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District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources

Form C-104
Revised August 1, 2011

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit one copy to appropriate District Office

☐ AMENDED REPORT

I. REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT

¹ Operator name and Address Advance Energy Partners Hat Mesa, LLC 11490 Westheimer RD, Suite 950 Houston, TX		² OGRID Number 372417
		³ Reason for Filing Code/ Effective Date NW
⁴ API Number 30-025-46698	⁵ Pool Name WC-025 G-06 S213326D; BONE SPRING	⁶ Pool Code 97929
⁷ Property Code 319603	⁸ Property Name Merchant State Unit	⁹ Well Number 553H

II. ¹⁰ Surface Location

Ul or lot no. C	Section 35	Township 21S	Range 33E	Lot Idn	Feet from the 200	North/South Line North	Feet from the 2537	East/West line West	County Lea
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¹¹ Bottom Hole Location

UL or lot no. O	Section 2	Township 22S	Range 33E	Lot Idn	Feet from the 37	North/South line SOUTH	Feet from the 2282	East/West line EAST	County Lea
¹² Lse Code S	¹³ Producing Method Code F	¹⁴ Gas Connection Date	¹⁵ C-129 Permit Number	¹⁶ C-129 Effective Date	¹⁷ C-129 Expiration Date				

III. Oil and Gas Transporters

¹⁸ Transporter OGRID	¹⁹ Transporter Name and Address	²⁰ O/G/W
214984	Plains Marketing, L.P. 10 Desta Drive, Suite 200E Midland, TX 79705	O
018180	Versado Gas Processors, LLC 1000 Louisiana, Suite 4300 Houston, TX 77022	G

IV. Well Completion Data

²¹ Spud Date 03/09/20	²² Ready Date 12/23/20	²³ TD 21,504'	²⁴ PBTD 21,435'	²⁵ Perforations 11,499'-21,390'	²⁶ DHC, MC
²⁷ Hole Size	²⁸ Casing & Tubing Size	²⁹ Depth Set	³⁰ Sacks Cement		
17.5"	13.375"	1803	835		
12.25"	9.625"	5301/3842	1395		
8.5"	5.5"	21,482	2955		

V. Well Test Data

³¹ Date New Oil 12/23/20	³² Gas Delivery Date 12/24/20	³³ Test Date 1/06/21	³⁴ Test Length 24 Hrs	³⁵ Tbg. Pressure 1000	³⁶ Csg. Pressure 831
³⁷ Choke Size 64	³⁸ Oil 1874	³⁹ Water 4180	⁴⁰ Gas 1833		⁴¹ Test Method F

⁴² I hereby certify that the rules of the Oil Conservation Division have been complied with and that the information given above is true and complete to the best of my knowledge and belief.
Signature:

Printed name:
Eileen M Kosakowski

Title:
Sr. Eng. Tech.

E-mail Address:
ekosakowski@advanceenergypartners.com

Date: 2/16/22
Phone: 832-672-4604

OIL CONSERVATION DIVISION

Approved by: PATRICIA MARTINEZ

Title: PETROLEUM SPECIALIST

Approval Date: 7/25/2024

Received by OCD: 2/16/2022 12:32:06 PM

DISTRICT I

1625 N. French Dr., Hobbs, NM 88240
Phone (505) 393-8161 Fax: (505) 393-0720

DISTRICT II

811 S. First St., Artesia, NM 88210
Phone (505) 748-1289 Fax: (505) 748-9720

DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410
Phone (505) 334-8178 Fax: (505) 334-8170

DISTRICT IV

1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone (505) 478-8460 Fax: (505) 478-3462State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

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

Form C-102

Revised August 4, 2011

Submit one copy to appropriate
District Office

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT
As Drilled

API Number 30-025-46698	Pool Code 97929	Pool Name WC-025 G-06 S213326D;BONE SPRING
Property Code 319603	Property Name MERCHANT STATE UNIT	Well Number 553H
OGRID No. 372417	Operator Name ADVANCE ENERGY PARTNERS HAT MESA	Elevation 3681'

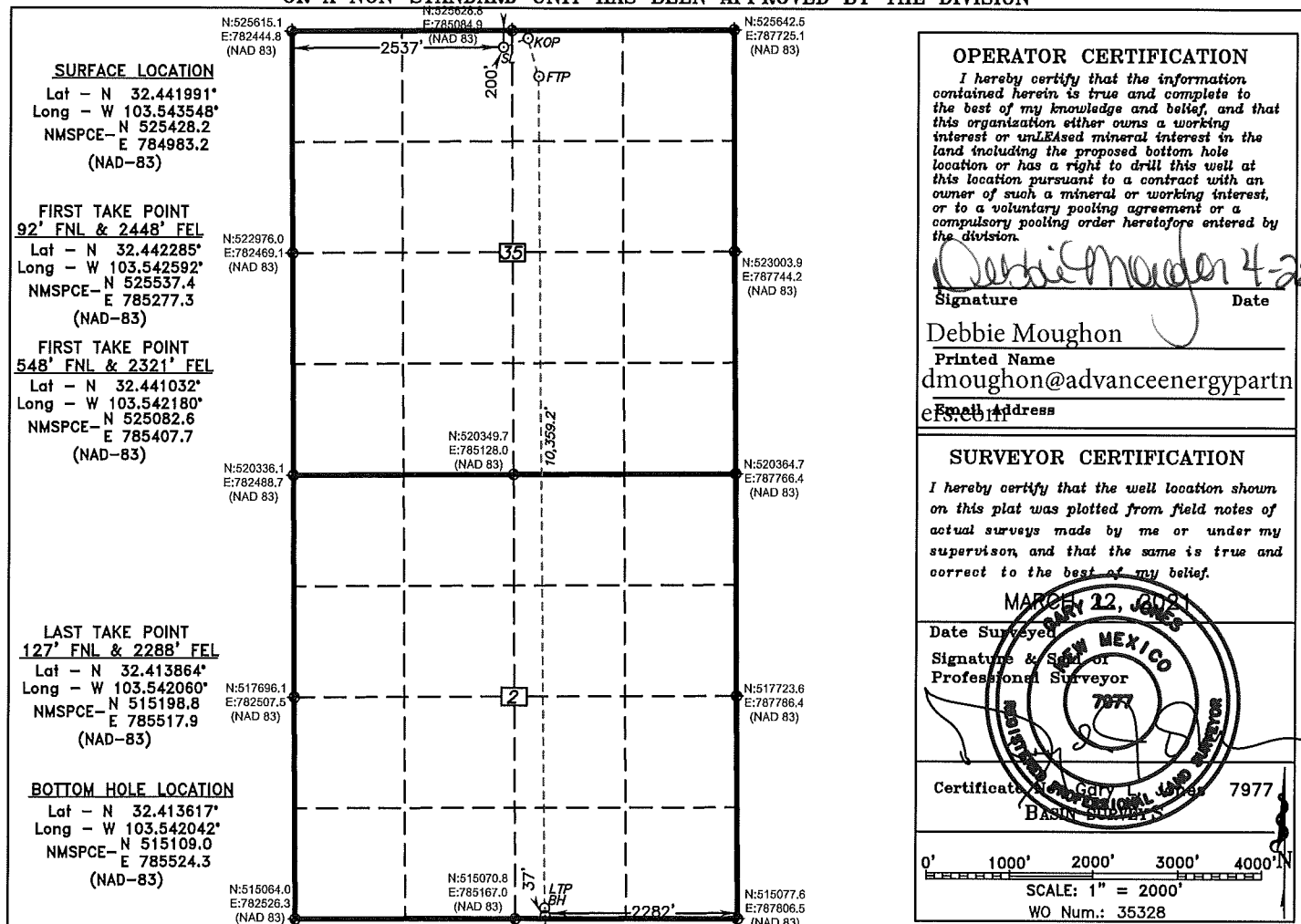
Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	SOUTH/South line	Feet from the	East/West line	County
C	35	21 S	33 E		200	NORTH	2537	WEST	LEA

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	SOUTH/South line	Feet from the	East/West line	County
O	2	22 S	33 E		37	SOUTH	2282	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



End of Well Report

Advance Energy Partners, LLC Merchant State Unit, Well No. 553H Lea County, New Mexico

Rig: H&P #389

Job No.: WT-20-035

Start Date: 03/09/2020

End Date: 06/05/2020

Directional Drillers:

Advance Directional

Office Support:

Javier Alvarez

Directional Coordinator

E-mail: Javier.Alvarez@aimdir.com

Ivonne Gonzalez

Well Planner

E-mail: Ivonne.Gonzalez@aimdir.com

Allison Reinert

Executive VP

E-mail: Allison.Reinert@aimdir.com

Thomas Rinald

President

E-mail: Thomas.Rinald@aimdir.com

P.O. Box 181015 • Corpus Christi, Texas 78480

Phone: 361-653-6500 • Fax: 361-653-6599

www.aimdir.com





Performance Overview

Merchant State Unit 553H (WT-20-035)

2020-03-09 to 2020-06-05

Lea, New Mexico, US (32.44, -103.54)

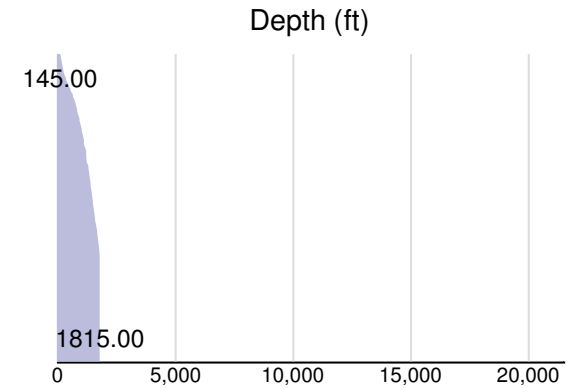
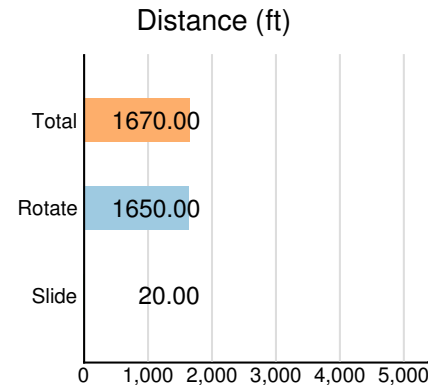
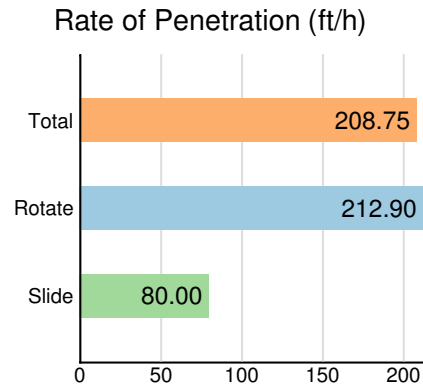
BHA Performance

BHA 1

17.5" SURFACE

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Out: 03/10/2020 05:40

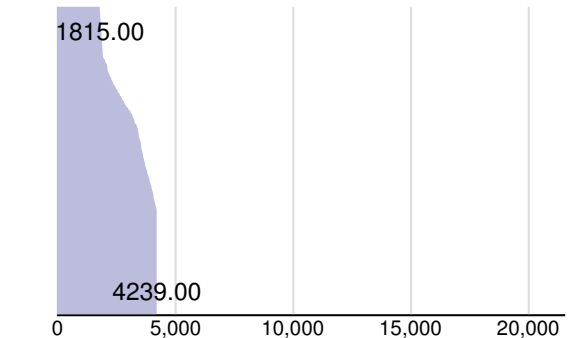
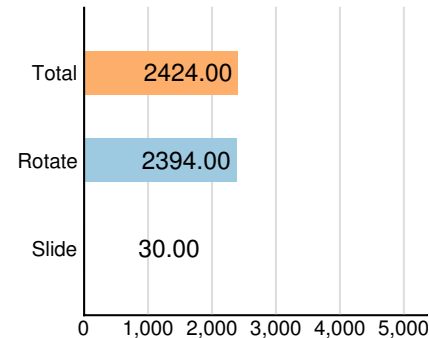
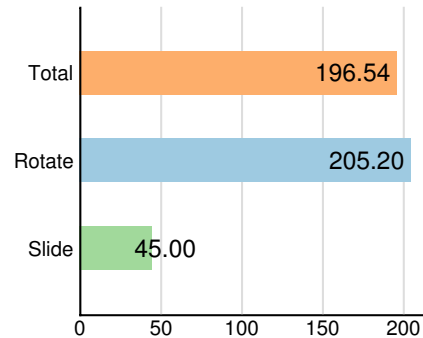


BHA 2

Intermediate 12.25"

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Out: 03/18/2020 20:00

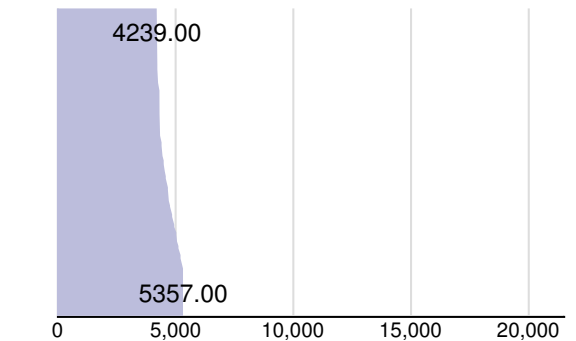
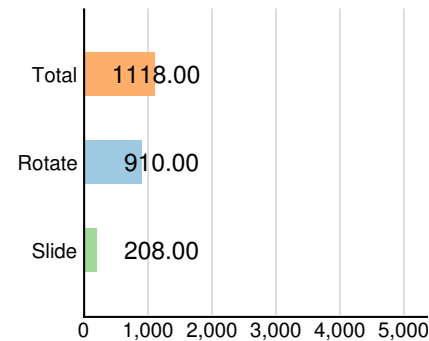
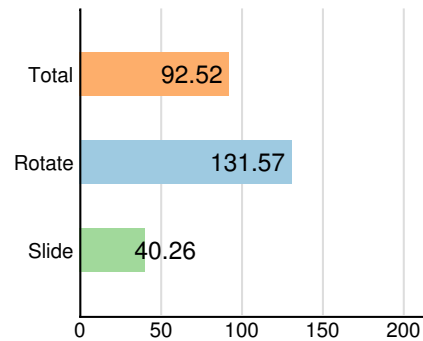


BHA 3

Intermediate 12.25"

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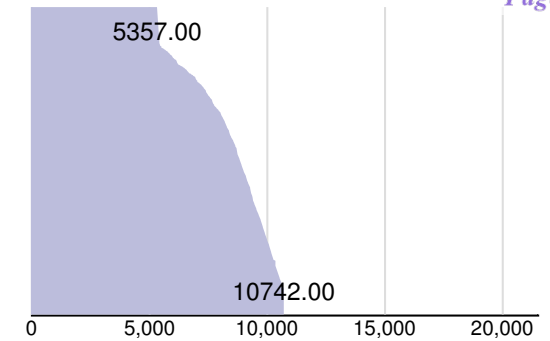
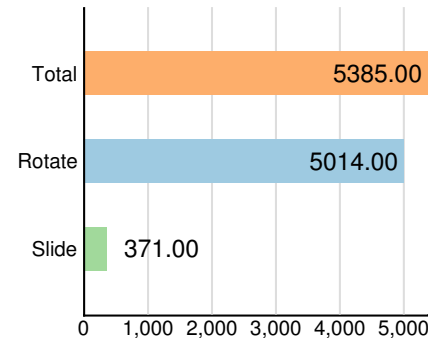
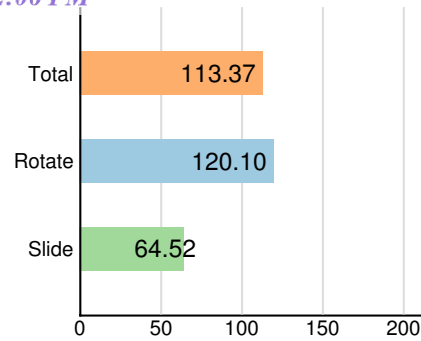


BHA 4

Intermediate 8.5"

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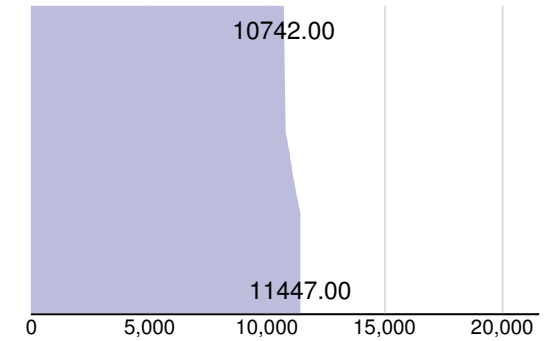
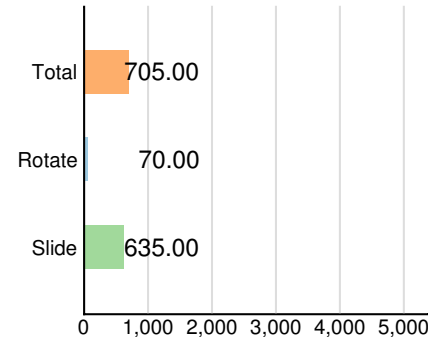
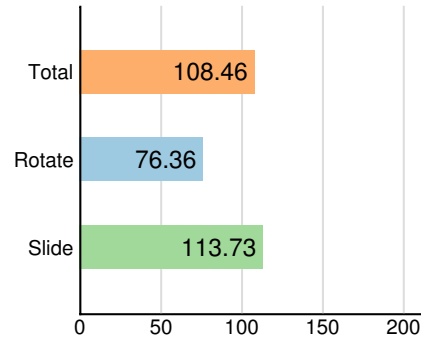


BHA 5

Curve 8.5"

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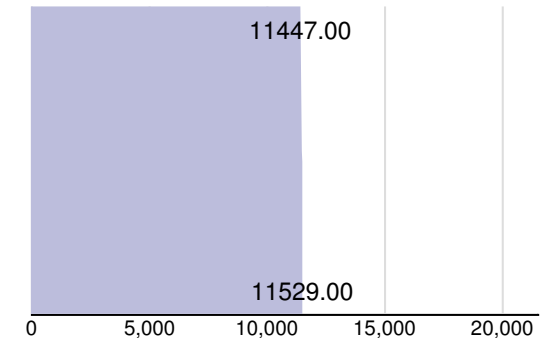
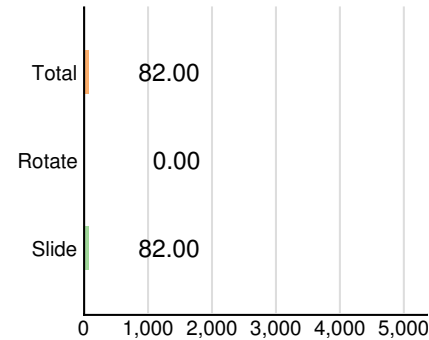
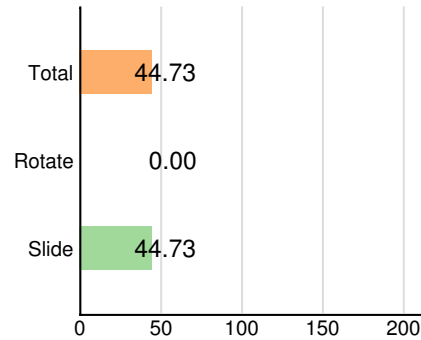


BHA 6

Curve 8.5" Bail Out

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Out: 05/17/2020 03:30

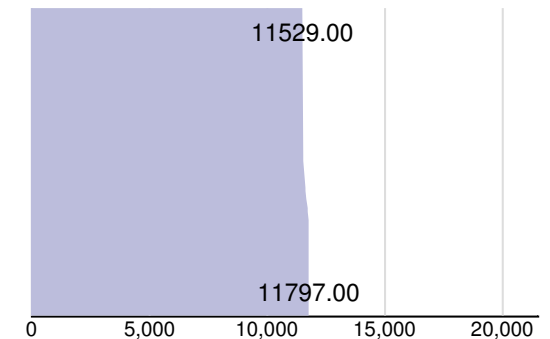
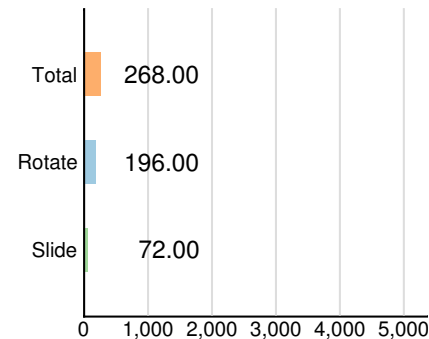
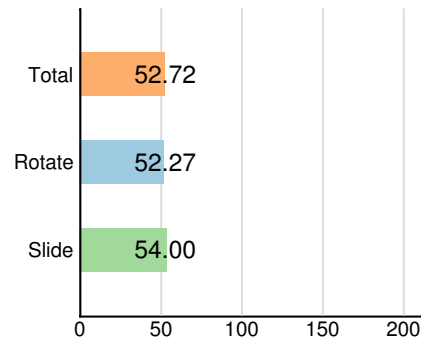


BHA 7

Lateral w/ Agitator
8.5"

In: 05/24/2020 04:00

Out: 05/25/2020 05:30

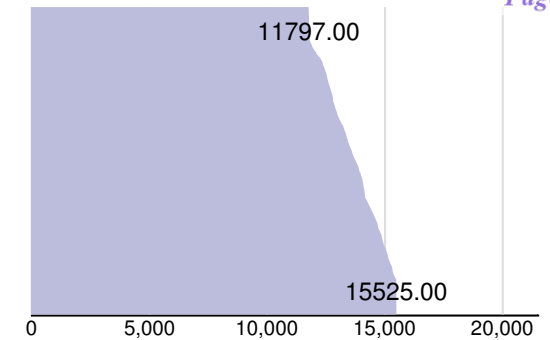
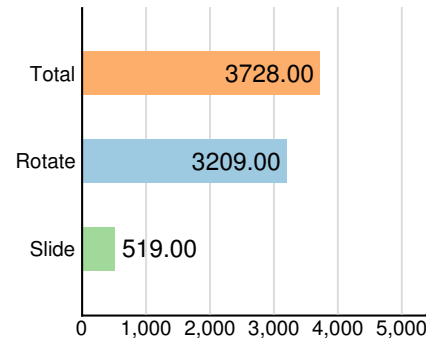
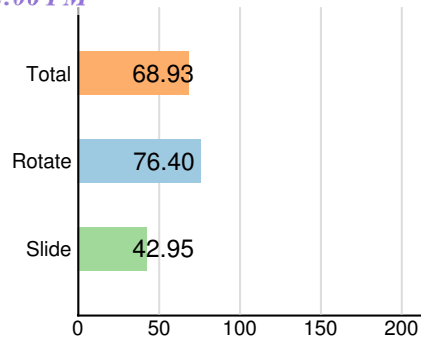


BHA 8

Lateral 8.5"

In: 05/25/2020 05:30

Out: 05/28/2020 10:00

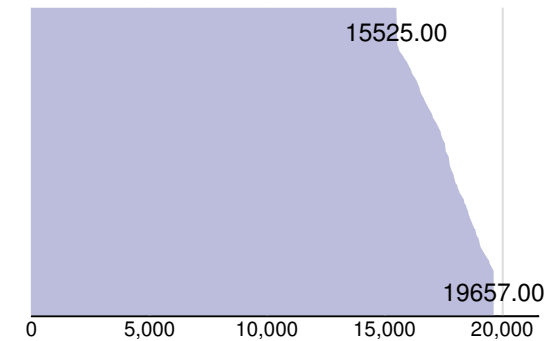
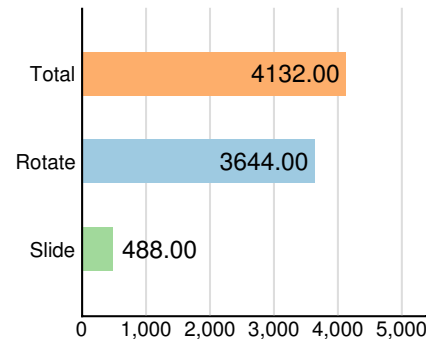
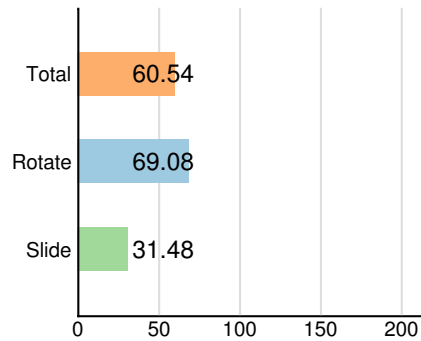


BHA 9

8.50" LATERAL w/
Agitator

In: 05/28/2020 11:00

Out: 06/01/2020 14:15

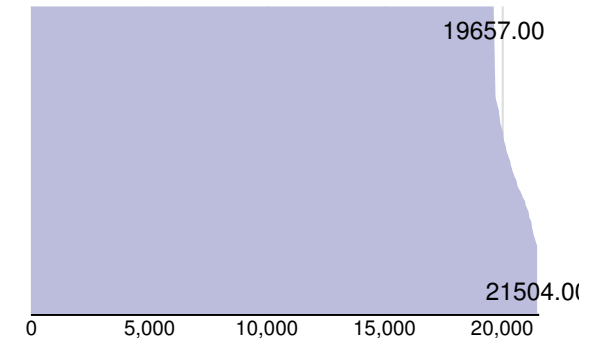
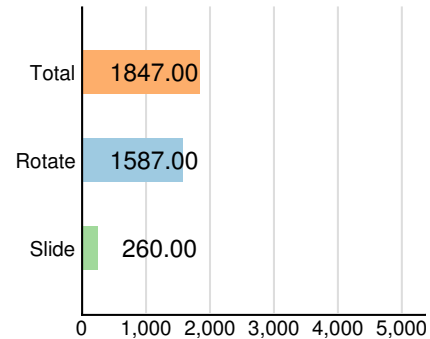
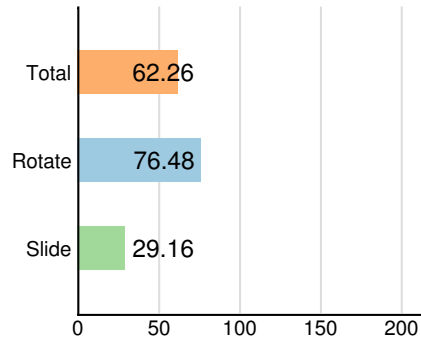


BHA 10

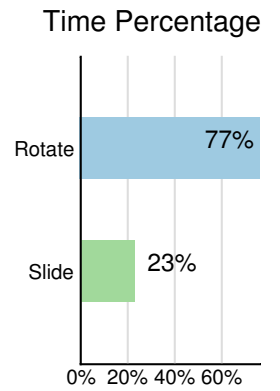
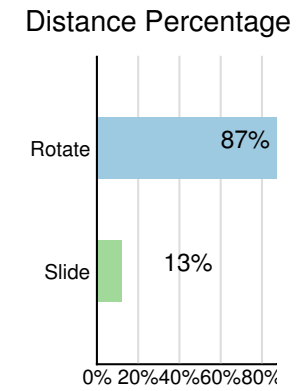
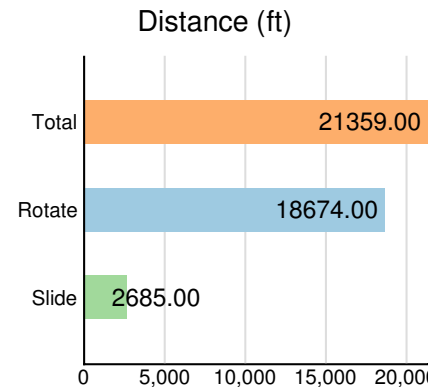
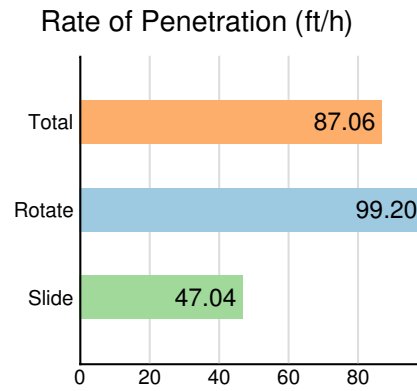
8.50" LATERAL w/
Agitator

In: 06/01/2020 14:15

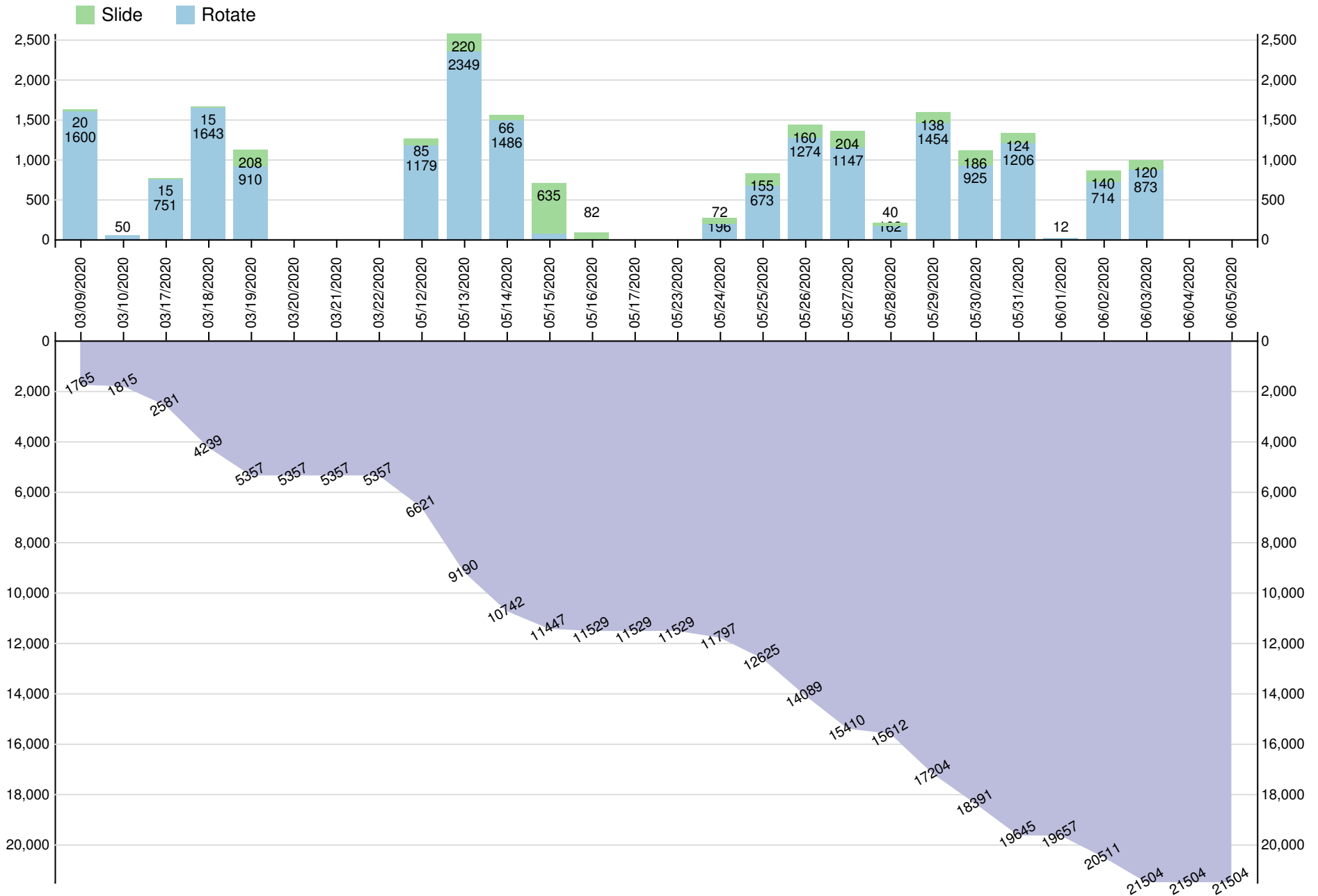
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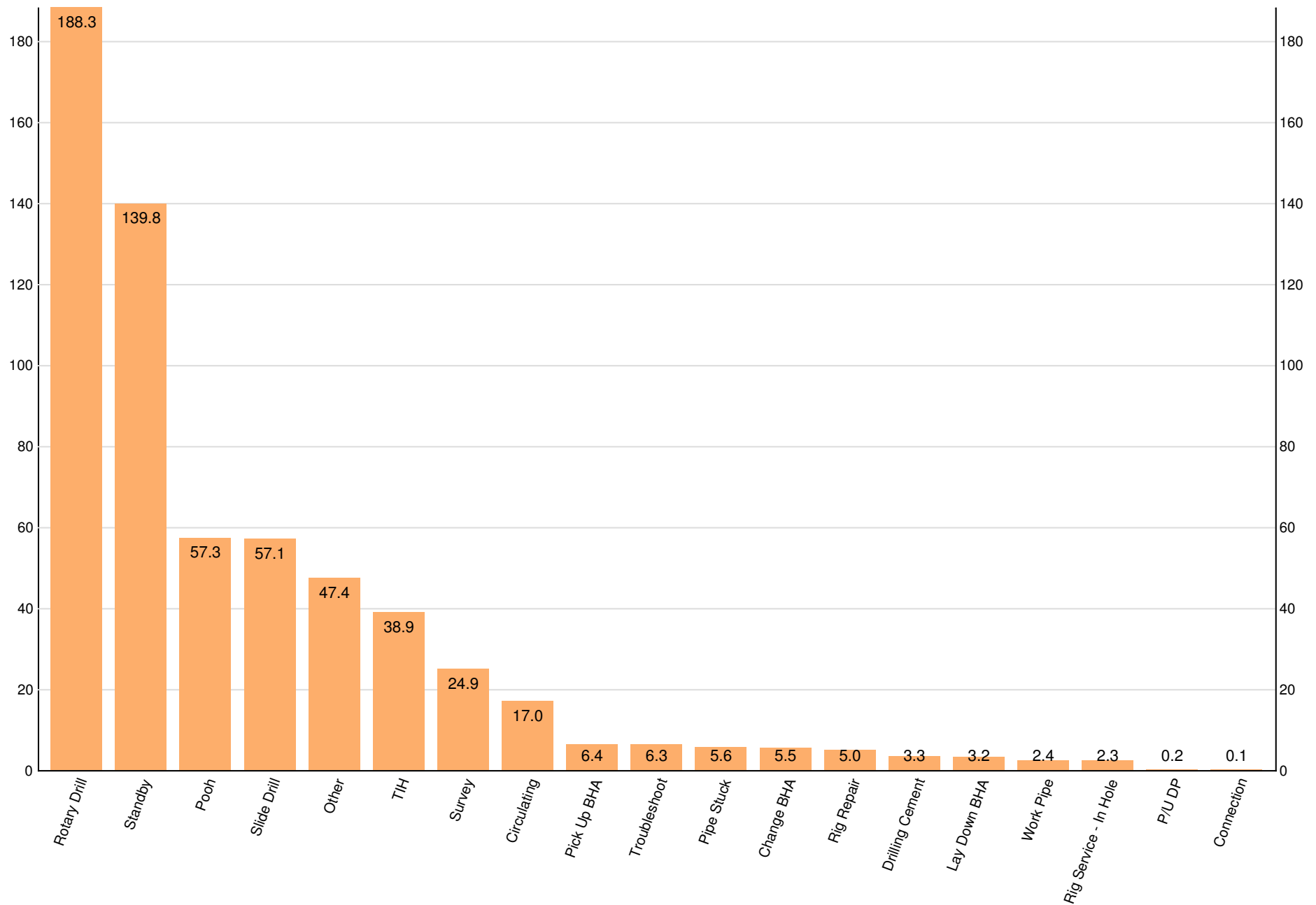
Total



Days vs. Depth



Directional Activity Hours





Proposed vs. As Drilled

Merchant State Unit 553H (WT-20-035)

2020-03-09 to 2020-06-05

Lea, New Mexico, US (32.44, -103.54)

Advance Energy Partners, LLC

Merchant State Unit 553H
Lea County, New Mexico
Job No. WT-20-035
H&P 389
Plan 1.0



Released to Imaging: 7/25/2024 8:41:28 AM

Received by OCD: 2/16/2022 12:32:06 PM

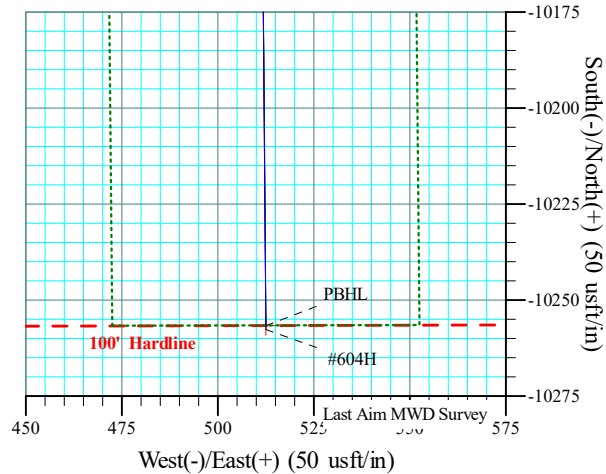


Azimuths to Grid North
True North: -0.42°
Magnetic North: 6.12°

Magnetic Field
Strength: 48012.3nT
Dip Angle: 60.20°
Date: 3/17/2020
Model: MVHD

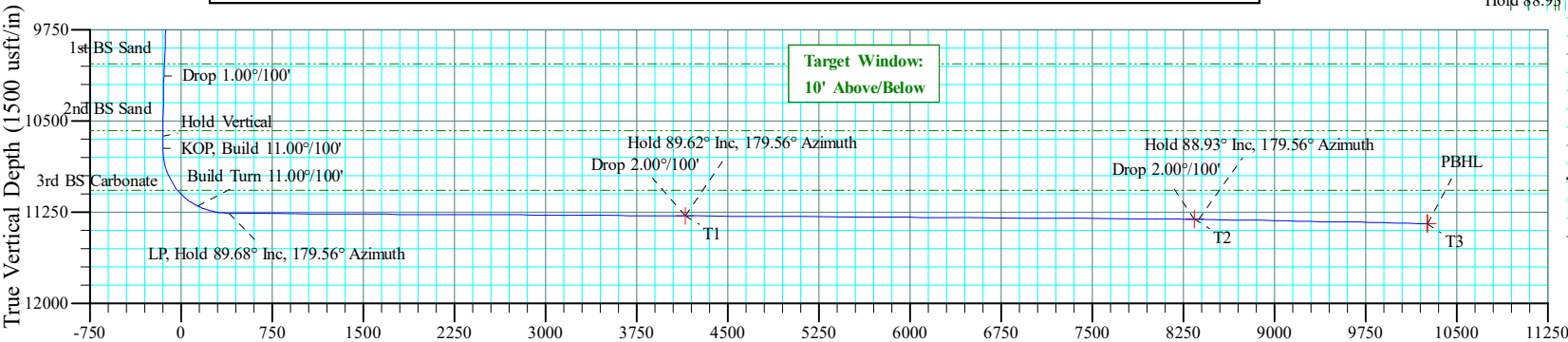
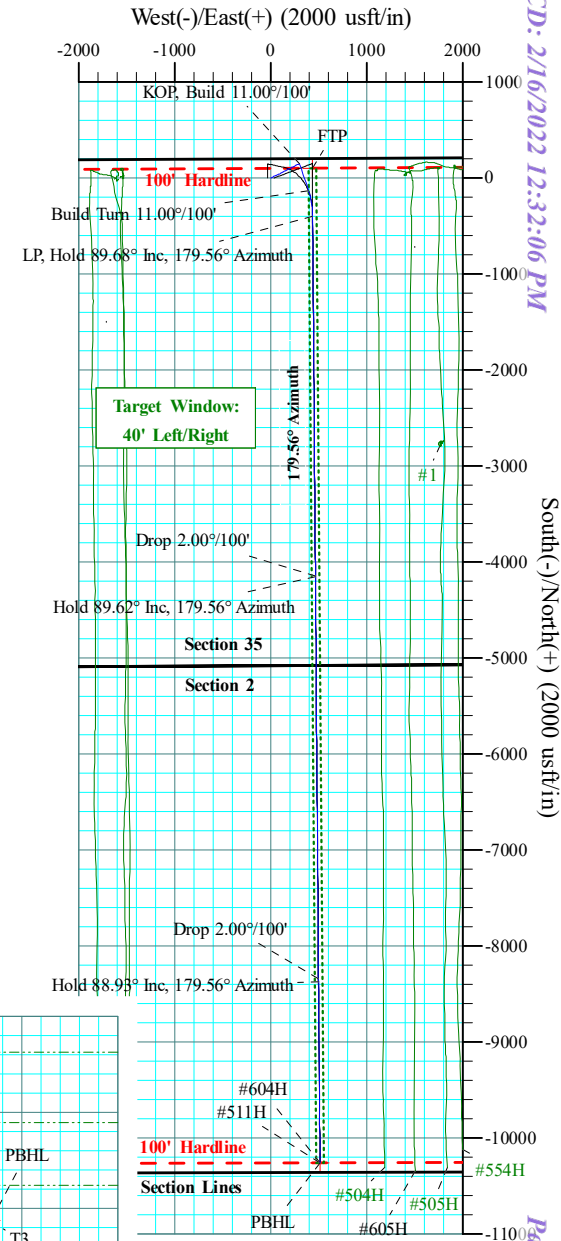
Magnetic North: 6.12° to Grid North

SITE DETAILS: Merchant State Unit 553H	
Site Centre Northing:	525428.20
Site Centre Easting:	784983.20
Positional Uncertainty:	0.00
Convergence:	0.42
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:	3681'GL+25.5'KB @ 3706.50usft (H&P 389)



SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	6286.17	0.00	0.00	6286.17	0.00	0.00	0.00	0.00	0.00	Build 1.00°/100'
3	6786.17	5.00	63.21	6785.53	9.83	19.46	1.00	63.21	-9.68	Hold 5.00° Inc, 63.21° Azimuth
4	10141.98	5.00	63.21	10128.57	141.67	280.54	0.00	0.00	-139.51	Drop 1.00°/100'
5	10641.98	0.00	0.00	10627.94	151.50	300.00	1.00	180.00	-149.19	Hold Vertical
6	10741.98	0.00	0.00	10727.94	151.50	300.00	0.00	0.00	-149.19	KOP, Build 11.00°/100'
7	11332.89	65.00	161.53	11200.01	-133.74	395.30	11.00	161.53	136.77	Build Turn 11.00°/100'
8	11607.59	89.68	179.56	11260.23	-395.24	436.77	11.00	37.96	398.58	LP, Hold 89.68° Inc, 179.56° Azimuth
9	15359.06	89.68	179.56	11281.18	-4146.55	465.58	0.00	0.00	4150.00	Drop 2.00°/100'
10	15361.98	89.62	179.56	11281.19	-4149.46	465.60	2.00	-180.00	4152.91	Hold 89.62° Inc, 179.56° Azimuth
11	19551.15	89.62	179.56	11308.85	-8338.42	497.77	0.00	0.00	8342.00	Drop 2.00°/100'
12	19585.96	88.93	179.56	11309.30	-8373.23	498.04	2.00	180.00	8376.81	Hold 88.93° Inc, 179.56° Azimuth
13	21469.72	88.93	179.56	11344.62	-10256.60	512.50	0.00	0.00	10260.23	PBHL

DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
FTP (Merchant553H)	0.00	102.30	432.60	525530.50	785415.80	32° 26' 32.148 N	103° 32' 31.715 W
PBHL r1 (Merchant553H)	11344.62	-10256.60	512.50	515171.60	785495.70	32° 24' 49.643 N	103° 32' 31.678 W



Vertical Section at 179.56° (1500 usft/in)

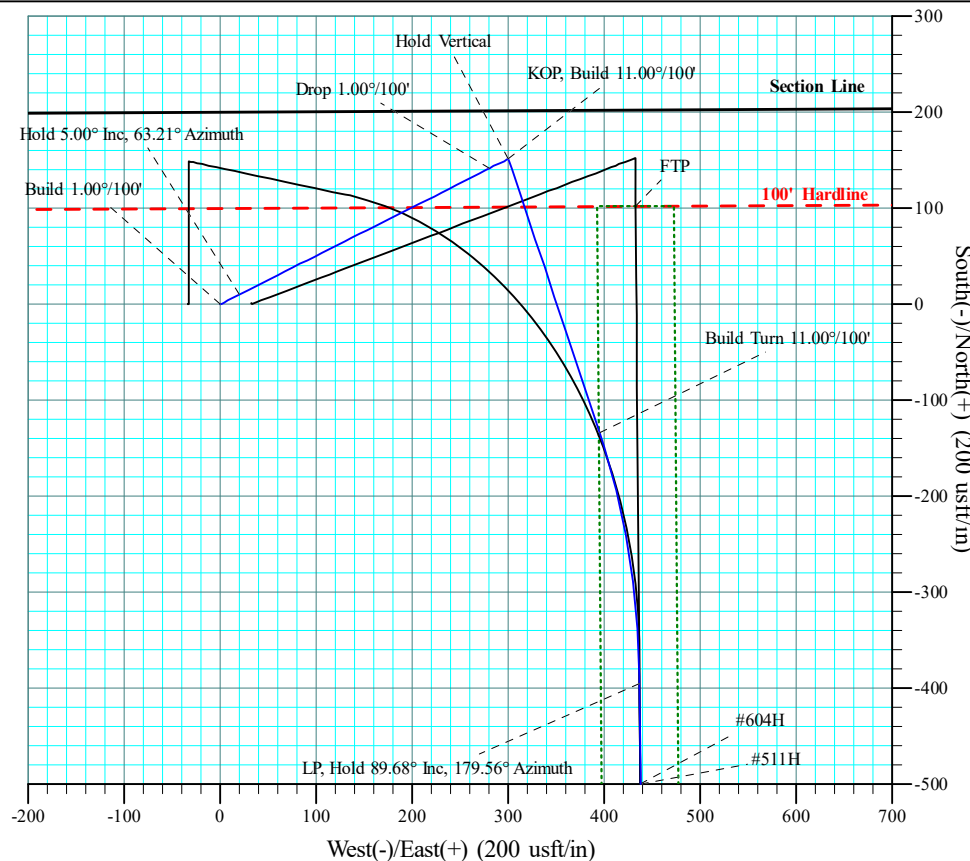
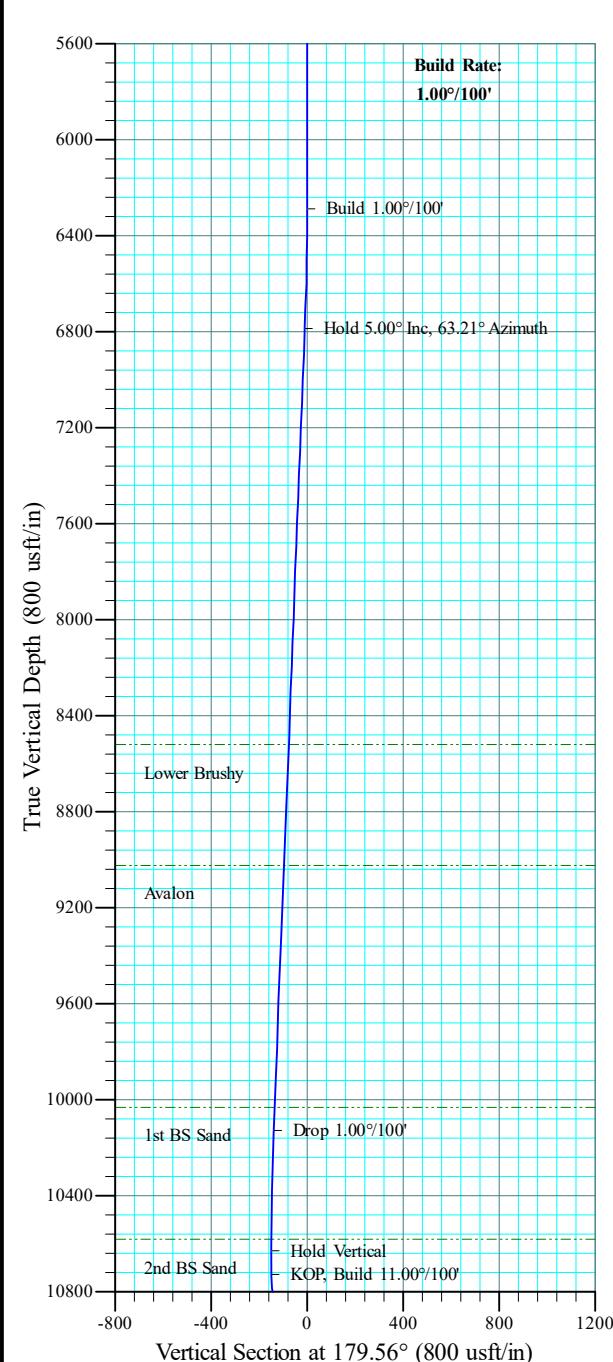
*Note - Aim is not responsible for any collision issues against unknown offset wells.

File: Advance Energy - Merchant State Unit 553H Plan 1.0.wpc

Page 12 of 100



Merchant State Unit 553H
Lea County, New Mexico
Job No. WT-20-035
H&P 389
Plan 1.0



Azimuths to Grid North
True North: -0.42°
Magnetic North: 6.12°

Magnetic Field
Strength: 48012.3nT
Dip Angle: 60.20°
Date: 3/17/2020
Model: MVHD

Magnetic North: 6.12° to Grid North

SITE DETAILS: Merchant State Unit 553H

Site Centre Northing: 525428.20
Easting: 784983.20

Positional Uncertainty: 0.00
Convergence: 0.42
Local North: Grid

Depth Reference:
3681'GL+25.5'KB @ 3706.50usft (H&P 389)

SLOTS

Slot Name	+N/-S	+E/-W
504H	57.00	1408.00
511H	0.00	-33.10
553H	0.00	0.00
604H	0.30	33.00

CASING DETAILS

TVD	Name
1785.00	13 3/8"
5316.00	9 5/8"

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

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

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
FTP (Merchant553H)	0.00	102.30	432.60	525530.50	785415.80	32° 26' 32.148 N	103° 32' 31.715 W
PBHL r1 (Merchant553H)	11344.62	-10256.60	512.50	515171.60	785495.70	32° 24' 49.643 N	103° 32' 31.678 W

Drawn By: IG
Date Created: 1/1/2020
Date Revised: 3/17/2020
File: Advance Energy - Merchant State Unit 553H Plan 1.0 Surface.wpc

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	6286.17	0.00	0.00	6286.17	0.00	0.00	0.00	0.00	0.00	Build 1.00°/100'
3	6786.17	5.00	63.21	6785.53	9.83	19.46	1.00	63.21	-9.68	Hold 5.00° Inc, 63.21° Azimuth
4	10141.98	5.00	63.21	10128.57	141.67	280.54	0.00	0.00	-139.51	Drop 1.00°/100'
5	10641.98	0.00	0.00	10627.94	151.50	300.00	1.00	180.00	-149.19	Hold Vertical
6	10741.98	0.00	0.00	10727.94	151.50	300.00	0.00	0.00	-149.19	KOP, Build 11.00°/100'
7	11332.89	65.00	161.53	11200.01	-133.74	395.30	11.00	161.53	136.77	Build Turn 11.00°/100'
8	11607.59	89.68	179.56	11260.23	-395.24	436.77	11.00	37.96	398.58	LP, Hold 89.68° Inc, 179.56° Azimuth
9	15359.06	89.68	179.56	11281.18	-4146.55	465.58	0.00	0.00	4150.00	Drop 2.00°/100'
10	15361.98	89.62	179.56	11281.19	-4149.46	465.60	2.00	-180.00	4152.91	Hold 89.62° Inc, 179.56° Azimuth
11	19551.15	89.62	179.56	11308.85	-8338.42	497.77	0.00	0.00	8342.00	Drop 2.00°/100'
12	19585.96	88.93	179.56	11309.30	-8373.23	498.04	2.00	180.00	8376.81	Hold 88.93° Inc, 179.56° Azimuth
13	21469.72	88.93	179.56	11344.62	-10256.60	512.50	0.00	0.00	10260.23	PBHL

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Merchant State Unit 553H
Project:	Lea County, New Mexico	TVD Reference:	3681'GL+25.5'KB @ 3706.50usft (H&P 389)
Site:	Merchant State Unit 553H	MD Reference:	3681'GL+25.5'KB @ 3706.50usft (H&P 389)
Well:	#553H	North Reference:	Grid
Wellbore:	Lateral 1r3	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	Merchant State Unit 553H		
Site Position:		Northing:	525,428.20 usft
From:	Map	Easting:	784,983.20 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 26' 31.167 N
		Longitude:	103° 32' 36.772 W
		Grid Convergence:	0.42 °

Well	#553H - Slot 553H		
Well Position	+N/-S	0.00 usft	Northing: 525,428.20 usft
	+E/-W	0.00 usft	Easting: 784,983.20 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
		Latitude:	32° 26' 31.167 N
		Longitude:	103° 32' 36.772 W
		Ground Level:	3,681.00 usft

Wellbore	Lateral 1r3				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	MVHD	3/17/2020	6.54	60.20	48,012.30057281

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	179.56	

Survey Tool Program	Date	3/17/2020			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	21,469.72	Plan 1.0 (Lateral 1r3)	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 (Merchant553H)									
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 Merchant State Unit 553H
Project:	Lea County, New Mexico	TVD Reference:	3681'GL+25.5'KB @ 3706.50usft (H&P 389)
Site:	Merchant State Unit 553H	MD Reference:	3681'GL+25.5'KB @ 3706.50usft (H&P 389)
Well:	#553H	North Reference:	Grid
Wellbore:	Lateral 1r3	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
1,709.00	0.00	0.00	1,709.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
1,785.00	0.00	0.00	1,785.00	0.00	0.00	0.00	0.00	0.00	0.00
13 3/8"									
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
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 Merchant State Unit 553H
Project:	Lea County, New Mexico	TVD Reference:	3681'GL+25.5'KB @ 3706.50usft (H&P 389)
Site:	Merchant State Unit 553H	MD Reference:	3681'GL+25.5'KB @ 3706.50usft (H&P 389)
Well:	#553H	North Reference:	Grid
Wellbore:	Lateral 1r3	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
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,242.00	0.00	0.00	5,242.00	0.00	0.00	0.00	0.00	0.00	0.00
Limestone Base									
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00
5,316.00	0.00	0.00	5,316.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"									
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00
6,286.17	0.00	0.00	6,286.17	0.00	0.00	0.00	0.00	0.00	0.00
Build 1.00°/100'									
6,300.00	0.14	63.21	6,300.00	0.01	0.01	-0.01	1.00	1.00	0.00
6,400.00	1.14	63.21	6,399.99	0.51	1.01	-0.50	1.00	1.00	0.00
6,500.00	2.14	63.21	6,499.95	1.80	3.56	-1.77	1.00	1.00	0.00
6,600.00	3.14	63.21	6,599.84	3.87	7.67	-3.81	1.00	1.00	0.00
6,700.00	4.14	63.21	6,699.64	6.73	13.33	-6.63	1.00	1.00	0.00
6,786.17	5.00	63.21	6,785.53	9.83	19.46	-9.68	1.00	1.00	0.00
Hold 5.00° Inc, 63.21° Azimuth									
6,800.00	5.00	63.21	6,799.31	10.37	20.54	-10.21	0.00	0.00	0.00
6,900.00	5.00	63.21	6,898.93	14.30	28.32	-14.08	0.00	0.00	0.00
7,000.00	5.00	63.21	6,998.55	18.23	36.10	-17.95	0.00	0.00	0.00
7,100.00	5.00	63.21	7,098.17	22.16	43.88	-21.82	0.00	0.00	0.00
7,200.00	5.00	63.21	7,197.79	26.09	51.66	-25.69	0.00	0.00	0.00
7,300.00	5.00	63.21	7,297.41	30.02	59.44	-29.56	0.00	0.00	0.00
7,400.00	5.00	63.21	7,397.03	33.94	67.22	-33.43	0.00	0.00	0.00
7,500.00	5.00	63.21	7,496.65	37.87	75.00	-37.30	0.00	0.00	0.00
7,600.00	5.00	63.21	7,596.27	41.80	82.78	-41.17	0.00	0.00	0.00
7,700.00	5.00	63.21	7,695.89	45.73	90.56	-45.03	0.00	0.00	0.00
7,800.00	5.00	63.21	7,795.51	49.66	98.34	-48.90	0.00	0.00	0.00
7,900.00	5.00	63.21	7,895.13	53.59	106.12	-52.77	0.00	0.00	0.00
8,000.00	5.00	63.21	7,994.75	57.52	113.90	-56.64	0.00	0.00	0.00
8,100.00	5.00	63.21	8,094.37	61.45	121.68	-60.51	0.00	0.00	0.00
8,200.00	5.00	63.21	8,193.99	65.38	129.46	-64.38	0.00	0.00	0.00
8,300.00	5.00	63.21	8,293.61	69.30	137.24	-68.25	0.00	0.00	0.00
8,400.00	5.00	63.21	8,393.22	73.23	145.02	-72.12	0.00	0.00	0.00

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Merchant State Unit 553H
Project:	Lea County, New Mexico	TVD Reference:	3681'GL+25.5'KB @ 3706.50usft (H&P 389)
Site:	Merchant State Unit 553H	MD Reference:	3681'GL+25.5'KB @ 3706.50usft (H&P 389)
Well:	#553H	North Reference:	Grid
Wellbore:	Lateral 1r3	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	63.21	8,492.84	77.16	152.80	-75.99	0.00	0.00	0.00	
8,527.26	5.00	63.21	8,520.00	78.23	154.92	-77.04	0.00	0.00	0.00	
Lower Brushy										
8,600.00	5.00	63.21	8,592.46	81.09	160.57	-79.85	0.00	0.00	0.00	
8,700.00	5.00	63.21	8,692.08	85.02	168.35	-83.72	0.00	0.00	0.00	
8,800.00	5.00	63.21	8,791.70	88.95	176.13	-87.59	0.00	0.00	0.00	
8,900.00	5.00	63.21	8,891.32	92.88	183.91	-91.46	0.00	0.00	0.00	
9,000.00	5.00	63.21	8,990.94	96.81	191.69	-95.33	0.00	0.00	0.00	
9,031.18	5.00	63.21	9,022.00	98.03	194.12	-96.54	0.00	0.00	0.00	
Avalon										
9,100.00	5.00	63.21	9,090.56	100.73	199.47	-99.20	0.00	0.00	0.00	
9,200.00	5.00	63.21	9,190.18	104.66	207.25	-103.07	0.00	0.00	0.00	
9,300.00	5.00	63.21	9,289.80	108.59	215.03	-106.94	0.00	0.00	0.00	
9,400.00	5.00	63.21	9,389.42	112.52	222.81	-110.81	0.00	0.00	0.00	
9,500.00	5.00	63.21	9,489.04	116.45	230.59	-114.68	0.00	0.00	0.00	
9,600.00	5.00	63.21	9,588.66	120.38	238.37	-118.54	0.00	0.00	0.00	
9,700.00	5.00	63.21	9,688.28	124.31	246.15	-122.41	0.00	0.00	0.00	
9,800.00	5.00	63.21	9,787.90	128.24	253.93	-126.28	0.00	0.00	0.00	
9,900.00	5.00	63.21	9,887.52	132.16	261.71	-130.15	0.00	0.00	0.00	
10,000.00	5.00	63.21	9,987.14	136.09	269.49	-134.02	0.00	0.00	0.00	
10,043.03	5.00	63.21	10,030.00	137.78	272.84	-135.68	0.00	0.00	0.00	
1st BS Sand										
10,100.00	5.00	63.21	10,086.76	140.02	277.27	-137.89	0.00	0.00	0.00	
10,141.98	5.00	63.21	10,128.57	141.67	280.54	-139.51	0.00	0.00	0.00	
Drop 1.00°/100'										
10,200.00	4.42	63.21	10,186.40	143.82	284.79	-141.63	1.00	-1.00	0.00	
10,300.00	3.42	63.21	10,286.16	146.90	290.89	-144.66	1.00	-1.00	0.00	
10,400.00	2.42	63.21	10,386.03	149.20	295.44	-146.92	1.00	-1.00	0.00	
10,500.00	1.42	63.21	10,485.98	150.71	298.43	-148.41	1.00	-1.00	0.00	
10,595.04	0.47	63.21	10,581.00	151.41	299.83	-149.11	1.00	-1.00	0.00	
2nd BS Sand										
10,600.00	0.42	63.21	10,585.96	151.43	299.86	-149.12	1.00	-1.00	0.00	
10,641.98	0.00	0.00	10,627.94	151.50	300.00	-149.19	1.00	-1.00	0.00	
Hold Vertical										
10,700.00	0.00	0.00	10,685.96	151.50	300.00	-149.19	0.00	0.00	0.00	
10,741.98	0.00	0.00	10,727.94	151.50	300.00	-149.19	0.00	0.00	0.00	
KOP, Build 11.00°/100'										
10,750.00	0.88	161.53	10,735.96	151.44	300.02	-149.13	11.00	11.00	0.00	
10,800.00	6.38	161.53	10,785.84	148.44	301.02	-146.12	11.00	11.00	0.00	
10,850.00	11.88	161.53	10,835.19	140.91	303.54	-138.58	11.00	11.00	0.00	
10,900.00	17.38	161.53	10,883.55	128.94	307.54	-126.57	11.00	11.00	0.00	
10,950.00	22.88	161.53	10,930.48	112.62	312.99	-110.22	11.00	11.00	0.00	
11,000.00	28.38	161.53	10,975.54	92.12	319.84	-89.66	11.00	11.00	0.00	
11,050.00	33.88	161.53	11,018.32	67.61	328.03	-65.09	11.00	11.00	0.00	
11,100.00	39.38	161.53	11,058.43	39.32	337.48	-36.73	11.00	11.00	0.00	

