Rotating WOB (klbs)
OD (in)	8.500	On Bottom Pressure (psi)	3200.00 - 4000.00	Sliding WOB (klbs)
Vendor	Halliburton	Off Bottom Pressure (psi)	2900.00 - 3750.00	Temp (°F)
S/N	13266539	NPT	0.4166666666666667	
Nozzles	6 x 12	BHA Objective		
Total Flow Area (in²)	0.663	Drill 8 1/2 Intermediate		
Bit Type	PDC			
Bit Distances				
Survey (Bit to Say): 64.00 ft, Gamma (Gamma): 54.00 ft				
Mud Properties				
Type	Brine			
WT	9.40			
VIS	27.00			
PV	1.00			
YP	1.00			
POOH Reason/Notes				
Total Depth/Casing Point: Well TD @ 11113				
Incident Notes				
Directional: N/a				
MWD:				
Comments				
Directional: Contender: 1.50 FBH 7/8 8.5 Stg Mtr, Rev/Gal: 0.26, Flow Range: 400-750, Max Diff: 1910 psi, Max Operating Torque: 18,710 ft/lbs, Protracted Angle: 1.55 / Bit; Halliburton 8.5" " Type: MM65DRM , SN:,13266539 TFA: .663 , Jets: 6 x 12s, Bit Runs: 1				
MWD:				

	Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Mud Motor Report - BHA 4 (BHA #4)				
Motor Details		Date/Depth/Distances		Hours
S/N	650-016	Date In	2019-10-03 04:00	Downhole Hours 8.00
Size (in)	6.75	Depth In (ft)	11113.00	Drilling/Circulating Hours 0.25
Lobe/Stage	7/5, 5.00	Date Out	2019-10-03 12:00	
Bend Angle	2.12	Depth Out (ft)	11113.00	Circulating Hours 0.25
Speed (rev/gal)	0.26	Total Drilled (ft)	0.00	Drilling Hours 0.00
Wear Pad OD (in)	7.063	Distance Slid (ft)	0.00	Sliding Hours 0.00
Manufacturer	N/A	Distance Rotated (ft)	0.00	Rotating Hours 0.00
Motor Results		% Distance Sliding	0	% Hours Rotating 0%
Motor Incident	No	% Distance Rotating	0	% Hours Sliding 0%
Average Total ROP (ft/h)	0.00	BHA Parameters		
Average Slide ROP (ft/h)	0.00	Flow Rate (gpm)	0.00 - 0.00	Motor RPM 0.00 - 0.00
Average Rotating ROP (ft/h)	0.00	Stalls	0	Surface RPM 0.00 - 0.00
Bit Details		Stall Pressure (psi)	0.00	Rotating WOB (klbs) 0.00 - 0.00
OD (in)	8.500	On Bottom Pressure (psi)	0.00 - 0.00	Sliding WOB (klbs) 0.00 - 0.00
Vendor	Halliburton	Off Bottom Pressure (psi)	0.00 - 0.00	Temp (°F) 120.00 - 120.00
S/N	13291183	NPT	0.0	
Nozzles	6 x 22	BHA Objective		
Total Flow Area (in²)	2.227	Drill Curve to landing point 10°/100'		
Bit Type	PDC			
Bit Distances				
Survey (Bit to Say): 56.00 ft, Gamma (Gamma): 52.00 ft				
Mud Properties				
Type	Oil Based			
WT	9.40			
VIS	78.00			
PV	19.00			
YP	6.00			
POOH Reason/Notes				
Other: POOH to inspect BHA, Do to DP U tubing while TIH to casing shoe				
Incident Notes				
Directional: On surface float valve rubbers where cut, C/O bit do to chipped cutter in gauge, P/U float sub & TIH				
MWD:				
Comments				
Directional: Contender: 2.12 FBH 7/8 5.0 Stg Mtr, Rev/Gal: 0.28, Flow Range: 300-600, Max Diff: 1505 psi, Max Operating Torque: 12813 ft/lbs, Protracted Angle: 2.15 / Bit; Halliburton 8.5" " Type: GTD64C , SN:,13291183 TFA: 2.227 , Jets: 6 x 22s, Bit Runs: 1				
MWD:				

	Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Mud Motor Report - BHA 5 (BHA #5 (Curve))				
Motor Details		Date/Depth/Distances		Hours
S/N	650-016	Date In	2019-10-03 14:00	Downhole Hours 29.50
Size (in)	6.75	Depth In (ft)	11113.00	Drilling/Circulating Hours 17.67
Lobe/Stage	7/5, 5.00	Date Out	2019-10-04 19:30	
Bend Angle	2.12	Depth Out (ft)	17719.00	Circulating Hours 1.92
Speed (rev/gal)	0.28	Total Drilled (ft)	606.00	Drilling Hours 15.75
Wear Pad OD (in)	7.063	Distance Slid (ft)	565.00	Sliding Hours 14.83
Manufacturer	N/A	Distance Rotated (ft)	41.00	Rotating Hours 0.92
Motor Results		% Distance Sliding	93.23%	% Hours Rotating 5.82%
Motor Incident	No	% Distance Rotating	6.77%	% Hours Sliding 94.18%
Average Total ROP (ft/h)	38.48	BHA Parameters		
Average Slide ROP (ft/h)	38.09	Flow Rate (gpm)	550.00 - 600.00	Motor RPM 154.00 - 168.00
Average Rotating ROP (ft/h)	44.73	Stalls	0	Surface RPM 20.00 - 20.00
Bit Details		Stall Pressure (psi)	0.00	Rotating WOB (klbs) 35.00 - 35.00
OD (in)	8.500	On Bottom Pressure (psi)	3100.00 - 3551.00	Sliding WOB (klbs) 30.00 - 40.00
Vendor	Halliburton	Off Bottom Pressure (psi)	2900.00 - 3200.00	Temp (°F) 138.00 - 138.00
S/N	13192807	NPT	0.0	
Nozzles	5 x 22	BHA Objective		
Total Flow Area (in²)	1.856	Drill Curve 10°/100'		
Bit Type	PDC			
Bit Distances				
Survey (Bit to Say): 58.00 ft, Gamma (Gamma): 54.00 ft				
Mud Properties				
Type	Oil Based			
WT	9.30			
VIS	81.00			
PV	19.00			
YP	6.00			
POOH Reason/Notes				
Build Rate: Pooh for build rates. Dialing up to a 2.6 ABH				
Incident Notes				
Directional: On surface motor drained good, no visible damage				
MWD:				
Comments				
Directional: 2.12 FBH 7/8 5.0 Stg Mtr, Rev/Gal: 0.28, Flow Range: 300-600, Max Diff: 1505 psi, Max Operating Torque: 12813 ft/lbs, Protracted Angle: 2.15 / Bit; Halliburton 8.5" " Type: GTD55DM , SN: 13192807 TFA: 1.856 , Jets: 5 x 22s, Bit Runs: 3				
MWD:				

	Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Mud Motor Report - BHA 6 (BHA #6 (Curve Bailout))				
Motor Details		Date/Depth/Distances		Hours
S/N	CDM 650-011	Date In	2019-10-04 19:30	Downhole Hours
Size (in)	6.75	Depth In (ft)	11719.00	Drilling/Circulating Hours
Lobe/Stage	7/6, 5.70	Date Out	2019-10-05 11:30	
Bend Angle	2.6	Depth Out (ft)	11804.00	Circulating Hours
Speed (rev/gal)	0.24	Total Drilled (ft)	85.00	Drilling Hours
Wear Pad OD (in)	7.250	Distance Slid (ft)	85.00	Sliding Hours
Manufacturer	N/A	Distance Rotated (ft)	0.00	Rotating Hours
Motor Results		% Distance Sliding	100.00%	% Hours Rotating
Motor Incident	No	% Distance Rotating	0.00%	% Hours Sliding
Average Total ROP (ft/h)	32.90	BHA Parameters		
Average Slide ROP (ft/h)	32.90	Flow Rate (gpm)	500.00 - 500.00	Motor RPM
Average Rotating ROP (ft/h)	0.00	Stalls	0	Surface RPM
Bit Details		Stall Pressure (psi)	0.00	Rotating WOB (klbs)
OD (in)	8.500	On Bottom Pressure (psi)	3300.00 - 3300.00	Sliding WOB (klbs)
Vendor	Halliburton	Off Bottom Pressure (psi)	3000.00 - 3000.00	Temp (°F)
S/N	13241997	NPT	0.0	
Nozzles	6 x 22	BHA Objective		
Total Flow Area (in²)	2.227	Bail Out Curve		
Bit Type	PDC			
Bit Distances				
Survey (Bit to Say): 62.00 ft, Gamma (Gamma): 57.00 ft				
Mud Properties				
Type	Oil Based			
WT	9.40			
VIS	87.00			
PV	20.00			
YP	6.00			
POOH Reason/Notes				
Build Rate: POOH for Build Rates				
Incident Notes				
Directional: On surface motor drained good with no visible damage				
MWD:				
Comments				
Directional: Contender: 2.6 ABH 7/8 5.7 Stg Mtr, Rev/Gal: 0.24, Flow Range: 300-600, Max Diff: 1645 psi, Max Operating Torque: 15,922 ft/lbs, Protracted Angle: 2.60° / Bit; Halliburton 8.5" " Type: GTD64C , SN: 13241997 TFA: 2.227 , Jets: 6 x 22s, Bit Runs: 3				
MWD:				

	Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Mud Motor Report - BHA 7 (BHA #7 (Bail Out 3°))				
Motor Details		Date/Depth/Distances		Hours
S/N	650-012	Date In	2019-10-05 13:00	Downhole Hours 27.50
Size (in)	6.75	Depth In (ft)	11808.00	Drilling/Circulating Hours 15.75
Lobe/Stage	7/8, 5.00	Date Out	2019-10-06 16:30	
Bend Angle	3.0	Depth Out (ft)	11950.00	Circulating Hours 1.75
Speed (rev/gal)	0.28	Total Drilled (ft)	146.00	Drilling Hours 14.00
Wear Pad OD (in)	7.250	Distance Slid (ft)	146.00	Sliding Hours 14.00
Manufacturer	N/A	Distance Rotated (ft)	0.00	Rotating Hours 0.00
Motor Results		% Distance Sliding	100.00%	% Hours Rotating 0.00%
Motor Incident	No	% Distance Rotating	0.00%	% Hours Sliding 100.00%
Average Total ROP (ft/h)	10.43	BHA Parameters		
Average Slide ROP (ft/h)	10.43	Flow Rate (gpm)	600.00 - 600.00	Motor RPM 130.00 - 195.00
Average Rotating ROP (ft/h)	0.00	Stalls	0	Surface RPM 0.00 - 0.00
Bit Details		Stall Pressure (psi)	1279.96	Rotating WOB (klbs) 0.00 - 0.00
OD (in)	8.500	On Bottom Pressure (psi)	3500.00 - 3500.00	Sliding WOB (klbs) 75.00 - 75.00
Vendor	Baker Hughes	Off Bottom Pressure (psi)	3450.00 - 3450.00	Temp (°F) 134.00 - 154.00
S/N	5291888	NPT	0.0	
Nozzles	3 x 22	BHA Objective		
Total Flow Area (in²)	1.113	Drill Curve		
Bit Type	Roller Cone			
Bit Distances				
Survey (Bit to Svy): 57.00 ft, Gamma (Gamma): 52.00 ft, Bend: 5.10 ft				
Mud Properties				
Type	Oil Based			
WT	9.50			
VIS	58.00			
PV	1.00			
YP	11.00			
POOH Reason/Notes				
Change Bottom Hole Assembly: motor performed well				
Incident Notes				
Directional: None				
MWD:				
Comments				
Directional: Contender 3° ABH 7/8 5.0 Stg Mtr, Rev/Gal: 0.28, Flow Range: 300-600, Max Diff: 1505 psi, Max Operating Torque: 12813 ft/lbs, Protracted Angle: / Bit; Baker Hughes 8.5" " Type: GX-30C , SN:5291888 TFA: 1.113 , Jets: 3 x 22s, Bit Runs: 0				
MWD:				

	Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620	
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H	
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man	
Mud Motor Report - BHA 8 (BHA #8 (Lateral))					
Motor Details		Date/Depth/Distances		Hours	
S/N	700-40-025	Date In	2019-10-06 16:30	Downhole Hours	46.50
Size (in)	7.0	Depth In (ft)	11950.00	Drilling/Circulating Hours	30.17
Lobe/Stage	6/7, 8.40	Date Out	2019-10-08 15:00		
Bend Angle	1.75	Depth Out (ft)	15574.00	Circulating Hours	1.67
Speed (rev/gal)	0.30	Total Drilled (ft)	3624.00	Drilling Hours	28.50
Wear Pad OD (in)	7.250	Distance Slid (ft)	242.00	Sliding Hours	5.67
Manufacturer	N/A	Distance Rotated (ft)	3382.00	Rotating Hours	22.83
Motor Results		% Distance Sliding	6.68%	% Hours Rotating	80.12%
Motor Incident	Yes	% Distance Rotating	93.32%	% Hours Sliding	19.88%
Average Total ROP (ft/h)	127.16	BHA Parameters			
Average Slide ROP (ft/h)	42.71	Flow Rate (gpm)	650.00 - 750.00	Motor RPM	130.00 - 195.00
Average Rotating ROP (ft/h)	148.12	Stalls	25	Surface RPM	40.00 - 60.00
Bit Details		Stall Pressure (psi)	1750.03	Rotating WOB (klbs)	36.00 - 46.00
OD (in)	8.500	On Bottom Pressure (psi)	4500.00 - 5500.00	Sliding WOB (klbs)	32.00 - 40.00
Vendor	Baker Hughes	Off Bottom Pressure (psi)	3750.00 - 4700.00	Temp (°F)	154.00 - 195.00
S/N	5299085	NPT	0.0		
Nozzles	6 x 22	BHA Objective			
Total Flow Area (in²)	2.270	Drill Lateral to TD			
Bit Type	PDC				
Bit Distances					
Survey (Bit to Svy): 64.00 ft, Gamma (Gamma): 61.00 ft, Bend: 5.35 ft					
Mud Properties					
Type	Oil Based				
WT	9.50				
VIS	65.00				
PV	21.00				
YP	6.00				
POOH Reason/Notes					
Downhole Motor Incident: Pooh due to motor pressuring up repeatedly while rotating. Motor began pressure spiking around 14,000' and continued to get worse. WOB never topped out @ 46K and averaged 40-42 for most of the run.					
Incident Notes					
Directional: Motor Drained properly on surface, with a half inch or more in bearing squat. No Rubber in the bit but rubber chunks were found coming over the shakers around 1800 of the first day of drilling.					
MWD:					
Comments					
Directional: 1.75 FBH 6/7 6.4 Stg Mtr, Rev/Gal: 0.30, Flow Range: 350-750, Max Diff: 1980 psi, Max Operating Torque: 16550 ft/lbs, Protracted Angle: 1.77 / Bit; Halliburton 8.5" Type: DD506TWX , SN: 5299085 TFA: 2.27 , Jets: 6 x 22s, Bit Runs: 2					
MWD:					

	Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Mud Motor Report - BHA 9 (BHA #9 (Lateral))				
Motor Details		Date/Depth/Distances		Hours
S/N	700-40-015	Date In	2019-10-08 15:00	Downhole Hours
Size (in)	7.0	Depth In (ft)	15574.00	Drilling/Circulating Hours
Lobe/Stage	7/8, 8.50	Date Out	2019-10-11 12:40	
Bend Angle	1.75	Depth Out (ft)	19344.00	Circulating Hours
Speed (rev/gal)	0.26	Total Drilled (ft)	3770.00	Drilling Hours
Wear Pad OD (in)	7.250	Distance Slid (ft)	140.00	Sliding Hours
Manufacturer	N/A	Distance Rotated (ft)	3630.00	Rotating Hours
Motor Results		% Distance Sliding	3.71%	% Hours Rotating
Motor Incident	No	% Distance Rotating	96.29%	% Hours Sliding
Average Total ROP (ft/h)	135.04	BHA Parameters		
Average Slide ROP (ft/h)	29.47	Flow Rate (gpm)	730.00 - 750.00	Motor RPM
Average Rotating ROP (ft/h)	156.69	Stalls	0	Surface RPM
Bit Details		Stall Pressure (psi)	1910.00	Rotating WOB (klbs)
OD (in)	8.500	On Bottom Pressure (psi)	5300.00 - 5900.00	Sliding WOB (klbs)
Vendor	Baker Hughes	Off Bottom Pressure (psi)	5000.00 - 5300.00	Temp (°F)
S/N	5292927	NPT	0.0	
Nozzles	6 x 22	BHA Objective		
Total Flow Area (in²)	2.270	Drill F/ 15574' - TD		
Bit Type	PDC			
Bit Distances				
Survey (Bit to Svy): 66.00 ft, Gamma (Gamma): 62.00 ft, Bend: 5.35 ft				
Mud Properties				
Type	Oil Based			
WT	9.50			
VIS	57.00			
PV	16.00			
YP	3.00			
POOH Reason/Notes				
Total Depth/Casing Point: Motor performed well. yielded 8-10. minimal slack in bearings, drained well with no visual damage.				
Incident Notes				
Directional: N/a				
MWD:				
Comments				
Directional: 1.75 FBH 7/8 8.5 Stg Mtr, Rev/Gal: 0.26, Flow Range: 400-750, Max Diff: 1910 psi, Max Operating Torque: 18710 ft/lbs, Protracted Angle: 1.74 / Bit; Halliburton 8.5" Type: DD506TWX , SN:5292927 TFA: 2.27 , Jets: 6 x 22s, Bit Runs: 2				
MWD:				



Slide/Rotate Reports

Wool Head 20 State Com 606H (WT-19-125)

2019-08-03 to 2019-10-13

Lea, New Mexico, US (32.46, -103.59)



Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Slide/Rotate Report - BHA #1 (BHA #1 (Surface))

Activity	Start Date	Start Time	End Time	End Date	Hours	Start Depth (ft)	End Depth (ft)	Distance (ft)	RoP (ft/h)	Toolface	Flow Rate (gpm)	Surface RPM	WOB (klbs)	Press On (psi)	Press Off (psi)	Hole Section Type
Rotate	08-11	07:00	08:00	08-11	1.0	0.00	290.00	290.00	290.00	N/A	500.00	40.0	15.00	1300.00	950.00	
Rotate	08-11	08:10	08:25	08-11	0.25	290.00	382.00	92.00	368.00	N/A	500.00	40.0	15.00	1300.00	950.00	
Rotate	08-11	08:30	09:00	08-11	0.5	382.00	472.00	90.00	180.00	N/A	900.00	60.0	25.00	2800.00	2400.00	
Rotate	08-11	09:05	09:35	08-11	0.5	472.00	656.00	184.00	368.00	N/A	900.00	60.0	25.00	2800.00	2400.00	
Rotate	08-11	09:50	10:40	08-11	0.83	656.00	839.00	183.00	219.60	N/A	900.00	60.0	25.00	2800.00	2400.00	
Rotate	08-11	10:55	11:20	08-11	0.42	839.00	929.00	90.00	216.00	N/A	900.00	60.0	25.00	2800.00	2400.00	
Rotate	08-11	11:25	12:20	08-11	0.92	929.00	1111.00	182.00	198.55	N/A	900.00	60.0	25.00	2800.00	2400.00	
Rotate	08-11	12:30	13:30	08-11	1.0	1111.00	1296.00	185.00	185.00	N/A	735.00	60.0	35.00	3000.00	2100.00	
Rotate	08-11	13:35	14:25	08-11	0.83	1296.00	1391.00	95.00	114.00	N/A	735.00	70.0	37.00	3000.00	2100.00	
Rotate	08-11	14:30	15:20	08-11	0.83	1391.00	1486.00	95.00	114.00	N/A	735.00	70.0	37.00	3000.00	2100.00	
Rotate	08-11	15:25	16:10	08-11	0.75	1486.00	1580.00	94.00	125.33	N/A	735.00	70.0	38.00	3000.00	2100.00	
Rotate	08-11	16:15	17:15	08-11	1.0	1580.00	1675.00	95.00	95.00	N/A	735.00	70.0	38.00	3000.00	2100.00	
Rotate	08-11	17:30	18:20	08-11	0.83	1675.00	1769.00	94.00	112.80	N/A	736.00	70.0	40.00	3000.00	2300.00	
Rotate	08-11	18:25	18:45	08-11	0.33	1769.00	1790.00	21.00	63.00	N/A	736.00	70.0	40.00	3000.00	2300.00	
Rotate	08-11	19:00	19:45	08-11	0.75	1790.00	1860.00	70.00	93.33	N/A	736.00	70.0	40.00	3000.00	2300.00	



Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Slide/Rotate Report - BHA #2 (BHA #2 (12.25" Intermediate))

Activity	Start Date	Start Time	End Time	End Date	Hours	Start Depth (ft)	End Depth (ft)	Distance (ft)	RoP (ft/h)	Toolface	Flow Rate (gpm)	Surface RPM	WOB (klbs)	Press On (psi)	Press Off (psi)	Hole Section Type
Rotate	08-16	05:00	05:20	08-16	0.33	1860.00	1919.00	59.00	177.00	N/A	645.00	40.0	25.00	2600.00	2200.00	
Rotate	08-16	05:25	05:45	08-16	0.33	1919.00	2013.00	94.00	282.00	N/A	645.00	40.0	25.00	2600.00	2200.00	
Rotate	08-16	05:50	05:55	08-16	0.08	2013.00	2023.00	10.00	120.00	N/A	645.00	40.0	25.00	2600.00	2200.00	
Slide	08-16	05:55	06:00	08-16	0.08	2023.00	2035.00	12.00	144.00	90.0	720.00	N/A	15.00	2950.00	2795.00	
Rotate	08-16	06:00	06:20	08-16	0.33	2035.00	2108.00	73.00	219.00	N/A	645.00	40.0	25.00	2600.00	2200.00	
Rotate	08-16	06:25	06:30	08-16	0.08	2108.00	2118.00	10.00	120.00	N/A	645.00	40.0	25.00	2600.00	2200.00	
Slide	08-16	06:30	06:40	08-16	0.17	2118.00	2132.00	14.00	84.00	110.0	720.00	N/A	15.00	2950.00	2795.00	
Rotate	08-16	06:40	07:00	08-16	0.33	2132.00	2202.00	70.00	210.00	N/A	900.00	70.0	25.00	2600.00	2200.00	
Rotate	08-16	07:05	07:45	08-16	0.67	2202.00	2296.00	94.00	141.00	N/A	900.00	70.0	25.00	2600.00	2200.00	
Rotate	08-16	07:50	08:20	08-16	0.5	2296.00	2391.00	95.00	190.00	N/A	900.00	70.0	25.00	4400.00	4000.00	
Rotate	08-16	08:25	08:50	08-16	0.42	2391.00	2485.00	94.00	225.60	N/A	900.00	70.0	25.00	4400.00	4000.00	
Rotate	08-16	08:55	09:05	08-16	0.17	2485.00	2500.00	15.00	90.00	N/A	900.00	70.0	25.00	4400.00	4000.00	
Slide	08-16	09:05	09:20	08-16	0.25	2500.00	2515.00	15.00	60.00	90.0	900.00	N/A	25.00	4350.00	4000.00	
Rotate	08-16	09:20	09:45	08-16	0.42	2515.00	2579.00	64.00	153.60	N/A	900.00	70.0	25.00	4400.00	4000.00	
Rotate	08-16	09:50	10:25	08-16	0.58	2579.00	2674.00	95.00	162.86	N/A	900.00	70.0	25.00	4400.00	4000.00	
Rotate	08-16	10:30	10:55	08-16	0.42	2674.00	2768.00	94.00	225.60	N/A	900.00	70.0	25.00	4400.00	4000.00	
Rotate	08-16	11:00	11:25	08-16	0.42	2768.00	2862.00	94.00	225.60	N/A	900.00	70.0	25.00	4400.00	4000.00	
Rotate	08-16	11:30	11:50	08-16	0.33	2862.00	2956.00	94.00	282.00	N/A	900.00	70.0	25.00	4400.00	4000.00	
Rotate	08-16	11:55	12:15	08-16	0.33	2956.00	3050.00	94.00	282.00	N/A	900.00	70.0	25.00	4400.00	4000.00	
Rotate	08-16	12:20	12:35	08-16	0.25	3050.00	3145.00	95.00	380.00	N/A	900.00	70.0	25.00	4400.00	4000.00	
Rotate	08-16	12:40	12:55	08-16	0.25	3145.00	3239.00	94.00	376.00	N/A	900.00	70.0	25.00	4400.00	4000.00	
Rotate	08-16	13:00	14:00	08-16	1.0	3239.00	3428.00	189.00	189.00	N/A	900.00	70.0	25.00	4400.00	4000.00	
Rotate	08-16	14:05	14:35	08-16	0.5	3428.00	3522.00	94.00	188.00	N/A	900.00	70.0	25.00	4400.00	4000.00	
Rotate	08-16	14:40	15:00	08-16	0.33	3522.00	3616.00	94.00	282.00	N/A	900.00	70.0	25.00	4400.00	4000.00	
Rotate	08-16	15:05	15:40	08-16	0.58	3616.00	3805.00	189.00	324.00	N/A	735.00	70.0	25.00	3850.00	3200.00	
Rotate	08-16	15:50	16:10	08-16	0.33	3805.00	3899.00	94.00	282.00	N/A	735.00	70.0	25.00	3850.00	3200.00	
Rotate	08-16	16:20	16:40	08-16	0.33	3899.00	3994.00	95.00	285.00	N/A	735.00	70.0	25.00	3850.00	3200.00	
Rotate	08-16	16:45	17:05	08-16	0.33	3994.00	4088.00	94.00	282.00	N/A	735.00	70.0	25.00	3850.00	3200.00	
Rotate	08-16	17:10	17:30	08-16	0.33	4088.00	4183.00	95.00	285.00	N/A	735.00	70.0	25.00	3850.00	3200.00	
Rotate	08-16	17:35	17:40	08-16	0.08	4183.00	4193.00	10.00	120.00	N/A	735.00	70.0	25.00	3850.00	3200.00	
Slide	08-16	17:40	17:55	08-16	0.25	4193.00	4208.00	15.00	60.00	180.0	735.00	N/A	23.00	3600.00	3200.00	
Rotate	08-16	17:55	18:15	08-16	0.33	4208.00	4277.00	69.00	207.00	N/A	735.00	70.0	25.00	3850.00	3200.00	
Rotate	08-16	18:20	18:40	08-16	0.33	4277.00	4371.00	94.00	282.00	N/A	735.00	70.0	60.00	3850.00	3200.00	
Rotate	08-16	18:45	19:05	08-16	0.33	4371.00	4465.00	94.00	282.00	N/A	735.00	70.0	60.00	3850.00	3200.00	
Rotate	08-16	19:10	19:15	08-16	0.08	4465.00	4475.00	10.00	120.00	N/A	735.00	70.0	60.00	3850.00	3200.00	
Slide	08-16	19:15	19:25	08-16	0.17	4475.00	4495.00	20.00	120.00	200.0	735.00	N/A	30.00	3700.00	3200.00	
Rotate	08-16	19:25	19:40	08-16	0.25	4495.00	4560.00	65.00	260.00	N/A	735.00	70.0	60.00	3850.00	3200.00	
Rotate	08-16	19:45	20:00	08-16	0.25	4560.00	4654.00	94.00	376.00	N/A	735.00	70.0	60.00	3850.00	3200.00	
Rotate	08-16	20:05	20:20	08-16	0.25	4654.00	4749.00	95.00	380.00	N/A	735.00	70.0	60.00	4300.00	3200.00	
Rotate	08-16	20:25	20:45	08-16	0.33	4749.00	4843.00	94.00	282.00	N/A	735.00	70.0	60.00	4300.00	3200.00	
Rotate	08-16	20:50	20:55	08-16	0.08	4843.00	4865.00	22.00	264.00	N/A	735.00	70.0	60.00	4300.00	3200.00	
Rotate	08-16	21:40	22:00	08-16	0.33	4865.00	4937.00	72.00	216.00	N/A	735.00	70.0	60.00	4300.00	3200.00	
Rotate	08-16	22:15	22:45	08-16	0.5	4937.00	5032.00	95.00	190.00	N/A	735.00	70.0	60.00	4300.00	3200.00	
Rotate	08-16	22:50	23:10	08-16	0.33	5032.00	5126.00	94.00	282.00	N/A	735.00	70.0	60.00	4300.00	3200.00	
Rotate	08-16	23:15	23:40	08-16	0.42	5126.00	5221.00	95.00	228.00	N/A	735.00	70.0	60.00	4300.00	3200.00	
Rotate	08-16	23:45	00:00	08-17	0.25	5221.00	5258.00	37.00	148.00	N/A	735.00	70.0	65.00	4300.00	3200.00	



Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Slide/Rotate Report - BHA #3 (BHA #3 8.5" Intermediate)

Activity	Start Date	Start Time	End Time	End Date	Hours	Start Depth (ft)	End Depth (ft)	Distance (ft)	RoP (ft/h)	Toolface	Flow Rate (gpm)	Surface RPM	WOB (klbs)	Press On (psi)	Press Off (psi)	Hole Section Type
Rotate	09-11	23:15	23:50	09-11	0.58	5258.00	5328.00	70.00	120.00	N/A	700.00	40.0	35.00	3250.00	2900.00	
Rotate	09-11	23:55	00:00	09-12	0.08	5328.00	5344.00	16.00	192.00	N/A	700.00	40.0	35.00	3250.00	2900.00	
Rotate	09-12	00:00	00:20	09-12	0.33	5344.00	5422.00	78.00	234.00	N/A	700.00	40.0	35.00	3250.00	2900.00	
Rotate	09-12	00:25	00:50	09-12	0.42	5422.00	5517.00	95.00	228.00	N/A	700.00	40.0	35.00	3250.00	2900.00	
Rotate	09-12	00:55	01:40	09-12	0.75	5517.00	5611.00	94.00	125.33	N/A	700.00	40.0	35.00	3250.00	2900.00	
Rotate	09-12	01:45	02:20	09-12	0.58	5611.00	5705.00	94.00	161.14	N/A	700.00	40.0	35.00	3600.00	3100.00	
Rotate	09-12	02:25	02:50	09-12	0.42	5705.00	5800.00	95.00	228.00	N/A	700.00	40.0	35.00	3600.00	3100.00	
Rotate	09-12	02:55	03:25	09-12	0.5	5800.00	5894.00	94.00	188.00	N/A	700.00	90.0	35.00	3600.00	3100.00	
Rotate	09-12	03:30	03:50	09-12	0.33	5894.00	5988.00	94.00	282.00	N/A	700.00	65.0	35.00	3400.00	3100.00	
Rotate	09-12	03:55	04:20	09-12	0.42	5988.00	6082.00	94.00	225.60	N/A	700.00	65.0	35.00	3400.00	3100.00	
Rotate	09-12	04:25	05:10	09-12	0.75	6082.00	6177.00	95.00	126.67	N/A	700.00	65.0	35.00	3400.00	3100.00	
Rotate	09-12	05:15	05:20	09-12	0.08	6177.00	6187.00	10.00	120.00	N/A	700.00	65.0	35.00	3400.00	3100.00	
Slide	09-12	05:20	05:35	09-12	0.25	6187.00	6202.00	15.00	60.00	65.0	700.00	N/A	20.00	3200.00	3000.00	
Rotate	09-12	05:35	06:00	09-12	0.42	6202.00	6271.00	69.00	165.60	N/A	700.00	65.0	32.00	3400.00	3100.00	
Rotate	09-12	06:05	06:35	09-12	0.5	6271.00	6365.00	94.00	188.00	N/A	700.00	65.0	32.00	3400.00	3100.00	
Rotate	09-12	06:40	06:45	09-12	0.08	6365.00	6375.00	10.00	120.00	N/A	700.00	65.0	32.00	3400.00	3100.00	
Slide	09-12	06:45	06:55	09-12	0.17	6375.00	6390.00	15.00	90.00	120.0	700.00	N/A	18.00	3350.00	3100.00	
Rotate	09-12	06:55	07:15	09-12	0.33	6390.00	6459.00	69.00	207.00	N/A	700.00	65.0	38.00	3400.00	3100.00	
Rotate	09-12	07:20	07:25	09-12	0.08	6459.00	6469.00	10.00	120.00	N/A	700.00	65.0	40.00	3400.00	3100.00	
Slide	09-12	07:25	07:40	09-12	0.25	6469.00	6478.00	9.00	36.00	100.0	700.00	N/A	18.00	3350.00	3100.00	
Slide	09-12	08:15	08:30	09-12	0.25	6478.00	6494.00	16.00	64.00	105.0	700.00	N/A	18.00	3350.00	3100.00	
Rotate	09-12	08:30	08:45	09-12	0.25	6494.00	6554.00	60.00	240.00	N/A	700.00	65.0	40.00	3400.00	3100.00	
Rotate	09-12	08:50	09:20	09-12	0.5	6554.00	6648.00	94.00	188.00	N/A	700.00	65.0	40.00	3400.00	3100.00	
Rotate	09-12	09:25	09:30	09-12	0.08	6648.00	6658.00	10.00	120.00	N/A	700.00	65.0	40.00	3400.00	3100.00	
Slide	09-12	09:30	09:45	09-12	0.25	6658.00	6673.00	15.00	60.00	120.0	700.00	N/A	18.00	3350.00	3100.00	
Rotate	09-12	09:45	10:10	09-12	0.42	6673.00	6742.00	69.00	165.60	N/A	700.00	65.0	40.00	3400.00	3100.00	
Rotate	09-12	10:15	10:35	09-12	0.33	6742.00	6837.00	95.00	285.00	N/A	700.00	65.0	44.00	3500.00	3100.00	
Rotate	09-12	10:40	11:00	09-12	0.33	6837.00	6931.00	94.00	282.00	N/A	700.00	65.0	44.00	3500.00	3100.00	
Rotate	09-12	11:30	12:25	09-12	0.92	6931.00	7026.00	95.00	103.64	N/A	700.00	65.0	44.00	3500.00	3100.00	
Rotate	09-12	12:30	12:35	09-12	0.08	7026.00	7036.00	10.00	120.00	N/A	700.00	65.0	44.00	3500.00	3100.00	
Slide	09-12	12:35	12:50	09-12	0.25	7036.00	7051.00	15.00	60.00	120.0	700.00	N/A	18.00	3350.00	3100.00	
Rotate	09-12	12:50	13:10	09-12	0.33	7051.00	7120.00	69.00	207.00	N/A	700.00	65.0	44.00	3500.00	3100.00	
Rotate	09-12	13:15	13:40	09-12	0.42	7120.00	7214.00	94.00	225.60	N/A	700.00	65.0	44.00	3500.00	3100.00	
Rotate	09-12	13:45	14:10	09-12	0.42	7214.00	7309.00	95.00	228.00	N/A	700.00	65.0	44.00	3500.00	3100.00	
Rotate	09-12	14:15	15:00	09-12	0.75	7309.00	7404.00	95.00	126.67	N/A	750.00	65.0	45.00	3800.00	3600.00	
Rotate	09-12	15:05	15:50	09-12	0.75	7404.00	7498.00	94.00	125.33	N/A	750.00	65.0	45.00	3800.00	3600.00	
Rotate	09-12	15:55	16:10	09-12	0.25	7498.00	7593.00	95.00	380.00	N/A	750.00	65.0	45.00	3800.00	3600.00	
Rotate	09-12	16:15	16:45	09-12	0.5	7593.00	7687.00	94.00	188.00	N/A	750.00	65.0	45.00	3800.00	3600.00	
Rotate	09-12	16:50	17:10	09-12	0.33	7687.00	7782.00	95.00	285.00	N/A	750.00	65.0	45.00	3800.00	3600.00	
Rotate	09-12	17:15	17:40	09-12	0.42	7782.00	7876.00	94.00	225.60	N/A	750.00	65.0	45.00	3800.00	3600.00	
Rotate	09-12	17:45	17:50	09-12	0.08	7876.00	7886.00	10.00	120.00	N/A	750.00	65.0	45.00	3800.00	3600.00	
Slide	09-12	17:50	18:10	09-12	0.33	7886.00	7906.00	20.00	60.00	80.0		N/A				
Rotate	09-12	18:10	18:35	09-12	0.42	7906.00	7971.00	65.00	156.00	N/A	750.00	30.0	45.00	4000.00	3600.00	
Rotate	09-12	18:40	19:10	09-12	0.5	7971.00	8065.00	94.00	188.00	N/A	750.00	30.0	45.00	4000.00	3600.00	
Rotate	09-12	19:15	19:40	09-12	0.42	8065.00	8159.00	94.00	225.60	N/A	750.00	30.0	45.00	4000.00	3600.00	
Rotate	09-12	19:45	19:50	09-12	0.08	8159.00	8169.00	10.00	120.00	N/A	750.00	30.0	45.00	4000.00	3600.00	
Slide	09-12	19:50	20:05	09-12	0.25	8169.00	8184.00	15.00	60.00	40.0	750.00	N/A	25.00	3900.00	3750.00	
Rotate	09-12	20:05	20:35	09-12	0.5	8184.00	8253.00	69.00	138.00	N/A	750.00	30.0	45.00	4000.00	3600.00	
Rotate	09-12	20:40	21:05	09-12	0.42	8253.00	8347.00	94.00	225.60	N/A	750.00	30.0	45.00	4000.00	3600.00	
Rotate	09-12	21:10	21:25	09-12	0.25	8347.00	8442.00	95.00	380.00	N/A	750.00	30.0	45.00	4000.00	3600.00	
Rotate	09-12	21:30	22:00	09-12	0.5	8442.00	8536.00	94.00	188.00	N/A	750.00	30.0	45.00	4000.00	3600.00	
Rotate	09-12	22:05	22:40	09-12	0.58	8536.00	8630.00	94.00	161.14	N/A	750.00	30.0	45.00	4000.00	3600.00	
Rotate	09-12	22:45	22:50	09-12	0.08	8630.00	8640.00	10.00	120.00	N/A	750.00	30.0	45.00	4000.00	3600.00	
Slide	09-12	22:50	23:30	09-12	0.67	8640.00	8660.00	20.00	30.00	80.0	750.00	N/A	25.00	3900.00	3750.00	
Rotate	09-12	23:30	00:00	09-13	0.5	8660.00	8724.00	64.00	128.00	N/A	750.00	30.0	45.00	4000.00	3600.00	
Rotate	09-13	00:05	01:05	09-13	1.0	8724.00	8818.00	94.00	94.00	N/A	750.00	30.0	45.00	4000.00	3600.00	
Rotate	09-13	01:10	01:20	09-13	0.17	8818.00	8828.00	10.00	60.00	N/A	750.00	30.0	45.00	4000.00	3600.00	
Slide	09-13	01:20	02:05	09-13	0.75	8828.00	8853.00	25.00	33.33	85.0	750.00	N/A	25.00	3900.00	3750.00	
Rotate	09-13	02:05	02:45	09-13	0.67	8853.00	8913.00	60.00	90.00	N/A	750.00	30.0	45.00	4000.00	3600.00	
Rotate	09-13	02:50	03:25	09-13	0.58	8913.00	9007.00	94.00	161.14	N/A	750.00	30.0	45.00	4000.00	3600.00	
Rotate	09-13	03:30	03:45	09-13	0.25	9007.00	9017.00	10.00	40.00	N/A	750.00	30.0	45.00	4000.00	3600.00	
Slide	09-13	03:45	04:30	09-13	0.75	9017.00	9047.00	30.00	40.00	95.0	750.00	N/A	25.00	3900.00	3750.00	
Rotate	09-13	04:30	05:10	09-13	0.67	9047.00	9101.00	54.00	81.00	N/A	750.00	30.0	45.00	4000.00	3600.00	
Rotate	09-13	05:15	06:15	09-13	1.0	9101.00	9196.00	95.00	95.00	N/A	750.00	30.0	45.00	4000.00	3600.00	

Rotate	09-13	06:20	06:30	09-13	0.17	9196.00	9206.00	10.00	60.00	N/A	750.00	30.0	45.00	4000.00	3600.00
Slide	09-13	06:30	07:10	09-13	0.67	9206.00	9236.00	30.00	45.00	125.0	750.00	N/A	25.00	3900.00	3750.00
Rotate	09-13	07:10	07:40	09-13	0.5	9236.00	9290.00	54.00	108.00	N/A	750.00	30.0	45.00	4000.00	3600.00
Rotate	09-13	07:50	08:25	09-13	0.58	9290.00	9385.00	95.00	162.86	N/A	750.00	30.0	45.00	4000.00	3600.00
Rotate	09-13	08:30	09:05	09-13	0.58	9385.00	9479.00	94.00	161.14	N/A	750.00	30.0	45.00	4000.00	3600.00
Rotate	09-13	09:10	09:50	09-13	0.67	9479.00	9573.00	94.00	141.00	N/A	750.00	30.0	45.00	4000.00	3600.00
Rotate	09-13	09:55	10:40	09-13	0.75	9573.00	9668.00	95.00	126.67	N/A	750.00	30.0	45.00	4000.00	3600.00
Rotate	09-13	11:00	11:25	09-13	0.42	9668.00	9762.00	94.00	225.60	N/A	750.00	30.0	45.00	4000.00	3600.00
Rotate	09-13	11:30	12:05	09-13	0.58	9762.00	9857.00	95.00	162.86	N/A	750.00	30.0	45.00	4000.00	3600.00
Rotate	09-13	12:10	12:15	09-13	0.08	9857.00	9867.00	10.00	120.00	N/A	750.00	30.0	45.00	4000.00	3600.00
Slide	09-13	12:15	12:45	09-13	0.5	9867.00	9887.00	20.00	40.00	55.0	733.00	N/A	20.00	3700.00	3400.00
Rotate	09-13	12:45	13:30	09-13	0.75	9887.00	9951.00	64.00	85.33	N/A	750.00	30.0	45.00	4000.00	3600.00
Rotate	09-13	13:35	14:30	09-13	0.92	9951.00	10045.00	94.00	102.55	N/A	735.00	30.0	45.00	3800.00	3400.00
Rotate	09-13	14:35	15:30	09-13	0.92	10045.00	10140.00	95.00	103.64	N/A	735.00	30.0	45.00	3800.00	3400.00
Rotate	09-13	15:35	16:15	09-13	0.67	10140.00	10198.00	58.00	87.00	N/A	735.00	30.0	45.00	3800.00	3400.00
Rotate	09-13	16:35	17:15	09-13	0.67	10198.00	10234.00	36.00	54.00	N/A	735.00	30.0	45.00	3800.00	3400.00
Rotate	09-13	17:20	18:25	09-13	1.08	10234.00	10328.00	94.00	86.77	N/A	735.00	30.0	45.00	3800.00	3400.00
Rotate	09-13	18:35	19:40	09-13	1.08	10328.00	10423.00	95.00	87.69	N/A	735.00	30.0	45.00	3800.00	3400.00
Rotate	09-13	19:45	20:35	09-13	0.83	10423.00	10517.00	94.00	112.80	N/A	735.00	30.0	45.00	3800.00	3400.00
Rotate	09-13	20:40	20:50	09-13	0.17	10517.00	10527.00	10.00	60.00	N/A	735.00	30.0	45.00	3800.00	3400.00
Slide	09-13	20:50	21:55	09-13	1.08	10527.00	10547.00	20.00	18.46	96.0		N/A			
Rotate	09-13	21:55	22:30	09-13	0.58	10547.00	10611.00	64.00	109.71	N/A	735.00	30.0	45.00	3800.00	3400.00
Rotate	09-13	22:35	23:35	09-13	1.0	10611.00	10706.00	95.00	95.00	N/A	735.00	30.0	45.00	3800.00	3400.00
Rotate	09-13	23:40	00:45	09-14	1.08	10706.00	10800.00	94.00	86.77	N/A	735.00	30.0	45.00	3800.00	3400.00
Rotate	09-14	00:50	01:00	09-14	0.17	10800.00	10810.00	10.00	60.00	N/A	735.00	30.0	45.00	3800.00	3400.00
Slide	09-14	01:00	01:50	09-14	0.83	10810.00	10828.00	18.00	21.60	0.0	751.00	N/A	30.00	3800.00	3600.00
Rotate	09-14	01:50	02:35	09-14	0.75	10828.00	10894.00	66.00	88.00	N/A	735.00	30.0	45.00	3800.00	3400.00
Rotate	09-14	02:40	03:25	09-14	0.75	10894.00	10989.00	95.00	126.67	N/A	735.00	30.0	45.00	3800.00	3400.00
Rotate	09-14	03:30	04:10	09-14	0.67	10989.00	11083.00	94.00	141.00	N/A	735.00	30.0	45.00	3800.00	3400.00
Rotate	09-14	04:15	04:30	09-14	0.25	11083.00	11113.00	30.00	120.00	N/A	735.00	30.0	45.00	3800.00	3400.00



	Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Slide/Rotate Report - BHA #4 (BHA #4)

Activity	Start Date	Start Time	End Time	End Date	Hours	Start Depth (ft)	End Depth (ft)	Distance (ft)	RoP (ft/h)	Toolface	Flow Rate (gpm)	Surface RPM	WOB (klbs)	Press On (psi)	Press Off (psi)	Hole Section Type
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Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Slide/Rotate Report - BHA #5 (BHA #5 (Curve))

Activity	Start Date	Start Time	End Time	End Date	Hours	Start Depth (ft)	End Depth (ft)	Distance (ft)	RoP (ft/h)	Toolface	Flow Rate (gpm)	Surface RPM	WOB (klbs)	Press On (psi)	Press Off (psi)	Hole Section Type
Rotate	10-03	21:00	21:40	10-03	0.67	11113.00	11140.00	27.00	40.50	N/A	550.00	20.0	35.00	3500.00	2900.00	
Rotate	10-03	21:45	22:00	10-03	0.25	11140.00	11154.00	14.00	56.00	N/A	550.00	20.0	35.00	3500.00	2900.00	
Slide	10-03	22:00	02:00	10-04	4.0	11154.00	11235.00	81.00	20.25	340.0	550.00	N/A	30.00	3100.00	2900.00	
Slide	10-04	02:05	07:00	10-04	4.92	11235.00	11329.00	94.00	19.12	355.0	600.00	N/A	40.00	3551.00	3200.00	
Slide	10-04	07:15	07:55	10-04	0.67	11329.00	11359.00	30.00	45.00	0.0	600.00	N/A	40.00	3551.00	3200.00	
Slide	10-04	08:15	09:45	10-04	1.5	11359.00	11423.00	64.00	42.67	0.0	600.00	N/A	40.00	3551.00	3200.00	
Slide	10-04	09:50	11:00	10-04	1.17	11423.00	11517.00	94.00	80.57	340.0	600.00	N/A	40.00	3551.00	3200.00	
Slide	10-04	11:10	11:55	10-04	0.75	11517.00	11580.00	63.00	84.00	0.0	600.00	N/A	40.00	3551.00	3200.00	
Slide	10-04	12:05	12:25	10-04	0.33	11580.00	11611.00	31.00	93.00	0.0	600.00	N/A	40.00	3551.00	3200.00	
Slide	10-04	12:30	13:00	10-04	0.5	11611.00	11643.00	32.00	64.00	0.0	600.00	N/A	40.00	3551.00	3200.00	
Slide	10-04	13:10	13:40	10-04	0.5	11643.00	11674.00	31.00	62.00	0.0	600.00	N/A	40.00	3551.00	3200.00	
Slide	10-04	13:45	14:00	10-04	0.25	11674.00	11706.00	32.00	128.00	0.0	600.00	N/A	40.00	3551.00	3200.00	
Slide	10-04	14:10	14:25	10-04	0.25	11706.00	11719.00	13.00	52.00	0.0	600.00	N/A	40.00	3551.00	3200.00	



Job Number WT-19-125	Operator Advance Energy Partners			Rig Name H&P #620	
Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H			Legal Well Name AFE Wool Head 20 State Com 606H	
Play Delaware Basin	State/Province and Country New Mexico, US		County Lea	Company Man	

Slide/Rotate Report - BHA #6 (BHA #6 (Curve Bailout))

Activity	Start Date	Start Time	End Time	End Date	Hours	Start Depth (ft)	End Depth (ft)	Distance (ft)	RoP (ft/h)	Toolface	Flow Rate (gpm)	Surface RPM	WOB (klbs)	Press On (psi)	Press Off (psi)	Hole Section Type
Slide	10-05	03:00	05:35	10-05	2.58	11719.00	11804.00	85.00	32.90	0.0	500.00	N/A	40.00	3300.00	3000.00	