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Merchant State Unit 553H
Project:	Lea County, New Mexico	TVD Reference:	3681'GL+25.5'KB @ 3706.50usft (H&P 389)
Site:	Merchant State Unit 553H	MD Reference:	3681'GL+25.5'KB @ 3706.50usft (H&P 389)
Well:	#553H	North Reference:	Grid
Wellbore:	Lateral 1r3	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)
11,116.48	41.20	161.53	11,071.00	29.21	340.86	-26.59	11.00	11.00	0.00
3rd BS Carbonate									
11,150.00	44.88	161.53	11,095.49	7.52	348.11	-4.85	11.00	11.00	0.00
11,200.00	50.38	161.53	11,129.18	-27.50	359.81	30.27	11.00	11.00	0.00
11,250.00	55.88	161.53	11,159.16	-65.43	372.48	68.29	11.00	11.00	0.00
11,300.00	61.38	161.53	11,185.18	-105.91	386.00	108.87	11.00	11.00	0.00
11,332.89	65.00	161.53	11,200.01	-133.74	395.30	136.77	11.00	11.00	0.00
Build Turn 11.00°/100'									
11,350.00	66.49	162.79	11,207.04	-148.59	400.08	151.66	11.00	8.70	7.38
11,400.00	70.89	166.32	11,225.21	-193.48	412.46	196.64	11.00	8.81	7.07
11,450.00	75.36	169.67	11,239.72	-240.26	422.39	243.50	11.00	8.94	6.70
11,500.00	79.88	172.89	11,250.44	-288.52	429.78	291.81	11.00	9.03	6.43
11,550.00	84.43	176.02	11,257.26	-337.80	434.56	341.13	11.00	9.09	6.25
11,600.00	88.99	179.09	11,260.14	-387.65	436.68	391.00	11.00	9.12	6.16
11,607.59	89.68	179.56	11,260.23	-395.24	436.77	398.58	11.00	9.13	6.13
LP, Hold 89.68° Inc, 179.56° Azimuth									
11,700.00	89.68	179.56	11,260.74	-487.65	437.48	490.99	0.00	0.00	0.00
11,800.00	89.68	179.56	11,261.30	-587.64	438.25	590.99	0.00	0.00	0.00
11,900.00	89.68	179.56	11,261.86	-687.64	439.02	690.99	0.00	0.00	0.00
12,000.00	89.68	179.56	11,262.42	-787.64	439.78	790.99	0.00	0.00	0.00
12,100.00	89.68	179.56	11,262.98	-887.63	440.55	890.99	0.00	0.00	0.00
12,200.00	89.68	179.56	11,263.53	-987.63	441.32	990.99	0.00	0.00	0.00
12,300.00	89.68	179.56	11,264.09	-1,087.62	442.09	1,090.98	0.00	0.00	0.00
12,400.00	89.68	179.56	11,264.65	-1,187.62	442.85	1,190.98	0.00	0.00	0.00
12,500.00	89.68	179.56	11,265.21	-1,287.61	443.62	1,290.98	0.00	0.00	0.00
12,600.00	89.68	179.56	11,265.77	-1,387.61	444.39	1,390.98	0.00	0.00	0.00
12,700.00	89.68	179.56	11,266.33	-1,487.60	445.16	1,490.98	0.00	0.00	0.00
12,800.00	89.68	179.56	11,266.88	-1,587.60	445.93	1,590.98	0.00	0.00	0.00
12,900.00	89.68	179.56	11,267.44	-1,687.59	446.69	1,690.98	0.00	0.00	0.00
13,000.00	89.68	179.56	11,268.00	-1,787.59	447.46	1,790.97	0.00	0.00	0.00
13,100.00	89.68	179.56	11,268.56	-1,887.59	448.23	1,890.97	0.00	0.00	0.00
13,200.00	89.68	179.56	11,269.12	-1,987.58	449.00	1,990.97	0.00	0.00	0.00
13,300.00	89.68	179.56	11,269.68	-2,087.58	449.77	2,090.97	0.00	0.00	0.00
13,400.00	89.68	179.56	11,270.24	-2,187.57	450.53	2,190.97	0.00	0.00	0.00
13,500.00	89.68	179.56	11,270.79	-2,287.57	451.30	2,290.97	0.00	0.00	0.00
13,600.00	89.68	179.56	11,271.35	-2,387.56	452.07	2,390.96	0.00	0.00	0.00
13,700.00	89.68	179.56	11,271.91	-2,487.56	452.84	2,490.96	0.00	0.00	0.00
13,800.00	89.68	179.56	11,272.47	-2,587.55	453.61	2,590.96	0.00	0.00	0.00
13,900.00	89.68	179.56	11,273.03	-2,687.55	454.37	2,690.96	0.00	0.00	0.00
14,000.00	89.68	179.56	11,273.59	-2,787.55	455.14	2,790.96	0.00	0.00	0.00
14,100.00	89.68	179.56	11,274.15	-2,887.54	455.91	2,890.96	0.00	0.00	0.00
14,200.00	89.68	179.56	11,274.70	-2,987.54	456.68	2,990.95	0.00	0.00	0.00
14,300.00	89.68	179.56	11,275.26	-3,087.53	457.45	3,090.95	0.00	0.00	0.00
14,400.00	89.68	179.56	11,275.82	-3,187.53	458.21	3,190.95	0.00	0.00	0.00

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Merchant State Unit 553H
Project:	Lea County, New Mexico	TVD Reference:	3681'GL+25.5'KB @ 3706.50usft (H&P 389)
Site:	Merchant State Unit 553H	MD Reference:	3681'GL+25.5'KB @ 3706.50usft (H&P 389)
Well:	#553H	North Reference:	Grid
Wellbore:	Lateral 1r3	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)
14,500.00	89.68	179.56	11,276.38	-3,287.52	458.98	3,290.95	0.00	0.00	0.00
14,600.00	89.68	179.56	11,276.94	-3,387.52	459.75	3,390.95	0.00	0.00	0.00
14,700.00	89.68	179.56	11,277.50	-3,487.51	460.52	3,490.95	0.00	0.00	0.00
14,800.00	89.68	179.56	11,278.06	-3,587.51	461.28	3,590.95	0.00	0.00	0.00
14,900.00	89.68	179.56	11,278.61	-3,687.50	462.05	3,690.94	0.00	0.00	0.00
15,000.00	89.68	179.56	11,279.17	-3,787.50	462.82	3,790.94	0.00	0.00	0.00
15,100.00	89.68	179.56	11,279.73	-3,887.50	463.59	3,890.94	0.00	0.00	0.00
15,200.00	89.68	179.56	11,280.29	-3,987.49	464.36	3,990.94	0.00	0.00	0.00
15,300.00	89.68	179.56	11,280.85	-4,087.49	465.12	4,090.94	0.00	0.00	0.00
15,359.06	89.68	179.56	11,281.18	-4,146.55	465.58	4,150.00	0.00	0.00	0.00
Drop 2.00°/100'									
15,359.37	89.67	179.56	11,281.18	-4,146.85	465.58	4,150.30	2.00	-2.00	0.00
T1 (Merchant553H)									
15,361.98	89.62	179.56	11,281.20	-4,149.46	465.60	4,152.92	2.00	-2.00	0.00
Hold 89.62° Inc, 179.56° Azimuth									
15,400.00	89.62	179.56	11,281.45	-4,187.48	465.89	4,190.94	0.00	0.00	0.00
15,500.00	89.62	179.56	11,282.11	-4,287.48	466.66	4,290.93	0.00	0.00	0.00
15,600.00	89.62	179.56	11,282.77	-4,387.47	467.43	4,390.93	0.00	0.00	0.00
15,700.00	89.62	179.56	11,283.43	-4,487.47	468.20	4,490.93	0.00	0.00	0.00
15,800.00	89.62	179.56	11,284.09	-4,587.46	468.96	4,590.93	0.00	0.00	0.00
15,900.00	89.62	179.56	11,284.75	-4,687.46	469.73	4,690.93	0.00	0.00	0.00
16,000.00	89.62	179.56	11,285.41	-4,787.45	470.50	4,790.92	0.00	0.00	0.00
16,100.00	89.62	179.56	11,286.07	-4,887.45	471.27	4,890.92	0.00	0.00	0.00
16,200.00	89.62	179.56	11,286.73	-4,987.44	472.04	4,990.92	0.00	0.00	0.00
16,300.00	89.62	179.56	11,287.39	-5,087.44	472.80	5,090.92	0.00	0.00	0.00
16,400.00	89.62	179.56	11,288.05	-5,187.43	473.57	5,190.91	0.00	0.00	0.00
16,500.00	89.62	179.56	11,288.71	-5,287.43	474.34	5,290.91	0.00	0.00	0.00
16,600.00	89.62	179.56	11,289.37	-5,387.42	475.11	5,390.91	0.00	0.00	0.00
16,700.00	89.62	179.56	11,290.03	-5,487.42	475.88	5,490.91	0.00	0.00	0.00
16,800.00	89.62	179.56	11,290.69	-5,587.41	476.64	5,590.91	0.00	0.00	0.00
16,900.00	89.62	179.56	11,291.35	-5,687.40	477.41	5,690.90	0.00	0.00	0.00
17,000.00	89.62	179.56	11,292.01	-5,787.40	478.18	5,790.90	0.00	0.00	0.00
17,100.00	89.62	179.56	11,292.67	-5,887.39	478.95	5,890.90	0.00	0.00	0.00
17,200.00	89.62	179.56	11,293.33	-5,987.39	479.71	5,990.90	0.00	0.00	0.00
17,300.00	89.62	179.56	11,293.99	-6,087.38	480.48	6,090.89	0.00	0.00	0.00
17,400.00	89.62	179.56	11,294.65	-6,187.38	481.25	6,190.89	0.00	0.00	0.00
17,500.00	89.62	179.56	11,295.31	-6,287.37	482.02	6,290.89	0.00	0.00	0.00
17,600.00	89.62	179.56	11,295.97	-6,387.37	482.79	6,390.89	0.00	0.00	0.00
17,700.00	89.62	179.56	11,296.63	-6,487.36	483.55	6,490.89	0.00	0.00	0.00
17,800.00	89.62	179.56	11,297.29	-6,587.36	484.32	6,590.88	0.00	0.00	0.00
17,900.00	89.62	179.56	11,297.95	-6,687.35	485.09	6,690.88	0.00	0.00	0.00
18,000.00	89.62	179.56	11,298.61	-6,787.35	485.86	6,790.88	0.00	0.00	0.00
18,100.00	89.62	179.56	11,299.27	-6,887.34	486.63	6,890.88	0.00	0.00	0.00

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Merchant State Unit 553H
Project:	Lea County, New Mexico	TVD Reference:	3681'GL+25.5'KB @ 3706.50usft (H&P 389)
Site:	Merchant State Unit 553H	MD Reference:	3681'GL+25.5'KB @ 3706.50usft (H&P 389)
Well:	#553H	North Reference:	Grid
Wellbore:	Lateral 1r3	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)
18,200.00	89.62	179.56	11,299.93	-6,987.34	487.39	6,990.88	0.00	0.00	0.00
18,300.00	89.62	179.56	11,300.59	-7,087.33	488.16	7,090.87	0.00	0.00	0.00
18,400.00	89.62	179.56	11,301.25	-7,187.33	488.93	7,190.87	0.00	0.00	0.00
18,500.00	89.62	179.56	11,301.91	-7,287.32	489.70	7,290.87	0.00	0.00	0.00
18,600.00	89.62	179.56	11,302.57	-7,387.32	490.47	7,390.87	0.00	0.00	0.00
18,700.00	89.62	179.56	11,303.23	-7,487.31	491.23	7,490.86	0.00	0.00	0.00
18,800.00	89.62	179.56	11,303.89	-7,587.31	492.00	7,590.86	0.00	0.00	0.00
18,900.00	89.62	179.56	11,304.56	-7,687.30	492.77	7,690.86	0.00	0.00	0.00
19,000.00	89.62	179.56	11,305.22	-7,787.30	493.54	7,790.86	0.00	0.00	0.00
19,100.00	89.62	179.56	11,305.88	-7,887.29	494.31	7,890.86	0.00	0.00	0.00
19,200.00	89.62	179.56	11,306.54	-7,987.29	495.07	7,990.85	0.00	0.00	0.00
19,300.00	89.62	179.56	11,307.20	-8,087.28	495.84	8,090.85	0.00	0.00	0.00
19,400.00	89.62	179.56	11,307.86	-8,187.28	496.61	8,190.85	0.00	0.00	0.00
19,500.00	89.62	179.56	11,308.52	-8,287.27	497.38	8,290.85	0.00	0.00	0.00
19,550.78	89.62	179.56	11,308.85	-8,338.05	497.77	8,341.62	0.00	0.00	0.00
T2 (Merchant553H)									
19,551.15	89.62	179.56	11,308.85	-8,338.42	497.77	8,342.00	0.00	0.00	0.00
Drop 2.00°/100'									
19,585.96	88.93	179.56	11,309.30	-8,373.23	498.04	8,376.81	2.00	-2.00	0.00
Hold 88.93° Inc, 179.56° Azimuth									
19,600.00	88.93	179.56	11,309.56	-8,387.26	498.15	8,390.84	0.00	0.00	0.00
19,700.00	88.93	179.56	11,311.43	-8,487.24	498.91	8,490.82	0.00	0.00	0.00
19,800.00	88.93	179.56	11,313.31	-8,587.22	499.68	8,590.81	0.00	0.00	0.00
19,900.00	88.93	179.56	11,315.18	-8,687.20	500.45	8,690.79	0.00	0.00	0.00
20,000.00	88.93	179.56	11,317.06	-8,787.18	501.22	8,790.77	0.00	0.00	0.00
20,100.00	88.93	179.56	11,318.93	-8,887.16	501.98	8,890.75	0.00	0.00	0.00
20,200.00	88.93	179.56	11,320.81	-8,987.14	502.75	8,990.73	0.00	0.00	0.00
20,300.00	88.93	179.56	11,322.69	-9,087.12	503.52	9,090.72	0.00	0.00	0.00
20,400.00	88.93	179.56	11,324.56	-9,187.10	504.29	9,190.70	0.00	0.00	0.00
20,500.00	88.93	179.56	11,326.44	-9,287.08	505.05	9,290.68	0.00	0.00	0.00
20,600.00	88.93	179.56	11,328.31	-9,387.06	505.82	9,390.66	0.00	0.00	0.00
20,700.00	88.93	179.56	11,330.19	-9,487.04	506.59	9,490.65	0.00	0.00	0.00
20,800.00	88.93	179.56	11,332.06	-9,587.02	507.36	9,590.63	0.00	0.00	0.00
20,900.00	88.93	179.56	11,333.94	-9,687.00	508.13	9,690.61	0.00	0.00	0.00
21,000.00	88.93	179.56	11,335.81	-9,786.97	508.89	9,790.59	0.00	0.00	0.00
21,100.00	88.93	179.56	11,337.69	-9,886.95	509.66	9,890.58	0.00	0.00	0.00
21,200.00	88.93	179.56	11,339.56	-9,986.93	510.43	9,990.56	0.00	0.00	0.00
21,300.00	88.93	179.56	11,341.44	-10,086.91	511.20	10,090.54	0.00	0.00	0.00
21,400.00	88.93	179.56	11,343.31	-10,186.89	511.96	10,190.52	0.00	0.00	0.00
21,463.61	88.93	179.56	11,344.51	-10,250.49	512.45	10,254.12	0.00	0.00	0.00
T3 (Merchant553H)									
21,469.72	88.93	179.56	11,344.62	-10,256.60	512.50	10,260.23	0.00	0.00	0.00
PBHL - PBHL r1 (Merchant553H)									

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Merchant State Unit 553H
Project:	Lea County, New Mexico	TVD Reference:	3681'GL+25.5'KB @ 3706.50usft (H&P 389)
Site:	Merchant State Unit 553H	MD Reference:	3681'GL+25.5'KB @ 3706.50usft (H&P 389)
Well:	#553H	North Reference:	Grid
Wellbore:	Lateral 1r3	Survey Calculation Method:	Minimum Curvature
Design:	Plan 1.0	Database:	EDM 5000.1 Aim Database

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 (Merchant553H) - plan misses target center by 444.53usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) - Point	0.00	0.00	0.00	102.30	432.60	525,530.50	785,415.80	32° 26' 32.148 N	103° 32' 31.715 W
PBHL r1 (Merchant553H) - plan hits target center - Point	0.00	0.00	11,344.62	-10,256.60	512.50	515,171.60	785,495.70	32° 24' 49.643 N	103° 32' 31.678 W

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,785.00	1,785.00	13 3/8"	13-3/8	17-1/2	
5,316.00	5,316.00	9 5/8"	9-5/8	12-1/4	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,709.00	1,709.00	Rustler		0.00		
5,242.00	5,242.00	Limestone Base		0.00		
8,527.26	8,520.00	Lower Brushy		0.00		
9,031.18	9,022.00	Avalon		0.00		
10,043.03	10,030.00	1st BS Sand		0.00		
10,595.04	10,581.00	2nd BS Sand		0.00		
11,116.48	11,071.00	3rd BS Carbonate		0.00		

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
6286	6286	0	0	Build 1.00°/100'	
6786	6786	10	19	Hold 5.00° Inc, 63.21° Azimuth	
10,142	10,129	142	281	Drop 1.00°/100'	
10,642	10,628	152	300	Hold Vertical	
10,742	10,728	152	300	KOP, Build 11.00°/100'	
11,333	11,200	-134	395	Build Turn 11.00°/100'	
11,608	11,260	-395	437	LP, Hold 89.68° Inc, 179.56° Azimuth	
15,359	11,281	-4147	466	Drop 2.00°/100'	
15,362	11,281	-4149	466	Hold 89.62° Inc, 179.56° Azimuth	
19,551	11,309	-8338	498	Drop 2.00°/100'	
19,586	11,309	-8373	498	Hold 88.93° Inc, 179.56° Azimuth	
21,470	11,345	-10,257	512	PBHL	

Advance Energy Partners, LLC

Merchant State Unit 553H
Lea County, New Mexico
Job No. WT-20-035
H&P 389
Plan 1.0 Final PVA



Received to Imaging: 7/25/2024 8:41:28 AM



Azimuths to Grid North
True North: -0.42°
Magnetic North: 6.10°

Magnetic Field
Strength: 47992.1nT
Dip Angle: 60.19°
Date: 5/25/2020
Model: MVHD

Magnetic North: 6.10° to Grid North

SITE DETAILS: Merchant State Unit 553H

Site Centre Northing: 525428.20
Easting: 784983.20

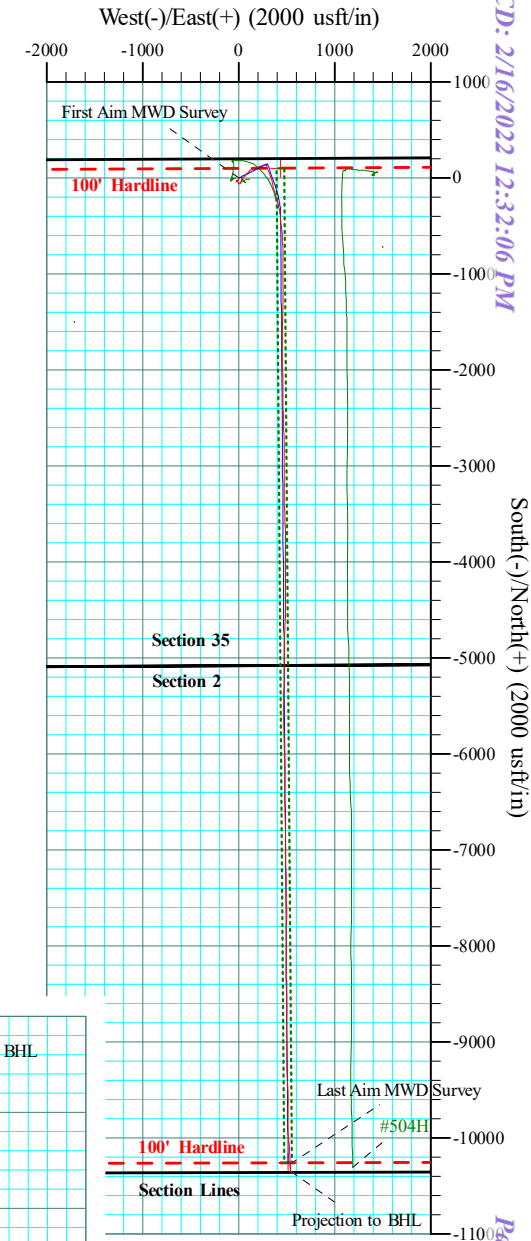
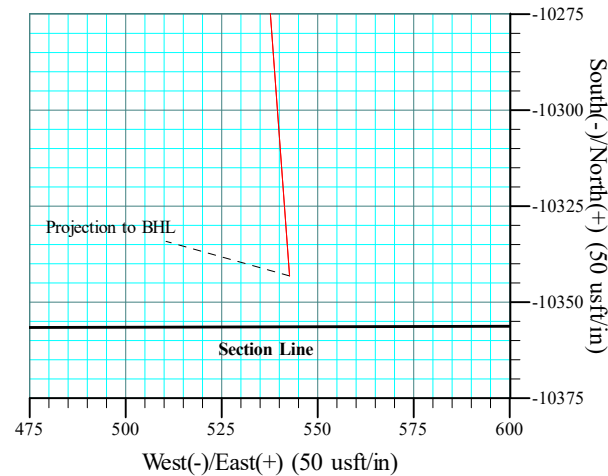
Positional Uncertainty: 0.00
Convergence: 0.42
Local North: Grid

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:
3681'GL+25.5'KB @ 3706.50usft (H&P 389)

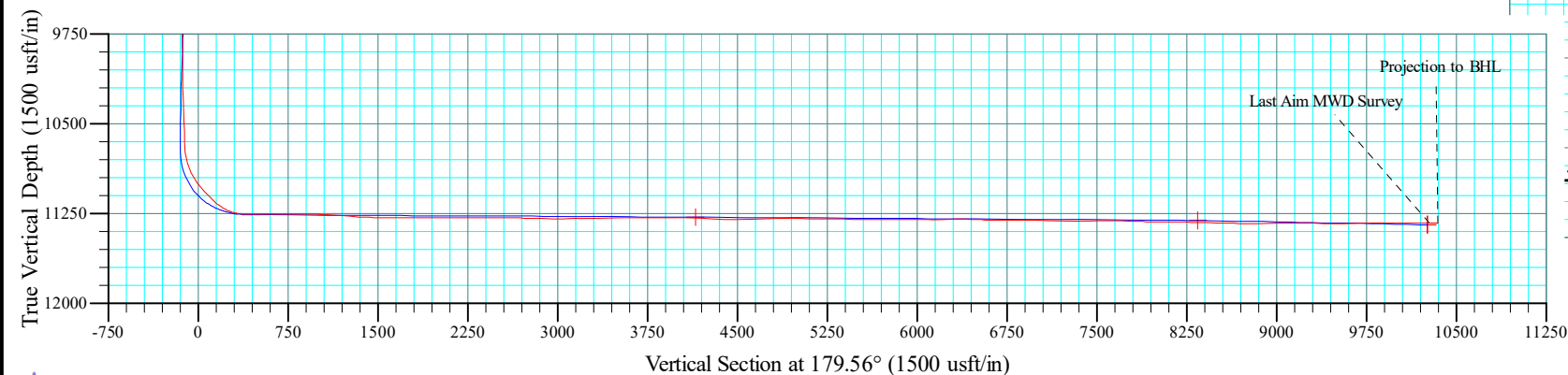


SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSeet	Annotation
1	21434.00	89.89	175.75	11329.14	-10273.32	537.64	0.00	0.00	10277.15	Last Aim MWD Survey
2	21504.00	89.89	175.75	11329.27	-10343.13	542.82	0.00	0.00	10346.99	Projection to BHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
FTP (Merchant553H)	0.00	102.30	432.60	525530.50	785415.80	32° 26' 32.148 N	103° 32' 31.715 W
PBHL r1 (Merchant553H)	11344.62	-10256.60	512.50	515171.60	785495.70	32° 24' 49.643 N	103° 32' 31.678 W



South(-)/North(+) (2000 usft/in)

Page 22 of 100



Survey Reports

Merchant State Unit 553H (WT-20-035)

2020-03-09 to 2020-06-05

Lea, New Mexico, US (32.44, -103.54)

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Merchant State Unit 553H
Project:	Lea County, New Mexico	TVD Reference:	3681'GL+25.5'KB @ 3706.50usft (H&P 389)
Site:	Merchant State Unit 553H	MD Reference:	3681'GL+25.5'KB @ 3706.50usft (H&P 389)
Well:	#553H	North Reference:	Grid
Wellbore:	Aim MWD Surveys	Survey Calculation Method:	Minimum Curvature
Design:	Aim MWD Surveys	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		Merchant State Unit 553H					
Site Position:		Northing:	525,428.20	usft	Latitude:	32° 26' 31.167 N	
From:	Map	Easting:	784,983.20	usft	Longitude:	103° 32' 36.772 W	
Position Uncertainty:	0.00	usft	Slot Radius:	13-3/16	"	Grid Convergence:	0.42 °

Well	#553H - Slot 553H					
Well Position	+N/-S	0.00 usft	Northing:	525,428.20 usft	Latitude:	32° 26' 31.167 N
	+E/-W	0.00 usft	Easting:	784,983.20 usft	Longitude:	103° 32' 36.772 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,681.00 usft

Wellbore	Aim MWD Surveys				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	MVHD	3/10/2020	6.54	60.20	48,014.35060670

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	179.56	

Survey Program	Date	6/4/2020			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
232.00	21,504.00	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
232.00	0.40	209.95	232.00	-0.70	-0.40	0.70	0.17	0.17	0.00
First Aim MWD Survey									
327.00	0.66	186.13	326.99	-1.53	-0.63	1.53	0.35	0.27	-25.07
422.00	1.14	184.20	421.98	-3.02	-0.76	3.01	0.51	0.51	-2.03
517.00	0.84	187.98	516.97	-4.65	-0.92	4.64	0.32	-0.32	3.98
612.00	0.97	209.60	611.96	-6.04	-1.42	6.03	0.38	0.14	22.76
802.00	1.10	212.23	801.93	-8.98	-3.18	8.96	0.07	0.07	1.38
897.00	1.14	203.09	896.91	-10.62	-4.04	10.59	0.19	0.04	-9.62
992.00	1.41	198.35	991.88	-12.60	-4.78	12.56	0.30	0.28	-4.99
1,086.00	1.36	191.40	1,085.86	-14.79	-5.36	14.75	0.19	-0.05	-7.39

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Merchant State Unit 553H
Project:	Lea County, New Mexico	TVD Reference:	3681'GL+25.5'KB @ 3706.50usft (H&P 389)
Site:	Merchant State Unit 553H	MD Reference:	3681'GL+25.5'KB @ 3706.50usft (H&P 389)
Well:	#553H	North Reference:	Grid
Wellbore:	Aim MWD Surveys	Survey Calculation Method:	Minimum Curvature
Design:	Aim MWD Surveys	Database:	EDM 5000.1 Aim Database

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)
1,181.00	1.67	191.14	1,180.82	-17.26	-5.85	17.21	0.33	0.33	-0.27
1,276.00	1.10	193.16	1,275.79	-19.50	-6.33	19.45	0.60	-0.60	2.13
1,370.00	0.79	208.45	1,369.78	-20.95	-6.84	20.90	0.42	-0.33	16.27
1,465.00	1.05	209.95	1,464.77	-22.28	-7.59	22.22	0.27	0.27	1.58
1,558.00	1.27	215.40	1,557.75	-23.86	-8.61	23.79	0.26	0.24	5.86
1,647.00	1.27	226.12	1,646.73	-25.35	-9.89	25.27	0.27	0.00	12.04
1,737.00	1.32	226.56	1,736.71	-26.75	-11.37	26.66	0.06	0.06	0.49
1,753.00	1.45	222.43	1,752.70	-27.03	-11.64	26.94	1.02	0.81	-25.81
1,883.00	2.11	229.54	1,882.64	-29.79	-14.57	29.68	0.53	0.51	5.47
1,972.00	1.93	225.49	1,971.58	-31.91	-16.88	31.78	0.26	-0.20	-4.55
2,062.00	1.71	214.42	2,061.54	-34.08	-18.72	33.93	0.46	-0.24	-12.30
2,152.00	1.05	247.91	2,151.51	-35.50	-20.24	35.34	1.13	-0.73	37.21
2,241.00	1.05	299.67	2,240.50	-35.40	-21.71	35.23	1.03	0.00	58.16
2,331.00	1.01	316.73	2,330.48	-34.41	-22.97	34.24	0.34	-0.04	18.96
2,421.00	0.97	312.24	2,420.47	-33.32	-24.08	33.14	0.10	-0.04	-4.99
2,510.00	0.88	325.78	2,509.46	-32.25	-25.02	32.06	0.26	-0.10	15.21
2,600.00	0.70	324.46	2,599.45	-31.23	-25.73	31.03	0.20	-0.20	-1.47
2,689.00	0.75	344.32	2,688.44	-30.23	-26.20	30.03	0.29	0.06	22.31
2,779.00	0.66	353.99	2,778.44	-29.15	-26.41	28.94	0.17	-0.10	10.74
2,869.00	0.44	0.67	2,868.43	-28.29	-26.46	28.08	0.25	-0.24	7.42
2,958.00	0.53	17.99	2,957.43	-27.55	-26.33	27.35	0.19	0.10	19.46
3,048.00	0.44	36.62	3,047.43	-26.88	-26.00	26.68	0.20	-0.10	20.70
3,138.00	0.70	55.51	3,137.42	-26.29	-25.34	26.10	0.35	0.29	20.99
3,227.00	1.14	67.56	3,226.41	-25.64	-24.07	25.46	0.54	0.49	13.54
3,317.00	1.45	78.54	3,316.39	-25.08	-22.13	24.91	0.44	0.34	12.20
3,407.00	1.41	83.46	3,406.36	-24.72	-19.91	24.57	0.14	-0.04	5.47
3,496.00	1.49	83.73	3,495.33	-24.47	-17.67	24.34	0.09	0.09	0.30
3,586.00	0.53	102.89	3,585.32	-24.44	-16.11	24.31	1.12	-1.07	21.29
3,675.00	0.31	250.28	3,674.32	-24.61	-15.93	24.49	0.91	-0.25	165.61
3,765.00	0.57	255.99	3,764.31	-24.80	-16.59	24.67	0.29	0.29	6.34
3,855.00	0.44	260.48	3,854.31	-24.97	-17.37	24.83	0.15	-0.14	4.99
3,944.00	0.48	256.17	3,943.31	-25.11	-18.07	24.97	0.06	0.04	-4.84
4,033.00	0.26	238.59	4,032.30	-25.31	-18.60	25.16	0.28	-0.25	-19.75
4,168.00	3.43	143.05	4,167.22	-28.70	-16.44	28.57	2.57	2.35	-70.77
4,212.00	5.05	143.58	4,211.10	-31.31	-14.50	31.19	3.68	3.68	1.20
4,301.00	4.18	144.90	4,299.81	-37.11	-10.30	37.03	0.98	-0.98	1.48
4,391.00	4.44	148.06	4,389.56	-42.75	-6.58	42.70	0.39	0.29	3.51
4,481.00	4.00	143.41	4,479.31	-48.23	-2.86	48.20	0.62	-0.49	-5.17
4,570.00	2.86	154.13	4,568.15	-52.72	-0.04	52.72	1.46	-1.28	12.04
4,660.00	2.77	132.16	4,658.05	-56.20	2.55	56.22	1.20	-0.10	-24.41
4,750.00	1.49	117.30	4,747.98	-58.20	5.20	58.23	1.54	-1.42	-16.51
4,839.00	1.45	111.41	4,836.96	-59.14	7.28	59.19	0.18	-0.04	-6.62
4,929.00	1.63	63.78	4,926.93	-58.99	9.49	59.06	1.39	0.20	-52.92

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Merchant State Unit 553H
Project:	Lea County, New Mexico	TVD Reference:	3681'GL+25.5'KB @ 3706.50usft (H&P 389)
Site:	Merchant State Unit 553H	MD Reference:	3681'GL+25.5'KB @ 3706.50usft (H&P 389)
Well:	#553H	North Reference:	Grid
Wellbore:	Aim MWD Surveys	Survey Calculation Method:	Minimum Curvature
Design:	Aim MWD Surveys	Database:	EDM 5000.1 Aim Database

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)	
5,018.00	1.63	96.21	5,015.89	-58.56	11.88	58.65	1.02	0.00	36.44	
5,108.00	0.92	36.27	5,105.87	-58.12	13.58	58.22	1.57	-0.79	-66.60	
5,197.00	1.36	19.48	5,194.86	-56.55	14.36	56.66	0.62	0.49	-18.87	
5,302.00	1.36	39.87	5,299.83	-54.42	15.57	54.54	0.46	0.00	19.42	
5,381.00	1.45	34.16	5,378.80	-52.87	16.73	53.00	0.21	0.11	-7.23	
5,470.00	2.11	30.91	5,467.76	-50.53	18.21	50.67	0.75	0.74	-3.65	
5,560.00	3.60	26.60	5,557.65	-46.59	20.32	46.74	1.67	1.66	-4.79	
5,649.00	5.10	25.72	5,646.39	-40.52	23.29	40.70	1.69	1.69	-0.99	
5,739.00	3.38	23.70	5,736.14	-34.49	26.09	34.69	1.92	-1.91	-2.24	
5,829.00	3.30	23.43	5,825.98	-29.68	28.19	29.90	0.09	-0.09	-0.30	
5,918.00	3.08	20.71	5,914.85	-25.10	30.05	25.33	0.30	-0.25	-3.06	
6,008.00	3.08	26.95	6,004.72	-20.68	32.00	20.92	0.37	0.00	6.93	
6,097.00	3.52	38.46	6,093.57	-16.41	34.79	16.67	0.89	0.49	12.93	
6,187.00	4.22	37.06	6,183.36	-11.60	38.50	11.90	0.78	0.78	-1.56	
6,276.00	5.41	37.23	6,272.05	-5.65	43.01	5.98	1.34	1.34	0.19	
6,366.00	5.45	35.39	6,361.64	1.21	48.06	-0.84	0.20	0.04	-2.04	
6,456.00	4.79	38.29	6,451.28	7.65	52.86	-7.24	0.79	-0.73	3.22	
6,546.00	4.26	38.99	6,541.00	13.20	57.29	-12.75	0.59	-0.59	0.78	
6,636.00	4.48	36.44	6,630.74	18.62	61.48	-18.15	0.33	0.24	-2.83	
6,725.00	5.14	38.02	6,719.43	24.56	66.00	-24.05	0.76	0.74	1.78	
6,815.00	5.01	36.18	6,809.08	30.91	70.81	-30.36	0.23	-0.14	-2.04	
6,905.00	4.75	35.39	6,898.75	37.12	75.28	-36.54	0.30	-0.29	-0.88	
6,995.00	5.05	36.97	6,988.42	43.32	79.82	-42.70	0.37	0.33	1.76	
7,084.00	6.73	46.81	7,076.95	50.02	85.98	-49.36	2.20	1.89	11.06	
7,174.00	6.11	47.96	7,166.38	56.84	93.38	-56.12	0.70	-0.69	1.28	
7,264.00	5.23	44.79	7,255.94	62.95	99.83	-62.19	1.04	-0.98	-3.52	
7,353.00	4.62	46.55	7,344.61	68.30	105.29	-67.49	0.71	-0.69	1.98	
7,442.00	4.97	49.89	7,433.30	73.25	110.84	-72.39	0.50	0.39	3.75	
7,532.00	4.79	50.77	7,522.98	78.13	116.73	-77.24	0.22	-0.20	0.98	
7,622.00	4.44	54.55	7,612.69	82.53	122.48	-81.59	0.52	-0.39	4.20	
7,712.00	5.23	60.52	7,702.36	86.57	128.89	-85.58	1.04	0.88	6.63	
7,801.00	6.33	70.02	7,790.91	90.24	137.03	-89.19	1.63	1.24	10.67	
7,891.00	5.67	68.87	7,880.42	93.54	145.84	-92.42	0.75	-0.73	-1.28	
7,981.00	4.79	67.91	7,970.04	96.56	153.47	-95.38	0.98	-0.98	-1.07	
8,070.00	4.57	62.99	8,058.75	99.57	160.08	-98.33	0.51	-0.25	-5.53	
8,160.00	5.93	64.48	8,148.37	103.20	167.47	-101.91	1.52	1.51	1.66	
8,250.00	5.49	67.64	8,237.92	106.84	175.64	-105.49	0.60	-0.49	3.51	
8,339.00	4.70	68.52	8,326.57	109.79	182.97	-108.38	0.89	-0.89	0.99	
8,429.00	5.23	72.21	8,416.23	112.40	190.31	-110.93	0.69	0.59	4.10	
8,519.00	6.20	72.04	8,505.78	115.15	198.84	-113.62	1.08	1.08	-0.19	
8,608.00	5.41	74.41	8,594.33	117.76	207.45	-116.16	0.93	-0.89	2.66	
8,698.00	5.67	70.63	8,683.91	120.37	215.73	-118.71	0.50	0.29	-4.20	
8,788.00	6.68	66.59	8,773.38	123.93	224.73	-122.20	1.22	1.12	-4.49	

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Merchant State Unit 553H
Project:	Lea County, New Mexico	TVD Reference:	3681'GL+25.5'KB @ 3706.50usft (H&P 389)
Site:	Merchant State Unit 553H	MD Reference:	3681'GL+25.5'KB @ 3706.50usft (H&P 389)
Well:	#553H	North Reference:	Grid
Wellbore:	Aim MWD Surveys	Survey Calculation Method:	Minimum Curvature
Design:	Aim MWD Surveys	Database:	EDM 5000.1 Aim Database

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)	
8,877.00	6.07	72.30	8,861.83	127.41	233.97	-125.61	0.99	-0.69	6.42	
8,967.00	5.10	73.88	8,951.40	129.97	242.34	-128.11	1.09	-1.08	1.76	
9,057.00	4.13	78.37	9,041.11	131.74	249.36	-129.82	1.15	-1.08	4.99	
9,146.00	3.25	77.40	9,129.93	132.93	254.96	-130.97	0.99	-0.99	-1.09	
9,236.00	2.64	88.30	9,219.81	133.55	259.52	-131.55	0.92	-0.68	12.11	
9,326.00	2.15	71.51	9,309.73	134.15	263.19	-132.12	0.95	-0.54	-18.66	
9,415.00	2.68	68.26	9,398.65	135.45	266.71	-133.39	0.61	0.60	-3.65	
9,505.00	3.03	77.22	9,488.54	136.75	270.99	-134.67	0.63	0.39	9.96	
9,595.00	2.99	87.59	9,578.42	137.38	275.65	-135.26	0.61	-0.04	11.52	
9,684.00	2.33	88.83	9,667.32	137.51	279.78	-135.36	0.74	-0.74	1.39	
9,774.00	2.20	113.00	9,757.25	136.87	283.20	-134.70	1.06	-0.14	26.86	
9,864.00	1.58	132.86	9,847.20	135.36	285.70	-133.16	0.99	-0.69	22.07	
9,953.00	1.67	139.89	9,936.17	133.53	287.43	-131.32	0.25	0.10	7.90	
10,043.00	1.23	160.63	10,026.14	131.61	288.60	-129.39	0.75	-0.49	23.04	
10,133.00	1.01	175.75	10,116.12	129.91	288.98	-127.69	0.41	-0.24	16.80	
10,223.00	1.01	171.88	10,206.11	128.34	289.15	-126.11	0.08	0.00	-4.30	
10,312.00	1.41	178.74	10,295.09	126.46	289.28	-124.24	0.48	0.45	7.71	
10,492.00	2.11	164.06	10,475.00	121.06	290.24	-118.83	0.46	0.39	-8.16	
10,581.00	2.15	151.93	10,563.94	118.02	291.48	-115.77	0.51	0.04	-13.63	
10,667.00	2.24	160.72	10,649.88	115.01	292.79	-112.75	0.40	0.10	10.22	
10,760.00	5.14	170.04	10,742.68	109.19	294.11	-106.92	3.17	3.12	10.02	
10,849.00	17.19	151.23	10,829.85	93.67	301.16	-91.35	13.97	13.54	-21.13	
10,939.00	29.67	155.09	10,912.27	61.68	317.01	-59.24	13.96	13.87	4.29	
11,029.00	37.49	163.97	10,987.24	15.05	333.99	-12.49	10.24	8.69	9.87	
11,118.00	42.99	167.31	11,055.16	-40.63	348.14	43.30	6.64	6.18	3.75	
11,208.00	44.40	167.84	11,120.23	-101.34	361.52	104.12	1.62	1.57	0.59	
11,298.00	54.46	161.60	11,178.72	-167.07	379.76	169.98	12.35	11.18	-6.93	
11,387.00	64.70	164.15	11,223.73	-240.34	402.25	243.42	11.77	11.51	2.87	
11,468.00	79.87	169.93	11,248.33	-315.31	419.33	318.52	19.91	18.73	7.14	
11,499.00	86.20	170.74	11,252.08	-345.63	424.49	348.88	20.58	20.42	2.61	
11,593.00	89.54	173.46	11,255.58	-438.65	437.40	442.00	4.58	3.55	2.89	
11,688.00	89.27	174.87	11,256.56	-533.15	447.05	536.57	1.51	-0.28	1.48	
11,778.00	89.54	176.19	11,257.50	-622.87	454.07	626.34	1.50	0.30	1.47	
11,867.00	89.89	177.33	11,257.94	-711.73	459.10	715.23	1.34	0.39	1.28	
11,957.00	89.93	179.09	11,258.08	-801.68	461.91	805.20	1.96	0.04	1.96	
12,046.00	90.81	179.18	11,257.51	-890.67	463.25	894.20	0.99	0.99	0.10	
12,136.00	88.62	179.97	11,257.96	-980.66	463.92	984.19	2.59	-2.43	0.88	
12,226.00	86.81	180.67	11,261.54	-1,070.58	463.42	1,074.11	2.16	-2.01	0.78	
12,316.00	86.15	180.14	11,267.07	-1,160.41	462.78	1,163.93	0.94	-0.73	-0.59	
12,405.00	85.89	180.23	11,273.25	-1,249.19	462.50	1,252.71	0.31	-0.29	0.10	
12,495.00	87.21	180.76	11,278.66	-1,339.02	461.72	1,342.53	1.58	1.47	0.59	
12,584.00	88.13	181.55	11,282.28	-1,427.93	459.93	1,431.42	1.36	1.03	0.89	
12,674.00	90.46	181.99	11,283.39	-1,517.87	457.15	1,521.34	2.63	2.59	0.49	
12,764.00	89.76	180.67	11,283.22	-1,607.85	455.06	1,611.29	1.66	-0.78	-1.47	

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Merchant State Unit 553H
Project:	Lea County, New Mexico	TVD Reference:	3681'GL+25.5'KB @ 3706.50usft (H&P 389)
Site:	Merchant State Unit 553H	MD Reference:	3681'GL+25.5'KB @ 3706.50usft (H&P 389)
Well:	#553H	North Reference:	Grid
Wellbore:	Aim MWD Surveys	Survey Calculation Method:	Minimum Curvature
Design:	Aim MWD Surveys	Database:	EDM 5000.1 Aim Database

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
12,853.00	89.49	179.79	11,283.80	-1,696.84	454.70	1,700.29	1.03	-0.30	-0.99
12,943.00	89.14	178.74	11,284.87	-1,786.83	455.86	1,790.28	1.23	-0.39	-1.17
13,032.00	89.41	179.70	11,286.00	-1,875.81	457.07	1,879.27	1.12	0.30	1.08
13,122.00	89.71	179.53	11,286.69	-1,965.81	457.67	1,969.26	0.38	0.33	-0.19
13,212.00	88.48	179.09	11,288.11	-2,055.79	458.76	2,059.25	1.45	-1.37	-0.49
13,301.00	91.16	179.53	11,288.39	-2,144.77	459.83	2,148.24	3.05	3.01	0.49
13,391.00	90.77	179.88	11,286.88	-2,234.76	460.29	2,238.23	0.58	-0.43	0.39
13,481.00	91.21	179.09	11,285.32	-2,324.74	461.10	2,328.21	1.00	0.49	-0.88
13,570.00	91.21	177.51	11,283.44	-2,413.68	463.74	2,417.17	1.77	0.00	-1.78
13,660.00	89.10	178.91	11,283.20	-2,503.63	466.55	2,507.14	2.81	-2.34	1.56
13,750.00	88.31	179.26	11,285.23	-2,593.59	467.99	2,597.11	0.96	-0.88	0.39
13,839.00	86.90	177.51	11,288.95	-2,682.47	470.49	2,686.01	2.52	-1.58	-1.97
13,929.00	89.54	177.51	11,291.75	-2,772.34	474.40	2,775.90	2.93	2.93	0.00
14,019.00	89.01	179.79	11,292.89	-2,862.30	476.52	2,865.87	2.60	-0.59	2.53
14,108.00	89.19	179.53	11,294.28	-2,951.28	477.05	2,954.86	0.36	0.20	-0.29
14,198.00	91.43	181.37	11,293.80	-3,041.27	476.34	3,044.84	3.22	2.49	2.04
14,287.00	90.95	180.76	11,291.95	-3,130.24	474.69	3,133.79	0.87	-0.54	-0.69
14,377.00	90.15	179.70	11,291.09	-3,220.23	474.33	3,223.78	1.48	-0.89	-1.18
14,467.00	91.08	179.44	11,290.12	-3,310.22	475.00	3,313.77	1.07	1.03	-0.29
14,556.00	90.29	178.47	11,289.06	-3,399.20	476.63	3,402.76	1.41	-0.89	-1.09
14,646.00	89.85	178.21	11,288.95	-3,489.16	479.23	3,492.74	0.57	-0.49	-0.29
14,735.00	91.47	178.21	11,287.92	-3,578.11	482.01	3,581.70	1.82	1.82	0.00
14,825.00	90.86	178.39	11,286.09	-3,668.05	484.68	3,671.66	0.71	-0.68	0.20
14,914.00	89.67	178.56	11,285.68	-3,757.01	487.05	3,760.64	1.35	-1.34	0.19
15,004.00	90.64	179.79	11,285.44	-3,847.00	488.35	3,850.64	1.74	1.08	1.37
15,094.00	90.81	180.49	11,284.30	-3,936.99	488.13	3,940.63	0.80	0.19	0.78
15,183.00	88.40	181.02	11,284.91	-4,025.98	486.95	4,029.60	2.77	-2.71	0.60
15,273.00	86.81	179.88	11,288.67	-4,115.89	486.25	4,119.50	2.17	-1.77	-1.27
15,362.00	87.43	179.35	11,293.14	-4,204.78	486.84	4,208.39	0.92	0.70	-0.60
15,452.00	86.95	179.09	11,297.55	-4,294.66	488.07	4,298.28	0.61	-0.53	-0.29
15,542.00	87.78	179.26	11,301.69	-4,384.55	489.36	4,388.18	0.94	0.92	0.19
15,631.00	91.16	182.08	11,302.52	-4,473.52	488.32	4,477.14	4.95	3.80	3.17
15,721.00	91.69	182.25	11,300.28	-4,563.43	484.92	4,567.02	0.62	0.59	0.19
15,810.00	91.78	181.81	11,297.58	-4,652.33	481.77	4,655.89	0.50	0.10	-0.49
15,900.00	92.00	180.93	11,294.61	-4,742.26	479.62	4,745.80	1.01	0.24	-0.98
15,990.00	90.20	181.46	11,292.89	-4,832.22	477.74	4,835.74	2.08	-2.00	0.59
16,080.00	89.98	179.97	11,292.75	-4,922.21	476.62	4,925.72	1.67	-0.24	-1.66
16,169.00	89.71	180.93	11,292.99	-5,011.20	475.92	5,014.71	1.12	-0.30	1.08
16,259.00	89.41	182.08	11,293.68	-5,101.17	473.56	5,104.65	1.32	-0.33	1.28
16,349.00	89.27	181.11	11,294.71	-5,191.13	471.05	5,194.59	1.09	-0.16	-1.08
16,438.00	89.85	179.88	11,295.40	-5,280.12	470.28	5,283.57	1.53	0.65	-1.38
16,528.00	88.70	180.67	11,296.54	-5,370.11	469.85	5,373.56	1.55	-1.28	0.88
16,618.00	88.22	180.67	11,298.96	-5,460.07	468.80	5,463.51	0.53	-0.53	0.00

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Merchant State Unit 553H
Project:	Lea County, New Mexico	TVD Reference:	3681'GL+25.5'KB @ 3706.50usft (H&P 389)
Site:	Merchant State Unit 553H	MD Reference:	3681'GL+25.5'KB @ 3706.50usft (H&P 389)
Well:	#553H	North Reference:	Grid
Wellbore:	Aim MWD Surveys	Survey Calculation Method:	Minimum Curvature
Design:	Aim MWD Surveys	Database:	EDM 5000.1 Aim Database

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)
16,707.00	90.55	180.67	11,299.91	-5,549.05	467.76	5,552.48	2.62	2.62	0.00
16,797.00	90.95	179.53	11,298.73	-5,639.04	467.60	5,642.47	1.34	0.44	-1.27
16,886.00	89.01	178.83	11,298.76	-5,728.03	468.88	5,731.46	2.32	-2.18	-0.79
16,976.00	87.91	177.86	11,301.18	-5,817.95	471.47	5,821.40	1.63	-1.22	-1.08
17,066.00	89.23	178.74	11,303.43	-5,907.88	474.14	5,911.35	1.76	1.47	0.98
17,156.00	90.20	178.47	11,303.88	-5,997.86	476.33	6,001.34	1.12	1.08	-0.30
17,245.00	91.21	178.47	11,302.78	-6,086.82	478.71	6,090.31	1.13	1.13	0.00
17,335.00	91.21	177.59	11,300.88	-6,176.74	481.80	6,180.26	0.98	0.00	-0.98
17,424.00	91.12	179.70	11,299.07	-6,265.69	483.91	6,269.22	2.37	-0.10	2.37
17,514.00	90.68	180.76	11,297.66	-6,355.68	483.55	6,359.21	1.28	-0.49	1.18
17,604.00	88.31	179.88	11,298.45	-6,445.67	483.04	6,449.19	2.81	-2.63	-0.98
17,693.00	86.15	180.06	11,302.75	-6,534.56	483.09	6,538.08	2.44	-2.43	0.20
17,783.00	89.63	179.79	11,306.06	-6,624.48	483.21	6,628.00	3.88	3.87	-0.30
17,873.00	90.81	179.09	11,305.72	-6,714.48	484.09	6,718.00	1.52	1.31	-0.78
17,962.00	89.36	179.70	11,305.59	-6,803.47	485.03	6,806.99	1.77	-1.63	0.69
18,052.00	90.07	179.35	11,306.03	-6,893.46	485.77	6,896.99	0.88	0.79	-0.39
18,142.00	89.01	179.97	11,306.76	-6,983.46	486.31	6,986.99	1.36	-1.18	0.69
18,231.00	88.62	179.00	11,308.60	-7,072.43	487.11	7,075.97	1.17	-0.44	-1.09
18,321.00	87.91	178.39	11,311.32	-7,162.37	489.16	7,165.91	1.04	-0.79	-0.68
18,411.00	89.85	178.65	11,313.08	-7,252.32	491.48	7,255.88	2.17	2.16	0.29
18,500.00	89.76	177.95	11,313.38	-7,341.28	494.12	7,344.85	0.79	-0.10	-0.79
18,590.00	90.81	179.35	11,312.94	-7,431.25	496.24	7,434.84	1.94	1.17	1.56
18,679.00	90.99	179.18	11,311.54	-7,520.23	497.38	7,523.83	0.28	0.20	-0.19
18,769.00	90.68	178.65	11,310.23	-7,610.20	499.09	7,613.81	0.68	-0.34	-0.59
18,858.00	87.65	181.02	11,311.52	-7,699.18	499.34	7,702.78	4.32	-3.40	2.66
18,948.00	87.65	180.93	11,315.21	-7,789.09	497.81	7,792.68	0.10	0.00	-0.10
19,037.00	87.56	181.02	11,318.93	-7,878.00	496.30	7,881.58	0.14	-0.10	0.10
19,127.00	89.67	181.90	11,321.11	-7,967.93	494.01	7,971.49	2.54	2.34	0.98
19,216.00	89.80	181.11	11,321.52	-8,056.90	491.67	8,060.44	0.90	0.15	-0.89
19,306.00	89.71	180.32	11,321.91	-8,146.89	490.55	8,150.42	0.88	-0.10	-0.88
19,396.00	88.26	179.35	11,323.50	-8,236.88	490.81	8,240.40	1.94	-1.61	-1.08
19,485.00	89.63	178.47	11,325.14	-8,325.84	492.50	8,329.38	1.83	1.54	-0.99
19,575.00	88.48	177.68	11,326.62	-8,415.78	495.52	8,419.33	1.55	-1.28	-0.88
19,664.00	88.53	178.21	11,328.94	-8,504.69	498.71	8,508.27	0.60	0.06	0.60
19,754.00	88.53	179.79	11,331.25	-8,594.64	500.28	8,598.23	1.75	0.00	1.76
19,843.00	87.43	179.53	11,334.39	-8,683.58	500.81	8,687.17	1.27	-1.24	-0.29
19,933.00	90.07	180.41	11,336.35	-8,773.55	500.86	8,777.14	3.09	2.93	0.98
20,022.00	90.68	179.79	11,335.77	-8,862.55	500.70	8,866.13	0.98	0.69	-0.70
20,112.00	92.35	180.32	11,333.39	-8,952.52	500.61	8,956.10	1.95	1.86	0.59
20,202.00	90.37	180.23	11,331.26	-9,042.49	500.18	9,046.06	2.20	-2.20	-0.10
20,291.00	89.27	179.18	11,331.54	-9,131.48	500.64	9,135.06	1.71	-1.24	-1.18
20,380.00	89.67	179.44	11,332.36	-9,220.47	501.71	9,224.05	0.54	0.45	0.29
20,470.00	89.27	178.12	11,333.19	-9,310.44	503.63	9,314.04	1.53	-0.44	-1.47

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Merchant State Unit 553H
Project:	Lea County, New Mexico	TVD Reference:	3681'GL+25.5'KB @ 3706.50usft (H&P 389)
Site:	Merchant State Unit 553H	MD Reference:	3681'GL+25.5'KB @ 3706.50usft (H&P 389)
Well:	#553H	North Reference:	Grid
Wellbore:	Aim MWD Surveys	Survey Calculation Method:	Minimum Curvature
Design:	Aim MWD Surveys	Database:	EDM 5000.1 Aim Database

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)	
20,560.00	89.19	177.07	11,334.40	-9,400.36	507.41	9,403.97	1.17	-0.09	-1.17	
20,650.00	89.58	178.21	11,335.37	-9,490.27	511.11	9,493.92	1.34	0.43	1.27	
20,739.00	91.08	180.93	11,334.85	-9,579.26	511.78	9,582.90	3.49	1.69	3.06	
20,829.00	90.90	180.41	11,333.30	-9,669.24	510.73	9,672.87	0.61	-0.20	-0.58	
20,919.00	91.96	180.23	11,331.05	-9,759.21	510.22	9,762.84	1.19	1.18	-0.20	
21,009.00	89.19	177.86	11,330.15	-9,849.17	511.72	9,852.81	4.05	-3.08	-2.63	
21,098.00	88.75	176.63	11,331.75	-9,938.06	516.00	9,941.72	1.47	-0.49	-1.38	
21,188.00	90.99	175.40	11,331.95	-10,027.83	522.26	10,031.54	2.84	2.49	-1.37	
21,277.00	90.95	176.98	11,330.45	-10,116.62	528.17	10,120.38	1.78	-0.04	1.78	
21,367.00	90.46	176.63	11,329.34	-10,206.47	533.18	10,210.26	0.67	-0.54	-0.39	
21,434.00	89.89	175.75	11,329.14	-10,273.32	537.64	10,277.15	1.56	-0.85	-1.31	
Last Aim MWD Survey										
21,504.00	89.89	175.75	11,329.27	-10,343.13	542.82	10,346.99	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	
232.00	232.00	-0.70	-0.40	First Aim MWD Survey	
21,434.00	11,329.14	-10,273.32	537.64	Last Aim MWD Survey	
21,504.00	11,329.27	-10,343.13	542.82	Projection to BHL	



BHA Reports

Merchant State Unit 553H (WT-20-035)

2020-03-09 to 2020-06-05

Lea, New Mexico, US (32.44, -103.54)



Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

BHA #1 - 17.5" SURFACE (Directional)

Motor Details		Date/Depth/Distances	Hours
Size(in)	8.00	Date In	2020-03-09 15:00
Lobe/Stage	7/8, 4.0	Depth In (ft)	145.00
Bend Angle	1.50	Date Out	2020-03-10 05:40
Speed (rev/gal)	0.17	Depth Out (ft)	1815.00
Wear Pad OD (in)	8.350	Distance Slid (ft)	20.00
Incident	No	Distance Rotated (ft)	1650.00
Motor Results		% Distance Sliding	1.20%
Average Total ROP (ft/h)	208.75	% Distance Rotating	98.80%
Average Slide ROP (ft/h)	80.00	BHA Objective	
Average Rotating ROP (ft/h)	212.90	DRILL SURFACE	

Bit Details	
OD (in)	17.500
Vendor	BAKER
S/N	5300910
Nozzles	9-12's
Total Flow Area (in²)	0.990

MWD		Incident Notes
Max Downhole Temp (°F)	N/A	Directional:
		MWD:
Bit Distances		Comments
Bit To Bend: 6.50 ft, Survey: 62.00 ft		Directional: Flow Rate: 400-900, Max Diff: 900 psi, Max Torque: 14,930 ft-lbs, BIT Runs:0
Mud Properties		Parameters

Type	Water	Flow Rate (gpm)	700.00 - 900.00	Motor RPM	144.00 - 144.00
WT	9.20	On Bottom Pressure (psi)	1700.00 - 3100.00	Surface RPM	50.00 - 80.00
VIS	0.00	Off Bottom Pressure (psi)	1250.00 - 2200.00	Rotating WOB (klbs)	25.00 - 25.00
PV	0.00	Stall Pressure (psi)	0.00	Sliding WOB (klbs)	45.00 - 45.00
YP	0.00	Stalls	0	Temp (°F)	-0.00 - -0.00
		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: 17.5" DP606S, Style: PDC, Gauge Length (in): 4.00, Size (in): 17.50	BAKER	5300910	6 5/8" Reg Pin			17.500		1.50	1.50
Mud Motor Description: 8" Contender 1.50° Fxd 7/8 4.0 True Slick, Size (in): 8.00, Bend Angle (°): 1.5, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 4	AIM	80040007	6 5/8" Reg Box	6 5/8" Reg Box		8.000		30.15	31.65
Stabilizer Description: 17" Nortrak Stab	DTI	DR27306	6 5/8" Reg Box	6 5/8" Reg Pin	2.875	8.000		6.78	38.43
UBHO Sub Description: NM UBHO, Type: NM	AIM	DR43109	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.000		3.27	41.70
Drill Collar Description: 8" MWD NMDC, Style: Slick Drill, Type: NM	AIM	80001003	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.000		28.93	70.63
Drill Collar Description: 8" NMDC, Style: Slick Drill, Type: NM	AIM	80001018	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.000		30.49	101.12
Crossover Sub Description: XO SUB, Type: NM	Black Diamond	BD15827	EverDrlg54 Box	6 5/8" Reg Pin	2.875	6.540		4.61	105.73
HWDP Description: 15 Stds HWDP, Style: Slick	RIG		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		1424.90	1530.63





Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

BHA #2 - Intermediate 12.25" (Directional)

Motor Details		Date/Depth/Distances	Hours
Size(in)	8.00	Date In	2020-03-17 16:30
Lobe/Stage	7/8, 5.9	Depth In (ft)	1815.00
Bend Angle	1.50	Date Out	2020-03-18 20:00
Speed (rev/gal)	0.17	Depth Out (ft)	4239.00
Wear Pad OD (in)	8.375	Distance Slid (ft)	30.00
Incident	No	Distance Rotated (ft)	2394.00
Motor Results		% Distance Sliding	1.24%
Average Total ROP (ft/h)	196.54	% Distance Rotating	98.76%
Average Slide ROP (ft/h)	45.00	BHA Objective	
Average Rotating ROP (ft/h)	205.20	DRILL INTERMEDIATE	

Bit Details		POOH Reason/Notes	
OD (in)	12.250	Change Bottom Hole Assembly: POOH L/D STABILIZER AND MOTOR	
Vendor	ULTERRA		
S/N	52607		
Nozzles	6-13's & 3-12's		
Total Flow Area (in²)	1.109		

MWD		Incident Notes	
Max Downhole Temp (°F)	N/A	Directional:	
		MWD:	
Bit Distances		Comments	
Bit To Bend: 6.18 ft, Survey: 71.00 ft		Directional: Flow Rate: 400-900, Max Diff: 1330 psi, Max Torque: 22,020 ft-lbs, BIT Runs: 0	
Mud Properties		Parameters	

Type	Brine	Flow Rate (gpm)	840.00 - 840.00	Motor RPM	102.00 - 145.00
WT	10.00	On Bottom Pressure (psi)	2200.00 - 3000.00	Surface RPM	40.00 - 60.00
VIS	29.00	Off Bottom Pressure (psi)	2000.00 - 2300.00	Rotating WOB (klbs)	30.00 - 38.00
PV	0.00	Stall Pressure (psi)	0.00	Sliding WOB (klbs)	10.00 - 25.00
YP	0.00	Stalls	0	Temp (°F)	105.00 - 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: <i>SPL616</i> , Style: <i>PDC</i> , Gauge Length (in): <i>4.00</i> , Size (in): <i>12.25</i>	ULTERRA	52607	6 5/8" Reg Pin			12.250		1.00	1.00
Mud Motor Description: <i>8" Contender 1.50° Fxd 7/8 5.9 w/ 12" NBS</i> , Size (in): <i>8.00</i> , Bend Angle (°): <i>1.5</i> , Rotor Lobe: <i>7</i> , Stator Lobe: <i>8</i> , Stator Stage: <i>5.9</i>	AIM	800-40-008	6 5/8" Reg Box	6 5/8" Reg Box		8.000		38.62	39.62
Stabilizer Description: <i>12" Nortrak Stab</i>	DTI	DR38413	6 5/8" Reg Box	6 5/8" Reg Pin	2.875	8.000		7.55	47.17
UBHO Sub Description: <i>8" UBHO</i> , Type: <i>Steel</i>	AIM	800223	6 5/8" Reg Box	6 5/8" Reg Pin	2.938	8.000		4.04	51.21
Drill Collar Description: <i>8" NMDC</i> , Style: <i>Slick Drill</i> , Type: <i>NM</i>	AIM	AIM 800-01-008	6 5/8" Reg Box	6 5/8" Reg Pin	3.313	8.063		30.10	81.31
Drill Collar Description: <i>8" NMDC</i> , Style: <i>Slick Drill</i> , Type: <i>NM</i>	AIM	AIM 800-01-014	6 5/8" Reg Box	6 5/8" Reg Pin	3.938	8.000		30.36	111.67
Crossover Sub Description: <i>Crossover Sub</i> , Type: <i>Steel</i>	Black Diamond	BD 15381	EverDrlg54 Box	6 5/8" Reg Pin	2.875	6.750		3.91	115.58
HWDP Description: <i>9 STANDS 5.5" HWDP</i> , Style: <i>Slick</i>	Black Diamond		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		853.58	969.16





Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

BHA #3 - Intermediate 12.25" (Directional)

Motor Details		Date/Depth/Distances	Hours
Size(in)	8.00	Date In	2020-03-18 21:45
Lobe/Stage	7/8, 4.0	Depth In (ft)	4239.00
Bend Angle	1.50	Date Out	2020-03-19 20:30
Speed (rev/gal)	0.17	Depth Out (ft)	5357.00
Wear Pad OD (in)	8.250	Distance Slid (ft)	208.00
Incident	No	Distance Rotated (ft)	910.00
Motor Results		% Distance Sliding	18.60%
Average Total ROP (ft/h)	92.52	% Distance Rotating	81.40%
Average Slide ROP (ft/h)	40.26		
Average Rotating ROP (ft/h)	131.57		

BHA Objective
DRILL 12.25" INTERMEDIATE

Bit Details		POOH Reason/Notes
OD (in)	12.250	Total Depth/Casing Point
Vendor	ULTERRA	
S/N	48660	
Nozzles	6-13's & 3-12's	
Total Flow Area (in²)	1.109	

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

Bit Distances		Comments
Bit To Bend: 5.55 ft, Survey: 55.00 ft		Directional: Flow Rate: 400-900, Max Diff: 900 psi, Max Torque: 14,930 ft-lbs, BIT Runs:

Mud Properties		Parameters
Type	Brine	Flow Rate (gpm)
WT	9.30	600.00 - 820.00
VIS	29.00	Motor RPM
PV	0.00	85.00 - 119.00
YP	0.00	On Bottom Pressure (psi)
		700.00 - 1800.00
		Off Bottom Pressure (psi)
		500.00 - 1450.00
		Rotating WOB (klbs)
		20.00 - 20.00
		Sliding WOB (klbs)
		10.00 - 15.00
		Temp (°F)
		78.80 - 78.80
		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: SPL616, Style: PDC, Gauge Length (in): 4.00, Size (in): 12.25	ULTERRA	48660	6 5/8" Reg Pin			12.250		1.00	1.00
Mud Motor Description: 8" Contender 1.50° Fxd 7/8 4.0 w/ SS, Size (in): 8.00, Bend Angle (°): 1.5, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 4	AIM	M775-04	6 5/8" Reg Box	6 5/8" Reg Box		8.000		29.48	30.48
UBHO Sub Description: 8" UBHO, Type: Steel	AIM	800223	6 5/8" Reg Box	6 5/8" Reg Pin	2.938	8.000		4.04	34.52
Drill Collar Description: 8" NMDC, Style: Slick Drill, Type: NM	AIM	AIM 800-01-008	6 5/8" Reg Box	6 5/8" Reg Pin	3.313	8.063		30.10	64.62
Drill Collar Description: 8" NMDC, Style: Slick Drill, Type: NM	AIM	AIM 800-01-014	6 5/8" Reg Box	6 5/8" Reg Pin	3.938	8.000		30.36	94.98
Crossover Sub Description: Crossover Sub, Type: Steel	Black Diamond	BD 15381	EverDrlg54 Box	6 5/8" Reg Pin	2.875	6.750		3.91	98.89
HWDP Description: 9 STANDS 5.5" HWDP, Style: Slick	Black Diamond		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		853.58	952.47





Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

BHA #4 - Intermediate 8.5" (Directional)

Motor Details		Date/Depth/Distances	Hours
Size(in)	7.00	Date In	2020-05-12 10:15
Lobe/Stage	7/8, 8.5	Depth In (ft)	5357.00
Bend Angle	1.50	Date Out	2020-05-15 05:00
Speed (rev/gal)	0.26	Depth Out (ft)	10742.00
Wear Pad OD (in)	7.210	Distance Slid (ft)	371.00
Incident	No	Distance Rotated (ft)	5014.00
Motor Results		% Distance Sliding	6.89%
Average Total ROP (ft/h)	113.37	% Distance Rotating	93.11%
Average Slide ROP (ft/h)	64.52		
Average Rotating ROP (ft/h)	120.10		

BHA Objective
Drill intermediate to KOP

Bit Details		POOH Reason/Notes
OD (in)	8.500	Change Bottom Hole Assembly: POOH FOR CURVE ASSEMBLY
Vendor	ULTERRA	
S/N	52757	
Nozzles	6x12's	
Total Flow Area (in²)	0.662	

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

Bit Distances		Comments
Bit To Bend: 5.32 ft, Survey: 75.00 ft, Resistivity: 61.06 ft, Gamma: 51.46 ft		Directional: Flow Rate: 500-700, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, BIT Runs: 1

Mud Properties		Parameters
Type	Water Based	Flow Rate (gpm)
WT	10.00	On Bottom Pressure (psi)
VIS	32.00	Off Bottom Pressure (psi)
PV	0.00	Stall Pressure (psi)
YP	0.00	Stalls
		NPT

Items (Directional)									
Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: RPS616, Style: PDC, Gauge Length (in): 4.00, Size (in): 8.50	ULTERRA	52757	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 7" Contender 1.50° Fxd 7/8 8.5 w/ 8 1/4 NBS, Size (in): 7.00, Bend Angle (°): 1.5, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5	AIM	70040031	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.23	37.23
Stabilizer Description: 8 1/4 NM STAB	DTI	DR43606	4 1/2" IF Box	4 1/2" IF Pin	2.875	6.750		5.73	42.96
MWD Hangoff Sub Description: MWD/RESISTIVITY COLLAR, Type: NM	BENCHTREE	6501005	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.510		31.47	74.43
Drill Collar Description: BATTERY, Style: Slick Drill, Type: NM	BENCHTREE	B6001	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.460		17.39	91.82
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR41083	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.570		30.11	121.93
Crossover Sub Description: Crossover Sub, Type: Steel	Black Diamond	BD 15114	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.688		3.64	125.57
HWDP Description: 9 STANDS 5.5" HWDP, Style: Slick	Black Diamond		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		851.38	976.95





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Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

BHA #5 - Curve 8.5" (Directional)

Motor Details		Date/Depth/Distances	Hours
Size(in)	6.75	Date In	2020-05-15 05:30
Lobe/Stage	7/8, 5.0	Depth In (ft)	10742.00
Bend Angle	2.12	Date Out	2020-05-16 05:00
Speed (rev/gal)	0.26	Depth Out (ft)	11447.00
Wear Pad OD (in)	7.000	Distance Slid (ft)	635.00
Incident	No	Distance Rotated (ft)	70.00
Motor Results		% Distance Sliding	90.07%
Average Total ROP (ft/h)	108.46	% Distance Rotating	9.93%
Average Slide ROP (ft/h)	113.73		
Average Rotating ROP (ft/h)	76.36		

BHA Objective
Build and Land Curve on 11's

Bit Details		POOH Reason/Notes
OD (in)	8.500	
Vendor	ULTERRA	
S/N	52097	
Nozzles	6x16's	
Total Flow Area (in²)	1.178	

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

Bit Distances		Comments
Bit To Bend: 4.03 ft, Gamma: 35.72 ft, Resistivity: 46.32 ft, Survey: 60.00 ft		Directional: Flow Rate: 300-600, Max Diff: 1130 psi, Max Torque: 10,460 ft-lbs, BIT Runs: 0

Mud Properties		Parameters
Type	Water Based	Flow Rate (gpm)
WT	10.00	On Bottom Pressure (psi)
VIS	32.00	Off Bottom Pressure (psi)
PV	0.00	Stall Pressure (psi)
YP	0.00	Stalls
		NPT

Items (Directional)									
Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: CF611, Style: PDC, Gauge Length (in): 3.00, Size (in): 8.50	ULTERRA	52097	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 2.12° Fxd 7/8 5.0 w/ SS, Size (in): 6.75, Bend Angle (°): 2.12, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 5.0	AIM	650-007	4 1/2" IF Box	4 1/2" Reg Box		6.750		26.22	27.22
MWD Hangoff Sub Description: MWD/RESISTIVITY COLLAR, Type: NM	BENCHTREE	6501005	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.510		31.47	58.69
Drill Collar Description: BATTERY, Style: Slick Drill, Type: NM	BENCHTREE	B6001	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.460		17.39	76.08
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR41083	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.570		30.11	106.19
Crossover Sub Description: Crossover Sub, Type: Steel	Black Diamond	BD 15114	EverDrg54 Box	4 1/2" IF Pin	3.000	6.688		3.64	109.83
Drill Pipe Description: 12 STANDS 5.5" DRILL PIPE, Style: Slick	RIG		EverDrg54 Box	EverDrg54 Pin	4.000	5.500		1074.75	1184.58
HWDP Description: 9 STANDS 5.5" HWDP, Style: Slick	Black Diamond		EverDrg54 Box	EverDrg54 Pin	4.000	5.500		851.38	2035.96





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Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

BHA #6 - Curve 8.5" Bail Out (Directional)

Motor Details		Date/Depth/Distances	Hours
Size(in)	6.77	Date In	2020-05-16 10:30
Lobe/Stage	7/8, 5.0	Depth In (ft)	11447.00
Bend Angle	3.00	Date Out	2020-05-17 03:30
Speed (rev/gal)	0.26	Depth Out (ft)	11529.00
Wear Pad OD (in)	7.350	Distance Slid (ft)	82.00
Incident	No	Distance Rotated (ft)	0.00
Motor Results		% Distance Sliding	100.00%
Average Total ROP (ft/h)	44.73	% Distance Rotating	0.00%
Average Slide ROP (ft/h)	44.73		
Average Rotating ROP (ft/h)	0.00		

BHA Objective
Bail Out/Land Curve

Bit Details		POOH Reason/Notes
OD (in)	8.500	Total Depth/Casing Point: Landed Curve 3° motor yielding 23°/100'
Vendor	ULTERRA	
S/N	51968	
Nozzles	6x16's	
Total Flow Area (in²)	1.178	

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

Bit Distances	Comments
Bit To Bend: 5.22 ft, Gamma: 37.00 ft, Resistivity: 47.00 ft, Survey: 61.00 ft	Directional: Flow Rate: 300-600, Max Diff: 1130 psi, Max Torque: 10,460 ft-lbs, BIT Runs: 1

Mud Properties		Parameters	
Type	Water	Flow Rate (gpm)	575.00 - 575.00
WT	9.00	On Bottom Pressure (psi)	2500.00 - 2500.00
VIS	0.00	Off Bottom Pressure (psi)	1850.00 - 1850.00
PV	0.00	Stall Pressure (psi)	0.00
YP	0.00	Stalls	0
		NPT	0.0
		Motor RPM	143.00 - 143.00
		Surface RPM	0.00 - 0.00
		Rotating WOB (klbs)	0.00 - 0.00
		Sliding WOB (klbs)	35.00 - 35.00
		Temp (°F)	-0.00 - -0.00

Items (Directional)									
Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: CF611, Style: PDC, Gauge Length (in): 3.00, Size (in): 8.50	ULTERRA	51968	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 3° Adj 7/8 5.0 w/ SS, Size (in): 6.77, Bend Angle (°): 3, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 5	AIM	650-021	4 1/2" IF Box	4 1/2" Reg Box		6.770		27.55	28.55
MWD Hangoff Sub Description: MWD/RESISTIVITY COLLAR, Type: NM	BENCHTREE	650100	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.510		31.35	59.90
Drill Collar Description: BATTERY, Style: Slick Drill, Type: NM	BENCHTREE	B6001	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.460		17.39	77.29
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR41083	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.570		30.11	107.40
Crossover Sub Description: Crossover Sub, Type: Steel	Black Diamond	BD 15114	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.688		3.64	111.04
Drill Pipe Description: 12 STANDS 5.5" DRILL PIPE, Style: Slick	RIG		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		1074.75	1185.79
HWDP Description: 9 STANDS 5.5" HWDP, Style: Slick	Black Diamond		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		851.38	2037.17





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Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
		Company Man

BHA #7 - Lateral w/ Agitator 8.5" (Directional)

Motor Details		Date/Depth/Distances	Hours
Size(in)	7.00	Date In	2020-05-24 04:00
Lobe/Stage	7/8, 8.5	Depth In (ft)	11529.00
Bend Angle	1.75	Date Out	2020-05-25 05:30
Speed (rev/gal)	0.26	Depth Out (ft)	11797.00
Wear Pad OD (in)	7.180	Distance Slid (ft)	72.00
Incident	No	Distance Rotated (ft)	196.00
Motor Results		% Distance Sliding	26.87%
Average Total ROP (ft/h)	52.72	% Distance Rotating	73.13%
Average Slide ROP (ft/h)	54.00		
Average Rotating ROP (ft/h)	52.27		

Bit Details		BHA Objective
OD (in)	8.500	Drill Lateral
Vendor	NOV	

S/N	A264974	POOH Reason/Notes
Nozzles	6-22's	Downhole Tool Incident
Total Flow Area (in²)	2.227	

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

Bit Distances		Comments
Bit To Bend: 5.33 ft, Survey: 70.00 ft, Gamma: 46.00 ft, Resistivity: 56.00 ft, Other (Agitator): 2631.00 ft		Directional: Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, Bit Runs: 0

Mud Properties		Parameters
Type	Oil Based	Flow Rate (gpm)
WT	9.40	On Bottom Pressure (psi)
VIS	0.00	Off Bottom Pressure (psi)
PV	0.00	Stall Pressure (psi)
YP	0.00	Stalls
		NPT

Items (Directional)									
Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: TKC66, Style: PDC, Gauge Length (in): 4.00, Size (in): 8.50	NOV	A264974	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 7" 7/8 8.5 1.75° FXD w/ SS, Size (in): 7.00, Bend Angle (°): 1.75, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5	AIM	700-40-037	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.25	37.25
MWD Hangoff Sub Description: MWD/RESISTIVITY COLLAR, Type: NM	BENCHTREE	6501010	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		31.52	68.77
Drill Collar Description: BATTERY, Style: Slick Drill, Type: NM	BENCHTREE	B6008X	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		17.39	86.16
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR41083	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.570		29.27	115.43
Crossover Sub Description: Crossover Sub, Type: Steel	Black Diamond	BD 15114	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.688		3.64	119.07
Drill Pipe Description: 28 STANDS DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		2508.93	2628.00
Crossover Sub Description: CROSSOVER SUB, Type: Steel	BLACK DIAMOND	BD11665	4 1/2" IF Box	EverDrlg54 Pin	3.500	6.740		3.56	2631.56
Agitator Description: AGITATOR, Size (in): 6.94	NOV	147-0041	4 1/2" IF Box	4 1/2" IF Pin		6.940		25.44	2657.00
Crossover Sub Description: CROSSOVER SUB, Type: Steel	BLACK DIAMOND	BD15115	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.770		3.66	2660.66
Drill Pipe Description: 92 STANDS DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		8246.66	10907.32
HWDP Description: 9 STANDS 5.5" HWDP, Style: Slick	Black Diamond		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		851.38	11758.70





Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

BHA #8 - Lateral 8.5" (Directional)

Motor Details		Date/Depth/Distances	Hours
Size(in)	7.00	Date In	2020-05-25 05:30
Lobe/Stage	7/8, 8.5	Depth In (ft)	11797.00
Bend Angle	1.75	Date Out	2020-05-28 10:00
Speed (rev/gal)	0.26	Depth Out (ft)	15525.00
Wear Pad OD (in)	7.180	Distance Slid (ft)	519.00
Incident	No	Distance Rotated (ft)	3209.00
Motor Results		% Distance Sliding	13.92%
Average Total ROP (ft/h)	68.93	% Distance Rotating	86.08%
Average Slide ROP (ft/h)	42.95		
Average Rotating ROP (ft/h)	76.40		

Bit Details		BHA Objective
OD (in)	8.500	Drill lateral to TD.
Vendor	NOV	

S/N	A264974	POOH Reason/Notes
Nozzles	6-22's	Downhole Tool Incident: could not decode
Total Flow Area (in²)	2.227	

MWD		Incident Notes
Max Downhole Temp (°F)	N/A	Directional: Quit decoding. Appears to be pulsing, but can't decode over the downhole noise.
		MWD:

Bit Distances		Comments
Bit To Bend: 5.33 ft, Survey: 70.00 ft, Gamma: 46.00 ft, Resistivity: 56.00 ft, Other (Agitator): 2631.00 ft		Directional: Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, Bit Runs: 0

Mud Properties		Parameters
Type	Oil Based	Flow Rate (gpm)
WT	9.40	On Bottom Pressure (psi)
VIS	0.00	Off Bottom Pressure (psi)
PV	0.00	Stall Pressure (psi)
YP	0.00	Stalls
		NPT

Items (Directional)									
Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: TKC66, Style: PDC, Gauge Length (in): 4.00, Size (in): 8.50	NOV	A264974	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 7" 7/8 8.5 1.75° FXD w/ SS, Size (in): 7.00, Bend Angle (°): 1.75, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5	AIM	700-40-037	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.25	37.25
MWD Hangoff Sub Description: MWD/RESISTIVITY COLLAR, Type: NM	BENCHTREE	6501007	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		31.35	68.60
Drill Collar Description: BATTERY, Style: Slick Drill, Type: NM	BENCHTREE	B6008X	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		17.39	85.99
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR41083	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.570		29.27	115.26
Crossover Sub Description: Crossover Sub, Type: Steel	Black Diamond	BD 15114	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.688		3.64	118.90
Drill Pipe Description: 28 STANDS DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		2508.93	2627.83
Crossover Sub Description: CROSSOVER SUB, Type: Steel	BLACK DIAMOND	BD11665	4 1/2" IF Box	EverDrlg54 Pin	3.500	6.740		3.56	2631.39
Agitator Description: AGITATOR, Size (in): 6.94	NOV	147-0041	4 1/2" IF Box	4 1/2" IF Pin		6.940		25.44	2656.83
Crossover Sub Description: CROSSOVER SUB, Type: Steel	BLACK DIAMOND	BD15115	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.770		3.66	2660.49
Drill Pipe Description: 92 STANDS DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		8246.66	10907.15
HWDP Description: 9 STANDS 5.5" HWDP, Style: Slick	Black Diamond		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		851.38	11758.53





Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
		Company Man

BHA #9 - 8.50" LATERAL w/ Agitator (Directional)

Motor Details	Date/Depth/Distances	Hours
Size(in) 7.00	Date In 2020-05-28 11:00	Downhole Hours 99.25
Lobe/Stage 7/9, 8.5	Depth In (ft) 15525.00	Drilling/Circulating Hours 74.42
Bend Angle 1.75	Date Out 2020-06-01 14:15	Drilling Hours 68.25
Speed (rev/gal) 0.26	Depth Out (ft) 19657.00	Circulating Hours 6.17
Wear Pad OD (in) 7.250	Distance Slid (ft) 488.00	Sliding Hours 15.50
Incident No	Distance Rotated (ft) 3644.00	Rotating Hours 52.75
Motor Results	% Distance Sliding 11.81%	% Hours Sliding 22.71%
Average Total ROP (ft/h) 60.54	% Distance Rotating 88.19%	% Hours Rotating 77.29%
Average Slide ROP (ft/h) 31.48		
Average Rotating ROP (ft/h) 69.08		

Bit Details	BHA Objective
OD (in) 8.500	Drill Lateral
Vendor Baker	

S/N 5305774	POOH Reason/Notes
Nozzles 6x22's	Penetration Rate: ROP dropped of to 30'/hr. Diff began dropping off. CoMan made decision to POOH for bit.
Total Flow Area (in²) 2.227	

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

Bit Distances	Comments
Bit To Bend: 5.34 ft, Survey: 70.00 ft, Gamma: 46.00 ft, Resistivity: 56.00 ft, Other (AGITATOR): 2631.00 ft	Directional: Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, Bit Runs: 1

Mud Properties	Parameters
Type Oil Based	Flow Rate (gpm) 625.00 - 690.00
WT 9.40	Motor RPM 169.00 - 182.00
VIS 45.00	On Bottom Pressure (psi) 3750.00 - 4650.00
PV 2.00	Surface RPM 40.00 - 50.00
YP 3.00	Off Bottom Pressure (psi) 3500.00 - 4000.00
	Rotating WOB (klbs) 45.00 - 65.00
	Stall Pressure (psi) 0.00
	Sliding WOB (klbs) 25.00 - 45.00
	Stalls 0
	Temp (°F) 176.00 - 176.00
	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: 8.50 Baker DD506TWX, Style: PDC, Gauge Length (in): 3.50, Size (in): 8.50	Baker	5305774	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 7" 7/8 8.5 1.75 Fixed w/SS, Size (in): 7.00, Bend Angle (°): 1.75, Rotor Lobe: 7, Stator Lobe: 8.5, Stator Stage: 8.5	Aim	700-40-029	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.27	37.27
MWD Hangoff Sub Description: MWD / RESISTIVITY COLLAR, Type: NM	BENCHTREE	6501005	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		31.46	68.73
Other Description: BATTERY	BENCHTREE	B6003X	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		17.15	85.88
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR41083	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.668		29.27	115.15
Crossover Sub Description: Crossover, Type: Steel	Black Diamond	BD 15114	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.688		3.64	118.79
Drill Pipe Description: 28 stands DP, Style: Slick	Black diamond		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		2508.93	2627.72
Crossover Sub Description: CROSSOVER SUB, Type: Steel	BLACK DIAMOND	BD11665	4 1/2" IF Box	EverDrlg54 Pin	3.500	6.740		3.56	2631.28
Agitator Description: AGITATOR, Size (in): 6.94	NOV	GHF0675-0143	4 1/2" IF Box	4 1/2" IF Pin		6.750		25.52	2656.80
Crossover Sub Description: CROSSOVER SUB, Type: Steel	BLACK DIAMOND	BD15115	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.770		3.66	2660.46
Drill Pipe Description: 92 STANDS DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		8246.66	10907.12
HWDP Description: 9 STANDS 5.5 HWDP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		851.38	11758.50





Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
		Company Man

BHA #10 - 8.50" LATERAL w/ Agitator (Directional)

Motor Details	Date/Depth/Distances	Hours
Size(in) 7.00	Date In 2020-06-01 14:15	Downhole Hours 61.75
Lobe/Stage 7/8, 8.5	Depth In (ft) 19657.00	Drilling/Circulating Hours 31.08
Bend Angle 1.75	Date Out 2020-06-04 04:00	Drilling Hours 29.67
Speed (rev/gal) 0.26	Depth Out (ft) 21504.00	Circulating Hours 1.42
Wear Pad OD (in) 7.250	Distance Slid (ft) 260.00	Sliding Hours 8.92
Incident No	Distance Rotated (ft) 1587.00	Rotating Hours 20.75
Motor Results	% Distance Sliding 14.08%	% Hours Sliding 30.06%
Average Total ROP (ft/h) 62.26	% Distance Rotating 85.92%	% Hours Rotating 69.94%
Average Slide ROP (ft/h) 29.16		
Average Rotating ROP (ft/h) 76.48		

Bit Details	BHA Objective
OD (in) 8.500	Drill lateral to TD
Vendor Baker	

POOH Reason/Notes
S/N 5308889 Total Depth/Casing Point
Nozzles 6x22's
Total Flow Area (in²) 2.227

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

Bit Distances	Comments
Bit To Bend: 5.35 ft, Survey: 70.00 ft, Gamma: 46.00 ft, Resistivity: 56.00 ft, Other (AGITATOR): 2631.00 ft	Directional: Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, Bit Runs: 1

Mud Properties	Parameters
Type Oil Based	Flow Rate (gpm) 625.00 - 625.00
WT 9.60	Motor RPM 182.00 - 182.00
VIS 0.00	On Bottom Pressure (psi) 3750.00 - 4650.00
PV 0.00	Off Bottom Pressure (psi) 3500.00 - 4000.00
YP 0.00	Rotating WOB (klbs) 65.00 - 65.00
	Stall Pressure (psi) 0.00
	Sliding WOB (klbs) 30.00 - 30.00
	Stalls 0
	Temp (°F) 176.00 - 176.00
	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: 8.50 Baker DD506TWX, Style: PDC, Gauge Length (in): 3.50, Size (in): 8.50	Baker	5308889	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 7" 7/8 8.5 1.75 Fixed w/SS , Size (in): 7.00, Bend Angle (°): 1.75, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5	Aim	700-40-031	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.26	37.26
MWD Hangoff Sub Description: MWD / RESISTIVITY COLLAR, Type: NM	BENCHTREE	6501010	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		31.52	68.78
Other Description: BATTERY	BENCHTREE	B6003X	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		17.15	85.93
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR41083	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.668		29.27	115.20
Crossover Sub Description: Crossover, Type: Steel	Black Diamond	BD 15114	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.688		3.64	118.84
Drill Pipe Description: 28 stands DP, Style: Slick	Black diamond		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		2508.93	2627.77
Crossover Sub Description: CROSSOVER SUB, Type: Steel	BLACK DIAMOND	BD11665	4 1/2" IF Box	EverDrlg54 Pin	3.500	6.740		3.56	2631.33
Agitator Description: AGITATOR, Size (in): 6.94	NOV	GHF0675-0143	4 1/2" IF Box	4 1/2" IF Pin		6.750		25.52	2656.85
Crossover Sub Description: CROSSOVER SUB, Type: Steel	BLACK DIAMOND	BD15115	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.770		3.66	2660.51
Drill Pipe Description: 92 STANDS DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		8246.66	10907.17
HWDP Description: 9 STANDS 5.5 HWDP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		851.38	11758.55





Mud Motor Reports

Merchant State Unit 553H (WT-20-035)

2020-03-09 to 2020-06-05

Lea, New Mexico, US (32.44, -103.54)



Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Mud Motor Report - BHA 1 (17.5" SURFACE)

Motor Details		Date/Depth/Distances		Hours	
S/N	80040007	Date In	2020-03-09 15:00	Downhole Hours	14.67
Size (in)	8.0	Depth In (ft)	145.00	Drilling/Circulating Hours	10.17
Lobe/Stage	7/8, 4.00	Date Out	2020-03-10 05:40		
Bend Angle	1.5	Depth Out (ft)	1815.00	Circulating Hours	2.17
Speed (rev/gal)	0.17	Total Drilled (ft)	1670.00	Drilling Hours	8.00
Wear Pad OD (in)	8.350	Distance Slid (ft)	20.00	Sliding Hours	0.25
Manufacturer	AIM	Distance Rotated (ft)	1650.00	Rotating Hours	7.75
Motor Results		% Distance Sliding	1.20%	% Hours Rotating	96.88%
Motor Incident	No	% Distance Rotating	98.80%	% Hours Sliding	3.13%
Average Total ROP (ft/h)	208.75	BHA Parameters			
Average Slide ROP (ft/h)	80.00	Flow Rate (gpm)	700.00 - 900.00	Motor RPM	144.00 - 144.00
Average Rotating ROP (ft/h)	212.90	Stalls	0	Surface RPM	50.00 - 80.00
Bit Details		Stall Pressure (psi)	0.00	Rotating WOB (klbs)	25.00 - 25.00
OD (in)	17.500	On Bottom Pressure (psi)	1700.00 - 3100.00	Sliding WOB (klbs)	45.00 - 45.00
Vendor	BAKER	Off Bottom Pressure (psi)	1250.00 - 2200.00	Temp (°F)	-0.00 - -0.00
S/N	5300910	NPT	0.0		
Nozzles	9-12's	BHA Objective			
Total Flow Area (in²)	0.990	DRILL SURFACE			
Bit Type	PDC				
Bit Distances					
Bend: 6.50 ft, Survey: 62.00 ft					
Mud Properties					
Type	Water				
WT	9.20				
VIS	0.00				
PV	0.00				
YP	0.00				
POOH Reason/Notes					
Total Depth/Casing Point					
Incident Notes					
Directional:					
MWD:					
Comments					
Directional: Flow Rate: 400-900, Max Diff: 900 psi, Max Torque: 14,930 ft-lbs, BIT Runs:0					
MWD:					



Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Mud Motor Report - BHA 2 (Intermediate 12.25")

Motor Details		Date/Depth/Distances	Hours
S/N	800-40-008	Date In	2020-03-17 16:30
Size (in)	8.0	Depth In (ft)	1815.00
Lobe/Stage	7/8, 5.90	Date Out	2020-03-18 20:00
Bend Angle	1.5	Depth Out (ft)	4239.00
Speed (rev/gal)	0.17	Total Drilled (ft)	2424.00
Wear Pad OD (in)	8.375	Distance Slid (ft)	30.00
Manufacturer	AIM	Distance Rotated (ft)	2394.00
Motor Results		% Distance Sliding	1.24%
Motor Incident	No	% Distance Rotating	98.76%
Average Total ROP (ft/h)	196.54		
Average Slide ROP (ft/h)	45.00		
Average Rotating ROP (ft/h)	205.20		
Bit Details			
OD (in)	12.250		
Vendor	ULTERRA		
S/N	52607		
Nozzles	6-13's & 3-12's		
Total Flow Area (in²)	1.109		
Bit Type	PDC		
Bit Distances			
Bend: 6.18 ft, Survey: 71.00 ft			
Mud Properties			
Type	Brine		
WT	10.00		
VIS	29.00		
PV	0.00		
YP	0.00		
POOH Reason/Notes			
Change Bottom Hole Assembly: POOH L/D STABILIZER AND MOTOR			
Incident Notes			
Directional:			
MWD:			
Comments			
Directional: Flow Rate: 400-900, Max Diff: 1330 psi, Max Torque: 22,020 ft-lbs, BIT Runs: 0			
MWD:			



Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
		Company Man

Mud Motor Report - BHA 3 (Intermediate 12.25")

Motor Details		Date/Depth/Distances	Hours
S/N	M775-04	Date In	2020-03-18 21:45
Size (in)	8.0	Depth In (ft)	4239.00
Lobe/Stage	7/8, 4.00	Date Out	2020-03-19 20:30
Bend Angle	1.5	Depth Out (ft)	5357.00
Speed (rev/gal)	0.17	Total Drilled (ft)	1118.00
Wear Pad OD (in)	8.250	Distance Slid (ft)	208.00
Manufacturer	AIM	Distance Rotated (ft)	910.00
Motor Results		% Distance Sliding	18.60%
Motor Incident	No	% Distance Rotating	81.40%
Average Total ROP (ft/h)	92.52		
Average Slide ROP (ft/h)	40.26		
Average Rotating ROP (ft/h)	131.57		
Bit Details			
OD (in)	12.250		
Vendor	ULTERRA		
S/N	48660		
Nozzles	6-13's & 3-12's		
Total Flow Area (in²)	1.109		
Bit Type	PDC		
Bit Distances			
Bend: 5.55 ft, Survey: 55.00 ft			
Mud Properties			
Type	Brine		
WT	9.30		
VIS	29.00		
PV	0.00		
YP	0.00		
POOH Reason/Notes			
Total Depth/Casing Point			
Incident Notes			
Directional:			
MWD:			
Comments			
Directional: Flow Rate: 400-900, Max Diff: 900 psi, Max Torque: 14,930 ft-lbs, BIT Runs:			
MWD:			



Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Mud Motor Report - BHA 4 (Intermediate 8.5")

Motor Details		Date/Depth/Distances	Hours
S/N	70040031	Date In	2020-05-12 10:15
Size (in)	7.0	Depth In (ft)	5357.00
Lobe/Stage	7/8, 8.50	Date Out	2020-05-15 05:00
Bend Angle	1.5	Depth Out (ft)	10742.00
Speed (rev/gal)	0.26	Total Drilled (ft)	5385.00
Wear Pad OD (in)	7.210	Distance Slid (ft)	371.00
Manufacturer	AIM	Distance Rotated (ft)	5014.00
Motor Results		% Distance Sliding	6.89%
Motor Incident	No	% Distance Rotating	93.11%
Average Total ROP (ft/h)	113.37		
Average Slide ROP (ft/h)	64.52		
Average Rotating ROP (ft/h)	120.10		
Bit Details			
OD (in)	8.500		
Vendor	ULTERRA		
S/N	52757		
Nozzles	6x12's		
Total Flow Area (in²)	0.662		
Bit Type	PDC		
Bit Distances			
Bend: 5.32 ft, Survey: 75.00 ft, Resistivity: 61.06 ft, Gamma: 51.46 ft			
Mud Properties			
Type	Water Based		
WT	10.00		
VIS	32.00		
PV	0.00		
YP	0.00		
POOH Reason/Notes			
Change Bottom Hole Assembly: POOH FOR CURVE ASSEMBLY			
Incident Notes			
Directional: N/A			
MWD:			
Comments			
Directional: Flow Rate: 500-700, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, BIT Runs: 1			
MWD:			



Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Mud Motor Report - BHA 5 (Curve 8.5")

Motor Details		Date/Depth/Distances		Hours	
S/N	650-007	Date In	2020-05-15 05:30	Downhole Hours	23.50
Size (in)	6.75	Depth In (ft)	10742.00	Drilling/Circulating Hours	8.25
Lobe/Stage	7/8, 5.00	Date Out	2020-05-16 05:00		
Bend Angle	2.12	Depth Out (ft)	11447.00	Circulating Hours	1.75
Speed (rev/gal)	0.26	Total Drilled (ft)	705.00	Drilling Hours	6.50
Wear Pad OD (in)	7.000	Distance Slid (ft)	635.00	Sliding Hours	5.58
Manufacturer	AIM	Distance Rotated (ft)	70.00	Rotating Hours	0.92
Motor Results		% Distance Sliding	90.07%	% Hours Rotating	14.10%
Motor Incident	No	% Distance Rotating	9.93%	% Hours Sliding	85.90%
Average Total ROP (ft/h)	108.46	BHA Parameters			
Average Slide ROP (ft/h)	113.73	Flow Rate (gpm)	575.00 - 575.00	Motor RPM	0.00 - 0.00
Average Rotating ROP (ft/h)	76.36	Stalls	0	Surface RPM	35.00 - 35.00
Bit Details		Stall Pressure (psi)	0.00	Rotating WOB (klbs)	35.00 - 35.00
OD (in)	8.500	On Bottom Pressure (psi)	2400.00 - 2500.00	Sliding WOB (klbs)	35.00 - 35.00
Vendor	ULTERRA	Off Bottom Pressure (psi)	1850.00 - 1900.00	Temp (°F)	-0.00 - -0.00
S/N	52097	NPT	0.0		
Nozzles	6x16's	BHA Objective			
Total Flow Area (in²)	1.178	Build and Land Curve on 11's			
Bit Type	PDC				
Bit Distances					
Bend: 4.03 ft, Gamma: 35.72 ft, Resistivity: 46.32 ft, Survey: 60.00 ft					
Mud Properties					
Type	Water Based				
WT	10.00				
VIS	32.00				
PV	0.00				
YP	0.00				
POOH Reason/Notes					
Build Rate: POOH for BUR. MY fell off after 45' rotation. Yielded 1.25° the came back at 12-13° , needing 15° . Last slide yielded 11.8° . Needing 25° MY to land on the line. Decision made to POOH for 3° Adj Motor					
Incident Notes					
Directional: N/A					
MWD:					
Comments					
Directional: Flow Rate: 300-600, Max Diff: 1130 psi, Max Torque: 10,460 ft-lbs, BIT Runs: 0					
MWD:					



Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Mud Motor Report - BHA 6 (Curve 8.5" Bail Out)

Motor Details		Date/Depth/Distances	Hours
S/N	650-021	Date In	2020-05-16 10:30
Size (in)	6.77	Depth In (ft)	11447.00
Lobe/Stage	7/8, 5.00	Date Out	2020-05-17 03:30
Bend Angle	3.0	Depth Out (ft)	11529.00
Speed (rev/gal)	0.26	Total Drilled (ft)	82.00
Wear Pad OD (in)	7.350	Distance Slid (ft)	82.00
Manufacturer	AIM	Distance Rotated (ft)	0.00
Motor Results		% Distance Sliding	100.00%
Motor Incident	No	% Distance Rotating	0.00%
Average Total ROP (ft/h)	44.73		
Average Slide ROP (ft/h)	44.73		
Average Rotating ROP (ft/h)	0.00		
Bit Details			
OD (in)	8.500		
Vendor	ULTERRA		
S/N	51968		
Nozzles	6x16's		
Total Flow Area (in²)	1.178		
Bit Type	PDC		
Bit Distances			
Bend: 5.22 ft, Gamma: 37.00 ft, Resistivity: 47.00 ft, Survey: 61.00 ft			
Mud Properties			
Type	Water		
WT	9.00		
VIS	0.00		
PV	0.00		
YP	0.00		
POOH Reason/Notes			
Total Depth/Casing Point: Landed Curve 3° motor yielding 23°/100'			
Incident Notes			
Directional: N/A			
MWD:			
Comments			
Directional: Flow Rate: 300-600, Max Diff: 1130 psi, Max Torque: 10,460 ft-lbs, BIT Runs: 1			
MWD:			



Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Mud Motor Report - BHA 7 (Lateral w/ Agitator 8.5")

Motor Details		Date/Depth/Distances	Hours
S/N	700-40-037	Date In	2020-05-24 04:00
Size (in)	7.0	Depth In (ft)	11529.00
Lobe/Stage	7/8, 8.50	Date Out	2020-05-25 05:30
Bend Angle	1.75	Depth Out (ft)	11797.00
Speed (rev/gal)	0.26	Total Drilled (ft)	268.00
Wear Pad OD (in)	7.180	Distance Slid (ft)	72.00
Manufacturer	AIM	Distance Rotated (ft)	196.00
Motor Results		% Distance Sliding	26.87%
Motor Incident	No	% Distance Rotating	73.13%
Average Total ROP (ft/h)	52.72	BHA Parameters	
Average Slide ROP (ft/h)	54.00	Flow Rate (gpm)	625.00 - 700.00
Average Rotating ROP (ft/h)	52.27	Stalls	0
Bit Details		Stall Pressure (psi)	0.00
OD (in)	8.500	On Bottom Pressure (psi)	3800.00 - 4000.00
Vendor	NOV	Off Bottom Pressure (psi)	3300.00 - 3500.00
S/N	A264974	NPT	0.0
Nozzles	6-22's	BHA Objective	
Total Flow Area (in²)	2.227	Drill Lateral	
Bit Type	PDC		
Bit Distances			
Bend: 5.33 ft, Survey: 70.00 ft, Gamma: 46.00 ft, Resistivity: 56.00 ft, Other (Agitator): 2631.00 ft			
Mud Properties			
Type	Oil Based		
WT	9.40		
VIS	0.00		
PV	0.00		
YP	0.00		
POOH Reason/Notes			
Downhole Tool Incident			
Incident Notes			
Directional: MWD quit pulsing			
MWD:			
Comments			
Directional: Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, Bit Runs: 0			
MWD:			



Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Mud Motor Report - BHA 8 (Lateral 8.5")

Motor Details		Date/Depth/Distances	Hours
S/N	700-40-037	Date In	2020-05-25 05:30
Size (in)	7.0	Depth In (ft)	11797.00
Lobe/Stage	7/8, 8.50	Date Out	2020-05-28 10:00
Bend Angle	1.75	Depth Out (ft)	15525.00
Speed (rev/gal)	0.26	Total Drilled (ft)	3728.00
Wear Pad OD (in)	7.180	Distance Slid (ft)	519.00
Manufacturer	AIM	Distance Rotated (ft)	3209.00
Motor Results		% Distance Sliding	13.92%
Motor Incident	No	% Distance Rotating	86.08%
Average Total ROP (ft/h)	68.93		
Average Slide ROP (ft/h)	42.95		
Average Rotating ROP (ft/h)	76.40		
Bit Details			
OD (in)	8.500	Stall Pressure (psi)	0.00
Vendor	NOV	On Bottom Pressure (psi)	4200.00 - 4650.00
S/N	A264974	Off Bottom Pressure (psi)	3800.00 - 4000.00
Nozzles	6-22's	NPT	0.0
Total Flow Area (in ²)	2.227	BHA Objective	
Bit Type	PDC	Drill lateral to TD.	
Bit Distances			
Bend: 5.33 ft, Survey: 70.00 ft, Gamma: 46.00 ft, Resistivity: 56.00 ft, Other (Agitator): 2631.00 ft			
Mud Properties			
Type	Oil Based		
WT	9.40		
VIS	0.00		
PV	0.00		
YP	0.00		
POOH Reason/Notes			
Downhole Tool Incident: could not decode			
Incident Notes			
Directional: Quit decoding. Appears to be pulsing, but can't decode over the downhole noise.			
MWD:			
Comments			
Directional: Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, Bit Runs: 0			
MWD:			



Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
		Company Man

Mud Motor Report - BHA 9 (8.50" LATERAL w/ Agitator)

Motor Details		Date/Depth/Distances	Hours
S/N	700-40-029	Date In	2020-05-28 11:00
Size (in)	7.0	Depth In (ft)	15525.00
Lobe/Stage	7/9, 8.50	Date Out	2020-06-01 14:15
Bend Angle	1.75	Depth Out (ft)	19657.00
Speed (rev/gal)	0.26	Total Drilled (ft)	4132.00
Wear Pad OD (in)	7.250	Distance Slid (ft)	488.00
Manufacturer	Aim	Distance Rotated (ft)	3644.00
Motor Results		% Distance Sliding	11.81%
Motor Incident	No	% Distance Rotating	88.19%
Average Total ROP (ft/h)	60.54		
Average Slide ROP (ft/h)	31.48		
Average Rotating ROP (ft/h)	69.08		
Bit Details			
OD (in)	8.500		
Vendor	Baker		
S/N	5305774		
Nozzles	6x22's		
Total Flow Area (in ²)	2.227		
Bit Type	PDC		
Bit Distances			
Bend: 5.34 ft, Survey: 70.00 ft, Gamma: 46.00 ft, Resistivity: 56.00 ft, Other (AGITATOR): 2631.00 ft			
Mud Properties			
Type	Oil Based		
WT	9.40		
VIS	45.00		
PV	2.00		
YP	3.00		
POOH Reason/Notes			
Penetration Rate: ROP dropped of to 30'/hr. Diff began dropping off. CoMan made decision to POOH for bit.			
Incident Notes			
Directional:			
MWD:			
Comments			
Directional: Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, Bit Runs: 1			
MWD:			



Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
		Company Man

Mud Motor Report - BHA 10 (8.50" LATERAL w/ Agitator)

Motor Details		Date/Depth/Distances	Hours
S/N	700-40-031	Date In	2020-06-01 14:15
Size (in)	7.0	Depth In (ft)	19657.00
Lobe/Stage	7/8, 8.50	Date Out	2020-06-04 04:00
Bend Angle	1.75	Depth Out (ft)	21504.00
Speed (rev/gal)	0.26	Total Drilled (ft)	1847.00
Wear Pad OD (in)	7.250	Distance Slid (ft)	260.00
Manufacturer	Aim	Distance Rotated (ft)	1587.00
Motor Results		% Distance Sliding	14.08%
Motor Incident	No	% Distance Rotating	85.92%
Average Total ROP (ft/h)	62.26		
Average Slide ROP (ft/h)	29.16		
Average Rotating ROP (ft/h)	76.48		
Bit Details			
OD (in)	8.500	Stall Pressure (psi)	0.00
Vendor	Baker	On Bottom Pressure (psi)	3750.00 - 4650.00
S/N	5308889	Off Bottom Pressure (psi)	3500.00 - 4000.00
Nozzles	6x22's	NPT	0.0
Total Flow Area (in²)	2.227	BHA Objective	
Bit Type	PDC	Drill lateral to TD	
Bit Distances			
Bend: 5.35 ft, Survey: 70.00 ft, Gamma: 46.00 ft, Resistivity: 56.00 ft, Other (AGITATOR): 2631.00 ft			
Mud Properties			
Type	Oil Based		
WT	9.60		
VIS	0.00		
PV	0.00		
YP	0.00		
POOH Reason/Notes			
Total Depth/Casing Point			
Incident Notes			
Directional:			
MWD:			
Comments			
Directional: Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, Bit Runs: 1			
MWD:			



Slide/Rotate Reports

Merchant State Unit 553H (WT-20-035)

2020-03-09 to 2020-06-05

Lea, New Mexico, US (32.44, -103.54)



Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Slide/Rotate Report - BHA #1 (17.5" 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	03-09	15:00	15:50	03-09	0.83	145.00	294.00	149.00	178.80	N/A	700.00	50.0	25.00	1700.00	1250.00	
Rotate	03-09	15:55	16:10	03-09	0.25	294.00	389.00	95.00	380.00	N/A	795.00	60.0	25.00	2400.00	1800.00	
Rotate	03-09	16:15	16:25	03-09	0.17	389.00	484.00	95.00	570.00	N/A	900.00	80.0	25.00	2850.00	2000.00	
Rotate	03-09	16:30	16:40	03-09	0.17	484.00	579.00	95.00	570.00	N/A	900.00	80.0	25.00	2850.00	2000.00	
Rotate	03-09	16:45	16:55	03-09	0.17	579.00	674.00	95.00	570.00	N/A	900.00	80.0	25.00	2850.00	2000.00	
Rotate	03-09	17:00	17:15	03-09	0.25	674.00	769.00	95.00	380.00	N/A	900.00	80.0	25.00	2850.00	2000.00	
Rotate	03-09	17:20	17:40	03-09	0.33	769.00	864.00	95.00	285.00	N/A	900.00	80.0	25.00	2850.00	2000.00	
Rotate	03-09	17:45	18:05	03-09	0.33	864.00	959.00	95.00	285.00	N/A	900.00	80.0	25.00	2850.00	2000.00	
Rotate	03-09	18:10	18:35	03-09	0.42	959.00	1054.00	95.00	228.00	N/A	900.00	80.0	25.00	2850.00	2000.00	
Rotate	03-09	18:40	19:05	03-09	0.42	1054.00	1148.00	94.00	225.60	N/A	900.00	80.0	25.00	2850.00	2000.00	
Rotate	03-09	19:20	19:35	03-09	0.25	1148.00	1243.00	95.00	380.00	N/A	900.00	80.0	25.00	2850.00	2000.00	
Rotate	03-09	19:40	19:55	03-09	0.25	1243.00	1250.00	7.00	28.00	N/A	900.00	80.0	25.00	2850.00	2000.00	
Slide	03-09	19:55	20:10	03-09	0.25	1250.00	1270.00	20.00	80.00	0.0	900.00	N/A	45.00	3100.00	2200.00	
Rotate	03-09	20:10	20:20	03-09	0.17	1270.00	1338.00	68.00	408.00	N/A	900.00	80.0	25.00	2850.00	2000.00	
Rotate	03-09	20:25	21:10	03-09	0.75	1338.00	1432.00	94.00	125.33	N/A	900.00	80.0	25.00	2850.00	2000.00	
Rotate	03-09	21:15	22:00	03-09	0.75	1432.00	1527.00	95.00	126.67	N/A	900.00	80.0	25.00	2850.00	2000.00	
Rotate	03-09	22:05	22:50	03-09	0.75	1527.00	1620.00	93.00	124.00	N/A	900.00	80.0	25.00	2850.00	2000.00	
Rotate	03-09	22:55	23:25	03-09	0.5	1620.00	1709.00	89.00	178.00	N/A	900.00	80.0	25.00	2850.00	2000.00	
Rotate	03-09	23:30	00:00	03-10	0.5	1709.00	1765.00	56.00	112.00	N/A	900.00	80.0	25.00	2850.00	2000.00	
Rotate	03-10	00:00	00:20	03-10	0.33	1765.00	1799.00	34.00	102.00	N/A	900.00	80.0	25.00	2850.00	2000.00	
Rotate	03-10	00:25	00:35	03-10	0.17	1799.00	1815.00	16.00	96.00	N/A	900.00	80.0	25.00	2850.00	2000.00	



Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

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

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	03-17	19:40	20:55	03-17	1.25	1815.00	1954.00	139.00	111.20	N/A	840.00	40.0	30.00	2500.00	2000.00	
Rotate	03-17	21:00	21:15	03-17	0.25	1954.00	2043.00	89.00	356.00	N/A	840.00	40.0	30.00	2500.00	2000.00	
Rotate	03-17	21:20	21:45	03-17	0.42	2043.00	2133.00	90.00	216.00	N/A	840.00	40.0	30.00	2500.00	2000.00	
Rotate	03-17	21:50	21:55	03-17	0.08	2133.00	2142.00	9.00	108.00	N/A	840.00	40.0	30.00	2500.00	2000.00	
Slide	03-17	21:55	22:15	03-17	0.33	2142.00	2157.00	15.00	45.00	30.0	840.00	N/A	10.00	2200.00	2000.00	
Rotate	03-17	22:15	22:30	03-17	0.25	2157.00	2223.00	66.00	264.00	N/A	840.00	40.0	30.00	2500.00	2000.00	
Rotate	03-17	22:35	22:55	03-17	0.33	2223.00	2312.00	89.00	267.00	N/A	840.00	40.0	30.00	2500.00	2000.00	
Rotate	03-17	23:00	23:20	03-17	0.33	2312.00	2402.00	90.00	270.00	N/A	840.00	40.0	30.00	2700.00	2000.00	
Rotate	03-17	23:25	23:40	03-17	0.25	2402.00	2492.00	90.00	360.00	N/A	840.00	40.0	30.00	2700.00	2000.00	
Rotate	03-17	23:45	00:00	03-18	0.25	2492.00	2581.00	89.00	356.00	N/A	840.00	60.0	30.00	2700.00	2000.00	
Rotate	03-18	00:05	00:20	03-18	0.25	2581.00	2671.00	90.00	360.00	N/A	840.00	60.0	30.00	2700.00	2000.00	
Rotate	03-18	00:25	00:40	03-18	0.25	2671.00	2760.00	89.00	356.00	N/A	840.00	60.0	30.00	2700.00	2000.00	
Rotate	03-18	00:45	01:00	03-18	0.25	2760.00	2850.00	90.00	360.00	N/A	840.00	60.0	30.00	2700.00	2000.00	
Rotate	03-18	01:05	01:20	03-18	0.25	2850.00	2940.00	90.00	360.00	N/A	840.00	60.0	30.00	2700.00	2000.00	
Rotate	03-18	01:25	01:35	03-18	0.17	2940.00	3029.00	89.00	534.00	N/A	840.00	60.0	30.00	2700.00	2000.00	
Rotate	03-18	01:40	01:50	03-18	0.17	3029.00	3119.00	90.00	540.00	N/A	840.00	60.0	30.00	2700.00	2000.00	
Rotate	03-18	01:55	02:10	03-18	0.25	3119.00	3209.00	90.00	360.00	N/A	840.00	60.0	30.00	2700.00	2000.00	
Rotate	03-18	02:15	02:45	03-18	0.5	3209.00	3298.00	89.00	178.00	N/A	840.00	60.0	30.00	2700.00	2000.00	
Rotate	03-18	02:50	03:05	03-18	0.25	3298.00	3388.00	90.00	360.00	N/A	840.00	60.0	30.00	2700.00	2000.00	
Rotate	03-18	03:10	03:20	03-18	0.17	3388.00	3429.00	41.00	246.00	N/A	840.00	60.0	30.00	2700.00	2000.00	
Rotate	03-18	03:50	04:00	03-18	0.17	3429.00	3478.00	49.00	294.00	N/A	840.00	60.0	30.00	3000.00	2300.00	
Rotate	03-18	04:05	04:40	03-18	0.58	3478.00	3567.00	89.00	152.57	N/A	840.00	60.0	30.00	3000.00	2300.00	
Rotate	03-18	04:45	04:50	03-18	0.08	3567.00	3572.00	5.00	60.00	N/A	840.00	60.0	30.00	3000.00	2300.00	
Slide	03-18	04:50	05:10	03-18	0.33	3572.00	3587.00	15.00	45.00	270.0	840.00	N/A	25.00	2600.00	2300.00	
Rotate	03-18	05:10	05:45	03-18	0.58	3587.00	3657.00	70.00	120.00	N/A	840.00	60.0	38.00	3000.00	2300.00	
Rotate	03-18	05:50	06:35	03-18	0.75	3657.00	3746.00	89.00	118.67	N/A	840.00	60.0	38.00	3000.00	2300.00	
Rotate	03-18	06:40	07:15	03-18	0.58	3746.00	3836.00	90.00	154.29	N/A	840.00	60.0	38.00	3000.00	2300.00	
Rotate	03-18	07:20	07:55	03-18	0.58	3836.00	3926.00	90.00	154.29	N/A	840.00	60.0	38.00	3000.00	2300.00	
Rotate	03-18	08:00	08:35	03-18	0.58	3926.00	4015.00	89.00	152.57	N/A	840.00	60.0	38.00	3000.00	2300.00	
Rotate	03-18	08:40	09:20	03-18	0.67	4015.00	4104.00	89.00	133.50	N/A	840.00	60.0	38.00	3000.00	2300.00	
Rotate	03-18	09:30	10:40	03-18	1.17	4104.00	4239.00	135.00	115.71	N/A	840.00	60.0	38.00	3000.00	2300.00	



Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Slide/Rotate Report - BHA #3 (Intermediate 12.25")

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	03-19	01:15	01:55	03-19	0.67	4239.00	4267.00	28.00	42.00	N/A	600.00	40.0	20.00	700.00	500.00	
Slide	03-19	02:15	03:15	03-19	1.0	4267.00	4297.00	30.00	30.00	325.0	600.00	N/A	10.00	700.00	500.00	
Rotate	03-19	03:15	03:50	03-19	0.58	4297.00	4356.00	59.00	101.14	N/A	600.00	40.0	20.00	700.00	500.00	
Rotate	03-19	05:25	05:35	03-19	0.17	4356.00	4360.00	4.00	24.00	N/A	600.00	40.0	20.00	700.00	500.00	
Slide	03-19	05:35	07:10	03-19	1.58	4360.00	4383.00	23.00	14.53	325.0	600.00	N/A	10.00	700.00	500.00	
Rotate	03-19	07:10	07:40	03-19	0.5	4383.00	4446.00	63.00	126.00	N/A	600.00	40.0	20.00	700.00	500.00	
Slide	03-19	07:55	08:40	03-19	0.75	4446.00	4486.00	40.00	53.33	335.0	820.00	N/A	15.00	1700.00	1450.00	
Rotate	03-19	08:40	09:00	03-19	0.33	4486.00	4536.00	50.00	150.00	N/A	820.00	40.0	20.00	1800.00	1450.00	
Rotate	03-19	09:10	09:20	03-19	0.17	4536.00	4541.00	5.00	30.00	N/A	820.00	40.0	20.00	1800.00	1450.00	
Slide	03-19	09:20	09:50	03-19	0.5	4541.00	4586.00	45.00	90.00	325.0	820.00	N/A	15.00	1700.00	1450.00	
Rotate	03-19	09:50	10:10	03-19	0.33	4586.00	4625.00	39.00	117.00	N/A	820.00	40.0	20.00	1800.00	1450.00	
Rotate	03-19	10:20	11:00	03-19	0.67	4625.00	4715.00	90.00	135.00	N/A	820.00	40.0	20.00	1800.00	1450.00	
Slide	03-19	11:10	12:00	03-19	0.83	4715.00	4755.00	40.00	48.00	310.0	820.00	N/A	15.00	1700.00	1450.00	
Rotate	03-19	12:00	12:20	03-19	0.33	4755.00	4805.00	50.00	150.00	N/A	820.00	40.0	20.00	1800.00	1450.00	
Rotate	03-19	12:25	13:00	03-19	0.58	4805.00	4894.00	89.00	152.57	N/A	820.00	40.0	20.00	1800.00	1450.00	
Rotate	03-19	13:10	13:45	03-19	0.58	4894.00	4984.00	90.00	154.29	N/A	820.00	40.0	20.00	1800.00	1450.00	
Rotate	03-19	13:55	14:20	03-19	0.42	4984.00	5073.00	89.00	213.60	N/A	820.00	40.0	20.00	1800.00	1450.00	
Slide	03-19	14:30	15:00	03-19	0.5	5073.00	5103.00	30.00	60.00	280.0	820.00	N/A	15.00	1700.00	1450.00	
Rotate	03-19	15:00	15:20	03-19	0.33	5103.00	5163.00	60.00	180.00	N/A	820.00	40.0	20.00	1800.00	1450.00	
Rotate	03-19	15:30	16:00	03-19	0.5	5163.00	5252.00	89.00	178.00	N/A	820.00	40.0	20.00	1800.00	1450.00	
Rotate	03-19	16:15	17:00	03-19	0.75	5252.00	5357.00	105.00	140.00	N/A	820.00	40.0	20.00	1800.00	1450.00	



Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Slide/Rotate Report - BHA #4 (Intermediate 8.5")

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	05-12	17:15	17:50	05-12	0.58	5357.00	5456.00	99.00	169.71	N/A	700.00	50.0	28.00	3000.00	2500.00	
Rotate	05-12	18:05	18:15	05-12	0.17	5456.00	5470.00	14.00	84.00	N/A	700.00	70.0	28.00	3000.00	2500.00	
Slide	05-12	18:15	18:40	05-12	0.42	5470.00	5495.00	25.00	60.00	35.0	700.00	N/A	15.00	3200.00	2500.00	
Rotate	05-12	18:40	18:50	05-12	0.17	5495.00	5545.00	50.00	300.00	N/A	700.00	70.0	28.00	3000.00	2500.00	
Rotate	05-12	19:05	19:15	05-12	0.17	5545.00	5635.00	90.00	540.00	N/A	700.00	70.0	28.00	3000.00	2500.00	
Rotate	05-12	19:20	19:35	05-12	0.25	5635.00	5724.00	89.00	356.00	N/A	700.00	70.0	28.00	3000.00	2500.00	
Rotate	05-12	19:40	19:55	05-12	0.25	5724.00	5814.00	90.00	360.00	N/A	700.00	70.0	28.00	3000.00	2500.00	
Rotate	05-12	20:00	20:25	05-12	0.42	5814.00	5904.00	90.00	216.00	N/A	700.00	70.0	28.00	3000.00	2500.00	
Rotate	05-12	20:30	20:50	05-12	0.33	5904.00	5993.00	89.00	267.00	N/A	700.00	70.0	28.00	3000.00	2500.00	
Rotate	05-12	20:55	21:00	05-12	0.08	5993.00	6010.00	17.00	204.00	N/A	700.00	70.0	28.00	3000.00	2500.00	
Slide	05-12	21:00	21:15	05-12	0.25	6010.00	6035.00	25.00	100.00	60.0	700.00	N/A	15.00	3200.00	2500.00	
Rotate	05-12	21:15	21:25	05-12	0.17	6035.00	6083.00	48.00	288.00	N/A	700.00	70.0	28.00	3000.00	2500.00	
Rotate	05-12	21:30	21:45	05-12	0.25	6083.00	6172.00	89.00	356.00	N/A	700.00	70.0	28.00	3000.00	2500.00	
Rotate	05-12	21:50	21:55	05-12	0.08	6172.00	6185.00	13.00	156.00	N/A	700.00	70.0	28.00	3000.00	2500.00	
Slide	05-12	21:55	22:25	05-12	0.5	6185.00	6220.00	35.00	70.00	60.0	700.00	N/A	15.00	3200.00	2500.00	
Rotate	05-12	22:25	22:40	05-12	0.25	6220.00	6262.00	42.00	168.00	N/A	700.00	70.0	28.00	3000.00	2500.00	
Rotate	05-12	22:45	22:55	05-12	0.17	6262.00	6351.00	89.00	534.00	N/A	700.00	70.0	28.00	3000.00	2500.00	
Rotate	05-12	23:00	23:10	05-12	0.17	6351.00	6441.00	90.00	540.00	N/A	700.00	70.0	28.00	3000.00	2500.00	
Rotate	05-12	23:15	23:30	05-12	0.25	6441.00	6531.00	90.00	360.00	N/A	700.00	70.0	28.00	3000.00	2500.00	
Rotate	05-12	23:35	23:55	05-12	0.33	6531.00	6621.00	90.00	270.00	N/A	700.00	70.0	28.00	3000.00	2500.00	
Rotate	05-13	00:00	00:30	05-13	0.5	6621.00	6711.00	90.00	180.00	N/A	700.00	70.0	28.00	3000.00	2500.00	
Rotate	05-13	00:35	00:45	05-13	0.17	6711.00	6800.00	89.00	534.00	N/A	700.00	70.0	28.00	3000.00	2500.00	
Rotate	05-13	00:50	01:05	05-13	0.25	6800.00	6890.00	90.00	360.00	N/A	700.00	70.0	28.00	3000.00	2500.00	
Rotate	05-13	01:10	01:25	05-13	0.25	6890.00	6980.00	90.00	360.00	N/A	700.00	70.0	28.00	3000.00	2500.00	
Rotate	05-13	01:30	01:40	05-13	0.17	6980.00	6990.00	10.00	60.00	N/A	700.00	70.0	28.00	3000.00	2500.00	
Slide	05-13	01:40	02:05	05-13	0.42	6990.00	7030.00	40.00	96.00	90.0	650.00	N/A	35.00	2800.00	2300.00	
Rotate	05-13	02:05	02:15	05-13	0.17	7030.00	7070.00	40.00	240.00	N/A	700.00	70.0	28.00	3000.00	2500.00	
Rotate	05-13	02:30	02:45	05-13	0.25	7070.00	7159.00	89.00	356.00	N/A	700.00	70.0	28.00	3000.00	2500.00	
Rotate	05-13	02:50	03:10	05-13	0.33	7159.00	7249.00	90.00	270.00	N/A	700.00	70.0	28.00	3000.00	2500.00	
Rotate	05-13	03:15	03:45	05-13	0.5	7249.00	7339.00	90.00	180.00	N/A	700.00	70.0	28.00	3000.00	2500.00	
Rotate	05-13	03:50	04:20	05-13	0.5	7339.00	7428.00	89.00	178.00	N/A	700.00	70.0	28.00	3000.00	2500.00	
Slide	05-13	04:25	04:45	05-13	0.33	7428.00	7448.00	20.00	60.00	100.0	650.00	N/A	35.00	2800.00	2300.00	
Rotate	05-13	04:45	05:15	05-13	0.5	7448.00	7517.00	69.00	138.00	N/A	700.00	70.0	28.00	3000.00	2500.00	
Rotate	05-13	05:20	05:50	05-13	0.5	7517.00	7607.00	90.00	180.00	N/A	700.00	70.0	28.00	3000.00	2500.00	
Rotate	05-13	05:55	06:25	05-13	0.5	7607.00	7697.00	90.00	180.00	N/A	700.00	70.0	28.00	3000.00	2500.00	
Slide	05-13	06:35	07:10	05-13	0.58	7697.00	7737.00	40.00	68.57	85.0	650.00	N/A	35.00	2800.00	2300.00	
Rotate	05-13	07:10	07:30	05-13	0.33	7737.00	7787.00	50.00	150.00	N/A	700.00	70.0	28.00	3000.00	2500.00	
Rotate	05-13	07:40	08:05	05-13	0.42	7787.00	7876.00	89.00	213.60	N/A	700.00	70.0	28.00	3000.00	2500.00	
Rotate	05-13	08:10	08:35	05-13	0.42	7876.00	7966.00	90.00	216.00	N/A	700.00	70.0	42.00	3000.00	2500.00	
Rotate	05-13	08:40	09:10	05-13	0.5	7966.00	8056.00	90.00	180.00	N/A	700.00	70.0	42.00	3000.00	2500.00	
Rotate	05-13	09:15	09:25	05-13	0.17	8056.00	8067.00	11.00	66.00	N/A	700.00	70.0	42.00	3000.00	2500.00	
Slide	05-13	09:25	09:55	05-13	0.5	8067.00	8107.00	40.00	80.00	70.0	650.00	N/A	35.00	2800.00	2300.00	
Rotate	05-13	09:55	10:10	05-13	0.25	8107.00	8145.00	38.00	152.00	N/A	700.00	70.0	42.00	3000.00	2500.00	
Rotate	05-13	10:15	11:05	05-13	0.83	8145.00	8235.00	90.00	108.00	N/A	700.00	70.0	42.00	3000.00	2500.00	
Rotate	05-13	11:10	12:15	05-13	1.08	8235.00	8325.00	90.00	83.08	N/A	700.00	70.0	42.00	3000.00	2500.00	
Rotate	05-13	12:20	13:05	05-13	0.75	8325.00	8414.00	89.00	118.67	N/A	700.00	70.0	42.00	3000.00	2500.00	
Rotate	05-13	13:10	13:20	05-13	0.17	8414.00	8420.00	6.00	36.00	N/A	700.00	70.0	42.00	3000.00	2500.00	
Slide	05-13	13:20	14:00	05-13	0.67	8420.00	8460.00	40.00	60.00	70.0	650.00	N/A	35.00	2800.00	2300.00	
Rotate	05-13	14:00	14:25	05-13	0.42	8460.00	8504.00	44.00	105.60	N/A	700.00	70.0	42.00	3000.00	2500.00	
Rotate	05-13	14:30	15:15	05-13	0.75	8504.00	8594.00	90.00	120.00	N/A	700.00	70.0	42.00	3000.00	2500.00	
Rotate	05-13	15:20	16:20	05-13	1.0	8594.00	8683.00	89.00	89.00	N/A	700.00	70.0	42.00	3000.00	2500.00	
Rotate	05-13	16:25	16:35	05-13	0.17	8683.00	8691.00	8.00	48.00	N/A	700.00	70.0	42.00	3000.00	2500.00	
Slide	05-13	16:35	16:50	05-13	0.25	8691.00	8731.00	40.00	160.00	350.0	650.00	N/A	35.00	2800.00	2300.00	
Rotate	05-13	16:50	18:05	05-13	1.25	8731.00	8773.00	42.00	33.60	N/A	700.00	70.0	42.00	3000.00	2500.00	
Rotate	05-13	18:10	19:15	05-13	1.08	8773.00	8863.00	90.00	83.08	N/A	700.00	70.0	42.00	3000.00	2500.00	
Rotate	05-13	19:20	20:35	05-13	1.25	8863.00	8952.00	89.00	71.20	N/A	700.00	35.0	42.00	3000.00	2500.00	
Rotate	05-13	20:40	21:55	05-13	1.25	8952.00	9042.00	90.00	72.00	N/A	700.00	35.0	42.00	3000.00	2500.00	
Rotate	05-13	22:00	22:55	05-13	0.92	9042.00	9132.00	90.00	98.18	N/A	700.00	35.0	42.00	3000.00	2500.00	
Rotate	05-13	23:00	00:00	05-14	1.0	9132.00	9190.00	58.00	58.00	N/A	700.00	35.0	42.00	3000.00	2500.00	
Rotate	05-14	00:00	00:20	05-14	0.33	9190.00	9221.00	31.00	93.00	N/A	700.00	35.0	42.00	3000.00	2500.00	
Rotate	05-14	00:25	01:25	05-14	1.0	9221.00	9311.00	90.00	90.00	N/A	700.00	35.0	42.00	3000.00	2500.00	
Rotate	05-14	01:30	01:40	05-14	0.17	9311.00	9315.00	4.00	24.00	N/A	700.00	35.0	42.00	3000.00	2500.00	
Slide	05-14	01:40	02:40	05-14	1.0	9315.00	9355.00	40.00	40.00	45.0	650.00	N/A	20.00	2500.00	2200.00	
Rotate	05-14	02:40	03:15	05-14	0.58	9355.00	9401.00	46.00	78.86	N/A	700.00	35.0	42.00	3000.00	2500.00	

Rotate	05-14	03:20	03:25	05-14	0.08	9401.00	9410.00	9.00	108.00	N/A	700.00	35.0	42.00	3000.00	2500.00
Slide	05-14	03:25	04:15	05-14	0.83	9410.00	9436.00	26.00	31.20	45.0	650.00	N/A	20.00	2500.00	2200.00
Rotate	05-14	04:15	04:55	05-14	0.67	9436.00	9490.00	54.00	81.00	N/A	700.00	35.0	42.00	3000.00	2500.00
Rotate	05-14	05:00	06:05	05-14	1.08	9490.00	9580.00	90.00	83.08	N/A	700.00	35.0	42.00	3000.00	2500.00
Rotate	05-14	06:15	07:15	05-14	1.0	9580.00	9670.00	90.00	90.00	N/A	700.00	35.0	42.00	3000.00	2500.00
Rotate	05-14	07:20	08:25	05-14	1.08	9670.00	9759.00	89.00	82.15	N/A	700.00	35.0	42.00	3000.00	2500.00
Rotate	05-14	08:30	09:55	05-14	1.42	9759.00	9849.00	90.00	63.53	N/A	700.00	35.0	42.00	3000.00	2500.00
Rotate	05-14	10:00	11:20	05-14	1.33	9849.00	9939.00	90.00	67.50	N/A	700.00	35.0	42.00	3000.00	2500.00
Rotate	05-14	11:25	12:40	05-14	1.25	9939.00	10028.00	89.00	71.20	N/A	700.00	35.0	42.00	3000.00	2500.00
Rotate	05-14	12:50	13:55	05-14	1.08	10028.00	10118.00	90.00	83.08	N/A	700.00	35.0	42.00	3000.00	2500.00
Rotate	05-14	14:00	15:30	05-14	1.5	10118.00	10208.00	90.00	60.00	N/A	700.00	35.0	42.00	3000.00	2500.00
Rotate	05-14	15:35	17:00	05-14	1.42	10208.00	10298.00	90.00	63.53	N/A	700.00	35.0	42.00	3000.00	2500.00
Rotate	05-14	17:05	17:20	05-14	0.25	10298.00	10387.00	89.00	356.00	N/A	700.00	35.0	42.00	3000.00	2500.00
Rotate	05-14	18:25	21:05	05-14	2.67	10387.00	10567.00	180.00	67.50	N/A	700.00	35.0	42.00	3000.00	2500.00
Rotate	05-14	21:10	22:15	05-14	1.08	10567.00	10656.00	89.00	82.15	N/A	700.00	35.0	42.00	3000.00	2500.00
Rotate	05-14	22:20	23:25	05-14	1.08	10656.00	10742.00	86.00	79.38	N/A	700.00	35.0	42.00	3000.00	2500.00

	Job Number WT-20-035	Operator Advance Energy Partners		Rig Name H&P #389
	Start Date 2020-03-09	Well Name Merchant State Unit 553H		Legal Well Name AFE Merchant State Unit 553H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Slide/Rotate Report - BHA #5 (Curve 8.5")

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	05-15	13:50	14:55	05-15	1.08	10742.00	10820.00	78.00	72.00	160.0	575.00	N/A	35.00	2500.00	1850.00	
Slide	05-15	15:10	15:55	05-15	0.75	10820.00	10909.00	89.00	118.67	340.0	575.00	N/A	35.00	2500.00	1850.00	
Slide	05-15	16:05	16:45	05-15	0.67	10909.00	10999.00	90.00	135.00	30.0	575.00	N/A	35.00	2500.00	1850.00	
Rotate	05-15	16:55	17:15	05-15	0.33	10999.00	11024.00	25.00	75.00	N/A	575.00	35.0	35.00	2400.00	1900.00	
Slide	05-15	17:15	17:50	05-15	0.58	11024.00	11089.00	65.00	111.43	20.0	575.00	N/A	35.00	2500.00	1850.00	
Rotate	05-15	18:00	18:35	05-15	0.58	11089.00	11134.00	45.00	77.14	N/A	575.00	35.0	35.00	2400.00	1900.00	
Slide	05-15	18:35	18:50	05-15	0.25	11134.00	11178.00	44.00	176.00	0.0	575.00	N/A	35.00	2500.00	1850.00	
Slide	05-15	18:55	19:45	05-15	0.83	11178.00	11268.00	90.00	108.00	0.0	575.00	N/A	35.00	2500.00	1850.00	
Slide	05-15	19:50	20:30	05-15	0.67	11268.00	11358.00	90.00	135.00	0.0	575.00	N/A	35.00	2500.00	1850.00	
Slide	05-15	20:35	21:20	05-15	0.75	11358.00	11447.00	89.00	118.67	30.0	575.00	N/A	35.00	2500.00	1850.00	

	Job Number WT-20-035	Operator Advance Energy Partners		Rig Name H&P #389	
	Start Date 2020-03-09	Well Name Merchant State Unit 553H		Legal Well Name AFE Merchant State Unit 553H	
	Play Delaware Basin	State/Province and Country New Mexico, US		County Lea	Company Man

Slide/Rotate Report - BHA #6 (Curve 8.5" Bail Out)

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	05-16	17:15	18:30	05-16	1.25	11447.00	11508.00	61.00	48.80	0.0	575.00	N/A	35.00	2500.00	1850.00	
Slide	05-16	18:30	19:05	05-16	0.58	11508.00	11529.00	21.00	36.00	50.0	575.00	N/A	35.00	2500.00	1850.00	

	Job Number WT-20-035	Operator Advance Energy Partners		Rig Name H&P #389
	Start Date 2020-03-09	Well Name Merchant State Unit 553H		Legal Well Name AFE Merchant State Unit 553H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Slide/Rotate Report - BHA #7 (Lateral w/ Agitator 8.5")

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	05-24	15:20	16:15	05-24	0.92	11529.00	11569.00	40.00	43.64	N/A	625.00	10.0	25.00	4000.00	3500.00	
Rotate	05-24	17:05	18:55	05-24	1.83	11569.00	11663.00	94.00	51.27	N/A	625.00	70.0	25.00	4000.00	3500.00	
Rotate	05-24	19:00	19:10	05-24	0.17	11663.00	11664.00	1.00	6.00	N/A	625.00	70.0	25.00	4000.00	3500.00	
Slide	05-24	19:10	19:50	05-24	0.67	11664.00	11699.00	35.00	52.50	70.0	700.00	N/A	35.00	3800.00	3300.00	
Rotate	05-24	19:50	20:35	05-24	0.75	11699.00	11758.00	59.00	78.67	N/A	625.00	70.0	25.00	4000.00	3500.00	
Rotate	05-24	20:50	20:55	05-24	0.08	11758.00	11760.00	2.00	24.00	N/A	625.00	70.0	25.00	4000.00	3500.00	
Slide	05-24	20:55	21:35	05-24	0.67	11760.00	11797.00	37.00	55.50	60.0	700.00	N/A	35.00	3800.00	3300.00	



Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Slide/Rotate Report - BHA #8 (Lateral 8.5")

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	05-25	13:10	13:40	05-25	0.5	11797.00	11848.00	51.00	102.00	N/A	625.00	70.0	30.00	4250.00	3800.00	
Rotate	05-25	13:55	15:00	05-25	1.08	11848.00	11937.00	89.00	82.15	N/A	625.00	70.0	30.00	4250.00	3800.00	
Rotate	05-25	15:05	15:10	05-25	0.08	11937.00	11943.00	6.00	72.00	N/A	625.00	70.0	30.00	4250.00	3800.00	
Slide	05-25	15:10	15:35	05-25	0.42	11943.00	11973.00	30.00	72.00	90.0	625.00	N/A	35.00	4200.00	3800.00	
Rotate	05-25	15:35	16:05	05-25	0.5	11973.00	12027.00	54.00	108.00	N/A	625.00	80.0	30.00	4250.00	3800.00	
Rotate	05-25	16:10	16:45	05-25	0.58	12027.00	12116.00	89.00	152.57	N/A	625.00	70.0	30.00	4250.00	3800.00	
Slide	05-25	16:50	17:10	05-25	0.33	12116.00	12136.00	20.00	60.00	140.0	625.00	N/A	35.00	4200.00	3800.00	
Rotate	05-25	17:10	17:35	05-25	0.42	12136.00	12206.00	70.00	168.00	N/A	625.00	70.0	30.00	4250.00	3800.00	
Rotate	05-25	17:40	18:10	05-25	0.5	12206.00	12296.00	90.00	180.00	N/A	625.00	70.0	30.00	4250.00	3800.00	
Rotate	05-25	18:15	19:10	05-25	0.92	12296.00	12386.00	90.00	98.18	N/A	625.00	40.0	30.00	4250.00	3800.00	
Rotate	05-25	19:15	19:25	05-25	0.17	12386.00	12390.00	4.00	24.00	N/A	625.00	40.0	30.00	4250.00	3800.00	
Slide	05-25	19:25	20:00	05-25	0.58	12390.00	12415.00	25.00	42.86	20.0	625.00	N/A	35.00	4200.00	3800.00	
Rotate	05-25	20:00	20:45	05-25	0.75	12415.00	12475.00	60.00	80.00	N/A	625.00	40.0	30.00	4250.00	3800.00	
Slide	05-25	20:50	21:30	05-25	0.67	12475.00	12515.00	40.00	60.00	20.0	625.00	N/A	35.00	4200.00	3800.00	
Rotate	05-25	21:30	22:10	05-25	0.67	12515.00	12565.00	50.00	75.00	N/A	625.00	40.0	30.00	4250.00	3800.00	
Slide	05-25	22:15	22:40	05-25	0.42	12565.00	12575.00	10.00	24.00	20.0	625.00	N/A	35.00	4200.00	3800.00	
Rotate	05-25	22:40	23:15	05-25	0.58	12575.00	12595.00	20.00	34.29	N/A	625.00	40.0	30.00	4250.00	3800.00	
Slide	05-25	23:15	00:00	05-26	0.75	12595.00	12625.00	30.00	40.00	0.0	625.00	N/A	35.00	4200.00	3800.00	
Rotate	05-26	00:00	00:30	05-26	0.5	12625.00	12654.00	29.00	58.00	N/A	625.00	70.0	30.00	4250.00	3800.00	
Rotate	05-26	00:35	02:10	05-26	1.58	12654.00	12744.00	90.00	56.84	N/A	625.00	70.0	30.00	4250.00	3800.00	
Rotate	05-26	02:15	03:40	05-26	1.42	12744.00	12820.00	76.00	53.65	N/A	625.00	70.0	30.00	4250.00	3800.00	
Rotate	05-26	04:20	04:30	05-26	0.17	12820.00	12834.00	14.00	84.00	N/A	625.00	70.0	30.00	4250.00	3800.00	
Rotate	05-26	04:50	06:20	05-26	1.5	12834.00	12923.00	89.00	59.33	N/A	625.00	70.0	30.00	4250.00	3800.00	
Rotate	05-26	06:30	07:55	05-26	1.42	12923.00	13013.00	90.00	63.53	N/A	625.00	70.0	30.00	4250.00	3800.00	
Slide	05-26	08:10	08:30	05-26	0.33	13013.00	13038.00	25.00	75.00	70.0	625.00	N/A	35.00	4200.00	3800.00	
Rotate	05-26	08:30	09:20	05-26	0.83	13038.00	13102.00	64.00	76.80	N/A	625.00	70.0	30.00	4250.00	3800.00	
Rotate	05-26	09:25	10:20	05-26	0.92	13102.00	13192.00	90.00	98.18	N/A	625.00	70.0	30.00	4250.00	3800.00	
Rotate	05-26	10:25	11:15	05-26	0.83	13192.00	13282.00	90.00	108.00	N/A	625.00	70.0	30.00	4250.00	3800.00	
Slide	05-26	11:30	12:05	05-26	0.58	13282.00	13317.00	35.00	60.00	30.0	625.00	N/A	35.00	4200.00	3800.00	
Rotate	05-26	12:05	12:45	05-26	0.67	13317.00	13371.00	54.00	81.00	N/A	625.00	70.0	30.00	4250.00	3800.00	
Rotate	05-26	12:50	14:45	05-26	1.92	13371.00	13461.00	90.00	46.96	N/A	625.00	70.0	30.00	4250.00	3800.00	
Rotate	05-26	14:55	16:10	05-26	1.25	13461.00	13551.00	90.00	72.00	N/A	625.00	70.0	30.00	4250.00	3800.00	
Rotate	05-26	16:15	17:25	05-26	1.17	13551.00	13640.00	89.00	76.29	N/A	625.00	70.0	30.00	4250.00	3800.00	
Rotate	05-26	17:30	17:35	05-26	0.08	13640.00	13642.00	2.00	24.00	N/A	625.00	70.0	30.00	4250.00	3800.00	
Slide	05-26	17:35	18:15	05-26	0.67	13642.00	13677.00	35.00	52.50	120.0	625.00	N/A	35.00	4200.00	3800.00	
Rotate	05-26	18:15	18:55	05-26	0.67	13677.00	13730.00	53.00	79.50	N/A	625.00	70.0	30.00	4250.00	3800.00	
Rotate	05-26	19:00	20:00	05-26	1.0	13730.00	13820.00	90.00	90.00	N/A	625.00	70.0	30.00	4250.00	3800.00	
Rotate	05-26	20:05	21:10	05-26	1.08	13820.00	13909.00	89.00	82.15	N/A	625.00	70.0	30.00	4250.00	3800.00	
Rotate	05-26	21:15	21:20	05-26	0.08	13909.00	13914.00	5.00	60.00	N/A	625.00	70.0	30.00	4250.00	3800.00	
Slide	05-26	21:20	22:15	05-26	0.92	13914.00	13949.00	35.00	38.18	70.0	625.00	N/A	35.00	4200.00	3800.00	
Rotate	05-26	22:15	22:45	05-26	0.5	13949.00	13999.00	50.00	100.00	N/A	625.00	70.0	30.00	4250.00	3800.00	
Slide	05-26	22:50	23:30	05-26	0.67	13999.00	14029.00	30.00	45.00	70.0	625.00	N/A	35.00	4200.00	3800.00	
Rotate	05-26	23:30	00:30	05-27	1.0	14029.00	14089.00	60.00	60.00	N/A	625.00	70.0	30.00	4250.00	3800.00	
Slide	05-27	01:40	01:55	05-27	0.25	14089.00	14124.00	35.00	140.00	45.0	625.00	N/A	35.00	4200.00	3800.00	
Rotate	05-27	01:55	03:30	05-27	1.58	14124.00	14178.00	54.00	34.11	N/A	625.00	70.0	30.00	4250.00	3800.00	
Slide	05-27	03:35	04:55	05-27	1.33	14178.00	14198.00	20.00	15.00	20.0	625.00	N/A	35.00	4200.00	3800.00	
Rotate	05-27	04:55	05:35	05-27	0.67	14198.00	14268.00	70.00	105.00	N/A	625.00	70.0	30.00	4250.00	3800.00	
Rotate	05-27	05:40	06:40	05-27	1.0	14268.00	14357.00	89.00	89.00	N/A	625.00	70.0	30.00	4250.00	3800.00	
Rotate	05-27	06:45	07:40	05-27	0.92	14357.00	14447.00	90.00	98.18	N/A	625.00	70.0	30.00	4250.00	3800.00	
Rotate	05-27	07:50	08:50	05-27	1.0	14447.00	14537.00	90.00	90.00	N/A						
Rotate	05-27	08:55	10:00	05-27	1.08	14537.00	14626.00	89.00	82.15	N/A	450.00	65.0	45.00	4650.00	4000.00	
Rotate	05-27	10:05	11:15	05-27	1.17	14626.00	14716.00	90.00	77.14	N/A	450.00	65.0	45.00	4650.00	4000.00	
Rotate	05-27	11:20	11:35	05-27	0.25	14716.00	14726.00	10.00	40.00	N/A	650.00	65.0	45.00	4650.00	4000.00	
Slide	05-27	11:35	12:30	05-27	0.92	14726.00	14752.00	26.00	28.36	65.0	625.00	N/A	35.00	4200.00	3800.00	
Rotate	05-27	12:30	13:00	05-27	0.5	14752.00	14805.00	53.00	106.00	N/A	650.00	65.0	45.00	4650.00	4000.00	
Rotate	05-27	13:05	14:15	05-27	1.17	14805.00	14895.00	90.00	77.14	N/A	650.00	65.0	45.00	4650.00	4000.00	
Rotate	05-27	14:20	14:45	05-27	0.42	14895.00	14905.00	10.00	24.00	N/A	650.00	65.0	45.00	4650.00	4000.00	
Slide	05-27	14:45	15:40	05-27	0.92	14905.00	14943.00	38.00	41.45	75.0	625.00	N/A	35.00	4200.00	3800.00	
Rotate	05-27	15:40	16:25	05-27	0.75	14943.00	14984.00	41.00	54.67	N/A	690.00	65.0	45.00	4650.00	4000.00	
Rotate	05-27	16:30	17:40	05-27	1.17	14984.00	15074.00	90.00	77.14	N/A	690.00	65.0	45.00	4650.00	4000.00	
Rotate	05-27	17:45	17:50	05-27	0.08	15074.00	15079.00	5.00	60.00	N/A	690.00	65.0	45.00	4650.00	4000.00	
Slide	05-27	17:50	18:30	05-27	0.67	15079.00	15114.00	35.00	52.50	90.0	625.00	N/A	35.00	4200.00	3800.00	
Rotate	05-27	18:30	19:15	05-27	0.75	15114.00	15164.00	50.00	66.67	N/A	690.00	40.0	45.00	4650.00	4000.00	
Rotate	05-27	19:20	19:35	05-27	0.25	15164.00	15170.00	6.00	24.00	N/A	690.00	40.0	45.00	4650.00	4000.00	

Slide	05-27	19:35	20:10	05-27	0.58	15170.00	15190.00	20.00	34.29	145.0	625.00	N/A	35.00	4200.00	3800.00
Rotate	05-27	20:10	21:00	05-27	0.83	15190.00	15253.00	63.00	75.60	N/A	690.00	40.0	45.00	4650.00	4000.00
Rotate	05-27	21:05	22:10	05-27	1.08	15253.00	15343.00	90.00	83.08	N/A	690.00	40.0	45.00	4650.00	4000.00
Rotate	05-27	22:15	22:25	05-27	0.17	15343.00	15347.00	4.00	24.00	N/A	690.00	40.0	45.00	4650.00	4000.00
Slide	05-27	22:25	23:30	05-27	1.08	15347.00	15377.00	30.00	27.69	60.0	625.00	N/A	35.00	4200.00	3800.00
Rotate	05-27	23:30	00:00	05-28	0.5	15377.00	15410.00	33.00	66.00	N/A	690.00	40.0	45.00	4650.00	4000.00
Rotate	05-28	00:00	00:15	05-28	0.25	15410.00	15432.00	22.00	88.00	N/A	690.00	40.0	45.00	4650.00	4000.00
Rotate	05-28	00:20	01:20	05-28	1.0	15432.00	15522.00	90.00	90.00	N/A	690.00	40.0	45.00	4650.00	4000.00
Rotate	05-28	01:50	01:55	05-28	0.08	15522.00	15525.00	3.00	36.00	N/A	690.00	40.0	45.00	4650.00	4000.00



Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Slide/Rotate Report - BHA #9 (8.50" LATERAL w/ Agitator)

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	05-28	21:15	22:55	05-28	1.67	15525.00	15565.00	40.00	24.00	30.0	625.00	N/A	45.00	4200.00	3600.00	
Rotate	05-28	23:10	23:50	05-28	0.67	15565.00	15612.00	47.00	70.50	N/A	690.00	40.0	45.00	4650.00	4000.00	
Rotate	05-29	00:00	00:05	05-29	0.08	15612.00	15615.00	3.00	36.00	N/A	690.00	40.0	45.00	4650.00	4000.00	
Slide	05-29	00:05	00:50	05-29	0.75	15615.00	15645.00	30.00	40.00	45.0	625.00	N/A	45.00	4200.00	3600.00	
Rotate	05-29	00:50	01:25	05-29	0.58	15645.00	15701.00	56.00	96.00	N/A	690.00	40.0	45.00	4650.00	4000.00	
Rotate	05-29	01:30	02:20	05-29	0.83	15701.00	15791.00	90.00	108.00	N/A	690.00	40.0	45.00	4650.00	4000.00	
Rotate	05-29	02:25	03:30	05-29	1.08	15791.00	15880.00	89.00	82.15	N/A	690.00	40.0	45.00	4650.00	4000.00	
Rotate	05-29	03:35	04:25	05-29	0.83	15880.00	15970.00	90.00	108.00	N/A	690.00	40.0	45.00	4650.00	4000.00	
Rotate	05-29	04:30	05:50	05-29	1.33	15970.00	16060.00	90.00	67.50	N/A	690.00	40.0	45.00	4650.00	4000.00	
Rotate	05-29	05:55	07:05	05-29	1.17	16060.00	16150.00	90.00	77.14	N/A	690.00	40.0	45.00	4650.00	4000.00	
Rotate	05-29	07:10	07:20	05-29	0.17	16150.00	16157.00	7.00	42.00	N/A	690.00	40.0	45.00	4650.00	4000.00	
Slide	05-29	07:20	08:10	05-29	0.83	16157.00	16190.00	33.00	39.60	90.0	625.00	N/A	45.00	4200.00	3600.00	
Rotate	05-29	08:10	08:45	05-29	0.58	16190.00	16239.00	49.00	84.00	N/A	690.00	40.0	45.00	4650.00	4000.00	
Rotate	05-29	08:50	09:45	05-29	0.92	16239.00	16329.00	90.00	98.18	N/A	690.00	40.0	45.00	4650.00	4000.00	
Rotate	05-29	09:50	11:05	05-29	1.25	16329.00	16419.00	90.00	72.00	N/A	690.00	40.0	45.00	4650.00	4000.00	
Rotate	05-29	11:40	12:50	05-29	1.17	16419.00	16508.00	89.00	76.29	N/A	690.00	40.0	45.00	4650.00	4000.00	
Rotate	05-29	12:55	13:15	05-29	0.33	16508.00	16518.00	10.00	30.00	N/A	690.00	40.0	45.00	4650.00	4000.00	
Slide	05-29	13:15	14:00	05-29	0.75	16518.00	16540.00	22.00	29.33	90.0	625.00	N/A	45.00	4200.00	3600.00	
Rotate	05-29	14:00	15:00	05-29	1.0	16540.00	16598.00	58.00	58.00	N/A	690.00	40.0	45.00	4650.00	4000.00	
Rotate	05-29	15:05	16:10	05-29	1.08	16598.00	16688.00	90.00	83.08	N/A	690.00	40.0	45.00	4650.00	4000.00	
Slide	05-29	16:15	16:45	05-29	0.5	16688.00	16711.00	23.00	46.00	25.0	625.00	N/A	45.00	4200.00	3600.00	
Rotate	05-29	16:45	17:40	05-29	0.92	16711.00	16777.00	66.00	72.00	N/A	650.00	50.0	45.00	4650.00	4000.00	
Rotate	05-29	17:45	19:00	05-29	1.25	16777.00	16867.00	90.00	72.00	N/A	650.00	50.0	45.00	4650.00	4000.00	
Rotate	05-29	19:05	20:10	05-29	1.08	16867.00	16956.00	89.00	82.15	N/A	650.00	50.0	45.00	4650.00	4000.00	
Rotate	05-29	20:15	21:25	05-29	1.17	16956.00	17046.00	90.00	77.14	N/A	650.00	50.0	45.00	4650.00	4000.00	
Rotate	05-29	21:30	21:35	05-29	0.08	17046.00	17050.00	4.00	48.00	N/A	650.00	50.0	45.00	4650.00	4000.00	
Slide	05-29	21:35	22:35	05-29	1.0	17050.00	17080.00	30.00	30.00	50.0	625.00	N/A	45.00	4200.00	3600.00	
Rotate	05-29	22:35	23:05	05-29	0.5	17080.00	17136.00	56.00	112.00	N/A	650.00	50.0	45.00	4650.00	4000.00	
Rotate	05-29	23:10	00:00	05-30	0.83	17136.00	17204.00	68.00	81.60	N/A	650.00	50.0	45.00	4650.00	4000.00	
Rotate	05-30	00:00	00:15	05-30	0.25	17204.00	17226.00	22.00	88.00	N/A	650.00	50.0	45.00	4650.00	4000.00	
Rotate	05-30	00:20	01:35	05-30	1.25	17226.00	17315.00	89.00	71.20	N/A	650.00	50.0	45.00	4650.00	4000.00	
Rotate	05-30	01:40	03:00	05-30	1.33	17315.00	17405.00	90.00	67.50	N/A	650.00	50.0	45.00	4650.00	4000.00	
Rotate	05-30	03:05	03:25	05-30	0.33	17405.00	17410.00	5.00	15.00	N/A	650.00	50.0	45.00	4650.00	4000.00	
Slide	05-30	03:25	04:35	05-30	1.17	17410.00	17450.00	40.00	34.29	135.0	625.00	N/A	45.00	4200.00	3600.00	
Rotate	05-30	04:35	05:25	05-30	0.83	17450.00	17494.00	44.00	52.80	N/A	650.00	50.0	45.00	4650.00	4000.00	
Rotate	05-30	05:30	06:40	05-30	1.17	17494.00	17584.00	90.00	77.14	N/A	650.00	50.0	45.00	4650.00	4000.00	
Slide	05-30	08:00	09:30	05-30	1.5	17584.00	17628.00	44.00	29.33	180.0	625.00	N/A	45.00	4200.00	3600.00	
Rotate	05-30	09:30	10:00	05-30	0.5	17628.00	17674.00	46.00	92.00	N/A	650.00	50.0	45.00	4650.00	4000.00	
Rotate	05-30	10:05	11:00	05-30	0.92	17674.00	17741.00	67.00	73.09	N/A	650.00	50.0	45.00	4650.00	4000.00	
Slide	05-30	11:00	11:45	05-30	0.75	17741.00	17758.00	17.00	22.67	20.0	625.00	N/A	45.00	4200.00	3600.00	
Rotate	05-30	11:45	12:00	05-30	0.25	17758.00	17763.00	5.00	20.00	N/A	650.00	50.0	45.00	4650.00	4000.00	
Slide	05-30	12:05	14:00	05-30	1.92	17763.00	17798.00	35.00	18.26	20.0	625.00	N/A	45.00	4200.00	3600.00	
Rotate	05-30	14:00	15:10	05-30	1.17	17798.00	17853.00	55.00	47.14	N/A	650.00	50.0	45.00	4650.00	4000.00	
Rotate	05-30	15:15	16:40	05-30	1.42	17853.00	17943.00	90.00	63.53	N/A	650.00	50.0	45.00	4650.00	4000.00	
Slide	05-30	16:45	17:30	05-30	0.75	17943.00	17968.00	25.00	33.33	135.0	625.00	N/A	45.00	4200.00	3600.00	
Rotate	05-30	17:30	19:25	05-30	1.92	17968.00	18032.00	64.00	33.39	N/A	650.00	50.0	45.00	4650.00	4000.00	
Rotate	05-30	19:30	20:30	05-30	1.0	18032.00	18122.00	90.00	90.00	N/A	650.00	50.0	45.00	4650.00	4000.00	
Rotate	05-30	21:05	21:10	05-30	0.08	18122.00	18125.00	3.00	36.00	N/A	650.00	50.0	45.00	4650.00	4000.00	
Slide	05-30	21:10	21:25	05-30	0.25	18125.00	18150.00	25.00	100.00	160.0	625.00	N/A	45.00	4200.00	3600.00	
Rotate	05-30	21:25	22:40	05-30	1.25	18150.00	18212.00	62.00	49.60	N/A	650.00	50.0	45.00	4650.00	4000.00	
Rotate	05-30	22:45	23:45	05-30	1.0	18212.00	18301.00	89.00	89.00	N/A	650.00	50.0	45.00	4650.00	4000.00	
Rotate	05-30	23:50	00:55	05-31	1.08	18301.00	18391.00	90.00	83.08	N/A	650.00	50.0	45.00	4650.00	4000.00	
Rotate	05-31	01:00	01:15	05-31	0.25	18391.00	18395.00	4.00	16.00	N/A	650.00	50.0	45.00	4650.00	4000.00	
Slide	05-31	01:15	02:00	05-31	0.75	18395.00	18411.00	16.00	21.33	60.0	625.00	N/A	45.00	4200.00	3600.00	
Rotate	05-31	02:00	02:45	05-31	0.75	18411.00	18481.00	70.00	93.33	N/A	650.00	50.0	45.00	4650.00	4000.00	
Rotate	05-31	02:50	03:35	05-31	0.75	18481.00	18508.00	27.00	36.00	N/A	650.00	50.0	45.00	4650.00	4000.00	
Rotate	05-31	03:50	04:40	05-31	0.83	18508.00	18570.00	62.00	74.40	N/A	650.00	50.0	45.00	4650.00	4000.00	
Rotate	05-31	04:45	05:00	05-31	0.25	18570.00	18575.00	5.00	20.00	N/A	650.00	50.0	45.00	4650.00	4000.00	
Slide	05-31	05:00	05:55	05-31	0.92	18575.00	18605.00	30.00	32.73	120.0	625.00	N/A	45.00	4200.00	3600.00	
Rotate	05-31	05:55	07:00	05-31	1.08	18605.00	18660.00	55.00	50.77	N/A	650.00	50.0	45.00	4650.00	4000.00	
Rotate	05-31	07:05	08:40	05-31	1.58	18660.00	18749.00	89.00	56.21	N/A	650.00	50.0	45.00	4650.00	4000.00	
Rotate	05-31	08:45	10:15	05-31	1.5	18749.00	18839.00	90.00	60.00	N/A	650.00	50.0	45.00	4650.00	4000.00	
Slide	05-31	10:20	10:30	05-31	0.17	18839.00	18872.00	33.00	198.00	115.0		N/A				
Rotate	05-31	10:30	12:20	05-31	1.83	18872.00	18928.00	56.00	30.55	N/A	650.00	50.0	45.00	4650.00	4000.00	

Rotate	05-31	12:25	13:30	05-31	1.08	18928.00	19018.00	90.00	83.08	N/A	650.00	50.0	45.00	4650.00	4000.00
Rotate	05-31	13:35	14:30	05-31	0.92	19018.00	19050.00	32.00	34.91	N/A	650.00	50.0	45.00	4650.00	4000.00
Slide	05-31	14:30	15:30	05-31	1.0	19050.00	19075.00	25.00	25.00	35.0	625.00	N/A	25.00	3750.00	3500.00
Rotate	05-31	15:30	16:15	05-31	0.75	19075.00	19107.00	32.00	42.67	N/A	650.00	50.0	45.00	4650.00	4000.00
Rotate	05-31	16:20	17:25	05-31	1.08	19107.00	19197.00	90.00	83.08	N/A	650.00	50.0	45.00	4650.00	4000.00
Rotate	05-31	17:30	18:35	05-31	1.08	19197.00	19286.00	89.00	82.15	N/A	650.00	50.0	45.00	4650.00	4000.00
Rotate	05-31	18:40	19:40	05-31	1.0	19286.00	19376.00	90.00	90.00	N/A	625.00	50.0	65.00	4650.00	4000.00
Rotate	05-31	19:45	20:40	05-31	0.92	19376.00	19466.00	90.00	98.18	N/A	625.00	50.0	65.00	4650.00	4000.00
Slide	05-31	20:45	21:35	05-31	0.83	19466.00	19486.00	20.00	24.00	45.0	625.00	N/A	30.00	3750.00	3500.00
Rotate	05-31	21:35	22:30	05-31	0.92	19486.00	19555.00	69.00	75.27	N/A	625.00	50.0	65.00	4650.00	4000.00
Rotate	05-31	22:35	23:45	05-31	1.17	19555.00	19645.00	90.00	77.14	N/A	625.00	50.0	65.00	4650.00	4000.00
Rotate	06-01	00:00	00:20	06-01	0.33	19645.00	19657.00	12.00	36.00	N/A	625.00	50.0	65.00	4650.00	4000.00



Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Slide/Rotate Report - BHA #10 (8.50" LATERAL w/ Agitator)

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	06-02	07:00	08:05	06-02	1.08	19657.00	19734.00	77.00	71.08	N/A	625.00	50.0	65.00	4650.00	4000.00	
Slide	06-02	08:10	09:00	06-02	0.83	19734.00	19759.00	25.00	30.00	115.0	625.00	N/A	30.00	3750.00	3500.00	
Rotate	06-02	09:00	10:10	06-02	1.17	19759.00	19824.00	65.00	55.71	N/A	625.00	50.0	65.00	4650.00	4000.00	
Rotate	06-02	10:15	11:00	06-02	0.75	19824.00	19875.00	51.00	68.00	N/A	625.00	50.0	65.00	4650.00	4000.00	
Slide	06-02	11:00	12:15	06-02	1.25	19875.00	19900.00	25.00	20.00	30.0	625.00	N/A	30.00	3750.00	3500.00	
Rotate	06-02	12:15	12:35	06-02	0.33	19900.00	19913.00	13.00	39.00	N/A	625.00	50.0	65.00	4650.00	4000.00	
Rotate	06-02	12:40	13:00	06-02	0.33	19913.00	19925.00	12.00	36.00	N/A	625.00	50.0	65.00	4650.00	4000.00	
Slide	06-02	13:00	13:45	06-02	0.75	19925.00	19945.00	20.00	26.67	10.0	625.00	N/A	30.00	3750.00	3500.00	
Rotate	06-02	13:45	14:45	06-02	1.0	19945.00	20003.00	58.00	58.00	N/A	625.00	50.0	65.00	4650.00	4000.00	
Rotate	06-02	14:50	15:25	06-02	0.58	20003.00	20055.00	52.00	89.14	N/A	625.00	50.0	65.00	4650.00	4000.00	
Slide	06-02	15:25	16:30	06-02	1.08	20055.00	20070.00	15.00	13.85	20.0	625.00	N/A	30.00	3750.00	3500.00	
Rotate	06-02	16:30	17:00	06-02	0.5	20070.00	20092.00	22.00	44.00	N/A	625.00	50.0	65.00	4650.00	4000.00	
Rotate	06-02	17:05	18:35	06-02	1.5	20092.00	20182.00	90.00	60.00	N/A	625.00	50.0	65.00	4650.00	4000.00	
Rotate	06-02	18:40	18:50	06-02	0.17	20182.00	20185.00	3.00	18.00	N/A	625.00	50.0	65.00	4650.00	4000.00	
Slide	06-02	18:50	19:25	06-02	0.58	20185.00	20210.00	25.00	42.86	160.0	625.00	N/A	30.00	3750.00	3500.00	
Rotate	06-02	19:25	20:10	06-02	0.75	20210.00	20272.00	62.00	82.67	N/A	625.00	50.0	65.00	4650.00	4000.00	
Rotate	06-02	20:15	21:20	06-02	1.08	20272.00	20361.00	89.00	82.15	N/A	625.00	50.0	65.00	4650.00	4000.00	
Rotate	06-02	21:25	21:35	06-02	0.17	20361.00	20365.00	4.00	24.00	N/A	625.00	50.0	65.00	4650.00	4000.00	
Slide	06-02	21:35	22:15	06-02	0.67	20365.00	20395.00	30.00	45.00	45.0	625.00	N/A	30.00	3750.00	3500.00	
Rotate	06-02	22:15	23:05	06-02	0.83	20395.00	20450.00	55.00	66.00	N/A	625.00	50.0	65.00	4650.00	4000.00	
Rotate	06-02	23:10	00:00	06-03	0.83	20450.00	20511.00	61.00	73.20	N/A	625.00	50.0	65.00	4650.00	4000.00	
Rotate	06-03	00:00	00:20	06-03	0.33	20511.00	20540.00	29.00	87.00	N/A	625.00	50.0	65.00	4650.00	4000.00	
Rotate	06-03	00:25	01:15	06-03	0.83	20540.00	20630.00	90.00	108.00	N/A	625.00	50.0	65.00	4650.00	4000.00	
Rotate	06-03	01:20	01:30	06-03	0.17	20630.00	20635.00	5.00	30.00	N/A	625.00	50.0	65.00	4650.00	4000.00	
Slide	06-03	01:30	02:25	06-03	0.92	20635.00	20675.00	40.00	43.64	60.0	625.00	N/A	30.00	3750.00	3500.00	
Rotate	06-03	02:25	02:45	06-03	0.33	20675.00	20720.00	45.00	135.00	N/A	625.00	50.0	65.00	4650.00	4000.00	
Rotate	06-03	02:50	03:30	06-03	0.67	20720.00	20809.00	89.00	133.50	N/A	625.00	50.0	65.00	4650.00	4000.00	
Rotate	06-03	03:35	04:35	06-03	1.0	20809.00	20899.00	90.00	90.00	N/A	625.00	50.0	65.00	4650.00	4000.00	
Rotate	06-03	04:40	05:20	06-03	0.67	20899.00	20989.00	90.00	135.00	N/A	625.00	50.0	65.00	4650.00	4000.00	
Rotate	06-03	05:25	05:30	06-03	0.08	20989.00	20995.00	6.00	72.00	N/A	625.00	50.0	65.00	4650.00	4000.00	
Slide	06-03	05:30	06:15	06-03	0.75	20995.00	21020.00	25.00	33.33	180.0	625.00	N/A	30.00	3750.00	3500.00	
Rotate	06-03	06:15	06:45	06-03	0.5	21020.00	21079.00	59.00	118.00	N/A	625.00	50.0	65.00	4650.00	4000.00	
Rotate	06-03	06:50	07:30	06-03	0.67	21079.00	21143.00	64.00	96.00	N/A	625.00	50.0	65.00	4650.00	4000.00	
Slide	06-03	07:30	08:30	06-03	1.0	21143.00	21168.00	25.00	25.00	0.0	625.00	N/A	30.00	3750.00	3500.00	
Rotate	06-03	08:35	09:30	06-03	0.92	21168.00	21258.00	90.00	98.18	N/A	625.00	50.0	65.00	4650.00	4000.00	
Slide	06-03	09:35	10:40	06-03	1.08	21258.00	21288.00	30.00	27.69	115.0	625.00	N/A	30.00	3750.00	3500.00	
Rotate	06-03	10:40	11:55	06-03	1.25	21288.00	21347.00	59.00	47.20	N/A	625.00	50.0	65.00	4650.00	4000.00	
Rotate	06-03	12:00	13:20	06-03	1.33	21347.00	21437.00	90.00	67.50	N/A	625.00	50.0	65.00	4650.00	4000.00	
Rotate	06-03	13:25	14:20	06-03	0.92	21437.00	21504.00	67.00	73.09	N/A	625.00	50.0	65.00	4650.00	4000.00	



Daily Reports

Merchant State Unit 553H (WT-20-035)

2020-03-09 to 2020-06-05

Lea, New Mexico, US (32.44, -103.54)



Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Monday, Mar 09 00:00 - 23:59 (Day 1 of 28)

Billing: \$15,187.50 (\$282,174.41 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	145.00	Downhole Hours	9.00	Rotating WOB (klbs)	25.00 - 25.00
Bit Depth (ft)	1765.00	Drilling Hours	7.50	Sliding WOB (klbs)	45.00 - 45.00
Bottom Hole Depth (ft)	1765.00	Hours Circulating	0.00	Rotating SPM	216.00 - 279.00
Total Distance (ft)	1620.00	Hours Sliding	0.25	Sliding SPM	279.00 - 279.00
Distance Rotated (ft)	1600.00	Hours Rotating	7.25	Motor RPM	144.00 - 144.00
Distance Slid (ft)	20.00			Surface RPM	50.00 - 80.00
Inclination In	0.40			Flow Rate (gpm)	700.00 - 900.00
Inclination Out	1.27			On Bottom Pressure (psi)	1700.00 - 3100.00
Azimuth In	209.95	% Hours Rotating	97%	Off Bottom Pressure (psi)	1250.00 - 2200.00
Azimuth Out	226.12	% Hours Sliding	3%		
AVG Total ROP (ft/h)	216.00	% Distance Sliding	1%		
AVG Rotating ROP (ft/h)	220.69	% Distance Rotating	99%		
AVG Sliding ROP (ft/h)	80.00				

Personnel

Name	Position
Advance Directional	Directional Driller
Robert Olivarez	MWD Engineer
Wes Highnote	MWD Engineer
Kyle Kusak	MWD Engineer

BHA #1 - 17.5" SURFACE

Date In: Mar 9, 2020, 15:00 Date Out: Mar 10, 2020, 5:40

Bit Details		Motor Details		Directional Comments
OD (in)	17.500	Size (in)	8.0	Flow Rate: 400-900, Max Diff: 900 psi, Max Torque: 14,930 ft-lbs, BIT Runs:0
Vendor	BAKER	Lobe/Stage	7/8, 4.0	
S/N	5300910	Bend Angle	1.5	
Nozzles	9-12's	Speed (rev/gal)	0.17	MWD Comments
Total Flow Area (in²)	0.990	Wear Pad OD (in)	8.350	
Drilling Hours for Day	7.50	Bit Distances		
Total Drilled for Day (ft)	1620.00	Bend: 6.50 ft, Survey: 62.00 ft		POOH Reason
Drilling Hours for BHA	8.00			
Total Drilled for BHA (ft)	1670.00			
				Total Depth/Casing Point

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: 17.5" DP606S, Style: PDC, Gauge Length (in): 4.00, Size (in): 17.50	BAKER	5300910	6 5/8" Reg Pin			17.500		1.50	1.50
Mud Motor Description: 8" Contender 1.50° Fxd 7/8 4.0 True Slick, Size (in): 8.00, Bend Angle (°): 1.5, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 4	AIM	80040007	6 5/8" Reg Box	6 5/8" Reg Box		8.000		30.15	31.65
Stabilizer Description: 17" Nortrak Stab	DTI	DR27306	6 5/8" Reg Box	6 5/8" Reg Pin	2.875	8.000		6.78	38.43
UBHO Sub Description: NM UBHO, Type: NM	AIM	DR43109	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.000		3.27	41.70
Drill Collar Description: 8" MWD NMDC, Style: Slick Drill, Type: NM	AIM	80001003	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.000		28.93	70.63
Drill Collar Description: 8" NMDC, Style: Slick Drill, Type: NM	AIM	80001018	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.000		30.49	101.12
Crossover Sub Description: XO SUB, Type: NM	Black Diamond	BD15827	EverDrlg54 Box	6 5/8" Reg Pin	2.875	6.540		4.61	105.73
HWDP Description: 15 Stds HWDP, Style: Slick	RIG		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		1424.90	1530.63

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	03-09	00:00	14:00	03-09			SKID RIG FROM 604H
Pick Up BHA	64	03-09	14:00	15:00	03-09			P/U BHA #1
Rotary Drill	1	03-09	15:00	15:50	03-09	145.00	294.00	Pressure On (psi): 1700.00, Pressure Off (psi): 1250.00, Weight On Bit (klbs): 25.00, Surface RPM: 50, Surface Torque (ft lbf): 12500.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00

Survey	46	03-09	15:50	15:55	03-09	294.00	294.00	Inclination (°): 0.400, Azimuth (°): 209.950, TVD (ft): 232.00, Dogleg (°/100 ft): 0.17, Sensor Depth (ft): 232.00, Bit To Sensor (ft): 62.00
Rotary Drill	1	03-09	15:55	16:10	03-09	294.00	389.00	Pressure On (psi): 2400.00, Pressure Off (psi): 1800.00, Weight On Bit (klbs): 25.00, Surface RPM: 60, Surface Torque (ft lbf): 17000.00, Flow Rate (gpm): 795.00, Strokes Per Minute: 246.00
Survey	46	03-09	16:10	16:15	03-09	389.00	389.00	Inclination (°): 0.660, Azimuth (°): 186.130, TVD (ft): 326.99, Dogleg (°/100 ft): 0.35, Sensor Depth (ft): 327.00, Bit To Sensor (ft): 62.00
Rotary Drill	1	03-09	16:15	16:25	03-09	389.00	484.00	Pressure On (psi): 2850.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 25.00, Surface RPM: 80, Surface Torque (ft lbf): 17000.00, Flow Rate (gpm): 900.00, Strokes Per Minute: 279.00
Survey	46	03-09	16:25	16:30	03-09	484.00	484.00	Inclination (°): 1.140, Azimuth (°): 184.200, TVD (ft): 421.98, Dogleg (°/100 ft): 0.51, Sensor Depth (ft): 422.00, Bit To Sensor (ft): 62.00
Rotary Drill	1	03-09	16:30	16:40	03-09	484.00	579.00	Pressure On (psi): 2850.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 25.00, Surface RPM: 80, Surface Torque (ft lbf): 17000.00, Flow Rate (gpm): 900.00, Strokes Per Minute: 279.00
Survey	46	03-09	16:40	16:45	03-09	579.00	579.00	Inclination (°): 0.840, Azimuth (°): 187.980, TVD (ft): 516.97, Dogleg (°/100 ft): 0.32, Sensor Depth (ft): 517.00, Bit To Sensor (ft): 62.00
Rotary Drill	1	03-09	16:45	16:55	03-09	579.00	674.00	Pressure On (psi): 2850.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 25.00, Surface RPM: 80, Surface Torque (ft lbf): 17000.00, Flow Rate (gpm): 900.00, Strokes Per Minute: 279.00
Survey	46	03-09	16:55	17:00	03-09	674.00	674.00	Inclination (°): 0.970, Azimuth (°): 209.600, TVD (ft): 611.96, Dogleg (°/100 ft): 0.38, Sensor Depth (ft): 612.00, Bit To Sensor (ft): 62.00
Rotary Drill	1	03-09	17:00	17:15	03-09	674.00	769.00	Pressure On (psi): 2850.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 25.00, Surface RPM: 80, Surface Torque (ft lbf): 17000.00, Flow Rate (gpm): 900.00, Strokes Per Minute: 279.00
Connection	33	03-09	17:15	17:20	03-09			CONNECTION - MISSED SURVEY
Rotary Drill	1	03-09	17:20	17:40	03-09	769.00	864.00	Pressure On (psi): 2850.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 25.00, Surface RPM: 80, Surface Torque (ft lbf): 17000.00, Flow Rate (gpm): 900.00, Strokes Per Minute: 279.00
Survey	46	03-09	17:40	17:45	03-09	864.00	864.00	Inclination (°): 1.100, Azimuth (°): 212.230, TVD (ft): 801.93, Dogleg (°/100 ft): 0.07, Sensor Depth (ft): 802.00, Bit To Sensor (ft): 62.00
Rotary Drill	1	03-09	17:45	18:05	03-09	864.00	959.00	Pressure On (psi): 2850.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 25.00, Surface RPM: 80, Surface Torque (ft lbf): 17000.00, Flow Rate (gpm): 900.00, Strokes Per Minute: 279.00
Survey	46	03-09	18:05	18:10	03-09	959.00	959.00	Inclination (°): 1.140, Azimuth (°): 203.090, TVD (ft): 896.91, Dogleg (°/100 ft): 0.19, Sensor Depth (ft): 897.00, Bit To Sensor (ft): 62.00
Rotary Drill	1	03-09	18:10	18:35	03-09	959.00	1054.00	Pressure On (psi): 2850.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 25.00, Surface RPM: 80, Surface Torque (ft lbf): 17000.00, Flow Rate (gpm): 900.00, Strokes Per Minute: 279.00
Survey	46	03-09	18:35	18:40	03-09	1054.00	1054.00	Inclination (°): 1.410, Azimuth (°): 198.350, TVD (ft): 991.88, Dogleg (°/100 ft): 0.30, Sensor Depth (ft): 992.00, Bit To Sensor (ft): 62.00
Rotary Drill	1	03-09	18:40	19:05	03-09	1054.00	1148.00	Pressure On (psi): 2850.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 25.00, Surface RPM: 80, Surface Torque (ft lbf): 17000.00, Flow Rate (gpm): 900.00, Strokes Per Minute: 279.00
Survey	46	03-09	19:05	19:20	03-09	1148.00	1148.00	Inclination (°): 1.360, Azimuth (°): 191.400, TVD (ft): 1085.86, Dogleg (°/100 ft): 0.19, Sensor Depth (ft): 1086.00, Bit To Sensor (ft): 62.00
Rotary Drill	1	03-09	19:20	19:35	03-09	1148.00	1243.00	Pressure On (psi): 2850.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 25.00, Surface RPM: 80, Surface Torque (ft lbf): 17000.00, Flow Rate (gpm): 900.00, Strokes Per Minute: 279.00
Survey	46	03-09	19:35	19:40	03-09	1243.00	1243.00	Inclination (°): 1.670, Azimuth (°): 191.140, TVD (ft): 1180.82, Dogleg (°/100 ft): 0.33, Sensor Depth (ft): 1181.00, Bit To Sensor (ft): 62.00
Rotary Drill	1	03-09	19:40	19:55	03-09	1243.00	1250.00	Pressure On (psi): 2850.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 25.00, Surface RPM: 80, Surface Torque (ft lbf): 17000.00, Flow Rate (gpm): 900.00, Strokes Per Minute: 279.00
Slide Drill	2	03-09	19:55	20:10	03-09	1250.00	1270.00	Pressure On (psi): 3100.00, Pressure Off (psi): 2200.00, Weight On Bit (klbs): 45.00, Flow Rate (gpm): 900.00, Strokes Per Minute: 279, Toolface: 0, Toolface Type: gravity
Rotary Drill	1	03-09	20:10	20:20	03-09	1270.00	1338.00	Pressure On (psi): 2850.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 25.00, Surface RPM: 80, Surface Torque (ft lbf): 17000.00, Flow Rate (gpm): 900.00, Strokes Per Minute: 279.00
Survey	46	03-09	20:20	20:25	03-09	1338.00	1338.00	Inclination (°): 1.100, Azimuth (°): 193.160, TVD (ft): 1275.79, Dogleg (°/100 ft): 0.60, Sensor Depth (ft): 1276.00, Bit To Sensor (ft): 62.00
Rotary Drill	1	03-09	20:25	21:10	03-09	1338.00	1432.00	Pressure On (psi): 2850.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 25.00, Surface RPM: 80, Surface Torque (ft lbf): 17000.00, Flow Rate (gpm): 900.00, Strokes Per Minute: 279.00
Survey	46	03-09	21:10	21:15	03-09	1432.00	1432.00	Inclination (°): 0.790, Azimuth (°): 208.450, TVD (ft): 1369.78, Dogleg (°/100 ft): 0.42, Sensor Depth (ft): 1370.00, Bit To Sensor (ft): 62.00
Rotary Drill	1	03-09	21:15	22:00	03-09	1432.00	1527.00	Pressure On (psi): 2850.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 25.00, Surface RPM: 80, Surface Torque (ft lbf): 17000.00, Flow Rate (gpm): 900.00, Strokes Per Minute: 279.00
Survey	46	03-09	22:00	22:05	03-09	1527.00	1527.00	Inclination (°): 1.050, Azimuth (°): 209.950, TVD (ft): 1464.77, Dogleg (°/100 ft): 0.27, Sensor Depth (ft): 1465.00, Bit To Sensor (ft): 62.00
Rotary Drill	1	03-09	22:05	22:50	03-09	1527.00	1620.00	Pressure On (psi): 2850.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 25.00, Surface RPM: 80, Surface Torque (ft lbf): 17000.00, Flow Rate (gpm): 900.00, Strokes Per Minute: 279.00
Survey	46	03-09	22:50	22:55	03-09	1620.00	1620.00	Inclination (°): 1.270, Azimuth (°): 215.400, TVD (ft): 1557.75, Dogleg (°/100 ft): 0.26, Sensor Depth (ft): 1558.00, Bit To Sensor (ft): 62.00
Rotary Drill	1	03-09	22:55	23:25	03-09	1620.00	1709.00	Pressure On (psi): 2850.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 25.00, Surface RPM: 80, Surface Torque (ft lbf): 17000.00, Flow Rate (gpm): 900.00, Strokes Per Minute: 279.00
Survey	46	03-09	23:25	23:30	03-09	1709.00	1709.00	Inclination (°): 1.270, Azimuth (°): 226.120, TVD (ft): 1646.73, Dogleg (°/100 ft): 0.27, Sensor Depth (ft): 1647.00, Bit To Sensor (ft): 62.00
Rotary Drill	1	03-09	23:30	00:00	03-10	1709.00	1765.00	Pressure On (psi): 2850.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 25.00, Surface RPM: 80, Surface Torque (ft lbf): 17000.00, Flow Rate (gpm): 900.00, Strokes Per Minute: 279.00