Job Number WT-19-125	Operator Advance Energy Partners			Rig Name H&P #620		
Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H			Legal Well Name AFE Wool Head 20 State Com 606H		
Play Delaware Basin	State/Province and Country New Mexico, US		County Lea	Company Man		

Slide/Rotate Report - BHA #7 (BHA #7 (Bail Out 3°))

Activity	Start Date	Start Time	End Time	End Date	Hours	Start Depth (ft)	End Depth (ft)	Distance (ft)	RoP (ft/h)	Toolface	Flow Rate (gpm)	Surface RPM	WOB (klbs)	Press On (psi)	Press Off (psi)	Hole Section Type
Slide	10-05	21:00	05:05	10-06	8.08	11804.00	11892.00	88.00	10.89	0.0	600.00	N/A	75.00	3500.00	3450.00	
Slide	10-06	05:10	08:20	10-06	3.17	11892.00	11924.00	32.00	10.11	15.0	600.00	N/A	75.00	3500.00	3450.00	
Slide	10-06	08:25	11:10	10-06	2.75	11924.00	11950.00	26.00	9.45	30.0	600.00	N/A	75.00	3500.00	3450.00	



Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Slide/Rotate Report - BHA #8 (BHA #8 (Lateral))

Activity	Start Date	Start Time	End Time	End Date	Hours	Start Depth (ft)	End Depth (ft)	Distance (ft)	RoP (ft/h)	Toolface	Flow Rate (gpm)	Surface RPM	WOB (klbs)	Press On (psi)	Press Off (psi)	Hole Section Type
Rotate	10-07	00:55	01:15	10-07	0.33	11950.00	11995.00	45.00	135.00	N/A	650.00	40.0	36.00	4500.00	3750.00	
Rotate	10-07	01:20	01:55	10-07	0.58	11995.00	12089.00	94.00	161.14	N/A	725.00	40.0	40.00	5100.00	4400.00	
Slide	10-07	02:00	02:55	10-07	0.92	12089.00	12119.00	30.00	32.73	0.0	725.00	N/A	40.00	4575.00	4200.00	
Rotate	10-07	02:55	03:25	10-07	0.5	12119.00	12183.00	64.00	128.00	N/A	725.00	40.0	40.00	5100.00	4250.00	
Rotate	10-07	03:30	03:40	10-07	0.17	12183.00	12195.00	12.00	72.00	N/A	725.00	40.0	40.00	5100.00	4250.00	
Slide	10-07	03:40	04:00	10-07	0.33	12195.00	12207.00	12.00	36.00	75.0	725.00	N/A	40.00	4575.00	4200.00	
Rotate	10-07	04:00	04:30	10-07	0.5	12207.00	12278.00	71.00	142.00	N/A	725.00	40.0	40.00	5100.00	4250.00	
Rotate	10-07	04:35	05:05	10-07	0.5	12278.00	12372.00	94.00	188.00	N/A	725.00	40.0	40.00	5100.00	4250.00	
Rotate	10-07	05:10	05:20	10-07	0.17	12372.00	12382.00	10.00	60.00	N/A	725.00	40.0	40.00	5100.00	4250.00	
Slide	10-07	05:20	05:50	10-07	0.5	12382.00	12404.00	22.00	44.00	70.0	725.00	N/A	40.00	4575.00	4200.00	
Rotate	10-07	05:50	06:10	10-07	0.33	12404.00	12467.00	63.00	189.00	N/A	725.00	40.0	40.00	5100.00	4250.00	
Rotate	10-07	06:15	06:25	10-07	0.17	12467.00	12479.00	12.00	72.00	N/A	725.00	40.0	40.00	5100.00	4250.00	
Slide	10-07	06:25	06:45	10-07	0.33	12479.00	12499.00	20.00	60.00	100.0	725.00	N/A	40.00	4575.00	4200.00	
Rotate	10-07	06:45	07:05	10-07	0.33	12499.00	12562.00	63.00	189.00	N/A	725.00	40.0	40.00	5100.00	4250.00	
Rotate	10-07	07:10	07:35	10-07	0.42	12562.00	12656.00	94.00	225.60	N/A	750.00	60.0	42.00	5300.00	4500.00	
Rotate	10-07	07:40	08:05	10-07	0.42	12656.00	12751.00	95.00	228.00	N/A	750.00	60.0	42.00	5300.00	4500.00	
Rotate	10-07	08:10	08:40	10-07	0.5	12751.00	12846.00	95.00	190.00	N/A	750.00	60.0	42.00	5300.00	4500.00	
Rotate	10-07	08:45	09:10	10-07	0.42	12846.00	12940.00	94.00	225.60	N/A	750.00	60.0	42.00	5300.00	4500.00	
Rotate	10-07	09:15	09:25	10-07	0.17	12940.00	12950.00	10.00	60.00	N/A	750.00	60.0	42.00	5300.00	4500.00	
Slide	10-07	09:25	09:50	10-07	0.42	12950.00	12970.00	20.00	48.00	100.0	725.00	N/A	40.00	4575.00	4200.00	
Rotate	10-07	09:50	10:10	10-07	0.33	12970.00	13035.00	65.00	195.00	N/A	750.00	60.0	42.00	5300.00	4500.00	
Rotate	10-07	10:15	10:20	10-07	0.08	13035.00	13045.00	10.00	120.00	N/A	750.00	60.0	42.00	5300.00	4500.00	
Slide	10-07	10:20	10:45	10-07	0.42	13045.00	13070.00	25.00	60.00	110.0	725.00	N/A	40.00	4575.00	4200.00	
Rotate	10-07	10:45	11:00	10-07	0.25	13070.00	13129.00	59.00	236.00	N/A	750.00	60.0	42.00	5300.00	4500.00	
Rotate	10-07	11:05	11:30	10-07	0.42	13129.00	13223.00	94.00	225.60	N/A	750.00	60.0	42.00	5300.00	4500.00	
Rotate	10-07	11:35	11:40	10-07	0.08	13223.00	13237.00	14.00	168.00	N/A	750.00	60.0	42.00	5300.00	4500.00	
Slide	10-07	11:40	12:00	10-07	0.33	13237.00	13250.00	13.00	39.00	160.0	725.00	N/A	40.00	4575.00	4200.00	
Rotate	10-07	12:00	12:15	10-07	0.25	13250.00	13317.00	67.00	268.00	N/A	750.00	60.0	42.00	5300.00	4500.00	
Rotate	10-07	12:20	12:25	10-07	0.08	13317.00	13329.00	12.00	144.00	N/A	750.00	60.0	42.00	5300.00	4500.00	
Slide	10-07	12:25	12:45	10-07	0.33	13329.00	13344.00	15.00	45.00	180.0	725.00	N/A	40.00	4575.00	4200.00	
Rotate	10-07	12:45	13:05	10-07	0.33	13344.00	13412.00	68.00	204.00	N/A	750.00	60.0	42.00	5300.00	4500.00	
Rotate	10-07	13:10	13:30	10-07	0.33	13412.00	13506.00	94.00	282.00	N/A	750.00	60.0	42.00	5300.00	4500.00	
Rotate	10-07	13:35	14:10	10-07	0.58	13506.00	13600.00	94.00	161.14	N/A	750.00	60.0	42.00	5300.00	4500.00	
Rotate	10-07	14:15	14:50	10-07	0.58	13600.00	13695.00	95.00	162.86	N/A	750.00	60.0	42.00	5300.00	4500.00	
Rotate	10-07	14:55	15:25	10-07	0.5	13695.00	13789.00	94.00	188.00	N/A	750.00	60.0	42.00	5300.00	4500.00	
Rotate	10-07	15:35	16:10	10-07	0.58	13789.00	13883.00	94.00	161.14	N/A	750.00	60.0	42.00	5300.00	4500.00	
Rotate	10-07	16:30	16:45	10-07	0.25	13883.00	13896.00	13.00	52.00	N/A	750.00	60.0	42.00	5300.00	4500.00	
Slide	10-07	16:45	16:55	10-07	0.17	13896.00	13904.00	8.00	48.00	180.0	725.00	N/A	40.00	4575.00	4200.00	
Rotate	10-07	16:55	17:20	10-07	0.42	13904.00	13978.00	74.00	177.60	N/A	750.00	60.0	42.00	5300.00	4500.00	
Rotate	10-07	17:25	18:00	10-07	0.58	13978.00	14072.00	94.00	161.14	N/A	750.00	60.0	42.00	5300.00	4500.00	
Rotate	10-07	18:05	18:50	10-07	0.75	14072.00	14166.00	94.00	125.33	N/A	750.00	60.0	42.00	5300.00	4500.00	
Rotate	10-07	18:55	19:40	10-07	0.75	14166.00	14261.00	95.00	126.67	N/A	750.00	60.0	42.00	5300.00	4500.00	
Rotate	10-07	19:45	20:25	10-07	0.67	14261.00	14355.00	94.00	141.00	N/A	750.00	60.0	42.00	5300.00	4500.00	
Rotate	10-07	20:30	21:15	10-07	0.75	14355.00	14449.00	94.00	125.33	N/A	750.00	60.0	42.00	5300.00	4500.00	
Rotate	10-07	21:20	21:50	10-07	0.5	14449.00	14544.00	95.00	190.00	N/A	750.00	60.0	42.00	5300.00	4500.00	
Rotate	10-07	21:55	22:40	10-07	0.75	14544.00	14638.00	94.00	125.33	N/A	750.00	60.0	46.00	5300.00	4500.00	
Rotate	10-07	22:45	22:55	10-07	0.17	14638.00	14648.00	10.00	60.00	N/A	750.00	60.0	46.00	5300.00	4500.00	
Slide	10-07	22:55	23:25	10-07	0.5	14648.00	14672.00	24.00	48.00	340.0	750.00	N/A	32.00	5000.00	4700.00	
Rotate	10-07	23:25	23:55	10-07	0.5	14672.00	14732.00	60.00	120.00	N/A	750.00	60.0	46.00	5300.00	4500.00	
Rotate	10-08	00:00	00:10	10-08	0.17	14732.00	14742.00	10.00	60.00	N/A	750.00	60.0	46.00	5300.00	4500.00	
Slide	10-08	00:10	00:20	10-08	0.17	14742.00	14752.00	10.00	60.00	10.0	750.00	N/A	32.00	5000.00	4700.00	
Rotate	10-08	00:20	01:00	10-08	0.67	14752.00	14826.00	74.00	111.00	N/A	750.00	60.0	46.00	5300.00	4500.00	
Rotate	10-08	01:05	01:50	10-08	0.75	14826.00	14921.00	95.00	126.67	N/A	750.00	60.0	46.00	5300.00	4500.00	
Rotate	10-08	01:55	02:35	10-08	0.67	14921.00	15015.00	94.00	141.00	N/A	750.00	60.0	46.00	5300.00	4500.00	
Rotate	10-08	02:40	02:50	10-08	0.17	15015.00	15025.00	10.00	60.00	N/A	750.00	60.0	46.00	5300.00	4500.00	
Slide	10-08	02:50	03:20	10-08	0.5	15025.00	15048.00	23.00	46.00	110.0	750.00	N/A	32.00	5000.00	4700.00	
Rotate	10-08	03:20	04:00	10-08	0.67	15048.00	15110.00	62.00	93.00	N/A	750.00	60.0	46.00	5300.00	4500.00	
Rotate	10-08	04:05	04:50	10-08	0.75	15110.00	15204.00	94.00	125.33	N/A	750.00	60.0	46.00	5300.00	4500.00	
Rotate	10-08	04:55	05:55	10-08	1.0	15204.00	15298.00	94.00	94.00	N/A	750.00	60.0	46.00	5500.00	4500.00	
Rotate	10-08	06:05	06:10	10-08	0.08	15298.00	15308.00	10.00	120.00	N/A	750.00	60.0	46.00	5500.00	4500.00	
Slide	10-08	06:10	06:55	10-08	0.75	15308.00	15328.00	20.00	26.67	150.0	750.00	N/A	32.00	5000.00	4700.00	
Rotate	10-08	06:55	07:25	10-08	0.5	15328.00	15393.00	65.00	130.00	N/A	750.00	60.0	46.00	5500.00	4500.00	
Rotate	10-08	07:30	08:10	10-08	0.67	15393.00	15487.00	94.00	141.00	N/A	750.00	60.0	46.00	5500.00	4500.00	
Rotate	10-08	08:15	09:00	10-08	0.75	15487.00	15574.00	87.00	116.00	N/A	750.00	60.0	46.00	5500.00	4500.00	



Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Slide/Rotate Report - BHA #9 (BHA #9 (Lateral))

Activity	Start Date	Start Time	End Time	End Date	Hours	Start Depth (ft)	End Depth (ft)	Distance (ft)	RoP (ft/h)	Toolface	Flow Rate (gpm)	Surface RPM	WOB (klbs)	Press On (psi)	Press Off (psi)	Hole Section Type
Rotate	10-09	03:40	03:45	10-09	0.08	15574.00	15583.00	9.00	108.00	N/A	750.00	40.0	35.00	5900.00	5100.00	
Rotate	10-09	03:50	04:25	10-09	0.58	15583.00	15678.00	95.00	162.86	N/A	750.00	40.0	35.00	5900.00	5100.00	
Rotate	10-09	04:30	05:10	10-09	0.67	15678.00	15773.00	95.00	142.50	N/A	750.00	40.0	40.00	5850.00	5100.00	
Rotate	10-09	05:15	05:50	10-09	0.58	15773.00	15867.00	94.00	161.14	N/A	750.00	40.0	40.00	5850.00	5100.00	
Rotate	10-09	05:55	06:30	10-09	0.58	15867.00	15961.00	94.00	161.14	N/A	750.00	40.0	40.00	5850.00	5100.00	
Rotate	10-09	06:35	07:10	10-09	0.58	15961.00	16061.00	100.00	171.43	N/A						
Rotate	10-09	07:15	07:20	10-09	0.08	16061.00	16066.00	5.00	60.00	N/A	750.00	40.0	40.00	5850.00	5100.00	
Slide	10-09	07:20	07:55	10-09	0.58	16066.00	16083.00	17.00	29.14	140.0	750.00	N/A	40.00	5500.00	5200.00	
Rotate	10-09	07:55	08:20	10-09	0.42	16083.00	16150.00	67.00	160.80	N/A	750.00	40.0	40.00	5850.00	5100.00	
Rotate	10-09	08:25	08:30	10-09	0.08	16150.00	16160.00	10.00	120.00	N/A	750.00	40.0	40.00	5850.00	5100.00	
Slide	10-09	08:30	09:10	10-09	0.67	16160.00	16182.00	22.00	33.00	130.0	750.00	N/A	40.00	5500.00	5200.00	
Rotate	10-09	09:10	09:25	10-09	0.25	16182.00	16244.00	62.00	248.00	N/A	750.00	40.0	40.00	5850.00	5100.00	
Rotate	10-09	09:30	10:00	10-09	0.5	16244.00	16339.00	95.00	190.00	N/A	750.00	40.0	40.00	5850.00	5100.00	
Rotate	10-09	10:05	10:35	10-09	0.5	16339.00	16433.00	94.00	188.00	N/A	750.00	40.0	40.00	5850.00	5100.00	
Rotate	10-09	10:40	10:45	10-09	0.08	16433.00	16443.00	10.00	120.00	N/A	750.00	40.0	40.00	5850.00	5100.00	
Slide	10-09	10:45	11:45	10-09	1.0	16443.00	16468.00	25.00	25.00	80.0	750.00	N/A	40.00	5500.00	5200.00	
Rotate	10-09	11:45	12:05	10-09	0.33	16468.00	16528.00	60.00	180.00	N/A	750.00	40.0	40.00	5850.00	5100.00	
Rotate	10-09	12:10	12:35	10-09	0.42	16528.00	16622.00	94.00	225.60	N/A	750.00	40.0	40.00	5850.00	5100.00	
Rotate	10-09	12:40	13:15	10-09	0.58	16622.00	16716.00	94.00	161.14	N/A	750.00	40.0	40.00	5850.00	5100.00	
Rotate	10-09	13:20	13:50	10-09	0.5	16716.00	16810.00	94.00	188.00	N/A	750.00	40.0	40.00	5850.00	5100.00	
Rotate	10-09	13:55	14:20	10-09	0.42	16810.00	16905.00	95.00	228.00	N/A	750.00	40.0	40.00	5850.00	5100.00	
Rotate	10-09	14:25	14:55	10-09	0.5	16905.00	16999.00	94.00	188.00	N/A	750.00	40.0	40.00	5850.00	5100.00	
Rotate	10-09	15:00	15:35	10-09	0.58	16999.00	17094.00	95.00	162.86	N/A	750.00	40.0	40.00	5850.00	5100.00	
Rotate	10-09	16:15	16:20	10-09	0.08	17094.00	17104.00	10.00	120.00	N/A	750.00	40.0	40.00	5850.00	5100.00	
Slide	10-09	16:20	17:15	10-09	0.92	17104.00	17130.00	26.00	28.36	60.0	730.00	N/A	37.00	5300.00	5000.00	
Rotate	10-09	17:15	17:35	10-09	0.33	17130.00	17188.00	58.00	174.00	N/A	733.00	70.0	40.00	5850.00	5100.00	
Rotate	10-09	17:40	18:05	10-09	0.42	17188.00	17282.00	94.00	225.60	N/A	733.00	70.0	45.00	5850.00	5100.00	
Rotate	10-09	18:10	18:35	10-09	0.42	17282.00	17376.00	94.00	225.60	N/A	733.00	70.0	45.00	5850.00	5100.00	
Rotate	10-09	18:40	19:25	10-09	0.75	17376.00	17471.00	95.00	126.67	N/A	733.00	70.0	45.00	5850.00	5100.00	
Rotate	10-09	19:30	20:05	10-09	0.58	17471.00	17565.00	94.00	161.14	N/A	733.00	70.0	45.00	5850.00	5100.00	
Rotate	10-09	20:10	20:50	10-09	0.67	17565.00	17660.00	95.00	142.50	N/A	733.00	70.0	45.00	5850.00	5100.00	
Rotate	10-09	20:55	21:30	10-09	0.58	17660.00	17754.00	94.00	161.14	N/A	733.00	70.0	45.00	5850.00	5100.00	
Rotate	10-09	21:35	21:40	10-09	0.08	17754.00	17764.00	10.00	120.00	N/A	733.00	70.0	45.00	5850.00	5100.00	
Slide	10-09	21:40	22:25	10-09	0.75	17764.00	17789.00	25.00	33.33	225.0	750.00	N/A	42.00	5500.00	5300.00	
Rotate	10-09	22:25	22:40	10-09	0.25	17789.00	17848.00	59.00	236.00	N/A	733.00	70.0	45.00	5850.00	5100.00	
Rotate	10-09	22:45	23:10	10-09	0.42	17848.00	17943.00	95.00	228.00	N/A	733.00	70.0	45.00	5850.00	5100.00	
Rotate	10-09	23:15	23:45	10-09	0.5	17943.00	18037.00	94.00	188.00	N/A	733.00	70.0	45.00	5850.00	5100.00	
Rotate	10-09	23:50	00:00	10-10	0.17	18037.00	18074.00	37.00	222.00	N/A	733.00	70.0	45.00	5850.00	5100.00	
Rotate	10-10	00:00	00:15	10-10	0.25	18074.00	18132.00	58.00	232.00	N/A	733.00	70.0	45.00	5850.00	5100.00	
Rotate	10-10	00:20	00:50	10-10	0.5	18132.00	18226.00	94.00	188.00	N/A	733.00	70.0	45.00	5850.00	5100.00	
Rotate	10-10	00:55	01:30	10-10	0.58	18226.00	18321.00	95.00	162.86	N/A	733.00	70.0	45.00	5850.00	5100.00	
Rotate	10-10	01:35	01:40	10-10	0.08	18321.00	18331.00	10.00	120.00	N/A	733.00	70.0	45.00	5850.00	5100.00	
Slide	10-10	01:40	02:30	10-10	0.83	18331.00	18356.00	25.00	30.00	135.0	750.00	N/A	42.00	5500.00	5300.00	
Rotate	10-10	02:30	02:50	10-10	0.33	18356.00	18415.00	59.00	177.00	N/A	733.00	70.0	45.00	5850.00	5100.00	
Rotate	10-10	02:55	03:30	10-10	0.58	18415.00	18510.00	95.00	162.86	N/A	733.00	70.0	45.00	5850.00	5100.00	
Rotate	10-10	03:35	04:10	10-10	0.58	18510.00	18604.00	94.00	161.14	N/A	733.00	70.0	45.00	5850.00	5100.00	
Rotate	10-10	04:15	04:55	10-10	0.67	18604.00	18699.00	95.00	142.50	N/A	733.00	70.0	45.00	5850.00	5100.00	
Rotate	10-10	05:00	05:40	10-10	0.67	18699.00	18793.00	94.00	141.00	N/A	733.00	70.0	45.00	5850.00	5100.00	
Rotate	10-10	05:45	06:20	10-10	0.58	18793.00	18887.00	94.00	161.14	N/A	733.00	70.0	45.00	5850.00	5100.00	
Rotate	10-10	06:25	07:00	10-10	0.58	18887.00	18982.00	95.00	162.86	N/A	733.00	70.0	45.00	5850.00	5100.00	
Rotate	10-10	07:05	08:05	10-10	1.0	18982.00	19076.00	94.00	94.00	N/A	733.00	70.0	45.00	5850.00	5100.00	
Rotate	10-10	08:10	08:30	10-10	0.33	19076.00	19109.00	33.00	99.00	N/A	733.00	70.0	45.00	5850.00	5100.00	
Rotate	10-10	09:15	09:55	10-10	0.67	19109.00	19171.00	62.00	93.00	N/A	733.00	70.0	45.00	5850.00	5100.00	
Rotate	10-10	10:00	11:05	10-10	1.08	19171.00	19265.00	94.00	86.77	N/A	733.00	70.0	45.00	5850.00	5100.00	
Rotate	10-10	11:10	12:15	10-10	1.08	19265.00	19344.00	79.00	72.92	N/A	733.00	70.0	45.00	5850.00	5100.00	



Daily Reports

Wool Head 20 State Com 606H (WT-19-125)

2019-08-03 to 2019-10-13

Lea, New Mexico, US (32.46, -103.59)

	Job Number WT-19-125	Operator Advance Energy Partners			Rig Name H&P #620			
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H			Legal Well Name AFE Wool Head 20 State Com 606H			
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man				
Saturday, Aug 03 00:00 - 23:59 (Day 1 of 72) Billing: \$1,000.00 (\$226,501.01 total)								
Drilling Summary					Drilling Parameters			
Start Depth (ft)		Downhole Hours		0.00	Rotating WOB (klbs)			
Bit Depth (ft)		Drilling Hours			Sliding WOB (klbs)			
Bottom Hole Depth (ft)		Hours Circulating			Rotating SPM			
Total Distance (ft)		Hours Sliding			Sliding SPM			
Distance Rotated (ft)		Hours Rotating			Motor RPM			
Distance Slid (ft)					Surface RPM			
Inclination In					Flow Rate (gpm)			
Inclination Out					On Bottom Pressure (psi)			
Azimuth In		% Hours Rotating			Off Bottom Pressure (psi)			
Azimuth Out		% Hours Sliding						
AVG Total ROP (ft/h)		0.00	% Distance Sliding					
AVG Rotating ROP (ft/h)		0.00	% Distance Rotating					
AVG Sliding ROP (ft/h)		0.00						
Personnel								
Name				Position				
Joel Johnson				Directional Driller				
Orey Meredith				Directional Driller				
Omar Alaniz				Directional Driller				
No BHAs								
Directional Activities								
Activity Type	Code	Start Date	Start Time	End Time	End Date	Start (ft)	End (ft)	Comments/Details
Other	16	08-03	00:00	00:00	08-07			Rigging Down on the Spire 226-34 Unit #1/ Rig Move
MWD Activities								
No Activities								

	Job Number WT-19-125	Operator Advance Energy Partners			Rig Name H&P #620			
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H			Legal Well Name AFE Wool Head 20 State Com 606H			
	Play Delaware Basin	State/Province and Country New Mexico, US		County Lea	Company Man			
Sunday, Aug 04 00:00 - 23:59 (Day 2 of 72) Billing: \$1,000.00 (\$226,501.01 total)								
Drilling Summary					Drilling Parameters			
Start Depth (ft)		Downhole Hours		0.00	Rotating WOB (klbs)			
Bit Depth (ft)		Drilling Hours			Sliding WOB (klbs)			
Bottom Hole Depth (ft)		Hours Circulating			Rotating SPM			
Total Distance (ft)		Hours Sliding			Sliding SPM			
Distance Rotated (ft)		Hours Rotating			Motor RPM			
Distance Slid (ft)					Surface RPM			
Inclination In					Flow Rate (gpm)			
Inclination Out					On Bottom Pressure (psi)			
Azimuth In		% Hours Rotating			Off Bottom Pressure (psi)			
Azimuth Out		% Hours Sliding						
AVG Total ROP (ft/h)		0.00	% Distance Sliding					
AVG Rotating ROP (ft/h)		0.00	% Distance Rotating					
AVG Sliding ROP (ft/h)		0.00						
Personnel								
Name				Position				
Joel Johnson				Directional Driller				
Orey Meredith				Directional Driller				
Omar Alaniz				Directional Driller				
No BHAs								
Directional Activities								
Activity Type	Code	Start Date	Start Time	End Time	End Date	Start (ft)	End (ft)	Comments/Details
Other	16	08-03	00:00	00:00	08-07			Rigging Down on the Spire 226-34 Unit #1/ Rig Move
MWD Activities								
No Activities								

	Job Number WT-19-125	Operator Advance Energy Partners			Rig Name H&P #620			
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H			Legal Well Name AFE Wool Head 20 State Com 606H			
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man				
Monday, Aug 05 00:00 - 23:59 (Day 3 of 72) Billing: \$1,000.00 (\$226,501.01 total)								
Drilling Summary					Drilling Parameters			
Start Depth (ft)		Downhole Hours		0.00	Rotating WOB (klbs)			
Bit Depth (ft)		Drilling Hours			Sliding WOB (klbs)			
Bottom Hole Depth (ft)		Hours Circulating			Rotating SPM			
Total Distance (ft)		Hours Sliding			Sliding SPM			
Distance Rotated (ft)		Hours Rotating			Motor RPM			
Distance Slid (ft)					Surface RPM			
Inclination In					Flow Rate (gpm)			
Inclination Out					On Bottom Pressure (psi)			
Azimuth In		% Hours Rotating			Off Bottom Pressure (psi)			
Azimuth Out		% Hours Sliding						
AVG Total ROP (ft/h)		0.00	% Distance Sliding					
AVG Rotating ROP (ft/h)		0.00	% Distance Rotating					
AVG Sliding ROP (ft/h)		0.00						
Personnel								
Name				Position				
Joel Johnson				Directional Driller				
Orey Meredith				Directional Driller				
Omar Alaniz				Directional Driller				
No BHAs								
Directional Activities								
Activity Type	Code	Start Date	Start Time	End Time	End Date	Start (ft)	End (ft)	Comments/Details
Other	16	08-03	00:00	00:00	08-07			Rigging Down on the Spire 226-34 Unit #1/ Rig Move
MWD Activities								
No Activities								



Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Tuesday, Aug 06 00:00 - 23:59 (Day 4 of 72)

Billing: \$1,000.00 (\$226,501.01 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)		Downhole Hours	0.00	Rotating WOB (klbs)	
Bit Depth (ft)		Drilling Hours	0.00	Sliding WOB (klbs)	
Bottom Hole Depth (ft)		Hours Circulating	0.00	Rotating SPM	
Total Distance (ft)	0.00	Hours Sliding	0.00	Sliding SPM	
Distance Rotated (ft)	0.00	Hours Rotating	0.00	Motor RPM	-
Distance Slid (ft)	0.00			Surface RPM	
Inclination In				Flow Rate (gpm)	
Inclination Out				On Bottom Pressure (psi)	
Azimuth In		% Hours Rotating		Off Bottom Pressure (psi)	
Azimuth Out		% Hours Sliding			
AVG Total ROP (ft/h)	0.00	% Distance Sliding			
AVG Rotating ROP (ft/h)	0.00	% Distance Rotating			
AVG Sliding ROP (ft/h)	0.00				

Personnel

Name	Position
Joel Johnson	Directional Driller
Orey Meredith	Directional Driller
Omar Alaniz	Directional Driller

No BHAs

Directional Activities

Activity Type	Code	Start Date	Start Time	End Time	End Date	Start (ft)	End (ft)	Comments/Details
Other	16	08-03	00:00	00:00	08-07			Rigging Down on the Spire 226-34 Unit #1/ Rig Move

MWD Activities

No Activities

	Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Wednesday, Aug 07 00:00 - 23:59 (Day 5 of 72)
Billing: \$1,000.00 (\$226,501.01 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)		Downhole Hours		0.00	Rotating WOB (klbs)
Bit Depth (ft)		Drilling Hours		0.00	Sliding WOB (klbs)
Bottom Hole Depth (ft)		Hours Circulating		0.00	Rotating SPM
Total Distance (ft)	0.00	Hours Sliding		0.00	Sliding SPM
Distance Rotated (ft)	0.00	Hours Rotating		0.00	Motor RPM
Distance Slid (ft)	0.00				Surface RPM
Inclination In					Flow Rate (gpm)
Inclination Out					On Bottom Pressure (psi)
Azimuth In		% Hours Rotating			Off Bottom Pressure (psi)
Azimuth Out		% Hours Sliding			
AVG Total ROP (ft/h)	0.00	% Distance Sliding			
AVG Rotating ROP (ft/h)	0.00	% Distance Rotating			
AVG Sliding ROP (ft/h)	0.00				

Personnel	
Name	Position
Joel Johnson	Directional Driller
Orey Meredith	Directional Driller
Omar Alaniz	Directional Driller

No BHAs

Directional Activities								
Activity Type	Code	Start Date	Start Time	End Time	End Date	Start (ft)	End (ft)	Comments/Details
Other	16	08-03	00:00	00:00	08-07			Rigging Down on the Spire 226-34 Unit #1/ Rig Move
Other	16	08-07	00:00	00:00	08-08			Rigging Down on the Spire 226-34 Unit #1/ Rig Move

MWD Activities
No Activities



Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Thursday, Aug 08 00:00 - 23:59 (Day 6 of 72)

Billing: \$1,000.00 (\$226,501.01 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)		Downhole Hours	0.00	Rotating WOB (klbs)	
Bit Depth (ft)		Drilling Hours	0.00	Sliding WOB (klbs)	
Bottom Hole Depth (ft)		Hours Circulating	0.00	Rotating SPM	
Total Distance (ft)	0.00	Hours Sliding	0.00	Sliding SPM	
Distance Rotated (ft)	0.00	Hours Rotating	0.00	Motor RPM	-
Distance Slid (ft)	0.00			Surface RPM	
Inclination In				Flow Rate (gpm)	
Inclination Out				On Bottom Pressure (psi)	
Azimuth In		% Hours Rotating		Off Bottom Pressure (psi)	
Azimuth Out		% Hours Sliding			
AVG Total ROP (ft/h)	0.00	% Distance Sliding			
AVG Rotating ROP (ft/h)	0.00	% Distance Rotating			
AVG Sliding ROP (ft/h)	0.00				

Personnel

Name	Position
Joel Johnson	Directional Driller
Orey Meredith	Directional Driller
Omar Alaniz	Directional Driller
Shawn Flores	MWD Engineer

No BHAs

Directional Activities

Activity Type	Code	Start Date	Start Time	End Time	End Date	Start (ft)	End (ft)	Comments/Details
Other	16	08-07	00:00	00:00	08-08			Rigging Down on the Spire 226-34 Unit #1/ Rig Move
Other	16	08-08	00:00	00:00	08-09			Rig move

MWD Activities

No Activities

	Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Friday, Aug 09 00:00 - 23:59 (Day 7 of 72)

Billing: \$11,600.00 (\$226,501.01 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)		Downhole Hours		0.00	Rotating WOB (klbs)
Bit Depth (ft)		Drilling Hours		0.00	Sliding WOB (klbs)
Bottom Hole Depth (ft)		Hours Circulating		0.00	Rotating SPM
Total Distance (ft)	0.00	Hours Sliding		0.00	Sliding SPM
Distance Rotated (ft)	0.00	Hours Rotating		0.00	Motor RPM
Distance Slid (ft)	0.00				Surface RPM
Inclination In					Flow Rate (gpm)
Inclination Out					On Bottom Pressure (psi)
Azimuth In		% Hours Rotating			Off Bottom Pressure (psi)
Azimuth Out		% Hours Sliding			
AVG Total ROP (ft/h)	0.00	% Distance Sliding			
AVG Rotating ROP (ft/h)	0.00	% Distance Rotating			
AVG Sliding ROP (ft/h)	0.00				

Personnel	
Name	Position
Shawn Flores	MWD Engineer
Joel Johnson	Directional Driller
Orey Meredith	Directional Driller
Omar Alaniz	Directional Driller

No BHAs

Directional Activities								
Activity Type	Code	Start Date	Start Time	End Time	End Date	Start (ft)	End (ft)	Comments/Details
Other	16	08-08	00:00	00:00	08-09			Rig move
Standby	15	08-09	00:00	00:00	08-10			Standby while rigging up and prepping to drill

MWD Activities
No Activities

	Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Saturday, Aug 10 00:00 - 23:59 (Day 8 of 72) Billing: \$3,100.00 (\$226,501.01 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)		Downhole Hours	0.00	Rotating WOB (klbs)	
Bit Depth (ft)		Drilling Hours	0.00	Sliding WOB (klbs)	
Bottom Hole Depth (ft)		Hours Circulating	0.00	Rotating SPM	
Total Distance (ft)	0.00	Hours Sliding	0.00	Sliding SPM	
Distance Rotated (ft)	0.00	Hours Rotating	0.00	Motor RPM	-
Distance Slid (ft)	0.00			Surface RPM	
Inclination In				Flow Rate (gpm)	
Inclination Out				On Bottom Pressure (psi)	
Azimuth In		% Hours Rotating		Off Bottom Pressure (psi)	
Azimuth Out		% Hours Sliding			
AVG Total ROP (ft/h)	0.00	% Distance Sliding			
AVG Rotating ROP (ft/h)	0.00	% Distance Rotating			
AVG Sliding ROP (ft/h)	0.00				

Personnel	
Name	Position
Shawn Flores	MWD Engineer
Joel Johnson	Directional Driller
Orey Meredith	Directional Driller
Omar Alaniz	Directional Driller

No BHAs

Directional Activities								
Activity Type	Code	Start Date	Start Time	End Time	End Date	Start (ft)	End (ft)	Comments/Details
Standby	15	08-09	00:00	00:00	08-10			Standby while rigging up and prepping to drill
Standby	15	08-10	00:00	00:00	08-11			Standby while finishing rigging up and prepping to drill

MWD Activities
No Activities



Job Number WT-19-125	Operator Advance Energy Partners	Rig Name H&P #620
Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H	Legal Well Name AFE Wool Head 20 State Com 606H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Sunday, Aug 11 00:00 - 23:59 (Day 9 of 72)

Billing: \$11,087.50 (\$226,501.01 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	0.00	Downhole Hours	18.75	Rotating WOB (klbs)	15.00 - 40.00
Bit Depth (ft)	1860.00	Drilling Hours	10.75	Sliding WOB (klbs)	
Bottom Hole Depth (ft)	1860.00	Hours Circulating	1.17	Rotating SPM	155.00 - 279.00
Total Distance (ft)	1860.00	Hours Sliding	0.00	Sliding SPM	
Distance Rotated (ft)	1860.00	Hours Rotating	10.75	Motor RPM	80.00 - 144.00
Distance Slid (ft)	0.00			Surface RPM	40.00 - 70.00
Inclination In	0.26			Flow Rate (gpm)	500.00 - 900.00
Inclination Out	1.89			On Bottom Pressure (psi)	1300.00 - 3000.00
Azimuth In	335.13	% Hours Rotating	100%	Off Bottom Pressure (psi)	950.00 - 2400.00
Azimuth Out	270.62	% Hours Sliding	0%		
AVG Total ROP (ft/h)	173.02	% Distance Sliding	0%		
AVG Rotating ROP (ft/h)	173.02	% Distance Rotating	100%		
AVG Sliding ROP (ft/h)	0.00				

Personnel

Name	Position
Shawn Flores	MWD Engineer
Joel Johnson	Directional Driller
Orey Meredith	Directional Driller
Omar Alaniz	Directional Driller

BHA #1 - BHA #1 (Surface)

Date In: Aug 11, 2019, 4:30 Date Out: Aug 11, 2019, 23:15

Bit Details		Motor Details		Directional Comments
OD (in)	17.500	Size (in)	8.0	Motor & Bit Info: Contender: 1.5 FBH 7/8 4.0 Stg Mtr, Rev/Gal: 0.16, Max Diff: 900psi, Max Operating Torque: 14,994 ft/lbs, Protracted Angle: 1.53 / Bit; Baker Hughes DP606S, SN: 5294782, TFA: 0.994, Bit Runs: 0
Vendor	Baker Hughes	Lobe/Stage	7/8, 4.0	
S/N	5294782	Bend Angle	1.5	
Nozzles	9x12	Speed (rev/gal)	0.16	MWD Comments
Total Flow Area (in²)	0.994	Wear Pad OD (in)	8.375	POOH Reason Total Depth/Casing Point: Motor Performed well.
Drilling Hours for Day	10.75	Bit Distances		
Total Drilled for Day (ft)	1860.00	Survey (Bit to Say): 62.00 ft, Bend (Bit to Bend): 6.20 ft		
Drilling Hours for BHA	10.75			
Total Drilled for BHA (ft)	1860.00			

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: DP606S, Style: PDC, Gauge Length (in): 5.00, Size (in): 17.50	Baker Hughes	5294782	6 5/8" Reg Pin			17.500		1.75	1.75
Mud Motor Description: 1.5 FBH 7/8 4.0 Stg Mtr Slick, Size (in): 8.00, Bend Angle (°): 1.5, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 4.0	AIM	800-40-002	6 5/8" Reg Box	6 5/8" Reg Box		8.000		29.75	31.50
Stabilizer Description: 17" Stabilizer	DTI	DR39217	6 5/8" Reg Box	6 5/8" Reg Pin	3.000	8.250		7.74	39.24
UBHO Sub Description: UBHO Sub, Type: Steel	AIM	AIM800216	6 5/8" Reg Box	6 5/8" Reg Pin	3.063	8.000		2.73	41.97
Drill Collar Description: 8" NMDC (MWD Tool), Style: Slick Drill, Type: NM	AIM	AIM80001018	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.000		31.70	73.67
Drill Collar Description: 8" NMDC (Spacer), Style: Slick Drill, Type: NM	AIM	AIM80001012	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.000		30.10	103.77
Crossover Sub Description: X-over (6 5/8 Reg Pin x 4 1/2 IF Box), Type: Steel	DTI	DR38038	4 1/2" IF Box	6 5/8" Reg Pin	2.875	8.000		4.02	107.79
HWDP Description: (36 Joints) 5" HWDP, Style: Slick			4 1/2" IF Box	4 1/2" IF Pin	3.000	5.000		1095.51	1203.30

MWD Items

No Items

Directional Activities

Activity Type	Code	Start Date	Start Time	End Time	End Date	Start (ft)	End (ft)	Comments/Details
Standby	15	08-10	00:00	00:00	08-11			Standby while finishing rigging up and prepping to drill
Standby	15	08-11	00:00	04:30	08-11			Standby while finishing rigging up and prepping to drill
Change BHA	6	08-11	04:30	06:30	08-11			P/U BHA # 1

TIH	8	08-11	06:30	07:00	08-11			TIH W/ BHA #1
Rotary Drill	1	08-11	07:00	08:00	08-11	0.00	290.00	Pressure On (psi): 1300.00, Pressure Off (psi): 950.00, Weight On Bit (klbs): 15.00, Surface RPM: 40, Surface Torque (ft lbf): 13500.00, Flow Rate (gpm): 500.00, Strokes Per Minute: 155.00
Survey	46	08-11	08:00	08:10	08-11	262.00	262.00	Inclination (°): 0.260, Azimuth (°): 335.130, TVD (ft): 200.00, Dogleg (°/100 ft): 0.13, Sensor Depth (ft): 200.00, Bit To Sensor (ft): 62.00
Rotary Drill	1	08-11	08:10	08:25	08-11	290.00	382.00	Pressure On (psi): 1300.00, Pressure Off (psi): 950.00, Weight On Bit (klbs): 15.00, Surface RPM: 40, Surface Torque (ft lbf): 13500.00, Flow Rate (gpm): 500.00, Strokes Per Minute: 155.00
Survey	46	08-11	08:25	08:30	08-11	382.00	382.00	Inclination (°): 0.220, Azimuth (°): 342.690, TVD (ft): 320.00, Dogleg (°/100 ft): 0.04, Sensor Depth (ft): 320.00, Bit To Sensor (ft): 62.00
Rotary Drill	1	08-11	08:30	09:00	08-11	382.00	472.00	Pressure On (psi): 2800.00, Pressure Off (psi): 2400.00, Weight On Bit (klbs): 25.00, Surface RPM: 60, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 900.00, Strokes Per Minute: 279.00
Survey	46	08-11	09:00	09:05	08-11	472.00	472.00	Inclination (°): 0.180, Azimuth (°): 225.790, TVD (ft): 410.00, Dogleg (°/100 ft): 0.38, Sensor Depth (ft): 410.00, Bit To Sensor (ft): 62.00
Rotary Drill	1	08-11	09:05	09:35	08-11	472.00	656.00	Pressure On (psi): 2800.00, Pressure Off (psi): 2400.00, Weight On Bit (klbs): 25.00, Surface RPM: 60, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 900.00, Strokes Per Minute: 279.00
Survey	46	08-11	09:35	09:50	08-11	656.00	656.00	Inclination (°): 0.400, Azimuth (°): 295.930, TVD (ft): 594.00, Dogleg (°/100 ft): 0.27, Sensor Depth (ft): 594.00, Bit To Sensor (ft): 62.00
Rotary Drill	1	08-11	09:50	10:40	08-11	656.00	839.00	Pressure On (psi): 2800.00, Pressure Off (psi): 2400.00, Weight On Bit (klbs): 25.00, Surface RPM: 60, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 900.00, Strokes Per Minute: 279.00
Survey	46	08-11	10:40	10:55	08-11	839.00	839.00	Inclination (°): 0.350, Azimuth (°): 255.590, TVD (ft): 776.99, Dogleg (°/100 ft): 0.14, Sensor Depth (ft): 777.00, Bit To Sensor (ft): 62.00
Rotary Drill	1	08-11	10:55	11:20	08-11	839.00	929.00	Pressure On (psi): 2800.00, Pressure Off (psi): 2400.00, Weight On Bit (klbs): 25.00, Surface RPM: 60, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 900.00, Strokes Per Minute: 279.00
Survey	46	08-11	11:20	11:25	08-11	929.00	929.00	Inclination (°): 0.260, Azimuth (°): 272.990, TVD (ft): 866.99, Dogleg (°/100 ft): 0.14, Sensor Depth (ft): 867.00, Bit To Sensor (ft): 62.00
Rotary Drill	1	08-11	11:25	12:20	08-11	929.00	1111.00	Pressure On (psi): 2800.00, Pressure Off (psi): 2400.00, Weight On Bit (klbs): 25.00, Surface RPM: 60, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 900.00, Strokes Per Minute: 279.00
Survey	46	08-11	12:20	12:30	08-11	1111.00	1111.00	Inclination (°): 0.440, Azimuth (°): 255.760, TVD (ft): 1048.99, Dogleg (°/100 ft): 0.11, Sensor Depth (ft): 1049.00, Bit To Sensor (ft): 62.00
Rotary Drill	1	08-11	12:30	13:30	08-11	1111.00	1296.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2100.00, Weight On Bit (klbs): 35.00, Surface RPM: 60, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 735.00, Strokes Per Minute: 228.00
Survey	46	08-11	13:30	13:35	08-11	1297.00	1297.00	Inclination (°): 0.620, Azimuth (°): 228.870, TVD (ft): 1234.98, Dogleg (°/100 ft): 0.16, Sensor Depth (ft): 1235.00, Bit To Sensor (ft): 62.00
Rotary Drill	1	08-11	13:35	14:25	08-11	1296.00	1391.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2100.00, Weight On Bit (klbs): 37.00, Surface RPM: 70, Surface Torque (ft lbf): 14500.00, Flow Rate (gpm): 735.00, Strokes Per Minute: 228.00
Survey	46	08-11	14:25	14:30	08-11	1391.00	1391.00	Inclination (°): 0.840, Azimuth (°): 227.280, TVD (ft): 1328.97, Dogleg (°/100 ft): 0.24, Sensor Depth (ft): 1329.00, Bit To Sensor (ft): 62.00
Rotary Drill	1	08-11	14:30	15:20	08-11	1391.00	1486.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2100.00, Weight On Bit (klbs): 37.00, Surface RPM: 70, Surface Torque (ft lbf): 14500.00, Flow Rate (gpm): 735.00, Strokes Per Minute: 228.00
Survey	46	08-11	15:20	15:25	08-11	1486.00	1486.00	Inclination (°): 0.840, Azimuth (°): 224.840, TVD (ft): 1423.96, Dogleg (°/100 ft): 0.04, Sensor Depth (ft): 1424.00, Bit To Sensor (ft): 62.00
Rotary Drill	1	08-11	15:25	16:10	08-11	1486.00	1580.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2100.00, Weight On Bit (klbs): 38.00, Surface RPM: 70, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 735.00, Strokes Per Minute: 228.00
Survey	46	08-11	16:10	16:15	08-11	1580.00	1580.00	Inclination (°): 0.700, Azimuth (°): 226.850, TVD (ft): 1517.95, Dogleg (°/100 ft): 0.15, Sensor Depth (ft): 1518.00, Bit To Sensor (ft): 62.00
Rotary Drill	1	08-11	16:15	17:15	08-11	1580.00	1675.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2100.00, Weight On Bit (klbs): 38.00, Surface RPM: 70, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 735.00, Strokes Per Minute: 228.00
Survey	46	08-11	17:15	17:30	08-11	1675.00	1675.00	Inclination (°): 0.880, Azimuth (°): 239.770, TVD (ft): 1612.94, Dogleg (°/100 ft): 0.27, Sensor Depth (ft): 1613.00, Bit To Sensor (ft): 62.00
Rotary Drill	1	08-11	17:30	18:20	08-11	1675.00	1769.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 40.00, Surface RPM: 70, Surface Torque (ft lbf): 16000.00, Flow Rate (gpm): 736.00, Strokes Per Minute: 228.00
Survey	46	08-11	18:20	18:25	08-11	1769.00	1769.00	Inclination (°): 1.190, Azimuth (°): 256.730, TVD (ft): 1706.93, Dogleg (°/100 ft): 0.46, Sensor Depth (ft): 1707.00, Bit To Sensor (ft): 62.00
Rotary Drill	1	08-11	18:25	18:45	08-11	1769.00	1790.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 40.00, Surface RPM: 70, Surface Torque (ft lbf): 16000.00, Flow Rate (gpm): 736.00, Strokes Per Minute: 228.00
L/D DP	28	08-11	18:45	19:00	08-11			L/d Joint of washed Drill pipe
Rotary Drill	1	08-11	19:00	19:45	08-11	1790.00	1860.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 40.00, Surface RPM: 70, Surface Torque (ft lbf): 16000.00, Flow Rate (gpm): 736.00, Strokes Per Minute: 228.00
Survey	46	08-11	19:45	19:50	08-11	1860.00	1860.00	Inclination (°): 1.890, Azimuth (°): 270.620, TVD (ft): 1797.90, Dogleg (°/100 ft): 0.87, Sensor Depth (ft): 1798.00, Bit To Sensor (ft): 62.00
Circulating	3	08-11	19:50	21:00	08-11			Circ. hole clean at TD of surface
Pooh	7	08-11	21:00	22:30	08-11			POOH for Surface casing
Change BHA	6	08-11	22:30	23:15	08-11			Rack back BHA #1
Standby	15	08-11	23:15	00:00	08-12			Standby while Running casing and walking rig to 605H

MWD Activities

No Activities

	Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Monday, Aug 12 00:00 - 23:59 (Day 10 of 72) Billing: N/A (\$226,501.01 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)		Downhole Hours	0.00	Rotating WOB (klbs)	
Bit Depth (ft)		Drilling Hours		Sliding WOB (klbs)	
Bottom Hole Depth (ft)		Hours Circulating		Rotating SPM	
Total Distance (ft)		Hours Sliding		Sliding SPM	
Distance Rotated (ft)		Hours Rotating		Motor RPM	-
Distance Slid (ft)				Surface RPM	
Inclination In				Flow Rate (gpm)	
Inclination Out				On Bottom Pressure (psi)	
Azimuth In		% Hours Rotating		Off Bottom Pressure (psi)	
Azimuth Out		% Hours Sliding			
AVG Total ROP (ft/h)	0.00	% Distance Sliding			
AVG Rotating ROP (ft/h)	0.00	% Distance Rotating			
AVG Sliding ROP (ft/h)	0.00				

Personnel	
Name	Position
Shawn Flores	MWD Engineer
Joel Johnson	Directional Driller
Orey Meredith	Directional Driller
Omar Alaniz	Directional Driller

No BHAs

Directional Activities								
Activity Type	Code	Start Date	Start Time	End Time	End Date	Start (ft)	End (ft)	Comments/Details
Standby	15	08-11	23:15	00:00	08-12			Standby while Running casing and walking rig to 605H

MWD Activities
No Activities

	Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man
Tuesday, Aug 13 00:00 - 23:59 (Day of 72) Billing: N/A (\$226,501.01 total)				
Drilling Summary				Drilling Parameters
Start Depth (ft)		Downhole Hours	0.00	Rotating WOB (klbs)
Bit Depth (ft)		Drilling Hours		Sliding WOB (klbs)
Bottom Hole Depth (ft)		Hours Circulating		Rotating SPM
Total Distance (ft)		Hours Sliding		Sliding SPM
Distance Rotated (ft)		Hours Rotating		Motor RPM
Distance Slid (ft)				Surface RPM
Inclination In				Flow Rate (gpm)
Inclination Out				On Bottom Pressure (psi)
Azimuth In		% Hours Rotating		Off Bottom Pressure (psi)
Azimuth Out		% Hours Sliding		
AVG Total ROP (ft/h)		0.00	% Distance Sliding	
AVG Rotating ROP (ft/h)		0.00	% Distance Rotating	
AVG Sliding ROP (ft/h)		0.00		
Personnel				
Name			Position	
Shawn Flores			MWD Engineer	
Joel Johnson			Directional Driller	
Orey Meredith			Directional Driller	
Omar Alaniz			Directional Driller	
No BHAs				
Directional Activities				
No Activities				
MWD Activities				
No Activities				

	Job Number WT-19-125	Operator Advance Energy Partners	Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H	Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
	Company Man		

Wednesday, Aug 14 00:00 - 23:59 (Day of 72)			Billing: N/A (\$226,501.01 total)
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Drilling Summary			Drilling Parameters
Start Depth (ft)	Downhole Hours	0.00	Rotating WOB (klbs)
Bit Depth (ft)	Drilling Hours		Sliding WOB (klbs)
Bottom Hole Depth (ft)	Hours Circulating		Rotating SPM
Total Distance (ft)	Hours Sliding		Sliding SPM
Distance Rotated (ft)	Hours Rotating		Motor RPM
Distance Slid (ft)			Surface RPM
Inclination In			Flow Rate (gpm)
Inclination Out			On Bottom Pressure (psi)
Azimuth In	% Hours Rotating		Off Bottom Pressure (psi)
Azimuth Out	% Hours Sliding		
AVG Total ROP (ft/h)	0.00 % Distance Sliding		
AVG Rotating ROP (ft/h)	0.00 % Distance Rotating		
AVG Sliding ROP (ft/h)	0.00		

Personnel	
Name	Position
Shawn Flores	MWD Engineer
Joel Johnson	Directional Driller
Orey Meredith	Directional Driller
Omar Alaniz	Directional Driller

No BHAs

Directional Activities
No Activities

MWD Activities
No Activities



Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Thursday, Aug 15 00:00 - 23:59 (Day 11 of 72)

Billing: \$3,100.00 (\$226,501.01 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)		Downhole Hours	0.00	Rotating WOB (klbs)	
Bit Depth (ft)		Drilling Hours	0.00	Sliding WOB (klbs)	
Bottom Hole Depth (ft)		Hours Circulating	0.00	Rotating SPM	
Total Distance (ft)	0.00	Hours Sliding	0.00	Sliding SPM	
Distance Rotated (ft)	0.00	Hours Rotating	0.00	Motor RPM	-
Distance Slid (ft)	0.00			Surface RPM	
Inclination In				Flow Rate (gpm)	
Inclination Out				On Bottom Pressure (psi)	
Azimuth In		% Hours Rotating		Off Bottom Pressure (psi)	
Azimuth Out		% Hours Sliding			
AVG Total ROP (ft/h)	0.00	% Distance Sliding			
AVG Rotating ROP (ft/h)	0.00	% Distance Rotating			
AVG Sliding ROP (ft/h)	0.00				

Personnel

Name	Position
Shawn Flores	MWD Engineer
Joel Johnson	Directional Driller
Orey Meredith	Directional Driller
Omar Alaniz	Directional Driller

No BHAs

Directional Activities

Activity Type	Code	Start Date	Start Time	End Time	End Date	Start (ft)	End (ft)	Comments/Details
Standby	15	08-15	00:00	00:00	08-16			Standby while nipple up and test, prep rig to drill.