MWD Activities

No Activities



Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Tuesday, Mar 10 00:00 - 23:59 (Day 2 of 28) Billing: N/A (\$282,174.41 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	1765.00	Downhole Hours	5.67	Rotating WOB (klbs)	25.00 - 25.00
Bit Depth (ft)	1815.00	Drilling Hours	0.50	Sliding WOB (klbs)	
Bottom Hole Depth (ft)	1815.00	Hours Circulating	2.17	Rotating SPM	279.00 - 279.00
Total Distance (ft)	50.00	Hours Sliding	0.00	Sliding SPM	
Distance Rotated (ft)	50.00	Hours Rotating	0.50	Motor RPM	144.00 - 144.00
Distance Slid (ft)	0.00			Surface RPM	80.00 - 80.00
Inclination In	1.32			Flow Rate (gpm)	900.00 - 900.00
Inclination Out	1.45			On Bottom Pressure (psi)	2850.00 - 2850.00
Azimuth In	226.56	% Hours Rotating	100%	Off Bottom Pressure (psi)	2000.00 - 2000.00
Azimuth Out	222.43	% Hours Sliding	0%		
AVG Total ROP (ft/h)	106.00	% Distance Sliding	0%		
AVG Rotating ROP (ft/h)	106.00	% Distance Rotating	100%		
AVG Sliding ROP (ft/h)	0.00				

Personnel

Name	Position
Wes Highnote	MWD Engineer
Advance Directional	Directional Driller
Robert Olivarez	MWD Engineer
Kyle Kusak	MWD Engineer

BHA #1 - 17.5" SURFACE Date In: Mar 9, 2020, 15:00 Date Out: Mar 10, 2020, 5:40

Bit Details		Motor Details		Directional Comments
OD (in)	17.500	Size (in)	8.0	Flow Rate: 400-900, Max Diff: 900 psi, Max Torque: 14,930 ft-lbs, BIT Runs:0
Vendor	BAKER	Lobe/Stage	7/8, 4.0	
S/N	5300910	Bend Angle	1.5	
Nozzles	9-12's	Speed (rev/gal)	0.17	MWD Comments
Total Flow Area (in²)	0.990	Wear Pad OD (in)	8.350	
Drilling Hours for Day	0.50	Bit Distances		
Total Drilled for Day (ft)	50.00	Bend: 6.50 ft, Survey: 62.00 ft		POOH Reason
Drilling Hours for BHA	8.00			
Total Drilled for BHA (ft)	1670.00			
				Total Depth/Casing Point

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: 17.5" DP606S, Style: PDC, Gauge Length (in): 4.00, Size (in): 17.50	BAKER	5300910	6 5/8" Reg Pin			17.500		1.50	1.50
Mud Motor Description: 8" Contender 1.50° Fxd 7/8 4.0 True Slick, Size (in): 8.00, Bend Angle (°): 1.5, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 4	AIM	80040007	6 5/8" Reg Box	6 5/8" Reg Box		8.000		30.15	31.65
Stabilizer Description: 17" Nortrak Stab	DTI	DR27306	6 5/8" Reg Box	6 5/8" Reg Pin	2.875	8.000		6.78	38.43
UBHO Sub Description: NM UBHO, Type: NM	AIM	DR43109	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.000		3.27	41.70
Drill Collar Description: 8" MWD NMDC, Style: Slick Drill, Type: NM	AIM	80001003	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.000		28.93	70.63
Drill Collar Description: 8" NMDC, Style: Slick Drill, Type: NM	AIM	80001018	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.000		30.49	101.12
Crossover Sub Description: XO SUB, Type: NM	Black Diamond	BD15827	EverDrlg54 Box	6 5/8" Reg Pin	2.875	6.540		4.61	105.73
HWDP Description: 15 Stds HWDP, Style: Slick	RIG		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		1424.90	1530.63

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	03-09	23:30	00:00	03-10	1709.00	1765.00	Pressure On (psi): 2850.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 25.00, Surface RPM: 80, Surface Torque (ft lbf): 17000.00, Flow Rate (gpm): 900.00, Strokes Per Minute: 279.00

Rotary Drill	1	03-10	00:00	00:20	03-10	1765.00	1799.00	Pressure On (psi): 2850.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 25.00, Surface RPM: 80, Surface Torque (ft lbf): 17000.00, Flow Rate (gpm): 900.00, Strokes Per Minute: 279.00
Survey	46	03-10	00:20	00:25	03-10	1799.00	1799.00	Inclination (°): 1.320, Azimuth (°): 226.560, TVD (ft): 1736.71, Dogleg (°/100 ft): 0.06, Sensor Depth (ft): 1737.00, Bit To Sensor (ft): 62.00
Rotary Drill	1	03-10	00:25	00:35	03-10	1799.00	1815.00	Pressure On (psi): 2850.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 25.00, Surface RPM: 80, Surface Torque (ft lbf): 17000.00, Flow Rate (gpm): 900.00, Strokes Per Minute: 279.00
Survey	46	03-10	00:35	00:40	03-10	1815.00	1815.00	Inclination (°): 1.450, Azimuth (°): 222.430, TVD (ft): 1752.70, Dogleg (°/100 ft): 1.02, Sensor Depth (ft): 1753.00, Bit To Sensor (ft): 62.00
Circulating	3	03-10	00:40	02:50	03-10			
Pooh	7	03-10	02:50	04:30	03-10			POOH
Lay Down BHA	65	03-10	04:30	05:40	03-10			Rack Back BHA
Standby	15	03-10	05:40	13:00	03-10			Standby while CASING & SKIDDING OPS

MWD Activities

No Activities



Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Tuesday, Mar 17 00:00 - 23:59 (Day 3 of 28) Billing: \$11,173.75 (\$282,174.41 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	1815.00	Downhole Hours	7.50	Rotating WOB (klbs)	30.00 - 30.00
Bit Depth (ft)	2581.00	Drilling Hours	3.75	Sliding WOB (klbs)	10.00 - 10.00
Bottom Hole Depth (ft)	2581.00	Hours Circulating	2.58	Rotating SPM	261.00 - 261.00
Total Distance (ft)	766.00	Hours Sliding	0.33	Sliding SPM	261.00 - 261.00
Distance Rotated (ft)	751.00	Hours Rotating	3.42	Motor RPM	102.00 - 145.00
Distance Slid (ft)	15.00			Surface RPM	40.00 - 60.00
Inclination In	2.11			Flow Rate (gpm)	840.00 - 840.00
Inclination Out	0.97			On Bottom Pressure (psi)	2200.00 - 2700.00
Azimuth In	229.54	% Hours Rotating	91%	Off Bottom Pressure (psi)	2000.00 - 2000.00
Azimuth Out	312.24	% Hours Sliding	9%		
AVG Total ROP (ft/h)	204.27	% Distance Sliding	2%		
AVG Rotating ROP (ft/h)	219.80	% Distance Rotating	98%		
AVG Sliding ROP (ft/h)	45.00				

Personnel	
Name	Position
Wes Highnote	MWD Engineer
Advance Directional	Directional Driller
Robert Olivarez	MWD Engineer
Kyle Kusak	MWD Engineer

BHA #2 - Intermediate 12.25"			Date In: Mar 17, 2020, 16:30 Date Out: Mar 18, 2020, 20:00		
Bit Details		Motor Details		Directional Comments	
OD (in)	12.250	Size (in)	8.0	Flow Rate: 400-900, Max Diff: 1330 psi, Max Torque: 22,020 ft-lbs, BIT Runs: 0	
Vendor	ULTERRA	Lobe/Stage	7/8, 5.9		
S/N	52607	Bend Angle	1.5		
Nozzles	6-13's & 3-12's	Speed (rev/gal)	0.17	MWD Comments	
Total Flow Area (in²)	1.109	Wear Pad OD (in)	8.375	POOH Reason Change Bottom Hole Assembly: POOH L/D STABILIZER AND MOTOR	
Drilling Hours for Day	3.75	Bit Distances			
Total Drilled for Day (ft)	766.00	Bend: 6.18 ft, Survey: 71.00 ft			
Drilling Hours for BHA	12.33				
Total Drilled for BHA (ft)	2424.00				

Directional Items									
Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: SPL616, Style: PDC, Gauge Length (in): 4.00, Size (in): 12.25	ULTERRA	52607	6 5/8" Reg Pin			12.250		1.00	1.00
Mud Motor Description: 8" Contender 1.50° Fxd 7/8 5.9 w/ 12" NBS, Size (in): 8.00, Bend Angle (°): 1.5, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 5.9	AIM	800-40-008	6 5/8" Reg Box	6 5/8" Reg Box		8.000		38.62	39.62
Stabilizer Description: 12" Nortrak Stab	DTI	DR38413	6 5/8" Reg Box	6 5/8" Reg Pin	2.875	8.000		7.55	47.17
UBHO Sub Description: 8" UBHO, Type: Steel	AIM	800223	6 5/8" Reg Box	6 5/8" Reg Pin	2.938	8.000		4.04	51.21
Drill Collar Description: 8" NMDC, Style: Slick Drill, Type: NM	AIM	AIM 800-01-008	6 5/8" Reg Box	6 5/8" Reg Pin	3.313	8.063		30.10	81.31
Drill Collar Description: 8" NMDC, Style: Slick Drill, Type: NM	AIM	AIM 800-01-014	6 5/8" Reg Box	6 5/8" Reg Pin	3.938	8.000		30.36	111.67
Crossover Sub Description: Crossover Sub, Type: Steel	Black Diamond	BD 15381	EverDrlg54 Box	6 5/8" Reg Pin	2.875	6.750		3.91	115.58
HWDP Description: 9 STANDS 5.5" HWDP, Style: Slick	Black Diamond		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		853.58	969.16

MWD Items									
No Items									

Directional Activities									
Activity Type	Code	Start Date	Start Time	End Time	End Date	Start (ft)	End (ft)	Comments/Details	
Other	16	03-17	00:00	12:00	03-17				
Standby	15	03-17	12:00	15:15	03-17			Standby while WALK RIG FROM 604H	
Pick Up BHA	64	03-17	15:15	16:30	03-17			P/U BHA #2	

TIH	8	03-17	16:30	17:05	03-17			TIH W/ BHA #2
Drilling Cement	17	03-17	17:05	19:40	03-17	1815.00	1815.00	Drilling Cement and Float Equipment
Rotary Drill	1	03-17	19:40	20:55	03-17	1815.00	1954.00	Pressure On (psi): 2500.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 30.00, Surface RPM: 40, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 840.00, Strokes Per Minute: 261.00
Survey	46	03-17	20:55	21:00	03-17	1954.00	1954.00	Inclination (°): 2.110, Azimuth (°): 229.540, TVD (ft): 1882.64, Dogleg (°/100 ft): 0.53, Sensor Depth (ft): 1883.00, Bit To Sensor (ft): 71.00
Rotary Drill	1	03-17	21:00	21:15	03-17	1954.00	2043.00	Pressure On (psi): 2500.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 30.00, Surface RPM: 40, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 840.00, Strokes Per Minute: 261.00
Survey	46	03-17	21:15	21:20	03-17	2043.00	2043.00	Inclination (°): 1.930, Azimuth (°): 225.500, TVD (ft): 1971.58, Dogleg (°/100 ft): 0.26, Sensor Depth (ft): 1972.00, Bit To Sensor (ft): 71.00
Rotary Drill	1	03-17	21:20	21:45	03-17	2043.00	2133.00	Pressure On (psi): 2500.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 30.00, Surface RPM: 40, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 840.00, Strokes Per Minute: 261.00
Survey	46	03-17	21:45	21:50	03-17	2133.00	2133.00	Inclination (°): 1.710, Azimuth (°): 214.420, TVD (ft): 2061.54, Dogleg (°/100 ft): 0.46, Sensor Depth (ft): 2062.00, Bit To Sensor (ft): 71.00
Rotary Drill	1	03-17	21:50	21:55	03-17	2133.00	2142.00	Pressure On (psi): 2500.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 30.00, Surface RPM: 40, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 840.00, Strokes Per Minute: 261.00
Slide Drill	2	03-17	21:55	22:15	03-17	2142.00	2157.00	Pressure On (psi): 2200.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 10.00, Flow Rate (gpm): 840.00, Strokes Per Minute: 261, Toolface: 30, Toolface Type: magnetic
Rotary Drill	1	03-17	22:15	22:30	03-17	2157.00	2223.00	Pressure On (psi): 2500.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 30.00, Surface RPM: 40, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 840.00, Strokes Per Minute: 261.00
Survey	46	03-17	22:30	22:35	03-17	2223.00	2223.00	Inclination (°): 1.050, Azimuth (°): 247.910, TVD (ft): 2151.51, Dogleg (°/100 ft): 1.13, Sensor Depth (ft): 2152.00, Bit To Sensor (ft): 71.00
Rotary Drill	1	03-17	22:35	22:55	03-17	2223.00	2312.00	Pressure On (psi): 2500.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 30.00, Surface RPM: 40, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 840.00, Strokes Per Minute: 261.00
Survey	46	03-17	22:55	23:00	03-17	2312.00	2312.00	Inclination (°): 1.050, Azimuth (°): 299.670, TVD (ft): 2240.50, Dogleg (°/100 ft): 1.03, Sensor Depth (ft): 2241.00, Bit To Sensor (ft): 71.00
Rotary Drill	1	03-17	23:00	23:20	03-17	2312.00	2402.00	Pressure On (psi): 2700.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 30.00, Surface RPM: 40, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 840.00, Strokes Per Minute: 261.00
Survey	46	03-17	23:20	23:25	03-17	2402.00	2402.00	Inclination (°): 1.010, Azimuth (°): 316.730, TVD (ft): 2330.48, Dogleg (°/100 ft): 0.34, Sensor Depth (ft): 2331.00, Bit To Sensor (ft): 71.00
Rotary Drill	1	03-17	23:25	23:40	03-17	2402.00	2492.00	Pressure On (psi): 2700.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 30.00, Surface RPM: 40, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 840.00, Strokes Per Minute: 261.00
Survey	46	03-17	23:40	23:45	03-17	2492.00	2492.00	Inclination (°): 0.970, Azimuth (°): 312.240, TVD (ft): 2420.47, Dogleg (°/100 ft): 0.10, Sensor Depth (ft): 2421.00, Bit To Sensor (ft): 71.00
Rotary Drill	1	03-17	23:45	00:00	03-18	2492.00	2581.00	Pressure On (psi): 2700.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 30.00, Surface RPM: 60, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 840.00, Strokes Per Minute: 261.00

MWD Activities

No Activities



Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Wednesday, Mar 18 00:00 - 23:59 (Day 4 of 28)

Billing: \$6,500.00 (\$282,174.41 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	2581.00	Downhole Hours	22.25	Rotating WOB (klbs)	30.00 - 38.00
Bit Depth (ft)	4239.00	Drilling Hours	8.58	Sliding WOB (klbs)	25.00 - 25.00
Bottom Hole Depth (ft)	4239.00	Hours Circulating	0.25	Rotating SPM	261.00 - 261.00
Total Distance (ft)	1658.00	Hours Sliding	0.33	Sliding SPM	261.00 - 261.00
Distance Rotated (ft)	1643.00	Hours Rotating	8.25	Motor RPM	85.00 - 145.00
Distance Slid (ft)	15.00			Surface RPM	60.00 - 60.00
Inclination In	0.88			Flow Rate (gpm)	840.00 - 840.00
Inclination Out	3.43			On Bottom Pressure (psi)	2600.00 - 3000.00
Azimuth In	325.78	% Hours Rotating	96%	Off Bottom Pressure (psi)	2000.00 - 2300.00
Azimuth Out	143.05	% Hours Sliding	4%		
AVG Total ROP (ft/h)	197.77	% Distance Sliding	1%		
AVG Rotating ROP (ft/h)	203.76	% Distance Rotating	99%		
AVG Sliding ROP (ft/h)	45.00				

Personnel

Name	Position
Wes Highnote	MWD Engineer
Advance Directional	Directional Driller
Robert Olivarez	MWD Engineer
Kyle Kusak	MWD Engineer

BHA #2 - Intermediate 12.25"

Date In: Mar 17, 2020, 16:30 Date Out: Mar 18, 2020, 20:00

Bit Details		Motor Details		Directional Comments
OD (in)	12.250	Size (in)	8.0	Flow Rate: 400-900, Max Diff: 1330 psi, Max Torque: 22,020 ft-lbs, BIT Runs: 0
Vendor	ULTERRA	Lobe/Stage	7/8, 5.9	
S/N	52607	Bend Angle	1.5	
Nozzles	6-13's & 3-12's	Speed (rev/gal)	0.17	MWD Comments
Total Flow Area (in²)	1.109	Wear Pad OD (in)	8.375	
Drilling Hours for Day	8.58	Bit Distances		
Total Drilled for Day (ft)	1658.00	Bend: 6.18 ft, Survey: 71.00 ft		POOH Reason Change Bottom Hole Assembly: POOH L/D STABILIZER AND MOTOR
Drilling Hours for BHA	12.33			
Total Drilled for BHA (ft)	2424.00			

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: SPL616, Style: PDC, Gauge Length (in): 4.00, Size (in): 12.25	ULTERRA	52607	6 5/8" Reg Pin			12.250		1.00	1.00
Mud Motor Description: 8" Contender 1.50° Fxd 7/8 5.9 w/ 12" NBS, Size (in): 8.00, Bend Angle (°): 1.5, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 5.9	AIM	800-40-008	6 5/8" Reg Box	6 5/8" Reg Box		8.000		38.62	39.62
Stabilizer Description: 12" Nortrak Stab	DTI	DR38413	6 5/8" Reg Box	6 5/8" Reg Pin	2.875	8.000		7.55	47.17
UBHO Sub Description: 8" UBHO, Type: Steel	AIM	800223	6 5/8" Reg Box	6 5/8" Reg Pin	2.938	8.000		4.04	51.21
Drill Collar Description: 8" NMDC, Style: Slick Drill, Type: NM	AIM	AIM 800-01-008	6 5/8" Reg Box	6 5/8" Reg Pin	3.313	8.063		30.10	81.31
Drill Collar Description: 8" NMDC, Style: Slick Drill, Type: NM	AIM	AIM 800-01-014	6 5/8" Reg Box	6 5/8" Reg Pin	3.938	8.000		30.36	111.67
Crossover Sub Description: Crossover Sub, Type: Steel	Black Diamond	BD 15381	EverDrlg54 Box	6 5/8" Reg Pin	2.875	6.750		3.91	115.58
HWDP Description: 9 STANDS 5.5" HWDP, Style: Slick	Black Diamond		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		853.58	969.16

MWD Items

No Items

BHA #3 - Intermediate 12.25"

Date In: Mar 18, 2020, 21:45 Date Out: Mar 19, 2020, 20:30

Bit Details			Motor Details			Directional Comments		
OD (in)	12.250		Size (in)	8.0		Flow Rate: 400-900, Max Diff: 900 psi, Max Torque: 14,930 ft-lbs, BIT Runs:		
Vendor	ULTERRA		Lobe/Stage	7/8, 4.0				
S/N	48660		Bend Angle	1.5		MWD Comments		
Nozzles	6-13's & 3-12's		Speed (rev/gal)	0.17				
Total Flow Area (in²)	1.109		Wear Pad OD (in)	8.250		POOH Reason		
Drilling Hours for Day	0.00		Bit Distances					
Total Drilled for Day (ft)			Bend: 5.55 ft, Survey: 55.00 ft			Total Depth/Casing Point		
Drilling Hours for BHA	12.08							
Total Drilled for BHA (ft)	1118.00							

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: <i>SPL616</i> , Style: <i>PDC</i> , Gauge Length (in): <i>4.00</i> , Size (in): <i>12.25</i>	ULTERRA	48660	6 5/8" Reg Pin			12.250		1.00	1.00
Mud Motor Description: <i>8" Contender 1.50° Fxd 7/8 4.0 w/ SS</i> , Size (in): <i>8.00</i> , Bend Angle (°): <i>1.5</i> , Rotor Lobe: <i>7</i> , Stator Lobe: <i>8</i> , Stator Stage: <i>4</i>	AIM	M775-04	6 5/8" Reg Box	6 5/8" Reg Box		8.000		29.48	30.48
UBHO Sub Description: <i>8" UBHO</i> , Type: <i>Steel</i>	AIM	800223	6 5/8" Reg Box	6 5/8" Reg Pin	2.938	8.000		4.04	34.52
Drill Collar Description: <i>8" NMDC</i> , Style: <i>Slick Drill</i> , Type: <i>NM</i>	AIM	AIM 800-01-008	6 5/8" Reg Box	6 5/8" Reg Pin	3.313	8.063		30.10	64.62
Drill Collar Description: <i>8" NMDC</i> , Style: <i>Slick Drill</i> , Type: <i>NM</i>	AIM	AIM 800-01-014	6 5/8" Reg Box	6 5/8" Reg Pin	3.938	8.000		30.36	94.98
Crossover Sub Description: <i>Crossover Sub</i> , Type: <i>Steel</i>	Black Diamond	BD 15381	EverDrlg54 Box	6 5/8" Reg Pin	2.875	6.750		3.91	98.89
HWDP Description: <i>9 STANDS 5.5" HWDP</i> , Style: <i>Slick</i>	Black Diamond		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		853.58	952.47

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	03-17	23:45	00:00	03-18	2492.00	2581.00	Pressure On (psi): 2700.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 30.00, Surface RPM: 60, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 840.00, Strokes Per Minute: 261.00
Survey	46	03-18	00:00	00:05	03-18	2581.00	2581.00	Inclination (°): 0.880, Azimuth (°): 325.780, TVD (ft): 2509.46, Dogleg (°/100 ft): 0.26, Sensor Depth (ft): 2510.00, Bit To Sensor (ft): 71.00
Rotary Drill	1	03-18	00:05	00:20	03-18	2581.00	2671.00	Pressure On (psi): 2700.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 30.00, Surface RPM: 60, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 840.00, Strokes Per Minute: 261.00
Survey	46	03-18	00:20	00:25	03-18	2671.00	2671.00	Inclination (°): 0.700, Azimuth (°): 324.460, TVD (ft): 2599.45, Dogleg (°/100 ft): 0.20, Sensor Depth (ft): 2600.00, Bit To Sensor (ft): 71.00
Rotary Drill	1	03-18	00:25	00:40	03-18	2671.00	2760.00	Pressure On (psi): 2700.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 30.00, Surface RPM: 60, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 840.00, Strokes Per Minute: 261.00
Survey	46	03-18	00:40	00:45	03-18	2760.00	2760.00	Inclination (°): 0.750, Azimuth (°): 344.320, TVD (ft): 2688.44, Dogleg (°/100 ft): 0.29, Sensor Depth (ft): 2689.00, Bit To Sensor (ft): 71.00
Rotary Drill	1	03-18	00:45	01:00	03-18	2760.00	2850.00	Pressure On (psi): 2700.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 30.00, Surface RPM: 60, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 840.00, Strokes Per Minute: 261.00
Survey	46	03-18	01:00	01:05	03-18	2850.00	2850.00	Inclination (°): 0.660, Azimuth (°): 353.990, TVD (ft): 2778.44, Dogleg (°/100 ft): 0.17, Sensor Depth (ft): 2779.00, Bit To Sensor (ft): 71.00
Rotary Drill	1	03-18	01:05	01:20	03-18	2850.00	2940.00	Pressure On (psi): 2700.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 30.00, Surface RPM: 60, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 840.00, Strokes Per Minute: 261.00
Survey	46	03-18	01:20	01:25	03-18	2940.00	2940.00	Inclination (°): 0.440, Azimuth (°): 0.670, TVD (ft): 2868.43, Dogleg (°/100 ft): 0.25, Sensor Depth (ft): 2869.00, Bit To Sensor (ft): 71.00
Rotary Drill	1	03-18	01:25	01:35	03-18	2940.00	3029.00	Pressure On (psi): 2700.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 30.00, Surface RPM: 60, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 840.00, Strokes Per Minute: 261.00
Survey	46	03-18	01:35	01:40	03-18	3029.00	3029.00	Inclination (°): 0.530, Azimuth (°): 17.990, TVD (ft): 2957.43, Dogleg (°/100 ft): 0.19, Sensor Depth (ft): 2958.00, Bit To Sensor (ft): 71.00
Rotary Drill	1	03-18	01:40	01:50	03-18	3029.00	3119.00	Pressure On (psi): 2700.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 30.00, Surface RPM: 60, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 840.00, Strokes Per Minute: 261.00
Survey	46	03-18	01:50	01:55	03-18	3119.00	3119.00	Inclination (°): 0.440, Azimuth (°): 36.620, TVD (ft): 3047.43, Dogleg (°/100 ft): 0.20, Sensor Depth (ft): 3048.00, Bit To Sensor (ft): 71.00
Rotary Drill	1	03-18	01:55	02:10	03-18	3119.00	3209.00	Pressure On (psi): 2700.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 30.00, Surface RPM: 60, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 840.00, Strokes Per Minute: 261.00

Survey	46	03-18	02:10	02:15	03-18	3209.00	3209.00	Inclination (°): 0.700, Azimuth (°): 55.510, TVD (ft): 3137.42, Dogleg (°/100 ft): 0.35, Sensor Depth (ft): 3138.00, Bit To Sensor (ft): 71.00
Rotary Drill	1	03-18	02:15	02:45	03-18	3209.00	3298.00	Pressure On (psi): 2700.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 30.00, Surface RPM: 60, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 840.00, Strokes Per Minute: 261.00
Survey	46	03-18	02:45	02:50	03-18	3298.00	3298.00	Inclination (°): 1.140, Azimuth (°): 67.560, TVD (ft): 3226.41, Dogleg (°/100 ft): 0.54, Sensor Depth (ft): 3227.00, Bit To Sensor (ft): 71.00
Rotary Drill	1	03-18	02:50	03:05	03-18	3298.00	3388.00	Pressure On (psi): 2700.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 30.00, Surface RPM: 60, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 840.00, Strokes Per Minute: 261.00
Survey	46	03-18	03:05	03:10	03-18	3388.00	3388.00	Inclination (°): 1.450, Azimuth (°): 78.540, TVD (ft): 3316.39, Dogleg (°/100 ft): 0.44, Sensor Depth (ft): 3317.00, Bit To Sensor (ft): 71.00
Rotary Drill	1	03-18	03:10	03:20	03-18	3388.00	3429.00	Pressure On (psi): 2700.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 30.00, Surface RPM: 60, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 840.00, Strokes Per Minute: 261.00
Other	16	03-18	03:20	03:50	03-18			CLEAN RUBBER OUT OF PUMP BACK
Rotary Drill	1	03-18	03:50	04:00	03-18	3429.00	3478.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 30.00, Surface RPM: 60, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 840.00, Strokes Per Minute: 261.00
Survey	46	03-18	04:00	04:05	03-18	3478.00	3478.00	Inclination (°): 1.410, Azimuth (°): 83.460, TVD (ft): 3406.36, Dogleg (°/100 ft): 0.14, Sensor Depth (ft): 3407.00, Bit To Sensor (ft): 71.00
Rotary Drill	1	03-18	04:05	04:40	03-18	3478.00	3567.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 30.00, Surface RPM: 60, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 840.00, Strokes Per Minute: 261.00
Survey	46	03-18	04:40	04:45	03-18	3567.00	3567.00	Inclination (°): 1.490, Azimuth (°): 83.730, TVD (ft): 3495.33, Dogleg (°/100 ft): 0.09, Sensor Depth (ft): 3496.00, Bit To Sensor (ft): 71.00
Rotary Drill	1	03-18	04:45	04:50	03-18	3567.00	3572.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 30.00, Surface RPM: 60, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 840.00, Strokes Per Minute: 261.00
Slide Drill	2	03-18	04:50	05:10	03-18	3572.00	3587.00	Pressure On (psi): 2600.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 25.00, Flow Rate (gpm): 840.00, Strokes Per Minute: 261, Toolface: 270, Toolface Type: magnetic
Rotary Drill	1	03-18	05:10	05:45	03-18	3587.00	3657.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 38.00, Surface RPM: 60, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 840.00, Strokes Per Minute: 261.00
Survey	46	03-18	05:45	05:50	03-18	3657.00	3657.00	Inclination (°): 0.530, Azimuth (°): 102.890, TVD (ft): 3585.32, Dogleg (°/100 ft): 1.12, Sensor Depth (ft): 3586.00, Bit To Sensor (ft): 71.00
Rotary Drill	1	03-18	05:50	06:35	03-18	3657.00	3746.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 38.00, Surface RPM: 60, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 840.00, Strokes Per Minute: 261.00
Survey	46	03-18	06:35	06:40	03-18	3746.00	3746.00	Inclination (°): 0.310, Azimuth (°): 250.280, TVD (ft): 3674.32, Dogleg (°/100 ft): 0.91, Sensor Depth (ft): 3675.00, Bit To Sensor (ft): 71.00
Rotary Drill	1	03-18	06:40	07:15	03-18	3746.00	3836.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 38.00, Surface RPM: 60, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 840.00, Strokes Per Minute: 261.00
Survey	46	03-18	07:15	07:20	03-18	3836.00	3836.00	Inclination (°): 0.570, Azimuth (°): 255.990, TVD (ft): 3764.31, Dogleg (°/100 ft): 0.29, Sensor Depth (ft): 3765.00, Bit To Sensor (ft): 71.00
Rotary Drill	1	03-18	07:20	07:55	03-18	3836.00	3926.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 38.00, Surface RPM: 60, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 840.00, Strokes Per Minute: 261.00
Survey	46	03-18	07:55	08:00	03-18	3926.00	3926.00	Inclination (°): 0.440, Azimuth (°): 260.480, TVD (ft): 3854.31, Dogleg (°/100 ft): 0.15, Sensor Depth (ft): 3855.00, Bit To Sensor (ft): 71.00
Rotary Drill	1	03-18	08:00	08:35	03-18	3926.00	4015.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 38.00, Surface RPM: 60, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 840.00, Strokes Per Minute: 261.00
Survey	46	03-18	08:35	08:40	03-18	4015.00	4015.00	Inclination (°): 0.480, Azimuth (°): 256.170, TVD (ft): 3943.31, Dogleg (°/100 ft): 0.06, Sensor Depth (ft): 3944.00, Bit To Sensor (ft): 71.00
Rotary Drill	1	03-18	08:40	09:20	03-18	4015.00	4104.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 38.00, Surface RPM: 60, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 840.00, Strokes Per Minute: 261.00
Survey	46	03-18	09:20	09:30	03-18	4104.00	4104.00	Inclination (°): 0.260, Azimuth (°): 238.590, TVD (ft): 4032.30, Dogleg (°/100 ft): 0.28, Sensor Depth (ft): 4033.00, Bit To Sensor (ft): 71.00
Rotary Drill	1	03-18	09:30	10:40	03-18	4104.00	4239.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 38.00, Surface RPM: 60, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 840.00, Strokes Per Minute: 261.00
Work Pipe	18	03-18	10:40	11:50	03-18			WORK STUCK PIPE
Survey	46	03-18	11:50	11:55	03-18	4239.00	4239.00	Inclination (°): 3.430, Azimuth (°): 143.050, TVD (ft): 4167.22, Dogleg (°/100 ft): 2.57, Sensor Depth (ft): 4168.00, Bit To Sensor (ft): 71.00
Pipe Stuck	12	03-18	11:55	17:30	03-18			WORK STUCK PIPE
Other	16	03-18	17:30	18:00	03-18			PUMP ACID DOWNHOLE TO FREE PIPE
Pooh	7	03-18	18:00	20:00	03-18			POOH C/O BHA
Change BHA	6	03-18	20:00	21:45	03-18			P/U BHA # 3
TIH	8	03-18	21:45	22:55	03-18			TIH W/ BHA #3
Circulating	3	03-18	22:55	23:10	03-18			TEST MWD(GOOD)
TIH	8	03-18	23:10	00:00	03-19			TIH W/ BHA #3
MWD Activities								
No Activities								



Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Thursday, Mar 19 00:00 - 23:59 (Day 5 of 28)

Billing: \$4,100.00 (\$282,174.41 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	4239.00	Downhole Hours	20.50	Rotating WOB (klbs)	20.00 - 20.00
Bit Depth (ft)	5357.00	Drilling Hours	12.08	Sliding WOB (klbs)	10.00 - 15.00
Bottom Hole Depth (ft)	5357.00	Hours Circulating	2.00	Rotating SPM	184.00 - 255.00
Total Distance (ft)	1118.00	Hours Sliding	5.17	Sliding SPM	184.00 - 255.00
Distance Rotated (ft)	910.00	Hours Rotating	6.92	Motor RPM	85.00 - 119.00
Distance Slid (ft)	208.00			Surface RPM	40.00 - 40.00
Inclination In	5.05			Flow Rate (gpm)	600.00 - 820.00
Inclination Out	1.36			On Bottom Pressure (psi)	700.00 - 1800.00
Azimuth In	143.58	% Hours Rotating	57%	Off Bottom Pressure (psi)	500.00 - 1450.00
Azimuth Out	39.87	% Hours Sliding	43%		
AVG Total ROP (ft/h)	92.52	% Distance Sliding	19%		
AVG Rotating ROP (ft/h)	131.57	% Distance Rotating	81%		
AVG Sliding ROP (ft/h)	40.26				

Personnel

Name	Position
Wes Highnote	MWD Engineer
Advance Directional	Directional Driller
Robert Olivarez	MWD Engineer
Kyle Kusak	MWD Engineer

BHA #3 - Intermediate 12.25"

Date In: Mar 18, 2020, 21:45 Date Out: Mar 19, 2020, 20:30

Bit Details		Motor Details		Directional Comments
OD (in)	12.250	Size (in)	8.0	Flow Rate: 400-900, Max Diff: 900 psi, Max Torque: 14,930 ft-lbs, BIT Runs:
Vendor	ULTERRA	Lobe/Stage	7/8, 4.0	
S/N	48660	Bend Angle	1.5	
Nozzles	6-13's & 3-12's	Speed (rev/gal)	0.17	MWD Comments
Total Flow Area (in²)	1.109	Wear Pad OD (in)	8.250	
Drilling Hours for Day	12.08	Bit Distances		
Total Drilled for Day (ft)	1118.00	Bend: 5.55 ft, Survey: 55.00 ft		POOH Reason
Drilling Hours for BHA	12.08			
Total Drilled for BHA (ft)	1118.00			
				Total Depth/Casing Point

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: SPL616, Style: PDC, Gauge Length (in): 4.00, Size (in): 12.25	ULTERRA	48660	6 5/8" Reg Pin			12.250		1.00	1.00
Mud Motor Description: 8" Contender 1.50° Fxd 7/8 4.0 w/ SS, Size (in): 8.00, Bend Angle (°): 1.5, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 4	AIM	M775-04	6 5/8" Reg Box	6 5/8" Reg Box		8.000		29.48	30.48
UBHO Sub Description: 8" UBHO, Type: Steel	AIM	800223	6 5/8" Reg Box	6 5/8" Reg Pin	2.938	8.000		4.04	34.52
Drill Collar Description: 8" NMDC, Style: Slick Drill, Type: NM	AIM	AIM 800-01-008	6 5/8" Reg Box	6 5/8" Reg Pin	3.313	8.063		30.10	64.62
Drill Collar Description: 8" NMDC, Style: Slick Drill, Type: NM	AIM	AIM 800-01-014	6 5/8" Reg Box	6 5/8" Reg Pin	3.938	8.000		30.36	94.98
Crossover Sub Description: Crossover Sub, Type: Steel	Black Diamond	BD 15381	EverDrig54 Box	6 5/8" Reg Pin	2.875	6.750		3.91	98.89
HWDP Description: 9 STANDS 5.5" HWDP, Style: Slick	Black Diamond		EverDrig54 Box	EverDrig54 Pin	4.000	5.500		853.58	952.47

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	03-18	23:10	00:00	03-19			TIH W/ BHA #3
Circulating	3	03-19	00:00	01:15	03-19			WASH & REAM F/ 4015' T/ 4239'
Rotary Drill	1	03-19	01:15	01:55	03-19	4239.00	4267.00	Pressure On (psi): 700.00, Pressure Off (psi): 500.00, Weight On Bit (klbs): 20.00, Surface RPM: 40, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 600.00, Strokes Per Minute: 184.00

Survey	46	03-19	01:55	02:15	03-19	4267.00	4267.00	Inclination (°): 5.050, Azimuth (°): 143.580, TVD (ft): 4211.10, Dogleg (°/100 ft): 3.68, Sensor Depth (ft): 4212.00, Bit To Sensor (ft): 55.00
Slide Drill	2	03-19	02:15	03:15	03-19	4267.00	4297.00	Pressure On (psi): 700.00, Pressure Off (psi): 500.00, Weight On Bit (klbs): 10.00, Flow Rate (gpm): 600.00, Strokes Per Minute: 184, Toolface: 325, Toolface Type: magnetic
Rotary Drill	1	03-19	03:15	03:50	03-19	4297.00	4356.00	Pressure On (psi): 700.00, Pressure Off (psi): 500.00, Weight On Bit (klbs): 20.00, Surface RPM: 40, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 600.00, Strokes Per Minute: 184.00
Survey	46	03-19	03:50	04:10	03-19	4356.00	4356.00	Inclination (°): 4.180, Azimuth (°): 144.900, TVD (ft): 4299.81, Dogleg (°/100 ft): 0.98, Sensor Depth (ft): 4301.00, Bit To Sensor (ft): 55.00
Work Pipe	18	03-19	04:10	05:25	03-19			work pipe
Rotary Drill	1	03-19	05:25	05:35	03-19	4356.00	4360.00	Pressure On (psi): 700.00, Pressure Off (psi): 500.00, Weight On Bit (klbs): 20.00, Surface RPM: 40, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 600.00, Strokes Per Minute: 184.00
Slide Drill	2	03-19	05:35	07:10	03-19	4360.00	4383.00	Pressure On (psi): 700.00, Pressure Off (psi): 500.00, Weight On Bit (klbs): 10.00, Flow Rate (gpm): 600.00, Strokes Per Minute: 184, Toolface: 325, Toolface Type: magnetic
Rotary Drill	1	03-19	07:10	07:40	03-19	4383.00	4446.00	Pressure On (psi): 700.00, Pressure Off (psi): 500.00, Weight On Bit (klbs): 20.00, Surface RPM: 40, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 600.00, Strokes Per Minute: 184.00
Survey	46	03-19	07:40	07:55	03-19	4446.00	4446.00	Inclination (°): 4.440, Azimuth (°): 148.060, TVD (ft): 4389.56, Dogleg (°/100 ft): 0.39, Sensor Depth (ft): 4391.00, Bit To Sensor (ft): 55.00
Slide Drill	2	03-19	07:55	08:40	03-19	4446.00	4486.00	Pressure On (psi): 1700.00, Pressure Off (psi): 1450.00, Weight On Bit (klbs): 15.00, Flow Rate (gpm): 820.00, Strokes Per Minute: 255, Toolface: 335, Toolface Type: magnetic
Rotary Drill	1	03-19	08:40	09:00	03-19	4486.00	4536.00	Pressure On (psi): 1800.00, Pressure Off (psi): 1450.00, Weight On Bit (klbs): 20.00, Surface RPM: 40, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 820.00, Strokes Per Minute: 255.00
Survey	46	03-19	09:00	09:10	03-19	4536.00	4536.00	Inclination (°): 4.000, Azimuth (°): 143.410, TVD (ft): 4479.31, Dogleg (°/100 ft): 0.62, Sensor Depth (ft): 4481.00, Bit To Sensor (ft): 55.00
Rotary Drill	1	03-19	09:10	09:20	03-19	4536.00	4541.00	Pressure On (psi): 1800.00, Pressure Off (psi): 1450.00, Weight On Bit (klbs): 20.00, Surface RPM: 40, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 820.00, Strokes Per Minute: 255.00
Slide Drill	2	03-19	09:20	09:50	03-19	4541.00	4586.00	Pressure On (psi): 1700.00, Pressure Off (psi): 1450.00, Weight On Bit (klbs): 15.00, Flow Rate (gpm): 820.00, Strokes Per Minute: 255, Toolface: 325, Toolface Type: magnetic
Rotary Drill	1	03-19	09:50	10:10	03-19	4586.00	4625.00	Pressure On (psi): 1800.00, Pressure Off (psi): 1450.00, Weight On Bit (klbs): 20.00, Surface RPM: 40, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 820.00, Strokes Per Minute: 255.00
Survey	46	03-19	10:10	10:20	03-19	4625.00	4625.00	Inclination (°): 2.860, Azimuth (°): 154.130, TVD (ft): 4568.15, Dogleg (°/100 ft): 1.46, Sensor Depth (ft): 4570.00, Bit To Sensor (ft): 55.00
Rotary Drill	1	03-19	10:20	11:00	03-19	4625.00	4715.00	Pressure On (psi): 1800.00, Pressure Off (psi): 1450.00, Weight On Bit (klbs): 20.00, Surface RPM: 40, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 820.00, Strokes Per Minute: 255.00
Survey	46	03-19	11:00	11:10	03-19	4715.00	4715.00	Inclination (°): 2.770, Azimuth (°): 132.160, TVD (ft): 4658.05, Dogleg (°/100 ft): 1.20, Sensor Depth (ft): 4660.00, Bit To Sensor (ft): 55.00
Slide Drill	2	03-19	11:10	12:00	03-19	4715.00	4755.00	Pressure On (psi): 1700.00, Pressure Off (psi): 1450.00, Weight On Bit (klbs): 15.00, Flow Rate (gpm): 820.00, Strokes Per Minute: 255, Toolface: 310, Toolface Type: magnetic
Rotary Drill	1	03-19	12:00	12:20	03-19	4755.00	4805.00	Pressure On (psi): 1800.00, Pressure Off (psi): 1450.00, Weight On Bit (klbs): 20.00, Surface RPM: 40, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 820.00, Strokes Per Minute: 255.00
Survey	46	03-19	12:20	12:25	03-19	4805.00	4805.00	Inclination (°): 1.490, Azimuth (°): 117.300, TVD (ft): 4747.98, Dogleg (°/100 ft): 1.54, Sensor Depth (ft): 4750.00, Bit To Sensor (ft): 55.00
Rotary Drill	1	03-19	12:25	13:00	03-19	4805.00	4894.00	Pressure On (psi): 1800.00, Pressure Off (psi): 1450.00, Weight On Bit (klbs): 20.00, Surface RPM: 40, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 820.00, Strokes Per Minute: 255.00
Survey	46	03-19	13:00	13:10	03-19	4894.00	4894.00	Inclination (°): 1.450, Azimuth (°): 111.410, TVD (ft): 4836.96, Dogleg (°/100 ft): 0.18, Sensor Depth (ft): 4839.00, Bit To Sensor (ft): 55.00
Rotary Drill	1	03-19	13:10	13:45	03-19	4894.00	4984.00	Pressure On (psi): 1800.00, Pressure Off (psi): 1450.00, Weight On Bit (klbs): 20.00, Surface RPM: 40, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 820.00, Strokes Per Minute: 255.00
Survey	46	03-19	13:45	13:55	03-19	4984.00	4984.00	Inclination (°): 1.630, Azimuth (°): 63.780, TVD (ft): 4926.93, Dogleg (°/100 ft): 1.39, Sensor Depth (ft): 4929.00, Bit To Sensor (ft): 55.00
Rotary Drill	1	03-19	13:55	14:20	03-19	4984.00	5073.00	Pressure On (psi): 1800.00, Pressure Off (psi): 1450.00, Weight On Bit (klbs): 20.00, Surface RPM: 40, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 820.00, Strokes Per Minute: 255.00
Survey	46	03-19	14:20	14:30	03-19	5073.00	5073.00	Inclination (°): 1.630, Azimuth (°): 96.210, TVD (ft): 5015.89, Dogleg (°/100 ft): 1.02, Sensor Depth (ft): 5018.00, Bit To Sensor (ft): 55.00
Slide Drill	2	03-19	14:30	15:00	03-19	5073.00	5103.00	Pressure On (psi): 1700.00, Pressure Off (psi): 1450.00, Weight On Bit (klbs): 15.00, Flow Rate (gpm): 820.00, Strokes Per Minute: 255, Toolface: 280, Toolface Type: magnetic
Rotary Drill	1	03-19	15:00	15:20	03-19	5103.00	5163.00	Pressure On (psi): 1800.00, Pressure Off (psi): 1450.00, Weight On Bit (klbs): 20.00, Surface RPM: 40, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 820.00, Strokes Per Minute: 255.00
Survey	46	03-19	15:20	15:30	03-19	5163.00	5163.00	Inclination (°): 0.920, Azimuth (°): 36.270, TVD (ft): 5105.87, Dogleg (°/100 ft): 1.57, Sensor Depth (ft): 5108.00, Bit To Sensor (ft): 55.00
Rotary Drill	1	03-19	15:30	16:00	03-19	5163.00	5252.00	Pressure On (psi): 1800.00, Pressure Off (psi): 1450.00, Weight On Bit (klbs): 20.00, Surface RPM: 40, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 820.00, Strokes Per Minute: 255.00
Survey	46	03-19	16:00	16:15	03-19	5252.00	5252.00	Inclination (°): 1.360, Azimuth (°): 19.480, TVD (ft): 5194.86, Dogleg (°/100 ft): 0.62, Sensor Depth (ft): 5197.00, Bit To Sensor (ft): 55.00
Rotary Drill	1	03-19	16:15	17:00	03-19	5252.00	5357.00	Pressure On (psi): 1800.00, Pressure Off (psi): 1450.00, Weight On Bit (klbs): 20.00, Surface RPM: 40, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 820.00, Strokes Per Minute: 255.00
Survey	46	03-19	17:00	17:05	03-19	5357.00	5357.00	Inclination (°): 1.360, Azimuth (°): 39.870, TVD (ft): 5299.83, Dogleg (°/100 ft): 0.46, Sensor Depth (ft): 5302.00, Bit To Sensor (ft): 55.00

Circulating	3	03-19	17:05	17:50	03-19			Circulate
Pooh	7	03-19	17:50	20:30	03-19			POOH TD Section
Lay Down BHA	65	03-19	20:30	21:00	03-19			L/D MWD TOOL, DRAIN MOTOR & RACK BACK
Standby	15	03-19	21:00	09:45	03-20			Standby while Casing Ops

MWD Activities

No Activities

	Job Number WT-20-035	Operator Advance Energy Partners		Rig Name H&P #389
	Start Date 2020-03-09	Well Name Merchant State Unit 553H		Legal Well Name AFE Merchant State Unit 553H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Friday, Mar 20 00:00 - 23:59 (Day 6 of 28) Billing: \$1,100.00 (\$282,174.41 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
Wes Highnote	MWD Engineer
Advance Directional	Directional Driller
Robert Olivarez	MWD Engineer
Kyle Kusak	MWD Engineer

No BHAs

Directional Activities								
Activity Type	Code	Start Date	Start Time	End Time	End Date	Start (ft)	End (ft)	Comments/Details
Standby	15	03-19	21:00	09:45	03-20			Standby while Casing Ops
Standby	15	03-20	09:45	22:00	03-20			Standby while CEMENT OPS
Other	16	03-20	22:00	05:00	03-21			TIH w/ BIT & BIT SUB, DRILL DV TOOL AND CEMENT TO TOP OF FLOAT

MWD Activities								
No Activities								

	Job Number WT-20-035	Operator Advance Energy Partners		Rig Name H&P #389
	Start Date 2020-03-09	Well Name Merchant State Unit 553H		Legal Well Name AFE Merchant State Unit 553H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Saturday, Mar 21 00:00 - 23:59 (Day 7 of 28) Billing: \$3,107.00 (\$282,174.41 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
Wes Highnote	MWD Engineer
Advance Directional	Directional Driller
Robert Olivarez	MWD Engineer
Kyle Kusak	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	03-20	22:00	05:00	03-21			TIH w/ BIT & BIT SUB, DRILL DV TOOL AND CEMENT TO TOP OF FLOAT
Standby	15	03-21	05:00	06:00	03-22			Standby

MWD Activities								
No Activities								

	Job Number WT-20-035	Operator Advance Energy Partners		Rig Name H&P #389
	Start Date 2020-03-09	Well Name Merchant State Unit 553H		Legal Well Name AFE Merchant State Unit 553H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Sunday, Mar 22 00:00 - 23:59 (Day 8 of 28) Billing: N/A (\$282,174.41 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
Wes Highnote	MWD Engineer
Advance Directional	Directional Driller
Robert Olivarez	MWD Engineer
Kyle Kusak	MWD Engineer

No BHAs

Directional Activities								
Activity Type	Code	Start Date	Start Time	End Time	End Date	Start (ft)	End (ft)	Comments/Details
Standby	15	03-21	05:00	06:00	03-22			Standby
Other	16	03-22	06:00	10:00	03-22			SKID TO 511H

MWD Activities

No Activities



Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Tuesday, May 12 00:00 - 23:59 (Day 9 of 28)

Billing: \$19,571.75 (\$282,174.41 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	5357.00	Downhole Hours	13.75	Rotating WOB (klbs)	28.00 - 28.00
Bit Depth (ft)	6621.00	Drilling Hours	5.25	Sliding WOB (klbs)	15.00 - 15.00
Bottom Hole Depth (ft)	6621.00	Hours Circulating	0.75	Rotating SPM	217.00 - 217.00
Total Distance (ft)	1264.00	Hours Sliding	1.17	Sliding SPM	219.00 - 219.00
Distance Rotated (ft)	1179.00	Hours Rotating	4.08	Motor RPM	0.00 - 0.00
Distance Slid (ft)	85.00			Surface RPM	50.00 - 70.00
Inclination In	1.45			Flow Rate (gpm)	700.00 - 700.00
Inclination Out	4.26			On Bottom Pressure (psi)	3000.00 - 3200.00
Azimuth In	34.16	% Hours Rotating	78%	Off Bottom Pressure (psi)	2500.00 - 2500.00
Azimuth Out	38.99	% Hours Sliding	22%		
AVG Total ROP (ft/h)	240.76	% Distance Sliding	7%		
AVG Rotating ROP (ft/h)	288.73	% Distance Rotating	93%		
AVG Sliding ROP (ft/h)	72.86				

Personnel

Name	Position
Advance Directional	Directional Driller
Robert Olivarez	MWD Engineer
Kyle Kusak	MWD Engineer
Paul Pierron	MWD Engineer

BHA #4 - Intermediate 8.5"

Date In: May 12, 2020, 10:15 Date Out: May 15, 2020, 5:00

Bit Details		Motor Details		Directional Comments
OD (in)	8.500	Size (in)	7.0	Flow Rate: 500-700, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, BIT Runs: 1
Vendor	ULTERRA	Lobe/Stage	7/8, 8.5	
S/N	52757	Bend Angle	1.5	
Nozzles	6x12's	Speed (rev/gal)	0.26	MWD Comments
Total Flow Area (in²)	0.662	Wear Pad OD (in)	7.210	
Drilling Hours for Day	5.25	Bit Distances		
Total Drilled for Day (ft)	1264.00	Bend: 5.32 ft, Survey: 75.00 ft, Resistivity: 61.06 ft, Gamma: 51.46 ft		POOH Reason
Drilling Hours for BHA	47.50			
Total Drilled for BHA (ft)	5385.00			
				Change Bottom Hole Assembly: POOH FOR CURVE ASSEMBLY

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: RPS616, Style: PDC, Gauge Length (in): 4.00, Size (in): 8.50	ULTERRA	52757	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 7" Contender 1.50° Fxd 7/8 8.5 w/ 8 1/4 NBS, Size (in): 7.00, Bend Angle (°): 1.5, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5	AIM	70040031	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.23	37.23
Stabilizer Description: 8 1/4 NM STAB	DTI	DR43606	4 1/2" IF Box	4 1/2" IF Pin	2.875	6.750		5.73	42.96
MWD Hangoff Sub Description: MWD/RESISTIVITY COLLAR, Type: NM	BENCHTREE	6501005	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.510		31.47	74.43
Drill Collar Description: BATTERY, Style: Slick Drill, Type: NM	BENCHTREE	B6001	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.460		17.39	91.82
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR41083	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.570		30.11	121.93
Crossover Sub Description: Crossover Sub, Type: Steel	Black Diamond	BD 15114	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.688		3.64	125.57
HWDP Description: 9 STANDS 5.5" HWDP, Style: Slick	Black Diamond		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		851.38	976.95

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	05-12	00:00	09:15	05-12			Walk Rig from 604, N/U & TEST BOP's
Pick Up BHA	64	05-12	09:15	10:15	05-12			P/U BHA #4
Troubleshoot	34	05-12	10:15	13:30	05-12			TROUBLESHOOT BENCHTREE RESISTIVITY MWD TOOL

Other	16	05-12	13:30	14:00	05-12			PROGRAM RES / MWD TOOL
Other	16	05-12	14:00	14:40	05-12			P/U NMDC, STAND OF HWDP, & TEST RES/MWD TOOL
TIH	8	05-12	14:40	16:30	05-12			TIH W/ BHA #4
Drilling Cement	17	05-12	16:30	17:15	05-12	5357.00	5357.00	Drilling Cement and Float Equipment
Rotary Drill	1	05-12	17:15	17:50	05-12	5357.00	5456.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 28.00, Surface RPM: 50, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-12	17:50	18:05	05-12	5456.00	5456.00	Inclination (°): 1.450, Azimuth (°): 34.160, TVD (ft): 5378.80, Dogleg (°/100 ft): 0.21, Sensor Depth (ft): 5381.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-12	18:05	18:15	05-12	5456.00	5470.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 28.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Slide Drill	2	05-12	18:15	18:40	05-12	5470.00	5495.00	Pressure On (psi): 3200.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 15.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219, Toolface: 35, Toolface Type: magnetic
Rotary Drill	1	05-12	18:40	18:50	05-12	5495.00	5545.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 28.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-12	18:50	19:05	05-12	5545.00	5545.00	Inclination (°): 2.110, Azimuth (°): 30.910, TVD (ft): 5467.76, Dogleg (°/100 ft): 0.75, Sensor Depth (ft): 5470.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-12	19:05	19:15	05-12	5545.00	5635.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 28.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-12	19:15	19:20	05-12	5635.00	5635.00	Inclination (°): 3.600, Azimuth (°): 26.600, TVD (ft): 5557.65, Dogleg (°/100 ft): 1.67, Sensor Depth (ft): 5560.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-12	19:20	19:35	05-12	5635.00	5724.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 28.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-12	19:35	19:40	05-12	5724.00	5724.00	Inclination (°): 5.100, Azimuth (°): 25.720, TVD (ft): 5646.39, Dogleg (°/100 ft): 1.69, Sensor Depth (ft): 5649.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-12	19:40	19:55	05-12	5724.00	5814.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 28.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-12	19:55	20:00	05-12	5814.00	5814.00	Inclination (°): 3.380, Azimuth (°): 23.700, TVD (ft): 5736.14, Dogleg (°/100 ft): 1.92, Sensor Depth (ft): 5739.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-12	20:00	20:25	05-12	5814.00	5904.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 28.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-12	20:25	20:30	05-12	5904.00	5904.00	Inclination (°): 3.300, Azimuth (°): 23.430, TVD (ft): 5825.98, Dogleg (°/100 ft): 0.09, Sensor Depth (ft): 5829.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-12	20:30	20:50	05-12	5904.00	5993.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 28.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-12	20:50	20:55	05-12	5993.00	5993.00	Inclination (°): 3.080, Azimuth (°): 20.710, TVD (ft): 5914.85, Dogleg (°/100 ft): 0.30, Sensor Depth (ft): 5918.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-12	20:55	21:00	05-12	5993.00	6010.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 28.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Slide Drill	2	05-12	21:00	21:15	05-12	6010.00	6035.00	Pressure On (psi): 3200.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 15.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219, Toolface: 60, Toolface Type: magnetic
Rotary Drill	1	05-12	21:15	21:25	05-12	6035.00	6083.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 28.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-12	21:25	21:30	05-12	6083.00	6083.00	Inclination (°): 3.080, Azimuth (°): 26.950, TVD (ft): 6004.72, Dogleg (°/100 ft): 0.37, Sensor Depth (ft): 6008.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-12	21:30	21:45	05-12	6083.00	6172.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 28.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-12	21:45	21:50	05-12	6172.00	6172.00	Inclination (°): 3.520, Azimuth (°): 38.460, TVD (ft): 6093.57, Dogleg (°/100 ft): 0.89, Sensor Depth (ft): 6097.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-12	21:50	21:55	05-12	6172.00	6185.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 28.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Slide Drill	2	05-12	21:55	22:25	05-12	6185.00	6220.00	Pressure On (psi): 3200.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 15.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219, Toolface: 60, Toolface Type: magnetic
Rotary Drill	1	05-12	22:25	22:40	05-12	6220.00	6262.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 28.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-12	22:40	22:45	05-12	6262.00	6262.00	Inclination (°): 4.220, Azimuth (°): 37.060, TVD (ft): 6183.36, Dogleg (°/100 ft): 0.78, Sensor Depth (ft): 6187.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-12	22:45	22:55	05-12	6262.00	6351.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 28.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-12	22:55	23:00	05-12	6351.00	6351.00	Inclination (°): 5.410, Azimuth (°): 37.230, TVD (ft): 6272.05, Dogleg (°/100 ft): 1.34, Sensor Depth (ft): 6276.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-12	23:00	23:10	05-12	6351.00	6441.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 28.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-12	23:10	23:15	05-12	6441.00	6441.00	Inclination (°): 5.450, Azimuth (°): 35.390, TVD (ft): 6361.64, Dogleg (°/100 ft): 0.20, Sensor Depth (ft): 6366.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-12	23:15	23:30	05-12	6441.00	6531.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 28.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00