MWD Activities

No Activities

	Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Friday, Aug 16 00:00 - 23:59 (Day 12 of 72)

Billing: \$13,173.75 (\$226,501.01 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	1860.00	Downhole Hours	22.00	Rotating WOB (klbs)	25.00 - 65.00
Bit Depth (ft)	5258.00	Drilling Hours	15.08	Sliding WOB (klbs)	15.00 - 30.00
Bottom Hole Depth (ft)	5258.00	Hours Circulating	2.17	Rotating SPM	200.00 - 279.00
Total Distance (ft)	3398.00	Hours Sliding	0.92	Sliding SPM	225.00 - 279.00
Distance Rotated (ft)	3322.00	Hours Rotating	14.17	Motor RPM	80.00 - 144.00
Distance Slid (ft)	76.00			Surface RPM	40.00 - 70.00
Inclination In	2.15			Flow Rate (gpm)	645.00 - 900.00
Inclination Out	2.07			On Bottom Pressure (psi)	2600.00 - 4400.00
Azimuth In	288.46	% Hours Rotating	94%	Off Bottom Pressure (psi)	2200.00 - 4000.00
Azimuth Out	106.61	% Hours Sliding	6%		
AVG Total ROP (ft/h)	225.28	% Distance Sliding	2%		
AVG Rotating ROP (ft/h)	234.49	% Distance Rotating	98%		
AVG Sliding ROP (ft/h)	82.91				

Personnel

Name	Position
Shawn Flores	MWD Engineer
Joel Johnson	Directional Driller
Orey Meredith	Directional Driller
Omar Alaniz	Directional Driller
Kyle Kusak	MWD Engineer

BHA #2 - BHA #2 (12.25" Intermediate)

Date In: Aug 16, 2019, 2:00 Date Out: Aug 17, 2019, 18:00

Bit Details		Motor Details		Directional Comments
OD (in)	12.250	Size (in)	8.0	Butchesr: 1.50 FBH 7/8 5.9 Stg Mtr, Rev/Gal: 0.16, Max Diff: 1390 psi, Max Operating Torque: 21,870 ft/lbs, Protracted Angle: 1.55 / Bit; Baker Hughes 12.25" Type: T806FX, SN:7163483, TFA: 0.994, Jets:9 x 12's, Bit Runs: 0
Vendor	Baker Hughes	Lobe/Stage	7/8, 5.9	
S/N	7163483	Bend Angle	1.5	
Nozzles	9x12	Speed (rev/gal)	0.16	MWD Comments
Total Flow Area (in²)	0.994	Wear Pad OD (in)	8.375	POOH Reason Total Depth/Casing Point: POOH to run intermediate casing
Drilling Hours for Day	15.08	Bit Distances		
Total Drilled for Day (ft)	3398.00	Survey (Bit to Say): 70.00		
Drilling Hours for BHA	15.08	ft, Bend (Bit to Bend): 6.00		
Total Drilled for BHA (ft)	3398.00			

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: T806FX, Style: PDC, Gauge Length (in): 3.00, Size (in): 12.25	Baker Hughes	7163483	6 5/8" Reg Pin			12.250		1.20	1.20
Mud Motor Description: 1.5 FBH 7/8 5.9 Stg Mtr w/ 12" NB Stabilizer, Size (in): 8.00, Bend Angle (°): 1.5, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 5.9	Butches	BDT800-017	6 5/8" Reg Box	6 5/8" Reg Box		8.000		37.57	38.77
Stabilizer Description: 12" Stabilizer	DTI	DR39406	6 5/8" Reg Box	6 5/8" Reg Pin	2.875	8.250		7.92	46.69
UBHO Sub Description: UBHO Sub, Type: Steel	AIM	800605	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.125		3.00	49.69
Drill Collar Description: 8" NMDC (MWD Tool), Style: Slick Drill, Type: NM	AIM	AIM80001018	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.000		31.70	81.39
Drill Collar Description: 8" NMDC (Spacer), Style: Slick Drill, Type: NM	AIM	AIM80001012	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.000		30.10	111.49
Crossover Sub Description: X-Over (6 5/8 Reg Pin x 4 1/2 XH Box), Type: Steel	DTI	DR32366	4 1/2" XH Box	6 5/8" Reg Pin	2.813	7.875		2.60	114.09
Drill Collar Description: (21 Joints) 6.5" DC, Style: Slick Drill, Type: Steel	RIG	RIG	4 1/2" XH Box	4 1/2" XH Pin	2.875	6.500		612.86	726.95
Crossover Sub Description: X-Over (4 1/2 IF Box x 4 1/2 XH Pin), Type: Steel	DTI	DR37313	4 1/2" IF Box	4 1/2" XH Pin	2.875	6.625		2.72	729.67
HWDP Description: (36 Joints) 5" HWDP, Style: Slick			4 1/2" IF Box	4 1/2" IF Pin	3.000	5.000		1095.51	1825.18

MWD Items

No Items

Directional Activities								
Activity Type	Code	Start Date	Start Time	End Time	End Date	Start (ft)	End (ft)	Comments/Details
Standby	15	08-15	00:00	00:00	08-16			Standby while nipple up and test, prep rig to drill.
Standby	15	08-16	00:00	00:10	08-16			Standby while nipple up and test, prep rig to drill
Change BHA	6	08-16	00:10	00:30	08-16			P/u BHA #2 (M/u bit and Stab)
Other	16	08-16	00:30	01:15	08-16			Change out bad St-80 Dies
Change BHA	6	08-16	01:15	01:45	08-16			P/U BHA # 2 (M/u Stab, Ubho and scribe same)
Circulating	3	08-16	01:45	02:00	08-16			Test MWD Tool
TIH	8	08-16	02:00	03:50	08-16			TIH W/ BHA #2
Circulating	3	08-16	03:50	05:00	08-16			Drill shoe track
Rotary Drill	1	08-16	05:00	05:20	08-16	1860.00	1919.00	Pressure On (psi): 2600.00, Pressure Off (psi): 2200.00, Weight On Bit (klbs): 25.00, Surface RPM: 40, Surface Torque (ft lbf): 8000.00, Flow Rate (gpm): 645.00, Strokes Per Minute: 200.00
Survey	46	08-16	05:20	05:25	08-16	1919.00	1919.00	Inclination (°): 2.150, Azimuth (°): 288.460, TVD (ft): 1848.86, Dogleg (°/100 ft): 1.33, Sensor Depth (ft): 1849.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	08-16	05:25	05:45	08-16	1919.00	2013.00	Pressure On (psi): 2600.00, Pressure Off (psi): 2200.00, Weight On Bit (klbs): 25.00, Surface RPM: 40, Surface Torque (ft lbf): 8000.00, Flow Rate (gpm): 645.00, Strokes Per Minute: 200.00
Survey	46	08-16	05:45	05:50	08-16	2013.00	2013.00	Inclination (°): 2.640, Azimuth (°): 294.260, TVD (ft): 1942.78, Dogleg (°/100 ft): 0.58, Sensor Depth (ft): 1943.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	08-16	05:50	05:55	08-16	2013.00	2023.00	Pressure On (psi): 2600.00, Pressure Off (psi): 2200.00, Weight On Bit (klbs): 25.00, Surface RPM: 40, Surface Torque (ft lbf): 8000.00, Flow Rate (gpm): 645.00, Strokes Per Minute: 200.00
Slide Drill	2	08-16	05:55	06:00	08-16	2023.00	2035.00	Pressure On (psi): 2950.00, Pressure Off (psi): 2795.00, Weight On Bit (klbs): 15.00, Flow Rate (gpm): 720.00, Strokes Per Minute: 225, Toolface: 90, Toolface Type: magnetic
Rotary Drill	1	08-16	06:00	06:20	08-16	2035.00	2108.00	Pressure On (psi): 2600.00, Pressure Off (psi): 2200.00, Weight On Bit (klbs): 25.00, Surface RPM: 40, Surface Torque (ft lbf): 8000.00, Flow Rate (gpm): 645.00, Strokes Per Minute: 200.00
Survey	46	08-16	06:20	06:25	08-16	2108.00	2108.00	Inclination (°): 1.760, Azimuth (°): 293.030, TVD (ft): 2037.71, Dogleg (°/100 ft): 0.93, Sensor Depth (ft): 2038.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	08-16	06:25	06:30	08-16	2108.00	2118.00	Pressure On (psi): 2600.00, Pressure Off (psi): 2200.00, Weight On Bit (klbs): 25.00, Surface RPM: 40, Surface Torque (ft lbf): 8000.00, Flow Rate (gpm): 645.00, Strokes Per Minute: 200.00
Slide Drill	2	08-16	06:30	06:40	08-16	2118.00	2132.00	Pressure On (psi): 2950.00, Pressure Off (psi): 2795.00, Weight On Bit (klbs): 15.00, Flow Rate (gpm): 720.00, Strokes Per Minute: 225, Toolface: 110, Toolface Type: magnetic
Rotary Drill	1	08-16	06:40	07:00	08-16	2132.00	2202.00	Pressure On (psi): 2600.00, Pressure Off (psi): 2200.00, Weight On Bit (klbs): 25.00, Surface RPM: 70, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 900.00, Strokes Per Minute: 279.00
Survey	46	08-16	07:00	07:05	08-16	2202.00	2202.00	Inclination (°): 0.620, Azimuth (°): 286.260, TVD (ft): 2131.69, Dogleg (°/100 ft): 1.22, Sensor Depth (ft): 2132.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	08-16	07:05	07:45	08-16	2202.00	2296.00	Pressure On (psi): 2600.00, Pressure Off (psi): 2200.00, Weight On Bit (klbs): 25.00, Surface RPM: 70, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 900.00, Strokes Per Minute: 279.00
Survey	46	08-16	07:45	07:50	08-16	2296.00	2296.00	Inclination (°): 0.480, Azimuth (°): 234.050, TVD (ft): 2225.69, Dogleg (°/100 ft): 0.53, Sensor Depth (ft): 2226.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	08-16	07:50	08:20	08-16	2296.00	2391.00	Pressure On (psi): 4400.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 25.00, Surface RPM: 70, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 900.00, Strokes Per Minute: 279.00
Survey	46	08-16	08:20	08:25	08-16	2391.00	2391.00	Inclination (°): 0.220, Azimuth (°): 234.840, TVD (ft): 2320.68, Dogleg (°/100 ft): 0.27, Sensor Depth (ft): 2321.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	08-16	08:25	08:50	08-16	2391.00	2485.00	Pressure On (psi): 4400.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 25.00, Surface RPM: 70, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 900.00, Strokes Per Minute: 279.00
Survey	46	08-16	08:50	08:55	08-16	2485.00	2485.00	Inclination (°): 0.310, Azimuth (°): 262.180, TVD (ft): 2414.68, Dogleg (°/100 ft): 0.16, Sensor Depth (ft): 2415.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	08-16	08:55	09:05	08-16	2485.00	2500.00	Pressure On (psi): 4400.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 25.00, Surface RPM: 70, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 900.00, Strokes Per Minute: 279.00
Slide Drill	2	08-16	09:05	09:20	08-16	2500.00	2515.00	Pressure On (psi): 4350.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 25.00, Flow Rate (gpm): 900.00, Strokes Per Minute: 279, Toolface: 90, Toolface Type: magnetic
Rotary Drill	1	08-16	09:20	09:45	08-16	2515.00	2579.00	Pressure On (psi): 4400.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 25.00, Surface RPM: 70, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 900.00, Strokes Per Minute: 279.00
Survey	46	08-16	09:45	09:50	08-16	2579.00	2579.00	Inclination (°): 0.530, Azimuth (°): 91.850, TVD (ft): 2508.68, Dogleg (°/100 ft): 0.89, Sensor Depth (ft): 2509.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	08-16	09:50	10:25	08-16	2579.00	2674.00	Pressure On (psi): 4400.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 25.00, Surface RPM: 70, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 900.00, Strokes Per Minute: 279.00
Survey	46	08-16	10:25	10:30	08-16	2674.00	2674.00	Inclination (°): 1.580, Azimuth (°): 86.400, TVD (ft): 2603.66, Dogleg (°/100 ft): 1.11, Sensor Depth (ft): 2604.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	08-16	10:30	10:55	08-16	2674.00	2768.00	Pressure On (psi): 4400.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 25.00, Surface RPM: 70, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 900.00, Strokes Per Minute: 279.00
Survey	46	08-16	10:55	11:00	08-16	2768.00	2768.00	Inclination (°): 1.450, Azimuth (°): 78.050, TVD (ft): 2697.63, Dogleg (°/100 ft): 0.27, Sensor Depth (ft): 2698.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	08-16	11:00	11:25	08-16	2768.00	2862.00	Pressure On (psi): 4400.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 25.00, Surface RPM: 70, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 900.00, Strokes Per Minute: 279.00
Survey	46	08-16	11:25	11:30	08-16	2862.00	2862.00	Inclination (°): 1.230, Azimuth (°): 86.400, TVD (ft): 2791.61, Dogleg (°/100 ft): 0.31, Sensor Depth (ft): 2792.00, Bit To Sensor (ft): 70.00

Rotary Drill	1	08-16	11:30	11:50	08-16	2862.00	2956.00	Pressure On (psi): 4400.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 25.00, Surface RPM: 70, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 900.00, Strokes Per Minute: 279.00
Survey	46	08-16	11:50	11:55	08-16	2956.00	2956.00	Inclination (°): 1.490, Azimuth (°): 78.660, TVD (ft): 2885.58, Dogleg (°/100 ft): 0.34, Sensor Depth (ft): 2886.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	08-16	11:55	12:15	08-16	2956.00	3050.00	Pressure On (psi): 4400.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 25.00, Surface RPM: 70, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 900.00, Strokes Per Minute: 279.00
Survey	46	08-16	12:15	12:20	08-16	3050.00	3050.00	Inclination (°): 1.450, Azimuth (°): 86.750, TVD (ft): 2979.55, Dogleg (°/100 ft): 0.22, Sensor Depth (ft): 2980.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	08-16	12:20	12:35	08-16	3050.00	3145.00	Pressure On (psi): 4400.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 25.00, Surface RPM: 70, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 900.00, Strokes Per Minute: 279.00
Survey	46	08-16	12:35	12:40	08-16	3145.00	3145.00	Inclination (°): 1.540, Azimuth (°): 80.680, TVD (ft): 3074.52, Dogleg (°/100 ft): 0.19, Sensor Depth (ft): 3075.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	08-16	12:40	12:55	08-16	3145.00	3239.00	Pressure On (psi): 4400.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 25.00, Surface RPM: 70, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 900.00, Strokes Per Minute: 279.00
Survey	46	08-16	12:55	13:00	08-16	3239.00	3239.00	Inclination (°): 1.890, Azimuth (°): 73.560, TVD (ft): 3168.47, Dogleg (°/100 ft): 0.44, Sensor Depth (ft): 3169.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	08-16	13:00	14:00	08-16	3239.00	3428.00	Pressure On (psi): 4400.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 25.00, Surface RPM: 70, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 900.00, Strokes Per Minute: 279.00
Survey	46	08-16	14:00	14:05	08-16	3428.00	3428.00	Inclination (°): 2.240, Azimuth (°): 73.210, TVD (ft): 3357.35, Dogleg (°/100 ft): 0.19, Sensor Depth (ft): 3358.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	08-16	14:05	14:35	08-16	3428.00	3522.00	Pressure On (psi): 4400.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 25.00, Surface RPM: 70, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 900.00, Strokes Per Minute: 279.00
Survey	46	08-16	14:35	14:40	08-16	3522.00	3522.00	Inclination (°): 2.330, Azimuth (°): 68.290, TVD (ft): 3451.28, Dogleg (°/100 ft): 0.23, Sensor Depth (ft): 3452.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	08-16	14:40	15:00	08-16	3522.00	3616.00	Pressure On (psi): 4400.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 25.00, Surface RPM: 70, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 900.00, Strokes Per Minute: 279.00
Survey	46	08-16	15:00	15:05	08-16	3616.00	3616.00	Inclination (°): 2.070, Azimuth (°): 64.690, TVD (ft): 3545.21, Dogleg (°/100 ft): 0.31, Sensor Depth (ft): 3546.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	08-16	15:05	15:40	08-16	3616.00	3805.00	Pressure On (psi): 3850.00, Pressure Off (psi): 3200.00, Weight On Bit (klbs): 25.00, Surface RPM: 70, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 735.00, Strokes Per Minute: 228.00
Survey	46	08-16	15:40	15:50	08-16	3805.00	3805.00	Inclination (°): 2.070, Azimuth (°): 48.250, TVD (ft): 3734.09, Dogleg (°/100 ft): 0.31, Sensor Depth (ft): 3735.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	08-16	15:50	16:10	08-16	3805.00	3899.00	Pressure On (psi): 3850.00, Pressure Off (psi): 3200.00, Weight On Bit (klbs): 25.00, Surface RPM: 70, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 735.00, Strokes Per Minute: 228.00
Survey	46	08-16	16:10	16:20	08-16	3899.00	3899.00	Inclination (°): 2.070, Azimuth (°): 46.930, TVD (ft): 3828.02, Dogleg (°/100 ft): 0.05, Sensor Depth (ft): 3829.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	08-16	16:20	16:40	08-16	3899.00	3994.00	Pressure On (psi): 3850.00, Pressure Off (psi): 3200.00, Weight On Bit (klbs): 25.00, Surface RPM: 70, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 735.00, Strokes Per Minute: 228.00
Survey	46	08-16	16:40	16:45	08-16	3994.00	3994.00	Inclination (°): 2.150, Azimuth (°): 45.090, TVD (ft): 3922.96, Dogleg (°/100 ft): 0.11, Sensor Depth (ft): 3924.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	08-16	16:45	17:05	08-16	3994.00	4088.00	Pressure On (psi): 3850.00, Pressure Off (psi): 3200.00, Weight On Bit (klbs): 25.00, Surface RPM: 70, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 735.00, Strokes Per Minute: 228.00
Survey	46	08-16	17:05	17:10	08-16	4088.00	4088.00	Inclination (°): 2.110, Azimuth (°): 47.370, TVD (ft): 4016.90, Dogleg (°/100 ft): 0.10, Sensor Depth (ft): 4018.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	08-16	17:10	17:30	08-16	4088.00	4183.00	Pressure On (psi): 3850.00, Pressure Off (psi): 3200.00, Weight On Bit (klbs): 25.00, Surface RPM: 70, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 735.00, Strokes Per Minute: 228.00
Survey	46	08-16	17:30	17:35	08-16	4183.00	4183.00	Inclination (°): 1.890, Azimuth (°): 37.970, TVD (ft): 4111.84, Dogleg (°/100 ft): 0.42, Sensor Depth (ft): 4113.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	08-16	17:35	17:40	08-16	4183.00	4193.00	Pressure On (psi): 3850.00, Pressure Off (psi): 3200.00, Weight On Bit (klbs): 25.00, Surface RPM: 70, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 735.00, Strokes Per Minute: 228.00
Slide Drill	2	08-16	17:40	17:55	08-16	4193.00	4208.00	Pressure On (psi): 3600.00, Pressure Off (psi): 3200.00, Weight On Bit (klbs): 23.00, Flow Rate (gpm): 735.00, Strokes Per Minute: 228, Toolface: 180, Toolface Type: magnetic
Rotary Drill	1	08-16	17:55	18:15	08-16	4208.00	4277.00	Pressure On (psi): 3850.00, Pressure Off (psi): 3200.00, Weight On Bit (klbs): 25.00, Surface RPM: 70, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 735.00, Strokes Per Minute: 228.00
Survey	46	08-16	18:15	18:20	08-16	4277.00	4277.00	Inclination (°): 1.490, Azimuth (°): 60.730, TVD (ft): 4205.80, Dogleg (°/100 ft): 0.82, Sensor Depth (ft): 4207.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	08-16	18:20	18:40	08-16	4277.00	4371.00	Pressure On (psi): 3850.00, Pressure Off (psi): 3200.00, Weight On Bit (klbs): 60.00, Surface RPM: 70, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 735.00, Strokes Per Minute: 228.00
Connection	33	08-16	18:40	18:45	08-16			
Rotary Drill	1	08-16	18:45	19:05	08-16	4371.00	4465.00	Pressure On (psi): 3850.00, Pressure Off (psi): 3200.00, Weight On Bit (klbs): 60.00, Surface RPM: 70, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 735.00, Strokes Per Minute: 228.00
Survey	46	08-16	19:05	19:10	08-16	4465.00	4465.00	Inclination (°): 1.760, Azimuth (°): 65.300, TVD (ft): 4393.72, Dogleg (°/100 ft): 0.16, Sensor Depth (ft): 4395.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	08-16	19:10	19:15	08-16	4465.00	4475.00	Pressure On (psi): 3850.00, Pressure Off (psi): 3200.00, Weight On Bit (klbs): 60.00, Surface RPM: 70, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 735.00, Strokes Per Minute: 228.00
Slide Drill	2	08-16	19:15	19:25	08-16	4475.00	4495.00	Pressure On (psi): 3700.00, Pressure Off (psi): 3200.00, Weight On Bit (klbs): 30.00, Flow Rate (gpm): 735.00, Strokes Per Minute: 228, Toolface: 200, Toolface Type: magnetic

Rotary Drill	1	08-16	19:25	19:40	08-16	4495.00	4560.00	Pressure On (psi): 3850.00, Pressure Off (psi): 3200.00, Weight On Bit (klbs): 60.00, Surface RPM: 70, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 735.00, Strokes Per Minute: 228.00
Survey	46	08-16	19:40	19:45	08-16	4560.00	4560.00	Inclination (°): 1.850, Azimuth (°): 92.280, TVD (ft): 4488.68, Dogleg (°/100 ft): 0.89, Sensor Depth (ft): 4490.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	08-16	19:45	20:00	08-16	4560.00	4654.00	Pressure On (psi): 3850.00, Pressure Off (psi): 3200.00, Weight On Bit (klbs): 60.00, Surface RPM: 70, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 735.00, Strokes Per Minute: 228.00
Survey	46	08-16	20:00	20:05	08-16	4654.00	4654.00	Inclination (°): 1.850, Azimuth (°): 114.260, TVD (ft): 4582.63, Dogleg (°/100 ft): 0.75, Sensor Depth (ft): 4584.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	08-16	20:05	20:20	08-16	4654.00	4749.00	Pressure On (psi): 4300.00, Pressure Off (psi): 3200.00, Weight On Bit (klbs): 60.00, Surface RPM: 70, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 735.00, Strokes Per Minute: 228.00
Survey	46	08-16	20:20	20:25	08-16	4749.00	4749.00	Inclination (°): 1.980, Azimuth (°): 111.270, TVD (ft): 4677.58, Dogleg (°/100 ft): 0.17, Sensor Depth (ft): 4679.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	08-16	20:25	20:45	08-16	4749.00	4843.00	Pressure On (psi): 4300.00, Pressure Off (psi): 3200.00, Weight On Bit (klbs): 60.00, Surface RPM: 70, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 735.00, Strokes Per Minute: 228.00
Survey	46	08-16	20:45	20:50	08-16	4843.00	4843.00	Inclination (°): 1.670, Azimuth (°): 107.580, TVD (ft): 4771.53, Dogleg (°/100 ft): 0.35, Sensor Depth (ft): 4773.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	08-16	20:50	20:55	08-16	4843.00	4865.00	Pressure On (psi): 4300.00, Pressure Off (psi): 3200.00, Weight On Bit (klbs): 60.00, Surface RPM: 70, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 735.00, Strokes Per Minute: 228.00
Circulating	3	08-16	20:55	21:40	08-16			
Rotary Drill	1	08-16	21:40	22:00	08-16	4865.00	4937.00	Pressure On (psi): 4300.00, Pressure Off (psi): 3200.00, Weight On Bit (klbs): 60.00, Surface RPM: 70, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 735.00, Strokes Per Minute: 228.00
Other	16	08-16	22:00	22:15	08-16			Trouble shoot Rig power
Rotary Drill	1	08-16	22:15	22:45	08-16	4937.00	5032.00	Pressure On (psi): 4300.00, Pressure Off (psi): 3200.00, Weight On Bit (klbs): 60.00, Surface RPM: 70, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 735.00, Strokes Per Minute: 228.00
Survey	46	08-16	22:45	22:50	08-16	5032.00	5032.00	Inclination (°): 1.710, Azimuth (°): 108.460, TVD (ft): 4960.45, Dogleg (°/100 ft): 0.03, Sensor Depth (ft): 4962.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	08-16	22:50	23:10	08-16	5032.00	5126.00	Pressure On (psi): 4300.00, Pressure Off (psi): 3200.00, Weight On Bit (klbs): 60.00, Surface RPM: 70, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 735.00, Strokes Per Minute: 228.00
Survey	46	08-16	23:10	23:15	08-16	5126.00	5126.00	Inclination (°): 2.070, Azimuth (°): 106.610, TVD (ft): 5054.39, Dogleg (°/100 ft): 0.39, Sensor Depth (ft): 5056.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	08-16	23:15	23:40	08-16	5126.00	5221.00	Pressure On (psi): 4300.00, Pressure Off (psi): 3200.00, Weight On Bit (klbs): 60.00, Surface RPM: 70, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 735.00, Strokes Per Minute: 228.00
Connection	33	08-16	23:40	23:45	08-16			
Rotary Drill	1	08-16	23:45	00:00	08-17	5221.00	5258.00	Pressure On (psi): 4300.00, Pressure Off (psi): 3200.00, Weight On Bit (klbs): 65.00, Surface RPM: 70, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 735.00, Strokes Per Minute: 228.00

MWD Activities

No Activities

	Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Saturday, Aug 17 00:00 - 23:59 (Day 13 of 72)

Billing: \$7,600.00 (\$226,501.01 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	5258.00	Downhole Hours	18.00	Rotating WOB (klbs)	
Bit Depth (ft)	5258.00	Drilling Hours	0.00	Sliding WOB (klbs)	
Bottom Hole Depth (ft)	5258.00	Hours Circulating	6.92	Rotating SPM	
Total Distance (ft)	0.00	Hours Sliding	0.00	Sliding SPM	
Distance Rotated (ft)	0.00	Hours Rotating	0.00	Motor RPM	80.00 - 144.00
Distance Slid (ft)	0.00			Surface RPM	
Inclination In	2.07			Flow Rate (gpm)	
Inclination Out	2.07			On Bottom Pressure (psi)	
Azimuth In	117.25	% Hours Rotating		Off Bottom Pressure (psi)	
Azimuth Out	117.25	% Hours Sliding			
AVG Total ROP (ft/h)	148.00	% Distance Sliding			
AVG Rotating ROP (ft/h)	148.00	% Distance Rotating			
AVG Sliding ROP (ft/h)	0.00				

Personnel

Name	Position
Kyle Kusak	MWD Engineer
Shawn Flores	MWD Engineer
Joel Johnson	Directional Driller
Orey Meredith	Directional Driller
Omar Alaniz	Directional Driller

BHA #2 - BHA #2 (12.25" Intermediate)

Date In: Aug 16, 2019, 2:00 Date Out: Aug 17, 2019, 18:00

Bit Details		Motor Details		Directional Comments		
OD (in)	12.250	Size (in)	8.0	Butchesr: 1.50 FBH 7/8 5.9 Stg Mtr, Rev/Gal: 0.16, Max Diff: 1390 psi, Max Operating Torque: 21,870 ft/lbs, Protracted Angle: 1.55 / Bit; Baker Hughes 12.25" Type: T806FX, SN:7163483, TFA: 0.994, Jets:9 x 12's, Bit Runs: 0		
Vendor	Baker Hughes	Lobe/Stage	7/8, 5.9			
S/N	7163483	Bend Angle	1.5			
Nozzles	9x12	Speed (rev/gal)	0.16	MWD Comments		
Total Flow Area (in²)	0.994	Wear Pad OD (in)	8.375	<th colspan="1">POOH Reason</th> <td rowspan="5">Total Depth/Casing Point: POOH to run intermediate casing</td>	POOH Reason	Total Depth/Casing Point: POOH to run intermediate casing
Drilling Hours for Day	0.00	Bit Distances				
Total Drilled for Day (ft)	0.00	Survey (Bit to Say): 70.00				
Drilling Hours for BHA	15.08	ft, Bend (Bit to Bend): 6.00				
Total Drilled for BHA (ft)	3398.00					

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: T806FX, Style: PDC, Gauge Length (in): 3.00, Size (in): 12.25	Baker Hughes	7163483	6 5/8" Reg Pin			12.250		1.20	1.20
Mud Motor Description: 1.5 FBH 7/8 5.9 Stg Mtr w/ 12" NB Stabilizer, Size (in): 8.00, Bend Angle (°): 1.5, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 5.9	Butches	BDT800-017	6 5/8" Reg Box	6 5/8" Reg Box		8.000		37.57	38.77
Stabilizer Description: 12" Stabilizer	DTI	DR39406	6 5/8" Reg Box	6 5/8" Reg Pin	2.875	8.250		7.92	46.69
UBHO Sub Description: UBHO Sub, Type: Steel	AIM	800605	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.125		3.00	49.69
Drill Collar Description: 8" NMDC (MWD Tool), Style: Slick Drill, Type: NM	AIM	AIM80001018	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.000		31.70	81.39
Drill Collar Description: 8" NMDC (Spacer), Style: Slick Drill, Type: NM	AIM	AIM80001012	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.000		30.10	111.49
Crossover Sub Description: X-Over (6 5/8 Reg Pin x 4 1/2 XH Box), Type: Steel	DTI	DR32366	4 1/2" XH Box	6 5/8" Reg Pin	2.813	7.875		2.60	114.09
Drill Collar Description: (21 Joints) 6.5" DC, Style: Slick Drill, Type: Steel	RIG	RIG	4 1/2" XH Box	4 1/2" XH Pin	2.875	6.500		612.86	726.95
Crossover Sub Description: X-Over (4 1/2 IF Box x 4 1/2 XH Pin), Type: Steel	DTI	DR37313	4 1/2" IF Box	4 1/2" XH Pin	2.875	6.625		2.72	729.67
HWDP Description: (36 Joints) 5" HWDP, Style: Slick			4 1/2" IF Box	4 1/2" IF Pin	3.000	5.000		1095.51	1825.18

MWD Items

No Items

Directional Activities

Activity Type	Code	Start Date	Start Time	End Time	End Date	Start (ft)	End (ft)	Comments/Details
Rotary Drill	1	08-16	23:45	00:00	08-17	5221.00	5258.00	Pressure On (psi): <i>4300.00</i> , Pressure Off (psi): <i>3200.00</i> , Weight On Bit (klbs): <i>65.00</i> , Surface RPM: <i>70</i> , Surface Torque (ft lbf): <i>20000.00</i> , Flow Rate (gpm): <i>735.00</i> , Strokes Per Minute: <i>228.00</i>
Survey	46	08-17	00:00	00:15	08-17	5258.00	5258.00	Inclination (°): <i>2.070</i> , Azimuth (°): <i>117.250</i> , TVD (ft): <i>5186.31</i> , Dogleg (°/100 ft): <i>0.29</i> , Sensor Depth (ft): <i>5188.00</i> , Bit To Sensor (ft): <i>70.00</i>
Circulating	3	08-17	00:15	01:40	08-17			Circulate hole clean to pooh for intermediate casing
Pooh	7	08-17	01:40	05:30	08-17			POOH t./4000'
TIH	8	08-17	05:30	06:30	08-17			TIH back to btm
Circulating	3	08-17	06:30	12:00	08-17			Circulate & Condition Mud
Pooh	7	08-17	12:00	16:30	08-17			POOH/ run intermediate casing
Pooh	7	08-17	16:30	16:45	08-17			L/D Top NMDC
Other	16	08-17	16:45	17:45	08-17			MWD low end locked it to set screw less UBHO, P/U break UBHO & low end, low end stayed in locked set less UBHO / L/D MWD Tool
Other	16	08-17	17:45	18:00	08-17			Drain Motor / Rack back BHA in derrick
Standby	15	08-17	18:00	00:00	08-18			Standby while running casing and walking rig to the 605H

MWD Activities

No Activities

	Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Sunday, Aug 18 00:00 - 23:59 (Day 14 of 72) **Billing:** N/A (\$226,501.01 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)		Downhole Hours	0.00	Rotating WOB (klbs)	
Bit Depth (ft)		Drilling Hours		Sliding WOB (klbs)	
Bottom Hole Depth (ft)		Hours Circulating		Rotating SPM	
Total Distance (ft)		Hours Sliding		Sliding SPM	
Distance Rotated (ft)		Hours Rotating		Motor RPM	-
Distance Slid (ft)				Surface RPM	
Inclination In				Flow Rate (gpm)	
Inclination Out				On Bottom Pressure (psi)	
Azimuth In		% Hours Rotating		Off Bottom Pressure (psi)	
Azimuth Out		% Hours Sliding			
AVG Total ROP (ft/h)	0.00	% Distance Sliding			
AVG Rotating ROP (ft/h)	0.00	% Distance Rotating			
AVG Sliding ROP (ft/h)	0.00				

Personnel	
Name	Position
Kyle Kusak	MWD Engineer
Shawn Flores	MWD Engineer
Joel Johnson	Directional Driller
Orey Meredith	Directional Driller
Omar Alaniz	Directional Driller

No BHAs

Directional Activities								
Activity Type	Code	Start Date	Start Time	End Time	End Date	Start (ft)	End (ft)	Comments/Details
Standby	15	08-17	18:00	00:00	08-18			Standby while running casing and walking rig to the 605H

MWD Activities

No Activities

	Job Number	Operator	Rig Name
	WT-19-125	Advance Energy Partners	H&P #620
	Start Date	Well Name	Legal Well Name AFE
	2019-08-03	Wool Head 20 State Com 606H	Wool Head 20 State Com 606H
	Play	State/Province and Country	County
	Delaware Basin	New Mexico, US	Lea
Monday, Aug 19 00:00 - 23:59 (Day of 72)			
			Billing: N/A (\$226,501.01 total)
Drilling Summary			Drilling Parameters
Start Depth (ft)	Downhole Hours	0.00	Rotating WOB (klbs)
Bit Depth (ft)	Drilling Hours		Sliding WOB (klbs)
Bottom Hole Depth (ft)	Hours Circulating		Rotating SPM
Total Distance (ft)	Hours Sliding		Sliding SPM
Distance Rotated (ft)	Hours Rotating		Motor RPM
Distance Slid (ft)			Surface RPM
Inclination In			Flow Rate (gpm)
Inclination Out			On Bottom Pressure (psi)
Azimuth In	% Hours Rotating		Off Bottom Pressure (psi)
Azimuth Out	% Hours Sliding		
AVG Total ROP (ft/h)	0.00	% Distance Sliding	
AVG Rotating ROP (ft/h)	0.00	% Distance Rotating	
AVG Sliding ROP (ft/h)	0.00		
Personnel			
Name		Position	
Kyle Kusak		MWD Engineer	
Shawn Flores		MWD Engineer	
Joel Johnson		Directional Driller	
Orey Meredith		Directional Driller	
Omar Alaniz		Directional Driller	
No BHAs			
Directional Activities			
No Activities			
MWD Activities			
No Activities			

	Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man
Tuesday, Aug 20 00:00 - 23:59 (Day of 72) Billing: N/A (\$226,501.01 total)				
Drilling Summary			Drilling Parameters	
Start Depth (ft)	Downhole Hours		0.00	Rotating WOB (klbs)
Bit Depth (ft)	Drilling Hours			Sliding WOB (klbs)
Bottom Hole Depth (ft)	Hours Circulating			Rotating SPM
Total Distance (ft)	Hours Sliding			Sliding SPM
Distance Rotated (ft)	Hours Rotating			Motor RPM
Distance Slid (ft)				Surface RPM
Inclination In				Flow Rate (gpm)
Inclination Out				On Bottom Pressure (psi)
Azimuth In	% Hours Rotating			Off Bottom Pressure (psi)
Azimuth Out	% Hours Sliding			
AVG Total ROP (ft/h)	0.00	% Distance Sliding		
AVG Rotating ROP (ft/h)	0.00	% Distance Rotating		
AVG Sliding ROP (ft/h)	0.00			
Personnel				
Name		Position		
Kyle Kusak		MWD Engineer		
Shawn Flores		MWD Engineer		
Joel Johnson		Directional Driller		
Orey Meredith		Directional Driller		
Omar Alaniz		Directional Driller		
No BHAs				
Directional Activities				
No Activities				
MWD Activities				
No Activities				

	Job Number WT-19-125	Operator Advance Energy Partners	Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H	Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
	Company Man		

Wednesday, Aug 21 00:00 - 23:59 (Day of 72)			Billing: N/A (\$226,501.01 total)
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Drilling Summary			Drilling Parameters
Start Depth (ft)	Downhole Hours	0.00	Rotating WOB (klbs)
Bit Depth (ft)	Drilling Hours		Sliding WOB (klbs)
Bottom Hole Depth (ft)	Hours Circulating		Rotating SPM
Total Distance (ft)	Hours Sliding		Sliding SPM
Distance Rotated (ft)	Hours Rotating		Motor RPM
Distance Slid (ft)			Surface RPM
Inclination In			Flow Rate (gpm)
Inclination Out			On Bottom Pressure (psi)
Azimuth In	% Hours Rotating		Off Bottom Pressure (psi)
Azimuth Out	% Hours Sliding		
AVG Total ROP (ft/h)	0.00 % Distance Sliding		
AVG Rotating ROP (ft/h)	0.00 % Distance Rotating		
AVG Sliding ROP (ft/h)	0.00		

Personnel	
Name	Position
Kyle Kusak	MWD Engineer
Shawn Flores	MWD Engineer
Joel Johnson	Directional Driller
Orey Meredith	Directional Driller
Omar Alaniz	Directional Driller

No BHAs

Directional Activities
No Activities

MWD Activities
No Activities

	Job Number WT-19-125	Operator Advance Energy Partners	Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H	Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
	Company Man		

Thursday, Aug 22 00:00 - 23:59 (Day of 72)			Billing: N/A (\$226,501.01 total)
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Drilling Summary		Drilling Parameters
Start Depth (ft)	Downhole Hours 0.00	Rotating WOB (klbs)
Bit Depth (ft)	Drilling Hours	Sliding WOB (klbs)
Bottom Hole Depth (ft)	Hours Circulating	Rotating SPM
Total Distance (ft)	Hours Sliding	Sliding SPM
Distance Rotated (ft)	Hours Rotating	Motor RPM -
Distance Slid (ft)		Surface RPM
Inclination In		Flow Rate (gpm)
Inclination Out		On Bottom Pressure (psi)
Azimuth In	% Hours Rotating	Off Bottom Pressure (psi)
Azimuth Out	% Hours Sliding	
AVG Total ROP (ft/h) 0.00	% Distance Sliding	
AVG Rotating ROP (ft/h) 0.00	% Distance Rotating	
AVG Sliding ROP (ft/h) 0.00		

Personnel	
Name	Position
Kyle Kusak	MWD Engineer
Shawn Flores	MWD Engineer
Joel Johnson	Directional Driller
Orey Meredith	Directional Driller
Omar Alaniz	Directional Driller

No BHAs

Directional Activities
No Activities

MWD Activities
No Activities

	Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man
Friday, Aug 23 00:00 - 23:59 (Day of 72) Billing: N/A (\$226,501.01 total)				
Drilling Summary			Drilling Parameters	
Start Depth (ft)	Downhole Hours	0.00	Rotating WOB (klbs)	
Bit Depth (ft)	Drilling Hours		Sliding WOB (klbs)	
Bottom Hole Depth (ft)	Hours Circulating		Rotating SPM	
Total Distance (ft)	Hours Sliding		Sliding SPM	
Distance Rotated (ft)	Hours Rotating		Motor RPM	
Distance Slid (ft)			Surface RPM	
Inclination In			Flow Rate (gpm)	
Inclination Out			On Bottom Pressure (psi)	
Azimuth In	% Hours Rotating		Off Bottom Pressure (psi)	
Azimuth Out	% Hours Sliding			
AVG Total ROP (ft/h)	0.00	% Distance Sliding		
AVG Rotating ROP (ft/h)	0.00	% Distance Rotating		
AVG Sliding ROP (ft/h)	0.00			
Personnel				
Name		Position		
Kyle Kusak		MWD Engineer		
Shawn Flores		MWD Engineer		
Joel Johnson		Directional Driller		
Orey Meredith		Directional Driller		
Omar Alaniz		Directional Driller		
No BHAs				
Directional Activities				
No Activities				
MWD Activities				
No Activities				

	Job Number WT-19-125	Operator Advance Energy Partners	Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H	
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
	Legal Well Name AFE Wool Head 20 State Com 606H		
Company Man			

Saturday, Aug 24 00:00 - 23:59 (Day of 72)				Billing: N/A (\$226,501.01 total)
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Drilling Summary			Drilling Parameters
Start Depth (ft)	Downhole Hours	0.00	Rotating WOB (klbs)
Bit Depth (ft)	Drilling Hours		Sliding WOB (klbs)
Bottom Hole Depth (ft)	Hours Circulating		Rotating SPM
Total Distance (ft)	Hours Sliding		Sliding SPM
Distance Rotated (ft)	Hours Rotating		Motor RPM
Distance Slid (ft)			Surface RPM
Inclination In			Flow Rate (gpm)
Inclination Out			On Bottom Pressure (psi)
Azimuth In	% Hours Rotating		Off Bottom Pressure (psi)
Azimuth Out	% Hours Sliding		
AVG Total ROP (ft/h)	0.00	% Distance Sliding	
AVG Rotating ROP (ft/h)	0.00	% Distance Rotating	
AVG Sliding ROP (ft/h)	0.00		

Personnel	
Name	Position
Kyle Kusak	MWD Engineer
Shawn Flores	MWD Engineer
Joel Johnson	Directional Driller
Orey Meredith	Directional Driller
Omar Alaniz	Directional Driller

No BHAs	
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Directional Activities	
No Activities	

MWD Activities	
No Activities	

	Job Number WT-19-125	Operator Advance Energy Partners	Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H	
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
	Company Man		
Sunday, Aug 25 00:00 - 23:59 (Day of 72)			
Billing: N/A (\$226,501.01 total)			
Drilling Summary			Drilling Parameters
Start Depth (ft)	Downhole Hours	0.00	Rotating WOB (klbs)
Bit Depth (ft)	Drilling Hours		Sliding WOB (klbs)
Bottom Hole Depth (ft)	Hours Circulating		Rotating SPM
Total Distance (ft)	Hours Sliding		Sliding SPM
Distance Rotated (ft)	Hours Rotating		Motor RPM
Distance Slid (ft)			Surface RPM
Inclination In			Flow Rate (gpm)
Inclination Out			On Bottom Pressure (psi)
Azimuth In	% Hours Rotating		Off Bottom Pressure (psi)
Azimuth Out	% Hours Sliding		
AVG Total ROP (ft/h)	0.00	% Distance Sliding	
AVG Rotating ROP (ft/h)	0.00	% Distance Rotating	
AVG Sliding ROP (ft/h)	0.00		
Personnel			
Name		Position	
Kyle Kusak		MWD Engineer	
Shawn Flores		MWD Engineer	
Joel Johnson		Directional Driller	
Orey Meredith		Directional Driller	
Omar Alaniz		Directional Driller	
No BHAs			
Directional Activities			
No Activities			
MWD Activities			
No Activities			

	Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man
Monday, Aug 26 00:00 - 23:59 (Day of 72) Billing: N/A (\$226,501.01 total)				
Drilling Summary				Drilling Parameters
Start Depth (ft)		Downhole Hours	0.00	Rotating WOB (klbs)
Bit Depth (ft)		Drilling Hours		Sliding WOB (klbs)
Bottom Hole Depth (ft)		Hours Circulating		Rotating SPM
Total Distance (ft)		Hours Sliding		Sliding SPM
Distance Rotated (ft)		Hours Rotating		Motor RPM
Distance Slid (ft)				Surface RPM
Inclination In				Flow Rate (gpm)
Inclination Out				On Bottom Pressure (psi)
Azimuth In		% Hours Rotating		Off Bottom Pressure (psi)
Azimuth Out		% Hours Sliding		
AVG Total ROP (ft/h)		0.00	% Distance Sliding	
AVG Rotating ROP (ft/h)		0.00	% Distance Rotating	
AVG Sliding ROP (ft/h)		0.00		
Personnel				
Name			Position	
Kyle Kusak			MWD Engineer	
Shawn Flores			MWD Engineer	
Joel Johnson			Directional Driller	
Orey Meredith			Directional Driller	
Omar Alaniz			Directional Driller	
No BHAs				
Directional Activities				
No Activities				
MWD Activities				
No Activities				

	Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man
Tuesday, Aug 27 00:00 - 23:59 (Day of 72) Billing: N/A (\$226,501.01 total)				
Drilling Summary				Drilling Parameters
Start Depth (ft)		Downhole Hours	0.00	Rotating WOB (klbs)
Bit Depth (ft)		Drilling Hours		Sliding WOB (klbs)
Bottom Hole Depth (ft)		Hours Circulating		Rotating SPM
Total Distance (ft)		Hours Sliding		Sliding SPM
Distance Rotated (ft)		Hours Rotating		Motor RPM
Distance Slid (ft)				Surface RPM
Inclination In				Flow Rate (gpm)
Inclination Out				On Bottom Pressure (psi)
Azimuth In		% Hours Rotating		Off Bottom Pressure (psi)
Azimuth Out		% Hours Sliding		
AVG Total ROP (ft/h)		0.00	% Distance Sliding	
AVG Rotating ROP (ft/h)		0.00	% Distance Rotating	
AVG Sliding ROP (ft/h)		0.00		
Personnel				
Name			Position	
Kyle Kusak			MWD Engineer	
Shawn Flores			MWD Engineer	
Joel Johnson			Directional Driller	
Orey Meredith			Directional Driller	
Omar Alaniz			Directional Driller	
No BHAs				
Directional Activities				
No Activities				
MWD Activities				
No Activities				

	Job Number WT-19-125	Operator Advance Energy Partners	Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H	Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
	Company Man		

Wednesday, Aug 28 00:00 - 23:59 (Day of 72)			Billing: N/A (\$226,501.01 total)
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Drilling Summary			Drilling Parameters
Start Depth (ft)	Downhole Hours	0.00	Rotating WOB (klbs)
Bit Depth (ft)	Drilling Hours		Sliding WOB (klbs)
Bottom Hole Depth (ft)	Hours Circulating		Rotating SPM
Total Distance (ft)	Hours Sliding		Sliding SPM
Distance Rotated (ft)	Hours Rotating		Motor RPM
Distance Slid (ft)			Surface RPM
Inclination In			Flow Rate (gpm)
Inclination Out			On Bottom Pressure (psi)
Azimuth In	% Hours Rotating		Off Bottom Pressure (psi)
Azimuth Out	% Hours Sliding		
AVG Total ROP (ft/h)	0.00 % Distance Sliding		
AVG Rotating ROP (ft/h)	0.00 % Distance Rotating		
AVG Sliding ROP (ft/h)	0.00		

Personnel	
Name	Position
Kyle Kusak	MWD Engineer
Shawn Flores	MWD Engineer
Joel Johnson	Directional Driller
Orey Meredith	Directional Driller
Omar Alaniz	Directional Driller

No BHAs

Directional Activities
No Activities

MWD Activities
No Activities

	Job Number WT-19-125	Operator Advance Energy Partners	Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H	Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
	Company Man		
Thursday, Aug 29 00:00 - 23:59 (Day of 72) Billing: N/A (\$226,501.01 total)			
Drilling Summary			Drilling Parameters
Start Depth (ft)	Downhole Hours	0.00	Rotating WOB (klbs)
Bit Depth (ft)	Drilling Hours		Sliding WOB (klbs)
Bottom Hole Depth (ft)	Hours Circulating		Rotating SPM
Total Distance (ft)	Hours Sliding		Sliding SPM
Distance Rotated (ft)	Hours Rotating		Motor RPM
Distance Slid (ft)			Surface RPM
Inclination In			Flow Rate (gpm)
Inclination Out			On Bottom Pressure (psi)
Azimuth In	% Hours Rotating		Off Bottom Pressure (psi)
Azimuth Out	% Hours Sliding		
AVG Total ROP (ft/h)	0.00	% Distance Sliding	
AVG Rotating ROP (ft/h)	0.00	% Distance Rotating	
AVG Sliding ROP (ft/h)	0.00		
Personnel			
Name		Position	
Kyle Kusak		MWD Engineer	
Shawn Flores		MWD Engineer	
Joel Johnson		Directional Driller	
Orey Meredith		Directional Driller	
Omar Alaniz		Directional Driller	
No BHAs			
Directional Activities			
No Activities			
MWD Activities			
No Activities			

	Job Number WT-19-125	Operator Advance Energy Partners	Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H	
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
	Company Man		
Friday, Aug 30 00:00 - 23:59 (Day of 72) Billing: N/A (\$226,501.01 total)			
Drilling Summary			Drilling Parameters
Start Depth (ft)	Downhole Hours	0.00	Rotating WOB (klbs)
Bit Depth (ft)	Drilling Hours		Sliding WOB (klbs)
Bottom Hole Depth (ft)	Hours Circulating		Rotating SPM
Total Distance (ft)	Hours Sliding		Sliding SPM
Distance Rotated (ft)	Hours Rotating		Motor RPM
Distance Slid (ft)			Surface RPM
Inclination In			Flow Rate (gpm)
Inclination Out			On Bottom Pressure (psi)
Azimuth In	% Hours Rotating		Off Bottom Pressure (psi)
Azimuth Out	% Hours Sliding		
AVG Total ROP (ft/h)	0.00 % Distance Sliding		
AVG Rotating ROP (ft/h)	0.00 % Distance Rotating		
AVG Sliding ROP (ft/h)	0.00		
Personnel			
Name		Position	
Kyle Kusak		MWD Engineer	
Shawn Flores		MWD Engineer	
Joel Johnson		Directional Driller	
Orey Meredith		Directional Driller	
Omar Alaniz		Directional Driller	
No BHAs			
Directional Activities			
No Activities			
MWD Activities			
No Activities			

	Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man
Saturday, Aug 31 00:00 - 23:59 (Day of 72) Billing: N/A (\$226,501.01 total)				
Drilling Summary				Drilling Parameters
Start Depth (ft)		Downhole Hours	0.00	Rotating WOB (klbs)
Bit Depth (ft)		Drilling Hours		Sliding WOB (klbs)
Bottom Hole Depth (ft)		Hours Circulating		Rotating SPM
Total Distance (ft)		Hours Sliding		Sliding SPM
Distance Rotated (ft)		Hours Rotating		Motor RPM
Distance Slid (ft)				Surface RPM
Inclination In				Flow Rate (gpm)
Inclination Out				On Bottom Pressure (psi)
Azimuth In		% Hours Rotating		Off Bottom Pressure (psi)
Azimuth Out		% Hours Sliding		
AVG Total ROP (ft/h)		0.00	% Distance Sliding	
AVG Rotating ROP (ft/h)		0.00	% Distance Rotating	
AVG Sliding ROP (ft/h)		0.00		
Personnel				
Name			Position	
Kyle Kusak			MWD Engineer	
Shawn Flores			MWD Engineer	
Joel Johnson			Directional Driller	
Orey Meredith			Directional Driller	
Omar Alaniz			Directional Driller	
No BHAs				
Directional Activities				
No Activities				
MWD Activities				
No Activities				

	Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man
	Sunday, Sep 01 00:00 - 23:59 (Day of 72)			
				Billing: N/A (\$226,501.01 total)
Drilling Summary				Drilling Parameters
Start Depth (ft)		Downhole Hours	0.00	Rotating WOB (klbs)
Bit Depth (ft)		Drilling Hours		Sliding WOB (klbs)
Bottom Hole Depth (ft)		Hours Circulating		Rotating SPM
Total Distance (ft)		Hours Sliding		Sliding SPM
Distance Rotated (ft)		Hours Rotating		Motor RPM
Distance Slid (ft)				Surface RPM
Inclination In				Flow Rate (gpm)
Inclination Out				On Bottom Pressure (psi)
Azimuth In		% Hours Rotating		Off Bottom Pressure (psi)
Azimuth Out		% Hours Sliding		
AVG Total ROP (ft/h)		0.00	% Distance Sliding	
AVG Rotating ROP (ft/h)		0.00	% Distance Rotating	
AVG Sliding ROP (ft/h)		0.00		
Personnel				
Name			Position	
Kyle Kusak			MWD Engineer	
Shawn Flores			MWD Engineer	
Joel Johnson			Directional Driller	
Orey Meredith			Directional Driller	
Omar Alaniz			Directional Driller	
No BHAs				
Directional Activities				
No Activities				
MWD Activities				
No Activities				

	Job Number WT-19-125	Operator Advance Energy Partners	Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H	Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
	Company Man		

Monday, Sep 02 00:00 - 23:59 (Day of 72)			Billing: N/A (\$226,501.01 total)
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Drilling Summary		Drilling Parameters	
Start Depth (ft)	Downhole Hours	0.00	Rotating WOB (klbs)
Bit Depth (ft)	Drilling Hours		Sliding WOB (klbs)
Bottom Hole Depth (ft)	Hours Circulating		Rotating SPM
Total Distance (ft)	Hours Sliding		Sliding SPM
Distance Rotated (ft)	Hours Rotating		Motor RPM
Distance Slid (ft)			Surface RPM
Inclination In			Flow Rate (gpm)
Inclination Out			On Bottom Pressure (psi)
Azimuth In	% Hours Rotating		Off Bottom Pressure (psi)
Azimuth Out	% Hours Sliding		
AVG Total ROP (ft/h)	0.00	% Distance Sliding	
AVG Rotating ROP (ft/h)	0.00	% Distance Rotating	
AVG Sliding ROP (ft/h)	0.00		

Personnel	
Name	Position
Kyle Kusak	MWD Engineer
Shawn Flores	MWD Engineer
Joel Johnson	Directional Driller
Orey Meredith	Directional Driller
Omar Alaniz	Directional Driller

No BHAs

Directional Activities
No Activities

MWD Activities
No Activities

	Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man
	Tuesday, Sep 03 00:00 - 23:59 (Day of 72) Billing: N/A (\$226,501.01 total)			
Drilling Summary				Drilling Parameters
Start Depth (ft)		Downhole Hours	0.00	Rotating WOB (klbs)
Bit Depth (ft)		Drilling Hours		Sliding WOB (klbs)
Bottom Hole Depth (ft)		Hours Circulating		Rotating SPM
Total Distance (ft)		Hours Sliding		Sliding SPM
Distance Rotated (ft)		Hours Rotating		Motor RPM
Distance Slid (ft)				Surface RPM
Inclination In				Flow Rate (gpm)
Inclination Out				On Bottom Pressure (psi)
Azimuth In		% Hours Rotating		Off Bottom Pressure (psi)
Azimuth Out		% Hours Sliding		
AVG Total ROP (ft/h)		0.00	% Distance Sliding	
AVG Rotating ROP (ft/h)		0.00	% Distance Rotating	
AVG Sliding ROP (ft/h)		0.00		
Personnel				
Name			Position	
Kyle Kusak			MWD Engineer	
Shawn Flores			MWD Engineer	
Joel Johnson			Directional Driller	
Orey Meredith			Directional Driller	
Omar Alaniz			Directional Driller	
No BHAs				
Directional Activities				
No Activities				
MWD Activities				
No Activities				

	Job Number WT-19-125	Operator Advance Energy Partners	Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H	
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
	Company Man		
Wednesday, Sep 04 00:00 - 23:59 (Day of 72)			
Billing: N/A (\$226,501.01 total)			
Drilling Summary			Drilling Parameters
Start Depth (ft)	Downhole Hours	0.00	Rotating WOB (klbs)
Bit Depth (ft)	Drilling Hours		Sliding WOB (klbs)
Bottom Hole Depth (ft)	Hours Circulating		Rotating SPM
Total Distance (ft)	Hours Sliding		Sliding SPM
Distance Rotated (ft)	Hours Rotating		Motor RPM
Distance Slid (ft)			Surface RPM
Inclination In			Flow Rate (gpm)
Inclination Out			On Bottom Pressure (psi)
Azimuth In	% Hours Rotating		Off Bottom Pressure (psi)
Azimuth Out	% Hours Sliding		
AVG Total ROP (ft/h)	0.00	% Distance Sliding	
AVG Rotating ROP (ft/h)	0.00	% Distance Rotating	
AVG Sliding ROP (ft/h)	0.00		
Personnel			
Name		Position	
Kyle Kusak		MWD Engineer	
Shawn Flores		MWD Engineer	
Joel Johnson		Directional Driller	
Orey Meredith		Directional Driller	
Omar Alaniz		Directional Driller	
No BHAs			
Directional Activities			
No Activities			
MWD Activities			
No Activities			

	Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man
Thursday, Sep 05 00:00 - 23:59 (Day of 72) Billing: N/A (\$226,501.01 total)				
Drilling Summary				Drilling Parameters
Start Depth (ft)		Downhole Hours	0.00	Rotating WOB (klbs)
Bit Depth (ft)		Drilling Hours		Sliding WOB (klbs)
Bottom Hole Depth (ft)		Hours Circulating		Rotating SPM
Total Distance (ft)		Hours Sliding		Sliding SPM
Distance Rotated (ft)		Hours Rotating		Motor RPM
Distance Slid (ft)				Surface RPM
Inclination In				Flow Rate (gpm)
Inclination Out				On Bottom Pressure (psi)
Azimuth In		% Hours Rotating		Off Bottom Pressure (psi)
Azimuth Out		% Hours Sliding		
AVG Total ROP (ft/h)		0.00	% Distance Sliding	
AVG Rotating ROP (ft/h)		0.00	% Distance Rotating	
AVG Sliding ROP (ft/h)		0.00		
Personnel				
Name			Position	
Kyle Kusak			MWD Engineer	
Shawn Flores			MWD Engineer	
Joel Johnson			Directional Driller	
Orey Meredith			Directional Driller	
Omar Alaniz			Directional Driller	
No BHAs				
Directional Activities				
No Activities				
MWD Activities				
No Activities				

	Job Number WT-19-125	Operator Advance Energy Partners	Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H	
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
	Legal Well Name AFE Wool Head 20 State Com 606H		
Company Man			

Friday, Sep 06 00:00 - 23:59 (Day of 72)		Billing: N/A (\$226,501.01 total)
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Drilling Summary		Drilling Parameters
Start Depth (ft)	Downhole Hours 0.00	Rotating WOB (klbs)
Bit Depth (ft)	Drilling Hours	Sliding WOB (klbs)
Bottom Hole Depth (ft)	Hours Circulating	Rotating SPM
Total Distance (ft)	Hours Sliding	Sliding SPM
Distance Rotated (ft)	Hours Rotating	Motor RPM -
Distance Slid (ft)		Surface RPM
Inclination In		Flow Rate (gpm)
Inclination Out		On Bottom Pressure (psi)
Azimuth In	% Hours Rotating	Off Bottom Pressure (psi)
Azimuth Out	% Hours Sliding	
AVG Total ROP (ft/h) 0.00	% Distance Sliding	
AVG Rotating ROP (ft/h) 0.00	% Distance Rotating	
AVG Sliding ROP (ft/h) 0.00		

Personnel	
Name	Position
Kyle Kusak	MWD Engineer
Shawn Flores	MWD Engineer
Joel Johnson	Directional Driller
Orey Meredith	Directional Driller
Omar Alaniz	Directional Driller

No BHAs

Directional Activities
No Activities

MWD Activities
No Activities

	Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Saturday, Sep 07 00:00 - 23:59 (Day of 72) Billing: N/A (\$226,501.01 total)

Drilling Summary			Drilling Parameters
Start Depth (ft)		Downhole Hours	0.00
Bit Depth (ft)		Drilling Hours	
Bottom Hole Depth (ft)		Hours Circulating	
Total Distance (ft)		Hours Sliding	
Distance Rotated (ft)		Hours Rotating	
Distance Slid (ft)			
Inclination In			
Inclination Out			
Azimuth In		% Hours Rotating	
Azimuth Out		% Hours Sliding	
AVG Total ROP (ft/h)	0.00	% Distance Sliding	
AVG Rotating ROP (ft/h)	0.00	% Distance Rotating	
AVG Sliding ROP (ft/h)	0.00		

Personnel	
Name	Position
Kyle Kusak	MWD Engineer
Shawn Flores	MWD Engineer
Joel Johnson	Directional Driller
Orey Meredith	Directional Driller
Omar Alaniz	Directional Driller

No BHAs

Directional Activities

No Activities

MWD Activities

No Activities

	Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man
Sunday, Sep 08 00:00 - 23:59 (Day of 72)				Billing: N/A (\$226,501.01 total)
Drilling Summary			Drilling Parameters	
Start Depth (ft)	Downhole Hours	0.00	Rotating WOB (klbs)	
Bit Depth (ft)	Drilling Hours		Sliding WOB (klbs)	
Bottom Hole Depth (ft)	Hours Circulating		Rotating SPM	
Total Distance (ft)	Hours Sliding		Sliding SPM	
Distance Rotated (ft)	Hours Rotating		Motor RPM	
Distance Slid (ft)			Surface RPM	
Inclination In			Flow Rate (gpm)	
Inclination Out			On Bottom Pressure (psi)	
Azimuth In	% Hours Rotating		Off Bottom Pressure (psi)	
Azimuth Out	% Hours Sliding			
AVG Total ROP (ft/h)	0.00	% Distance Sliding		
AVG Rotating ROP (ft/h)	0.00	% Distance Rotating		
AVG Sliding ROP (ft/h)	0.00			
Personnel				
Name		Position		
Kyle Kusak		MWD Engineer		
Shawn Flores		MWD Engineer		
Joel Johnson		Directional Driller		
Orey Meredith		Directional Driller		
Omar Alaniz		Directional Driller		
No BHAs				
Directional Activities				
No Activities				
MWD Activities				
No Activities				

	Job Number WT-19-125	Operator Advance Energy Partners	Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H	
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
	Company Man		
Monday, Sep 09 00:00 - 23:59 (Day of 72)			
Billing: N/A (\$226,501.01 total)			
Drilling Summary			Drilling Parameters
Start Depth (ft)	Downhole Hours	0.00	Rotating WOB (klbs)
Bit Depth (ft)	Drilling Hours		Sliding WOB (klbs)
Bottom Hole Depth (ft)	Hours Circulating		Rotating SPM
Total Distance (ft)	Hours Sliding		Sliding SPM
Distance Rotated (ft)	Hours Rotating		Motor RPM
Distance Slid (ft)			Surface RPM
Inclination In			Flow Rate (gpm)
Inclination Out			On Bottom Pressure (psi)
Azimuth In	% Hours Rotating		Off Bottom Pressure (psi)
Azimuth Out	% Hours Sliding		
AVG Total ROP (ft/h)	0.00	% Distance Sliding	
AVG Rotating ROP (ft/h)	0.00	% Distance Rotating	
AVG Sliding ROP (ft/h)	0.00		
Personnel			
Name		Position	
Kyle Kusak		MWD Engineer	
Shawn Flores		MWD Engineer	
Joel Johnson		Directional Driller	
Orey Meredith		Directional Driller	
Omar Alaniz		Directional Driller	
Dustin Stringfellow		Directional Driller	
No BHAs			
Directional Activities			
No Activities			
MWD Activities			
No Activities			

	Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man
Tuesday, Sep 10 00:00 - 23:59 (Day of 72) Billing: N/A (\$226,501.01 total)				
Drilling Summary				Drilling Parameters
Start Depth (ft)		Downhole Hours	0.00	Rotating WOB (klbs)
Bit Depth (ft)		Drilling Hours		Sliding WOB (klbs)
Bottom Hole Depth (ft)		Hours Circulating		Rotating SPM
Total Distance (ft)		Hours Sliding		Sliding SPM
Distance Rotated (ft)		Hours Rotating		Motor RPM
Distance Slid (ft)				Surface RPM
Inclination In				Flow Rate (gpm)
Inclination Out				On Bottom Pressure (psi)
Azimuth In		% Hours Rotating		Off Bottom Pressure (psi)
Azimuth Out		% Hours Sliding		
AVG Total ROP (ft/h)	0.00	% Distance Sliding		
AVG Rotating ROP (ft/h)	0.00	% Distance Rotating		
AVG Sliding ROP (ft/h)	0.00			
Personnel				
Name		Position		
Kyle Kusak		MWD Engineer		
Shawn Flores		MWD Engineer		
Dustin Stringfellow		Directional Driller		
Joel Johnson		Directional Driller		
Orey Meredith		Directional Driller		
Omar Alaniz		Directional Driller		
No BHAs				
Directional Activities				
No Activities				
MWD Activities				
No Activities				



Job Number WT-19-125	Operator Advance Energy Partners	Rig Name H&P #620
Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H	Legal Well Name AFE Wool Head 20 State Com 606H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Wednesday, Sep 11 00:00 - 23:59 (Day 15 of 72)

Billing: \$12,952.50 (\$226,501.01 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	5258.00	Downhole Hours	5.83	Rotating WOB (klbs)	35.00 - 35.00
Bit Depth (ft)	5344.00	Drilling Hours	0.67	Sliding WOB (klbs)	
Bottom Hole Depth (ft)	5344.00	Hours Circulating	0.17	Rotating SPM	216.00 - 216.00
Total Distance (ft)	86.00	Hours Sliding	0.00	Sliding SPM	
Distance Rotated (ft)	86.00	Hours Rotating	0.67	Motor RPM	130.00 - 195.00
Distance Slid (ft)	0.00			Surface RPM	40.00 - 40.00
Inclination In	2.51			Flow Rate (gpm)	700.00 - 700.00
Inclination Out	2.51			On Bottom Pressure (psi)	3250.00 - 3250.00
Azimuth In	120.06	% Hours Rotating	100%	Off Bottom Pressure (psi)	2900.00 - 2900.00
Azimuth Out	120.06	% Hours Sliding	0%		
AVG Total ROP (ft/h)	129.00	% Distance Sliding	0%		
AVG Rotating ROP (ft/h)	129.00	% Distance Rotating	100%		
AVG Sliding ROP (ft/h)	0.00				

Personnel

Name	Position
Kyle Kusak	MWD Engineer
Shawn Flores	MWD Engineer
Dustin Stringfellow	Directional Driller
Joel Johnson	Directional Driller
Orey Meredith	Directional Driller
Omar Alaniz	Directional Driller

BHA #3 - BHA #3 8.5" Intermediate

Date In: Sep 11, 2019, 18:10 Date Out: Sep 14, 2019, 11:50

Bit Details		Motor Details		Directional Comments
OD (in)	8.500	Size (in)	7.0	Contender: 1.50 FBH 7/8 8.5 Stg Mtr, Rev/Gal: 0..26, Flow Range: 400-750, Max Diff: 1910 psi, Max Operating Torque: 18,710 ft/lbs, Protracted Angle: 1.55 / Bit; Halliburton 8.5" " Type: MM65DRM , SN:,13266539 TFA: .663 , Jets: 6 x 12s, Bit Runs: 1
Vendor	Halliburton	Lobe/Stage	7/8, 8.5	
S/N	13266539	Bend Angle	1.5	
Nozzles	6 x 12	Speed (rev/gal)	0.26	
Total Flow Area (in²)	0.663	Wear Pad OD (in)	7.250	MWD Comments
Drilling Hours for Day	0.67	Bit Distances		POOH Reason Total Depth/Casing Point: Well TD @ 11113
Total Drilled for Day (ft)	86.00	Survey (Bit to Say): 64.00 ft,		
Drilling Hours for BHA	46.33	Gamma (Gamma): 54.00 ft		
Total Drilled for BHA (ft)	5855.00			

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: MM65DRM, Style: PDC, Gauge Length (in): 3.00, Size (in): 8.50	Halliburton	13266539	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 1.5 FBH 7/8 8.5 Stg Mtr w/ 8.25" NB Stabilizer, Size (in): 7.00, Bend Angle (°): 1.5, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5	Contender	700-40-035	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.19	37.19
Stabilizer Description: 8.25" STAB	Gator	GT67271	4 1/2" IF Box	4 1/2" IF Pin	2.750	6.750		4.91	42.10
UBHO Sub Description: UBHO Sub, Type: NM	AIM	6751558	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		3.51	45.61
Drill Collar Description: 6.75" NMDC (MWD Tool), Style: Slick Drill, Type: NM	DTI	DR41281	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		28.53	74.14
Drill Collar Description: 6.75" NMDC (Spacer), Style: Slick Drill, Type: NM	DTI	DR33220	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		29.37	103.51
Crossover Sub Description: X-Over (4 1/2 IF Pin x 4 1/2 XH Box), Type: Steel	DTI	DR5523	4 1/2" XH Box	4 1/2" IF Pin	2.813	6.750		3.05	106.56
Drill Collar Description: (18 Joints) 6.5" DC, Style: Slick Drill, Type: Steel	RIG	RIG	4 1/2" XH Box	4 1/2" XH Pin	2.875	6.500		531.96	638.52
Crossover Sub Description: X-Over (4 1/2 XH Pin x 4 1/2 IF Box), Type: Steel	DTI	DR19241	4 1/2" IF Box	4 1/2" XH Pin	2.813	6.750		2.65	641.17
HWDP Description: (30 Joints) 5" HWDP, Style: Slick			4 1/2" IF Box	4 1/2" IF Pin	3.000	5.000		914.14	1555.31

MWD Items

No Items

Directional Activities

Activity Type	Code	Start Date	Start Time	End Time	End Date	Start (ft)	End (ft)	Comments/Details
Standby	15	09-11	00:00	16:45	09-11			Standby
Change BHA	6	09-11	16:45	18:00	09-11			P/U BHA # 3
Circulating	3	09-11	18:00	18:10	09-11			Test MWD (Good)
TIH	8	09-11	18:10	21:30	09-11			TIH T/ 2810, fill pipe test casing @ 1500 psi for 5 minutes, drill out DV tool @ 450 GPM, 20 RPM, 5 WOB, TIH to 3061 Test casing after dv tool 3061' @ 1500 For 30 minutes,
TIH	8	09-11	21:30	23:15	09-11			TIH W/ BHA #3
Rotary Drill	1	09-11	23:15	23:50	09-11	5258.00	5328.00	Pressure On (psi): 3250.00, Pressure Off (psi): 2900.00, Weight On Bit (klbs): 35.00, Surface RPM: 40, Surface Torque (ft lbf): 6000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00
Survey	46	09-11	23:50	23:55	09-11	5328.00	5328.00	Inclination (°): 2.510, Azimuth (°): 120.060, TVD (ft): 5262.25, Dogleg (9/100 ft): 0.60, Sensor Depth (ft): 5264.00, Bit To Sensor (ft): 64.00, Temperature (°F): 98.60
Rotary Drill	1	09-11	23:55	00:00	09-12	5328.00	5344.00	Pressure On (psi): 3250.00, Pressure Off (psi): 2900.00, Weight On Bit (klbs): 35.00, Surface RPM: 40, Surface Torque (ft lbf): 6000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00

MWD Activities

Activity	Start Date	End Date	Duration	Frequency	Location	Notes
No Activities						



Job Number WT-19-125	Operator Advance Energy Partners	Rig Name H&P #620
Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H	Legal Well Name AFE Wool Head 20 State Com 606H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Thursday, Sep 12 00:00 - 23:59 (Day 16 of 72)

Billing: \$8,200.00 (\$226,501.01 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	5344.00	Downhole Hours	24.00	Rotating WOB (klbs)	32.00 - 45.00
Bit Depth (ft)	8724.00	Drilling Hours	20.08	Sliding WOB (klbs)	18.00 - 25.00
Bottom Hole Depth (ft)	8724.00	Hours Circulating	0.58	Rotating SPM	216.00 - 231.00
Total Distance (ft)	3380.00	Hours Sliding	2.67	Sliding SPM	216.00 - 231.00
Distance Rotated (ft)	3240.00	Hours Rotating	17.42	Motor RPM	130.00 - 195.00
Distance Slid (ft)	140.00			Surface RPM	30.00 - 90.00
Inclination In	2.55			Flow Rate (gpm)	700.00 - 750.00
Inclination Out	4.04			On Bottom Pressure (psi)	3200.00 - 4000.00
Azimuth In	120.06	% Hours Rotating	87%	Off Bottom Pressure (psi)	2900.00 - 3750.00
Azimuth Out	91.41	% Hours Sliding	13%		
AVG Total ROP (ft/h)	168.40	% Distance Sliding	4%		
AVG Rotating ROP (ft/h)	186.06	% Distance Rotating	96%		
AVG Sliding ROP (ft/h)	52.50				

Personnel

Name	Position
Kyle Kusak	MWD Engineer
Shawn Flores	MWD Engineer
Dustin Stringfellow	Directional Driller
Joel Johnson	Directional Driller
Orey Meredith	Directional Driller
Omar Alaniz	Directional Driller

BHA #3 - BHA #3 8.5" Intermediate

Date In: Sep 11, 2019, 18:10 Date Out: Sep 14, 2019, 11:50

Bit Details		Motor Details		Directional Comments
OD (in)	8.500	Size (in)	7.0	Contender: 1.50 FBH 7/8 8.5 Stg Mtr, Rev/Gal: 0..26, Flow Range: 400-750, Max Diff: 1910 psi, Max Operating Torque: 18,710 ft/lbs, Protracted Angle: 1.55 / Bit; Halliburton 8.5" " Type: MM65DRM , SN:,13266539 TFA: .663 , Jets: 6 x 12s, Bit Runs: 1
Vendor	Halliburton	Lobe/Stage	7/8, 8.5	
S/N	13266539	Bend Angle	1.5	
Nozzles	6 x 12	Speed (rev/gal)	0.26	MWD Comments
Total Flow Area (in²)	0.663	Wear Pad OD (in)	7.250	POOH Reason Total Depth/Casing Point: Well TD @ 11113
Drilling Hours for Day	20.08	Bit Distances		
Total Drilled for Day (ft)	3380.00	Survey (Bit to Say): 64.00 ft,		
Drilling Hours for BHA	46.33	Gamma (Gamma): 54.00 ft		
Total Drilled for BHA (ft)	5855.00			

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: MM65DRM, Style: PDC, Gauge Length (in): 3.00, Size (in): 8.50	Halliburton	13266539	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 1.5 FBH 7/8 8.5 Stg Mtr w/ 8.25" NB Stabilizer, Size (in): 7.00, Bend Angle (°): 1.5, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5	Contender	700-40-035	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.19	37.19
Stabilizer Description: 8.25" STAB	Gator	GT67271	4 1/2" IF Box	4 1/2" IF Pin	2.750	6.750		4.91	42.10
UBHO Sub Description: UBHO Sub, Type: NM	AIM	6751558	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		3.51	45.61
Drill Collar Description: 6.75" NMDC (MWD Tool), Style: Slick Drill, Type: NM	DTI	DR41281	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		28.53	74.14
Drill Collar Description: 6.75" NMDC (Spacer), Style: Slick Drill, Type: NM	DTI	DR33220	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		29.37	103.51
Crossover Sub Description: X-Over (4 1/2 IF Pin x 4 1/2 XH Box), Type: Steel	DTI	DR5523	4 1/2" XH Box	4 1/2" IF Pin	2.813	6.750		3.05	106.56
Drill Collar Description: (18 Joints) 6.5" DC, Style: Slick Drill, Type: Steel	RIG	RIG	4 1/2" XH Box	4 1/2" XH Pin	2.875	6.500		531.96	638.52
Crossover Sub Description: X-Over (4 1/2 XH Pin x 4 1/2 IF Box), Type: Steel	DTI	DR19241	4 1/2" IF Box	4 1/2" XH Pin	2.813	6.750		2.65	641.17
HWDP Description: (30 Joints) 5" HWDP, Style: Slick			4 1/2" IF Box	4 1/2" IF Pin	3.000	5.000		914.14	1555.31

MWD Items

No Items

Directional Activities								
Activity Type	Code	Start Date	Start Time	End Time	End Date	Start (ft)	End (ft)	Comments/Details
Rotary Drill	1	09-11	23:55	00:00	09-12	5328.00	5344.00	Pressure On (psi): 3250.00, Pressure Off (psi): 2900.00, Weight On Bit (klbs): 35.00, Surface RPM: 40, Surface Torque (ft lbf): 6000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00
Rotary Drill	1	09-12	00:00	00:20	09-12	5344.00	5422.00	Pressure On (psi): 3250.00, Pressure Off (psi): 2900.00, Weight On Bit (klbs): 35.00, Surface RPM: 40, Surface Torque (ft lbf): 6000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00
Survey	46	09-12	00:20	00:25	09-12	5422.00	5422.00	Inclination (°): 2.550, Azimuth (°): 120.060, TVD (ft): 5356.16, Dogleg (°/100 ft): 0.04, Sensor Depth (ft): 5358.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-12	00:25	00:50	09-12	5422.00	5517.00	Pressure On (psi): 3250.00, Pressure Off (psi): 2900.00, Weight On Bit (klbs): 35.00, Surface RPM: 40, Surface Torque (ft lbf): 6000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00
Survey	46	09-12	00:50	00:55	09-12	5517.00	5517.00	Inclination (°): 2.590, Azimuth (°): 120.410, TVD (ft): 5451.06, Dogleg (°/100 ft): 0.05, Sensor Depth (ft): 5453.00, Bit To Sensor (ft): 64.00, Temperature (°F): 109.40
Rotary Drill	1	09-12	00:55	01:40	09-12	5517.00	5611.00	Pressure On (psi): 3250.00, Pressure Off (psi): 2900.00, Weight On Bit (klbs): 35.00, Surface RPM: 40, Surface Torque (ft lbf): 6000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00
Survey	46	09-12	01:40	01:45	09-12	5611.00	5611.00	Inclination (°): 2.290, Azimuth (°): 118.920, TVD (ft): 5544.98, Dogleg (°/100 ft): 0.33, Sensor Depth (ft): 5547.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-12	01:45	02:20	09-12	5611.00	5705.00	Pressure On (psi): 3600.00, Pressure Off (psi): 3100.00, Weight On Bit (klbs): 35.00, Surface RPM: 40, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00
Survey	46	09-12	02:20	02:25	09-12	5705.00	5705.00	Inclination (°): 2.110, Azimuth (°): 122.170, TVD (ft): 5638.91, Dogleg (°/100 ft): 0.23, Sensor Depth (ft): 5641.00, Bit To Sensor (ft): 64.00, Temperature (°F): 118.40
Rotary Drill	1	09-12	02:25	02:50	09-12	5705.00	5800.00	Pressure On (psi): 3600.00, Pressure Off (psi): 3100.00, Weight On Bit (klbs): 35.00, Surface RPM: 40, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00
Survey	46	09-12	02:50	02:55	09-12	5800.00	5800.00	Inclination (°): 1.800, Azimuth (°): 118.120, TVD (ft): 5733.85, Dogleg (°/100 ft): 0.36, Sensor Depth (ft): 5736.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-12	02:55	03:25	09-12	5800.00	5894.00	Pressure On (psi): 3600.00, Pressure Off (psi): 3100.00, Weight On Bit (klbs): 35.00, Surface RPM: 90, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00
Survey	46	09-12	03:25	03:30	09-12	5894.00	5894.00	Inclination (°): 1.930, Azimuth (°): 118.560, TVD (ft): 5827.80, Dogleg (°/100 ft): 0.14, Sensor Depth (ft): 5830.00, Bit To Sensor (ft): 64.00, Temperature (°F): 125.60
Rotary Drill	1	09-12	03:30	03:50	09-12	5894.00	5988.00	Pressure On (psi): 3400.00, Pressure Off (psi): 3100.00, Weight On Bit (klbs): 35.00, Surface RPM: 65, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00
Survey	46	09-12	03:50	03:55	09-12	5988.00	5988.00	Inclination (°): 1.630, Azimuth (°): 116.370, TVD (ft): 5921.76, Dogleg (°/100 ft): 0.33, Sensor Depth (ft): 5924.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-12	03:55	04:20	09-12	5988.00	6082.00	Pressure On (psi): 3400.00, Pressure Off (psi): 3100.00, Weight On Bit (klbs): 35.00, Surface RPM: 65, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00
Survey	46	09-12	04:20	04:25	09-12	6082.00	6082.00	Inclination (°): 1.890, Azimuth (°): 123.840, TVD (ft): 6015.71, Dogleg (°/100 ft): 0.37, Sensor Depth (ft): 6018.00, Bit To Sensor (ft): 64.00, Temperature (°F): 129.20
Rotary Drill	1	09-12	04:25	05:10	09-12	6082.00	6177.00	Pressure On (psi): 3400.00, Pressure Off (psi): 3100.00, Weight On Bit (klbs): 35.00, Surface RPM: 65, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00
Survey	46	09-12	05:10	05:15	09-12	6177.00	6177.00	Inclination (°): 1.670, Azimuth (°): 130.080, TVD (ft): 6110.67, Dogleg (°/100 ft): 0.31, Sensor Depth (ft): 6113.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-12	05:15	05:20	09-12	6177.00	6187.00	Pressure On (psi): 3400.00, Pressure Off (psi): 3100.00, Weight On Bit (klbs): 35.00, Surface RPM: 65, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00
Slide Drill	2	09-12	05:20	05:35	09-12	6187.00	6202.00	Pressure On (psi): 3200.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 20.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 216, Toolface: 65, Toolface Type: magnetic
Rotary Drill	1	09-12	05:35	06:00	09-12	6202.00	6271.00	Pressure On (psi): 3400.00, Pressure Off (psi): 3100.00, Weight On Bit (klbs): 32.00, Surface RPM: 65, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00
Survey	46	09-12	06:00	06:05	09-12	6271.00	6271.00	Inclination (°): 1.980, Azimuth (°): 87.890, TVD (ft): 6204.62, Dogleg (°/100 ft): 1.43, Sensor Depth (ft): 6207.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-12	06:05	06:35	09-12	6271.00	6365.00	Pressure On (psi): 3400.00, Pressure Off (psi): 3100.00, Weight On Bit (klbs): 32.00, Surface RPM: 65, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00
Survey	46	09-12	06:35	06:40	09-12	6365.00	6365.00	Inclination (°): 2.460, Azimuth (°): 84.550, TVD (ft): 6298.55, Dogleg (°/100 ft): 0.53, Sensor Depth (ft): 6301.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-12	06:40	06:45	09-12	6365.00	6375.00	Pressure On (psi): 3400.00, Pressure Off (psi): 3100.00, Weight On Bit (klbs): 32.00, Surface RPM: 65, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00
Slide Drill	2	09-12	06:45	06:55	09-12	6375.00	6390.00	Pressure On (psi): 3350.00, Pressure Off (psi): 3100.00, Weight On Bit (klbs): 18.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 216, Toolface: 120, Toolface Type: magnetic
Rotary Drill	1	09-12	06:55	07:15	09-12	6390.00	6459.00	Pressure On (psi): 3400.00, Pressure Off (psi): 3100.00, Weight On Bit (klbs): 38.00, Surface RPM: 65, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00
Survey	46	09-12	07:15	07:20	09-12	6459.00	6459.00	Inclination (°): 3.210, Azimuth (°): 103.530, TVD (ft): 6392.44, Dogleg (°/100 ft): 1.27, Sensor Depth (ft): 6395.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-12	07:20	07:25	09-12	6459.00	6469.00	Pressure On (psi): 3400.00, Pressure Off (psi): 3100.00, Weight On Bit (klbs): 40.00, Surface RPM: 65, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00

Slide Drill	2	09-12	07:25	07:40	09-12	6469.00	6478.00	Pressure On (psi): 3350.00, Pressure Off (psi): 3100.00, Weight On Bit (klbs): 18.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 216, Toolface: 100, Toolface Type: <i>magnetic</i>
Circulating	3	09-12	07:40	08:15	09-12			Circulate while trouble shooting Generator and mud pump power issue
Slide Drill	2	09-12	08:15	08:30	09-12	6478.00	6494.00	Pressure On (psi): 3350.00, Pressure Off (psi): 3100.00, Weight On Bit (klbs): 18.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 216, Toolface: 105, Toolface Type: <i>magnetic</i>
Rotary Drill	1	09-12	08:30	08:45	09-12	6494.00	6554.00	Pressure On (psi): 3400.00, Pressure Off (psi): 3100.00, Weight On Bit (klbs): 40.00, Surface RPM: 65, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00
Survey	46	09-12	08:45	08:50	09-12	6554.00	6554.00	Inclination (°): 4.130, Azimuth (°): 89.380, TVD (ft): 6487.24, Dogleg (°/100 ft): 1.35, Sensor Depth (ft): 6490.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-12	08:50	09:20	09-12	6554.00	6648.00	Pressure On (psi): 3400.00, Pressure Off (psi): 3100.00, Weight On Bit (klbs): 40.00, Surface RPM: 65, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00
Survey	46	09-12	09:20	09:25	09-12	6648.00	6648.00	Inclination (°): 4.660, Azimuth (°): 86.570, TVD (ft): 6580.97, Dogleg (°/100 ft): 0.61, Sensor Depth (ft): 6584.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-12	09:25	09:30	09-12	6648.00	6658.00	Pressure On (psi): 3400.00, Pressure Off (psi): 3100.00, Weight On Bit (klbs): 40.00, Surface RPM: 65, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00
Slide Drill	2	09-12	09:30	09:45	09-12	6658.00	6673.00	Pressure On (psi): 3350.00, Pressure Off (psi): 3100.00, Weight On Bit (klbs): 18.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 216, Toolface: 120, Toolface Type: <i>magnetic</i>
Rotary Drill	1	09-12	09:45	10:10	09-12	6673.00	6742.00	Pressure On (psi): 3400.00, Pressure Off (psi): 3100.00, Weight On Bit (klbs): 40.00, Surface RPM: 65, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00
Survey	46	09-12	10:10	10:15	09-12	6742.00	6742.00	Inclination (°): 5.540, Azimuth (°): 93.340, TVD (ft): 6674.59, Dogleg (°/100 ft): 1.13, Sensor Depth (ft): 6678.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-12	10:15	10:35	09-12	6742.00	6837.00	Pressure On (psi): 3500.00, Pressure Off (psi): 3100.00, Weight On Bit (klbs): 44.00, Surface RPM: 65, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00
Survey	46	09-12	10:35	10:40	09-12	6837.00	6837.00	Inclination (°): 5.710, Azimuth (°): 93.950, TVD (ft): 6769.14, Dogleg (°/100 ft): 0.19, Sensor Depth (ft): 6773.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-12	10:40	11:00	09-12	6837.00	6931.00	Pressure On (psi): 3500.00, Pressure Off (psi): 3100.00, Weight On Bit (klbs): 44.00, Surface RPM: 65, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00
Other	16	09-12	11:00	11:25	09-12			Trouble shoot rig black out
Survey	46	09-12	11:25	11:30	09-12	6931.00	6931.00	Inclination (°): 5.490, Azimuth (°): 91.230, TVD (ft): 6862.69, Dogleg (°/100 ft): 0.37, Sensor Depth (ft): 6867.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-12	11:30	12:25	09-12	6931.00	7026.00	Pressure On (psi): 3500.00, Pressure Off (psi): 3100.00, Weight On Bit (klbs): 44.00, Surface RPM: 65, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00
Survey	46	09-12	12:25	12:30	09-12	7026.00	7026.00	Inclination (°): 5.190, Azimuth (°): 90.970, TVD (ft): 6957.28, Dogleg (°/100 ft): 0.32, Sensor Depth (ft): 6962.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-12	12:30	12:35	09-12	7026.00	7036.00	Pressure On (psi): 3500.00, Pressure Off (psi): 3100.00, Weight On Bit (klbs): 44.00, Surface RPM: 65, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00
Slide Drill	2	09-12	12:35	12:50	09-12	7036.00	7051.00	Pressure On (psi): 3350.00, Pressure Off (psi): 3100.00, Weight On Bit (klbs): 18.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 216, Toolface: 120, Toolface Type: <i>magnetic</i>
Rotary Drill	1	09-12	12:50	13:10	09-12	7051.00	7120.00	Pressure On (psi): 3500.00, Pressure Off (psi): 3100.00, Weight On Bit (klbs): 44.00, Surface RPM: 65, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00
Survey	46	09-12	13:10	13:15	09-12	7120.00	7120.00	Inclination (°): 6.420, Azimuth (°): 101.690, TVD (ft): 7050.79, Dogleg (°/100 ft): 1.74, Sensor Depth (ft): 7056.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-12	13:15	13:40	09-12	7120.00	7214.00	Pressure On (psi): 3500.00, Pressure Off (psi): 3100.00, Weight On Bit (klbs): 44.00, Surface RPM: 65, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00
Survey	46	09-12	13:40	13:45	09-12	7214.00	7214.00	Inclination (°): 6.590, Azimuth (°): 103.360, TVD (ft): 7144.19, Dogleg (°/100 ft): 0.27, Sensor Depth (ft): 7150.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-12	13:45	14:10	09-12	7214.00	7309.00	Pressure On (psi): 3500.00, Pressure Off (psi): 3100.00, Weight On Bit (klbs): 44.00, Surface RPM: 65, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00
Survey	46	09-12	14:10	14:15	09-12	7309.00	7309.00	Inclination (°): 5.670, Azimuth (°): 103.970, TVD (ft): 7238.65, Dogleg (°/100 ft): 0.97, Sensor Depth (ft): 7245.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-12	14:15	15:00	09-12	7309.00	7404.00	Pressure On (psi): 3800.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Surface RPM: 65, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 216.00
Survey	46	09-12	15:00	15:05	09-12	7404.00	7404.00	Inclination (°): 5.670, Azimuth (°): 104.680, TVD (ft): 7333.18, Dogleg (°/100 ft): 0.07, Sensor Depth (ft): 7340.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-12	15:05	15:50	09-12	7404.00	7498.00	Pressure On (psi): 3800.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Surface RPM: 65, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 216.00
Survey	46	09-12	15:50	15:55	09-12	7498.00	7498.00	Inclination (°): 5.320, Azimuth (°): 106.610, TVD (ft): 7426.75, Dogleg (°/100 ft): 0.42, Sensor Depth (ft): 7434.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-12	15:55	16:10	09-12	7498.00	7593.00	Pressure On (psi): 3800.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Surface RPM: 65, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 216.00
Survey	46	09-12	16:10	16:15	09-12	7593.00	7593.00	Inclination (°): 5.490, Azimuth (°): 108.540, TVD (ft): 7521.33, Dogleg (°/100 ft): 0.26, Sensor Depth (ft): 7529.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-12	16:15	16:45	09-12	7593.00	7687.00	Pressure On (psi): 3800.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Surface RPM: 65, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 216.00
Survey	46	09-12	16:45	16:50	09-12	7687.00	7687.00	Inclination (°): 4.920, Azimuth (°): 110.130, TVD (ft): 7614.94, Dogleg (°/100 ft): 0.63, Sensor Depth (ft): 7623.00, Bit To Sensor (ft): 64.00