Survey	46	05-12	23:30	23:35	05-12	6531.00	6531.00	Inclination (°): 4.790, Azimuth (°): 38.290, TVD (ft): 6451.28, Dogleg (°/100 ft): 0.79, Sensor Depth (ft): 6456.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-12	23:35	23:55	05-12	6531.00	6621.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 28.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-12	23:55	00:00	05-13	6621.00	6621.00	Inclination (°): 4.260, Azimuth (°): 38.990, TVD (ft): 6541.00, Dogleg (°/100 ft): 0.59, Sensor Depth (ft): 6546.00, Bit To Sensor (ft): 75.00

MWD Activities

No Activities



Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Wednesday, May 13 00:00 - 23:59 (Day 10 of 28)

Billing: \$8,800.00 (\$282,174.41 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	6621.00	Downhole Hours	24.00	Rotating WOB (klbs)	28.00 - 42.00
Bit Depth (ft)	9190.00	Drilling Hours	21.33	Sliding WOB (klbs)	35.00 - 35.00
Bottom Hole Depth (ft)	9190.00	Hours Circulating	0.00	Rotating SPM	217.00 - 217.00
Total Distance (ft)	2569.00	Hours Sliding	2.75	Sliding SPM	204.00 - 204.00
Distance Rotated (ft)	2349.00	Hours Rotating	18.58	Motor RPM	0.00 - 0.00
Distance Slid (ft)	220.00			Surface RPM	35.00 - 70.00
Inclination In	4.48			Flow Rate (gpm)	650.00 - 700.00
Inclination Out	4.13			On Bottom Pressure (psi)	2800.00 - 3000.00
Azimuth In	36.44	% Hours Rotating	87%	Off Bottom Pressure (psi)	2300.00 - 2500.00
Azimuth Out	78.37	% Hours Sliding	13%		
AVG Total ROP (ft/h)	120.42	% Distance Sliding	9%		
AVG Rotating ROP (ft/h)	126.40	% Distance Rotating	91%		
AVG Sliding ROP (ft/h)	80.00				

Personnel

Name	Position
Advance Directional	Directional Driller
Robert Olivarez	MWD Engineer
Kyle Kusak	MWD Engineer
Paul Pierron	MWD Engineer

BHA #4 - Intermediate 8.5"

Date In: May 12, 2020, 10:15 Date Out: May 15, 2020, 5:00

Bit Details		Motor Details		Directional Comments
OD (in)	8.500	Size (in)	7.0	Flow Rate: 500-700, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, BIT Runs: 1
Vendor	ULTERRA	Lobe/Stage	7/8, 8.5	
S/N	52757	Bend Angle	1.5	
Nozzles	6x12's	Speed (rev/gal)	0.26	MWD Comments
Total Flow Area (in²)	0.662	Wear Pad OD (in)	7.210	
Drilling Hours for Day	21.33	Bit Distances		
Total Drilled for Day (ft)	2569.00	Bend: 5.32 ft, Survey: 75.00 ft, Resistivity: 61.06 ft, Gamma: 51.46 ft		POOH Reason
Drilling Hours for BHA	47.50			
Total Drilled for BHA (ft)	5385.00			
				Change Bottom Hole Assembly: POOH FOR CURVE ASSEMBLY

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: RPS616, Style: PDC, Gauge Length (in): 4.00, Size (in): 8.50	ULTERRA	52757	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 7" Contender 1.50° Fxd 7/8 8.5 w/ 8 1/4 NBS, Size (in): 7.00, Bend Angle (°): 1.5, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5	AIM	70040031	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.23	37.23
Stabilizer Description: 8 1/4 NM STAB	DTI	DR43606	4 1/2" IF Box	4 1/2" IF Pin	2.875	6.750		5.73	42.96
MWD Hangoff Sub Description: MWD/RESISTIVITY COLLAR, Type: NM	BENCHTREE	6501005	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.510		31.47	74.43
Drill Collar Description: BATTERY, Style: Slick Drill, Type: NM	BENCHTREE	B6001	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.460		17.39	91.82
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR41083	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.570		30.11	121.93
Crossover Sub Description: Crossover Sub, Type: Steel	Black Diamond	BD 15114	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.688		3.64	125.57
HWDP Description: 9 STANDS 5.5" HWDP, Style: Slick	Black Diamond		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		851.38	976.95

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	05-12	23:55	00:00	05-13	6621.00	6621.00	Inclination (°): 4.260, Azimuth (°): 38.990, TVD (ft): 6541.00, Dogleg (°/100 ft): 0.59, Sensor Depth (ft): 6546.00, Bit To Sensor (ft): 75.00

Rotary Drill	1	05-13	00:00	00:30	05-13	6621.00	6711.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 28.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-13	00:30	00:35	05-13	6711.00	6711.00	Inclination (°): 4.480, Azimuth (°): 36.440, TVD (ft): 6630.74, Dogleg (°/100 ft): 0.33, Sensor Depth (ft): 6636.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-13	00:35	00:45	05-13	6711.00	6800.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 28.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-13	00:45	00:50	05-13	6800.00	6800.00	Inclination (°): 5.140, Azimuth (°): 38.020, TVD (ft): 6719.43, Dogleg (°/100 ft): 0.76, Sensor Depth (ft): 6725.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-13	00:50	01:05	05-13	6800.00	6890.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 28.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-13	01:05	01:10	05-13	6890.00	6890.00	Inclination (°): 5.010, Azimuth (°): 36.180, TVD (ft): 6809.08, Dogleg (°/100 ft): 0.23, Sensor Depth (ft): 6815.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-13	01:10	01:25	05-13	6890.00	6980.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 28.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-13	01:25	01:30	05-13	6980.00	6980.00	Inclination (°): 4.750, Azimuth (°): 35.390, TVD (ft): 6898.75, Dogleg (°/100 ft): 0.30, Sensor Depth (ft): 6905.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-13	01:30	01:40	05-13	6980.00	6990.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 28.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Slide Drill	2	05-13	01:40	02:05	05-13	6990.00	7030.00	Pressure On (psi): 2800.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 35.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204, Toolface: 90, Toolface Type: magnetic
Rotary Drill	1	05-13	02:05	02:15	05-13	7030.00	7070.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 28.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-13	02:15	02:30	05-13	7070.00	7070.00	Inclination (°): 5.050, Azimuth (°): 36.970, TVD (ft): 6988.42, Dogleg (°/100 ft): 0.37, Sensor Depth (ft): 6995.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-13	02:30	02:45	05-13	7070.00	7159.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 28.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-13	02:45	02:50	05-13	7159.00	7159.00	Inclination (°): 6.730, Azimuth (°): 46.810, TVD (ft): 7076.95, Dogleg (°/100 ft): 2.20, Sensor Depth (ft): 7084.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-13	02:50	03:10	05-13	7159.00	7249.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 28.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-13	03:10	03:15	05-13	7249.00	7249.00	Inclination (°): 6.110, Azimuth (°): 47.960, TVD (ft): 7166.38, Dogleg (°/100 ft): 0.70, Sensor Depth (ft): 7174.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-13	03:15	03:45	05-13	7249.00	7339.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 28.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-13	03:45	03:50	05-13	7339.00	7339.00	Inclination (°): 5.230, Azimuth (°): 44.790, TVD (ft): 7255.94, Dogleg (°/100 ft): 1.04, Sensor Depth (ft): 7264.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-13	03:50	04:20	05-13	7339.00	7428.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 28.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-13	04:20	04:25	05-13	7428.00	7428.00	Inclination (°): 4.620, Azimuth (°): 46.550, TVD (ft): 7344.61, Dogleg (°/100 ft): 0.71, Sensor Depth (ft): 7353.00, Bit To Sensor (ft): 75.00
Slide Drill	2	05-13	04:25	04:45	05-13	7428.00	7448.00	Pressure On (psi): 2800.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 35.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204, Toolface: 100, Toolface Type: magnetic
Rotary Drill	1	05-13	04:45	05:15	05-13	7448.00	7517.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 28.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-13	05:15	05:20	05-13	7517.00	7517.00	Inclination (°): 4.970, Azimuth (°): 49.890, TVD (ft): 7433.30, Dogleg (°/100 ft): 0.50, Sensor Depth (ft): 7442.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-13	05:20	05:50	05-13	7517.00	7607.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 28.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-13	05:50	05:55	05-13	7607.00	7607.00	Inclination (°): 4.790, Azimuth (°): 50.770, TVD (ft): 7522.98, Dogleg (°/100 ft): 0.22, Sensor Depth (ft): 7532.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-13	05:55	06:25	05-13	7607.00	7697.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 28.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-13	06:25	06:35	05-13	7697.00	7697.00	Inclination (°): 4.440, Azimuth (°): 54.550, TVD (ft): 7612.69, Dogleg (°/100 ft): 0.52, Sensor Depth (ft): 7622.00, Bit To Sensor (ft): 75.00
Slide Drill	2	05-13	06:35	07:10	05-13	7697.00	7737.00	Pressure On (psi): 2800.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 35.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204, Toolface: 85, Toolface Type: magnetic
Rotary Drill	1	05-13	07:10	07:30	05-13	7737.00	7787.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 28.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-13	07:30	07:40	05-13	7787.00	7787.00	Inclination (°): 5.230, Azimuth (°): 60.520, TVD (ft): 7702.36, Dogleg (°/100 ft): 1.04, Sensor Depth (ft): 7712.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-13	07:40	08:05	05-13	7787.00	7876.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 28.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-13	08:05	08:10	05-13	7876.00	7876.00	Inclination (°): 6.330, Azimuth (°): 70.020, TVD (ft): 7790.91, Dogleg (°/100 ft): 1.63, Sensor Depth (ft): 7801.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-13	08:10	08:35	05-13	7876.00	7966.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 42.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00

Survey	46	05-13	08:35	08:40	05-13	7966.00	7966.00	Inclination (°): 5.670, Azimuth (°): 68.870, TVD (ft): 7880.42, Dogleg (°/100 ft): 0.75, Sensor Depth (ft): 7891.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-13	08:40	09:10	05-13	7966.00	8056.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 42.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-13	09:10	09:15	05-13	8056.00	8056.00	Inclination (°): 4.790, Azimuth (°): 67.910, TVD (ft): 7970.04, Dogleg (°/100 ft): 0.98, Sensor Depth (ft): 7981.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-13	09:15	09:25	05-13	8056.00	8067.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 42.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Slide Drill	2	05-13	09:25	09:55	05-13	8067.00	8107.00	Pressure On (psi): 2800.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 35.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204, Toolface: 70, Toolface Type: magnetic
Rotary Drill	1	05-13	09:55	10:10	05-13	8107.00	8145.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 42.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-13	10:10	10:15	05-13	8145.00	8145.00	Inclination (°): 4.570, Azimuth (°): 62.990, TVD (ft): 8058.75, Dogleg (°/100 ft): 0.51, Sensor Depth (ft): 8070.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-13	10:15	11:05	05-13	8145.00	8235.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 42.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-13	11:05	11:10	05-13	8235.00	8235.00	Inclination (°): 5.930, Azimuth (°): 64.480, TVD (ft): 8148.37, Dogleg (°/100 ft): 1.52, Sensor Depth (ft): 8160.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-13	11:10	12:15	05-13	8235.00	8325.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 42.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-13	12:15	12:20	05-13	8325.00	8325.00	Inclination (°): 5.490, Azimuth (°): 67.640, TVD (ft): 8237.92, Dogleg (°/100 ft): 0.60, Sensor Depth (ft): 8250.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-13	12:20	13:05	05-13	8325.00	8414.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 42.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-13	13:05	13:10	05-13	8414.00	8414.00	Inclination (°): 4.700, Azimuth (°): 68.520, TVD (ft): 8326.57, Dogleg (°/100 ft): 0.89, Sensor Depth (ft): 8339.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-13	13:10	13:20	05-13	8414.00	8420.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 42.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Slide Drill	2	05-13	13:20	14:00	05-13	8420.00	8460.00	Pressure On (psi): 2800.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 35.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204, Toolface: 70, Toolface Type: magnetic
Rotary Drill	1	05-13	14:00	14:25	05-13	8460.00	8504.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 42.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-13	14:25	14:30	05-13	8504.00	8504.00	Inclination (°): 5.230, Azimuth (°): 72.210, TVD (ft): 8416.23, Dogleg (°/100 ft): 0.69, Sensor Depth (ft): 8429.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-13	14:30	15:15	05-13	8504.00	8594.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 42.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-13	15:15	15:20	05-13	8594.00	8594.00	Inclination (°): 6.200, Azimuth (°): 72.040, TVD (ft): 8505.78, Dogleg (°/100 ft): 1.08, Sensor Depth (ft): 8519.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-13	15:20	16:20	05-13	8594.00	8683.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 42.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-13	16:20	16:25	05-13	8683.00	8683.00	Inclination (°): 5.410, Azimuth (°): 74.410, TVD (ft): 8594.33, Dogleg (°/100 ft): 0.93, Sensor Depth (ft): 8608.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-13	16:25	16:35	05-13	8683.00	8691.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 42.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Slide Drill	2	05-13	16:35	16:50	05-13	8691.00	8731.00	Pressure On (psi): 2800.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 35.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204, Toolface: 350, Toolface Type: gravity
Rotary Drill	1	05-13	16:50	18:05	05-13	8731.00	8773.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 42.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-13	18:05	18:10	05-13	8773.00	8773.00	Inclination (°): 5.670, Azimuth (°): 70.630, TVD (ft): 8683.91, Dogleg (°/100 ft): 0.50, Sensor Depth (ft): 8698.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-13	18:10	19:15	05-13	8773.00	8863.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 42.00, Surface RPM: 70, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-13	19:15	19:20	05-13	8863.00	8863.00	Inclination (°): 6.680, Azimuth (°): 66.590, TVD (ft): 8773.38, Dogleg (°/100 ft): 1.22, Sensor Depth (ft): 8788.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-13	19:20	20:35	05-13	8863.00	8952.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 42.00, Surface RPM: 35, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-13	20:35	20:40	05-13	8952.00	8952.00	Inclination (°): 6.070, Azimuth (°): 72.300, TVD (ft): 8861.83, Dogleg (°/100 ft): 0.99, Sensor Depth (ft): 8877.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-13	20:40	21:55	05-13	8952.00	9042.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 42.00, Surface RPM: 35, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-13	21:55	22:00	05-13	9042.00	9042.00	Inclination (°): 5.100, Azimuth (°): 73.880, TVD (ft): 8951.40, Dogleg (°/100 ft): 1.09, Sensor Depth (ft): 8967.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-13	22:00	22:55	05-13	9042.00	9132.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 42.00, Surface RPM: 35, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-13	22:55	23:00	05-13	9132.00	9132.00	Inclination (°): 4.130, Azimuth (°): 78.370, TVD (ft): 9041.11, Dogleg (°/100 ft): 1.15, Sensor Depth (ft): 9057.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-13	23:00	00:00	05-14	9132.00	9190.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 42.00, Surface RPM: 35, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00

MWD Activities

No Activities



Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Thursday, May 14 00:00 - 23:59 (Day 11 of 28) Billing: \$8,800.00 (\$282,174.41 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	9190.00	Downhole Hours	24.00	Rotating WOB (klbs)	42.00 - 42.00
Bit Depth (ft)	10742.00	Drilling Hours	20.92	Sliding WOB (klbs)	20.00 - 20.00
Bottom Hole Depth (ft)	10742.00	Hours Circulating	0.50	Rotating SPM	217.00 - 217.00
Total Distance (ft)	1552.00	Hours Sliding	1.83	Sliding SPM	204.00 - 204.00
Distance Rotated (ft)	1486.00	Hours Rotating	19.08	Motor RPM	0.00 - 0.00
Distance Slid (ft)	66.00			Surface RPM	35.00 - 35.00
Inclination In	3.25			Flow Rate (gpm)	650.00 - 700.00
Inclination Out	2.24			On Bottom Pressure (psi)	2500.00 - 3000.00
Azimuth In	77.40	% Hours Rotating	91%	Off Bottom Pressure (psi)	2200.00 - 2500.00
Azimuth Out	160.72	% Hours Sliding	9%		
AVG Total ROP (ft/h)	73.46	% Distance Sliding	4%		
AVG Rotating ROP (ft/h)	76.88	% Distance Rotating	96%		
AVG Sliding ROP (ft/h)	36.00				

Personnel

Name	Position
Advance Directional	Directional Driller
Robert Olivarez	MWD Engineer
Kyle Kusak	MWD Engineer
Paul Pierron	MWD Engineer

BHA #4 - Intermediate 8.5" Date In: May 12, 2020, 10:15 Date Out: May 15, 2020, 5:00

Bit Details		Motor Details		Directional Comments
OD (in)	8.500	Size (in)	7.0	Flow Rate: 500-700, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, BIT Runs: 1
Vendor	ULTERRA	Lobe/Stage	7/8, 8.5	
S/N	52757	Bend Angle	1.5	
Nozzles	6x12's	Speed (rev/gal)	0.26	MWD Comments
Total Flow Area (in²)	0.662	Wear Pad OD (in)	7.210	
Drilling Hours for Day	20.92	Bit Distances		
Total Drilled for Day (ft)	1552.00	Bend: 5.32 ft, Survey: 75.00 ft, Resistivity: 61.06 ft, Gamma: 51.46 ft		
Drilling Hours for BHA	47.50			POOH Reason
Total Drilled for BHA (ft)	5385.00			
				Change Bottom Hole Assembly: POOH FOR CURVE ASSEMBLY

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: RPS616, Style: PDC, Gauge Length (in): 4.00, Size (in): 8.50	ULTERRA	52757	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 7" Contender 1.50° Fxd 7/8 8.5 w/ 8 1/4 NBS, Size (in): 7.00, Bend Angle (°): 1.5, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5	AIM	70040031	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.23	37.23
Stabilizer Description: 8 1/4 NM STAB	DTI	DR43606	4 1/2" IF Box	4 1/2" IF Pin	2.875	6.750		5.73	42.96
MWD Hangoff Sub Description: MWD/RESISTIVITY COLLAR, Type: NM	BENCHTREE	6501005	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.510		31.47	74.43
Drill Collar Description: BATTERY, Style: Slick Drill, Type: NM	BENCHTREE	B6001	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.460		17.39	91.82
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR41083	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.570		30.11	121.93
Crossover Sub Description: Crossover Sub, Type: Steel	Black Diamond	BD 15114	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.688		3.64	125.57
HWDP Description: 9 STANDS 5.5" HWDP, Style: Slick	Black Diamond		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		851.38	976.95

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	05-13	23:00	00:00	05-14	9132.00	9190.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 42.00, Surface RPM: 35, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00

Rotary Drill	1	05-14	00:00	00:20	05-14	9190.00	9221.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 42.00, Surface RPM: 35, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-14	00:20	00:25	05-14	9221.00	9221.00	Inclination (°): 3.250, Azimuth (°): 77.400, TVD (ft): 9129.93, Dogleg (°/100 ft): 0.99, Sensor Depth (ft): 9146.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-14	00:25	01:25	05-14	9221.00	9311.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 42.00, Surface RPM: 35, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-14	01:25	01:30	05-14	9311.00	9311.00	Inclination (°): 2.640, Azimuth (°): 88.300, TVD (ft): 9219.81, Dogleg (°/100 ft): 0.92, Sensor Depth (ft): 9236.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-14	01:30	01:40	05-14	9311.00	9315.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 42.00, Surface RPM: 35, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Slide Drill	2	05-14	01:40	02:40	05-14	9315.00	9355.00	Pressure On (psi): 2500.00, Pressure Off (psi): 2200.00, Weight On Bit (klbs): 20.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204, Toolface: 45, Toolface Type: magnetic
Rotary Drill	1	05-14	02:40	03:15	05-14	9355.00	9401.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 42.00, Surface RPM: 35, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-14	03:15	03:20	05-14	9401.00	9401.00	Inclination (°): 2.150, Azimuth (°): 71.510, TVD (ft): 9309.73, Dogleg (°/100 ft): 0.95, Sensor Depth (ft): 9326.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-14	03:20	03:25	05-14	9401.00	9410.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 42.00, Surface RPM: 35, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Slide Drill	2	05-14	03:25	04:15	05-14	9410.00	9436.00	Pressure On (psi): 2500.00, Pressure Off (psi): 2200.00, Weight On Bit (klbs): 20.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204, Toolface: 45, Toolface Type: magnetic
Rotary Drill	1	05-14	04:15	04:55	05-14	9436.00	9490.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 42.00, Surface RPM: 35, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-14	04:55	05:00	05-14	9490.00	9490.00	Inclination (°): 2.680, Azimuth (°): 68.260, TVD (ft): 9398.65, Dogleg (°/100 ft): 0.61, Sensor Depth (ft): 9415.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-14	05:00	06:05	05-14	9490.00	9580.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 42.00, Surface RPM: 35, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-14	06:05	06:15	05-14	9580.00	9580.00	Inclination (°): 3.030, Azimuth (°): 77.220, TVD (ft): 9488.54, Dogleg (°/100 ft): 0.63, Sensor Depth (ft): 9505.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-14	06:15	07:15	05-14	9580.00	9670.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 42.00, Surface RPM: 35, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-14	07:15	07:20	05-14	9670.00	9670.00	Inclination (°): 2.990, Azimuth (°): 87.590, TVD (ft): 9578.42, Dogleg (°/100 ft): 0.61, Sensor Depth (ft): 9595.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-14	07:20	08:25	05-14	9670.00	9759.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 42.00, Surface RPM: 35, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-14	08:25	08:30	05-14	9759.00	9759.00	Inclination (°): 2.330, Azimuth (°): 88.830, TVD (ft): 9667.32, Dogleg (°/100 ft): 0.74, Sensor Depth (ft): 9684.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-14	08:30	09:55	05-14	9759.00	9849.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 42.00, Surface RPM: 35, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-14	09:55	10:00	05-14	9849.00	9849.00	Inclination (°): 2.200, Azimuth (°): 113.000, TVD (ft): 9757.25, Dogleg (°/100 ft): 1.06, Sensor Depth (ft): 9774.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-14	10:00	11:20	05-14	9849.00	9939.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 42.00, Surface RPM: 35, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-14	11:20	11:25	05-14	9939.00	9939.00	Inclination (°): 1.580, Azimuth (°): 132.860, TVD (ft): 9847.20, Dogleg (°/100 ft): 0.99, Sensor Depth (ft): 9864.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-14	11:25	12:40	05-14	9939.00	10028.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 42.00, Surface RPM: 35, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-14	12:40	12:50	05-14	10028.00	10028.00	Inclination (°): 1.670, Azimuth (°): 139.890, TVD (ft): 9936.17, Dogleg (°/100 ft): 0.25, Sensor Depth (ft): 9953.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-14	12:50	13:55	05-14	10028.00	10118.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 42.00, Surface RPM: 35, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-14	13:55	14:00	05-14	10118.00	10118.00	Inclination (°): 1.230, Azimuth (°): 160.630, TVD (ft): 10026.14, Dogleg (°/100 ft): 0.75, Sensor Depth (ft): 10043.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-14	14:00	15:30	05-14	10118.00	10208.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 42.00, Surface RPM: 35, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-14	15:30	15:35	05-14	10208.00	10208.00	Inclination (°): 1.010, Azimuth (°): 175.750, TVD (ft): 10116.12, Dogleg (°/100 ft): 0.41, Sensor Depth (ft): 10133.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-14	15:35	17:00	05-14	10208.00	10298.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 42.00, Surface RPM: 35, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-14	17:00	17:05	05-14	10298.00	10298.00	Inclination (°): 1.010, Azimuth (°): 171.880, TVD (ft): 10206.11, Dogleg (°/100 ft): 0.08, Sensor Depth (ft): 10223.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-14	17:05	17:20	05-14	10298.00	10387.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 42.00, Surface RPM: 35, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-14	17:20	18:25	05-14	10387.00	10387.00	Inclination (°): 1.410, Azimuth (°): 178.740, TVD (ft): 10295.09, Dogleg (°/100 ft): 0.48, Sensor Depth (ft): 10312.00, Bit To Sensor (ft): 75.00

Rotary Drill	1	05-14	18:25	21:05	05-14	10387.00	10567.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 42.00, Surface RPM: 35, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-14	21:05	21:10	05-14	10567.00	10567.00	Inclination (°): 2.110, Azimuth (°): 164.060, TVD (ft): 10475.00, Dogleg (°/100 ft): 0.46, Sensor Depth (ft): 10492.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-14	21:10	22:15	05-14	10567.00	10656.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 42.00, Surface RPM: 35, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-14	22:15	22:20	05-14	10656.00	10656.00	Inclination (°): 2.150, Azimuth (°): 151.930, TVD (ft): 10563.94, Dogleg (°/100 ft): 0.51, Sensor Depth (ft): 10581.00, Bit To Sensor (ft): 75.00
Rotary Drill	1	05-14	22:20	23:25	05-14	10656.00	10742.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 42.00, Surface RPM: 35, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 217.00
Survey	46	05-14	23:25	23:30	05-14	10742.00	10742.00	Inclination (°): 2.240, Azimuth (°): 160.720, TVD (ft): 10649.88, Dogleg (°/100 ft): 0.40, Sensor Depth (ft): 10667.00, Bit To Sensor (ft): 75.00
Circulating	3	05-14	23:30	00:00	05-15			

MWD Activities

No Activities



Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
		Company Man

Friday, May 15 00:00 - 23:59 (Day 12 of 28)

Billing: \$10,500.00 (\$282,174.41 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	10742.00	Downhole Hours	23.50	Rotating WOB (klbs)	35.00 - 35.00
Bit Depth (ft)	11447.00	Drilling Hours	6.50	Sliding WOB (klbs)	35.00 - 35.00
Bottom Hole Depth (ft)	11447.00	Hours Circulating	1.75	Rotating SPM	178.00 - 178.00
Total Distance (ft)	705.00	Hours Sliding	5.58	Sliding SPM	178.00 - 178.00
Distance Rotated (ft)	70.00	Hours Rotating	0.92	Motor RPM	0.00 - 0.00
Distance Slid (ft)	635.00			Surface RPM	35.00 - 35.00
Inclination In	5.14			Flow Rate (gpm)	575.00 - 575.00
Inclination Out	64.70			On Bottom Pressure (psi)	2400.00 - 2500.00
Azimuth In	170.04	% Hours Rotating	14%	Off Bottom Pressure (psi)	1850.00 - 1900.00
Azimuth Out	164.15	% Hours Sliding	86%		
AVG Total ROP (ft/h)	108.46	% Distance Sliding	90%		
AVG Rotating ROP (ft/h)	76.36	% Distance Rotating	10%		
AVG Sliding ROP (ft/h)	113.73				

Personnel

Name	Position
Advance Directional	Directional Driller
Robert Olivarez	MWD Engineer
Kyle Kusak	MWD Engineer
Paul Pierron	MWD Engineer

BHA #4 - Intermediate 8.5"

Date In: May 12, 2020, 10:15 Date Out: May 15, 2020, 5:00

Bit Details		Motor Details		Directional Comments
OD (in)	8.500	Size (in)	7.0	Flow Rate: 500-700, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, BIT Runs: 1
Vendor	ULTERRA	Lobe/Stage	7/8, 8.5	
S/N	52757	Bend Angle	1.5	
Nozzles	6x12's	Speed (rev/gal)	0.26	MWD Comments
Total Flow Area (in²)	0.662	Wear Pad OD (in)	7.210	
Drilling Hours for Day	0.00	Bit Distances		
Total Drilled for Day (ft)		Bend: 5.32 ft, Survey: 75.00 ft, Resistivity: 61.06 ft, Gamma: 51.46 ft		POOH Reason Change Bottom Hole Assembly: POOH FOR CURVE ASSEMBLY
Drilling Hours for BHA	47.50			
Total Drilled for BHA (ft)	5385.00			

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: RPS616, Style: PDC, Gauge Length (in): 4.00, Size (in): 8.50	ULTERRA	52757	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 7" Contender 1.50° Fxd 7/8 8.5 w/ 8 1/4 NBS, Size (in): 7.00, Bend Angle (°): 1.5, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5	AIM	70040031	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.23	37.23
Stabilizer Description: 8 1/4 NM STAB	DTI	DR43606	4 1/2" IF Box	4 1/2" IF Pin	2.875	6.750		5.73	42.96
MWD Hangoff Sub Description: MWD/RESISTIVITY COLLAR, Type: NM	BENCHTREE	6501005	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.510		31.47	74.43
Drill Collar Description: BATTERY, Style: Slick Drill, Type: NM	BENCHTREE	B6001	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.460		17.39	91.82
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR41083	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.570		30.11	121.93
Crossover Sub Description: Crossover Sub, Type: Steel	Black Diamond	BD 15114	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.688		3.64	125.57
HWDP Description: 9 STANDS 5.5" HWDP, Style: Slick	Black Diamond		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		851.38	976.95

MWD Items

No Items

BHA #5 - Curve 8.5"

Date In: May 15, 2020, 5:30 Date Out: May 16, 2020, 5:00

Bit Details		Motor Details		Directional Comments	
OD (in)	8.500	Size (in)	6.75	Flow Rate: 300-600, Max Diff: 1130 psi, Max Torque: 10,460 ft-lbs, BIT Runs: 0	
Vendor	ULTERRA	Lobe/Stage	7/8, 5.0		
S/N	52097	Bend Angle	2.12		
Nozzles	6x16's	Speed (rev/gal)	0.26	MWD Comments	
Total Flow Area (in²)	1.178	Wear Pad OD (in)	7.000		
Drilling Hours for Day	6.50	Bit Distances			
Total Drilled for Day (ft)	705.00	Bend: 4.03 ft, Gamma: 35.72 ft, Resistivity: 46.32 ft, Survey: 60.00 ft		POOH Reason	
Drilling Hours for BHA	6.50				
Total Drilled for BHA (ft)	705.00				
				Build Rate: POOH for BUR. MY fell off after 45' rotation. Yielded 1.25° the came back at 12-13°, needing 15°. Last slide yielded 11.8°. Needing 25° MY to land on the line. Decision made to POOH for 3° Adj Motor	

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: CF611, Style: PDC, Gauge Length (in): 3.00, Size (in): 8.50	ULTERRA	52097	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 2.12° Fxd 7/8 5.0 w/ SS, Size (in): 6.75, Bend Angle (°): 2.12, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 5.0	AIM	650-007	4 1/2" IF Box	4 1/2" Reg Box		6.750		26.22	27.22
MWD Hangoff Sub Description: MWD/RESISTIVITY COLLAR, Type: NM	BENCHTREE	6501005	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.510		31.47	58.69
Drill Collar Description: BATTERY, Style: Slick Drill, Type: NM	BENCHTREE	B6001	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.460		17.39	76.08
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR41083	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.570		30.11	106.19
Crossover Sub Description: Crossover Sub, Type: Steel	Black Diamond	BD 15114	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.688		3.64	109.83
Drill Pipe Description: 12 STANDS 5.5" DRILL PIPE, Style: Slick	RIG		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		1074.75	1184.58
HWDP Description: 9 STANDS 5.5" HWDP, Style: Slick	Black Diamond		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		851.38	2035.96

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	05-14	23:30	00:00	05-15			
Pooh	7	05-15	00:00	05:00	05-15			POOH for curve assembly
Change BHA	6	05-15	05:00	05:30	05-15			P/U BHA # 5
Other	16	05-15	05:30	06:15	05-15			DUMP & PROGRAM RES / MWD TOOL
P/U DP	29	05-15	06:15	06:25	05-15			P/U STAND OF DP & X-O SUB
Other	16	05-15	06:25	07:05	05-15			TEST RES/MWD TOOL
Other	16	05-15	07:05	07:25	05-15			M/U BIT & P/U NMDC
Rig Service - In Hole	19	05-15	07:25	08:35	05-15			RIG SERVICE
TIH	8	05-15	08:35	12:45	05-15			TIH W/ BHA #5
Other	16	05-15	12:45	13:00	05-15			FILL PIPE & BREAK CIRCULATION
Circulating	3	05-15	13:00	13:50	05-15			WASH/REAM & RELOG 30' OF GAMMA
Slide Drill	2	05-15	13:50	14:55	05-15	10742.00	10820.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1850.00, Weight On Bit (klbs): 35.00, Flow Rate (gpm): 575.00, Strokes Per Minute: 178, Toolface: 160, Toolface Type: magnetic
Survey	46	05-15	14:55	15:10	05-15	10820.00	10820.00	Inclination (°): 5.140, Azimuth (°): 170.040, TVD (ft): 10742.68, Dogleg (°/100 ft): 3.17, Sensor Depth (ft): 10760.00, Bit To Sensor (ft): 60.00
Slide Drill	2	05-15	15:10	15:55	05-15	10820.00	10909.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1850.00, Weight On Bit (klbs): 35.00, Flow Rate (gpm): 575.00, Strokes Per Minute: 178, Toolface: 340, Toolface Type: gravity
Survey	46	05-15	15:55	16:05	05-15	10909.00	10909.00	Inclination (°): 17.190, Azimuth (°): 151.230, TVD (ft): 10829.85, Dogleg (°/100 ft): 13.97, Sensor Depth (ft): 10849.00, Bit To Sensor (ft): 60.00
Slide Drill	2	05-15	16:05	16:45	05-15	10909.00	10999.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1850.00, Weight On Bit (klbs): 35.00, Flow Rate (gpm): 575.00, Strokes Per Minute: 178, Toolface: 30, Toolface Type: gravity
Survey	46	05-15	16:45	16:55	05-15	10999.00	10999.00	Inclination (°): 29.670, Azimuth (°): 155.090, TVD (ft): 10912.27, Dogleg (°/100 ft): 13.96, Sensor Depth (ft): 10939.00, Bit To Sensor (ft): 60.00
Rotary Drill	1	05-15	16:55	17:15	05-15	10999.00	11024.00	Pressure On (psi): 2400.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 35.00, Surface RPM: 35, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 575.00, Strokes Per Minute: 178.00

Slide Drill	2	05-15	17:15	17:50	05-15	11024.00	11089.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1850.00, Weight On Bit (klbs): 35.00, Flow Rate (gpm): 575.00, Strokes Per Minute: 178, Toolface: 20, Toolface Type: gravity
Survey	46	05-15	17:50	18:00	05-15	11089.00	11089.00	Inclination (°): 37.490, Azimuth (°): 163.970, TVD (ft): 10987.24, Dogleg (°/100 ft): 10.24, Sensor Depth (ft): 11029.00, Bit To Sensor (ft): 60.00
Rotary Drill	1	05-15	18:00	18:35	05-15	11089.00	11134.00	Pressure On (psi): 2400.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 35.00, Surface RPM: 35, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 575.00, Strokes Per Minute: 178.00
Slide Drill	2	05-15	18:35	18:50	05-15	11134.00	11178.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1850.00, Weight On Bit (klbs): 35.00, Flow Rate (gpm): 575.00, Strokes Per Minute: 178, Toolface: 0, Toolface Type: gravity
Survey	46	05-15	18:50	18:55	05-15	11178.00	11178.00	Inclination (°): 42.990, Azimuth (°): 167.310, TVD (ft): 11055.16, Dogleg (°/100 ft): 6.64, Sensor Depth (ft): 11118.00, Bit To Sensor (ft): 60.00
Slide Drill	2	05-15	18:55	19:45	05-15	11178.00	11268.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1850.00, Weight On Bit (klbs): 35.00, Flow Rate (gpm): 575.00, Strokes Per Minute: 178, Toolface: 0, Toolface Type: gravity
Survey	46	05-15	19:45	19:50	05-15	11268.00	11268.00	Inclination (°): 44.400, Azimuth (°): 167.840, TVD (ft): 11120.23, Dogleg (°/100 ft): 1.62, Sensor Depth (ft): 11208.00, Bit To Sensor (ft): 60.00
Slide Drill	2	05-15	19:50	20:30	05-15	11268.00	11358.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1850.00, Weight On Bit (klbs): 35.00, Flow Rate (gpm): 575.00, Strokes Per Minute: 178, Toolface: 0, Toolface Type: gravity
Survey	46	05-15	20:30	20:35	05-15	11358.00	11358.00	Inclination (°): 54.460, Azimuth (°): 161.600, TVD (ft): 11178.72, Dogleg (°/100 ft): 12.35, Sensor Depth (ft): 11298.00, Bit To Sensor (ft): 60.00
Slide Drill	2	05-15	20:35	21:20	05-15	11358.00	11447.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1850.00, Weight On Bit (klbs): 35.00, Flow Rate (gpm): 575.00, Strokes Per Minute: 178, Toolface: 30, Toolface Type: gravity
Survey	46	05-15	21:20	21:35	05-15	11447.00	11447.00	Inclination (°): 64.700, Azimuth (°): 164.150, TVD (ft): 11223.73, Dogleg (°/100 ft): 11.77, Sensor Depth (ft): 11387.00, Bit To Sensor (ft): 60.00
Circulating	3	05-15	21:35	22:30	05-15			
Pooh	7	05-15	22:30	05:00	05-16			POOH for Bail Out Curve Assembly

MWD Activities

No Activities



Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Saturday, May 16 00:00 - 23:59 (Day 13 of 28)

Billing: \$16,072.63 (\$282,174.41 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	11447.00	Downhole Hours	18.50	Rotating WOB (klbs)	
Bit Depth (ft)	11529.00	Drilling Hours	1.83	Sliding WOB (klbs)	35.00 - 35.00
Bottom Hole Depth (ft)	11529.00	Hours Circulating	1.00	Rotating SPM	
Total Distance (ft)	82.00	Hours Sliding	1.83	Sliding SPM	178.00 - 178.00
Distance Rotated (ft)	0.00	Hours Rotating	0.00	Motor RPM	0.00 - 143.00
Distance Slid (ft)	82.00			Surface RPM	
Inclination In	79.87			Flow Rate (gpm)	575.00 - 575.00
Inclination Out	79.87			On Bottom Pressure (psi)	2500.00 - 2500.00
Azimuth In	169.93	% Hours Rotating	0%	Off Bottom Pressure (psi)	1850.00 - 1850.00
Azimuth Out	169.93	% Hours Sliding	100%		
AVG Total ROP (ft/h)	44.73	% Distance Sliding	100%		
AVG Rotating ROP (ft/h)	0.00	% Distance Rotating	0%		
AVG Sliding ROP (ft/h)	44.73				

Personnel

Name	Position
Advance Directional	Directional Driller
Kyle Kusak	MWD Engineer
Paul Pierron	MWD Engineer

BHA #5 - Curve 8.5"

Date In: May 15, 2020, 5:30 Date Out: May 16, 2020, 5:00

Bit Details		Motor Details		Directional Comments
OD (in)	8.500	Size (in)	6.75	Flow Rate: 300-600, Max Diff: 1130 psi, Max Torque: 10,460 ft-lbs, BIT Runs: 0
Vendor	ULTERRA	Lobe/Stage	7/8, 5.0	
S/N	52097	Bend Angle	2.12	
Nozzles	6x16's	Speed (rev/gal)	0.26	MWD Comments
Total Flow Area (in²)	1.178	Wear Pad OD (in)	7.000	
Drilling Hours for Day	0.00	Bit Distances		
Total Drilled for Day (ft)		Bend: 4.03 ft, Gamma: 35.72 ft, Resistivity: 46.32 ft, Survey: 60.00 ft		POOH Reason
Drilling Hours for BHA	6.50			
Total Drilled for BHA (ft)	705.00			
				Build Rate: POOH for BUR. MY fell off after 45' rotation. Yielded 1.25° the came back at 12-13°, needing 15°. Last slide yielded 11.8°. Needing 25° MY to land on the line. Decision made to POOH for 3° Adj Motor

Build Rate: POOH for BUR. MY fell off after 45' rotation. Yielded 1.25° the came back at 12-13°, needing 15°. Last slide yielded 11.8°. Needing 25° MY to land on the line. Decision made to POOH for 3° Adj Motor

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: CF611, Style: PDC, Gauge Length (in): 3.00, Size (in): 8.50	ULTERRA	52097	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 2.12° Fxd 7/8 5.0 w/ SS, Size (in): 6.75, Bend Angle (°): 2.12, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 5.0	AIM	650-007	4 1/2" IF Box	4 1/2" Reg Box		6.750		26.22	27.22
MWD Hangoff Sub Description: MWD/RESISTIVITY COLLAR, Type: NM	BENCHTREE	6501005	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.510		31.47	58.69
Drill Collar Description: BATTERY, Style: Slick Drill, Type: NM	BENCHTREE	B6001	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.460		17.39	76.08
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR41083	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.570		30.11	106.19
Crossover Sub Description: Crossover Sub, Type: Steel	Black Diamond	BD 15114	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.688		3.64	109.83
Drill Pipe Description: 12 STANDS 5.5" DRILL PIPE, Style: Slick	RIG		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		1074.75	1184.58
HWDP Description: 9 STANDS 5.5" HWDP, Style: Slick	Black Diamond		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		851.38	2035.96

MWD Items

No Items

BHA #6 - Curve 8.5" Bail Out

Date In: May 16, 2020, 10:30 Date Out: May 17, 2020, 3:30

Bit Details		Motor Details		Directional Comments	
OD (in)	8.500	Size (in)	6.77	Flow Rate: 300-600, Max Diff: 1130 psi, Max Torque: 10,460 ft-lbs, BIT Runs: 1	
Vendor	ULTERRA	Lobe/Stage	7/8, 5.0		
S/N	51968	Bend Angle	3.0		
Nozzles	6x16's	Speed (rev/gal)	0.26	MWD Comments	
Total Flow Area (in²)	1.178	Wear Pad OD (in)	7.350	POOH Reason Total Depth/Casing Point: Landed Curve 3° motor yielding 23°/100'	
Drilling Hours for Day	1.83	Bit Distances			
Total Drilled for Day (ft)	82.00	Bend: 5.22 ft, Gamma: 37.00 ft, Resistivity: 47.00 ft, Survey: 61.00 ft			
Drilling Hours for BHA	1.83				
Total Drilled for BHA (ft)	82.00				

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: CF611, Style: PDC, Gauge Length (in): 3.00, Size (in): 8.50	ULTERRA	51968	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 3° Adj 7/8 5.0 w/ SS, Size (in): 6.77, Bend Angle (°): 3, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 5	AIM	650-021	4 1/2" IF Box	4 1/2" Reg Box		6.770		27.55	28.55
MWD Hangoff Sub Description: MWD/RESISTIVITY COLLAR, Type: NM	BENCHTREE	650100	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.510		31.35	59.90
Drill Collar Description: BATTERY, Style: Slick Drill, Type: NM	BENCHTREE	B6001	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.460		17.39	77.29
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR41083	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.570		30.11	107.40
Crossover Sub Description: Crossover Sub, Type: Steel	Black Diamond	BD 15114	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.688		3.64	111.04
Drill Pipe Description: 12 STANDS 5.5" DRILL PIPE, Style: Slick	RIG		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		1074.75	1185.79
HWDP Description: 9 STANDS 5.5" HWDP, Style: Slick	Black Diamond		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		851.38	2037.17

MWD Items

No Items

Directional Activities

Activity Type	Code	Start Date	Start Time	End Time	End Date	Start (ft)	End (ft)	Comments/Details
Pooh	7	05-15	22:30	05:00	05-16			POOH for Bail Out Curve Assembly
Change BHA	6	05-16	05:00	05:30	05-16			C/O MOTOR
Other	16	05-16	05:30	07:30	05-16			ATTEMPT TO DUMP RES TOOL (FAILED)
Other	16	05-16	07:30	09:00	05-16			C/O RES TOOL & PROGRAM
Other	16	05-16	09:00	09:15	05-16			DIAL UP MOTOR TO 3°
Other	16	05-16	09:15	10:10	05-16			TEST RES TOOL
Other	16	05-16	10:10	10:30	05-16			M/U BIT & P/U NMDC
TIH	8	05-16	10:30	12:30	05-16			TIH W/ BHA #6
Other	16	05-16	12:30	17:00	05-16			RELOG
Circulating	3	05-16	17:00	17:15	05-16			CIRC GAS
Slide Drill	2	05-16	17:15	18:30	05-16	11447.00	11508.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1850.00, Weight On Bit (klbs): 35.00, Flow Rate (gpm): 575.00, Strokes Per Minute: 178, Toolface: 0, Toolface Type: gravity
Slide Drill	2	05-16	18:30	19:05	05-16	11508.00	11529.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1850.00, Weight On Bit (klbs): 35.00, Flow Rate (gpm): 575.00, Strokes Per Minute: 178, Toolface: 50, Toolface Type: gravity
Survey	46	05-16	19:05	19:10	05-16	11529.00	11529.00	Inclination (°): 79.870, Azimuth (°): 169.930, TVD (ft): 11248.33, Dogleg (°/100 ft): 19.91, Sensor Depth (ft): 11468.00, Bit To Sensor (ft): 61.00
Circulating	3	05-16	19:10	19:55	05-16			
Pooh	7	05-16	19:55	02:15	05-17			POOH

MWD Activities

No Activities



Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
		Company Man

Sunday, May 17 00:00 - 23:59 (Day 14 of 28)

Billing: N/A (\$282,174.41 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)		Downhole Hours	3.50	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	143.00 - 143.00
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
Advance Directional	Directional Driller
Kyle Kusak	MWD Engineer
Paul Pierron	MWD Engineer

BHA #6 - Curve 8.5" Bail Out

Date In: May 16, 2020, 10:30 Date Out: May 17, 2020, 3:30

Bit Details		Motor Details		Directional Comments
OD (in)	8.500	Size (in)	6.77	Flow Rate: 300-600, Max Diff: 1130 psi, Max Torque: 10,460 ft-lbs, BIT Runs: 1
Vendor	ULTERRA	Lobe/Stage	7/8, 5.0	
S/N	51968	Bend Angle	3.0	
Nozzles	6x16's	Speed (rev/gal)	0.26	MWD Comments
Total Flow Area (in²)	1.178	Wear Pad OD (in)	7.350	
Drilling Hours for Day	0.00	Bit Distances		POOH Reason
Total Drilled for Day (ft)		Bend: 5.22 ft, Gamma: 37.00 ft, Resistivity: 47.00 ft, Survey: 61.00 ft		
Drilling Hours for BHA	1.83			
Total Drilled for BHA (ft)	82.00			Total Depth/Casing Point: Landed Curve 3° motor yielding 23°/100'

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: CF611, Style: PDC, Gauge Length (in): 3.00, Size (in): 8.50	ULTERRA	51968	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 3° Adj 7/8 5.0 w/ SS, Size (in): 6.77, Bend Angle (°): 3, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 5	AIM	650-021	4 1/2" IF Box	4 1/2" Reg Box		6.770		27.55	28.55
MWD Hangoff Sub Description: MWD/RESISTIVITY COLLAR, Type: NM	BENCHTREE	650100	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.510		31.35	59.90
Drill Collar Description: BATTERY, Style: Slick Drill, Type: NM	BENCHTREE	B6001	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.460		17.39	77.29
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR41083	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.570		30.11	107.40
Crossover Sub Description: Crossover Sub, Type: Steel	Black Diamond	BD 15114	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.688		3.64	111.04
Drill Pipe Description: 12 STANDS 5.5" DRILL PIPE, Style: Slick	RIG		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		1074.75	1185.79
HWDP Description: 9 STANDS 5.5" HWDP, Style: Slick	Black Diamond		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		851.38	2037.17

MWD Items

No Items

Directional Activities

Activity Type	Code	Start Date	Start Time	End Time	End Date	Start (ft)	End (ft)	Comments/Details
Pooh	7	05-16	19:55	02:15	05-17			POOH
Change BHA	6	05-17	02:15	03:30	05-17			L/D BHA 6
Standby	15	05-17	03:30	06:00	05-17			Standby. Set Packer. Walk Rig to 511H

MWD Activities

No Activities

	Job Number WT-20-035	Operator Advance Energy Partners		Rig Name H&P #389
	Start Date 2020-03-09	Well Name Merchant State Unit 553H		Legal Well Name AFE Merchant State Unit 553H
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Saturday, May 23 00:00 - 23:59 (Day 15 of 28) Billing: \$1,100.00 (\$282,174.41 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
Advance Directional	Directional Driller
Kyle Kusak	MWD Engineer
Paul Pierron	MWD Engineer

No BHAs

Directional Activities								
Activity Type	Code	Start Date	Start Time	End Time	End Date	Start (ft)	End (ft)	Comments/Details
Standby	15	05-23	00:00	03:30	05-24			Walk rig from 604. Retrieve Packer

MWD Activities								
No Activities								



Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
		Company Man

Sunday, May 24 00:00 - 23:59 (Day 16 of 28)

Billing: \$28,840.00 (\$282,174.41 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	11529.00	Downhole Hours	20.00	Rotating WOB (klbs)	25.00 - 25.00
Bit Depth (ft)	11797.00	Drilling Hours	5.08	Sliding WOB (klbs)	35.00 - 35.00
Bottom Hole Depth (ft)	11797.00	Hours Circulating	1.58	Rotating SPM	194.00 - 194.00
Total Distance (ft)	268.00	Hours Sliding	1.33	Sliding SPM	216.00 - 216.00
Distance Rotated (ft)	196.00	Hours Rotating	3.75	Motor RPM	182.00 - 182.00
Distance Slid (ft)	72.00			Surface RPM	10.00 - 70.00
Inclination In	86.20			Flow Rate (gpm)	625.00 - 700.00
Inclination Out	89.27			On Bottom Pressure (psi)	3800.00 - 4000.00
Azimuth In	170.74	% Hours Rotating	74%	Off Bottom Pressure (psi)	3300.00 - 3500.00
Azimuth Out	174.87	% Hours Sliding	26%		
AVG Total ROP (ft/h)	52.72	% Distance Sliding	27%		
AVG Rotating ROP (ft/h)	52.27	% Distance Rotating	73%		
AVG Sliding ROP (ft/h)	54.00				

Personnel

Name	Position
Advance Directional	Directional Driller
Kyle Kusak	MWD Engineer
Paul Pierron	MWD Engineer

BHA #7 - Lateral w/ Agitator 8.5"

Date In: May 24, 2020, 4:00 Date Out: May 25, 2020, 5:30

Bit Details		Motor Details		Directional Comments
OD (in)	8.500	Size (in)	7.0	Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, Bit Runs: 0
Vendor	NOV	Lobe/Stage	7/8, 8.5	
S/N	A264974	Bend Angle	1.75	
Nozzles	6-22's	Speed (rev/gal)	0.26	MWD Comments
Total Flow Area (in²)	2.227	Wear Pad OD (in)	7.180	POOH Reason Downhole Tool Incident
Drilling Hours for Day	5.08	Bit Distances		
Total Drilled for Day (ft)	268.00	Bend: 5.33 ft, Survey: 70.00 ft, Gamma: 46.00 ft, Resistivity: 56.00 ft, Other (Agitator): 2631.00 ft		
Drilling Hours for BHA	5.08			
Total Drilled for BHA (ft)	268.00			

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: TKC66, Style: PDC, Gauge Length (in): 4.00, Size (in): 8.50	NOV	A264974	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 7" 7/8 8.5 1.75° FXD w/ SS, Size (in): 7.00, Bend Angle (°): 1.75, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5	AIM	700-40-037	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.25	37.25
MWD Hangoff Sub Description: MWD/RESISTIVITY COLLAR, Type: NM	BENCHTREE	6501010	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		31.52	68.77
Drill Collar Description: BATTERY, Style: Slick Drill, Type: NM	BENCHTREE	B6008X	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		17.39	86.16
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR41083	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.570		29.27	115.43
Crossover Sub Description: Crossover Sub, Type: Steel	Black Diamond	BD 15114	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.688		3.64	119.07
Drill Pipe Description: 28 STANDS DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		2508.93	2628.00
Crossover Sub Description: CROSSOVER SUB, Type: Steel	BLACK DIAMOND	BD11665	4 1/2" IF Box	EverDrlg54 Pin	3.500	6.740		3.56	2631.56
Agitator Description: AGITATOR, Size (in): 6.94	NOV	147-0041	4 1/2" IF Box	4 1/2" IF Pin		6.940		25.44	2657.00
Crossover Sub Description: CROSSOVER SUB, Type: Steel	BLACK DIAMOND	BD15115	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.770		3.66	2660.66
Drill Pipe Description: 92 STANDS DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		8246.66	10907.32
HWDP Description: 9 STANDS 5.5" HWDP, Style: Slick	Black Diamond		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		851.38	11758.70

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	05-23	00:00	03:30	05-24			Walk rig from 604. Retrieve Packer
Lay Down BHA	65	05-24	03:30	04:00	05-24			L/D Racked Back BHA from 604
Pick Up BHA	64	05-24	04:00	04:55	05-24			P/U BHA 7
Other	16	05-24	04:55	06:00	05-24			Program MWD
Other	16	05-24	06:00	06:30	05-24			M/U BIT & P/U NMDC
Other	16	05-24	06:30	07:30	05-24			TEST RES TOOL
TIH	8	05-24	07:30	09:15	05-24			TIH W/ BHA #7
Other	16	05-24	09:15	10:15	05-24			TEST BEFORE (900 psi) & AFTER (1200 psi) PICKING UP AGITATOR
TIH	8	05-24	10:15	14:45	05-24			TIH W/ BHA #7
Other	16	05-24	14:45	15:00	05-24			DOWNLINK RES TOOL
Other	16	05-24	15:00	15:20	05-24			RELOG 30' RES / GAMMA
Rotary Drill	1	05-24	15:20	16:15	05-24	11529.00	11569.00	Pressure On (psi): 4000.00, Pressure Off (psi): 3500.00, Weight On Bit (klbs): 25.00, Surface RPM: 10, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Other	16	05-24	16:15	16:35	05-24			RELOG
Survey	46	05-24	16:35	16:40	05-24	11569.00	11569.00	Inclination (°): 86.200, Azimuth (°): 170.740, TVD (ft): 11252.08, Dogleg (°/100 ft): 20.58, Sensor Depth (ft): 11499.00, Bit To Sensor (ft): 70.00
Other	16	05-24	16:40	17:05	05-24			DOWNLINK
Rotary Drill	1	05-24	17:05	18:55	05-24	11569.00	11663.00	Pressure On (psi): 4000.00, Pressure Off (psi): 3500.00, Weight On Bit (klbs): 25.00, Surface RPM: 70, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	05-24	18:55	19:00	05-24	11663.00	11663.00	Inclination (°): 89.540, Azimuth (°): 173.460, TVD (ft): 11255.58, Dogleg (°/100 ft): 4.58, Sensor Depth (ft): 11593.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-24	19:00	19:10	05-24	11663.00	11664.00	Pressure On (psi): 4000.00, Pressure Off (psi): 3500.00, Weight On Bit (klbs): 25.00, Surface RPM: 70, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Slide Drill	2	05-24	19:10	19:50	05-24	11664.00	11699.00	Pressure On (psi): 3800.00, Pressure Off (psi): 3300.00, Weight On Bit (klbs): 35.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 216, Toolface: 70, Toolface Type: gravity
Rotary Drill	1	05-24	19:50	20:35	05-24	11699.00	11758.00	Pressure On (psi): 4000.00, Pressure Off (psi): 3500.00, Weight On Bit (klbs): 25.00, Surface RPM: 70, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	05-24	20:35	20:50	05-24	11758.00	11758.00	Inclination (°): 89.270, Azimuth (°): 174.870, TVD (ft): 11256.56, Dogleg (°/100 ft): 1.51, Sensor Depth (ft): 11688.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-24	20:50	20:55	05-24	11758.00	11760.00	Pressure On (psi): 4000.00, Pressure Off (psi): 3500.00, Weight On Bit (klbs): 25.00, Surface RPM: 70, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Slide Drill	2	05-24	20:55	21:35	05-24	11760.00	11797.00	Pressure On (psi): 3800.00, Pressure Off (psi): 3300.00, Weight On Bit (klbs): 35.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 216, Toolface: 60, Toolface Type: gravity
Circulating	3	05-24	21:35	22:10	05-24			Troubleshoot MWD
Circulating	3	05-24	22:10	23:10	05-24			
Pooh	7	05-24	23:10	04:00	05-25			POOH

MWD Activities

No Activities



Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Monday, May 25 00:00 - 23:59 (Day 17 of 28)

Billing: \$9,000.00 (\$282,174.41 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	11797.00	Downhole Hours	24.00	Rotating WOB (klbs)	30.00 - 30.00
Bit Depth (ft)	12625.00	Drilling Hours	9.92	Sliding WOB (klbs)	35.00 - 35.00
Bottom Hole Depth (ft)	12625.00	Hours Circulating	0.00	Rotating SPM	194.00 - 194.00
Total Distance (ft)	828.00	Hours Sliding	3.17	Sliding SPM	194.00 - 194.00
Distance Rotated (ft)	673.00	Hours Rotating	6.75	Motor RPM	182.00 - 182.00
Distance Slid (ft)	155.00			Surface RPM	40.00 - 80.00
Inclination In	89.54			Flow Rate (gpm)	625.00 - 625.00
Inclination Out	87.21			On Bottom Pressure (psi)	4200.00 - 4250.00
Azimuth In	176.19	% Hours Rotating	68%	Off Bottom Pressure (psi)	3800.00 - 3800.00
Azimuth Out	180.76	% Hours Sliding	32%		
AVG Total ROP (ft/h)	83.50	% Distance Sliding	19%		
AVG Rotating ROP (ft/h)	99.70	% Distance Rotating	81%		
AVG Sliding ROP (ft/h)	48.95				

Personnel

Name	Position
Advance Directional	Directional Driller
Kyle Kusak	MWD Engineer
Paul Pierron	MWD Engineer

BHA #7 - Lateral w/ Agitator 8.5"

Date In: May 24, 2020, 4:00 Date Out: May 25, 2020, 5:30

Bit Details		Motor Details		Directional Comments
OD (in)	8.500	Size (in)	7.0	Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, Bit Runs: 0
Vendor	NOV	Lobe/Stage	7/8, 8.5	
S/N	A264974	Bend Angle	1.75	
Nozzles	6-22's	Speed (rev/gal)	0.26	MWD Comments
Total Flow Area (in²)	2.227	Wear Pad OD (in)	7.180	POOH Reason Downhole Tool Incident
Drilling Hours for Day	0.00	Bit Distances		
Total Drilled for Day (ft)		Bend: 5.33 ft, Survey: 70.00 ft, Gamma: 46.00 ft, Resistivity: 56.00 ft, Other (Agitator): 2631.00 ft		
Drilling Hours for BHA	5.08			
Total Drilled for BHA (ft)	268.00			

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: TKC66, Style: PDC, Gauge Length (in): 4.00, Size (in): 8.50	NOV	A264974	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 7" 7/8 8.5 1.75° FXD w/ SS, Size (in): 7.00, Bend Angle (°): 1.75, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5	AIM	700-40-037	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.25	37.25
MWD Hangoff Sub Description: MWD/RESISTIVITY COLLAR, Type: NM	BENCHTREE	6501010	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		31.52	68.77
Drill Collar Description: BATTERY, Style: Slick Drill, Type: NM	BENCHTREE	B6008X	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		17.39	86.16
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR41083	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.570		29.27	115.43
Crossover Sub Description: Crossover Sub, Type: Steel	Black Diamond	BD 15114	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.688		3.64	119.07
Drill Pipe Description: 28 STANDS DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		2508.93	2628.00
Crossover Sub Description: CROSSOVER SUB, Type: Steel	BLACK DIAMOND	BD11665	4 1/2" IF Box	EverDrlg54 Pin	3.500	6.740		3.56	2631.56
Agitator Description: AGITATOR, Size (in): 6.94	NOV	147-0041	4 1/2" IF Box	4 1/2" IF Pin		6.940		25.44	2657.00
Crossover Sub Description: CROSSOVER SUB, Type: Steel	BLACK DIAMOND	BD15115	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.770		3.66	2660.66
Drill Pipe Description: 92 STANDS DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		8246.66	10907.32
HWDP Description: 9 STANDS 5.5" HWDP, Style: Slick	Black Diamond		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		851.38	11758.70

MWD Items

No Items

BHA #8 - Lateral 8.5"

Date In: May 25, 2020, 5:30 Date Out: May 28, 2020, 10:00

Bit Details		Motor Details		Directional Comments
OD (in)	8.500	Size (in)	7.0	Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, Bit Runs: 0
Vendor	NOV	Lobe/Stage	7/8, 8.5	
S/N	A264974	Bend Angle	1.75	
Nozzles	6-22's	Speed (rev/gal)	0.26	MWD Comments
Total Flow Area (in²)	2.227	Wear Pad OD (in)	7.180	
Drilling Hours for Day	9.92	Bit Distances		
Total Drilled for Day (ft)	828.00	Bend: 5.33 ft, Survey: 70.00 ft, Gamma: 46.00 ft,		
Drilling Hours for BHA	54.08	Resistivity: 56.00 ft, Other (Agitator): 2631.00 ft		
Total Drilled for BHA (ft)	3728.00			
				POOH Reason
				Downhole Tool Incident: could not decode