Rotary Drill	1	09-12	16:50	17:10	09-12	7687.00	7782.00	Pressure On (psi): 3800.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Surface RPM: 65, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 216.00
Survey	46	09-12	17:10	17:15	09-12	7782.00	7782.00	Inclination (°): 4.840, Azimuth (°): 110.830, TVD (ft): 7709.59, Dogleg (°/100 ft): 0.10, Sensor Depth (ft): 7718.00, Bit To Sensor (ft): 64.00, Temperature (°F): 149.00
Rotary Drill	1	09-12	17:15	17:40	09-12	7782.00	7876.00	Pressure On (psi): 3800.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Surface RPM: 65, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 216.00
Survey	46	09-12	17:40	17:45	09-12	7876.00	7876.00	Inclination (°): 4.350, Azimuth (°): 111.620, TVD (ft): 7803.29, Dogleg (°/100 ft): 0.53, Sensor Depth (ft): 7812.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-12	17:45	17:50	09-12	7876.00	7886.00	Pressure On (psi): 3800.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Surface RPM: 65, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 216.00
Slide Drill	2	09-12	17:50	18:10	09-12	7886.00	7906.00	Toolface: 80, Toolface Type: magnetic
Rotary Drill	1	09-12	18:10	18:35	09-12	7906.00	7971.00	Pressure On (psi): 4000.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 231.00
Survey	46	09-12	18:35	18:40	09-12	7971.00	7971.00	Inclination (°): 5.320, Azimuth (°): 104.410, TVD (ft): 7897.95, Dogleg (°/100 ft): 1.20, Sensor Depth (ft): 7907.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-12	18:40	19:10	09-12	7971.00	8065.00	Pressure On (psi): 4000.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 231.00
Survey	46	09-12	19:10	19:15	09-12	8065.00	8065.00	Inclination (°): 5.710, Azimuth (°): 105.120, TVD (ft): 7991.52, Dogleg (°/100 ft): 0.42, Sensor Depth (ft): 8001.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-12	19:15	19:40	09-12	8065.00	8159.00	Pressure On (psi): 4000.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 231.00
Survey	46	09-12	19:40	19:45	09-12	8159.00	8159.00	Inclination (°): 5.140, Azimuth (°): 106.520, TVD (ft): 8085.10, Dogleg (°/100 ft): 0.62, Sensor Depth (ft): 8095.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-12	19:45	19:50	09-12	8159.00	8169.00	Pressure On (psi): 4000.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 231.00
Slide Drill	2	09-12	19:50	20:05	09-12	8169.00	8184.00	Pressure On (psi): 3900.00, Pressure Off (psi): 3750.00, Weight On Bit (klbs): 25.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 231, Toolface: 40, Toolface Type: magnetic
Rotary Drill	1	09-12	20:05	20:35	09-12	8184.00	8253.00	Pressure On (psi): 4000.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 231.00
Survey	46	09-12	20:35	20:40	09-12	8253.00	8253.00	Inclination (°): 5.490, Azimuth (°): 92.640, TVD (ft): 8178.70, Dogleg (°/100 ft): 1.41, Sensor Depth (ft): 8189.00, Bit To Sensor (ft): 64.00, Temperature (°F): 152.00
Rotary Drill	1	09-12	20:40	21:05	09-12	8253.00	8347.00	Pressure On (psi): 4000.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 231.00
Survey	46	09-12	21:05	21:10	09-12	8347.00	8347.00	Inclination (°): 5.270, Azimuth (°): 91.320, TVD (ft): 8272.28, Dogleg (°/100 ft): 0.27, Sensor Depth (ft): 8283.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-12	21:10	21:25	09-12	8347.00	8442.00	Pressure On (psi): 4000.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 231.00
Survey	46	09-12	21:25	21:30	09-12	8442.00	8442.00	Inclination (°): 4.840, Azimuth (°): 91.760, TVD (ft): 8366.91, Dogleg (°/100 ft): 0.45, Sensor Depth (ft): 8378.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-12	21:30	22:00	09-12	8442.00	8536.00	Pressure On (psi): 4000.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 231.00
Survey	46	09-12	22:00	22:05	09-12	8536.00	8536.00	Inclination (°): 4.440, Azimuth (°): 91.930, TVD (ft): 8460.60, Dogleg (°/100 ft): 0.43, Sensor Depth (ft): 8472.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-12	22:05	22:40	09-12	8536.00	8630.00	Pressure On (psi): 4000.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 231.00
Survey	46	09-12	22:40	22:45	09-12	8630.00	8630.00	Inclination (°): 4.040, Azimuth (°): 91.410, TVD (ft): 8554.35, Dogleg (°/100 ft): 0.43, Sensor Depth (ft): 8566.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-12	22:45	22:50	09-12	8630.00	8640.00	Pressure On (psi): 4000.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 231.00
Slide Drill	2	09-12	22:50	23:30	09-12	8640.00	8660.00	Pressure On (psi): 3900.00, Pressure Off (psi): 3750.00, Weight On Bit (klbs): 25.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 231, Toolface: 80, Toolface Type: magnetic
Rotary Drill	1	09-12	23:30	00:00	09-13	8660.00	8724.00	Pressure On (psi): 4000.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 231.00

MWD Activities

No Activities



Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Friday, Sep 13 00:00 - 23:59 (Day 17 of 72)

Billing: \$8,200.00 (\$226,501.01 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	8724.00	Downhole Hours	24.00	Rotating WOB (klbs)	45.00 - 45.00
Bit Depth (ft)	10706.00	Drilling Hours	21.08	Sliding WOB (klbs)	20.00 - 25.00
Bottom Hole Depth (ft)	10706.00	Hours Circulating	0.00	Rotating SPM	228.00 - 231.00
Total Distance (ft)	1982.00	Hours Sliding	3.75	Sliding SPM	230.00 - 231.00
Distance Rotated (ft)	1857.00	Hours Rotating	17.33	Motor RPM	130.00 - 195.00
Distance Slid (ft)	125.00			Surface RPM	30.00 - 30.00
Inclination In	4.40			Flow Rate (gpm)	733.00 - 750.00
Inclination Out	2.20			On Bottom Pressure (psi)	3700.00 - 4000.00
Azimuth In	88.59	% Hours Rotating	82%	Off Bottom Pressure (psi)	3400.00 - 3750.00
Azimuth Out	113.20	% Hours Sliding	18%		
AVG Total ROP (ft/h)	94.41	% Distance Sliding	6%		
AVG Rotating ROP (ft/h)	106.52	% Distance Rotating	94%		
AVG Sliding ROP (ft/h)	33.33				

Personnel

Name	Position
Kyle Kusak	MWD Engineer
Shawn Flores	MWD Engineer
Dustin Stringfellow	Directional Driller
Joel Johnson	Directional Driller
Orey Meredith	Directional Driller
Omar Alaniz	Directional Driller

BHA #3 - BHA #3 8.5" Intermediate

Date In: Sep 11, 2019, 18:10 Date Out: Sep 14, 2019, 11:50

Bit Details		Motor Details		Directional Comments
OD (in)	8.500	Size (in)	7.0	Contender: 1.50 FBH 7/8 8.5 Stg Mtr, Rev/Gal: 0.26, Flow Range: 400-750, Max Diff: 1910 psi, Max Operating Torque: 18,710 ft/lbs, Protracted Angle: 1.55 / Bit; Halliburton 8.5" Type: MM65DRM, SN:,13266539 TFA: .663, Jets: 6 x 12s, Bit Runs: 1
Vendor	Halliburton	Lobe/Stage	7/8, 8.5	
S/N	13266539	Bend Angle	1.5	
Nozzles	6 x 12	Speed (rev/gal)	0.26	MWD Comments
Total Flow Area (in²)	0.663	Wear Pad OD (in)	7.250	POOH Reason Total Depth/Casing Point: Well TD @ 11113
Drilling Hours for Day	21.08	Bit Distances		
Total Drilled for Day (ft)	1982.00	Survey (Bit to Say): 64.00 ft,		
Drilling Hours for BHA	46.33	Gamma (Gamma): 54.00 ft		
Total Drilled for BHA (ft)	5855.00			

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: MM65DRM, Style: PDC, Gauge Length (in): 3.00, Size (in): 8.50	Halliburton	13266539	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 1.5 FBH 7/8 8.5 Stg Mtr w/ 8.25" NB Stabilizer, Size (in): 7.00, Bend Angle (°): 1.5, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5	Contender	700-40-035	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.19	37.19
Stabilizer Description: 8.25" STAB	Gator	GT67271	4 1/2" IF Box	4 1/2" IF Pin	2.750	6.750		4.91	42.10
UBHO Sub Description: UBHO Sub, Type: NM	AIM	6751558	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		3.51	45.61
Drill Collar Description: 6.75" NMDC (MWD Tool), Style: Slick Drill, Type: NM	DTI	DR41281	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		28.53	74.14
Drill Collar Description: 6.75" NMDC (Spacer), Style: Slick Drill, Type: NM	DTI	DR33220	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		29.37	103.51
Crossover Sub Description: X-Over (4 1/2 IF Pin x 4 1/2 XH Box), Type: Steel	DTI	DR5523	4 1/2" XH Box	4 1/2" IF Pin	2.813	6.750		3.05	106.56
Drill Collar Description: (18 Joints) 6.5" DC, Style: Slick Drill, Type: Steel	RIG	RIG	4 1/2" XH Box	4 1/2" XH Pin	2.875	6.500		531.96	638.52
Crossover Sub Description: X-Over (4 1/2 XH Pin x 4 1/2 IF Box), Type: Steel	DTI	DR19241	4 1/2" IF Box	4 1/2" XH Pin	2.813	6.750		2.65	641.17
HWDP Description: (30 Joints) 5" HWDP, Style: Slick			4 1/2" IF Box	4 1/2" IF Pin	3.000	5.000		914.14	1555.31

MWD Items

No Items

Directional Activities								
Activity Type	Code	Start Date	Start Time	End Time	End Date	Start (ft)	End (ft)	Comments/Details
Rotary Drill	1	09-12	23:30	00:00	09-13	8660.00	8724.00	Pressure On (psi): 4000.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 231.00
Survey	46	09-13	00:00	00:05	09-13	8724.00	8724.00	Inclination (°): 4.400, Azimuth (°): 88.590, TVD (ft): 8648.09, Dogleg (°/100 ft): 0.44, Sensor Depth (ft): 8660.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-13	00:05	01:05	09-13	8724.00	8818.00	Pressure On (psi): 4000.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 231.00
Survey	46	09-13	01:05	01:10	09-13	8818.00	8818.00	Inclination (°): 4.180, Azimuth (°): 90.790, TVD (ft): 8741.83, Dogleg (°/100 ft): 0.29, Sensor Depth (ft): 8754.00, Bit To Sensor (ft): 64.00, Temperature (°F): 156.00
Rotary Drill	1	09-13	01:10	01:20	09-13	8818.00	8828.00	Pressure On (psi): 4000.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 231.00
Slide Drill	2	09-13	01:20	02:05	09-13	8828.00	8853.00	Pressure On (psi): 3900.00, Pressure Off (psi): 3750.00, Weight On Bit (klbs): 25.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 231, Toolface: 85, Toolface Type: magnetic
Rotary Drill	1	09-13	02:05	02:45	09-13	8853.00	8913.00	Pressure On (psi): 4000.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 231.00
Survey	46	09-13	02:45	02:50	09-13	8913.00	8913.00	Inclination (°): 5.100, Azimuth (°): 87.280, TVD (ft): 8836.52, Dogleg (°/100 ft): 1.01, Sensor Depth (ft): 8849.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-13	02:50	03:25	09-13	8913.00	9007.00	Pressure On (psi): 4000.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 231.00
Survey	46	09-13	03:25	03:30	09-13	9007.00	9007.00	Inclination (°): 4.480, Azimuth (°): 81.120, TVD (ft): 8930.19, Dogleg (°/100 ft): 0.86, Sensor Depth (ft): 8943.00, Bit To Sensor (ft): 64.00, Temperature (°F): 156.00
Rotary Drill	1	09-13	03:30	03:45	09-13	9007.00	9017.00	Pressure On (psi): 4000.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 231.00
Slide Drill	2	09-13	03:45	04:30	09-13	9017.00	9047.00	Pressure On (psi): 3900.00, Pressure Off (psi): 3750.00, Weight On Bit (klbs): 25.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 231, Toolface: 95, Toolface Type: magnetic
Rotary Drill	1	09-13	04:30	05:10	09-13	9047.00	9101.00	Pressure On (psi): 4000.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 231.00
Survey	46	09-13	05:10	05:15	09-13	9101.00	9101.00	Inclination (°): 5.140, Azimuth (°): 83.230, TVD (ft): 9023.86, Dogleg (°/100 ft): 0.73, Sensor Depth (ft): 9037.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-13	05:15	06:15	09-13	9101.00	9196.00	Pressure On (psi): 4000.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 231.00
Survey	46	09-13	06:15	06:20	09-13	9196.00	9196.00	Inclination (°): 4.880, Azimuth (°): 82.440, TVD (ft): 9118.49, Dogleg (°/100 ft): 0.28, Sensor Depth (ft): 9132.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-13	06:20	06:30	09-13	9196.00	9206.00	Pressure On (psi): 4000.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 231.00
Slide Drill	2	09-13	06:30	07:10	09-13	9206.00	9236.00	Pressure On (psi): 3900.00, Pressure Off (psi): 3750.00, Weight On Bit (klbs): 25.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 231, Toolface: 125, Toolface Type: magnetic
Rotary Drill	1	09-13	07:10	07:40	09-13	9236.00	9290.00	Pressure On (psi): 4000.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 231.00
Survey	46	09-13	07:40	07:50	09-13	9290.00	9290.00	Inclination (°): 6.810, Azimuth (°): 95.450, TVD (ft): 9212.00, Dogleg (°/100 ft): 2.48, Sensor Depth (ft): 9226.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-13	07:50	08:25	09-13	9290.00	9385.00	Pressure On (psi): 4000.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 231.00
Survey	46	09-13	08:25	08:30	09-13	9385.00	9385.00	Inclination (°): 5.850, Azimuth (°): 102.830, TVD (ft): 9306.43, Dogleg (°/100 ft): 1.32, Sensor Depth (ft): 9321.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-13	08:30	09:05	09-13	9385.00	9479.00	Pressure On (psi): 4000.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 231.00
Survey	46	09-13	09:05	09:10	09-13	9479.00	9479.00	Inclination (°): 5.320, Azimuth (°): 105.820, TVD (ft): 9399.98, Dogleg (°/100 ft): 0.64, Sensor Depth (ft): 9415.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-13	09:10	09:50	09-13	9479.00	9573.00	Pressure On (psi): 4000.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 231.00
Survey	46	09-13	09:50	09:55	09-13	9573.00	9573.00	Inclination (°): 4.040, Azimuth (°): 106.960, TVD (ft): 9493.66, Dogleg (°/100 ft): 1.37, Sensor Depth (ft): 9509.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-13	09:55	10:40	09-13	9573.00	9668.00	Pressure On (psi): 4000.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 231.00
Rig Service - In Hole	19	09-13	10:40	10:55	09-13			
Survey	46	09-13	10:55	11:00	09-13	9668.00	9668.00	Inclination (°): 3.340, Azimuth (°): 114.430, TVD (ft): 9588.47, Dogleg (°/100 ft): 0.89, Sensor Depth (ft): 9604.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-13	11:00	11:25	09-13	9668.00	9762.00	Pressure On (psi): 4000.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 231.00
Survey	46	09-13	11:25	11:30	09-13	9762.00	9762.00	Inclination (°): 3.210, Azimuth (°): 117.600, TVD (ft): 9682.31, Dogleg (°/100 ft): 0.24, Sensor Depth (ft): 9698.00, Bit To Sensor (ft): 64.00

Rotary Drill	1	09-13	11:30	12:05	09-13	9762.00	9857.00	Pressure On (psi): 4000.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 231.00
Survey	46	09-13	12:05	12:10	09-13	9857.00	9857.00	Inclination (°): 2.590, Azimuth (°): 127.350, TVD (ft): 9777.19, Dogleg (°/100 ft): 0.83, Sensor Depth (ft): 9793.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-13	12:10	12:15	09-13	9857.00	9867.00	Pressure On (psi): 4000.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 231.00
Slide Drill	2	09-13	12:15	12:45	09-13	9867.00	9887.00	Pressure On (psi): 3700.00, Pressure Off (psi): 3400.00, Weight On Bit (klbs): 20.00, Flow Rate (gpm): 733.00, Strokes Per Minute: 230, Toolface: 55, Toolface Type: magnetic
Rotary Drill	1	09-13	12:45	13:30	09-13	9887.00	9951.00	Pressure On (psi): 4000.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 231.00
Survey	46	09-13	13:30	13:35	09-13	9951.00	9951.00	Inclination (°): 2.860, Azimuth (°): 97.380, TVD (ft): 9871.09, Dogleg (°/100 ft): 1.52, Sensor Depth (ft): 9887.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-13	13:35	14:30	09-13	9951.00	10045.00	Pressure On (psi): 3800.00, Pressure Off (psi): 3400.00, Weight On Bit (klbs): 45.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 735.00, Strokes Per Minute: 228.00
Survey	46	09-13	14:30	14:35	09-13	10045.00	10045.00	Inclination (°): 2.900, Azimuth (°): 95.010, TVD (ft): 9964.97, Dogleg (°/100 ft): 0.13, Sensor Depth (ft): 9981.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-13	14:35	15:30	09-13	10045.00	10140.00	Pressure On (psi): 3800.00, Pressure Off (psi): 3400.00, Weight On Bit (klbs): 45.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 735.00, Strokes Per Minute: 228.00
Survey	46	09-13	15:30	15:35	09-13	10140.00	10140.00	Inclination (°): 2.640, Azimuth (°): 100.810, TVD (ft): 10059.86, Dogleg (°/100 ft): 0.40, Sensor Depth (ft): 10076.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-13	15:35	16:15	09-13	10140.00	10198.00	Pressure On (psi): 3800.00, Pressure Off (psi): 3400.00, Weight On Bit (klbs): 45.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 735.00, Strokes Per Minute: 228.00
Rig Repair	14	09-13	16:15	16:35	09-13			Trouble shoot rig shut down on bottom
Rotary Drill	1	09-13	16:35	17:15	09-13	10198.00	10234.00	Pressure On (psi): 3800.00, Pressure Off (psi): 3400.00, Weight On Bit (klbs): 45.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 735.00, Strokes Per Minute: 228.00
Survey	46	09-13	17:15	17:20	09-13	10234.00	10234.00	Inclination (°): 2.420, Azimuth (°): 96.590, TVD (ft): 10153.77, Dogleg (°/100 ft): 0.31, Sensor Depth (ft): 10170.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-13	17:20	18:25	09-13	10234.00	10328.00	Pressure On (psi): 3800.00, Pressure Off (psi): 3400.00, Weight On Bit (klbs): 45.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 735.00, Strokes Per Minute: 228.00
Survey	46	09-13	18:25	18:35	09-13	10328.00	10328.00	Inclination (°): 2.070, Azimuth (°): 112.060, TVD (ft): 10247.70, Dogleg (°/100 ft): 0.74, Sensor Depth (ft): 10264.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-13	18:35	19:40	09-13	10328.00	10423.00	Pressure On (psi): 3800.00, Pressure Off (psi): 3400.00, Weight On Bit (klbs): 45.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 735.00, Strokes Per Minute: 228.00
Survey	46	09-13	19:40	19:45	09-13	10423.00	10423.00	Inclination (°): 1.630, Azimuth (°): 113.730, TVD (ft): 10342.65, Dogleg (°/100 ft): 0.47, Sensor Depth (ft): 10359.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-13	19:45	20:35	09-13	10423.00	10517.00	Pressure On (psi): 3800.00, Pressure Off (psi): 3400.00, Weight On Bit (klbs): 45.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 735.00, Strokes Per Minute: 228.00
Survey	46	09-13	20:35	20:40	09-13	10517.00	10517.00	Inclination (°): 0.750, Azimuth (°): 125.330, TVD (ft): 10436.63, Dogleg (°/100 ft): 0.97, Sensor Depth (ft): 10453.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-13	20:40	20:50	09-13	10517.00	10527.00	Pressure On (psi): 3800.00, Pressure Off (psi): 3400.00, Weight On Bit (klbs): 45.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 735.00, Strokes Per Minute: 228.00
Slide Drill	2	09-13	20:50	21:55	09-13	10527.00	10547.00	Toolface: 96, Toolface Type: magnetic
Rotary Drill	1	09-13	21:55	22:30	09-13	10547.00	10611.00	Pressure On (psi): 3800.00, Pressure Off (psi): 3400.00, Weight On Bit (klbs): 45.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 735.00, Strokes Per Minute: 228.00
Survey	46	09-13	22:30	22:35	09-13	10611.00	10611.00	Inclination (°): 1.760, Azimuth (°): 110.130, TVD (ft): 10530.60, Dogleg (°/100 ft): 1.12, Sensor Depth (ft): 10547.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-13	22:35	23:35	09-13	10611.00	10706.00	Pressure On (psi): 3800.00, Pressure Off (psi): 3400.00, Weight On Bit (klbs): 45.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 735.00, Strokes Per Minute: 228.00
Survey	46	09-13	23:35	23:40	09-13	10706.00	10706.00	Inclination (°): 2.200, Azimuth (°): 113.200, TVD (ft): 10625.55, Dogleg (°/100 ft): 0.48, Sensor Depth (ft): 10642.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	09-13	23:40	00:45	09-14	10706.00	10800.00	Pressure On (psi): 3800.00, Pressure Off (psi): 3400.00, Weight On Bit (klbs): 45.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 735.00, Strokes Per Minute: 228.00

MWD Activities

No Activities



Job Number WT-19-125	Operator Advance Energy Partners	Rig Name H&P #620
Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H	Legal Well Name AFE Wool Head 20 State Com 606H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Saturday, Sep 14 00:00 - 23:59 (Day 18 of 72)

Billing: \$8,200.00 (\$226,501.01 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	10706.00	Downhole Hours	11.83	Rotating WOB (klbs)	45.00 - 45.00
Bit Depth (ft)	11113.00	Drilling Hours	4.50	Sliding WOB (klbs)	30.00 - 30.00
Bottom Hole Depth (ft)	11113.00	Hours Circulating	1.83	Rotating SPM	228.00 - 228.00
Total Distance (ft)	407.00	Hours Sliding	0.83	Sliding SPM	232.00 - 232.00
Distance Rotated (ft)	389.00	Hours Rotating	3.67	Motor RPM	130.00 - 195.00
Distance Slid (ft)	18.00			Surface RPM	30.00 - 30.00
Inclination In	1.89			Flow Rate (gpm)	735.00 - 751.00
Inclination Out	2.33			On Bottom Pressure (psi)	3800.00 - 3800.00
Azimuth In	124.54	% Hours Rotating	81%	Off Bottom Pressure (psi)	3400.00 - 3600.00
Azimuth Out	142.12	% Hours Sliding	19%		
AVG Total ROP (ft/h)	90.44	% Distance Sliding	4%		
AVG Rotating ROP (ft/h)	106.09	% Distance Rotating	96%		
AVG Sliding ROP (ft/h)	21.60				

Personnel

Name	Position
Kyle Kusak	MWD Engineer
Shawn Flores	MWD Engineer
Dustin Stringfellow	Directional Driller
Joel Johnson	Directional Driller
Orey Meredith	Directional Driller
Omar Alaniz	Directional Driller

BHA #3 - BHA #3 8.5" Intermediate

Date In: Sep 11, 2019, 18:10 Date Out: Sep 14, 2019, 11:50

Bit Details		Motor Details		Directional Comments
OD (in)	8.500	Size (in)	7.0	Contender: 1.50 FBH 7/8 8.5 Stg Mtr, Rev/Gal: 0..26, Flow Range: 400-750, Max Diff: 1910 psi, Max Operating Torque: 18,710 ft/lbs, Protracted Angle: 1.55 / Bit; Halliburton 8.5" " Type: MM65DRM , SN:,13266539 TFA: .663 , Jets: 6 x 12s, Bit Runs: 1
Vendor	Halliburton	Lobe/Stage	7/8, 8.5	
S/N	13266539	Bend Angle	1.5	
Nozzles	6 x 12	Speed (rev/gal)	0.26	MWD Comments
Total Flow Area (in²)	0.663	Wear Pad OD (in)	7.250	POOH Reason
Drilling Hours for Day	4.50	Bit Distances		
Total Drilled for Day (ft)	407.00	Survey (Bit to Say): 64.00 ft,		
Drilling Hours for BHA	46.33	Gamma (Gamma): 54.00 ft		
Total Drilled for BHA (ft)	5855.00	Total Depth/Casing Point: Well TD @ 11113		

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: MM65DRM, Style: PDC, Gauge Length (in): 3.00, Size (in): 8.50	Halliburton	13266539	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 1.5 FBH 7/8 8.5 Stg Mtr w/ 8.25" NB Stabilizer, Size (in): 7.00, Bend Angle (°): 1.5, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5	Contender	700-40-035	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.19	37.19
Stabilizer Description: 8.25" STAB	Gator	GT67271	4 1/2" IF Box	4 1/2" IF Pin	2.750	6.750		4.91	42.10
UBHO Sub Description: UBHO Sub, Type: NM	AIM	6751558	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		3.51	45.61
Drill Collar Description: 6.75" NMDC (MWD Tool), Style: Slick Drill, Type: NM	DTI	DR41281	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		28.53	74.14
Drill Collar Description: 6.75" NMDC (Spacer), Style: Slick Drill, Type: NM	DTI	DR33220	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		29.37	103.51
Crossover Sub Description: X-Over (4 1/2 IF Pin x 4 1/2 XH Box), Type: Steel	DTI	DR5523	4 1/2" XH Box	4 1/2" IF Pin	2.813	6.750		3.05	106.56
Drill Collar Description: (18 Joints) 6.5" DC, Style: Slick Drill, Type: Steel	RIG	RIG	4 1/2" XH Box	4 1/2" XH Pin	2.875	6.500		531.96	638.52
Crossover Sub Description: X-Over (4 1/2 XH Pin x 4 1/2 IF Box), Type: Steel	DTI	DR19241	4 1/2" IF Box	4 1/2" XH Pin	2.813	6.750		2.65	641.17
HWDP Description: (30 Joints) 5" HWDP, Style: Slick			4 1/2" IF Box	4 1/2" IF Pin	3.000	5.000		914.14	1555.31

MWD Items

No Items

Directional Activities

Activity Type	Code	Start Date	Start Time	End Time	End Date	Start (ft)	End (ft)	Comments/Details
Rotary Drill	1	09-13	23:40	00:45	09-14	10706.00	10800.00	Pressure On (psi): <i>3800.00</i> , Pressure Off (psi): <i>3400.00</i> , Weight On Bit (klbs): <i>45.00</i> , Surface RPM: <i>30</i> , Surface Torque (ft lbf): <i>11000.00</i> , Flow Rate (gpm): <i>735.00</i> , Strokes Per Minute: <i>228.00</i>
Survey	46	09-14	00:45	00:50	09-14	10800.00	10800.00	Inclination (°): <i>1.890</i> , Azimuth (°): <i>124.540</i> , TVD (ft): <i>10719.49</i> , Dogleg (°/100 ft): <i>0.54</i> , Sensor Depth (ft): <i>10736.00</i> , Bit To Sensor (ft): <i>64.00</i>
Rotary Drill	1	09-14	00:50	01:00	09-14	10800.00	10810.00	Pressure On (psi): <i>3800.00</i> , Pressure Off (psi): <i>3400.00</i> , Weight On Bit (klbs): <i>45.00</i> , Surface RPM: <i>30</i> , Surface Torque (ft lbf): <i>11000.00</i> , Flow Rate (gpm): <i>735.00</i> , Strokes Per Minute: <i>228.00</i>
Slide Drill	2	09-14	01:00	01:50	09-14	10810.00	10828.00	Pressure On (psi): <i>3800.00</i> , Pressure Off (psi): <i>3600.00</i> , Weight On Bit (klbs): <i>30.00</i> , Flow Rate (gpm): <i>751.00</i> , Strokes Per Minute: <i>232</i> , Toolface: <i>0</i> , Toolface Type: <i>magnetic</i>
Rotary Drill	1	09-14	01:50	02:35	09-14	10828.00	10894.00	Pressure On (psi): <i>3800.00</i> , Pressure Off (psi): <i>3400.00</i> , Weight On Bit (klbs): <i>45.00</i> , Surface RPM: <i>30</i> , Surface Torque (ft lbf): <i>11000.00</i> , Flow Rate (gpm): <i>735.00</i> , Strokes Per Minute: <i>228.00</i>
Survey	46	09-14	02:35	02:40	09-14	10894.00	10894.00	Inclination (°): <i>1.270</i> , Azimuth (°): <i>117.250</i> , TVD (ft): <i>10813.45</i> , Dogleg (°/100 ft): <i>0.69</i> , Sensor Depth (ft): <i>10830.00</i> , Bit To Sensor (ft): <i>64.00</i>
Rotary Drill	1	09-14	02:40	03:25	09-14	10894.00	10989.00	Pressure On (psi): <i>3800.00</i> , Pressure Off (psi): <i>3400.00</i> , Weight On Bit (klbs): <i>45.00</i> , Surface RPM: <i>30</i> , Surface Torque (ft lbf): <i>11000.00</i> , Flow Rate (gpm): <i>735.00</i> , Strokes Per Minute: <i>228.00</i>
Survey	46	09-14	03:25	03:30	09-14	10989.00	10989.00	Inclination (°): <i>2.240</i> , Azimuth (°): <i>118.040</i> , TVD (ft): <i>10908.41</i> , Dogleg (°/100 ft): <i>1.02</i> , Sensor Depth (ft): <i>10925.00</i> , Bit To Sensor (ft): <i>64.00</i>
Rotary Drill	1	09-14	03:30	04:10	09-14	10989.00	11083.00	Pressure On (psi): <i>3800.00</i> , Pressure Off (psi): <i>3400.00</i> , Weight On Bit (klbs): <i>45.00</i> , Surface RPM: <i>30</i> , Surface Torque (ft lbf): <i>11000.00</i> , Flow Rate (gpm): <i>735.00</i> , Strokes Per Minute: <i>228.00</i>
Survey	46	09-14	04:10	04:15	09-14	11083.00	11083.00	Inclination (°): <i>2.150</i> , Azimuth (°): <i>138.080</i> , TVD (ft): <i>11002.34</i> , Dogleg (°/100 ft): <i>0.82</i> , Sensor Depth (ft): <i>11019.00</i> , Bit To Sensor (ft): <i>64.00</i>
Rotary Drill	1	09-14	04:15	04:30	09-14	11083.00	11113.00	Pressure On (psi): <i>3800.00</i> , Pressure Off (psi): <i>3400.00</i> , Weight On Bit (klbs): <i>45.00</i> , Surface RPM: <i>30</i> , Surface Torque (ft lbf): <i>11000.00</i> , Flow Rate (gpm): <i>735.00</i> , Strokes Per Minute: <i>228.00</i>
Survey	46	09-14	04:30	04:35	09-14	11113.00	11113.00	Inclination (°): <i>2.330</i> , Azimuth (°): <i>142.120</i> , TVD (ft): <i>11032.31</i> , Dogleg (°/100 ft): <i>0.80</i> , Sensor Depth (ft): <i>11049.00</i> , Bit To Sensor (ft): <i>64.00</i>
Circulating	3	09-14	04:35	06:25	09-14			Circulate Bottoms up @ TD of intermediate
Pooh	7	09-14	06:25	11:20	09-14			POOH at TD
Change BHA	6	09-14	11:20	11:50	09-14			Pull MWD tool, rack back models, stab and ubho in derrick. drain motor, Break bit and L/d motor
Standby	15	09-14	11:50	13:10	09-14			Standby - TIH with storm packer
Standby	15	09-14	13:10	13:50	09-14			Standby - Set storm packer @ 951'

MWD Activities

No Activities

	Job Number	Operator	Rig Name
	WT-19-125	Advance Energy Partners	H&P #620
	Start Date	Well Name	Legal Well Name AFE
	2019-08-03	Wool Head 20 State Com 606H	Wool Head 20 State Com 606H
	Play	State/Province and Country	County
	Delaware Basin	New Mexico, US	Lea
Company Man			
Sunday, Sep 15 00:00 - 23:59 (Day of 72)			
Billing: N/A (\$226,501.01 total)			
Drilling Summary			Drilling Parameters
Start Depth (ft)	Downhole Hours	0.00	Rotating WOB (klbs)
Bit Depth (ft)	Drilling Hours		Sliding WOB (klbs)
Bottom Hole Depth (ft)	Hours Circulating		Rotating SPM
Total Distance (ft)	Hours Sliding		Sliding SPM
Distance Rotated (ft)	Hours Rotating		Motor RPM
Distance Slid (ft)			Surface RPM
Inclination In			Flow Rate (gpm)
Inclination Out			On Bottom Pressure (psi)
Azimuth In	% Hours Rotating		Off Bottom Pressure (psi)
Azimuth Out	% Hours Sliding		
AVG Total ROP (ft/h)	0.00	% Distance Sliding	
AVG Rotating ROP (ft/h)	0.00	% Distance Rotating	
AVG Sliding ROP (ft/h)	0.00		
Personnel			
Name		Position	
Kyle Kusak		MWD Engineer	
Shawn Flores		MWD Engineer	
Dustin Stringfellow		Directional Driller	
Joel Johnson		Directional Driller	
Orey Meredith		Directional Driller	
Omar Alaniz		Directional Driller	
No BHAs			
Directional Activities			
No Activities			
MWD Activities			
No Activities			

	Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Monday, Sep 16 00:00 - 23:59 (Day of 72) Billing: N/A (\$226,501.01 total)

Drilling Summary			Drilling Parameters
Start Depth (ft)		Downhole Hours	0.00
Bit Depth (ft)		Drilling Hours	
Bottom Hole Depth (ft)		Hours Circulating	
Total Distance (ft)		Hours Sliding	
Distance Rotated (ft)		Hours Rotating	
Distance Slid (ft)			
Inclination In			
Inclination Out			
Azimuth In		% Hours Rotating	
Azimuth Out		% Hours Sliding	
AVG Total ROP (ft/h)	0.00	% Distance Sliding	
AVG Rotating ROP (ft/h)	0.00	% Distance Rotating	
AVG Sliding ROP (ft/h)	0.00		

Personnel	
Name	Position
Kyle Kusak	MWD Engineer
Shawn Flores	MWD Engineer
Dustin Stringfellow	Directional Driller
Joel Johnson	Directional Driller
Orey Meredith	Directional Driller
Omar Alaniz	Directional Driller

No BHAs

Directional Activities

No Activities

MWD Activities

No Activities

	Job Number WT-19-125	Operator Advance Energy Partners	Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H	
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
	Company Man		
Tuesday, Sep 17 00:00 - 23:59 (Day of 72) Billing: N/A (\$226,501.01 total)			
Drilling Summary			Drilling Parameters
Start Depth (ft)	Downhole Hours	0.00	Rotating WOB (klbs)
Bit Depth (ft)	Drilling Hours		Sliding WOB (klbs)
Bottom Hole Depth (ft)	Hours Circulating		Rotating SPM
Total Distance (ft)	Hours Sliding		Sliding SPM
Distance Rotated (ft)	Hours Rotating		Motor RPM
Distance Slid (ft)			Surface RPM
Inclination In			Flow Rate (gpm)
Inclination Out			On Bottom Pressure (psi)
Azimuth In	% Hours Rotating		Off Bottom Pressure (psi)
Azimuth Out	% Hours Sliding		
AVG Total ROP (ft/h)	0.00	% Distance Sliding	
AVG Rotating ROP (ft/h)	0.00	% Distance Rotating	
AVG Sliding ROP (ft/h)	0.00		
Personnel			
Name		Position	
Kyle Kusak		MWD Engineer	
Shawn Flores		MWD Engineer	
Dustin Stringfellow		Directional Driller	
Joel Johnson		Directional Driller	
Orey Meredith		Directional Driller	
Omar Alaniz		Directional Driller	
No BHAs			
Directional Activities			
No Activities			
MWD Activities			
No Activities			

	Job Number	Operator	Rig Name
	WT-19-125	Advance Energy Partners	H&P #620
	Start Date	Well Name	Legal Well Name AFE
	2019-08-03	Wool Head 20 State Com 606H	Wool Head 20 State Com 606H
	Play	State/Province and Country	County
	Delaware Basin	New Mexico, US	Lea
Wednesday, Sep 18 00:00 - 23:59 (Day of 72)			
Billing: N/A (\$226,501.01 total)			
Drilling Summary			Drilling Parameters
Start Depth (ft)	Downhole Hours	0.00	Rotating WOB (klbs)
Bit Depth (ft)	Drilling Hours		Sliding WOB (klbs)
Bottom Hole Depth (ft)	Hours Circulating		Rotating SPM
Total Distance (ft)	Hours Sliding		Sliding SPM
Distance Rotated (ft)	Hours Rotating		Motor RPM
Distance Slid (ft)			Surface RPM
Inclination In			Flow Rate (gpm)
Inclination Out			On Bottom Pressure (psi)
Azimuth In	% Hours Rotating		Off Bottom Pressure (psi)
Azimuth Out	% Hours Sliding		
AVG Total ROP (ft/h)	0.00	% Distance Sliding	
AVG Rotating ROP (ft/h)	0.00	% Distance Rotating	
AVG Sliding ROP (ft/h)	0.00		
Personnel			
Name		Position	
Kyle Kusak		MWD Engineer	
Shawn Flores		MWD Engineer	
Dustin Stringfellow		Directional Driller	
Joel Johnson		Directional Driller	
Orey Meredith		Directional Driller	
Omar Alaniz		Directional Driller	
No BHAs			
Directional Activities			
No Activities			
MWD Activities			
No Activities			



Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Thursday, Sep 19 00:00 - 23:59 (Day of 72)

Billing: N/A (\$226,501.01 total)

Drilling Summary			Drilling Parameters
Start Depth (ft)	Downhole Hours	0.00	Rotating WOB (klbs)
Bit Depth (ft)	Drilling Hours		Sliding WOB (klbs)
Bottom Hole Depth (ft)	Hours Circulating		Rotating SPM
Total Distance (ft)	Hours Sliding		Sliding SPM
Distance Rotated (ft)	Hours Rotating		Motor RPM
Distance Slid (ft)			Surface RPM
Inclination In			Flow Rate (gpm)
Inclination Out			On Bottom Pressure (psi)
Azimuth In	% Hours Rotating		Off Bottom Pressure (psi)
Azimuth Out	% Hours Sliding		
AVG Total ROP (ft/h)	0.00	% Distance Sliding	
AVG Rotating ROP (ft/h)	0.00	% Distance Rotating	
AVG Sliding ROP (ft/h)	0.00		

Personnel

Name	Position
Kyle Kusak	MWD Engineer
Shawn Flores	MWD Engineer
Dustin Stringfellow	Directional Driller
Joel Johnson	Directional Driller
Orey Meredith	Directional Driller
Omar Alaniz	Directional Driller

No BHAs

Directional Activities

No Activities

MWD Activities

No Activities



Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Friday, Sep 20 00:00 - 23:59 (Day of 72)

Billing: N/A (\$226,501.01 total)

Drilling Summary			Drilling Parameters
Start Depth (ft)	Downhole Hours	0.00	Rotating WOB (klbs)
Bit Depth (ft)	Drilling Hours		Sliding WOB (klbs)
Bottom Hole Depth (ft)	Hours Circulating		Rotating SPM
Total Distance (ft)	Hours Sliding		Sliding SPM
Distance Rotated (ft)	Hours Rotating		Motor RPM
Distance Slid (ft)			Surface RPM
Inclination In			Flow Rate (gpm)
Inclination Out			On Bottom Pressure (psi)
Azimuth In	% Hours Rotating		Off Bottom Pressure (psi)
Azimuth Out	% Hours Sliding		
AVG Total ROP (ft/h)	0.00	% Distance Sliding	
AVG Rotating ROP (ft/h)	0.00	% Distance Rotating	
AVG Sliding ROP (ft/h)	0.00		

Personnel

Name	Position
Kyle Kusak	MWD Engineer
Shawn Flores	MWD Engineer
Dustin Stringfellow	Directional Driller
Joel Johnson	Directional Driller
Orey Meredith	Directional Driller
Omar Alaniz	Directional Driller

No BHAs

Directional Activities

No Activities

MWD Activities

No Activities



Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Saturday, Sep 21 00:00 - 23:59 (Day of 72)

Billing: N/A (\$226,501.01 total)

Drilling Summary			Drilling Parameters
Start Depth (ft)		Downhole Hours 0.00	Rotating WOB (klbs)
Bit Depth (ft)		Drilling Hours	Sliding WOB (klbs)
Bottom Hole Depth (ft)		Hours Circulating	Rotating SPM
Total Distance (ft)		Hours Sliding	Sliding SPM
Distance Rotated (ft)		Hours Rotating	Motor RPM -
Distance Slid (ft)			Surface RPM
Inclination In			Flow Rate (gpm)
Inclination Out			On Bottom Pressure (psi)
Azimuth In		% Hours Rotating	Off Bottom Pressure (psi)
Azimuth Out		% Hours Sliding	
AVG Total ROP (ft/h) 0.00		% Distance Sliding	
AVG Rotating ROP (ft/h) 0.00		% Distance Rotating	
AVG Sliding ROP (ft/h) 0.00			

Personnel

Name	Position
Kyle Kusak	MWD Engineer
Shawn Flores	MWD Engineer
Dustin Stringfellow	Directional Driller
Joel Johnson	Directional Driller
Orey Meredith	Directional Driller
Omar Alaniz	Directional Driller

No BHAs

Directional Activities

No Activities

MWD Activities

No Activities

	Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man
	Sunday, Sep 22 00:00 - 23:59 (Day of 72) Billing: N/A (\$226,501.01 total)			
Drilling Summary				Drilling Parameters
Start Depth (ft)		Downhole Hours	0.00	Rotating WOB (klbs)
Bit Depth (ft)		Drilling Hours		Sliding WOB (klbs)
Bottom Hole Depth (ft)		Hours Circulating		Rotating SPM
Total Distance (ft)		Hours Sliding		Sliding SPM
Distance Rotated (ft)		Hours Rotating		Motor RPM
Distance Slid (ft)				Surface RPM
Inclination In				Flow Rate (gpm)
Inclination Out				On Bottom Pressure (psi)
Azimuth In		% Hours Rotating		Off Bottom Pressure (psi)
Azimuth Out		% Hours Sliding		
AVG Total ROP (ft/h)		0.00	% Distance Sliding	
AVG Rotating ROP (ft/h)		0.00	% Distance Rotating	
AVG Sliding ROP (ft/h)		0.00		
Personnel				
Name			Position	
Kyle Kusak			MWD Engineer	
Shawn Flores			MWD Engineer	
Joel Johnson			Directional Driller	
Orey Meredith			Directional Driller	
Omar Alaniz			Directional Driller	
No BHAs				
Directional Activities				
No Activities				
MWD Activities				
No Activities				

	Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man
Monday, Sep 23 00:00 - 23:59 (Day of 72) Billing: N/A (\$226,501.01 total)				
Drilling Summary				Drilling Parameters
Start Depth (ft)		Downhole Hours	0.00	Rotating WOB (klbs)
Bit Depth (ft)		Drilling Hours		Sliding WOB (klbs)
Bottom Hole Depth (ft)		Hours Circulating		Rotating SPM
Total Distance (ft)		Hours Sliding		Sliding SPM
Distance Rotated (ft)		Hours Rotating		Motor RPM
Distance Slid (ft)				Surface RPM
Inclination In				Flow Rate (gpm)
Inclination Out				On Bottom Pressure (psi)
Azimuth In		% Hours Rotating		Off Bottom Pressure (psi)
Azimuth Out		% Hours Sliding		
AVG Total ROP (ft/h)		0.00	% Distance Sliding	
AVG Rotating ROP (ft/h)		0.00	% Distance Rotating	
AVG Sliding ROP (ft/h)		0.00		
Personnel				
Name			Position	
Kyle Kusak			MWD Engineer	
Shawn Flores			MWD Engineer	
Joel Johnson			Directional Driller	
Orey Meredith			Directional Driller	
Omar Alaniz			Directional Driller	
No BHAs				
Directional Activities				
No Activities				
MWD Activities				
No Activities				

	Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man
	Tuesday, Sep 24 00:00 - 23:59 (Day of 72) Billing: N/A (\$226,501.01 total)			
Drilling Summary				Drilling Parameters
Start Depth (ft)		Downhole Hours	0.00	Rotating WOB (klbs)
Bit Depth (ft)		Drilling Hours		Sliding WOB (klbs)
Bottom Hole Depth (ft)		Hours Circulating		Rotating SPM
Total Distance (ft)		Hours Sliding		Sliding SPM
Distance Rotated (ft)		Hours Rotating		Motor RPM
Distance Slid (ft)				Surface RPM
Inclination In				Flow Rate (gpm)
Inclination Out				On Bottom Pressure (psi)
Azimuth In		% Hours Rotating		Off Bottom Pressure (psi)
Azimuth Out		% Hours Sliding		
AVG Total ROP (ft/h)		0.00	% Distance Sliding	
AVG Rotating ROP (ft/h)		0.00	% Distance Rotating	
AVG Sliding ROP (ft/h)		0.00		
Personnel				
Name			Position	
Kyle Kusak			MWD Engineer	
Shawn Flores			MWD Engineer	
Joel Johnson			Directional Driller	
Orey Meredith			Directional Driller	
Omar Alaniz			Directional Driller	
No BHAs				
Directional Activities				
No Activities				
MWD Activities				
No Activities				

	Job Number WT-19-125	Operator Advance Energy Partners	Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H	Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
	Company Man		
Wednesday, Sep 25 00:00 - 23:59 (Day of 72) Billing: N/A (\$226,501.01 total)			
Drilling Summary			Drilling Parameters
Start Depth (ft)	Downhole Hours	0.00	Rotating WOB (klbs)
Bit Depth (ft)	Drilling Hours		Sliding WOB (klbs)
Bottom Hole Depth (ft)	Hours Circulating		Rotating SPM
Total Distance (ft)	Hours Sliding		Sliding SPM
Distance Rotated (ft)	Hours Rotating		Motor RPM
Distance Slid (ft)			Surface RPM
Inclination In			Flow Rate (gpm)
Inclination Out			On Bottom Pressure (psi)
Azimuth In	% Hours Rotating		Off Bottom Pressure (psi)
Azimuth Out	% Hours Sliding		
AVG Total ROP (ft/h)	0.00	% Distance Sliding	
AVG Rotating ROP (ft/h)	0.00	% Distance Rotating	
AVG Sliding ROP (ft/h)	0.00		
Personnel			
Name		Position	
Kyle Kusak		MWD Engineer	
Shawn Flores		MWD Engineer	
Joel Johnson		Directional Driller	
Orey Meredith		Directional Driller	
Omar Alaniz		Directional Driller	
No BHAs			
Directional Activities			
No Activities			
MWD Activities			
No Activities			

	Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man
	Thursday, Sep 26 00:00 - 23:59 (Day of 72) Billing: N/A (\$226,501.01 total)			
Drilling Summary				Drilling Parameters
Start Depth (ft)		Downhole Hours	0.00	Rotating WOB (klbs)
Bit Depth (ft)		Drilling Hours		Sliding WOB (klbs)
Bottom Hole Depth (ft)		Hours Circulating		Rotating SPM
Total Distance (ft)		Hours Sliding		Sliding SPM
Distance Rotated (ft)		Hours Rotating		Motor RPM
Distance Slid (ft)				Surface RPM
Inclination In				Flow Rate (gpm)
Inclination Out				On Bottom Pressure (psi)
Azimuth In		% Hours Rotating		Off Bottom Pressure (psi)
Azimuth Out		% Hours Sliding		
AVG Total ROP (ft/h)		0.00	% Distance Sliding	
AVG Rotating ROP (ft/h)		0.00	% Distance Rotating	
AVG Sliding ROP (ft/h)		0.00		
Personnel				
Name			Position	
Kyle Kusak			MWD Engineer	
Shawn Flores			MWD Engineer	
Joel Johnson			Directional Driller	
Orey Meredith			Directional Driller	
Omar Alaniz			Directional Driller	
No BHAs				
Directional Activities				
No Activities				
MWD Activities				
No Activities				

	Job Number	Operator	Rig Name
	WT-19-125	Advance Energy Partners	H&P #620
	Start Date	Well Name	Legal Well Name AFE
	2019-08-03	Wool Head 20 State Com 606H	Wool Head 20 State Com 606H
	Play	State/Province and Country	County
	Delaware Basin	New Mexico, US	Lea
Friday, Sep 27 00:00 - 23:59 (Day of 72)			
Drilling Summary			Drilling Parameters
Start Depth (ft)	Downhole Hours	0.00	Rotating WOB (klbs)
Bit Depth (ft)	Drilling Hours		Sliding WOB (klbs)
Bottom Hole Depth (ft)	Hours Circulating		Rotating SPM
Total Distance (ft)	Hours Sliding		Sliding SPM
Distance Rotated (ft)	Hours Rotating		Motor RPM
Distance Slid (ft)			Surface RPM
Inclination In			Flow Rate (gpm)
Inclination Out			On Bottom Pressure (psi)
Azimuth In	% Hours Rotating		Off Bottom Pressure (psi)
Azimuth Out	% Hours Sliding		
AVG Total ROP (ft/h)	0.00 % Distance Sliding		
AVG Rotating ROP (ft/h)	0.00 % Distance Rotating		
AVG Sliding ROP (ft/h)	0.00		
Personnel			
Name		Position	
Kyle Kusak		MWD Engineer	
Shawn Flores		MWD Engineer	
Joel Johnson		Directional Driller	
Orey Meredith		Directional Driller	
Omar Alaniz		Directional Driller	
No BHAs			
Directional Activities			
No Activities			
MWD Activities			
No Activities			

	Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man
Saturday, Sep 28 00:00 - 23:59 (Day of 72) Billing: N/A (\$226,501.01 total)				
Drilling Summary			Drilling Parameters	
Start Depth (ft)		Downhole Hours	0.00	Rotating WOB (klbs)
Bit Depth (ft)		Drilling Hours		Sliding WOB (klbs)
Bottom Hole Depth (ft)		Hours Circulating		Rotating SPM
Total Distance (ft)		Hours Sliding		Sliding SPM
Distance Rotated (ft)		Hours Rotating		Motor RPM
Distance Slid (ft)				Surface RPM
Inclination In				Flow Rate (gpm)
Inclination Out				On Bottom Pressure (psi)
Azimuth In		% Hours Rotating		Off Bottom Pressure (psi)
Azimuth Out		% Hours Sliding		
AVG Total ROP (ft/h)	0.00	% Distance Sliding		
AVG Rotating ROP (ft/h)	0.00	% Distance Rotating		
AVG Sliding ROP (ft/h)	0.00			
Personnel				
Name		Position		
Kyle Kusak		MWD Engineer		
Shawn Flores		MWD Engineer		
Joel Johnson		Directional Driller		
Orey Meredith		Directional Driller		
Omar Alaniz		Directional Driller		
No BHAs				
Directional Activities				
No Activities				
MWD Activities				
No Activities				

	Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man
	Sunday, Sep 29 00:00 - 23:59 (Day of 72) Billing: N/A (\$226,501.01 total)			
Drilling Summary				Drilling Parameters
Start Depth (ft)		Downhole Hours	0.00	Rotating WOB (klbs)
Bit Depth (ft)		Drilling Hours		Sliding WOB (klbs)
Bottom Hole Depth (ft)		Hours Circulating		Rotating SPM
Total Distance (ft)		Hours Sliding		Sliding SPM
Distance Rotated (ft)		Hours Rotating		Motor RPM
Distance Slid (ft)				Surface RPM
Inclination In				Flow Rate (gpm)
Inclination Out				On Bottom Pressure (psi)
Azimuth In		% Hours Rotating		Off Bottom Pressure (psi)
Azimuth Out		% Hours Sliding		
AVG Total ROP (ft/h)		0.00	% Distance Sliding	
AVG Rotating ROP (ft/h)		0.00	% Distance Rotating	
AVG Sliding ROP (ft/h)		0.00		
Personnel				
Name			Position	
Kyle Kusak			MWD Engineer	
Shawn Flores			MWD Engineer	
Joel Johnson			Directional Driller	
Orey Meredith			Directional Driller	
Omar Alaniz			Directional Driller	
No BHAs				
Directional Activities				
No Activities				
MWD Activities				
No Activities				

	Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man
Monday, Sep 30 00:00 - 23:59 (Day of 72) Billing: N/A (\$226,501.01 total)				
Drilling Summary			Drilling Parameters	
Start Depth (ft)		Downhole Hours	0.00	Rotating WOB (klbs)
Bit Depth (ft)		Drilling Hours		Sliding WOB (klbs)
Bottom Hole Depth (ft)		Hours Circulating		Rotating SPM
Total Distance (ft)		Hours Sliding		Sliding SPM
Distance Rotated (ft)		Hours Rotating		Motor RPM
Distance Slid (ft)				Surface RPM
Inclination In				Flow Rate (gpm)
Inclination Out				On Bottom Pressure (psi)
Azimuth In		% Hours Rotating		Off Bottom Pressure (psi)
Azimuth Out		% Hours Sliding		
AVG Total ROP (ft/h)	0.00	% Distance Sliding		
AVG Rotating ROP (ft/h)	0.00	% Distance Rotating		
AVG Sliding ROP (ft/h)	0.00			
Personnel				
Name		Position		
Kyle Kusak		MWD Engineer		
Shawn Flores		MWD Engineer		
Joel Johnson		Directional Driller		
Orey Meredith		Directional Driller		
Omar Alaniz		Directional Driller		
No BHAs				
Directional Activities				
No Activities				
MWD Activities				
No Activities				

	Job Number WT-19-125	Operator Advance Energy Partners	Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H	Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
	Company Man		
Tuesday, Oct 01 00:00 - 23:59 (Day of 72) Billing: N/A (\$226,501.01 total)			
Drilling Summary			Drilling Parameters
Start Depth (ft)	Downhole Hours	0.00	Rotating WOB (klbs)
Bit Depth (ft)	Drilling Hours		Sliding WOB (klbs)
Bottom Hole Depth (ft)	Hours Circulating		Rotating SPM
Total Distance (ft)	Hours Sliding		Sliding SPM
Distance Rotated (ft)	Hours Rotating		Motor RPM
Distance Slid (ft)			Surface RPM
Inclination In			Flow Rate (gpm)
Inclination Out			On Bottom Pressure (psi)
Azimuth In	% Hours Rotating		Off Bottom Pressure (psi)
Azimuth Out	% Hours Sliding		
AVG Total ROP (ft/h)	0.00	% Distance Sliding	
AVG Rotating ROP (ft/h)	0.00	% Distance Rotating	
AVG Sliding ROP (ft/h)	0.00		
Personnel			
Name		Position	
Kyle Kusak		MWD Engineer	
Shawn Flores		MWD Engineer	
Joel Johnson		Directional Driller	
Orey Meredith		Directional Driller	
Omar Alaniz		Directional Driller	
No BHAs			
Directional Activities			
No Activities			
MWD Activities			
No Activities			

	Job Number WT-19-125	Operator Advance Energy Partners	Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H	
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
	Company Man		
Wednesday, Oct 02 00:00 - 23:59 (Day of 72)			
Billing: N/A (\$226,501.01 total)			
Drilling Summary			Drilling Parameters
Start Depth (ft)	Downhole Hours	0.00	Rotating WOB (klbs)
Bit Depth (ft)	Drilling Hours		Sliding WOB (klbs)
Bottom Hole Depth (ft)	Hours Circulating		Rotating SPM
Total Distance (ft)	Hours Sliding		Sliding SPM
Distance Rotated (ft)	Hours Rotating		Motor RPM
Distance Slid (ft)			Surface RPM
Inclination In			Flow Rate (gpm)
Inclination Out			On Bottom Pressure (psi)
Azimuth In	% Hours Rotating		Off Bottom Pressure (psi)
Azimuth Out	% Hours Sliding		
AVG Total ROP (ft/h)	0.00	% Distance Sliding	
AVG Rotating ROP (ft/h)	0.00	% Distance Rotating	
AVG Sliding ROP (ft/h)	0.00		
Personnel			
Name		Position	
Kyle Kusak		MWD Engineer	
Shawn Flores		MWD Engineer	
Joel Johnson		Directional Driller	
Orey Meredith		Directional Driller	
Omar Alaniz		Directional Driller	
No BHAs			
Directional Activities			
No Activities			
MWD Activities			
No Activities			



Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Thursday, Oct 03 00:00 - 23:59 (Day 19 of 72)

Billing: \$16,400.00 (\$226,501.01 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	11113.00	Downhole Hours	18.00	Rotating WOB (klbs)	35.00 - 35.00
Bit Depth (ft)	11154.00	Drilling Hours	0.92	Sliding WOB (klbs)	
Bottom Hole Depth (ft)	11154.00	Hours Circulating	1.75	Rotating SPM	168.00 - 168.00
Total Distance (ft)	41.00	Hours Sliding	0.00	Sliding SPM	
Distance Rotated (ft)	41.00	Hours Rotating	0.92	Motor RPM	0.00 - 168.00
Distance Slid (ft)	0.00			Surface RPM	20.00 - 20.00
Inclination In	2.64			Flow Rate (gpm)	550.00 - 550.00
Inclination Out	2.64			On Bottom Pressure (psi)	3500.00 - 3500.00
Azimuth In	142.03	% Hours Rotating	100%	Off Bottom Pressure (psi)	2900.00 - 2900.00
Azimuth Out	142.03	% Hours Sliding	0%		
AVG Total ROP (ft/h)	24.81	% Distance Sliding	0%		
AVG Rotating ROP (ft/h)	44.73	% Distance Rotating	100%		
AVG Sliding ROP (ft/h)	20.25				

Personnel

Name	Position
Kyle Kusak	MWD Engineer
Shawn Flores	MWD Engineer
Joel Johnson	Directional Driller
Orey Meredith	Directional Driller
Omar Alaniz	Directional Driller

BHA #4 - BHA #4

Date In: Oct 3, 2019, 4:00 Date Out: Oct 3, 2019, 12:00

Bit Details		Motor Details		Directional Comments
OD (in)	8.500	Size (in)	6.75	Contender: 2.12 FBH 7/8 5.0 Stg Mtr, Rev/Gal: 0.28, Flow Range: 300-600, Max Diff: 1505 psi, Max Operating Torque: 12813 ft/lbs, Protracted Angle: 2.15 / Bit: Halliburton 8.5" " Type: GTD64C , SN:,13291183 TFA: 2.227 , Jets: 6 x 22s, Bit Runs: 1
Vendor	Halliburton	Lobe/Stage	7/5, 5.0	
S/N	13291183	Bend Angle	2.12	
Nozzles	6 x 22	Speed (rev/gal)	0.26	MWD Comments
Total Flow Area (in²)	2.227	Wear Pad OD (in)	7.063	POOH Reason Other: POOH to inspect BHA, Do to DP U tubing while TIH to casing shoe
Drilling Hours for Day	0.00	Bit Distances		
Total Drilled for Day (ft)		Survey (Bit to Say): 56.00 ft, Gamma (Gamma):		
Drilling Hours for BHA	0.00	52.00 ft		
Total Drilled for BHA (ft)				

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: GTD64C, Style: PDC, Gauge Length (in): 3.00, Size (in): 8.50	Halliburton	13291183	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 2.12 FBH 7/8 5.0 Slick, Size (in): 6.75, Bend Angle (°): 2.12, Rotor Lobe: 7, Stator Lobe: 5.0, Stator Stage: 5.0	Contender	650-016	4 1/2" IF Box	4 1/2" Reg Box		6.750		25.65	26.65
Drill Collar Description: NM Pony, Style: Pony, Type: NM	DTI	DR34595	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		13.14	39.79
UBHO Sub Description: UBHO Sub, Type: NM	DTI	DR43487	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		3.80	43.59
Drill Collar Description: 6.75" NMDC (MWD Tool), Style: Slick Drill, Type: NM	DTI	DR41068	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		28.16	71.75
Drill Collar Description: 6.75" NMDC (Spacer), Style: Slick Drill, Type: NM	DTI	DR41336	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		29.46	101.21

MWD Items

No Items

Date In: Oct 3, 2019, 14:00 Date Out: Oct 4, 2019, 19:30

Bit Details		Motor Details		Directional Comments	
OD (in)	8.500	Size (in)	6.75	2.12 FBH 7/8 5.0 Stg Mtr, Rev/Gal: 0.28, Flow Range: 300-600, Max Diff: 1505 psi, Max Operating Torque: 12813 ft/lbs, Protracted Angle: 2.15 / Bit; Halliburton 8.5" " Type: GTD55DM , SN:,13192807 TFA: 1.856 , Jets:5 x 22s, Bit Runs: 3	
Vendor	Halliburton	Lobe/Stage	7/5, 5.0		
S/N	13192807	Bend Angle	2.12		
Nozzles	5 x 22	Speed (rev/gal)	0.28	MWD Comments	
Total Flow Area (in²)	1.856	Wear Pad OD (in)	7.063	POOH Reason Build Rate: Pooh for build rates. Dialing up to a 2.6 ABH	
Drilling Hours for Day	0.92	Bit Distances			
Total Drilled for Day (ft)	41.00	Survey (Bit to Say): 58.00 ft, Gamma (Gamma): 54.00 ft			
Drilling Hours for BHA	15.75				
Total Drilled for BHA (ft)	606.00				

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: <i>GTD55DM</i> , Style: <i>PDC</i> , Gauge Length (in): <i>3.00</i> , Size (in): <i>8.50</i>	Halliburton	13192807	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: <i>2.12 FBH 7/8 5.0 Slick</i> , Size (in): <i>6.75</i> , Bend Angle (°): <i>2.12</i> , Rotor Lobe: <i>7</i> , Stator Lobe: <i>5</i> , Stator Stage: <i>5</i>	Contender	650-016	4 1/2" IF Box	4 1/2" Reg Box		6.750		25.65	26.65
Float Sub Description: <i>Float Sub</i> , Type: <i>Steel</i>	DTI	DR19268	4 1/2" IF Box	4 1/2" IF Pin	2.875	6.500		2.50	29.15
Drill Collar Description: <i>NM Pony</i> , Style: <i>Pony</i> , Type: <i>NM</i>	DTI	DR34595	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		13.14	42.29
UBHO Sub Description: <i>UBHO Sub</i> , Type: <i>NM</i>	DTI	DR43487	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		3.80	46.09
Drill Collar Description: <i>6.75" NMDC (MWD Tool)</i> , Style: <i>Slick Drill</i> , Type: <i>NM</i>	DTI	DR41068	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		28.16	74.25
Drill Collar Description: <i>6.75" NMDC (Spacer)</i> , Style: <i>Slick Drill</i> , Type: <i>NM</i>	DTI	DR41336	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		29.46	103.71

No Items

No Items

Activity Type	Code	Start	Start	End	End	Start (ft)	End (ft)	Comments/Details
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Activity Type	Code	Start Date	Start Time	End Time	End Date	Start (ft)	End (ft)	Comments/Details
Standby	15	10-03	00:00	01:30	10-03			Standby / Nippling Up BOP'S & Test Same
Standby	15	10-03	01:30	04:00	10-03			Standby / Retrieving Packer
Change BHA	6	10-03	04:00	05:00	10-03			P/U BHA # 4
Circulating	3	10-03	05:00	05:15	10-03			Shallow Test Tools
TIH	8	10-03	05:15	05:45	10-03			M/U Bit & NMDC
TIH	8	10-03	05:45	06:15	10-03			TIH W/ BHA #4
TIH	8	10-03	06:15	08:00	10-03			TIH W/ BHA #4 to shoe
Rig Service - In Hole	19	10-03	08:00	09:00	10-03			Slip and Cut
Pooh	7	10-03	09:00	12:00	10-03			Pooh due to Float not holding
Change BHA	6	10-03	12:00	14:00	10-03			P/U BHA # 5 / Picked up Float Sub due to Motor bore being too big. C/O Bit because of chipped cutters
TIH	8	10-03	14:00	19:30	10-03			TIH W/ BHA #5
Circulating	3	10-03	19:30	20:30	10-03			Displace with OBM & Circ Gas
Circulating	3	10-03	20:30	21:00	10-03			Relog 30'
Rotary Drill	1	10-03	21:00	21:40	10-03	11113.00	11140.00	Pressure On (psi): 3500.00, Pressure Off (psi): 2900.00, Weight On Bit (klbs): 35.00, Surface RPM: 20, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 168.00
Survey	46	10-03	21:40	21:45	10-03	11140.00	11140.00	Inclination (°): 2.640, Azimuth (°): 142.030, TVD (ft): 11065.28, Dogleg (°/100 ft): 0.94, Sensor Depth (ft): 11082.00, Bit To Sensor (ft): 58.00
Rotary Drill	1	10-03	21:45	22:00	10-03	11140.00	11154.00	Pressure On (psi): 3500.00, Pressure Off (psi): 2900.00, Weight On Bit (klbs): 35.00, Surface RPM: 20, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 168.00
Slide Drill	2	10-03	22:00	02:00	10-04	11154.00	11235.00	Pressure On (psi): 3100.00, Pressure Off (psi): 2900.00, Weight On Bit (klbs): 30.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 171, Toolface: 340, Toolface Type: magnetic

No Activities

No Activities



Job Number WT-19-125	Operator Advance Energy Partners	Rig Name H&P #620
Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H	Legal Well Name AFE Wool Head 20 State Com 606H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Friday, Oct 04 00:00 - 23:59 (Day 20 of 72)

Billing: \$17,400.00 (\$226,501.01 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	11154.00	Downhole Hours	24.00	Rotating WOB (klbs)	
Bit Depth (ft)	11719.00	Drilling Hours	14.83	Sliding WOB (klbs)	30.00 - 40.00
Bottom Hole Depth (ft)	11719.00	Hours Circulating	0.67	Rotating SPM	
Total Distance (ft)	565.00	Hours Sliding	14.83	Sliding SPM	171.00 - 186.00
Distance Rotated (ft)	0.00	Hours Rotating	0.00	Motor RPM	120.00 - 168.00
Distance Slid (ft)	565.00			Surface RPM	
Inclination In	1.98			Flow Rate (gpm)	550.00 - 600.00
Inclination Out	37.76			On Bottom Pressure (psi)	3100.00 - 3551.00
Azimuth In	33.49	% Hours Rotating	0%	Off Bottom Pressure (psi)	2900.00 - 3200.00
Azimuth Out	359.56	% Hours Sliding	100%		
AVG Total ROP (ft/h)	38.09	% Distance Sliding	100%		
AVG Rotating ROP (ft/h)	0.00	% Distance Rotating	0%		
AVG Sliding ROP (ft/h)	38.09				

Personnel

Name	Position
Kyle Kusak	MWD Engineer
Shawn Flores	MWD Engineer
Joel Johnson	Directional Driller
Orey Meredith	Directional Driller
Omar Alaniz	Directional Driller

BHA #5 - BHA #5 (Curve)

Date In: Oct 3, 2019, 14:00 Date Out: Oct 4, 2019, 19:30

Bit Details		Motor Details		Directional Comments
OD (in)	8.500	Size (in)	6.75	2.12 FBH 7/8 5.0 Stg Mtr, Rev/Gal: 0.28, Flow Range: 300-600, Max Diff: 1505 psi, Max Operating Torque: 12813 ft/lbs, Protracted Angle: 2.15 / Bit; Halliburton 8.5" " Type: GTD55DM , SN:;13192807 TFA: 1.856 , Jets:5 x 22s, Bit Runs: 3
Vendor	Halliburton	Lobe/Stage	7/5, 5.0	
S/N	13192807	Bend Angle	2.12	
Nozzles	5 x 22	Speed (rev/gal)	0.28	MWD Comments
Total Flow Area (in²)	1.856	Wear Pad OD (in)	7.063	POOH Reason Build Rate: Pooh for build rates. Dialing up to a 2.6 ABH
Drilling Hours for Day	14.83	Bit Distances		
Total Drilled for Day (ft)	565.00	Survey (Bit to Say): 58.00 ft, Gamma (Gamma):		
Drilling Hours for BHA	15.75	54.00 ft		
Total Drilled for BHA (ft)	606.00			

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: GTD55DM, Style: PDC, Gauge Length (in): 3.00, Size (in): 8.50	Halliburton	13192807	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 2.12 FBH 7/8 5.0 Slick, Size (in): 6.75, Bend Angle (°): 2.12, Rotor Lobe: 7, Stator Lobe: 5, Stator Stage: 5	Contender	650-016	4 1/2" IF Box	4 1/2" Reg Box		6.750		25.65	26.65
Float Sub Description: Float Sub, Type: Steel	DTI	DR19268	4 1/2" IF Box	4 1/2" IF Pin	2.875	6.500		2.50	29.15
Drill Collar Description: NM Pony, Style: Pony, Type: NM	DTI	DR34595	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		13.14	42.29
UBHO Sub Description: UBHO Sub, Type: NM	DTI	DR43487	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		3.80	46.09
Drill Collar Description: 6.75" NMDC (MWD Tool), Style: Slick Drill, Type: NM	DTI	DR41068	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		28.16	74.25
Drill Collar Description: 6.75" NMDC (Spacer), Style: Slick Drill, Type: NM	DTI	DR41336	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		29.46	103.71

MWD Items

No Items

BHA #6 - BHA #6 (Curve Bailout)				Date In: Oct 4, 2019, 19:30 Date Out: Oct 5, 2019, 11:30	
Bit Details		Motor Details		Directional Comments	
OD (in)	8.500	Size (in)	6.75	Contender: 2.6 ABH 7/8 5.7 Stg Mtr, Rev/Gal: 0.24, Flow Range: 300-600, Max Diff: 1645 psi, Max Operating Torque: 15,922 ft/lbs, Protracted Angle: 2.60° / Bit; Halliburton 8.5" " Type: GTD64C , SN: 13241997 TFA: 2.227 , Jets: 6 x 22s, Bit Runs: 3	
Vendor	Halliburton	Lobe/Stage	7/6, 5.7		
S/N	13241997	Bend Angle	2.6		
Nozzles	6 x 22	Speed (rev/gal)	0.24	MWD Comments	
Total Flow Area (in²)	2.227	Wear Pad OD (in)	7.250		
Drilling Hours for Day	0.00	Bit Distances			
Total Drilled for Day (ft)		Survey (Bit to Say): 62.00 ft, Gamma			
Drilling Hours for BHA	2.58	(Gamma): 57.00 ft			
Total Drilled for BHA (ft)	85.00				
				POOH Reason	
				Build Rate: POOH for Build Rates	

Directional Items									
Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: <i>GTD64C</i> , Style: <i>PDC</i> , Gauge Length (in): <i>3.00</i> , Size (in): <i>8.50</i>	Halliburton	13241997	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: <i>2.60° ABH 7/8 5.7 Stg Mtr Slick Sleeve</i> , Size (in): <i>6.75</i> , Bend Angle (°): <i>2.6</i> , Rotor Lobe: <i>7</i> , Stator Lobe: <i>5.7</i> , Stator Stage: <i>5.7</i>	Contender	CDM 650-011	4 1/2" IF Box	4 1/2" Reg Box		6.750		31.55	32.55
Drill Collar Description: <i>NM Pony</i> , Style: <i>Pony</i> , Type: <i>NM</i>	DTI	DR34595	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		13.14	45.69
UBHO Sub Description: <i>UBHO Sub</i> , Type: <i>NM</i>	DTI	DR43487	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		3.80	49.49
Drill Collar Description: <i>6.75" NMDC (MWD Tool)</i> , Style: <i>Slick Drill</i> , Type: <i>NM</i>	DTI	DR41068	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		28.16	77.65
Drill Collar Description: <i>6.75" NMDC (Spacer)</i> , Style: <i>Slick Drill</i> , Type: <i>NM</i>	DTI	DR41336	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		29.46	107.11

MWD Items									
No Items									

Directional Activities									
Activity Type	Code	Start Date	Start Time	End Time	End Date	Start (ft)	End (ft)	Comments/Details	
Slide Drill	2	10-03	22:00	02:00	10-04	11154.00	11235.00	Pressure On (psi): <i>3100.00</i> , Pressure Off (psi): <i>2900.00</i> , Weight On Bit (klbs): <i>30.00</i> , Flow Rate (gpm): <i>550.00</i> , Strokes Per Minute: <i>171</i> , Toolface: <i>340</i> , Toolface Type: <i>magnetic</i>	
Survey	46	10-04	02:00	02:05	10-04	11235.00	11235.00	Inclination (°): <i>1.980</i> , Azimuth (°): <i>33.490</i> , TVD (ft): <i>11160.24</i> , Dogleg (°/100 ft): <i>3.97</i> , Sensor Depth (ft): <i>11177.00</i> , Bit To Sensor (ft): <i>58.00</i>	
Slide Drill	2	10-04	02:05	07:00	10-04	11235.00	11329.00	Pressure On (psi): <i>3551.00</i> , Pressure Off (psi): <i>3200.00</i> , Weight On Bit (klbs): <i>40.00</i> , Flow Rate (gpm): <i>600.00</i> , Strokes Per Minute: <i>186</i> , Toolface: <i>355</i> , Toolface Type: <i>gravity</i>	
Survey	46	10-04	07:00	07:15	10-04	11329.00	11329.00	Inclination (°): <i>12.000</i> , Azimuth (°): <i>4.920</i> , TVD (ft): <i>11253.44</i> , Dogleg (°/100 ft): <i>10.96</i> , Sensor Depth (ft): <i>11271.00</i> , Bit To Sensor (ft): <i>58.00</i>	
Slide Drill	2	10-04	07:15	07:55	10-04	11329.00	11359.00	Pressure On (psi): <i>3551.00</i> , Pressure Off (psi): <i>3200.00</i> , Weight On Bit (klbs): <i>40.00</i> , Flow Rate (gpm): <i>600.00</i> , Strokes Per Minute: <i>186</i> , Toolface: <i>0</i> , Toolface Type: <i>gravity</i>	
Other	16	10-04	07:55	08:15	10-04			Remove Rotating Head	
Slide Drill	2	10-04	08:15	09:45	10-04	11359.00	11423.00	Pressure On (psi): <i>3551.00</i> , Pressure Off (psi): <i>3200.00</i> , Weight On Bit (klbs): <i>40.00</i> , Flow Rate (gpm): <i>600.00</i> , Strokes Per Minute: <i>186</i> , Toolface: <i>0</i> , Toolface Type: <i>gravity</i>	
Survey	46	10-04	09:45	09:50	10-04	11423.00	11423.00	Inclination (°): <i>19.520</i> , Azimuth (°): <i>4.750</i> , TVD (ft): <i>11343.84</i> , Dogleg (°/100 ft): <i>8.00</i> , Sensor Depth (ft): <i>11365.00</i> , Bit To Sensor (ft): <i>58.00</i>	
Slide Drill	2	10-04	09:50	11:00	10-04	11423.00	11517.00	Pressure On (psi): <i>3551.00</i> , Pressure Off (psi): <i>3200.00</i> , Weight On Bit (klbs): <i>40.00</i> , Flow Rate (gpm): <i>600.00</i> , Strokes Per Minute: <i>186</i> , Toolface: <i>340</i> , Toolface Type: <i>gravity</i>	
Survey	46	10-04	11:00	11:10	10-04	11517.00	11517.00	Inclination (°): <i>27.120</i> , Azimuth (°): <i>358.770</i> , TVD (ft): <i>11430.11</i> , Dogleg (°/100 ft): <i>8.46</i> , Sensor Depth (ft): <i>11459.00</i> , Bit To Sensor (ft): <i>58.00</i>	
Slide Drill	2	10-04	11:10	11:55	10-04	11517.00	11580.00	Pressure On (psi): <i>3551.00</i> , Pressure Off (psi): <i>3200.00</i> , Weight On Bit (klbs): <i>40.00</i> , Flow Rate (gpm): <i>600.00</i> , Strokes Per Minute: <i>186</i> , Toolface: <i>0</i> , Toolface Type: <i>gravity</i>	
Survey	46	10-04	11:55	12:05	10-04	11580.00	11580.00	Inclination (°): <i>26.590</i> , Azimuth (°): <i>2.640</i> , TVD (ft): <i>11486.32</i> , Dogleg (°/100 ft): <i>2.90</i> , Sensor Depth (ft): <i>11522.00</i> , Bit To Sensor (ft): <i>58.00</i>	
Slide Drill	2	10-04	12:05	12:25	10-04	11580.00	11611.00	Pressure On (psi): <i>3551.00</i> , Pressure Off (psi): <i>3200.00</i> , Weight On Bit (klbs): <i>40.00</i> , Flow Rate (gpm): <i>600.00</i> , Strokes Per Minute: <i>186</i> , Toolface: <i>0</i> , Toolface Type: <i>gravity</i>	
Survey	46	10-04	12:25	12:30	10-04	11611.00	11611.00	Inclination (°): <i>28.790</i> , Azimuth (°): <i>4.310</i> , TVD (ft): <i>11513.76</i> , Dogleg (°/100 ft): <i>7.52</i> , Sensor Depth (ft): <i>11553.00</i> , Bit To Sensor (ft): <i>58.00</i>	
Slide Drill	2	10-04	12:30	13:00	10-04	11611.00	11643.00	Pressure On (psi): <i>3551.00</i> , Pressure Off (psi): <i>3200.00</i> , Weight On Bit (klbs): <i>40.00</i> , Flow Rate (gpm): <i>600.00</i> , Strokes Per Minute: <i>186</i> , Toolface: <i>0</i> , Toolface Type: <i>gravity</i>	
Survey	46	10-04	13:00	13:10	10-04	11643.00	11643.00	Inclination (°): <i>31.650</i> , Azimuth (°): <i>3.600</i> , TVD (ft): <i>11541.41</i> , Dogleg (°/100 ft): <i>9.01</i> , Sensor Depth (ft): <i>11585.00</i> , Bit To Sensor (ft): <i>58.00</i>	
Slide Drill	2	10-04	13:10	13:40	10-04	11643.00	11674.00	Pressure On (psi): <i>3551.00</i> , Pressure Off (psi): <i>3200.00</i> , Weight On Bit (klbs): <i>40.00</i> , Flow Rate (gpm): <i>600.00</i> , Strokes Per Minute: <i>186</i> , Toolface: <i>0</i> , Toolface Type: <i>gravity</i>	

Survey	46	10-04	13:40	13:45	10-04	11674.00	11674.00	Inclination (°): 35.740, Azimuth (°): 1.850, TVD (ft): 11567.20, Dogleg (°/100 ft): 13.56, Sensor Depth (ft): 11616.00, Bit To Sensor (ft): 58.00
Slide Drill	2	10-04	13:45	14:00	10-04	11674.00	11706.00	Pressure On (psi): 3551.00, Pressure Off (psi): 3200.00, Weight On Bit (klbs): 40.00, Flow Rate (gpm): 600.00, Strokes Per Minute: 186, Toolface: 0, Toolface Type: gravity
Survey	46	10-04	14:00	14:10	10-04	11706.00	11706.00	Inclination (°): 37.760, Azimuth (°): 359.560, TVD (ft): 11592.84, Dogleg (°/100 ft): 7.63, Sensor Depth (ft): 11648.00, Bit To Sensor (ft): 58.00
Slide Drill	2	10-04	14:10	14:25	10-04	11706.00	11719.00	Pressure On (psi): 3551.00, Pressure Off (psi): 3200.00, Weight On Bit (klbs): 40.00, Flow Rate (gpm): 600.00, Strokes Per Minute: 186, Toolface: 0, Toolface Type: gravity
Circulating	3	10-04	14:25	14:50	10-04			Circulate to POOH to P/U Bail out Assembly
Pooh	7	10-04	14:50	19:30	10-04			POOH do to Build Rates
Change BHA	6	10-04	19:30	20:30	10-04			C/O BHA , Motor & Bit
Circulating	3	10-04	20:30	20:45	10-04			Shallow Test Tools
TIH	8	10-04	20:45	21:00	10-04			M/U Bit & NMDC
TIH	8	10-04	21:00	03:00	10-05			TIH W/ BHA #6

MWD Activities

No Activities



Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Saturday, Oct 05 00:00 - 23:59 (Day 21 of 72)

Billing: \$16,400.00 (\$226,501.01 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	11719.00	Downhole Hours	22.50	Rotating WOB (klbs)	
Bit Depth (ft)	11804.00	Drilling Hours	2.58	Sliding WOB (klbs)	40.00 - 40.00
Bottom Hole Depth (ft)	11804.00	Hours Circulating	3.08	Rotating SPM	
Total Distance (ft)	85.00	Hours Sliding	2.58	Sliding SPM	156.00 - 156.00
Distance Rotated (ft)	0.00	Hours Rotating	0.00	Motor RPM	120.00 - 195.00
Distance Slid (ft)	85.00			Surface RPM	
Inclination In	42.20			Flow Rate (gpm)	500.00 - 500.00
Inclination Out	42.20			On Bottom Pressure (psi)	3300.00 - 3300.00
Azimuth In	1.85	% Hours Rotating	0%	Off Bottom Pressure (psi)	3000.00 - 3000.00
Azimuth Out	1.85	% Hours Sliding	100%		
AVG Total ROP (ft/h)	16.22	% Distance Sliding	100%		
AVG Rotating ROP (ft/h)	0.00	% Distance Rotating	0%		
AVG Sliding ROP (ft/h)	16.22				

Personnel

Name	Position
Kyle Kusak	MWD Engineer
Shawn Flores	MWD Engineer
Joel Johnson	Directional Driller
Orey Meredith	Directional Driller
Omar Alaniz	Directional Driller

BHA #6 - BHA #6 (Curve Bailout)

Date In: Oct 4, 2019, 19:30 Date Out: Oct 5, 2019, 11:30

Bit Details		Motor Details		Directional Comments
OD (in)	8.500	Size (in)	6.75	Contender: 2.6 ABH 7/8 5.7 Stg Mtr, Rev/Gal: 0.24, Flow Range: 300-600, Max Diff: 1645 psi, Max Operating Torque: 15,922 ft/lbs, Protracted Angle: 2.60° / Bit; Halliburton 8.5" " Type: GTD64C , SN: 13241997 TFA: 2.227 , Jets: 6 x 22s, Bit Runs: 3
Vendor	Halliburton	Lobe/Stage	7/6, 5.7	
S/N	13241997	Bend Angle	2.6	
Nozzles	6 x 22	Speed (rev/gal)	0.24	MWD Comments
Total Flow Area (in²)	2.227	Wear Pad OD (in)	7.250	POOH Reason Build Rate: POOH for Build Rates
Drilling Hours for Day	2.58	Bit Distances		
Total Drilled for Day (ft)	85.00	Survey (Bit to Say): 62.00 ft, Gamma		
Drilling Hours for BHA	2.58	(Gamma): 57.00 ft		
Total Drilled for BHA (ft)	85.00			

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: <i>GTD64C</i> , Style: <i>PDC</i> , Gauge Length (in): <i>3.00</i> , Size (in): <i>8.50</i>	Halliburton	13241997	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: <i>2.60° ABH 7/8 5.7 Stg Mtr Slick Sleeve</i> , Size (in): <i>6.75</i> , Bend Angle (°): <i>2.6</i> , Rotor Lobe: <i>7</i> , Stator Lobe: <i>5.7</i> , Stator Stage: <i>5.7</i>	Contender	CDM 650-011	4 1/2" IF Box	4 1/2" Reg Box		6.750		31.55	32.55
Drill Collar Description: <i>NM Pony</i> , Style: <i>Pony</i> , Type: <i>NM</i>	DTI	DR34595	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		13.14	45.69
UBHO Sub Description: <i>UBHO Sub</i> , Type: <i>NM</i>	DTI	DR43487	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		3.80	49.49
Drill Collar Description: <i>6.75" NMDC (MWD Tool)</i> , Style: <i>Slick Drill</i> , Type: <i>NM</i>	DTI	DR41068	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		28.16	77.65
Drill Collar Description: <i>6.75" NMDC (Spacer)</i> , Style: <i>Slick Drill</i> , Type: <i>NM</i>	DTI	DR41336	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		29.46	107.11

MWD Items

No Items

BHA #7 - BHA #7 (Bail Out 3°)			Date In: Oct 5, 2019, 13:00 Date Out: Oct 6, 2019, 16:30	
Bit Details		Motor Details		Directional Comments
OD (in)	8.500	Size (in)	6.75	Contender 3° ABH 7/8 5.0 Stg Mtr, Rev/Gal: 0.28, Flow Range: 300-600, Max Diff: 1505 psi, Max Operating Torque: 12813 ft/lbs, Protracted Angle: / Bit: Baker Hughes 8.5" " Type: GX-30C , SN:5291888 TFA: 1.113 , Jets: 3 x 22s, Bit Runs: 0
Vendor	Baker Hughes	Lobe/Stage	7/8, 5.0	
S/N	5291888	Bend Angle	3.0	
Nozzles	3 x 22	Speed (rev/gal)	0.28	
Total Flow Area (in²)	1.113	Wear Pad OD (in)	7.250	MWD Comments
Drilling Hours for Day	0.00	Bit Distances		POOH Reason Change Bottom Hole Assembly: motor performed well
Total Drilled for Day (ft)		Survey (Bit to Svy): 57.00 ft, Gamma (Gamma): 52.00 ft, Bend: 5.10 ft		
Drilling Hours for BHA	14.00			
Total Drilled for BHA (ft)	146.00			



Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Sunday, Oct 06 00:00 - 23:59 (Day 22 of 72)

Billing: \$18,900.00 (\$226,501.01 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	11804.00	Downhole Hours	24.00	Rotating WOB (klbs)	
Bit Depth (ft)	11950.00	Drilling Hours	14.00	Sliding WOB (klbs)	75.00 - 75.00
Bottom Hole Depth (ft)	11950.00	Hours Circulating	0.50	Rotating SPM	
Total Distance (ft)	146.00	Hours Sliding	14.00	Sliding SPM	186.00 - 186.00
Distance Rotated (ft)	0.00	Hours Rotating	0.00	Motor RPM	130.00 - 195.00
Distance Slid (ft)	146.00			Surface RPM	
Inclination In	60.75			Flow Rate (gpm)	600.00 - 600.00
Inclination Out	76.35			On Bottom Pressure (psi)	3500.00 - 3500.00
Azimuth In	356.92	% Hours Rotating	0%	Off Bottom Pressure (psi)	3450.00 - 3450.00
Azimuth Out	355.52	% Hours Sliding	100%		
AVG Total ROP (ft/h)	10.43	% Distance Sliding	100%		
AVG Rotating ROP (ft/h)	0.00	% Distance Rotating	0%		
AVG Sliding ROP (ft/h)	10.43				

Personnel

Name	Position
Kyle Kusak	MWD Engineer
Shawn Flores	MWD Engineer
Joel Johnson	Directional Driller
Orey Meredith	Directional Driller
Omar Alaniz	Directional Driller

BHA #7 - BHA #7 (Bail Out 3°)

Date In: Oct 5, 2019, 13:00 Date Out: Oct 6, 2019, 16:30

Bit Details		Motor Details		Directional Comments
OD (in)	8.500	Size (in)	6.75	Contender 3° ABH 7/8 5.0 Stg Mtr, Rev/Gal: 0.28, Flow Range: 300-600, Max Diff: 1505 psi, Max Operating Torque: 12813 ft/lbs, Protracted Angle: / Bit; Baker Hughes 8.5" " Type: GX-30C , SN:5291888 TFA: 1.113 , Jets: 3 x 22s, Bit Runs: 0
Vendor	Baker Hughes	Lobe/Stage	7/8, 5.0	
S/N	5291888	Bend Angle	3.0	
Nozzles	3 x 22	Speed (rev/gal)	0.28	
Total Flow Area (in²)	1.113	Wear Pad OD (in)	7.250	MWD Comments
Drilling Hours for Day	14.00	Bit Distances		
Total Drilled for Day (ft)	146.00	Survey (Bit to Svy): 57.00 ft, Gamma (Gamma): 52.00 ft, Bend: 5.10 ft		
Drilling Hours for BHA	14.00			
Total Drilled for BHA (ft)	146.00			
				POOH Reason
				Change Bottom Hole Assembly: motor performed well

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: <i>GX-30C</i> , Style: <i>Roller Cone</i> , Gauge Length (in): <i>3.25</i> , Size (in): <i>8.50</i>	Baker Hughes	5291888	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: <i>3.0° ABH 7/8 5.0 Stg Mtr w/ 8 1/8" Stab</i> , Size (in): <i>6.75</i> , Bend Angle (°): <i>3</i> , Rotor Lobe: <i>7</i> , Stator Lobe: <i>8</i> , Stator Stage: <i>5</i>	Contender	650-012	4 1/2" IF Box	4 1/2" Reg Box		6.750		26.07	27.07
Drill Collar Description: <i>NM Pony</i> , Style: <i>Pony</i> , Type: <i>NM</i>	DTI	DR34595	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		13.14	40.21
UBHO Sub Description: <i>UBHO Sub</i> , Type: <i>NM</i>	DTI	DR43487	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		3.80	44.01
Drill Collar Description: <i>6.75" NMDC (MWD Tool)</i> , Style: <i>Slick Drill</i> , Type: <i>NM</i>	DTI	DR41068	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		28.16	72.17
Drill Collar Description: <i>6.75" NMDC (Spacer)</i> , Style: <i>Slick Drill</i> , Type: <i>NM</i>	DTI	DR41336	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		29.46	101.63

MWD Items

No Items

Date In: Oct 6, 2019, 16:30 Date Out: Oct 8, 2019, 15:00

Bit Details		Motor Details		Directional Comments
OD (in)	8.500	Size (in)	7.0	1.75 FBH 6/7 6.4 Stg Mtr, Rev/Gal: 0.30, Flow Range: 350-750, Max Diff: 1980 psi, Max Operating Torque: 16550 ft/lbs, Protracted Angle: 1.77 / Bit; Halliburton 8.5" Type: DD506TWX , SN: 5299085 TFA: 2.27 , Jets: 6 x 22s, Bit Runs: 2
Vendor	Baker Hughes	Lobe/Stage	6/7, 8.4	
S/N	5299085	Bend Angle	1.75	
Nozzles	6 x 22	Speed (rev/gal)	0.30	
Total Flow Area (in²)	2.270	Wear Pad OD (in)	7.250	MWD Comments
Drilling Hours for Day	0.00	Bit Distances		
Total Drilled for Day (ft)		Survey (Bit to Svy): 64.00 ft, Gamma (Gamma): 61.00 ft, Bend: 5.35 ft		POOH Reason
Drilling Hours for BHA	28.50			
Total Drilled for BHA (ft)	3624.00			
				Downhole Motor Incident: Pooh due to motor pressuring up repeatedly while rotating. Motor began pressure spiking around 14,000' and continued to get worse. WOB never topped out @ 46K and averaged 40-42 for most of the run.