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: TKC66, Style: PDC, Gauge Length (in): 4.00, Size (in): 8.50	NOV	A264974	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 7" 7/8 8.5 1.75° FXD w/ SS, Size (in): 7.00, Bend Angle (°): 1.75, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5	AIM	700-40-037	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.25	37.25
MWD Hangoff Sub Description: MWD/RESISTIVITY COLLAR, Type: NM	BENCHTREE	6501007	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		31.35	68.60
Drill Collar Description: BATTERY, Style: Slick Drill, Type: NM	BENCHTREE	B6008X	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		17.39	85.99
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR41083	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.570		29.27	115.26
Crossover Sub Description: Crossover Sub, Type: Steel	Black Diamond	BD 15114	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.688		3.64	118.90
Drill Pipe Description: 28 STANDS DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		2508.93	2627.83
Crossover Sub Description: CROSSOVER SUB, Type: Steel	BLACK DIAMOND	BD11665	4 1/2" IF Box	EverDrlg54 Pin	3.500	6.740		3.56	2631.39
Agitator Description: AGITATOR, Size (in): 6.94	NOV	147-0041	4 1/2" IF Box	4 1/2" IF Pin		6.940		25.44	2656.83
Crossover Sub Description: CROSSOVER SUB, Type: Steel	BLACK DIAMOND	BD15115	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.770		3.66	2660.49
Drill Pipe Description: 92 STANDS DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		8246.66	10907.15
HWDP Description: 9 STANDS 5.5" HWDP, Style: Slick	Black Diamond		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		851.38	11758.53

MWD Items

No Items

Directional Activities

Activity Type	Code	Start Date	Start Time	End Time	End Date	Start (ft)	End (ft)	Comments/Details
Pooh	7	05-24	23:10	04:00	05-25			POOH
Change BHA	6	05-25	04:00	05:30	05-25			P/U BHA #8 / C/O RESISTIVITY TOOL
Other	16	05-25	05:30	06:15	05-25			PROGRAM RESISTIVITY / MWD TOOL
Other	16	05-25	06:15	06:30	05-25			TEST RESISTIVITY / MWD TOOL
TIH	8	05-25	06:30	07:40	05-25			TIH W/ BHA #8
Other	16	05-25	07:40	08:00	05-25			TEST BEFORE (2100 psi) & AFTER (2600 psi) PICKING UP AGITATOR
TIH	8	05-25	08:00	11:15	05-25			TIH W/ BHA #8
Rig Service - In Hole	19	05-25	11:15	11:55	05-25			RIG SERVICE
TIH	8	05-25	11:55	12:15	05-25			TIH W/ BHA #8
Other	16	05-25	12:15	12:50	05-25			RELOG
Other	16	05-25	12:50	13:10	05-25			DOWNLINK
Rotary Drill	1	05-25	13:10	13:40	05-25	11797.00	11848.00	Pressure On (psi): 4250.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 30.00, Surface RPM: 70, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	05-25	13:40	13:55	05-25	11848.00	11848.00	Inclination (°): 89.540, Azimuth (°): 176.190, TVD (ft): 11257.50, Dogleg (°/100 ft): 1.50, Sensor Depth (ft): 11778.00, Bit To Sensor (ft): 70.00

Rotary Drill	1	05-25	13:55	15:00	05-25	11848.00	11937.00	Pressure On (psi): 4250.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 30.00, Surface RPM: 70, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	05-25	15:00	15:05	05-25	11937.00	11937.00	Inclination (°): 89.890, Azimuth (°): 177.330, TVD (ft): 11257.94, Dogleg (°/100 ft): 1.34, Sensor Depth (ft): 11867.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-25	15:05	15:10	05-25	11937.00	11943.00	Pressure On (psi): 4250.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 30.00, Surface RPM: 70, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Slide Drill	2	05-25	15:10	15:35	05-25	11943.00	11973.00	Pressure On (psi): 4200.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 35.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194, Toolface: 90, Toolface Type: gravity
Rotary Drill	1	05-25	15:35	16:05	05-25	11973.00	12027.00	Pressure On (psi): 4250.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 30.00, Surface RPM: 80, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	05-25	16:05	16:10	05-25	12027.00	12027.00	Inclination (°): 89.930, Azimuth (°): 179.090, TVD (ft): 11258.08, Dogleg (°/100 ft): 1.96, Sensor Depth (ft): 11957.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-25	16:10	16:45	05-25	12027.00	12116.00	Pressure On (psi): 4250.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 30.00, Surface RPM: 70, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	05-25	16:45	16:50	05-25	12116.00	12116.00	Inclination (°): 90.810, Azimuth (°): 179.180, TVD (ft): 11257.51, Dogleg (°/100 ft): 0.99, Sensor Depth (ft): 12046.00, Bit To Sensor (ft): 70.00
Slide Drill	2	05-25	16:50	17:10	05-25	12116.00	12136.00	Pressure On (psi): 4200.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 35.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194, Toolface: 140, Toolface Type: gravity
Rotary Drill	1	05-25	17:10	17:35	05-25	12136.00	12206.00	Pressure On (psi): 4250.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 30.00, Surface RPM: 70, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	05-25	17:35	17:40	05-25	12206.00	12206.00	Inclination (°): 88.620, Azimuth (°): 179.970, TVD (ft): 11257.96, Dogleg (°/100 ft): 2.59, Sensor Depth (ft): 12136.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-25	17:40	18:10	05-25	12206.00	12296.00	Pressure On (psi): 4250.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 30.00, Surface RPM: 70, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	05-25	18:10	18:15	05-25	12296.00	12296.00	Inclination (°): 86.810, Azimuth (°): 180.670, TVD (ft): 11261.54, Dogleg (°/100 ft): 2.16, Sensor Depth (ft): 12226.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-25	18:15	19:10	05-25	12296.00	12386.00	Pressure On (psi): 4250.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 30.00, Surface RPM: 40, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	05-25	19:10	19:15	05-25	12386.00	12386.00	Inclination (°): 86.150, Azimuth (°): 180.140, TVD (ft): 11267.07, Dogleg (°/100 ft): 0.94, Sensor Depth (ft): 12316.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-25	19:15	19:25	05-25	12386.00	12390.00	Pressure On (psi): 4250.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 30.00, Surface RPM: 40, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Slide Drill	2	05-25	19:25	20:00	05-25	12390.00	12415.00	Pressure On (psi): 4200.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 35.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194, Toolface: 20, Toolface Type: gravity
Rotary Drill	1	05-25	20:00	20:45	05-25	12415.00	12475.00	Pressure On (psi): 4250.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 30.00, Surface RPM: 40, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	05-25	20:45	20:50	05-25	12475.00	12475.00	Inclination (°): 85.890, Azimuth (°): 180.230, TVD (ft): 11273.25, Dogleg (°/100 ft): 0.31, Sensor Depth (ft): 12405.00, Bit To Sensor (ft): 70.00
Slide Drill	2	05-25	20:50	21:30	05-25	12475.00	12515.00	Pressure On (psi): 4200.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 35.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194, Toolface: 20, Toolface Type: gravity
Rotary Drill	1	05-25	21:30	22:10	05-25	12515.00	12565.00	Pressure On (psi): 4250.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 30.00, Surface RPM: 40, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	05-25	22:10	22:15	05-25	12565.00	12565.00	Inclination (°): 87.210, Azimuth (°): 180.760, TVD (ft): 11278.66, Dogleg (°/100 ft): 1.58, Sensor Depth (ft): 12495.00, Bit To Sensor (ft): 70.00
Slide Drill	2	05-25	22:15	22:40	05-25	12565.00	12575.00	Pressure On (psi): 4200.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 35.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194, Toolface: 20, Toolface Type: gravity
Rotary Drill	1	05-25	22:40	23:15	05-25	12575.00	12595.00	Pressure On (psi): 4250.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 30.00, Surface RPM: 40, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Slide Drill	2	05-25	23:15	00:00	05-26	12595.00	12625.00	Pressure On (psi): 4200.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 35.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194, Toolface: 0, Toolface Type: gravity

MWD Activities

No Activities



Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
		Company Man

Tuesday, May 26 00:00 - 23:59 (Day 18 of 28)

Billing: \$9,000.00 (\$282,174.41 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	12625.00	Downhole Hours	24.00	Rotating WOB (klbs)	30.00 - 30.00
Bit Depth (ft)	14029.00	Drilling Hours	20.75	Sliding WOB (klbs)	35.00 - 35.00
Bottom Hole Depth (ft)	14029.00	Hours Circulating	0.00	Rotating SPM	194.00 - 194.00
Total Distance (ft)	1404.00	Hours Sliding	3.17	Sliding SPM	194.00 - 194.00
Distance Rotated (ft)	1244.00	Hours Rotating	17.58	Motor RPM	182.00 - 182.00
Distance Slid (ft)	160.00			Surface RPM	70.00 - 70.00
Inclination In	88.13			Flow Rate (gpm)	625.00 - 625.00
Inclination Out	89.54			On Bottom Pressure (psi)	4200.00 - 4250.00
Azimuth In	181.55	% Hours Rotating	85%	Off Bottom Pressure (psi)	3800.00 - 3800.00
Azimuth Out	177.51	% Hours Sliding	15%		
AVG Total ROP (ft/h)	66.40	% Distance Sliding	11%		
AVG Rotating ROP (ft/h)	70.17	% Distance Rotating	89%		
AVG Sliding ROP (ft/h)	48.51				

Personnel

Name	Position
Advance Directional	Directional Driller
Kyle Kusak	MWD Engineer
Paul Pierron	MWD Engineer

BHA #8 - Lateral 8.5"

Date In: May 25, 2020, 5:30 Date Out: May 28, 2020, 10:00

Bit Details		Motor Details		Directional Comments
OD (in)	8.500	Size (in)	7.0	Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, Bit Runs: 0
Vendor	NOV	Lobe/Stage	7/8, 8.5	
S/N	A264974	Bend Angle	1.75	
Nozzles	6-22's	Speed (rev/gal)	0.26	MWD Comments
Total Flow Area (in²)	2.227	Wear Pad OD (in)	7.180	POOH Reason Downhole Tool Incident: could not decode
Drilling Hours for Day	20.75	Bit Distances		
Total Drilled for Day (ft)	1404.00	Bend: 5.33 ft, Survey: 70.00 ft, Gamma: 46.00 ft, Resistivity: 56.00 ft, Other (Agitator): 2631.00 ft		
Drilling Hours for BHA	54.08			
Total Drilled for BHA (ft)	3728.00			

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: TKC66, Style: PDC, Gauge Length (in): 4.00, Size (in): 8.50	NOV	A264974	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 7" 7/8 8.5 1.75° FXD w/ SS, Size (in): 7.00, Bend Angle (°): 1.75, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5	AIM	700-40-037	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.25	37.25
MWD Hangoff Sub Description: MWD/RESISTIVITY COLLAR, Type: NM	BENCHTREE	6501007	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		31.35	68.60
Drill Collar Description: BATTERY, Style: Slick Drill, Type: NM	BENCHTREE	B6008X	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		17.39	85.99
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR41083	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.570		29.27	115.26
Crossover Sub Description: Crossover Sub, Type: Steel	Black Diamond	BD 15114	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.688		3.64	118.90
Drill Pipe Description: 28 STANDS DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		2508.93	2627.83
Crossover Sub Description: CROSSOVER SUB, Type: Steel	BLACK DIAMOND	BD11665	4 1/2" IF Box	EverDrlg54 Pin	3.500	6.740		3.56	2631.39
Agitator Description: AGITATOR, Size (in): 6.94	NOV	147-0041	4 1/2" IF Box	4 1/2" IF Pin		6.940		25.44	2656.83
Crossover Sub Description: CROSSOVER SUB, Type: Steel	BLACK DIAMOND	BD15115	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.770		3.66	2660.49
Drill Pipe Description: 92 STANDS DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		8246.66	10907.15
HWDP Description: 9 STANDS 5.5" HWDP, Style: Slick	Black Diamond		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		851.38	11758.53

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	05-25	23:15	00:00	05-26	12595.00	12625.00	Pressure On (psi): 4200.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 35.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194, Toolface: 0, Toolface Type: gravity
Rotary Drill	1	05-26	00:00	00:30	05-26	12625.00	12654.00	Pressure On (psi): 4250.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 30.00, Surface RPM: 70, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	05-26	00:30	00:35	05-26	12654.00	12654.00	Inclination (°): 88.130, Azimuth (°): 181.550, TVD (ft): 11282.28, Dogleg (°/100 ft): 1.36, Sensor Depth (ft): 12584.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-26	00:35	02:10	05-26	12654.00	12744.00	Pressure On (psi): 4250.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 30.00, Surface RPM: 70, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	05-26	02:10	02:15	05-26	12744.00	12744.00	Inclination (°): 90.460, Azimuth (°): 181.990, TVD (ft): 11283.39, Dogleg (°/100 ft): 2.63, Sensor Depth (ft): 12674.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-26	02:15	03:40	05-26	12744.00	12820.00	Pressure On (psi): 4250.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 30.00, Surface RPM: 70, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Troubleshoot	34	05-26	03:40	04:20	05-26			Troubleshoot MWD
Rotary Drill	1	05-26	04:20	04:30	05-26	12820.00	12834.00	Pressure On (psi): 4250.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 30.00, Surface RPM: 70, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Other	16	05-26	04:30	04:45	05-26			Downlink to 1.0 Pulse Width
Survey	46	05-26	04:45	04:50	05-26	12834.00	12834.00	Inclination (°): 89.760, Azimuth (°): 180.670, TVD (ft): 11283.22, Dogleg (°/100 ft): 1.66, Sensor Depth (ft): 12764.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-26	04:50	06:20	05-26	12834.00	12923.00	Pressure On (psi): 4250.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 30.00, Surface RPM: 70, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	05-26	06:20	06:30	05-26	12923.00	12923.00	Inclination (°): 89.490, Azimuth (°): 179.790, TVD (ft): 11283.80, Dogleg (°/100 ft): 1.03, Sensor Depth (ft): 12853.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-26	06:30	07:55	05-26	12923.00	13013.00	Pressure On (psi): 4250.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 30.00, Surface RPM: 70, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	05-26	07:55	08:10	05-26	13013.00	13013.00	Inclination (°): 89.140, Azimuth (°): 178.740, TVD (ft): 11284.87, Dogleg (°/100 ft): 1.23, Sensor Depth (ft): 12943.00, Bit To Sensor (ft): 70.00
Slide Drill	2	05-26	08:10	08:30	05-26	13013.00	13038.00	Pressure On (psi): 4200.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 35.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194, Toolface: 70, Toolface Type: gravity
Rotary Drill	1	05-26	08:30	09:20	05-26	13038.00	13102.00	Pressure On (psi): 4250.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 30.00, Surface RPM: 70, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	05-26	09:20	09:25	05-26	13102.00	13102.00	Inclination (°): 89.410, Azimuth (°): 179.700, TVD (ft): 11286.00, Dogleg (°/100 ft): 1.12, Sensor Depth (ft): 13032.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-26	09:25	10:20	05-26	13102.00	13192.00	Pressure On (psi): 4250.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 30.00, Surface RPM: 70, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	05-26	10:20	10:25	05-26	13192.00	13192.00	Inclination (°): 89.710, Azimuth (°): 179.530, TVD (ft): 11286.69, Dogleg (°/100 ft): 0.38, Sensor Depth (ft): 13122.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-26	10:25	11:15	05-26	13192.00	13282.00	Pressure On (psi): 4250.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 30.00, Surface RPM: 70, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	05-26	11:15	11:30	05-26	13282.00	13282.00	Inclination (°): 88.480, Azimuth (°): 179.090, TVD (ft): 11288.11, Dogleg (°/100 ft): 1.45, Sensor Depth (ft): 13212.00, Bit To Sensor (ft): 70.00
Slide Drill	2	05-26	11:30	12:05	05-26	13282.00	13317.00	Pressure On (psi): 4200.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 35.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194, Toolface: 30, Toolface Type: gravity
Rotary Drill	1	05-26	12:05	12:45	05-26	13317.00	13371.00	Pressure On (psi): 4250.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 30.00, Surface RPM: 70, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	05-26	12:45	12:50	05-26	13371.00	13371.00	Inclination (°): 91.160, Azimuth (°): 179.530, TVD (ft): 11288.39, Dogleg (°/100 ft): 3.05, Sensor Depth (ft): 13301.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-26	12:50	14:45	05-26	13371.00	13461.00	Pressure On (psi): 4250.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 30.00, Surface RPM: 70, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	05-26	14:45	14:55	05-26	13461.00	13461.00	Inclination (°): 90.770, Azimuth (°): 179.880, TVD (ft): 11286.88, Dogleg (°/100 ft): 0.58, Sensor Depth (ft): 13391.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-26	14:55	16:10	05-26	13461.00	13551.00	Pressure On (psi): 4250.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 30.00, Surface RPM: 70, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	05-26	16:10	16:15	05-26	13551.00	13551.00	Inclination (°): 91.210, Azimuth (°): 179.090, TVD (ft): 11285.32, Dogleg (°/100 ft): 1.00, Sensor Depth (ft): 13481.00, Bit To Sensor (ft): 70.00

Rotary Drill	1	05-26	16:15	17:25	05-26	13551.00	13640.00	Pressure On (psi): 4250.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 30.00, Surface RPM: 70, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	05-26	17:25	17:30	05-26	13640.00	13640.00	Inclination (°): 91.210, Azimuth (°): 177.510, TVD (ft): 11283.44, Dogleg (°/100 ft): 1.77, Sensor Depth (ft): 13570.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-26	17:30	17:35	05-26	13640.00	13642.00	Pressure On (psi): 4250.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 30.00, Surface RPM: 70, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Slide Drill	2	05-26	17:35	18:15	05-26	13642.00	13677.00	Pressure On (psi): 4200.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 35.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194, Toolface: 120, Toolface Type: gravity
Rotary Drill	1	05-26	18:15	18:55	05-26	13677.00	13730.00	Pressure On (psi): 4250.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 30.00, Surface RPM: 70, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	05-26	18:55	19:00	05-26	13730.00	13730.00	Inclination (°): 89.100, Azimuth (°): 178.910, TVD (ft): 11283.20, Dogleg (°/100 ft): 2.81, Sensor Depth (ft): 13660.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-26	19:00	20:00	05-26	13730.00	13820.00	Pressure On (psi): 4250.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 30.00, Surface RPM: 70, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	05-26	20:00	20:05	05-26	13820.00	13820.00	Inclination (°): 88.310, Azimuth (°): 179.260, TVD (ft): 11285.23, Dogleg (°/100 ft): 0.96, Sensor Depth (ft): 13750.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-26	20:05	21:10	05-26	13820.00	13909.00	Pressure On (psi): 4250.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 30.00, Surface RPM: 70, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	05-26	21:10	21:15	05-26	13909.00	13909.00	Inclination (°): 86.900, Azimuth (°): 177.510, TVD (ft): 11288.95, Dogleg (°/100 ft): 2.52, Sensor Depth (ft): 13839.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-26	21:15	21:20	05-26	13909.00	13914.00	Pressure On (psi): 4250.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 30.00, Surface RPM: 70, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Slide Drill	2	05-26	21:20	22:15	05-26	13914.00	13949.00	Pressure On (psi): 4200.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 35.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194, Toolface: 70, Toolface Type: gravity
Rotary Drill	1	05-26	22:15	22:45	05-26	13949.00	13999.00	Pressure On (psi): 4250.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 30.00, Surface RPM: 70, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	05-26	22:45	22:50	05-26	13999.00	13999.00	Inclination (°): 89.540, Azimuth (°): 177.510, TVD (ft): 11291.75, Dogleg (°/100 ft): 2.93, Sensor Depth (ft): 13929.00, Bit To Sensor (ft): 70.00
Slide Drill	2	05-26	22:50	23:30	05-26	13999.00	14029.00	Pressure On (psi): 4200.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 35.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194, Toolface: 70, Toolface Type: gravity
Rotary Drill	1	05-26	23:30	00:30	05-27	14029.00	14089.00	Pressure On (psi): 4250.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 30.00, Surface RPM: 70, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00

MWD Activities

No Activities



Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Wednesday, May 27 00:00 - 23:59 (Day 19 of 28)

Billing: \$9,000.00 (\$282,174.41 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	14029.00	Downhole Hours	24.00	Rotating WOB (klbs)	30.00 - 45.00
Bit Depth (ft)	15410.00	Drilling Hours	22.08	Sliding WOB (klbs)	35.00 - 35.00
Bottom Hole Depth (ft)	15410.00	Hours Circulating	0.00	Rotating SPM	194.00 - 210.00
Total Distance (ft)	1381.00	Hours Sliding	5.75	Sliding SPM	194.00 - 194.00
Distance Rotated (ft)	1177.00	Hours Rotating	16.33	Motor RPM	182.00 - 182.00
Distance Slid (ft)	204.00			Surface RPM	40.00 - 70.00
Inclination In	89.01			Flow Rate (gpm)	450.00 - 690.00
Inclination Out	86.81			On Bottom Pressure (psi)	4200.00 - 4650.00
Azimuth In	179.79	% Hours Rotating	74%	Off Bottom Pressure (psi)	3800.00 - 4000.00
Azimuth Out	179.88	% Hours Sliding	26%		
AVG Total ROP (ft/h)	62.54	% Distance Sliding	15%		
AVG Rotating ROP (ft/h)	72.06	% Distance Rotating	85%		
AVG Sliding ROP (ft/h)	35.48				

Personnel

Name	Position
Advance Directional	Directional Driller
Kyle Kusak	MWD Engineer
Paul Pierron	MWD Engineer

BHA #8 - Lateral 8.5"

Date In: May 25, 2020, 5:30 Date Out: May 28, 2020, 10:00

Bit Details		Motor Details		Directional Comments
OD (in)	8.500	Size (in)	7.0	Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, Bit Runs: 0
Vendor	NOV	Lobe/Stage	7/8, 8.5	
S/N	A264974	Bend Angle	1.75	
Nozzles	6-22's	Speed (rev/gal)	0.26	MWD Comments
Total Flow Area (in²)	2.227	Wear Pad OD (in)	7.180	POOH Reason Downhole Tool Incident: could not decode
Drilling Hours for Day	22.08	Bit Distances		
Total Drilled for Day (ft)	1381.00	Bend: 5.33 ft, Survey: 70.00 ft, Gamma: 46.00 ft,		
Drilling Hours for BHA	54.08	Resistivity: 56.00 ft, Other (Agitator): 2631.00 ft		
Total Drilled for BHA (ft)	3728.00			

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: TKC66, Style: PDC, Gauge Length (in): 4.00, Size (in): 8.50	NOV	A264974	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 7" 7/8 8.5 1.75° FXD w/ SS, Size (in): 7.00, Bend Angle (°): 1.75, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5	AIM	700-40-037	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.25	37.25
MWD Hangoff Sub Description: MWD/RESISTIVITY COLLAR, Type: NM	BENCHTREE	6501007	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		31.35	68.60
Drill Collar Description: BATTERY, Style: Slick Drill, Type: NM	BENCHTREE	B6008X	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		17.39	85.99
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR41083	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.570		29.27	115.26
Crossover Sub Description: Crossover Sub, Type: Steel	Black Diamond	BD 15114	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.688		3.64	118.90
Drill Pipe Description: 28 STANDS DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		2508.93	2627.83
Crossover Sub Description: CROSSOVER SUB, Type: Steel	BLACK DIAMOND	BD11665	4 1/2" IF Box	EverDrlg54 Pin	3.500	6.740		3.56	2631.39
Agitator Description: AGITATOR, Size (in): 6.94	NOV	147-0041	4 1/2" IF Box	4 1/2" IF Pin		6.940		25.44	2656.83
Crossover Sub Description: CROSSOVER SUB, Type: Steel	BLACK DIAMOND	BD15115	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.770		3.66	2660.49
Drill Pipe Description: 92 STANDS DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		8246.66	10907.15
HWDP Description: 9 STANDS 5.5" HWDP, Style: Slick	Black Diamond		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		851.38	11758.53

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	05-26	23:30	00:30	05-27	14029.00	14089.00	Pressure On (psi): 4250.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 30.00, Surface RPM: 70, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	05-27	00:30	00:35	05-27	14089.00	14089.00	Inclination (°): 89.010, Azimuth (°): 179.790, TVD (ft): 11292.89, Dogleg (°/100 ft): 2.60, Sensor Depth (ft): 14019.00, Bit To Sensor (ft): 70.00
Other	16	05-27	00:35	01:40	05-27			Downlink MWD to 1.2 Pulse Width
Slide Drill	2	05-27	01:40	01:55	05-27	14089.00	14124.00	Pressure On (psi): 4200.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 35.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194, Toolface: 45, Toolface Type: gravity
Rotary Drill	1	05-27	01:55	03:30	05-27	14124.00	14178.00	Pressure On (psi): 4250.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 30.00, Surface RPM: 70, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	05-27	03:30	03:35	05-27	14178.00	14178.00	Inclination (°): 89.190, Azimuth (°): 179.530, TVD (ft): 11294.28, Dogleg (°/100 ft): 0.36, Sensor Depth (ft): 14108.00, Bit To Sensor (ft): 70.00
Slide Drill	2	05-27	03:35	04:55	05-27	14178.00	14198.00	Pressure On (psi): 4200.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 35.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194, Toolface: 20, Toolface Type: gravity
Rotary Drill	1	05-27	04:55	05:35	05-27	14198.00	14268.00	Pressure On (psi): 4250.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 30.00, Surface RPM: 70, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	05-27	05:35	05:40	05-27	14268.00	14268.00	Inclination (°): 91.430, Azimuth (°): 181.370, TVD (ft): 11293.80, Dogleg (°/100 ft): 3.22, Sensor Depth (ft): 14198.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-27	05:40	06:40	05-27	14268.00	14357.00	Pressure On (psi): 4250.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 30.00, Surface RPM: 70, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	05-27	06:40	06:45	05-27	14357.00	14357.00	Inclination (°): 90.950, Azimuth (°): 180.760, TVD (ft): 11291.95, Dogleg (°/100 ft): 0.87, Sensor Depth (ft): 14287.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-27	06:45	07:40	05-27	14357.00	14447.00	Pressure On (psi): 4250.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 30.00, Surface RPM: 70, Surface Torque (ft lbf): 18000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	05-27	07:40	07:50	05-27	14447.00	14447.00	Inclination (°): 90.150, Azimuth (°): 179.700, TVD (ft): 11291.09, Dogleg (°/100 ft): 1.48, Sensor Depth (ft): 14377.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-27	07:50	08:50	05-27	14447.00	14537.00	
Survey	46	05-27	08:50	08:55	05-27	14537.00	14537.00	Inclination (°): 91.080, Azimuth (°): 179.440, TVD (ft): 11290.12, Dogleg (°/100 ft): 1.07, Sensor Depth (ft): 14467.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-27	08:55	10:00	05-27	14537.00	14626.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 65, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 450.00, Strokes Per Minute: 210.00
Survey	46	05-27	10:00	10:05	05-27	14626.00	14626.00	Inclination (°): 90.290, Azimuth (°): 178.470, TVD (ft): 11289.06, Dogleg (°/100 ft): 1.41, Sensor Depth (ft): 14556.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-27	10:05	11:15	05-27	14626.00	14716.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 65, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 450.00, Strokes Per Minute: 210.00
Survey	46	05-27	11:15	11:20	05-27	14716.00	14716.00	Inclination (°): 89.850, Azimuth (°): 178.210, TVD (ft): 11288.95, Dogleg (°/100 ft): 0.57, Sensor Depth (ft): 14646.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-27	11:20	11:35	05-27	14716.00	14726.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 65, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 210.00
Slide Drill	2	05-27	11:35	12:30	05-27	14726.00	14752.00	Pressure On (psi): 4200.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 35.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194, Toolface: 65, Toolface Type: gravity
Rotary Drill	1	05-27	12:30	13:00	05-27	14752.00	14805.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 65, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 210.00
Survey	46	05-27	13:00	13:05	05-27	14805.00	14805.00	Inclination (°): 91.470, Azimuth (°): 178.210, TVD (ft): 11287.92, Dogleg (°/100 ft): 1.82, Sensor Depth (ft): 14735.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-27	13:05	14:15	05-27	14805.00	14895.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 65, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 210.00
Survey	46	05-27	14:15	14:20	05-27	14895.00	14895.00	Inclination (°): 90.860, Azimuth (°): 178.390, TVD (ft): 11286.09, Dogleg (°/100 ft): 0.71, Sensor Depth (ft): 14825.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-27	14:20	14:45	05-27	14895.00	14905.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 65, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 210.00
Slide Drill	2	05-27	14:45	15:40	05-27	14905.00	14943.00	Pressure On (psi): 4200.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 35.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194, Toolface: 75, Toolface Type: gravity
Rotary Drill	1	05-27	15:40	16:25	05-27	14943.00	14984.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 65, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 690.00, Strokes Per Minute: 210.00
Survey	46	05-27	16:25	16:30	05-27	14984.00	14984.00	Inclination (°): 89.670, Azimuth (°): 178.560, TVD (ft): 11285.68, Dogleg (°/100 ft): 1.35, Sensor Depth (ft): 14914.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-27	16:30	17:40	05-27	14984.00	15074.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 65, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 690.00, Strokes Per Minute: 210.00
Survey	46	05-27	17:40	17:45	05-27	15074.00	15074.00	Inclination (°): 90.640, Azimuth (°): 179.790, TVD (ft): 11285.44, Dogleg (°/100 ft): 1.74, Sensor Depth (ft): 15004.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-27	17:45	17:50	05-27	15074.00	15079.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 65, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 690.00, Strokes Per Minute: 210.00

Slide Drill	2	05-27	17:50	18:30	05-27	15079.00	15114.00	Pressure On (psi): 4200.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 35.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194, Toolface: 90, Toolface Type: gravity
Rotary Drill	1	05-27	18:30	19:15	05-27	15114.00	15164.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 690.00, Strokes Per Minute: 210.00
Survey	46	05-27	19:15	19:20	05-27	15164.00	15164.00	Inclination (°): 90.810, Azimuth (°): 180.490, TVD (ft): 11284.30, Dogleg (°/100 ft): 0.80, Sensor Depth (ft): 15094.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-27	19:20	19:35	05-27	15164.00	15170.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 690.00, Strokes Per Minute: 210.00
Slide Drill	2	05-27	19:35	20:10	05-27	15170.00	15190.00	Pressure On (psi): 4200.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 35.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194, Toolface: 145, Toolface Type: gravity
Rotary Drill	1	05-27	20:10	21:00	05-27	15190.00	15253.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 690.00, Strokes Per Minute: 210.00
Survey	46	05-27	21:00	21:05	05-27	15253.00	15253.00	Inclination (°): 88.400, Azimuth (°): 181.020, TVD (ft): 11284.91, Dogleg (°/100 ft): 2.77, Sensor Depth (ft): 15183.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-27	21:05	22:10	05-27	15253.00	15343.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 690.00, Strokes Per Minute: 210.00
Survey	46	05-27	22:10	22:15	05-27	15343.00	15343.00	Inclination (°): 86.810, Azimuth (°): 179.880, TVD (ft): 11288.67, Dogleg (°/100 ft): 2.17, Sensor Depth (ft): 15273.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-27	22:15	22:25	05-27	15343.00	15347.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 690.00, Strokes Per Minute: 210.00
Slide Drill	2	05-27	22:25	23:30	05-27	15347.00	15377.00	Pressure On (psi): 4200.00, Pressure Off (psi): 3800.00, Weight On Bit (klbs): 35.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194, Toolface: 60, Toolface Type: gravity
Rotary Drill	1	05-27	23:30	00:00	05-28	15377.00	15410.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 690.00, Strokes Per Minute: 210.00

MWD Activities

No Activities



Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Thursday, May 28 00:00 - 23:59 (Day 20 of 28)

Billing: \$28,840.00 (\$282,174.41 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	15410.00	Downhole Hours	23.00	Rotating WOB (klbs)	45.00 - 45.00
Bit Depth (ft)	15612.00	Drilling Hours	3.67	Sliding WOB (klbs)	45.00 - 45.00
Bottom Hole Depth (ft)	15612.00	Hours Circulating	1.17	Rotating SPM	210.00 - 210.00
Total Distance (ft)	202.00	Hours Sliding	1.67	Sliding SPM	194.00 - 194.00
Distance Rotated (ft)	162.00	Hours Rotating	2.00	Motor RPM	169.00 - 182.00
Distance Slid (ft)	40.00			Surface RPM	40.00 - 40.00
Inclination In	87.43			Flow Rate (gpm)	625.00 - 690.00
Inclination Out	87.78			On Bottom Pressure (psi)	4200.00 - 4650.00
Azimuth In	179.35	% Hours Rotating	55%	Off Bottom Pressure (psi)	3600.00 - 4000.00
Azimuth Out	179.26	% Hours Sliding	45%		
AVG Total ROP (ft/h)	56.40	% Distance Sliding	20%		
AVG Rotating ROP (ft/h)	78.00	% Distance Rotating	80%		
AVG Sliding ROP (ft/h)	24.00				

Personnel

Name	Position
Advance Directional	Directional Driller
Kyle Kusak	MWD Engineer
Paul Pierron	MWD Engineer

BHA #8 - Lateral 8.5"

Date In: May 25, 2020, 5:30 Date Out: May 28, 2020, 10:00

Bit Details		Motor Details		Directional Comments
OD (in)	8.500	Size (in)	7.0	Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, Bit Runs: 0
Vendor	NOV	Lobe/Stage	7/8, 8.5	
S/N	A264974	Bend Angle	1.75	
Nozzles	6-22's	Speed (rev/gal)	0.26	MWD Comments
Total Flow Area (in²)	2.227	Wear Pad OD (in)	7.180	POOH Reason Downhole Tool Incident: could not decode
Drilling Hours for Day	1.33	Bit Distances		
Total Drilled for Day (ft)	115.00	Bend: 5.33 ft, Survey: 70.00 ft, Gamma: 46.00 ft, Resistivity: 56.00 ft, Other (Agitator): 2631.00 ft		
Drilling Hours for BHA	54.08			
Total Drilled for BHA (ft)	3728.00			

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: TKC66, Style: PDC, Gauge Length (in): 4.00, Size (in): 8.50	NOV	A264974	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 7" 7/8 8.5 1.75° FXD w/ SS, Size (in): 7.00, Bend Angle (°): 1.75, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5	AIM	700-40-037	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.25	37.25
MWD Hangoff Sub Description: MWD/RESISTIVITY COLLAR, Type: NM	BENCHTREE	6501007	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		31.35	68.60
Drill Collar Description: BATTERY, Style: Slick Drill, Type: NM	BENCHTREE	B6008X	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		17.39	85.99
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR41083	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.570		29.27	115.26
Crossover Sub Description: Crossover Sub, Type: Steel	Black Diamond	BD 15114	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.688		3.64	118.90
Drill Pipe Description: 28 STANDS DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		2508.93	2627.83
Crossover Sub Description: CROSSOVER SUB, Type: Steel	BLACK DIAMOND	BD11665	4 1/2" IF Box	EverDrlg54 Pin	3.500	6.740		3.56	2631.39
Agitator Description: AGITATOR, Size (in): 6.94	NOV	147-0041	4 1/2" IF Box	4 1/2" IF Pin		6.940		25.44	2656.83
Crossover Sub Description: CROSSOVER SUB, Type: Steel	BLACK DIAMOND	BD15115	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.770		3.66	2660.49
Drill Pipe Description: 92 STANDS DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		8246.66	10907.15
HWDP Description: 9 STANDS 5.5" HWDP, Style: Slick	Black Diamond		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		851.38	11758.53

MWD Items

No Items

BHA #9 - 8.50" LATERAL w/ Agitator

Date In: May 28, 2020, 11:00 Date Out: Jun 1, 2020, 14:15

Bit Details		Motor Details		Directional Comments
OD (in)	8.500	Size (in)	7.0	Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, Bit Runs: 1
Vendor	Baker	Lobe/Stage	7/9, 8.5	
S/N	5305774	Bend Angle	1.75	MWD Comments
Nozzles	6x22's	Speed (rev/gal)	0.26	
Total Flow Area (in²)	2.227	Wear Pad OD (in)	7.250	
Drilling Hours for Day	2.33	Bit Distances		
Total Drilled for Day (ft)	87.00	Bend: 5.34 ft, Survey: 70.00 ft, Gamma: 46.00 ft, Resistivity: 56.00 ft, Other (AGITATOR): 2631.00 ft		
Drilling Hours for BHA	68.25	POOH Reason		
Total Drilled for BHA (ft)	4132.00	Penetration Rate: ROP dropped of to 30'/hr. Diff began dropping off. CoMan made decision to POOH for bit.		

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: 8.50 Baker DD506TWX, Style: PDC, Gauge Length (in): 3.50, Size (in): 8.50	Baker	5305774	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 7" 7/8 8.5 1.75 Fixed w/SS, Size (in): 7.00, Bend Angle (°): 1.75, Rotor Lobe: 7, Stator Lobe: 8.5, Stator Stage: 8.5	Aim	700-40-029	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.27	37.27
MWD Hangoff Sub Description: MWD / RESISTIVITY COLLAR, Type: NM	BENCHTREE	6501005	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		31.46	68.73
Other Description: BATTERY	BENCHTREE	B6003X	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		17.15	85.88
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR41083	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.668		29.27	115.15
Crossover Sub Description: Crossover, Type: Steel	Black Diamond	BD 15114	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.688		3.64	118.79
Drill Pipe Description: 28 stands DP, Style: Slick	Black diamond		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		2508.93	2627.72
Crossover Sub Description: CROSSOVER SUB, Type: Steel	BLACK DIAMOND	BD11665	4 1/2" IF Box	EverDrlg54 Pin	3.500	6.740		3.56	2631.28
Agitator Description: AGITATOR, Size (in): 6.94	NOV	GHF0675-0143	4 1/2" IF Box	4 1/2" IF Pin		6.750		25.52	2656.80
Crossover Sub Description: CROSSOVER SUB, Type: Steel	BLACK DIAMOND	BD15115	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.770		3.66	2660.46
Drill Pipe Description: 92 STANDS DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		8246.66	10907.12
HWDP Description: 9 STANDS 5.5 HWDP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		851.38	11758.50

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	05-27	23:30	00:00	05-28	15377.00	15410.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 690.00, Strokes Per Minute: 210.00
Rotary Drill	1	05-28	00:00	00:15	05-28	15410.00	15432.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 690.00, Strokes Per Minute: 210.00
Survey	46	05-28	00:15	00:20	05-28	15432.00	15432.00	Inclination (°): 87.430, Azimuth (°): 179.350, TVD (ft): 11293.14, Dogleg (°/100 ft): 0.92, Sensor Depth (ft): 15362.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-28	00:20	01:20	05-28	15432.00	15522.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 690.00, Strokes Per Minute: 210.00
Troubleshoot	34	05-28	01:20	01:45	05-28			Troubleshoot MWD
Survey	46	05-28	01:45	01:50	05-28	15522.00	15522.00	Inclination (°): 86.950, Azimuth (°): 179.090, TVD (ft): 11297.55, Dogleg (°/100 ft): 0.61, Sensor Depth (ft): 15452.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-28	01:50	01:55	05-28	15522.00	15525.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 690.00, Strokes Per Minute: 210.00
Troubleshoot	34	05-28	01:55	03:50	05-28			Troubleshoot MWD.
Circulating	3	05-28	03:50	04:00	05-28			
Pooh	7	05-28	04:00	10:00	05-28			POOH for [Reason mwd]
Other	16	05-28	10:00	11:00	05-28			L/D BHA #8
Pick Up BHA	64	05-28	11:00	12:15	05-28			P/U BHA #9

TIH	8	05-28	12:15	20:15	05-28			TIH W/ BHA #9
Circulating	3	05-28	20:15	21:15	05-28			RELOG GR & RES
Slide Drill	2	05-28	21:15	22:55	05-28	15525.00	15565.00	Pressure On (psi): 4200.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194, Toolface: 30, Toolface Type: gravity
Other	16	05-28	22:55	23:10	05-28			DLK MWD TO 1.2 PULSE WIDTH
Rotary Drill	1	05-28	23:10	23:50	05-28	15565.00	15612.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 690.00, Strokes Per Minute: 210.00
Survey	46	05-28	23:50	00:00	05-29	15612.00	15612.00	Inclination (°): 87.780, Azimuth (°): 179.260, TVD (ft): 11301.69, Dogleg (°/100 ft): 0.94, Sensor Depth (ft): 15542.00, Bit To Sensor (ft): 70.00

MWD Activities

No Activities



Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Friday, May 29 00:00 - 23:59 (Day 21 of 28)

Billing: \$9,000.00 (\$282,174.41 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	15612.00	Downhole Hours	24.00	Rotating WOB (klbs)	45.00 - 45.00
Bit Depth (ft)	17204.00	Drilling Hours	22.08	Sliding WOB (klbs)	45.00 - 45.00
Bottom Hole Depth (ft)	17204.00	Hours Circulating	0.50	Rotating SPM	200.00 - 210.00
Total Distance (ft)	1592.00	Hours Sliding	3.83	Sliding SPM	194.00 - 194.00
Distance Rotated (ft)	1454.00	Hours Rotating	18.25	Motor RPM	169.00 - 182.00
Distance Slid (ft)	138.00			Surface RPM	40.00 - 50.00
Inclination In	91.16			Flow Rate (gpm)	625.00 - 690.00
Inclination Out	89.23			On Bottom Pressure (psi)	4200.00 - 4650.00
Azimuth In	182.08	% Hours Rotating	83%	Off Bottom Pressure (psi)	3600.00 - 4000.00
Azimuth Out	178.74	% Hours Sliding	17%		
AVG Total ROP (ft/h)	72.09	% Distance Sliding	9%		
AVG Rotating ROP (ft/h)	79.67	% Distance Rotating	91%		
AVG Sliding ROP (ft/h)	36.00				

Personnel

Name	Position
Advance Directional	Directional Driller
Kyle Kusak	MWD Engineer
Paul Pierron	MWD Engineer

BHA #9 - 8.50" LATERAL w/ Agitator

Date In: May 28, 2020, 11:00 Date Out: Jun 1, 2020, 14:15

Bit Details		Motor Details		Directional Comments
OD (in)	8.500	Size (in)	7.0	Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, Bit Runs: 1
Vendor	Baker	Lobe/Stage	7/9, 8.5	
S/N	5305774	Bend Angle	1.75	
Nozzles	6x22's	Speed (rev/gal)	0.26	MWD Comments
Total Flow Area (in²)	2.227	Wear Pad OD (in)	7.250	
Drilling Hours for Day	22.08	Bit Distances		
Total Drilled for Day (ft)	1592.00	Bend: 5.34 ft, Survey: 70.00 ft, Gamma: 46.00 ft,		POOH Reason
Drilling Hours for BHA	68.25	Resistivity: 56.00 ft, Other (AGITATOR): 2631.00 ft		
Total Drilled for BHA (ft)	4132.00			

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: 8.50 Baker DD506TWX, Style: PDC, Gauge Length (in): 3.50, Size (in): 8.50	Baker	5305774	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 7" 7/8 8.5 1.75 Fixed w/SS Size (in): 7.00, Bend Angle (°): 1.75, Rotor Lobe: 7, Stator Lobe: 8.5, Stator Stage: 8.5	Aim	700-40-029	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.27	37.27
MWD Hangoff Sub Description: MWD / RESISTIVITY COLLAR, Type: NM	BENCHTREE	6501005	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		31.46	68.73
Other Description: BATTERY	BENCHTREE	B6003X	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		17.15	85.88
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR41083	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.668		29.27	115.15
Crossover Sub Description: Crossover, Type: Steel	Black Diamond	BD 15114	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.688		3.64	118.79
Drill Pipe Description: 28 stands DP, Style: Slick	Black diamond		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		2508.93	2627.72
Crossover Sub Description: CROSSOVER SUB, Type: Steel	BLACK DIAMOND	BD11665	4 1/2" IF Box	EverDrlg54 Pin	3.500	6.740		3.56	2631.28
Agitator Description: AGITATOR, Size (in): 6.94	NOV	GHF0675-0143	4 1/2" IF Box	4 1/2" IF Pin		6.750		25.52	2656.80
Crossover Sub Description: CROSSOVER SUB, Type: Steel	BLACK DIAMOND	BD15115	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.770		3.66	2660.46
Drill Pipe Description: 92 STANDS DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		8246.66	10907.12
HWDP Description: 9 STANDS 5.5 HWDP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		851.38	11758.50

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	05-28	23:50	00:00	05-29	15612.00	15612.00	Inclination (°): 87.780, Azimuth (°): 179.260, TVD (ft): 11301.69, Dogleg (°/100 ft): 0.94, Sensor Depth (ft): 15542.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-29	00:00	00:05	05-29	15612.00	15615.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 690.00, Strokes Per Minute: 210.00
Slide Drill	2	05-29	00:05	00:50	05-29	15615.00	15645.00	Pressure On (psi): 4200.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194, Toolface: 45, Toolface Type: gravity
Rotary Drill	1	05-29	00:50	01:25	05-29	15645.00	15701.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 690.00, Strokes Per Minute: 210.00
Survey	46	05-29	01:25	01:30	05-29	15701.00	15701.00	Inclination (°): 91.160, Azimuth (°): 182.080, TVD (ft): 11302.52, Dogleg (°/100 ft): 4.95, Sensor Depth (ft): 15631.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-29	01:30	02:20	05-29	15701.00	15791.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 690.00, Strokes Per Minute: 210.00
Survey	46	05-29	02:20	02:25	05-29	15791.00	15791.00	Inclination (°): 91.690, Azimuth (°): 182.250, TVD (ft): 11300.28, Dogleg (°/100 ft): 0.62, Sensor Depth (ft): 15721.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-29	02:25	03:30	05-29	15791.00	15880.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 690.00, Strokes Per Minute: 210.00
Survey	46	05-29	03:30	03:35	05-29	15880.00	15880.00	Inclination (°): 91.780, Azimuth (°): 181.810, TVD (ft): 11297.58, Dogleg (°/100 ft): 0.50, Sensor Depth (ft): 15810.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-29	03:35	04:25	05-29	15880.00	15970.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 690.00, Strokes Per Minute: 210.00
Survey	46	05-29	04:25	04:30	05-29	15970.00	15970.00	Inclination (°): 92.000, Azimuth (°): 180.930, TVD (ft): 11294.61, Dogleg (°/100 ft): 1.01, Sensor Depth (ft): 15900.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-29	04:30	05:50	05-29	15970.00	16060.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 690.00, Strokes Per Minute: 210.00
Survey	46	05-29	05:50	05:55	05-29	16060.00	16060.00	Inclination (°): 90.200, Azimuth (°): 181.460, TVD (ft): 11292.89, Dogleg (°/100 ft): 2.08, Sensor Depth (ft): 15990.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-29	05:55	07:05	05-29	16060.00	16150.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 690.00, Strokes Per Minute: 210.00
Survey	46	05-29	07:05	07:10	05-29	16150.00	16150.00	Inclination (°): 89.980, Azimuth (°): 179.970, TVD (ft): 11292.75, Dogleg (°/100 ft): 1.67, Sensor Depth (ft): 16080.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-29	07:10	07:20	05-29	16150.00	16157.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 690.00, Strokes Per Minute: 210.00
Slide Drill	2	05-29	07:20	08:10	05-29	16157.00	16190.00	Pressure On (psi): 4200.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194, Toolface: 90, Toolface Type: gravity
Rotary Drill	1	05-29	08:10	08:45	05-29	16190.00	16239.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 690.00, Strokes Per Minute: 210.00
Survey	46	05-29	08:45	08:50	05-29	16239.00	16239.00	Inclination (°): 89.710, Azimuth (°): 180.930, TVD (ft): 11292.99, Dogleg (°/100 ft): 1.12, Sensor Depth (ft): 16169.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-29	08:50	09:45	05-29	16239.00	16329.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 690.00, Strokes Per Minute: 210.00
Survey	46	05-29	09:45	09:50	05-29	16329.00	16329.00	Inclination (°): 89.410, Azimuth (°): 182.080, TVD (ft): 11293.68, Dogleg (°/100 ft): 1.32, Sensor Depth (ft): 16259.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-29	09:50	11:05	05-29	16329.00	16419.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 690.00, Strokes Per Minute: 210.00
Survey	46	05-29	11:05	11:10	05-29	16419.00	16419.00	Inclination (°): 89.270, Azimuth (°): 181.110, TVD (ft): 11294.71, Dogleg (°/100 ft): 1.09, Sensor Depth (ft): 16349.00, Bit To Sensor (ft): 70.00
Circulating	3	05-29	11:10	11:40	05-29			Working on MWD issues
Rotary Drill	1	05-29	11:40	12:50	05-29	16419.00	16508.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 690.00, Strokes Per Minute: 210.00
Survey	46	05-29	12:50	12:55	05-29	16508.00	16508.00	Inclination (°): 89.850, Azimuth (°): 179.880, TVD (ft): 11295.40, Dogleg (°/100 ft): 1.53, Sensor Depth (ft): 16438.00, Bit To Sensor (ft): 70.00, Temperature (°F): 176.00
Rotary Drill	1	05-29	12:55	13:15	05-29	16508.00	16518.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 690.00, Strokes Per Minute: 210.00
Slide Drill	2	05-29	13:15	14:00	05-29	16518.00	16540.00	Pressure On (psi): 4200.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194, Toolface: 90, Toolface Type: gravity

Rotary Drill	1	05-29	14:00	15:00	05-29	16540.00	16598.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 690.00, Strokes Per Minute: 210.00
Survey	46	05-29	15:00	15:05	05-29	16598.00	16598.00	Inclination (°): 88.700, Azimuth (°): 180.670, TVD (ft): 11296.54, Dogleg (°/100 ft): 1.55, Sensor Depth (ft): 16528.00, Bit To Sensor (ft): 70.00, Temperature (°F): 176.00
Rotary Drill	1	05-29	15:05	16:10	05-29	16598.00	16688.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 690.00, Strokes Per Minute: 210.00
Survey	46	05-29	16:10	16:15	05-29	16688.00	16688.00	Inclination (°): 88.220, Azimuth (°): 180.670, TVD (ft): 11298.96, Dogleg (°/100 ft): 0.53, Sensor Depth (ft): 16618.00, Bit To Sensor (ft): 70.00
Slide Drill	2	05-29	16:15	16:45	05-29	16688.00	16711.00	Pressure On (psi): 4200.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194, Toolface: 25, Toolface Type: gravity
Rotary Drill	1	05-29	16:45	17:40	05-29	16711.00	16777.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	05-29	17:40	17:45	05-29	16777.00	16777.00	Inclination (°): 90.550, Azimuth (°): 180.670, TVD (ft): 11299.91, Dogleg (°/100 ft): 2.62, Sensor Depth (ft): 16707.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-29	17:45	19:00	05-29	16777.00	16867.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	05-29	19:00	19:05	05-29	16867.00	16867.00	Inclination (°): 90.950, Azimuth (°): 179.530, TVD (ft): 11298.73, Dogleg (°/100 ft): 1.34, Sensor Depth (ft): 16797.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-29	19:05	20:10	05-29	16867.00	16956.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	05-29	20:10	20:15	05-29	16956.00	16956.00	Inclination (°): 89.010, Azimuth (°): 178.830, TVD (ft): 11298.76, Dogleg (°/100 ft): 2.32, Sensor Depth (ft): 16886.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-29	20:15	21:25	05-29	16956.00	17046.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	05-29	21:25	21:30	05-29	17046.00	17046.00	Inclination (°): 87.910, Azimuth (°): 177.860, TVD (ft): 11301.18, Dogleg (°/100 ft): 1.63, Sensor Depth (ft): 16976.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-29	21:30	21:35	05-29	17046.00	17050.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Slide Drill	2	05-29	21:35	22:35	05-29	17050.00	17080.00	Pressure On (psi): 4200.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194, Toolface: 50, Toolface Type: gravity
Rotary Drill	1	05-29	22:35	23:05	05-29	17080.00	17136.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	05-29	23:05	23:10	05-29	17136.00	17136.00	Inclination (°): 89.230, Azimuth (°): 178.740, TVD (ft): 11303.43, Dogleg (°/100 ft): 1.76, Sensor Depth (ft): 17066.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-29	23:10	00:00	05-30	17136.00	17204.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00

MWD Activities

No Activities



Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Saturday, May 30 00:00 - 23:59 (Day 22 of 28)

Billing: \$9,000.00 (\$282,174.41 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	17204.00	Downhole Hours	24.00	Rotating WOB (klbs)	45.00 - 45.00
Bit Depth (ft)	18301.00	Drilling Hours	21.00	Sliding WOB (klbs)	45.00 - 45.00
Bottom Hole Depth (ft)	18301.00	Hours Circulating	1.25	Rotating SPM	200.00 - 200.00
Total Distance (ft)	1097.00	Hours Sliding	6.33	Sliding SPM	194.00 - 194.00
Distance Rotated (ft)	911.00	Hours Rotating	14.67	Motor RPM	169.00 - 182.00
Distance Slid (ft)	186.00			Surface RPM	50.00 - 50.00
Inclination In	90.20			Flow Rate (gpm)	625.00 - 650.00
Inclination Out	88.62			On Bottom Pressure (psi)	4200.00 - 4650.00
Azimuth In	178.47	% Hours Rotating	70%	Off Bottom Pressure (psi)	3600.00 - 4000.00
Azimuth Out	179.00	% Hours Sliding	30%		
AVG Total ROP (ft/h)	54.76	% Distance Sliding	17%		
AVG Rotating ROP (ft/h)	64.46	% Distance Rotating	83%		
AVG Sliding ROP (ft/h)	29.37				

Personnel

Name	Position
Advance Directional	Directional Driller
Kyle Kusak	MWD Engineer
Paul Pierron	MWD Engineer

BHA #9 - 8.50" LATERAL w/ Agitator

Date In: May 28, 2020, 11:00 Date Out: Jun 1, 2020, 14:15

Bit Details		Motor Details		Directional Comments
OD (in)	8.500	Size (in)	7.0	Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, Bit Runs: 1
Vendor	Baker	Lobe/Stage	7/9, 8.5	
S/N	5305774	Bend Angle	1.75	
Nozzles	6x22's	Speed (rev/gal)	0.26	MWD Comments
Total Flow Area (in²)	2.227	Wear Pad OD (in)	7.250	
Drilling Hours for Day	21.00	Bit Distances		
Total Drilled for Day (ft)	1097.00	Bend: 5.34 ft, Survey: 70.00 ft, Gamma: 46.00 ft, Resistivity: 56.00 ft, Other (AGITATOR): 2631.00 ft		POOH Reason Penetration Rate: ROP dropped of to 30'/hr. Diff began dropping off. CoMan made decision to POOH for bit.
Drilling Hours for BHA	68.25			
Total Drilled for BHA (ft)	4132.00			

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: 8.50 Baker DD506TWX, Style: PDC, Gauge Length (in): 3.50, Size (in): 8.50	Baker	5305774	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 7" 7/8 8.5 1.75 Fixed w/SS, Size (in): 7.00, Bend Angle (°): 1.75, Rotor Lobe: 7, Stator Lobe: 8.5, Stator Stage: 8.5	Aim	700-40-029	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.27	37.27
MWD Hangoff Sub Description: MWD / RESISTIVITY COLLAR, Type: NM	BENCHTREE	6501005	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		31.46	68.73
Other Description: BATTERY	BENCHTREE	B6003X	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		17.15	85.88
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR41083	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.668		29.27	115.15
Crossover Sub Description: Crossover, Type: Steel	Black Diamond	BD 15114	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.688		3.64	118.79
Drill Pipe Description: 28 stands DP, Style: Slick	Black diamond		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		2508.93	2627.72
Crossover Sub Description: CROSSOVER SUB, Type: Steel	BLACK DIAMOND	BD11665	4 1/2" IF Box	EverDrlg54 Pin	3.500	6.740		3.56	2631.28
Agitator Description: AGITATOR, Size (in): 6.94	NOV	GHF0675-0143	4 1/2" IF Box	4 1/2" IF Pin		6.750		25.52	2656.80
Crossover Sub Description: CROSSOVER SUB, Type: Steel	BLACK DIAMOND	BD15115	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.770		3.66	2660.46
Drill Pipe Description: 92 STANDS DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		8246.66	10907.12
HWDP Description: 9 STANDS 5.5 HWDP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		851.38	11758.50

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	05-29	23:10	00:00	05-30	17136.00	17204.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Rotary Drill	1	05-30	00:00	00:15	05-30	17204.00	17226.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	05-30	00:15	00:20	05-30	17226.00	17226.00	Inclination (°): 90.200, Azimuth (°): 178.470, TVD (ft): 11303.88, Dogleg (°/100 ft): 1.12, Sensor Depth (ft): 17156.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-30	00:20	01:35	05-30	17226.00	17315.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	05-30	01:35	01:40	05-30	17315.00	17315.00	Inclination (°): 91.210, Azimuth (°): 178.470, TVD (ft): 11302.78, Dogleg (°/100 ft): 1.13, Sensor Depth (ft): 17245.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-30	01:40	03:00	05-30	17315.00	17405.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	05-30	03:00	03:05	05-30	17405.00	17405.00	Inclination (°): 91.210, Azimuth (°): 177.590, TVD (ft): 11300.88, Dogleg (°/100 ft): 0.98, Sensor Depth (ft): 17335.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-30	03:05	03:25	05-30	17405.00	17410.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Slide Drill	2	05-30	03:25	04:35	05-30	17410.00	17450.00	Pressure On (psi): 4200.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194, Toolface: 135, Toolface Type: gravity
Rotary Drill	1	05-30	04:35	05:25	05-30	17450.00	17494.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	05-30	05:25	05:30	05-30	17494.00	17494.00	Inclination (°): 91.120, Azimuth (°): 179.700, TVD (ft): 11299.07, Dogleg (°/100 ft): 2.37, Sensor Depth (ft): 17424.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-30	05:30	06:40	05-30	17494.00	17584.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	05-30	06:40	06:45	05-30	17584.00	17584.00	Inclination (°): 90.680, Azimuth (°): 180.760, TVD (ft): 11297.66, Dogleg (°/100 ft): 1.28, Sensor Depth (ft): 17514.00, Bit To Sensor (ft): 70.00
Circulating	3	05-30	06:45	08:00	05-30			MWD ISSUES
Slide Drill	2	05-30	08:00	09:30	05-30	17584.00	17628.00	Pressure On (psi): 4200.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194, Toolface: 180, Toolface Type: gravity
Rotary Drill	1	05-30	09:30	10:00	05-30	17628.00	17674.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	05-30	10:00	10:05	05-30	17674.00	17674.00	Inclination (°): 88.310, Azimuth (°): 179.880, TVD (ft): 11298.45, Dogleg (°/100 ft): 2.81, Sensor Depth (ft): 17604.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-30	10:05	11:00	05-30	17674.00	17741.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Slide Drill	2	05-30	11:00	11:45	05-30	17741.00	17758.00	Pressure On (psi): 4200.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194, Toolface: 20, Toolface Type: gravity
Rotary Drill	1	05-30	11:45	12:00	05-30	17758.00	17763.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	05-30	12:00	12:05	05-30	17763.00	17763.00	Inclination (°): 86.150, Azimuth (°): 180.060, TVD (ft): 11302.75, Dogleg (°/100 ft): 2.44, Sensor Depth (ft): 17693.00, Bit To Sensor (ft): 70.00
Slide Drill	2	05-30	12:05	14:00	05-30	17763.00	17798.00	Pressure On (psi): 4200.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194, Toolface: 20, Toolface Type: gravity
Rotary Drill	1	05-30	14:00	15:10	05-30	17798.00	17853.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	05-30	15:10	15:15	05-30	17853.00	17853.00	Inclination (°): 89.630, Azimuth (°): 179.790, TVD (ft): 11306.06, Dogleg (°/100 ft): 3.88, Sensor Depth (ft): 17783.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-30	15:15	16:40	05-30	17853.00	17943.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	05-30	16:40	16:45	05-30	17943.00	17943.00	Inclination (°): 90.810, Azimuth (°): 179.090, TVD (ft): 11305.72, Dogleg (°/100 ft): 1.52, Sensor Depth (ft): 17873.00, Bit To Sensor (ft): 70.00
Slide Drill	2	05-30	16:45	17:30	05-30	17943.00	17968.00	Pressure On (psi): 4200.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194, Toolface: 135, Toolface Type: gravity
Rotary Drill	1	05-30	17:30	19:25	05-30	17968.00	18032.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00

Survey	46	05-30	19:25	19:30	05-30	18032.00	18032.00	Inclination (°): 89.360, Azimuth (°): 179.700, TVD (ft): 11305.59, Dogleg (°/100 ft): 1.77, Sensor Depth (ft): 17962.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-30	19:30	20:30	05-30	18032.00	18122.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Rig Service - In Hole	19	05-30	20:30	21:00	05-30			IBOP
Survey	46	05-30	21:00	21:05	05-30	18122.00	18122.00	Inclination (°): 90.070, Azimuth (°): 179.350, TVD (ft): 11306.03, Dogleg (°/100 ft): 0.88, Sensor Depth (ft): 18052.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-30	21:05	21:10	05-30	18122.00	18125.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Slide Drill	2	05-30	21:10	21:25	05-30	18125.00	18150.00	Pressure On (psi): 4200.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194, Toolface: 160, Toolface Type: gravity
Rotary Drill	1	05-30	21:25	22:40	05-30	18150.00	18212.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	05-30	22:40	22:45	05-30	18212.00	18212.00	Inclination (°): 89.010, Azimuth (°): 179.970, TVD (ft): 11306.76, Dogleg (°/100 ft): 1.36, Sensor Depth (ft): 18142.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-30	22:45	23:45	05-30	18212.00	18301.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	05-30	23:45	23:50	05-30	18301.00	18301.00	Inclination (°): 88.620, Azimuth (°): 179.000, TVD (ft): 11308.60, Dogleg (°/100 ft): 1.17, Sensor Depth (ft): 18231.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-30	23:50	00:55	05-31	18301.00	18391.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00

MWD Activities

No Activities



Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Sunday, May 31 00:00 - 23:59 (Day 23 of 28)

Billing: \$9,000.00 (\$282,174.41 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	18301.00	Downhole Hours	24.00	Rotating WOB (klbs)	45.00 - 65.00
Bit Depth (ft)	19645.00	Drilling Hours	22.50	Sliding WOB (klbs)	25.00 - 45.00
Bottom Hole Depth (ft)	19645.00	Hours Circulating	0.00	Rotating SPM	194.00 - 200.00
Total Distance (ft)	1344.00	Hours Sliding	3.67	Sliding SPM	194.00 - 195.00
Distance Rotated (ft)	1220.00	Hours Rotating	18.83	Motor RPM	169.00 - 182.00
Distance Slid (ft)	124.00			Surface RPM	50.00 - 50.00
Inclination In	87.91			Flow Rate (gpm)	625.00 - 650.00
Inclination Out	88.48			On Bottom Pressure (psi)	3750.00 - 4650.00
Azimuth In	178.39	% Hours Rotating	84%	Off Bottom Pressure (psi)	3500.00 - 4000.00
Azimuth Out	177.68	% Hours Sliding	16%		
AVG Total ROP (ft/h)	59.73	% Distance Sliding	9%		
AVG Rotating ROP (ft/h)	64.78	% Distance Rotating	91%		
AVG Sliding ROP (ft/h)	33.82				

Personnel

Name	Position
Advance Directional	Directional Driller
Kyle Kusak	MWD Engineer
Paul Pierron	MWD Engineer

BHA #9 - 8.50" LATERAL w/ Agitator

Date In: May 28, 2020, 11:00 Date Out: Jun 1, 2020, 14:15

Bit Details		Motor Details		Directional Comments
OD (in)	8.500	Size (in)	7.0	Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, Bit Runs: 1
Vendor	Baker	Lobe/Stage	7/9, 8.5	
S/N	5305774	Bend Angle	1.75	
Nozzles	6x22's	Speed (rev/gal)	0.26	MWD Comments
Total Flow Area (in²)	2.227	Wear Pad OD (in)	7.250	
Drilling Hours for Day	22.50	Bit Distances		
Total Drilled for Day (ft)	1344.00	Bend: 5.34 ft, Survey: 70.00 ft, Gamma: 46.00 ft,		POOH Reason
Drilling Hours for BHA	68.25	Resistivity: 56.00 ft, Other (AGITATOR): 2631.00 ft		
Total Drilled for BHA (ft)	4132.00			
				Penetration Rate: ROP dropped of to 30'/hr. Diff began dropping off. CoMan made decision to POOH for bit.