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: <i>DD506TWX</i> , Style: <i>PDC</i> , Gauge Length (in): <i>3.50</i> , Size (in): <i>8.50</i>	Baker Hughes	5299085	4 1/2" Reg Pin			8.500		1.20	1.20
Mud Motor Description: <i>1.75 FBH 6/7 8.4 Stg Mtr Slick</i> , Size (in): <i>7.00</i> , Bend Angle (°): <i>1.75</i> , Rotor Lobe: <i>6</i> , Stator Lobe: <i>7</i> , Stator Stage: <i>8.4</i>	Contender	700-40-025	4 1/2" IF Box	4 1/2" Reg Box		7.000		34.13	35.33
Drill Collar Description: <i>NM Pony</i> , Style: <i>Pony</i> , Type: <i>NM</i>	DTI	DR34595	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		13.14	48.47
UBHO Sub Description: <i>UBHO Sub</i> , Type: <i>NM</i>	DTI	DR43487	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		3.80	52.27
Drill Collar Description: <i>6.75" NMDC (MWD Tool)</i> , Style: <i>Slick Drill</i> , Type: <i>NM</i>	DTI	DR41068	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		28.16	80.43
Drill Collar Description: <i>6.75" NMDC (Spacer)</i> , Style: <i>Slick Drill</i> , Type: <i>NM</i>	DTI	DR41336	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		29.46	109.89

No Items

No Items

Activity Type	Code	Start	Start	End	End	Start (ft)	End (ft)	Comments/Details
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Activity Type	Code	Start Date	Start Time	End Time	End Date	Start (ft)	End (ft)	Comments/Details
Slide Drill	2	10-05	21:00	05:05	10-06	11804.00	11892.00	Pressure On (psi): 3500.00, Pressure Off (psi): 3450.00, Weight On Bit (klbs): 75.00, Flow Rate (gpm): 600.00, Strokes Per Minute: 186, Toolface: 0, Toolface Type: gravity
Survey	46	10-06	05:05	05:10	10-06	11892.00	11892.00	Inclination (°): 60.750, Azimuth (°): 356.920, TVD (ft): 11722.55, Dogleg (°/100 ft): 20.36, Sensor Depth (ft): 11835.00, Bit To Sensor (ft): 57.00
Slide Drill	2	10-06	05:10	08:20	10-06	11892.00	11924.00	Pressure On (psi): 3500.00, Pressure Off (psi): 3450.00, Weight On Bit (klbs): 75.00, Flow Rate (gpm): 600.00, Strokes Per Minute: 186, Toolface: 15, Toolface Type: gravity
Survey	46	10-06	08:20	08:25	10-06	11924.00	11924.00	Inclination (°): 69.140, Azimuth (°): 355.340, TVD (ft): 11736.09, Dogleg (°/100 ft): 26.60, Sensor Depth (ft): 11867.00, Bit To Sensor (ft): 57.00
Slide Drill	2	10-06	08:25	11:10	10-06	11924.00	11950.00	Pressure On (psi): 3500.00, Pressure Off (psi): 3450.00, Weight On Bit (klbs): 75.00, Flow Rate (gpm): 600.00, Strokes Per Minute: 186, Toolface: 30, Toolface Type: gravity
Survey	46	10-06	11:10	11:15	10-06	11950.00	11950.00	Inclination (°): 76.350, Azimuth (°): 355.520, TVD (ft): 11743.80, Dogleg (°/100 ft): 27.74, Sensor Depth (ft): 11893.00, Bit To Sensor (ft): 57.00
Circulating	3	10-06	11:15	11:30	10-06			Circ / Pump Slug
Pooh	7	10-06	11:30	16:30	10-06			POOH for Lateral BHA
Change BHA	6	10-06	16:30	18:00	10-06			C/O Motor & Bit / BHA #8
Circulating	3	10-06	18:00	18:15	10-06			Shallow test tools
TIH	8	10-06	18:15	20:30	10-06			TIH W/ BHA #8 t/ Casing Shoe
Other	16	10-06	20:30	21:20	10-06			Slip & Cut Drill Line
TIH	8	10-06	21:20	23:55	10-06			TIH W/ BHA #8 t/ 11804'

Activity	Frequency	Duration	Intensity	Notes
No Activities				

No Activities



Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Monday, Oct 07 00:00 - 23:59 (Day 23 of 72)

Billing: \$7,200.00 (\$226,501.01 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	11950.00	Downhole Hours	24.00	Rotating WOB (klbs)	36.00 - 46.00
Bit Depth (ft)	14732.00	Drilling Hours	20.25	Sliding WOB (klbs)	32.00 - 40.00
Bottom Hole Depth (ft)	14732.00	Hours Circulating	0.92	Rotating SPM	201.00 - 233.00
Total Distance (ft)	2782.00	Hours Sliding	4.25	Sliding SPM	225.00 - 231.00
Distance Rotated (ft)	2593.00	Hours Rotating	16.00	Motor RPM	130.00 - 195.00
Distance Slid (ft)	189.00			Surface RPM	40.00 - 60.00
Inclination In	85.63			Flow Rate (gpm)	650.00 - 750.00
Inclination Out	90.68			On Bottom Pressure (psi)	4500.00 - 5300.00
Azimuth In	357.98	% Hours Rotating	79%	Off Bottom Pressure (psi)	3750.00 - 4700.00
Azimuth Out	358.24	% Hours Sliding	21%		
AVG Total ROP (ft/h)	137.38	% Distance Sliding	7%		
AVG Rotating ROP (ft/h)	162.06	% Distance Rotating	93%		
AVG Sliding ROP (ft/h)	44.47				

Personnel

Name	Position
Kyle Kusak	MWD Engineer
Shawn Flores	MWD Engineer
Joel Johnson	Directional Driller
Orey Meredith	Directional Driller
Omar Alaniz	Directional Driller

BHA #8 - BHA #8 (Lateral)

Date In: Oct 6, 2019, 16:30 Date Out: Oct 8, 2019, 15:00

Bit Details		Motor Details		Directional Comments
OD (in)	8.500	Size (in)	7.0	1.75 FBH 6/7 6.4 Stg Mtr, Rev/Gal: 0.30, Flow Range: 350-750, Max Diff: 1980 psi, Max Operating Torque: 16550 ft/lbs, Protracted Angle: 1.77 / Bit; Halliburton 8.5" Type: DD506TWX , SN: 5299085 TFA: 2.27 , Jets: 6 x 22s, Bit Runs: 2
Vendor	Baker Hughes	Lobe/Stage	6/7, 8.4	
S/N	5299085	Bend Angle	1.75	
Nozzles	6 x 22	Speed (rev/gal)	0.30	MWD Comments
Total Flow Area (in²)	2.270	Wear Pad OD (in)	7.250	POOH Reason Downhole Motor Incident: Pooh due to motor pressuring up repeatedly while rotating. Motor began pressure spiking around 14,000' and continued to get worse. WOB never topped out @ 46K and averaged 40-42 for most of the run.
Drilling Hours for Day	20.25	Bit Distances		
Total Drilled for Day (ft)	2782.00	Survey (Bit to Svy): 64.00 ft, Gamma		
Drilling Hours for BHA	28.50	(Gamma): 61.00 ft, Bend: 5.35 ft		
Total Drilled for BHA (ft)	3624.00			

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: DD506TWX, Style: PDC, Gauge Length (in): 3.50, Size (in): 8.50	Baker Hughes	5299085	4 1/2" Reg Pin			8.500		1.20	1.20
Mud Motor Description: 1.75 FBH 6/7 8.4 Stg Mtr Slick, Size (in): 7.00, Bend Angle (°): 1.75, Rotor Lobe: 6, Stator Lobe: 7, Stator Stage: 8.4	Contender	700-40-025	4 1/2" IF Box	4 1/2" Reg Box		7.000		34.13	35.33
Drill Collar Description: NM Pony, Style: Pony, Type: NM	DTI	DR34595	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		13.14	48.47
UBHO Sub Description: UBHO Sub, Type: NM	DTI	DR43487	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		3.80	52.27
Drill Collar Description: 6.75" NMDC (MWD Tool), Style: Slick Drill, Type: NM	DTI	DR41068	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		28.16	80.43
Drill Collar Description: 6.75" NMDC (Spacer), Style: Slick Drill, Type: NM	DTI	DR41336	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		29.46	109.89

MWD Items

No Items

Directional Activities

Activity Type	Code	Start Date	Start Time	End Time	End Date	Start (ft)	End (ft)	Comments/Details
Circulating	3	10-07	00:00	00:55	10-07			Wash & Ream f/11804' t/ 11950'
Rotary Drill	1	10-07	00:55	01:15	10-07	11950.00	11995.00	Pressure On (psi): 4500.00, Pressure Off (psi): 3750.00, Weight On Bit (klbs): 36.00, Surface RPM: 40, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 201.00

Survey	46	10-07	01:15	01:20	10-07	11995.00	11995.00	Inclination (°): 85.630, Azimuth (°): 357.980, TVD (ft): 11749.74, Dogleg (°/100 ft): 25.24, Sensor Depth (ft): 11931.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	10-07	01:20	01:55	10-07	11995.00	12089.00	Pressure On (psi): 5100.00, Pressure Off (psi): 4400.00, Weight On Bit (klbs): 40.00, Surface RPM: 40, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 725.00, Strokes Per Minute: 225.00
Survey	46	10-07	01:55	02:00	10-07	12089.00	12089.00	Inclination (°): 87.780, Azimuth (°): 359.120, TVD (ft): 11755.15, Dogleg (°/100 ft): 2.59, Sensor Depth (ft): 12025.00, Bit To Sensor (ft): 64.00
Slide Drill	2	10-07	02:00	02:55	10-07	12089.00	12119.00	Pressure On (psi): 4575.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 40.00, Flow Rate (gpm): 725.00, Strokes Per Minute: 225, Toolface: 0, Toolface Type: gravity
Rotary Drill	1	10-07	02:55	03:25	10-07	12119.00	12183.00	Pressure On (psi): 5100.00, Pressure Off (psi): 4250.00, Weight On Bit (klbs): 40.00, Surface RPM: 40, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 725.00, Strokes Per Minute: 225.00
Survey	46	10-07	03:25	03:30	10-07	12183.00	12183.00	Inclination (°): 91.030, Azimuth (°): 356.840, TVD (ft): 11756.12, Dogleg (°/100 ft): 4.22, Sensor Depth (ft): 12119.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	10-07	03:30	03:40	10-07	12183.00	12195.00	Pressure On (psi): 5100.00, Pressure Off (psi): 4250.00, Weight On Bit (klbs): 40.00, Surface RPM: 40, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 725.00, Strokes Per Minute: 225.00
Slide Drill	2	10-07	03:40	04:00	10-07	12195.00	12207.00	Pressure On (psi): 4575.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 40.00, Flow Rate (gpm): 725.00, Strokes Per Minute: 225, Toolface: 75, Toolface Type: gravity
Rotary Drill	1	10-07	04:00	04:30	10-07	12207.00	12278.00	Pressure On (psi): 5100.00, Pressure Off (psi): 4250.00, Weight On Bit (klbs): 40.00, Surface RPM: 40, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 725.00, Strokes Per Minute: 225.00
Survey	46	10-07	04:30	04:35	10-07	12278.00	12278.00	Inclination (°): 91.960, Azimuth (°): 356.660, TVD (ft): 11753.64, Dogleg (°/100 ft): 1.00, Sensor Depth (ft): 12214.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	10-07	04:35	05:05	10-07	12278.00	12372.00	Pressure On (psi): 5100.00, Pressure Off (psi): 4250.00, Weight On Bit (klbs): 40.00, Surface RPM: 40, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 725.00, Strokes Per Minute: 225.00
Survey	46	10-07	05:05	05:10	10-07	12372.00	12372.00	Inclination (°): 91.120, Azimuth (°): 356.660, TVD (ft): 11751.12, Dogleg (°/100 ft): 0.89, Sensor Depth (ft): 12308.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	10-07	05:10	05:20	10-07	12372.00	12382.00	Pressure On (psi): 5100.00, Pressure Off (psi): 4250.00, Weight On Bit (klbs): 40.00, Surface RPM: 40, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 725.00, Strokes Per Minute: 225.00
Slide Drill	2	10-07	05:20	05:50	10-07	12382.00	12404.00	Pressure On (psi): 4575.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 40.00, Flow Rate (gpm): 725.00, Strokes Per Minute: 225, Toolface: 70, Toolface Type: gravity
Rotary Drill	1	10-07	05:50	06:10	10-07	12404.00	12467.00	Pressure On (psi): 5100.00, Pressure Off (psi): 4250.00, Weight On Bit (klbs): 40.00, Surface RPM: 40, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 725.00, Strokes Per Minute: 225.00
Survey	46	10-07	06:10	06:15	10-07	12467.00	12467.00	Inclination (°): 92.440, Azimuth (°): 357.450, TVD (ft): 11748.17, Dogleg (°/100 ft): 1.62, Sensor Depth (ft): 12403.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	10-07	06:15	06:25	10-07	12467.00	12479.00	Pressure On (psi): 5100.00, Pressure Off (psi): 4250.00, Weight On Bit (klbs): 40.00, Surface RPM: 40, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 725.00, Strokes Per Minute: 225.00
Slide Drill	2	10-07	06:25	06:45	10-07	12479.00	12499.00	Pressure On (psi): 4575.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 40.00, Flow Rate (gpm): 725.00, Strokes Per Minute: 225, Toolface: 100, Toolface Type: gravity
Rotary Drill	1	10-07	06:45	07:05	10-07	12499.00	12562.00	Pressure On (psi): 5100.00, Pressure Off (psi): 4250.00, Weight On Bit (klbs): 40.00, Surface RPM: 40, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 725.00, Strokes Per Minute: 225.00
Survey	46	10-07	07:05	07:10	10-07	12562.00	12562.00	Inclination (°): 92.660, Azimuth (°): 359.470, TVD (ft): 11743.94, Dogleg (°/100 ft): 2.14, Sensor Depth (ft): 12498.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	10-07	07:10	07:35	10-07	12562.00	12656.00	Pressure On (psi): 5300.00, Pressure Off (psi): 4500.00, Weight On Bit (klbs): 42.00, Surface RPM: 60, Surface Torque (ft lbf): 13500.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Survey	46	10-07	07:35	07:40	10-07	12656.00	12656.00	Inclination (°): 92.220, Azimuth (°): 359.560, TVD (ft): 11739.94, Dogleg (°/100 ft): 0.48, Sensor Depth (ft): 12592.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	10-07	07:40	08:05	10-07	12656.00	12751.00	Pressure On (psi): 5300.00, Pressure Off (psi): 4500.00, Weight On Bit (klbs): 42.00, Surface RPM: 60, Surface Torque (ft lbf): 13500.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Survey	46	10-07	08:05	08:10	10-07	12751.00	12751.00	Inclination (°): 91.780, Azimuth (°): 358.770, TVD (ft): 11736.62, Dogleg (°/100 ft): 0.95, Sensor Depth (ft): 12687.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	10-07	08:10	08:40	10-07	12751.00	12846.00	Pressure On (psi): 5300.00, Pressure Off (psi): 4500.00, Weight On Bit (klbs): 42.00, Surface RPM: 60, Surface Torque (ft lbf): 13500.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Survey	46	10-07	08:40	08:45	10-07	12846.00	12846.00	Inclination (°): 91.380, Azimuth (°): 358.070, TVD (ft): 11734.00, Dogleg (°/100 ft): 0.85, Sensor Depth (ft): 12782.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	10-07	08:45	09:10	10-07	12846.00	12940.00	Pressure On (psi): 5300.00, Pressure Off (psi): 4500.00, Weight On Bit (klbs): 42.00, Surface RPM: 60, Surface Torque (ft lbf): 13500.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Survey	46	10-07	09:10	09:15	10-07	12940.00	12940.00	Inclination (°): 91.520, Azimuth (°): 357.630, TVD (ft): 11731.62, Dogleg (°/100 ft): 0.49, Sensor Depth (ft): 12876.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	10-07	09:15	09:25	10-07	12940.00	12950.00	Pressure On (psi): 5300.00, Pressure Off (psi): 4500.00, Weight On Bit (klbs): 42.00, Surface RPM: 60, Surface Torque (ft lbf): 13500.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00

Slide Drill	2	10-07	09:25	09:50	10-07	12950.00	12970.00	Pressure On (psi): 4575.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 40.00, Flow Rate (gpm): 725.00, Strokes Per Minute: 225, Toolface: 100, Toolface Type: gravity
Rotary Drill	1	10-07	09:50	10:10	10-07	12970.00	13035.00	Pressure On (psi): 5300.00, Pressure Off (psi): 4500.00, Weight On Bit (klbs): 42.00, Surface RPM: 60, Surface Torque (ft lbf): 13500.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Survey	46	10-07	10:10	10:15	10-07	13035.00	13035.00	Inclination (°): 91.690, Azimuth (°): 357.630, TVD (ft): 11728.96, Dogleg (°/100 ft): 0.18, Sensor Depth (ft): 12971.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	10-07	10:15	10:20	10-07	13035.00	13045.00	Pressure On (psi): 5300.00, Pressure Off (psi): 4500.00, Weight On Bit (klbs): 42.00, Surface RPM: 60, Surface Torque (ft lbf): 13500.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Slide Drill	2	10-07	10:20	10:45	10-07	13045.00	13070.00	Pressure On (psi): 4575.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 40.00, Flow Rate (gpm): 725.00, Strokes Per Minute: 225, Toolface: 110, Toolface Type: gravity
Rotary Drill	1	10-07	10:45	11:00	10-07	13070.00	13129.00	Pressure On (psi): 5300.00, Pressure Off (psi): 4500.00, Weight On Bit (klbs): 42.00, Surface RPM: 60, Surface Torque (ft lbf): 13500.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Survey	46	10-07	11:00	11:05	10-07	13129.00	13129.00	Inclination (°): 91.520, Azimuth (°): 359.910, TVD (ft): 11726.33, Dogleg (°/100 ft): 2.43, Sensor Depth (ft): 13065.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	10-07	11:05	11:30	10-07	13129.00	13223.00	Pressure On (psi): 5300.00, Pressure Off (psi): 4500.00, Weight On Bit (klbs): 42.00, Surface RPM: 60, Surface Torque (ft lbf): 13500.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Survey	46	10-07	11:30	11:35	10-07	13223.00	13223.00	Inclination (°): 91.690, Azimuth (°): 359.910, TVD (ft): 11723.70, Dogleg (°/100 ft): 0.18, Sensor Depth (ft): 13159.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	10-07	11:35	11:40	10-07	13223.00	13237.00	Pressure On (psi): 5300.00, Pressure Off (psi): 4500.00, Weight On Bit (klbs): 42.00, Surface RPM: 60, Surface Torque (ft lbf): 13500.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Slide Drill	2	10-07	11:40	12:00	10-07	13237.00	13250.00	Pressure On (psi): 4575.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 40.00, Flow Rate (gpm): 725.00, Strokes Per Minute: 225, Toolface: 160, Toolface Type: gravity
Rotary Drill	1	10-07	12:00	12:15	10-07	13250.00	13317.00	Pressure On (psi): 5300.00, Pressure Off (psi): 4500.00, Weight On Bit (klbs): 42.00, Surface RPM: 60, Surface Torque (ft lbf): 13500.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Survey	46	10-07	12:15	12:20	10-07	13317.00	13317.00	Inclination (°): 91.030, Azimuth (°): 1.320, TVD (ft): 11721.47, Dogleg (°/100 ft): 1.66, Sensor Depth (ft): 13253.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	10-07	12:20	12:25	10-07	13317.00	13329.00	Pressure On (psi): 5300.00, Pressure Off (psi): 4500.00, Weight On Bit (klbs): 42.00, Surface RPM: 60, Surface Torque (ft lbf): 13500.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Slide Drill	2	10-07	12:25	12:45	10-07	13329.00	13344.00	Pressure On (psi): 4575.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 40.00, Flow Rate (gpm): 725.00, Strokes Per Minute: 225, Toolface: 180, Toolface Type: gravity
Rotary Drill	1	10-07	12:45	13:05	10-07	13344.00	13412.00	Pressure On (psi): 5300.00, Pressure Off (psi): 4500.00, Weight On Bit (klbs): 42.00, Surface RPM: 60, Surface Torque (ft lbf): 13500.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Survey	46	10-07	13:05	13:10	10-07	13412.00	13412.00	Inclination (°): 90.070, Azimuth (°): 1.930, TVD (ft): 11720.55, Dogleg (°/100 ft): 1.20, Sensor Depth (ft): 13348.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	10-07	13:10	13:30	10-07	13412.00	13506.00	Pressure On (psi): 5300.00, Pressure Off (psi): 4500.00, Weight On Bit (klbs): 42.00, Surface RPM: 60, Surface Torque (ft lbf): 13500.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Survey	46	10-07	13:30	13:35	10-07	13506.00	13506.00	Inclination (°): 90.460, Azimuth (°): 1.670, TVD (ft): 11720.12, Dogleg (°/100 ft): 0.50, Sensor Depth (ft): 13442.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	10-07	13:35	14:10	10-07	13506.00	13600.00	Pressure On (psi): 5300.00, Pressure Off (psi): 4500.00, Weight On Bit (klbs): 42.00, Surface RPM: 60, Surface Torque (ft lbf): 13500.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Survey	46	10-07	14:10	14:15	10-07	13600.00	13600.00	Inclination (°): 90.680, Azimuth (°): 1.490, TVD (ft): 11719.18, Dogleg (°/100 ft): 0.30, Sensor Depth (ft): 13536.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	10-07	14:15	14:50	10-07	13600.00	13695.00	Pressure On (psi): 5300.00, Pressure Off (psi): 4500.00, Weight On Bit (klbs): 42.00, Surface RPM: 60, Surface Torque (ft lbf): 13500.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Survey	46	10-07	14:50	14:55	10-07	13695.00	13695.00	Inclination (°): 90.640, Azimuth (°): 0.970, TVD (ft): 11718.09, Dogleg (°/100 ft): 0.55, Sensor Depth (ft): 13631.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	10-07	14:55	15:25	10-07	13695.00	13789.00	Pressure On (psi): 5300.00, Pressure Off (psi): 4500.00, Weight On Bit (klbs): 42.00, Surface RPM: 60, Surface Torque (ft lbf): 13500.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Survey	46	10-07	15:25	15:35	10-07	13789.00	13789.00	Inclination (°): 90.590, Azimuth (°): 1.050, TVD (ft): 11717.08, Dogleg (°/100 ft): 0.10, Sensor Depth (ft): 13725.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	10-07	15:35	16:10	10-07	13789.00	13883.00	Pressure On (psi): 5300.00, Pressure Off (psi): 4500.00, Weight On Bit (klbs): 42.00, Surface RPM: 60, Surface Torque (ft lbf): 13500.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Rig Service - In Hole	19	10-07	16:10	16:25	10-07			Rig Service
Survey	46	10-07	16:25	16:30	10-07	13883.00	13883.00	Inclination (°): 90.460, Azimuth (°): 0.700, TVD (ft): 11716.22, Dogleg (°/100 ft): 0.40, Sensor Depth (ft): 13819.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	10-07	16:30	16:45	10-07	13883.00	13896.00	Pressure On (psi): 5300.00, Pressure Off (psi): 4500.00, Weight On Bit (klbs): 42.00, Surface RPM: 60, Surface Torque (ft lbf): 13500.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Slide Drill	2	10-07	16:45	16:55	10-07	13896.00	13904.00	Pressure On (psi): 4575.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 40.00, Flow Rate (gpm): 725.00, Strokes Per Minute: 225, Toolface: 180, Toolface Type: gravity
Rotary Drill	1	10-07	16:55	17:20	10-07	13904.00	13978.00	Pressure On (psi): 5300.00, Pressure Off (psi): 4500.00, Weight On Bit (klbs): 42.00, Surface RPM: 60, Surface Torque (ft lbf): 13500.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Survey	46	10-07	17:20	17:25	10-07	13978.00	13978.00	Inclination (°): 89.850, Azimuth (°): 0.350, TVD (ft): 11715.96, Dogleg (°/100 ft): 0.74, Sensor Depth (ft): 13914.00, Bit To Sensor (ft): 64.00

Rotary Drill	1	10-07	17:25	18:00	10-07	13978.00	14072.00	Pressure On (psi): 5300.00, Pressure Off (psi): 4500.00, Weight On Bit (klbs): 42.00, Surface RPM: 60, Surface Torque (ft lbf): 13500.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Survey	46	10-07	18:00	18:05	10-07	14072.00	14072.00	Inclination (°): 89.930, Azimuth (°): 359.910, TVD (ft): 11716.14, Dogleg (°/100 ft): 0.48, Sensor Depth (ft): 14008.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	10-07	18:05	18:50	10-07	14072.00	14166.00	Pressure On (psi): 5300.00, Pressure Off (psi): 4500.00, Weight On Bit (klbs): 42.00, Surface RPM: 60, Surface Torque (ft lbf): 13500.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Survey	46	10-07	18:50	18:55	10-07	14166.00	14166.00	Inclination (°): 89.890, Azimuth (°): 359.820, TVD (ft): 11716.29, Dogleg (°/100 ft): 0.10, Sensor Depth (ft): 14102.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	10-07	18:55	19:40	10-07	14166.00	14261.00	Pressure On (psi): 5300.00, Pressure Off (psi): 4500.00, Weight On Bit (klbs): 42.00, Surface RPM: 60, Surface Torque (ft lbf): 13500.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Survey	46	10-07	19:40	19:45	10-07	14261.00	14261.00	Inclination (°): 89.710, Azimuth (°): 359.820, TVD (ft): 11716.62, Dogleg (°/100 ft): 0.19, Sensor Depth (ft): 14197.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	10-07	19:45	20:25	10-07	14261.00	14355.00	Pressure On (psi): 5300.00, Pressure Off (psi): 4500.00, Weight On Bit (klbs): 42.00, Surface RPM: 60, Surface Torque (ft lbf): 13500.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Survey	46	10-07	20:25	20:30	10-07	14355.00	14355.00	Inclination (°): 89.580, Azimuth (°): 359.560, TVD (ft): 11717.20, Dogleg (°/100 ft): 0.31, Sensor Depth (ft): 14291.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	10-07	20:30	21:15	10-07	14355.00	14449.00	Pressure On (psi): 5300.00, Pressure Off (psi): 4500.00, Weight On Bit (klbs): 42.00, Surface RPM: 60, Surface Torque (ft lbf): 13500.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Survey	46	10-07	21:15	21:20	10-07	14449.00	14449.00	Inclination (°): 89.410, Azimuth (°): 359.470, TVD (ft): 11718.03, Dogleg (°/100 ft): 0.20, Sensor Depth (ft): 14385.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	10-07	21:20	21:50	10-07	14449.00	14544.00	Pressure On (psi): 5300.00, Pressure Off (psi): 4500.00, Weight On Bit (klbs): 42.00, Surface RPM: 60, Surface Torque (ft lbf): 13500.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Survey	46	10-07	21:50	21:55	10-07	14544.00	14544.00	Inclination (°): 89.230, Azimuth (°): 359.380, TVD (ft): 11719.16, Dogleg (°/100 ft): 0.21, Sensor Depth (ft): 14480.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	10-07	21:55	22:40	10-07	14544.00	14638.00	Pressure On (psi): 5300.00, Pressure Off (psi): 4500.00, Weight On Bit (klbs): 46.00, Surface RPM: 60, Surface Torque (ft lbf): 13500.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Survey	46	10-07	22:40	22:45	10-07	14638.00	14638.00	Inclination (°): 89.490, Azimuth (°): 359.380, TVD (ft): 11720.21, Dogleg (°/100 ft): 0.28, Sensor Depth (ft): 14574.00, Bit To Sensor (ft): 64.00
Rotary Drill	1	10-07	22:45	22:55	10-07	14638.00	14648.00	Pressure On (psi): 5300.00, Pressure Off (psi): 4500.00, Weight On Bit (klbs): 46.00, Surface RPM: 60, Surface Torque (ft lbf): 13500.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Slide Drill	2	10-07	22:55	23:25	10-07	14648.00	14672.00	Pressure On (psi): 5000.00, Pressure Off (psi): 4700.00, Weight On Bit (klbs): 32.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 231, Toolface: 340, Toolface Type: gravity
Rotary Drill	1	10-07	23:25	23:55	10-07	14672.00	14732.00	Pressure On (psi): 5300.00, Pressure Off (psi): 4500.00, Weight On Bit (klbs): 46.00, Surface RPM: 60, Surface Torque (ft lbf): 13500.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Survey	46	10-07	23:55	00:00	10-08	14732.00	14732.00	Inclination (°): 90.680, Azimuth (°): 358.240, TVD (ft): 11720.07, Dogleg (°/100 ft): 1.75, Sensor Depth (ft): 14668.00, Bit To Sensor (ft): 64.00

MWD Activities

No Activities



Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Tuesday, Oct 08 00:00 - 23:59 (Day 24 of 72)

Billing: \$21,245.00 (\$226,501.01 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	14732.00	Downhole Hours	24.00	Rotating WOB (klbs)	46.00 - 46.00
Bit Depth (ft)	15574.00	Drilling Hours	8.25	Sliding WOB (klbs)	32.00 - 32.00
Bottom Hole Depth (ft)	15574.00	Hours Circulating	0.67	Rotating SPM	233.00 - 233.00
Total Distance (ft)	842.00	Hours Sliding	1.42	Sliding SPM	231.00 - 231.00
Distance Rotated (ft)	789.00	Hours Rotating	6.83	Motor RPM	130.00 - 195.00
Distance Slid (ft)	53.00			Surface RPM	60.00 - 60.00
Inclination In	92.04			Flow Rate (gpm)	750.00 - 750.00
Inclination Out	91.74			On Bottom Pressure (psi)	5000.00 - 5500.00
Azimuth In	357.45	% Hours Rotating	83%	Off Bottom Pressure (psi)	4500.00 - 4700.00
Azimuth Out	0.18	% Hours Sliding	17%		
AVG Total ROP (ft/h)	102.06	% Distance Sliding	6%		
AVG Rotating ROP (ft/h)	115.46	% Distance Rotating	94%		
AVG Sliding ROP (ft/h)	37.41				

Personnel

Name	Position
Kyle Kusak	MWD Engineer
Shawn Flores	MWD Engineer
Joel Johnson	Directional Driller
Orey Meredith	Directional Driller
Omar Alaniz	Directional Driller

BHA #8 - BHA #8 (Lateral)

Date In: Oct 6, 2019, 16:30 Date Out: Oct 8, 2019, 15:00

Bit Details		Motor Details		Directional Comments
OD (in)	8.500	Size (in)	7.0	1.75 FBH 6/7 6.4 Stg Mtr, Rev/Gal: 0.30, Flow Range: 350-750, Max Diff: 1980 psi, Max Operating Torque: 16550 ft/lbs, Protracted Angle: 1.77 / Bit; Halliburton 8.5" Type: DD506TWX , SN: 5299085 TFA: 2.27 , Jets: 6 x 22s, Bit Runs: 2
Vendor	Baker Hughes	Lobe/Stage	6/7, 8.4	
S/N	5299085	Bend Angle	1.75	
Nozzles	6 x 22	Speed (rev/gal)	0.30	
Total Flow Area (in²)	2.270	Wear Pad OD (in)	7.250	MWD Comments
Drilling Hours for Day	8.25	Bit Distances		
Total Drilled for Day (ft)	842.00	Survey (Bit to Svy): 64.00 ft, Gamma (Gamma): 61.00 ft, Bend: 5.35 ft		
Drilling Hours for BHA	28.50			
Total Drilled for BHA (ft)	3624.00			
				POOH Reason
				Downhole Motor Incident: Pooh due to motor pressuring up repeatedly while rotating. Motor began pressure spiking around 14,000' and continued to get worse. WOB never topped out @ 46K and averaged 40-42 for most of the run.

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: DD506TWX, Style: PDC, Gauge Length (in): 3.50, Size (in): 8.50	Baker Hughes	5299085	4 1/2" Reg Pin			8.500		1.20	1.20
Mud Motor Description: 1.75 FBH 6/7 8.4 Stg Mtr Slick, Size (in): 7.00, Bend Angle (°): 1.75, Rotor Lobe: 6, Stator Lobe: 7, Stator Stage: 8.4	Contender	700-40-025	4 1/2" IF Box	4 1/2" Reg Box		7.000		34.13	35.33
Drill Collar Description: NM Pony, Style: Pony, Type: NM	DTI	DR34595	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		13.14	48.47
UBHO Sub Description: UBHO Sub, Type: NM	DTI	DR43487	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		3.80	52.27
Drill Collar Description: 6.75" NMDC (MWD Tool), Style: Slick Drill, Type: NM	DTI	DR41068	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		28.16	80.43
Drill Collar Description: 6.75" NMDC (Spacer), Style: Slick Drill, Type: NM	DTI	DR41336	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		29.46	109.89

MWD Items

No Items

BHA #9 - BHA #9 (Lateral)				Date In: Oct 8, 2019, 15:00 Date Out: Oct 11, 2019, 12:40	
Bit Details		Motor Details		Directional Comments	
OD (in)	8.500	Size (in)	7.0	1.75 FBH 7/8 8.5 Stg Mtr. Rev/Gal: 0.26, Flow Range: 400-750, Max Diff: 1910 psi, Max Operating Torque: 18710 ft/lbs, Protracted Angle: 1.74 / Bit; Halliburton 8.5" Type: DD506TWX , SN:5292927 TFA: 2.27 , Jets: 6 x 22s, Bit Runs: 2	
Vendor	Baker Hughes	Lobe/Stage	7/8, 8.5		
S/N	5292927	Bend Angle	1.75		
Nozzles	6 x 22	Speed (rev/gal)	0.26	MWD Comments	
Total Flow Area (in²)	2.270	Wear Pad OD (in)	7.250		
Drilling Hours for Day	0.00	Bit Distances			
Total Drilled for Day (ft)		Survey (Bit to Svy): 66.00 ft, Gamma			
Drilling Hours for BHA	27.92	(Gamma): 62.00 ft, Bend: 5.35 ft			
Total Drilled for BHA (ft)	3770.00	POOH Reason			
				Total Depth/Casing Point: Motor performed well. yielded 8-10. minimal slack in bearings, drained well with no visual damage.	

Directional Items									
Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: <i>DD506TWX</i> , Style: <i>PDC</i> , Gauge Length (in): <i>3.50</i> , Size (in): <i>8.50</i>	Baker Hughes	5292927	4 1/2" Reg Pin			8.500		1.20	1.20
Mud Motor Description: <i>1.75 FBH 7/8 8.5 Stg Mtr Slick</i> , Size (in): <i>7.00</i> , Bend Angle (°): <i>1.75</i> , Rotor Lobe: <i>7</i> , Stator Lobe: <i>8</i> , Stator Stage: <i>8.5</i>	Contender	700-40-015	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.12	37.32
Drill Collar Description: <i>NM Pony</i> , Style: <i>Pony</i> , Type: <i>NM</i>	DTI	DR34595	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		13.14	50.46
UBHO Sub Description: <i>UBHO Sub</i> , Type: <i>NM</i>	DTI	DR43487	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		3.80	54.26
Drill Collar Description: <i>6.75" NMDC (MWD Tool)</i> , Style: <i>Slick Drill</i> , Type: <i>NM</i>	DTI	DR41068	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		28.16	82.42
Drill Collar Description: <i>6.75" NMDC (Spacer)</i> , Style: <i>Slick Drill</i> , Type: <i>NM</i>	DTI	DR41336	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		29.46	111.88
MWD Items									
No Items									

Directional Activities								
Activity Type	Code	Start Date	Start Time	End Time	End Date	Start (ft)	End (ft)	Comments/Details
Survey	46	10-07	23:55	00:00	10-08	14732.00	14732.00	Inclination (°): <i>90.680</i> , Azimuth (°): <i>358.240</i> , TVD (ft): <i>11720.07</i> , Dogleg (°/100 ft): <i>1.75</i> , Sensor Depth (ft): <i>14668.00</i> , Bit To Sensor (ft): <i>64.00</i>
Rotary Drill	1	10-08	00:00	00:10	10-08	14732.00	14742.00	Pressure On (psi): <i>5300.00</i> , Pressure Off (psi): <i>4500.00</i> , Weight On Bit (klbs): <i>46.00</i> , Surface RPM: <i>60</i> , Surface Torque (ft lbf): <i>13500.00</i> , Flow Rate (gpm): <i>750.00</i> , Strokes Per Minute: <i>233.00</i>
Slide Drill	2	10-08	00:10	00:20	10-08	14742.00	14752.00	Pressure On (psi): <i>5000.00</i> , Pressure Off (psi): <i>4700.00</i> , Weight On Bit (klbs): <i>32.00</i> , Flow Rate (gpm): <i>750.00</i> , Strokes Per Minute: <i>231</i> , Toolface: <i>10</i> , Toolface Type: <i>gravity</i>
Rotary Drill	1	10-08	00:20	01:00	10-08	14752.00	14826.00	Pressure On (psi): <i>5300.00</i> , Pressure Off (psi): <i>4500.00</i> , Weight On Bit (klbs): <i>46.00</i> , Surface RPM: <i>60</i> , Surface Torque (ft lbf): <i>13500.00</i> , Flow Rate (gpm): <i>750.00</i> , Strokes Per Minute: <i>233.00</i>
Survey	46	10-08	01:00	01:05	10-08	14826.00	14826.00	Inclination (°): <i>92.040</i> , Azimuth (°): <i>357.450</i> , TVD (ft): <i>11717.84</i> , Dogleg (°/100 ft): <i>1.67</i> , Sensor Depth (ft): <i>14762.00</i> , Bit To Sensor (ft): <i>64.00</i>
Rotary Drill	1	10-08	01:05	01:50	10-08	14826.00	14921.00	Pressure On (psi): <i>5300.00</i> , Pressure Off (psi): <i>4500.00</i> , Weight On Bit (klbs): <i>46.00</i> , Surface RPM: <i>60</i> , Surface Torque (ft lbf): <i>13500.00</i> , Flow Rate (gpm): <i>750.00</i> , Strokes Per Minute: <i>233.00</i>
Survey	46	10-08	01:50	01:55	10-08	14921.00	14921.00	Inclination (°): <i>92.220</i> , Azimuth (°): <i>356.920</i> , TVD (ft): <i>11714.31</i> , Dogleg (°/100 ft): <i>0.59</i> , Sensor Depth (ft): <i>14857.00</i> , Bit To Sensor (ft): <i>64.00</i>
Rotary Drill	1	10-08	01:55	02:35	10-08	14921.00	15015.00	Pressure On (psi): <i>5300.00</i> , Pressure Off (psi): <i>4500.00</i> , Weight On Bit (klbs): <i>46.00</i> , Surface RPM: <i>60</i> , Surface Torque (ft lbf): <i>13500.00</i> , Flow Rate (gpm): <i>750.00</i> , Strokes Per Minute: <i>233.00</i>
Survey	46	10-08	02:35	02:40	10-08	15015.00	15015.00	Inclination (°): <i>92.000</i> , Azimuth (°): <i>356.660</i> , TVD (ft): <i>11710.85</i> , Dogleg (°/100 ft): <i>0.36</i> , Sensor Depth (ft): <i>14951.00</i> , Bit To Sensor (ft): <i>64.00</i>
Rotary Drill	1	10-08	02:40	02:50	10-08	15015.00	15025.00	Pressure On (psi): <i>5300.00</i> , Pressure Off (psi): <i>4500.00</i> , Weight On Bit (klbs): <i>46.00</i> , Surface RPM: <i>60</i> , Surface Torque (ft lbf): <i>13500.00</i> , Flow Rate (gpm): <i>750.00</i> , Strokes Per Minute: <i>233.00</i>
Slide Drill	2	10-08	02:50	03:20	10-08	15025.00	15048.00	Pressure On (psi): <i>5000.00</i> , Pressure Off (psi): <i>4700.00</i> , Weight On Bit (klbs): <i>32.00</i> , Flow Rate (gpm): <i>750.00</i> , Strokes Per Minute: <i>231</i> , Toolface: <i>110</i> , Toolface Type: <i>gravity</i>
Rotary Drill	1	10-08	03:20	04:00	10-08	15048.00	15110.00	Pressure On (psi): <i>5300.00</i> , Pressure Off (psi): <i>4500.00</i> , Weight On Bit (klbs): <i>46.00</i> , Surface RPM: <i>60</i> , Surface Torque (ft lbf): <i>13500.00</i> , Flow Rate (gpm): <i>750.00</i> , Strokes Per Minute: <i>233.00</i>
Survey	46	10-08	04:00	04:05	10-08	15110.00	15110.00	Inclination (°): <i>92.350</i> , Azimuth (°): <i>358.860</i> , TVD (ft): <i>11707.24</i> , Dogleg (°/100 ft): <i>2.34</i> , Sensor Depth (ft): <i>15046.00</i> , Bit To Sensor (ft): <i>64.00</i>
Rotary Drill	1	10-08	04:05	04:50	10-08	15110.00	15204.00	Pressure On (psi): <i>5300.00</i> , Pressure Off (psi): <i>4500.00</i> , Weight On Bit (klbs): <i>46.00</i> , Surface RPM: <i>60</i> , Surface Torque (ft lbf): <i>13500.00</i> , Flow Rate (gpm): <i>750.00</i> , Strokes Per Minute: <i>233.00</i>

Survey	46	10-08	04:50	04:55	10-08	15204.00	15204.00	Inclination (°): <i>92.570</i> , Azimuth (°): <i>359.470</i> , TVD (ft): <i>11703.21</i> , Dogleg (°/100 ft): <i>0.69</i> , Sensor Depth (ft): <i>15140.00</i> , Bit To Sensor (ft): <i>64.00</i>
Rotary Drill	1	10-08	04:55	05:55	10-08	15204.00	15298.00	Pressure On (psi): <i>5500.00</i> , Pressure Off (psi): <i>4500.00</i> , Weight On Bit (klbs): <i>46.00</i> , Surface RPM: <i>60</i> , Surface Torque (ft lbf): <i>19000.00</i> , Flow Rate (gpm): <i>750.00</i> , Strokes Per Minute: <i>233.00</i>
Circulating	3	10-08	05:55	06:00	10-08			SPR
Survey	46	10-08	06:00	06:05	10-08	15298.00	15298.00	Inclination (°): <i>92.970</i> , Azimuth (°): <i>359.120</i> , TVD (ft): <i>11698.66</i> , Dogleg (°/100 ft): <i>0.57</i> , Sensor Depth (ft): <i>15234.00</i> , Bit To Sensor (ft): <i>64.00</i>
Rotary Drill	1	10-08	06:05	06:10	10-08	15298.00	15308.00	Pressure On (psi): <i>5500.00</i> , Pressure Off (psi): <i>4500.00</i> , Weight On Bit (klbs): <i>46.00</i> , Surface RPM: <i>60</i> , Surface Torque (ft lbf): <i>19000.00</i> , Flow Rate (gpm): <i>750.00</i> , Strokes Per Minute: <i>233.00</i>
Slide Drill	2	10-08	06:10	06:55	10-08	15308.00	15328.00	Pressure On (psi): <i>5000.00</i> , Pressure Off (psi): <i>4700.00</i> , Weight On Bit (klbs): <i>32.00</i> , Flow Rate (gpm): <i>750.00</i> , Strokes Per Minute: <i>231</i> , Toolface: <i>150</i> , Toolface Type: <i>gravity</i>
Rotary Drill	1	10-08	06:55	07:25	10-08	15328.00	15393.00	Pressure On (psi): <i>5500.00</i> , Pressure Off (psi): <i>4500.00</i> , Weight On Bit (klbs): <i>46.00</i> , Surface RPM: <i>60</i> , Surface Torque (ft lbf): <i>19000.00</i> , Flow Rate (gpm): <i>750.00</i> , Strokes Per Minute: <i>233.00</i>
Survey	46	10-08	07:25	07:30	10-08	15393.00	15393.00	Inclination (°): <i>91.910</i> , Azimuth (°): <i>0.530</i> , TVD (ft): <i>11694.62</i> , Dogleg (°/100 ft): <i>1.86</i> , Sensor Depth (ft): <i>15329.00</i> , Bit To Sensor (ft): <i>64.00</i>
Rotary Drill	1	10-08	07:30	08:10	10-08	15393.00	15487.00	Pressure On (psi): <i>5500.00</i> , Pressure Off (psi): <i>4500.00</i> , Weight On Bit (klbs): <i>46.00</i> , Surface RPM: <i>60</i> , Surface Torque (ft lbf): <i>19000.00</i> , Flow Rate (gpm): <i>750.00</i> , Strokes Per Minute: <i>233.00</i>
Survey	46	10-08	08:10	08:15	10-08	15487.00	15487.00	Inclination (°): <i>91.740</i> , Azimuth (°): <i>0.180</i> , TVD (ft): <i>11691.63</i> , Dogleg (°/100 ft): <i>0.41</i> , Sensor Depth (ft): <i>15423.00</i> , Bit To Sensor (ft): <i>64.00</i>
Rotary Drill	1	10-08	08:15	09:00	10-08	15487.00	15574.00	Pressure On (psi): <i>5500.00</i> , Pressure Off (psi): <i>4500.00</i> , Weight On Bit (klbs): <i>46.00</i> , Surface RPM: <i>60</i> , Surface Torque (ft lbf): <i>19000.00</i> , Flow Rate (gpm): <i>750.00</i> , Strokes Per Minute: <i>233.00</i>
Circulating	3	10-08	09:00	09:25	10-08			Circulate to Pooh
Other	16	10-08	09:25	09:40	10-08			Flow Check / Pump Slug
Pooh	7	10-08	09:40	15:00	10-08			POOH due to Motor PSI spikes
Change BHA	6	10-08	15:00	15:45	10-08			P/U BHA #9, C/O Motor and Rack back to Test BOP's
Test BOP's	30	10-08	15:45	20:10	10-08			Test BOP's
Change BHA	6	10-08	20:10	20:45	10-08			P/U BHA # 9
Rig Repair	14	10-08	20:45	21:05	10-08			Repair st 80 hose and change dies
Change BHA	6	10-08	21:05	21:20	10-08			P/U BHA # 9 (install mwd and pick up top monel)
Circulating	3	10-08	21:20	21:30	10-08			Test MWD (100 SPM...325 GPM...575 GPM...75 #...)
TIH	8	10-08	21:30	00:00	10-09			TIH W/ BHA #9

MWD Activities

No Activities



Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Wednesday, Oct 09 00:00 - 23:59 (Day 25 of 72)

Billing: \$7,200.00 (\$226,501.01 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	15574.00	Downhole Hours	24.00	Rotating WOB (klbs)	35.00 - 45.00
Bit Depth (ft)	18074.00	Drilling Hours	17.50	Sliding WOB (klbs)	37.00 - 42.00
Bottom Hole Depth (ft)	18074.00	Hours Circulating	0.42	Rotating SPM	225.00 - 233.00
Total Distance (ft)	2500.00	Hours Sliding	3.92	Sliding SPM	225.00 - 234.00
Distance Rotated (ft)	2385.00	Hours Rotating	13.58	Motor RPM	189.00 - 195.00
Distance Slid (ft)	115.00			Surface RPM	40.00 - 70.00
Inclination In	91.56			Flow Rate (gpm)	730.00 - 750.00
Inclination Out	94.68			On Bottom Pressure (psi)	5300.00 - 5900.00
Azimuth In	0.09	% Hours Rotating	78%	Off Bottom Pressure (psi)	5000.00 - 5300.00
Azimuth Out	358.24	% Hours Sliding	22%		
AVG Total ROP (ft/h)	142.86	% Distance Sliding	5%		
AVG Rotating ROP (ft/h)	175.58	% Distance Rotating	95%		
AVG Sliding ROP (ft/h)	29.36				

Personnel

Name	Position
Kyle Kusak	MWD Engineer
Shawn Flores	MWD Engineer
Joel Johnson	Directional Driller
Orey Meredith	Directional Driller
Omar Alaniz	Directional Driller

BHA #9 - BHA #9 (Lateral)

Date In: Oct 8, 2019, 15:00 Date Out: Oct 11, 2019, 12:40

Bit Details		Motor Details		Directional Comments
OD (in)	8.500	Size (in)	7.0	1.75 FBH 7/8 8.5 Stg Mtr, Rev/Gal: 0.26, Flow Range: 400-750, Max Diff: 1910 psi, Max Operating Torque: 18710 ft/lbs, Protracted Angle: 1.74 / Bit; Halliburton 8.5" Type: DD506TWX , SN:5292927 TFA: 2.27 , Jets: 6 x 22s, Bit Runs: 2
Vendor	Baker Hughes	Lobe/Stage	7/8, 8.5	
S/N	5292927	Bend Angle	1.75	
Nozzles	6 x 22	Speed (rev/gal)	0.26	
Total Flow Area (in²)	2.270	Wear Pad OD (in)	7.250	MWD Comments
Drilling Hours for Day	17.50	Bit Distances		
Total Drilled for Day (ft)	2500.00	Survey (Bit to Svy): 66.00 ft, Gamma (Gamma): 62.00 ft, Bend: 5.35 ft		
Drilling Hours for BHA	27.92			
Total Drilled for BHA (ft)	3770.00			
				POOH Reason
				Total Depth/Casing Point: Motor performed well. yielded 8-10. minimal slack in bearings. drained well with no visual damage.

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: DD506TWX, Style: PDC, Gauge Length (in): 3.50, Size (in): 8.50	Baker Hughes	5292927	4 1/2" Reg Pin			8.500		1.20	1.20
Mud Motor Description: 1.75 FBH 7/8 8.5 Stg Mtr Slick, Size (in): 7.00, Bend Angle (°): 1.75, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5	Contender	700-40-015	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.12	37.32
Drill Collar Description: NM Pony, Style: Pony, Type: NM	DTI	DR34595	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		13.14	50.46
UBHO Sub Description: UBHO Sub, Type: NM	DTI	DR43487	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		3.80	54.26
Drill Collar Description: 6.75" NMDC (MWD Tool), Style: Slick Drill, Type: NM	DTI	DR41068	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		28.16	82.42
Drill Collar Description: 6.75" NMDC (Spacer), Style: Slick Drill, Type: NM	DTI	DR41336	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		29.46	111.88

MWD Items

No Items

Directional Activities

Activity Type	Code	Start Date	Start Time	End Time	End Date	Start (ft)	End (ft)	Comments/Details
TIH	8	10-08	21:30	00:00	10-09			TIH W/ BHA #9
TIH	8	10-09	00:00	00:30	10-09			TIH W/ BHA #9
Circulating	3	10-09	00:30	00:55	10-09			Circulate while changing st80 hoses
TIH	8	10-09	00:55	03:40	10-09			TIH W/ BHA #9
Rotary Drill	1	10-09	03:40	03:45	10-09	15574.00	15583.00	Pressure On (psi): 5900.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 35.00, Surface RPM: 40, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00

Survey	46	10-09	03:45	03:50	10-09	15583.00	15583.00	Inclination (°): 91.560, Azimuth (°): 0.090, TVD (ft): 11688.92, Dogleg (°/100 ft): 0.21, Sensor Depth (ft): 15517.00, Bit To Sensor (ft): 66.00
Rotary Drill	1	10-09	03:50	04:25	10-09	15583.00	15678.00	Pressure On (psi): 5900.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 35.00, Surface RPM: 40, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Survey	46	10-09	04:25	04:30	10-09	15678.00	15678.00	Inclination (°): 91.600, Azimuth (°): 359.650, TVD (ft): 11686.30, Dogleg (°/100 ft): 0.46, Sensor Depth (ft): 15612.00, Bit To Sensor (ft): 66.00
Rotary Drill	1	10-09	04:30	05:10	10-09	15678.00	15773.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 40.00, Surface RPM: 40, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Survey	46	10-09	05:10	05:15	10-09	15773.00	15773.00	Inclination (°): 91.910, Azimuth (°): 359.380, TVD (ft): 11683.39, Dogleg (°/100 ft): 0.43, Sensor Depth (ft): 15707.00, Bit To Sensor (ft): 66.00
Rotary Drill	1	10-09	05:15	05:50	10-09	15773.00	15867.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 40.00, Surface RPM: 40, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Survey	46	10-09	05:50	05:55	10-09	15867.00	15867.00	Inclination (°): 92.260, Azimuth (°): 358.860, TVD (ft): 11679.97, Dogleg (°/100 ft): 0.67, Sensor Depth (ft): 15801.00, Bit To Sensor (ft): 66.00
Rotary Drill	1	10-09	05:55	06:30	10-09	15867.00	15961.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 40.00, Surface RPM: 40, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Survey	46	10-09	06:30	06:35	10-09	15961.00	15961.00	Inclination (°): 92.440, Azimuth (°): 358.070, TVD (ft): 11676.12, Dogleg (°/100 ft): 0.86, Sensor Depth (ft): 15895.00, Bit To Sensor (ft): 66.00
Rotary Drill	1	10-09	06:35	07:10	10-09	15961.00	16061.00	
Survey	46	10-09	07:10	07:15	10-09	16056.00	16056.00	Inclination (°): 92.700, Azimuth (°): 357.540, TVD (ft): 11671.86, Dogleg (°/100 ft): 0.62, Sensor Depth (ft): 15990.00, Bit To Sensor (ft): 66.00
Rotary Drill	1	10-09	07:15	07:20	10-09	16061.00	16066.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 40.00, Surface RPM: 40, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Slide Drill	2	10-09	07:20	07:55	10-09	16066.00	16083.00	Pressure On (psi): 5500.00, Pressure Off (psi): 5200.00, Weight On Bit (klbs): 40.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 234, Toolface: 140, Toolface Type: gravity
Rotary Drill	1	10-09	07:55	08:20	10-09	16083.00	16150.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 40.00, Surface RPM: 40, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Survey	46	10-09	08:20	08:25	10-09	16150.00	16150.00	Inclination (°): 92.310, Azimuth (°): 357.980, TVD (ft): 11667.75, Dogleg (°/100 ft): 0.63, Sensor Depth (ft): 16084.00, Bit To Sensor (ft): 66.00
Rotary Drill	1	10-09	08:25	08:30	10-09	16150.00	16160.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 40.00, Surface RPM: 40, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Slide Drill	2	10-09	08:30	09:10	10-09	16160.00	16182.00	Pressure On (psi): 5500.00, Pressure Off (psi): 5200.00, Weight On Bit (klbs): 40.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 234, Toolface: 130, Toolface Type: gravity
Rotary Drill	1	10-09	09:10	09:25	10-09	16182.00	16244.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 40.00, Surface RPM: 40, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Survey	46	10-09	09:25	09:30	10-09	16244.00	16244.00	Inclination (°): 91.560, Azimuth (°): 358.590, TVD (ft): 11664.57, Dogleg (°/100 ft): 1.03, Sensor Depth (ft): 16178.00, Bit To Sensor (ft): 66.00
Rotary Drill	1	10-09	09:30	10:00	10-09	16244.00	16339.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 40.00, Surface RPM: 40, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Survey	46	10-09	10:00	10:05	10-09	16339.00	16339.00	Inclination (°): 91.340, Azimuth (°): 358.590, TVD (ft): 11662.17, Dogleg (°/100 ft): 0.23, Sensor Depth (ft): 16273.00, Bit To Sensor (ft): 66.00
Rotary Drill	1	10-09	10:05	10:35	10-09	16339.00	16433.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 40.00, Surface RPM: 40, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Survey	46	10-09	10:35	10:40	10-09	16433.00	16433.00	Inclination (°): 91.160, Azimuth (°): 357.890, TVD (ft): 11660.12, Dogleg (°/100 ft): 0.77, Sensor Depth (ft): 16367.00, Bit To Sensor (ft): 66.00
Rotary Drill	1	10-09	10:40	10:45	10-09	16433.00	16443.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 40.00, Surface RPM: 40, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Slide Drill	2	10-09	10:45	11:45	10-09	16443.00	16468.00	Pressure On (psi): 5500.00, Pressure Off (psi): 5200.00, Weight On Bit (klbs): 40.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 234, Toolface: 80, Toolface Type: gravity
Rotary Drill	1	10-09	11:45	12:05	10-09	16468.00	16528.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 40.00, Surface RPM: 40, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Survey	46	10-09	12:05	12:10	10-09	16528.00	16528.00	Inclination (°): 91.380, Azimuth (°): 359.470, TVD (ft): 11658.01, Dogleg (°/100 ft): 1.68, Sensor Depth (ft): 16462.00, Bit To Sensor (ft): 66.00
Rotary Drill	1	10-09	12:10	12:35	10-09	16528.00	16622.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 40.00, Surface RPM: 40, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Survey	46	10-09	12:35	12:40	10-09	16622.00	16622.00	Inclination (°): 91.430, Azimuth (°): 359.910, TVD (ft): 11655.71, Dogleg (°/100 ft): 0.47, Sensor Depth (ft): 16556.00, Bit To Sensor (ft): 66.00
Rotary Drill	1	10-09	12:40	13:15	10-09	16622.00	16716.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 40.00, Surface RPM: 40, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00

Survey	46	10-09	13:15	13:20	10-09	16716.00	16716.00	Inclination (°): 91.690, Azimuth (°): 359.380, TVD (ft): 11653.15, Dogleg (°/100 ft): 0.63, Sensor Depth (ft): 16650.00, Bit To Sensor (ft): 66.00
Rotary Drill	1	10-09	13:20	13:50	10-09	16716.00	16810.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 40.00, Surface RPM: 40, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Survey	46	10-09	13:50	13:55	10-09	16810.00	16810.00	Inclination (°): 91.870, Azimuth (°): 358.770, TVD (ft): 11650.23, Dogleg (°/100 ft): 0.68, Sensor Depth (ft): 16744.00, Bit To Sensor (ft): 66.00
Rotary Drill	1	10-09	13:55	14:20	10-09	16810.00	16905.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 40.00, Surface RPM: 40, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Survey	46	10-09	14:20	14:25	10-09	16905.00	16905.00	Inclination (°): 92.220, Azimuth (°): 358.420, TVD (ft): 11646.84, Dogleg (°/100 ft): 0.52, Sensor Depth (ft): 16839.00, Bit To Sensor (ft): 66.00
Rotary Drill	1	10-09	14:25	14:55	10-09	16905.00	16999.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 40.00, Surface RPM: 40, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Survey	46	10-09	14:55	15:00	10-09	16999.00	16999.00	Inclination (°): 92.840, Azimuth (°): 358.240, TVD (ft): 11642.69, Dogleg (°/100 ft): 0.69, Sensor Depth (ft): 16933.00, Bit To Sensor (ft): 66.00
Rotary Drill	1	10-09	15:00	15:35	10-09	16999.00	17094.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 40.00, Surface RPM: 40, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Rig Service - In Hole	19	10-09	15:35	16:10	10-09			Rig Service
Survey	46	10-09	16:10	16:15	10-09	17094.00	17094.00	Inclination (°): 92.400, Azimuth (°): 357.890, TVD (ft): 11638.35, Dogleg (°/100 ft): 0.59, Sensor Depth (ft): 17028.00, Bit To Sensor (ft): 66.00
Rotary Drill	1	10-09	16:15	16:20	10-09	17094.00	17104.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 40.00, Surface RPM: 40, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Slide Drill	2	10-09	16:20	17:15	10-09	17104.00	17130.00	Pressure On (psi): 5300.00, Pressure Off (psi): 5000.00, Weight On Bit (klbs): 37.00, Flow Rate (gpm): 730.00, Strokes Per Minute: 225, Toolface: 60, Toolface Type: gravity
Rotary Drill	1	10-09	17:15	17:35	10-09	17130.00	17188.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 40.00, Surface RPM: 70, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 733.00, Strokes Per Minute: 225.00
Survey	46	10-09	17:35	17:40	10-09	17188.00	17188.00	Inclination (°): 92.840, Azimuth (°): 359.820, TVD (ft): 11634.05, Dogleg (°/100 ft): 2.10, Sensor Depth (ft): 17122.00, Bit To Sensor (ft): 66.00
Rotary Drill	1	10-09	17:40	18:05	10-09	17188.00	17282.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 45.00, Surface RPM: 70, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 733.00, Strokes Per Minute: 225.00
Survey	46	10-09	18:05	18:10	10-09	17282.00	17282.00	Inclination (°): 92.880, Azimuth (°): 0.090, TVD (ft): 11629.36, Dogleg (°/100 ft): 0.29, Sensor Depth (ft): 17216.00, Bit To Sensor (ft): 66.00
Rotary Drill	1	10-09	18:10	18:35	10-09	17282.00	17376.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 45.00, Surface RPM: 70, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 733.00, Strokes Per Minute: 225.00
Survey	46	10-09	18:35	18:40	10-09	17376.00	17376.00	Inclination (°): 92.750, Azimuth (°): 359.910, TVD (ft): 11624.74, Dogleg (°/100 ft): 0.24, Sensor Depth (ft): 17310.00, Bit To Sensor (ft): 66.00
Rotary Drill	1	10-09	18:40	19:25	10-09	17376.00	17471.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 45.00, Surface RPM: 70, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 733.00, Strokes Per Minute: 225.00
Survey	46	10-09	19:25	19:30	10-09	17471.00	17471.00	Inclination (°): 92.840, Azimuth (°): 0.260, TVD (ft): 11620.11, Dogleg (°/100 ft): 0.38, Sensor Depth (ft): 17405.00, Bit To Sensor (ft): 66.00
Rotary Drill	1	10-09	19:30	20:05	10-09	17471.00	17565.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 45.00, Surface RPM: 70, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 733.00, Strokes Per Minute: 225.00
Survey	46	10-09	20:05	20:10	10-09	17565.00	17565.00	Inclination (°): 93.230, Azimuth (°): 0.790, TVD (ft): 11615.14, Dogleg (°/100 ft): 0.70, Sensor Depth (ft): 17499.00, Bit To Sensor (ft): 66.00
Rotary Drill	1	10-09	20:10	20:50	10-09	17565.00	17660.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 45.00, Surface RPM: 70, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 733.00, Strokes Per Minute: 225.00
Survey	46	10-09	20:50	20:55	10-09	17660.00	17660.00	Inclination (°): 93.670, Azimuth (°): 0.700, TVD (ft): 11609.42, Dogleg (°/100 ft): 0.47, Sensor Depth (ft): 17594.00, Bit To Sensor (ft): 66.00
Rotary Drill	1	10-09	20:55	21:30	10-09	17660.00	17754.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 45.00, Surface RPM: 70, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 733.00, Strokes Per Minute: 225.00
Survey	46	10-09	21:30	21:35	10-09	17754.00	17754.00	Inclination (°): 95.210, Azimuth (°): 0.700, TVD (ft): 11602.14, Dogleg (°/100 ft): 1.64, Sensor Depth (ft): 17688.00, Bit To Sensor (ft): 66.00
Rotary Drill	1	10-09	21:35	21:40	10-09	17754.00	17764.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 45.00, Surface RPM: 70, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 733.00, Strokes Per Minute: 225.00
Slide Drill	2	10-09	21:40	22:25	10-09	17764.00	17789.00	Pressure On (psi): 5500.00, Pressure Off (psi): 5300.00, Weight On Bit (klbs): 42.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233, Toolface: 225, Toolface Type: gravity
Rotary Drill	1	10-09	22:25	22:40	10-09	17789.00	17848.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 45.00, Surface RPM: 70, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 733.00, Strokes Per Minute: 225.00
Survey	46	10-09	22:40	22:45	10-09	17848.00	17848.00	Inclination (°): 94.590, Azimuth (°): 359.210, TVD (ft): 11594.11, Dogleg (°/100 ft): 1.71, Sensor Depth (ft): 17782.00, Bit To Sensor (ft): 66.00
Rotary Drill	1	10-09	22:45	23:10	10-09	17848.00	17943.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 45.00, Surface RPM: 70, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 733.00, Strokes Per Minute: 225.00

Survey	46	10-09	23:10	23:15	10-09	17943.00	17943.00	Inclination (°): 94.590, Azimuth (°): 358.420, TVD (ft): 11586.51, Dogleg (°/100 ft): 0.83, Sensor Depth (ft): 17877.00, Bit To Sensor (ft): 66.00
Rotary Drill	1	10-09	23:15	23:45	10-09	17943.00	18037.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 45.00, Surface RPM: 70, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 733.00, Strokes Per Minute: 225.00
Survey	46	10-09	23:45	23:50	10-09	18037.00	18037.00	Inclination (°): 94.680, Azimuth (°): 358.240, TVD (ft): 11578.91, Dogleg (°/100 ft): 0.21, Sensor Depth (ft): 17971.00, Bit To Sensor (ft): 66.00
Rotary Drill	1	10-09	23:50	00:00	10-10	18037.00	18074.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 45.00, Surface RPM: 70, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 733.00, Strokes Per Minute: 225.00

MWD Activities

No Activities



Job Number WT-19-125	Operator Advance Energy Partners	Rig Name H&P #620
Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H	Legal Well Name AFE Wool Head 20 State Com 606H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Thursday, Oct 10 00:00 - 23:59 (Day 26 of 72)

Billing: \$7,200.00 (\$226,501.01 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	18074.00	Downhole Hours	24.00	Rotating WOB (klbs)	45.00 - 45.00
Bit Depth (ft)	19344.00	Drilling Hours	10.42	Sliding WOB (klbs)	42.00 - 42.00
Bottom Hole Depth (ft)	19344.00	Hours Circulating	5.33	Rotating SPM	225.00 - 225.00
Total Distance (ft)	1270.00	Hours Sliding	0.83	Sliding SPM	233.00 - 233.00
Distance Rotated (ft)	1245.00	Hours Rotating	9.58	Motor RPM	189.00 - 195.00
Distance Slid (ft)	25.00			Surface RPM	70.00 - 70.00
Inclination In	95.03			Flow Rate (gpm)	733.00 - 750.00
Inclination Out	97.23			On Bottom Pressure (psi)	5500.00 - 5850.00
Azimuth In	358.24	% Hours Rotating	92%	Off Bottom Pressure (psi)	5100.00 - 5300.00
Azimuth Out	356.92	% Hours Sliding	8%		
AVG Total ROP (ft/h)	123.50	% Distance Sliding	2%		
AVG Rotating ROP (ft/h)	131.49	% Distance Rotating	98%		
AVG Sliding ROP (ft/h)	30.00				

Personnel

Name	Position
Kyle Kusak	MWD Engineer
Shawn Flores	MWD Engineer
Joel Johnson	Directional Driller
Orey Meredith	Directional Driller
Omar Alaniz	Directional Driller

BHA #9 - BHA #9 (Lateral)

Date In: Oct 8, 2019, 15:00 Date Out: Oct 11, 2019, 12:40

Bit Details		Motor Details		Directional Comments
OD (in)	8.500	Size (in)	7.0	1.75 FBH 7/8 8.5 Stg Mtr, Rev/Gal: 0.26, Flow Range: 400-750, Max Diff: 1910 psi, Max Operating Torque: 18710 ft/lbs, Protracted Angle: 1.74 / Bit; Halliburton 8.5" Type: DD506TWX , SN:5292927 TFA: 2.27 , Jets: 6 x 22s, Bit Runs: 2
Vendor	Baker Hughes	Lobe/Stage	7/8, 8.5	
S/N	5292927	Bend Angle	1.75	
Nozzles	6 x 22	Speed (rev/gal)	0.26	
Total Flow Area (in²)	2.270	Wear Pad OD (in)	7.250	MWD Comments
Drilling Hours for Day	10.42	Bit Distances		
Total Drilled for Day (ft)	1270.00	Survey (Bit to Svy): 66.00 ft, Gamma (Gamma): 62.00 ft, Bend: 5.35 ft		
Drilling Hours for BHA	27.92			
Total Drilled for BHA (ft)	3770.00			
				POOH Reason
				Total Depth/Casing Point: Motor performed well. yielded 8-10. minimal slack in bearings. drained well with no visual damage.

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: DD506TWX, Style: PDC, Gauge Length (in): 3.50, Size (in): 8.50	Baker Hughes	5292927	4 1/2" Reg Pin			8.500		1.20	1.20
Mud Motor Description: 1.75 FBH 7/8 8.5 Stg Mtr Slick, Size (in): 7.00, Bend Angle (°): 1.75, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5	Contender	700-40-015	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.12	37.32
Drill Collar Description: NM Pony, Style: Pony, Type: NM	DTI	DR34595	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		13.14	50.46
UBHO Sub Description: UBHO Sub, Type: NM	DTI	DR43487	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		3.80	54.26
Drill Collar Description: 6.75" NMDC (MWD Tool), Style: Slick Drill, Type: NM	DTI	DR41068	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		28.16	82.42
Drill Collar Description: 6.75" NMDC (Spacer), Style: Slick Drill, Type: NM	DTI	DR41336	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		29.46	111.88

MWD Items

No Items

Directional Activities

Activity Type	Code	Start Date	Start Time	End Time	End Date	Start (ft)	End (ft)	Comments/Details
Rotary Drill	1	10-09	23:50	00:00	10-10	18037.00	18074.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 45.00, Surface RPM: 70, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 733.00, Strokes Per Minute: 225.00
Rotary Drill	1	10-10	00:00	00:15	10-10	18074.00	18132.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 45.00, Surface RPM: 70, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 733.00, Strokes Per Minute: 225.00
Survey	46	10-10	00:15	00:20	10-10	18132.00	18132.00	Inclination (°): 95.030, Azimuth (°): 358.240, TVD (ft): 11570.87, Dogleg (°/100 ft): 0.37, Sensor Depth (ft): 18066.00, Bit To Sensor (ft): 66.00

Rotary Drill	1	10-10	00:20	00:50	10-10	18132.00	18226.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 45.00, Surface RPM: 70, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 733.00, Strokes Per Minute: 225.00
Survey	46	10-10	00:50	00:55	10-10	18226.00	18226.00	Inclination (°): 95.340, Azimuth (°): 358.070, TVD (ft): 11562.38, Dogleg (°/100 ft): 0.38, Sensor Depth (ft): 18160.00, Bit To Sensor (ft): 66.00
Rotary Drill	1	10-10	00:55	01:30	10-10	18226.00	18321.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 45.00, Surface RPM: 70, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 733.00, Strokes Per Minute: 225.00
Survey	46	10-10	01:30	01:35	10-10	18321.00	18321.00	Inclination (°): 96.000, Azimuth (°): 357.710, TVD (ft): 11552.99, Dogleg (°/100 ft): 0.79, Sensor Depth (ft): 18255.00, Bit To Sensor (ft): 66.00
Rotary Drill	1	10-10	01:35	01:40	10-10	18321.00	18331.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 45.00, Surface RPM: 70, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 733.00, Strokes Per Minute: 225.00
Slide Drill	2	10-10	01:40	02:30	10-10	18331.00	18356.00	Pressure On (psi): 5500.00, Pressure Off (psi): 5300.00, Weight On Bit (klbs): 42.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233, Toolface: 135, Toolface Type: gravity
Rotary Drill	1	10-10	02:30	02:50	10-10	18356.00	18415.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 45.00, Surface RPM: 70, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 733.00, Strokes Per Minute: 225.00
Survey	46	10-10	02:50	02:55	10-10	18415.00	18415.00	Inclination (°): 94.370, Azimuth (°): 358.770, TVD (ft): 11544.50, Dogleg (°/100 ft): 2.07, Sensor Depth (ft): 18349.00, Bit To Sensor (ft): 66.00
Rotary Drill	1	10-10	02:55	03:30	10-10	18415.00	18510.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 45.00, Surface RPM: 70, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 733.00, Strokes Per Minute: 225.00
Survey	46	10-10	03:30	03:35	10-10	18510.00	18510.00	Inclination (°): 94.070, Azimuth (°): 358.420, TVD (ft): 11537.51, Dogleg (°/100 ft): 0.48, Sensor Depth (ft): 18444.00, Bit To Sensor (ft): 66.00
Rotary Drill	1	10-10	03:35	04:10	10-10	18510.00	18604.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 45.00, Surface RPM: 70, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 733.00, Strokes Per Minute: 225.00
Survey	46	10-10	04:10	04:15	10-10	18604.00	18604.00	Inclination (°): 94.460, Azimuth (°): 358.330, TVD (ft): 11530.52, Dogleg (°/100 ft): 0.43, Sensor Depth (ft): 18538.00, Bit To Sensor (ft): 66.00
Rotary Drill	1	10-10	04:15	04:55	10-10	18604.00	18699.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 45.00, Surface RPM: 70, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 733.00, Strokes Per Minute: 225.00
Survey	46	10-10	04:55	05:00	10-10	18699.00	18699.00	Inclination (°): 94.510, Azimuth (°): 358.150, TVD (ft): 11523.09, Dogleg (°/100 ft): 0.20, Sensor Depth (ft): 18633.00, Bit To Sensor (ft): 66.00
Rotary Drill	1	10-10	05:00	05:40	10-10	18699.00	18793.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 45.00, Surface RPM: 70, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 733.00, Strokes Per Minute: 225.00
Survey	46	10-10	05:40	05:45	10-10	18793.00	18793.00	Inclination (°): 94.860, Azimuth (°): 358.330, TVD (ft): 11515.41, Dogleg (°/100 ft): 0.42, Sensor Depth (ft): 18727.00, Bit To Sensor (ft): 66.00
Rotary Drill	1	10-10	05:45	06:20	10-10	18793.00	18887.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 45.00, Surface RPM: 70, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 733.00, Strokes Per Minute: 225.00
Survey	46	10-10	06:20	06:25	10-10	18887.00	18887.00	Inclination (°): 95.470, Azimuth (°): 357.980, TVD (ft): 11506.95, Dogleg (°/100 ft): 0.75, Sensor Depth (ft): 18821.00, Bit To Sensor (ft): 66.00
Rotary Drill	1	10-10	06:25	07:00	10-10	18887.00	18982.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 45.00, Surface RPM: 70, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 733.00, Strokes Per Minute: 225.00
Survey	46	10-10	07:00	07:05	10-10	18982.00	18982.00	Inclination (°): 95.960, Azimuth (°): 357.800, TVD (ft): 11497.49, Dogleg (°/100 ft): 0.55, Sensor Depth (ft): 18916.00, Bit To Sensor (ft): 66.00
Rotary Drill	1	10-10	07:05	08:05	10-10	18982.00	19076.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 45.00, Surface RPM: 70, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 733.00, Strokes Per Minute: 225.00
Survey	46	10-10	08:05	08:10	10-10	19076.00	19076.00	Inclination (°): 96.090, Azimuth (°): 357.800, TVD (ft): 11487.62, Dogleg (°/100 ft): 0.14, Sensor Depth (ft): 19010.00, Bit To Sensor (ft): 66.00
Rotary Drill	1	10-10	08:10	08:30	10-10	19076.00	19109.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 45.00, Surface RPM: 70, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 733.00, Strokes Per Minute: 225.00
Circulating	3	10-10	08:30	09:15	10-10			Circulate on 1 pump due to pump issues with mud pump 1 & 2
Rotary Drill	1	10-10	09:15	09:55	10-10	19109.00	19171.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 45.00, Surface RPM: 70, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 733.00, Strokes Per Minute: 225.00
Survey	46	10-10	09:55	10:00	10-10	19171.00	19171.00	Inclination (°): 96.880, Azimuth (°): 357.450, TVD (ft): 11476.89, Dogleg (°/100 ft): 0.91, Sensor Depth (ft): 19105.00, Bit To Sensor (ft): 66.00
Rotary Drill	1	10-10	10:00	11:05	10-10	19171.00	19265.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 45.00, Surface RPM: 70, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 733.00, Strokes Per Minute: 225.00
Survey	46	10-10	11:05	11:10	10-10	19265.00	19265.00	Inclination (°): 96.700, Azimuth (°): 357.010, TVD (ft): 11465.78, Dogleg (°/100 ft): 0.50, Sensor Depth (ft): 19199.00, Bit To Sensor (ft): 66.00
Rotary Drill	1	10-10	11:10	12:15	10-10	19265.00	19344.00	Pressure On (psi): 5850.00, Pressure Off (psi): 5100.00, Weight On Bit (klbs): 45.00, Surface RPM: 70, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 733.00, Strokes Per Minute: 225.00
Survey	46	10-10	12:15	12:20	10-10	19344.00	19344.00	Inclination (°): 97.230, Azimuth (°): 356.920, TVD (ft): 11456.20, Dogleg (°/100 ft): 0.68, Sensor Depth (ft): 19278.00, Bit To Sensor (ft): 66.00

[illegible]



Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Friday, Oct 11 00:00 - 23:59 (Day 27 of 72)

Billing: \$7,200.00 (\$226,501.01 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)		Downhole Hours	12.67	Rotating WOB (klbs)	
Bit Depth (ft)		Drilling Hours	0.00	Sliding WOB (klbs)	
Bottom Hole Depth (ft)		Hours Circulating	0.00	Rotating SPM	
Total Distance (ft)	0.00	Hours Sliding	0.00	Sliding SPM	
Distance Rotated (ft)	0.00	Hours Rotating	0.00	Motor RPM	189.00 - 195.00
Distance Slid (ft)	0.00			Surface RPM	
Inclination In				Flow Rate (gpm)	
Inclination Out				On Bottom Pressure (psi)	
Azimuth In		% Hours Rotating		Off Bottom Pressure (psi)	
Azimuth Out		% Hours Sliding			
AVG Total ROP (ft/h)	0.00	% Distance Sliding			
AVG Rotating ROP (ft/h)	0.00	% Distance Rotating			
AVG Sliding ROP (ft/h)	0.00				

Personnel

Name	Position
Kyle Kusak	MWD Engineer
Shawn Flores	MWD Engineer
Joel Johnson	Directional Driller
Orey Meredith	Directional Driller
Omar Alaniz	Directional Driller

BHA #9 - BHA #9 (Lateral)

Date In: Oct 8, 2019, 15:00 Date Out: Oct 11, 2019, 12:40

Bit Details		Motor Details		Directional Comments
OD (in)	8.500	Size (in)	7.0	1.75 FBH 7/8 8.5 Stg Mtr, Rev/Gal: 0.26, Flow Range: 400-750, Max Diff: 1910 psi, Max Operating Torque: 18710 ft/lbs, Protracted Angle: 1.74 / Bit; Halliburton 8.5" Type: DD506TWX , SN:5292927 TFA: 2.27 , Jets: 6 x 22s, Bit Runs: 2
Vendor	Baker Hughes	Lobe/Stage	7/8, 8.5	
S/N	5292927	Bend Angle	1.75	
Nozzles	6 x 22	Speed (rev/gal)	0.26	
Total Flow Area (in²)	2.270	Wear Pad OD (in)	7.250	MWD Comments
Drilling Hours for Day	0.00	Bit Distances		
Total Drilled for Day (ft)		Survey (Bit to Svy): 66.00 ft, Gamma (Gamma): 62.00 ft, Bend: 5.35 ft		
Drilling Hours for BHA	27.92			
Total Drilled for BHA (ft)	3770.00			
				POOH Reason
				Total Depth/Casing Point: Motor performed well. yielded 8-10. minimal slack in bearings, drained well with no visual damage.

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: DD506TWX, Style: PDC, Gauge Length (in): 3.50, Size (in): 8.50	Baker Hughes	5292927	4 1/2" Reg Pin			8.500		1.20	1.20
Mud Motor Description: 1.75 FBH 7/8 8.5 Stg Mtr Slick, Size (in): 7.00, Bend Angle (°): 1.75, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5	Contender	700-40-015	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.12	37.32
Drill Collar Description: NM Pony, Style: Pony, Type: NM	DTI	DR34595	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		13.14	50.46
UBHO Sub Description: UBHO Sub, Type: NM	DTI	DR43487	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		3.80	54.26
Drill Collar Description: 6.75" NMDC (MWD Tool), Style: Slick Drill, Type: NM	DTI	DR41068	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		28.16	82.42
Drill Collar Description: 6.75" NMDC (Spacer), Style: Slick Drill, Type: NM	DTI	DR41336	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		29.46	111.88

MWD Items

No Items

Directional Activities

Activity Type	Code	Start Date	Start Time	End Time	End Date	Start (ft)	End (ft)	Comments/Details
L/D DP	28	10-10	17:00	00:00	10-11			L/d 5" DP F/ 19,344 T/ 10,900
L/D DP	28	10-11	00:00	11:50	10-11			L/d 5" DP F/10,900 T/ 0
Change BHA	6	10-11	11:50	12:40	10-11			L/d BHA # 9
Standby	15	10-11	12:40	00:00	10-12			Standby while rigging up casing crew and running production pipe

MWD Activities

No Activities

	Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Saturday, Oct 12 00:00 - 23:59 (Day 28 of 72) Billing: \$14,142.26 (\$226,501.01 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)		Downhole Hours	0.00	Rotating WOB (klbs)	
Bit Depth (ft)		Drilling Hours	0.00	Sliding WOB (klbs)	
Bottom Hole Depth (ft)		Hours Circulating	0.00	Rotating SPM	
Total Distance (ft)	0.00	Hours Sliding	0.00	Sliding SPM	
Distance Rotated (ft)	0.00	Hours Rotating	0.00	Motor RPM	-
Distance Slid (ft)	0.00			Surface RPM	
Inclination In				Flow Rate (gpm)	
Inclination Out				On Bottom Pressure (psi)	
Azimuth In		% Hours Rotating		Off Bottom Pressure (psi)	
Azimuth Out		% Hours Sliding			
AVG Total ROP (ft/h)	0.00	% Distance Sliding			
AVG Rotating ROP (ft/h)	0.00	% Distance Rotating			
AVG Sliding ROP (ft/h)	0.00				

Personnel	
Name	Position
Kyle Kusak	MWD Engineer
Shawn Flores	MWD Engineer
Joel Johnson	Directional Driller
Orey Meredith	Directional Driller
Omar Alaniz	Directional Driller

No BHAs

Directional Activities								
Activity Type	Code	Start Date	Start Time	End Time	End Date	Start (ft)	End (ft)	Comments/Details
Standby	15	10-11	12:40	00:00	10-12			Standby while rigging up casing crew and running production pipe
Standby	15	10-12	00:00	09:00	10-12			Standby while running production casing
Standby	15	10-12	09:00	16:00	10-12			Standby while cementing production hole
Standby	15	10-12	16:00	00:00	10-13			Standby while rig down and walk to 703H

MWD Activities
No Activities

	Job Number WT-19-125	Operator Advance Energy Partners		Rig Name H&P #620
	Start Date 2019-08-03	Well Name Wool Head 20 State Com 606H		Legal Well Name AFE Wool Head 20 State Com 606H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Sunday, Oct 13 00:00 - 23:59 (Day 29 of 72) Billing: N/A (\$226,501.01 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)		Downhole Hours	0.00	Rotating WOB (klbs)	
Bit Depth (ft)		Drilling Hours		Sliding WOB (klbs)	
Bottom Hole Depth (ft)		Hours Circulating		Rotating SPM	
Total Distance (ft)		Hours Sliding		Sliding SPM	
Distance Rotated (ft)		Hours Rotating		Motor RPM	-
Distance Slid (ft)				Surface RPM	
Inclination In				Flow Rate (gpm)	
Inclination Out				On Bottom Pressure (psi)	
Azimuth In		% Hours Rotating		Off Bottom Pressure (psi)	
Azimuth Out		% Hours Sliding			
AVG Total ROP (ft/h)	0.00	% Distance Sliding			
AVG Rotating ROP (ft/h)	0.00	% Distance Rotating			
AVG Sliding ROP (ft/h)	0.00				

Personnel	
Name	Position
Kyle Kusak	MWD Engineer
Shawn Flores	MWD Engineer
Joel Johnson	Directional Driller
Orey Meredith	Directional Driller
Omar Alaniz	Directional Driller

No BHAs

Directional Activities								
Activity Type	Code	Start Date	Start Time	End Time	End Date	Start (ft)	End (ft)	Comments/Details
Standby	15	10-12	16:00	00:00	10-13			Standby while rig down and walk to 703H

MWD Activities
No Activities



Surface Plat

Wool Head 20 State Com 606H (WT-19-125)

2019-08-03 to 2019-10-13

Lea, New Mexico, US (32.46, -103.59)

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

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
Property Code	Property Name WOOL HEAD 20 STATE COM	Well Number 606H
OGRID No.	Operator Name ADVANCE ENERGY PARTNERS HAT MESA	Elevation 3715'

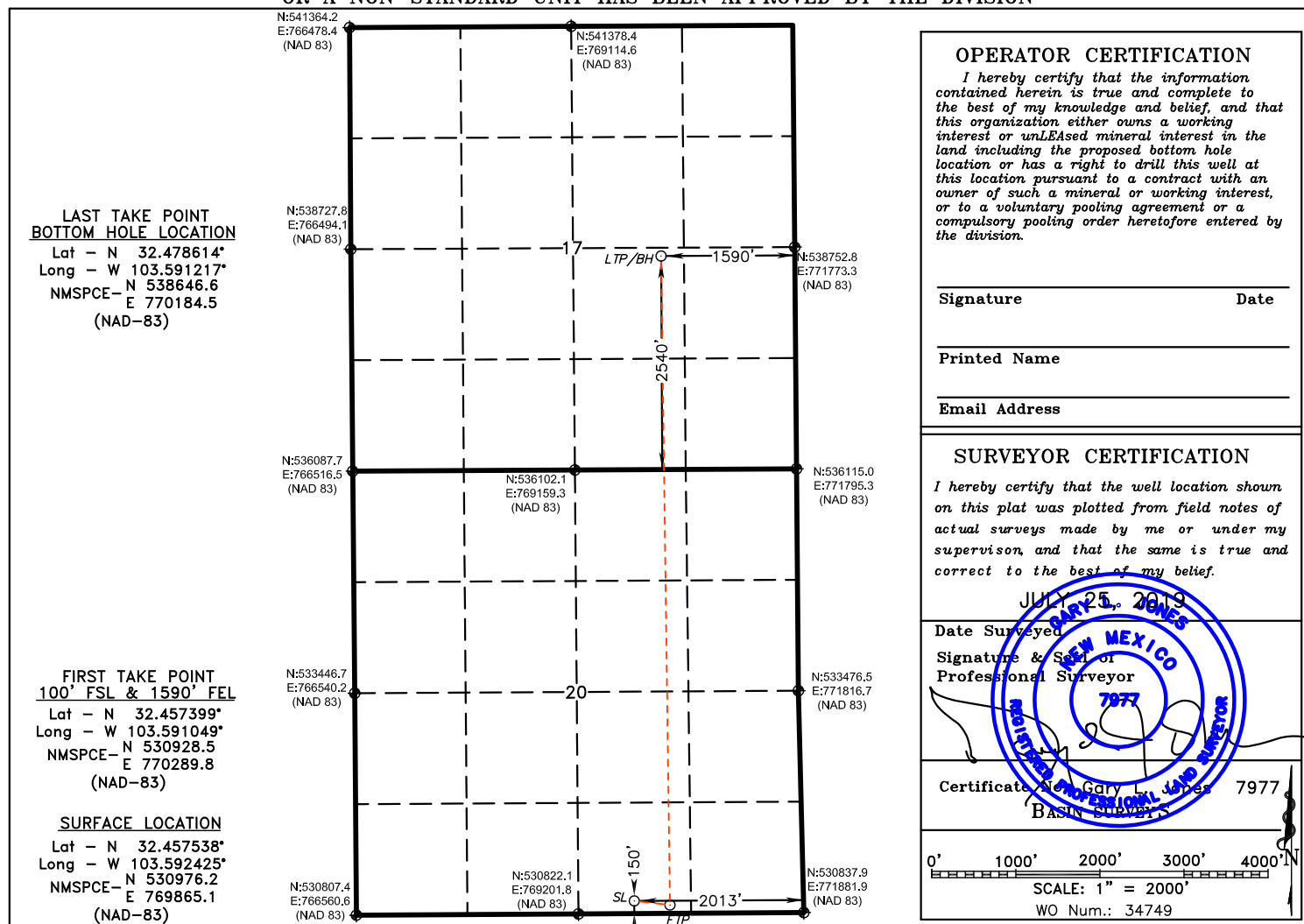
Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	SOUTH/South line	Feet from the	East/West line	County
O	20	21 S	33 E		150	SOUTH	2013	EAST	LEA

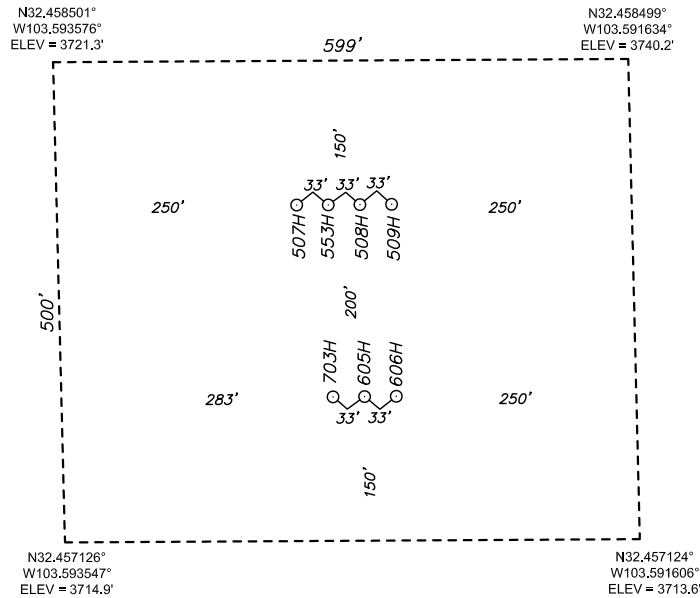
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	SOUTH/South line	Feet from the	East/West line	County
J	17	21 S	33 E		2540	SOUTH	1590	EAST	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

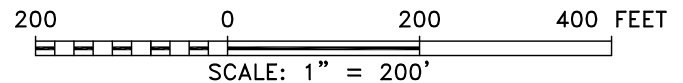


**SECTION 20, TOWNSHIP 21 SOUTH, RANGE 33 EAST. N.M.P.M.,
LEA COUNTY, NEW MEXICO.**



**ADVANCE ENERGY PARTNERS HAT MESA
WOOL HEAD 20 STATE COM 606H
ELEV. - 3715'**

Lat - N 32.457538°
Long - W 103.592425°
NMSPCE - N 530976.2
E 769865.1
(NAD-83)



ADVANCE ENERGY PARTNERS HAT MESA

REF: WOOL HEAD 20 STATE COM 606H / WELL PAD TOPO

THE WOOL HEAD 20 STATE COM 606H LOCATED 150' FROM
THE SOUTH LINE AND 2013' FROM THE EAST LINE OF
SECTION 20, TOWNSHIP 21 SOUTH, RANGE 33 EAST.

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

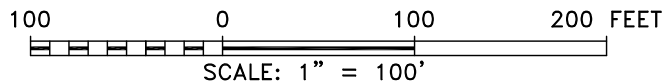
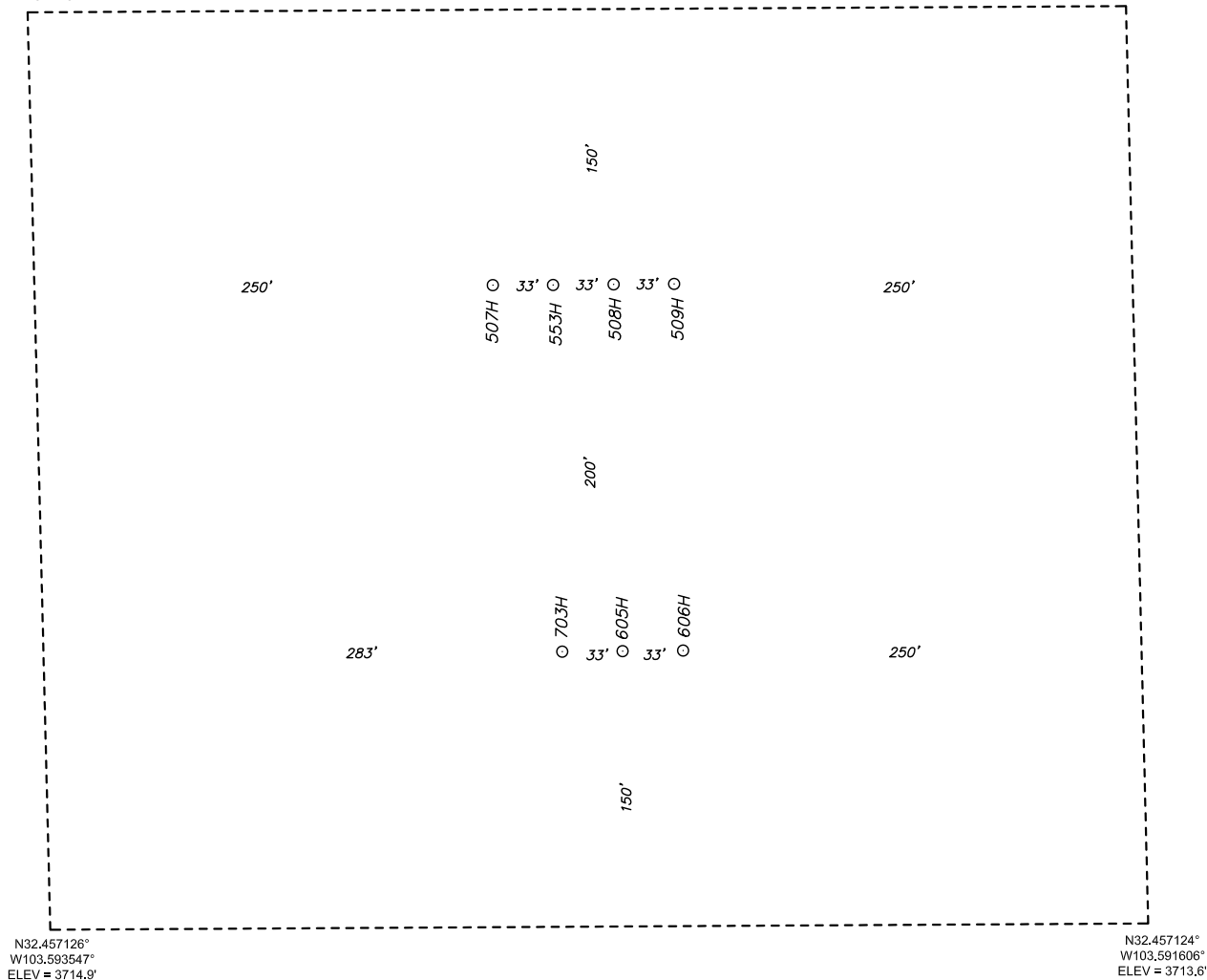


P.O. Box 1786 (575) 393-7316 - Office
1120 N. West County Rd. (575) 392-2206 - Fax
Hobbs, New Mexico 88241 basin-surveys.com

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

N32.458501°
W103.593576°
ELEV = 3721.3'

N32.458499°
W103.591634°
ELEV = 3740.2'



ADVANCE ENERGY PARTNERS HAT MESA

REF: WOOL HEAD 20 STATE COM 606H / WELL PAD TOPO

THE WOOL HEAD 20 STATE COM 606H LOCATED 150' FROM
THE SOUTH LINE AND 2013' FROM THE EAST LINE OF
SECTION 20, TOWNSHIP 21 SOUTH, RANGE 33 EAST.

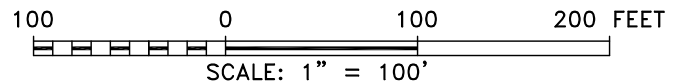
N.M.P.M., LEA COUNTY, NEW MEXICO.

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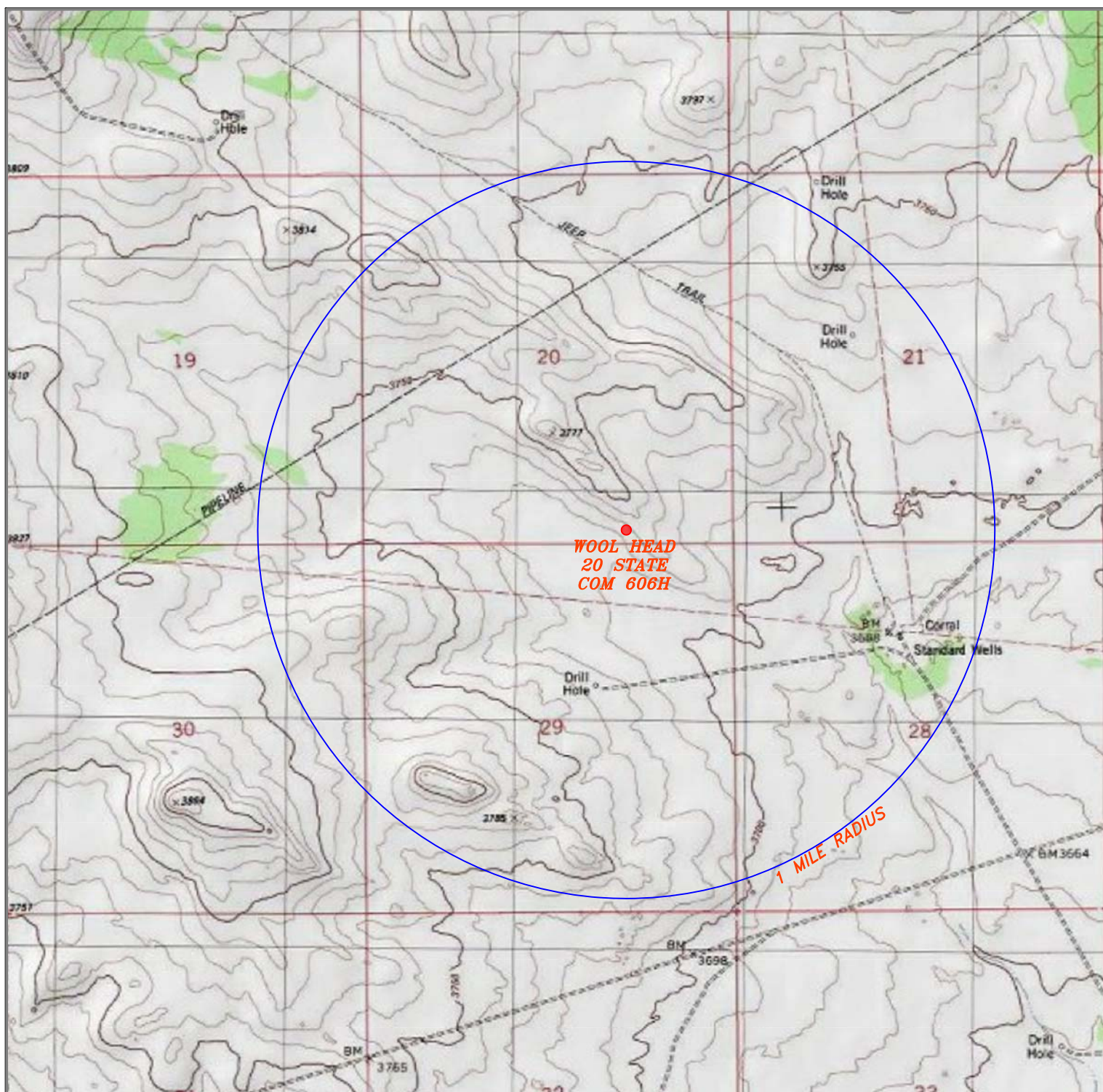
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THE WOOL HEAD 20 STATE COM WELL PAD
SECTION 20, TOWNSHIP 21 SOUTH, RANGE 33 EAST.
N.M.P.M., LEA COUNTY, NEW MEXICO.



WOOL HEAD 20 STATE COM 606H

Located 150' FSL and 2013' FEL
 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'

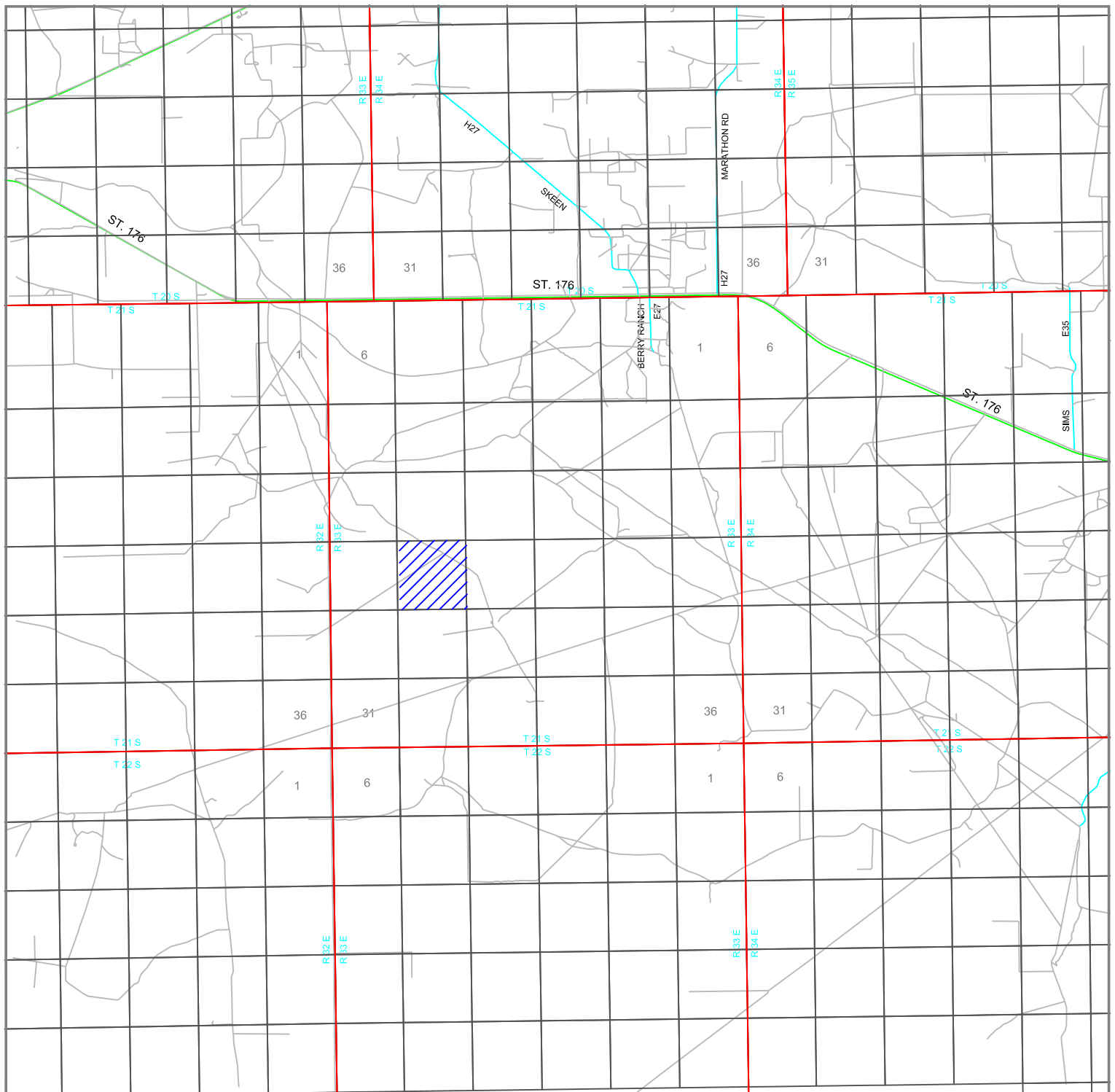
W.O. Number: KJG 34749

Survey Date: 07-26-2019

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



**ADVANCE
 ENERGY
 PARTNERS
 HAT MESA**



WOOL HEAD 20 STATE COM 606H

Located 150' FSL and 2013' FEL
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 34749

Survey Date: 07-26-2019

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



**ADVANCE
ENERGY
PARTNERS
HAT MESA**

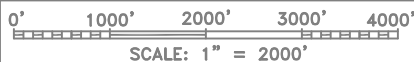


WOOL HEAD 20 STATE COM 606H

Located 150' FSL and 2013' FEL
 Section 20, Township 21 South, Range 33 East,
 N.M.P.M., Lea County, New Mexico.



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W.O. Number: KJG 34749

Survey Date: 07-26-2019

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



**ADVANCE
 ENERGY
 PARTNERS
 HAT MESA**