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: 8.50 Baker DD506TWX, Style: PDC, Gauge Length (in): 3.50, Size (in): 8.50	Baker	5305774	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 7" 7/8 8.5 1.75 Fixed w/SS Size (in): 7.00, Bend Angle (°): 1.75, Rotor Lobe: 7, Stator Lobe: 8.5, Stator Stage: 8.5	Aim	700-40-029	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.27	37.27
MWD Hangoff Sub Description: MWD / RESISTIVITY COLLAR, Type: NM	BENCHTREE	6501005	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		31.46	68.73
Other Description: BATTERY	BENCHTREE	B6003X	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		17.15	85.88
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR41083	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.668		29.27	115.15
Crossover Sub Description: Crossover, Type: Steel	Black Diamond	BD 15114	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.688		3.64	118.79
Drill Pipe Description: 28 stands DP, Style: Slick	Black diamond		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		2508.93	2627.72
Crossover Sub Description: CROSSOVER SUB, Type: Steel	BLACK DIAMOND	BD11665	4 1/2" IF Box	EverDrlg54 Pin	3.500	6.740		3.56	2631.28
Agitator Description: AGITATOR, Size (in): 6.94	NOV	GHF0675-0143	4 1/2" IF Box	4 1/2" IF Pin		6.750		25.52	2656.80
Crossover Sub Description: CROSSOVER SUB, Type: Steel	BLACK DIAMOND	BD15115	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.770		3.66	2660.46
Drill Pipe Description: 92 STANDS DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		8246.66	10907.12
HWDP Description: 9 STANDS 5.5 HWDP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		851.38	11758.50

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	05-30	23:50	00:55	05-31	18301.00	18391.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	05-31	00:55	01:00	05-31	18391.00	18391.00	Inclination (°): 87.910, Azimuth (°): 178.390, TVD (ft): 11311.32, Dogleg (°/100 ft): 1.04, Sensor Depth (ft): 18321.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-31	01:00	01:15	05-31	18391.00	18395.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Slide Drill	2	05-31	01:15	02:00	05-31	18395.00	18411.00	Pressure On (psi): 4200.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194, Toolface: 60, Toolface Type: gravity
Rotary Drill	1	05-31	02:00	02:45	05-31	18411.00	18481.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	05-31	02:45	02:50	05-31	18481.00	18481.00	Inclination (°): 89.850, Azimuth (°): 178.650, TVD (ft): 11313.08, Dogleg (°/100 ft): 2.17, Sensor Depth (ft): 18411.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-31	02:50	03:35	05-31	18481.00	18508.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Other	16	05-31	03:35	03:50	05-31			DLK to 1.5 Pulse Width
Rotary Drill	1	05-31	03:50	04:40	05-31	18508.00	18570.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	05-31	04:40	04:45	05-31	18570.00	18570.00	Inclination (°): 89.760, Azimuth (°): 177.950, TVD (ft): 11313.38, Dogleg (°/100 ft): 0.79, Sensor Depth (ft): 18500.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-31	04:45	05:00	05-31	18570.00	18575.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Slide Drill	2	05-31	05:00	05:55	05-31	18575.00	18605.00	Pressure On (psi): 4200.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 45.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194, Toolface: 120, Toolface Type: gravity
Rotary Drill	1	05-31	05:55	07:00	05-31	18605.00	18660.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	05-31	07:00	07:05	05-31	18660.00	18660.00	Inclination (°): 90.810, Azimuth (°): 179.350, TVD (ft): 11312.94, Dogleg (°/100 ft): 1.94, Sensor Depth (ft): 18590.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-31	07:05	08:40	05-31	18660.00	18749.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	05-31	08:40	08:45	05-31	18749.00	18749.00	Inclination (°): 90.990, Azimuth (°): 179.180, TVD (ft): 11311.54, Dogleg (°/100 ft): 0.28, Sensor Depth (ft): 18679.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-31	08:45	10:15	05-31	18749.00	18839.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	05-31	10:15	10:20	05-31	18839.00	18839.00	Inclination (°): 90.680, Azimuth (°): 178.650, TVD (ft): 11310.23, Dogleg (°/100 ft): 0.68, Sensor Depth (ft): 18769.00, Bit To Sensor (ft): 70.00
Slide Drill	2	05-31	10:20	10:30	05-31	18839.00	18872.00	Toolface: 115, Toolface Type: gravity
Rotary Drill	1	05-31	10:30	12:20	05-31	18872.00	18928.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	05-31	12:20	12:25	05-31	18928.00	18928.00	Inclination (°): 87.650, Azimuth (°): 181.020, TVD (ft): 11311.52, Dogleg (°/100 ft): 4.32, Sensor Depth (ft): 18858.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-31	12:25	13:30	05-31	18928.00	19018.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	05-31	13:30	13:35	05-31	19018.00	19018.00	Inclination (°): 87.650, Azimuth (°): 180.930, TVD (ft): 11315.21, Dogleg (°/100 ft): 0.10, Sensor Depth (ft): 18948.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-31	13:35	14:30	05-31	19018.00	19050.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Slide Drill	2	05-31	14:30	15:30	05-31	19050.00	19075.00	Pressure On (psi): 3750.00, Pressure Off (psi): 3500.00, Weight On Bit (klbs): 25.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 195, Toolface: 35, Toolface Type: gravity
Rotary Drill	1	05-31	15:30	16:15	05-31	19075.00	19107.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	05-31	16:15	16:20	05-31	19107.00	19107.00	Inclination (°): 87.560, Azimuth (°): 181.020, TVD (ft): 11318.93, Dogleg (°/100 ft): 0.14, Sensor Depth (ft): 19037.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-31	16:20	17:25	05-31	19107.00	19197.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	05-31	17:25	17:30	05-31	19197.00	19197.00	Inclination (°): 89.670, Azimuth (°): 181.900, TVD (ft): 11321.11, Dogleg (°/100 ft): 2.54, Sensor Depth (ft): 19127.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-31	17:30	18:35	05-31	19197.00	19286.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 28000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	05-31	18:35	18:40	05-31	19286.00	19286.00	Inclination (°): 89.800, Azimuth (°): 181.110, TVD (ft): 11321.52, Dogleg (°/100 ft): 0.90, Sensor Depth (ft): 19216.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-31	18:40	19:40	05-31	19286.00	19376.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 65.00, Surface RPM: 50, Surface Torque (ft lbf): 33000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00

Survey	46	05-31	19:40	19:45	05-31	19376.00	19376.00	Inclination (°): 89.710, Azimuth (°): 180.320, TVD (ft): 11321.91, Dogleg (°/100 ft): 0.88, Sensor Depth (ft): 19306.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-31	19:45	20:40	05-31	19376.00	19466.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 65.00, Surface RPM: 50, Surface Torque (ft lbf): 33000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	05-31	20:40	20:45	05-31	19466.00	19466.00	Inclination (°): 88.260, Azimuth (°): 179.350, TVD (ft): 11323.50, Dogleg (°/100 ft): 1.94, Sensor Depth (ft): 19396.00, Bit To Sensor (ft): 70.00
Slide Drill	2	05-31	20:45	21:35	05-31	19466.00	19486.00	Pressure On (psi): 3750.00, Pressure Off (psi): 3500.00, Weight On Bit (klbs): 30.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 195, Toolface: 45, Toolface Type: gravity
Rotary Drill	1	05-31	21:35	22:30	05-31	19486.00	19555.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 65.00, Surface RPM: 50, Surface Torque (ft lbf): 33000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	05-31	22:30	22:35	05-31	19555.00	19555.00	Inclination (°): 89.630, Azimuth (°): 178.470, TVD (ft): 11325.14, Dogleg (°/100 ft): 1.83, Sensor Depth (ft): 19485.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	05-31	22:35	23:45	05-31	19555.00	19645.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 65.00, Surface RPM: 50, Surface Torque (ft lbf): 33000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	05-31	23:45	00:00	06-01	19645.00	19645.00	Inclination (°): 88.480, Azimuth (°): 177.680, TVD (ft): 11326.62, Dogleg (°/100 ft): 1.55, Sensor Depth (ft): 19575.00, Bit To Sensor (ft): 70.00

MWD Activities

No Activities



Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Monday, Jun 01 00:00 - 23:59 (Day 24 of 28)

Billing: \$28,840.00 (\$282,174.41 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	19645.00	Downhole Hours	24.00	Rotating WOB (klbs)	65.00 - 65.00
Bit Depth (ft)	19657.00	Drilling Hours	0.33	Sliding WOB (klbs)	
Bottom Hole Depth (ft)	19657.00	Hours Circulating	3.42	Rotating SPM	194.00 - 194.00
Total Distance (ft)	12.00	Hours Sliding	0.00	Sliding SPM	
Distance Rotated (ft)	12.00	Hours Rotating	0.33	Motor RPM	169.00 - 182.00
Distance Slid (ft)	0.00			Surface RPM	50.00 - 50.00
Inclination In				Flow Rate (gpm)	625.00 - 625.00
Inclination Out				On Bottom Pressure (psi)	4650.00 - 4650.00
Azimuth In		% Hours Rotating	100%	Off Bottom Pressure (psi)	4000.00 - 4000.00
Azimuth Out		% Hours Sliding	0%		
AVG Total ROP (ft/h)	36.00	% Distance Sliding	0%		
AVG Rotating ROP (ft/h)	36.00	% Distance Rotating	100%		
AVG Sliding ROP (ft/h)	0.00				

Personnel

Name	Position
Advance Directional	Directional Driller
Kyle Kusak	MWD Engineer
Paul Pierron	MWD Engineer

BHA #9 - 8.50" LATERAL w/ Agitator

Date In: May 28, 2020, 11:00 Date Out: Jun 1, 2020, 14:15

Bit Details		Motor Details		Directional Comments
OD (in)	8.500	Size (in)	7.0	Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, Bit Runs: 1
Vendor	Baker	Lobe/Stage	7/9, 8.5	
S/N	5305774	Bend Angle	1.75	
Nozzles	6x22's	Speed (rev/gal)	0.26	MWD Comments
Total Flow Area (in²)	2.227	Wear Pad OD (in)	7.250	
Drilling Hours for Day	0.33	Bit Distances		
Total Drilled for Day (ft)	12.00	Bend: 5.34 ft, Survey: 70.00 ft, Gamma: 46.00 ft, Resistivity: 56.00 ft, Other (AGITATOR): 2631.00 ft		POOH Reason
Drilling Hours for BHA	68.25			
Total Drilled for BHA (ft)	4132.00			

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: 8.50 Baker DD506TWX, Style: PDC, Gauge Length (in): 3.50, Size (in): 8.50	Baker	5305774	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 7" 7/8 8.5 1.75 Fixed w/SS, Size (in): 7.00, Bend Angle (°): 1.75, Rotor Lobe: 7, Stator Lobe: 8.5, Stator Stage: 8.5	Aim	700-40-029	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.27	37.27
MWD Hangoff Sub Description: MWD / RESISTIVITY COLLAR, Type: NM	BENCHTREE	6501005	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		31.46	68.73
Other Description: BATTERY	BENCHTREE	B6003X	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		17.15	85.88
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR41083	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.668		29.27	115.15
Crossover Sub Description: Crossover, Type: Steel	Black Diamond	BD 15114	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.688		3.64	118.79
Drill Pipe Description: 28 stands DP, Style: Slick	Black diamond		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		2508.93	2627.72
Crossover Sub Description: CROSSOVER SUB, Type: Steel	BLACK DIAMOND	BD11665	4 1/2" IF Box	EverDrlg54 Pin	3.500	6.740		3.56	2631.28
Agitator Description: AGITATOR, Size (in): 6.94	NOV	GHF0675-0143	4 1/2" IF Box	4 1/2" IF Pin		6.750		25.52	2656.80
Crossover Sub Description: CROSSOVER SUB, Type: Steel	BLACK DIAMOND	BD15115	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.770		3.66	2660.46
Drill Pipe Description: 92 STANDS DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		8246.66	10907.12
HWDP Description: 9 STANDS 5.5 HWDP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		851.38	11758.50

MWD Items

No Items

BHA #10 - 8.50" LATERAL w/ Agitator

Date In: Jun 1, 2020, 14:15 Date Out: Jun 4, 2020, 4:00

Bit Details		Motor Details		Directional Comments	
OD (in)	8.500	Size (in)	7.0	Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, Bit Runs: 1	
Vendor	Baker	Lobe/Stage	7/8, 8.5		
S/N	5308889	Bend Angle	1.75	MWD Comments	
Nozzles	6x22's	Speed (rev/gal)	0.26		
Total Flow Area (in²)	2.227	Wear Pad OD (in)	7.250	POOH Reason Total Depth/Casing Point	
Drilling Hours for Day	0.00	Bit Distances			
Total Drilled for Day (ft)		Bend: 5.35 ft, Survey: 70.00 ft, Gamma: 46.00 ft,			
Drilling Hours for BHA	29.67	Resistivity: 56.00 ft, Other (AGITATOR): 2631.00 ft			
Total Drilled for BHA (ft)	1847.00				

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: 8.50 Baker DD506TWX, Style: PDC, Gauge Length (in): 3.50, Size (in): 8.50	Baker	5308889	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 7" 7/8 8.5 1.75 Fixed w/SS, Size (in): 7.00, Bend Angle (°): 1.75, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5	Aim	700-40-031	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.26	37.26
MWD Hangoff Sub Description: MWD / RESISTIVITY COLLAR, Type: NM	BENCHTREE	6501010	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		31.52	68.78
Other Description: BATTERY	BENCHTREE	B6003X	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		17.15	85.93
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR41083	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.668		29.27	115.20
Crossover Sub Description: Crossover, Type: Steel	Black Diamond	BD 15114	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.688		3.64	118.84
Drill Pipe Description: 28 stands DP, Style: Slick	Black diamond		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		2508.93	2627.77
Crossover Sub Description: CROSSOVER SUB, Type: Steel	BLACK DIAMOND	BD11665	4 1/2" IF Box	EverDrlg54 Pin	3.500	6.740		3.56	2631.33
Agitator Description: AGITATOR, Size (in): 6.94	NOV	GHF0675-0143	4 1/2" IF Box	4 1/2" IF Pin		6.750		25.52	2656.85
Crossover Sub Description: CROSSOVER SUB, Type: Steel	BLACK DIAMOND	BD15115	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.770		3.66	2660.51
Drill Pipe Description: 92 STANDS DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		8246.66	10907.17
HWDP Description: 9 STANDS 5.5 HWDP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		851.38	11758.55

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	05-31	23:45	00:00	06-01	19645.00	19645.00	Inclination (°): 88.480, Azimuth (°): 177.680, TVD (ft): 11326.62, Dogleg (°/100 ft): 1.55, Sensor Depth (ft): 19575.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	06-01	00:00	00:20	06-01	19645.00	19657.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 65.00, Surface RPM: 50, Surface Torque (ft lbf): 33000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Circulating	3	06-01	00:20	03:45	06-01			
Pooh	7	06-01	03:45	13:30	06-01			POOH for [ROP]
Other	16	06-01	13:30	14:15	06-01			L/D BHA #9
Pick Up BHA	64	06-01	14:15	15:15	06-01			P/U BHA #10
TIH	8	06-01	15:15	19:15	06-01			TIH W/ BHA #10
Rig Repair	14	06-01	19:15	00:15	06-02			

MWD Activities

No Activities



Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Tuesday, Jun 02 00:00 - 23:59 (Day 25 of 28)

Billing: \$9,000.00 (\$282,174.41 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	19657.00	Downhole Hours	24.00	Rotating WOB (klbs)	65.00 - 65.00
Bit Depth (ft)	20511.00	Drilling Hours	16.25	Sliding WOB (klbs)	30.00 - 30.00
Bottom Hole Depth (ft)	20511.00	Hours Circulating	1.42	Rotating SPM	194.00 - 194.00
Total Distance (ft)	854.00	Hours Sliding	5.17	Sliding SPM	195.00 - 195.00
Distance Rotated (ft)	714.00	Hours Rotating	11.08	Motor RPM	182.00 - 182.00
Distance Slid (ft)	140.00			Surface RPM	50.00 - 50.00
Inclination In	88.53			Flow Rate (gpm)	625.00 - 625.00
Inclination Out	89.67			On Bottom Pressure (psi)	3750.00 - 4650.00
Azimuth In	178.21	% Hours Rotating	68%	Off Bottom Pressure (psi)	3500.00 - 4000.00
Azimuth Out	179.44	% Hours Sliding	32%		
AVG Total ROP (ft/h)	52.55	% Distance Sliding	16%		
AVG Rotating ROP (ft/h)	64.42	% Distance Rotating	84%		
AVG Sliding ROP (ft/h)	27.10				

Personnel

Name	Position
Advance Directional	Directional Driller
Kyle Kusak	MWD Engineer
Paul Pierron	MWD Engineer

BHA #10 - 8.50" LATERAL w/ Agitator

Date In: Jun 1, 2020, 14:15 Date Out: Jun 4, 2020, 4:00

Bit Details		Motor Details		Directional Comments
OD (in)	8.500	Size (in)	7.0	Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, Bit Runs: 1
Vendor	Baker	Lobe/Stage	7/8, 8.5	
S/N	5308889	Bend Angle	1.75	
Nozzles	6x22's	Speed (rev/gal)	0.26	MWD Comments
Total Flow Area (in²)	2.227	Wear Pad OD (in)	7.250	POOH Reason Total Depth/Casing Point
Drilling Hours for Day	16.25	Bit Distances		
Total Drilled for Day (ft)	854.00	Bend: 5.35 ft, Survey: 70.00 ft, Gamma: 46.00 ft,		
Drilling Hours for BHA	29.67	Resistivity: 56.00 ft, Other (AGITATOR): 2631.00 ft		
Total Drilled for BHA (ft)	1847.00			

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: 8.50 Baker DD506TWX, Style: PDC, Gauge Length (in): 3.50, Size (in): 8.50	Baker	5308889	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 7" 7/8 8.5 1.75 Fixed w/SS, Size (in): 7.00, Bend Angle (°): 1.75, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5	Aim	700-40-031	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.26	37.26
MWD Hangoff Sub Description: MWD / RESISTIVITY COLLAR, Type: NM	BENCHTREE	6501010	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		31.52	68.78
Other Description: BATTERY	BENCHTREE	B6003X	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		17.15	85.93
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR41083	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.668		29.27	115.20
Crossover Sub Description: Crossover, Type: Steel	Black Diamond	BD 15114	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.688		3.64	118.84
Drill Pipe Description: 28 stands DP, Style: Slick	Black diamond		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		2508.93	2627.77
Crossover Sub Description: CROSSOVER SUB, Type: Steel	BLACK DIAMOND	BD11665	4 1/2" IF Box	EverDrlg54 Pin	3.500	6.740		3.56	2631.33
Agitator Description: AGITATOR, Size (in): 6.94	NOV	GHF0675-0143	4 1/2" IF Box	4 1/2" IF Pin		6.750		25.52	2656.85
Crossover Sub Description: CROSSOVER SUB, Type: Steel	BLACK DIAMOND	BD15115	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.770		3.66	2660.51
Drill Pipe Description: 92 STANDS DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		8246.66	10907.17
HWDP Description: 9 STANDS 5.5 HWDP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		851.38	11758.55

MWD Items

No Items

Directional Activities

Activity Type	Code	Start Date	Start Time	End Time	End Date	Start (ft)	End (ft)	Comments/Details
Rig Repair	14	06-01	19:15	00:15	06-02			
TIH	8	06-02	00:15	05:35	06-02			TIH W/ BHA #10
Circulating	3	06-02	05:35	06:15	06-02			
Circulating	3	06-02	06:15	07:00	06-02			Relog 19627 - 19657
Rotary Drill	1	06-02	07:00	08:05	06-02	19657.00	19734.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 65.00, Surface RPM: 50, Surface Torque (ft lbf): 33000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	06-02	08:05	08:10	06-02	19734.00	19734.00	Inclination (°): 88.530, Azimuth (°): 178.210, TVD (ft): 11328.94, Dogleg (°/100 ft): 0.60, Sensor Depth (ft): 19664.00, Bit To Sensor (ft): 70.00
Slide Drill	2	06-02	08:10	09:00	06-02	19734.00	19759.00	Pressure On (psi): 3750.00, Pressure Off (psi): 3500.00, Weight On Bit (klbs): 30.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 195, Toolface: 115, Toolface Type: gravity
Rotary Drill	1	06-02	09:00	10:10	06-02	19759.00	19824.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 65.00, Surface RPM: 50, Surface Torque (ft lbf): 33000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	06-02	10:10	10:15	06-02	19824.00	19824.00	Inclination (°): 88.530, Azimuth (°): 179.790, TVD (ft): 11331.25, Dogleg (°/100 ft): 1.75, Sensor Depth (ft): 19754.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	06-02	10:15	11:00	06-02	19824.00	19875.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 65.00, Surface RPM: 50, Surface Torque (ft lbf): 33000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Slide Drill	2	06-02	11:00	12:15	06-02	19875.00	19900.00	Pressure On (psi): 3750.00, Pressure Off (psi): 3500.00, Weight On Bit (klbs): 30.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 195, Toolface: 30, Toolface Type: gravity
Rotary Drill	1	06-02	12:15	12:35	06-02	19900.00	19913.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 65.00, Surface RPM: 50, Surface Torque (ft lbf): 33000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	06-02	12:35	12:40	06-02	19913.00	19913.00	Inclination (°): 87.430, Azimuth (°): 179.530, TVD (ft): 11334.39, Dogleg (°/100 ft): 1.27, Sensor Depth (ft): 19843.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	06-02	12:40	13:00	06-02	19913.00	19925.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 65.00, Surface RPM: 50, Surface Torque (ft lbf): 33000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Slide Drill	2	06-02	13:00	13:45	06-02	19925.00	19945.00	Pressure On (psi): 3750.00, Pressure Off (psi): 3500.00, Weight On Bit (klbs): 30.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 195, Toolface: 10, Toolface Type: gravity
Rotary Drill	1	06-02	13:45	14:45	06-02	19945.00	20003.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 65.00, Surface RPM: 50, Surface Torque (ft lbf): 33000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	06-02	14:45	14:50	06-02	20003.00	20003.00	Inclination (°): 90.070, Azimuth (°): 180.410, TVD (ft): 11336.35, Dogleg (°/100 ft): 3.09, Sensor Depth (ft): 19933.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	06-02	14:50	15:25	06-02	20003.00	20055.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 65.00, Surface RPM: 50, Surface Torque (ft lbf): 33000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Slide Drill	2	06-02	15:25	16:30	06-02	20055.00	20070.00	Pressure On (psi): 3750.00, Pressure Off (psi): 3500.00, Weight On Bit (klbs): 30.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 195, Toolface: 20, Toolface Type: gravity
Rotary Drill	1	06-02	16:30	17:00	06-02	20070.00	20092.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 65.00, Surface RPM: 50, Surface Torque (ft lbf): 33000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	06-02	17:00	17:05	06-02	20092.00	20092.00	Inclination (°): 90.680, Azimuth (°): 179.790, TVD (ft): 11335.77, Dogleg (°/100 ft): 0.98, Sensor Depth (ft): 20022.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	06-02	17:05	18:35	06-02	20092.00	20182.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 65.00, Surface RPM: 50, Surface Torque (ft lbf): 33000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	06-02	18:35	18:40	06-02	20182.00	20182.00	Inclination (°): 92.350, Azimuth (°): 180.320, TVD (ft): 11333.39, Dogleg (°/100 ft): 1.95, Sensor Depth (ft): 20112.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	06-02	18:40	18:50	06-02	20182.00	20185.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 65.00, Surface RPM: 50, Surface Torque (ft lbf): 33000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Slide Drill	2	06-02	18:50	19:25	06-02	20185.00	20210.00	Pressure On (psi): 3750.00, Pressure Off (psi): 3500.00, Weight On Bit (klbs): 30.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 195, Toolface: 160, Toolface Type: gravity
Rotary Drill	1	06-02	19:25	20:10	06-02	20210.00	20272.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 65.00, Surface RPM: 50, Surface Torque (ft lbf): 33000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	06-02	20:10	20:15	06-02	20272.00	20272.00	Inclination (°): 90.370, Azimuth (°): 180.230, TVD (ft): 11331.26, Dogleg (°/100 ft): 2.20, Sensor Depth (ft): 20202.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	06-02	20:15	21:20	06-02	20272.00	20361.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 65.00, Surface RPM: 50, Surface Torque (ft lbf): 33000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	06-02	21:20	21:25	06-02	20361.00	20361.00	Inclination (°): 89.270, Azimuth (°): 179.180, TVD (ft): 11331.54, Dogleg (°/100 ft): 1.71, Sensor Depth (ft): 20291.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	06-02	21:25	21:35	06-02	20361.00	20365.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 65.00, Surface RPM: 50, Surface Torque (ft lbf): 33000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00

Slide Drill	2	06-02	21:35	22:15	06-02	20365.00	20395.00	Pressure On (psi): 3750.00, Pressure Off (psi): 3500.00, Weight On Bit (klbs): 30.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 195, Toolface: 45, Toolface Type: gravity
Rotary Drill	1	06-02	22:15	23:05	06-02	20395.00	20450.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 65.00, Surface RPM: 50, Surface Torque (ft lbf): 33000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	06-02	23:05	23:10	06-02	20450.00	20450.00	Inclination (°): 89.670, Azimuth (°): 179.440, TVD (ft): 11332.36, Dogleg (°/100 ft): 0.54, Sensor Depth (ft): 20380.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	06-02	23:10	00:00	06-03	20450.00	20511.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 65.00, Surface RPM: 50, Surface Torque (ft lbf): 33000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00

MWD Activities

No Activities



Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Wednesday, Jun 03 00:00 - 23:59 (Day 26 of 28)

Billing: \$9,000.00 (\$282,174.41 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	20511.00	Downhole Hours	24.00	Rotating WOB (klbs)	65.00 - 65.00
Bit Depth (ft)	21504.00	Drilling Hours	13.42	Sliding WOB (klbs)	30.00 - 30.00
Bottom Hole Depth (ft)	21504.00	Hours Circulating	0.00	Rotating SPM	194.00 - 194.00
Total Distance (ft)	993.00	Hours Sliding	3.75	Sliding SPM	195.00 - 195.00
Distance Rotated (ft)	873.00	Hours Rotating	9.67	Motor RPM	182.00 - 182.00
Distance Slid (ft)	120.00			Surface RPM	50.00 - 50.00
Inclination In	89.27			Flow Rate (gpm)	625.00 - 625.00
Inclination Out	89.89			On Bottom Pressure (psi)	3750.00 - 4650.00
Azimuth In	178.12	% Hours Rotating	72%	Off Bottom Pressure (psi)	3500.00 - 4000.00
Azimuth Out	175.75	% Hours Sliding	28%		
AVG Total ROP (ft/h)	73.96	% Distance Sliding	12%		
AVG Rotating ROP (ft/h)	88.95	% Distance Rotating	88%		
AVG Sliding ROP (ft/h)	32.00				

Personnel

Name	Position
Advance Directional	Directional Driller
Kyle Kusak	MWD Engineer
Paul Pierron	MWD Engineer

BHA #10 - 8.50" LATERAL w/ Agitator

Date In: Jun 1, 2020, 14:15 Date Out: Jun 4, 2020, 4:00

Bit Details		Motor Details		Directional Comments
OD (in)	8.500	Size (in)	7.0	Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, Bit Runs: 1
Vendor	Baker	Lobe/Stage	7/8, 8.5	
S/N	5308889	Bend Angle	1.75	
Nozzles	6x22's	Speed (rev/gal)	0.26	MWD Comments
Total Flow Area (in²)	2.227	Wear Pad OD (in)	7.250	POOH Reason Total Depth/Casing Point
Drilling Hours for Day	13.42	Bit Distances		
Total Drilled for Day (ft)	993.00	Bend: 5.35 ft, Survey: 70.00 ft, Gamma: 46.00 ft,		
Drilling Hours for BHA	29.67	Resistivity: 56.00 ft, Other (AGITATOR): 2631.00 ft		
Total Drilled for BHA (ft)	1847.00			

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: 8.50 Baker DD506TWX, Style: PDC, Gauge Length (in): 3.50, Size (in): 8.50	Baker	5308889	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 7" 7/8 8.5 1.75 Fixed w/SS, Size (in): 7.00, Bend Angle (°): 1.75, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5	Aim	700-40-031	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.26	37.26
MWD Hangoff Sub Description: MWD / RESISTIVITY COLLAR, Type: NM	BENCHTREE	6501010	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		31.52	68.78
Other Description: BATTERY	BENCHTREE	B6003X	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		17.15	85.93
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR41083	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.668		29.27	115.20
Crossover Sub Description: Crossover, Type: Steel	Black Diamond	BD 15114	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.688		3.64	118.84
Drill Pipe Description: 28 stands DP, Style: Slick	Black diamond		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		2508.93	2627.77
Crossover Sub Description: CROSSOVER SUB, Type: Steel	BLACK DIAMOND	BD11665	4 1/2" IF Box	EverDrlg54 Pin	3.500	6.740		3.56	2631.33
Agitator Description: AGITATOR, Size (in): 6.94	NOV	GHF0675-0143	4 1/2" IF Box	4 1/2" IF Pin		6.750		25.52	2656.85
Crossover Sub Description: CROSSOVER SUB, Type: Steel	BLACK DIAMOND	BD15115	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.770		3.66	2660.51
Drill Pipe Description: 92 STANDS DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		8246.66	10907.17
HWDP Description: 9 STANDS 5.5 HWDP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		851.38	11758.55

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	06-02	23:10	00:00	06-03	20450.00	20511.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 65.00, Surface RPM: 50, Surface Torque (ft lbf): 33000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Rotary Drill	1	06-03	00:00	00:20	06-03	20511.00	20540.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 65.00, Surface RPM: 50, Surface Torque (ft lbf): 33000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	06-03	00:20	00:25	06-03	20540.00	20540.00	Inclination (°): 89.270, Azimuth (°): 178.120, TVD (ft): 11333.19, Dogleg (°/100 ft): 1.53, Sensor Depth (ft): 20470.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	06-03	00:25	01:15	06-03	20540.00	20630.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 65.00, Surface RPM: 50, Surface Torque (ft lbf): 33000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	06-03	01:15	01:20	06-03	20630.00	20630.00	Inclination (°): 89.190, Azimuth (°): 177.070, TVD (ft): 11334.40, Dogleg (°/100 ft): 1.17, Sensor Depth (ft): 20560.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	06-03	01:20	01:30	06-03	20630.00	20635.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 65.00, Surface RPM: 50, Surface Torque (ft lbf): 33000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Slide Drill	2	06-03	01:30	02:25	06-03	20635.00	20675.00	Pressure On (psi): 3750.00, Pressure Off (psi): 3500.00, Weight On Bit (klbs): 30.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 195, Toolface: 60, Toolface Type: gravity
Rotary Drill	1	06-03	02:25	02:45	06-03	20675.00	20720.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 65.00, Surface RPM: 50, Surface Torque (ft lbf): 33000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	06-03	02:45	02:50	06-03	20720.00	20720.00	Inclination (°): 89.580, Azimuth (°): 178.210, TVD (ft): 11335.37, Dogleg (°/100 ft): 1.34, Sensor Depth (ft): 20650.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	06-03	02:50	03:30	06-03	20720.00	20809.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 65.00, Surface RPM: 50, Surface Torque (ft lbf): 33000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	06-03	03:30	03:35	06-03	20809.00	20809.00	Inclination (°): 91.080, Azimuth (°): 180.930, TVD (ft): 11334.85, Dogleg (°/100 ft): 3.49, Sensor Depth (ft): 20739.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	06-03	03:35	04:35	06-03	20809.00	20899.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 65.00, Surface RPM: 50, Surface Torque (ft lbf): 33000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	06-03	04:35	04:40	06-03	20899.00	20899.00	Inclination (°): 90.900, Azimuth (°): 180.410, TVD (ft): 11333.30, Dogleg (°/100 ft): 0.61, Sensor Depth (ft): 20829.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	06-03	04:40	05:20	06-03	20899.00	20989.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 65.00, Surface RPM: 50, Surface Torque (ft lbf): 33000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	06-03	05:20	05:25	06-03	20989.00	20989.00	Inclination (°): 91.960, Azimuth (°): 180.230, TVD (ft): 11331.05, Dogleg (°/100 ft): 1.19, Sensor Depth (ft): 20919.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	06-03	05:25	05:30	06-03	20989.00	20995.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 65.00, Surface RPM: 50, Surface Torque (ft lbf): 33000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Slide Drill	2	06-03	05:30	06:15	06-03	20995.00	21020.00	Pressure On (psi): 3750.00, Pressure Off (psi): 3500.00, Weight On Bit (klbs): 30.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 195, Toolface: 180, Toolface Type: gravity
Rotary Drill	1	06-03	06:15	06:45	06-03	21020.00	21079.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 65.00, Surface RPM: 50, Surface Torque (ft lbf): 33000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	06-03	06:45	06:50	06-03	21079.00	21079.00	Inclination (°): 89.190, Azimuth (°): 177.860, TVD (ft): 11330.15, Dogleg (°/100 ft): 4.05, Sensor Depth (ft): 21009.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	06-03	06:50	07:30	06-03	21079.00	21143.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 65.00, Surface RPM: 50, Surface Torque (ft lbf): 33000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Slide Drill	2	06-03	07:30	08:30	06-03	21143.00	21168.00	Pressure On (psi): 3750.00, Pressure Off (psi): 3500.00, Weight On Bit (klbs): 30.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 195, Toolface: 0, Toolface Type: gravity
Survey	46	06-03	08:30	08:35	06-03	21168.00	21168.00	Inclination (°): 88.750, Azimuth (°): 176.630, TVD (ft): 11331.75, Dogleg (°/100 ft): 1.47, Sensor Depth (ft): 21098.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	06-03	08:35	09:30	06-03	21168.00	21258.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 65.00, Surface RPM: 50, Surface Torque (ft lbf): 33000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	06-03	09:30	09:35	06-03	21258.00	21258.00	Inclination (°): 90.990, Azimuth (°): 175.400, TVD (ft): 11331.95, Dogleg (°/100 ft): 2.84, Sensor Depth (ft): 21188.00, Bit To Sensor (ft): 70.00
Slide Drill	2	06-03	09:35	10:40	06-03	21258.00	21288.00	Pressure On (psi): 3750.00, Pressure Off (psi): 3500.00, Weight On Bit (klbs): 30.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 195, Toolface: 115, Toolface Type: gravity
Rotary Drill	1	06-03	10:40	11:55	06-03	21288.00	21347.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 65.00, Surface RPM: 50, Surface Torque (ft lbf): 33000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	06-03	11:55	12:00	06-03	21347.00	21347.00	Inclination (°): 90.950, Azimuth (°): 176.980, TVD (ft): 11330.45, Dogleg (°/100 ft): 1.78, Sensor Depth (ft): 21277.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	06-03	12:00	13:20	06-03	21347.00	21437.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 65.00, Surface RPM: 50, Surface Torque (ft lbf): 33000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	06-03	13:20	13:25	06-03	21437.00	21437.00	Inclination (°): 90.460, Azimuth (°): 176.630, TVD (ft): 11329.34, Dogleg (°/100 ft): 0.67, Sensor Depth (ft): 21367.00, Bit To Sensor (ft): 70.00
Rotary Drill	1	06-03	13:25	14:20	06-03	21437.00	21504.00	Pressure On (psi): 4650.00, Pressure Off (psi): 4000.00, Weight On Bit (klbs): 65.00, Surface RPM: 50, Surface Torque (ft lbf): 33000.00, Flow Rate (gpm): 625.00, Strokes Per Minute: 194.00
Survey	46	06-03	14:20	14:25	06-03	21504.00	21504.00	Inclination (°): 89.890, Azimuth (°): 175.750, TVD (ft): 11329.13, Dogleg (°/100 ft): 1.56, Sensor Depth (ft): 21434.00, Bit To Sensor (ft): 70.00
Pooh	7	06-03	14:25	03:00	06-04			POOH

MWD Activities

No Activities



Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
		Company Man

Thursday, Jun 04 00:00 - 23:59 (Day 27 of 28)

Billing: \$17,641.78 (\$282,174.41 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)		Downhole Hours	4.00	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	182.00 - 182.00
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
Advance Directional	Directional Driller
Kyle Kusak	MWD Engineer
Paul Pierron	MWD Engineer

BHA #10 - 8.50" LATERAL w/ Agitator

Date In: Jun 1, 2020, 14:15 Date Out: Jun 4, 2020, 4:00

Bit Details		Motor Details		Directional Comments
OD (in)	8.500	Size (in)	7.0	Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, Bit Runs: 1
Vendor	Baker	Lobe/Stage	7/8, 8.5	
S/N	5308889	Bend Angle	1.75	
Nozzles	6x22's	Speed (rev/gal)	0.26	MWD Comments
Total Flow Area (in²)	2.227	Wear Pad OD (in)	7.250	POOH Reason Total Depth/Casing Point
Drilling Hours for Day	0.00	Bit Distances		
Total Drilled for Day (ft)		Bend: 5.35 ft, Survey: 70.00 ft, Gamma: 46.00 ft, Resistivity: 56.00 ft, Other (AGITATOR): 2631.00 ft		
Drilling Hours for BHA	29.67			
Total Drilled for BHA (ft)	1847.00			

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: 8.50 Baker DD506TWX, Style: PDC, Gauge Length (in): 3.50, Size (in): 8.50	Baker	5308889	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 7" 7/8 8.5 1.75 Fixed w/SS, Size (in): 7.00, Bend Angle (°): 1.75, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5	Aim	700-40-031	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.26	37.26
MWD Hangoff Sub Description: MWD / RESISTIVITY COLLAR, Type: NM	BENCHTREE	6501010	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		31.52	68.78
Other Description: BATTERY	BENCHTREE	B6003X	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		17.15	85.93
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR41083	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.668		29.27	115.20
Crossover Sub Description: Crossover, Type: Steel	Black Diamond	BD 15114	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.688		3.64	118.84
Drill Pipe Description: 28 stands DP, Style: Slick	Black diamond		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		2508.93	2627.77
Crossover Sub Description: CROSSOVER SUB, Type: Steel	BLACK DIAMOND	BD11665	4 1/2" IF Box	EverDrlg54 Pin	3.500	6.740		3.56	2631.33
Agitator Description: AGITATOR, Size (in): 6.94	NOV	GHF0675-0143	4 1/2" IF Box	4 1/2" IF Pin		6.750		25.52	2656.85
Crossover Sub Description: CROSSOVER SUB, Type: Steel	BLACK DIAMOND	BD15115	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.770		3.66	2660.51
Drill Pipe Description: 92 STANDS DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		8246.66	10907.17
HWDP Description: 9 STANDS 5.5 HWDP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		851.38	11758.55

MWD Items

No Items

Directional Activities

Activity Type	Code	Start Date	Start Time	End Time	End Date	Start (ft)	End (ft)	Comments/Details
Pooh	7	06-03	14:25	03:00	06-04			POOH
Lay Down BHA	65	06-04	03:00	04:00	06-04			
Standby	15	06-04	04:00	06:00	06-05			Standby. Casing Ops

MWD Activities

No Activities



Job Number WT-20-035	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-03-09	Well Name Merchant State Unit 553H	Legal Well Name AFE Merchant State Unit 553H
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Friday, Jun 05 00:00 - 23:59 (Day 28 of 28)

Billing: N/A (\$282,174.41 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
Advance Directional	Directional Driller
Kyle Kusak	MWD Engineer
Paul Pierron	MWD Engineer

No BHAs**Directional Activities**

Activity Type	Code	Start Date	Start Time	End Time	End Date	Start (ft)	End (ft)	Comments/Details
Standby	15	06-04	04:00	06:00	06-05			Standby. Casing Ops

MWD Activities

No Activities



Surface Plat

Merchant State Unit 553H (WT-20-035)

2020-03-09 to 2020-06-05

Lea, New Mexico, US (32.44, -103.54)

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

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

Form C-102

Revised August 4, 2011

Submit one copy to appropriate
District Office

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
Property Code	Property Name MERCHANT STATE UNIT	Well Number 553H
OGRID No.	Operator Name ADVANCE ENERGY PARTNERS HAT MESA	Elevation 3681'

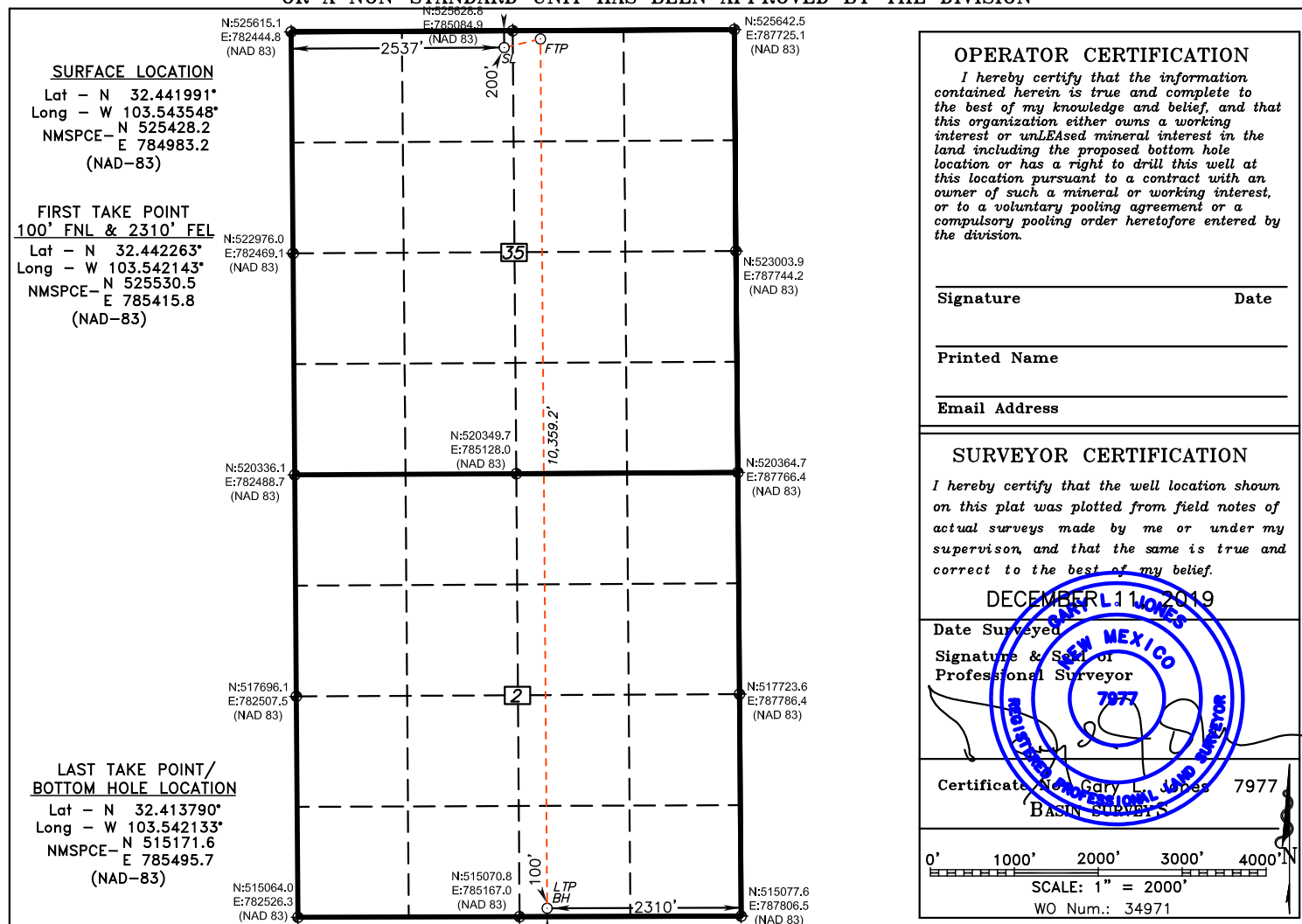
Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	SOUTH/South line	Feet from the	East/West line	County
C	35	21 S	33 E		200	NORTH	2537	WEST	LEA

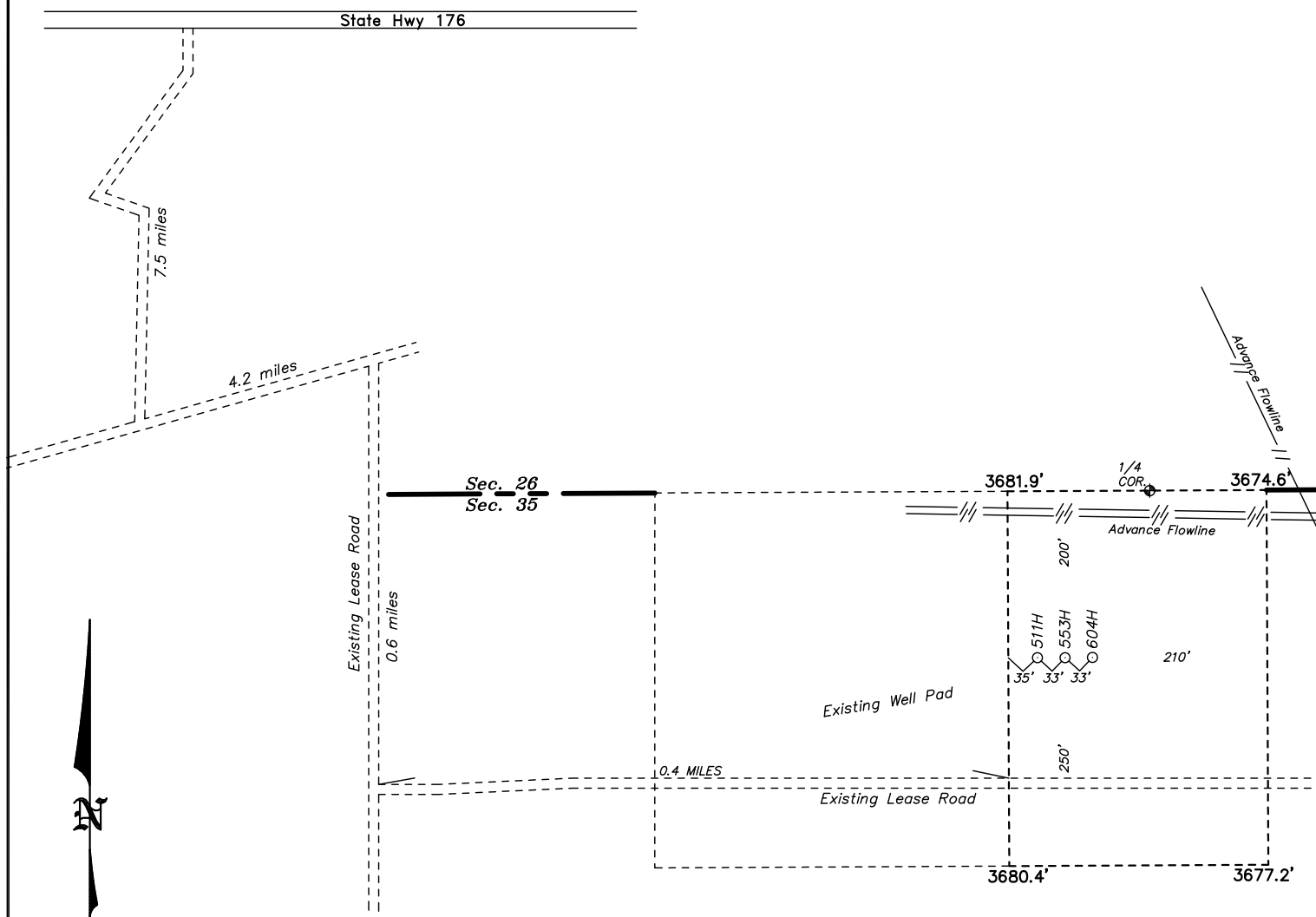
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	SOUTH/South line	Feet from the	East/West line	County
O	2	22 S	33 E		100	SOUTH	2310	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**



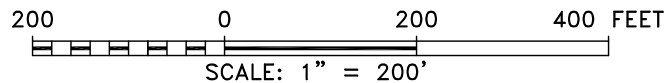
SECTION 35, TOWNSHIP 21 SOUTH, RANGE 33 EAST. N.M.P.M.,
LEA COUNTY, NEW MEXICO.



ADVANCE ENERGY PARTNERS HAT MESA
MERCHANT STATE UNIT 553H
ELEV. - 3681'

Lat - N 32.441991°
Long - W 103.543548°
NMSPCE- N 525428.2
E 784983.2
(NAD-83)

EUNICE, NM IS ± 26 MILES TO THE EAST OF LOCATION.



ADVANCE ENERGY PARTNERS HAT MESA

REF: MERCHANT STATE UNIT 553H / WELL PAD TOPO

THE MERCHANT STATE UNIT 553H LOCATED 200' FROM
THE NORTH LINE AND 2537' FROM THE WEST LINE OF
SECTION 35, TOWNSHIP 21 SOUTH, RANGE 33 EAST.

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



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

W.O. Number: 34971

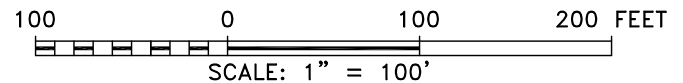
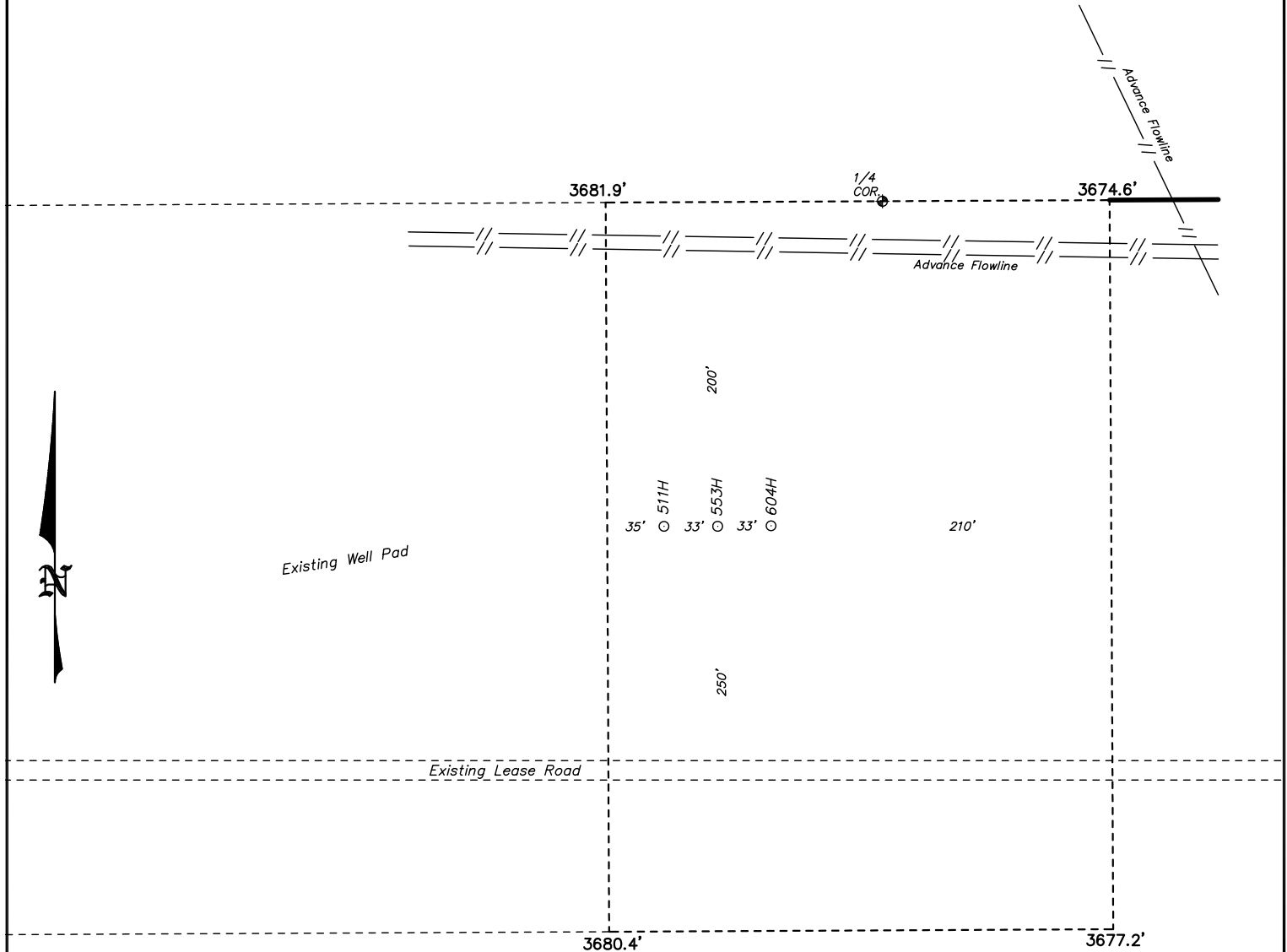
Drawn By: K. GOAD

Date: 12-30-2019

Survey Date: 12-11-2019

Sheet 1 of 1 Sheets

**SECTION 35, TOWNSHIP 21 SOUTH, RANGE 33 EAST. N.M.P.M.,
LEA COUNTY, NEW MEXICO.**



ADVANCE ENERGY PARTNERS HAT MESA

REF: MERCHANT STATE UNIT 553H / WELL PAD TOPO

THE MERCHANT STATE UNIT 553H LOCATED 200' FROM
THE NORTH LINE AND 2537' FROM THE WEST LINE OF
SECTION 35, TOWNSHIP 21 SOUTH, RANGE 33 EAST.

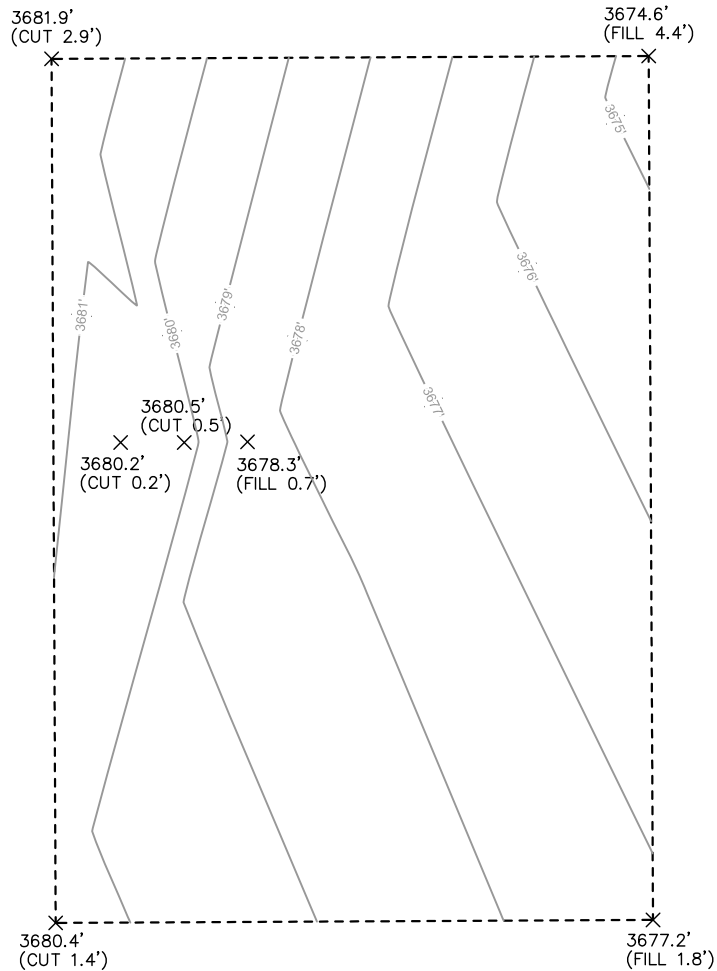
N.M.P.M., LEA COUNTY, NEW MEXICO.

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Hobbs, New Mexico 88241 basin-surveys.com

W.O. Number: 34971	Drawn By: K. GOAD	Date: 12-30-2019	Survey Date: 12-11-2019	Sheet 1 of 1 Sheets
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**SECTION 35, TOWNSHIP 21 SOUTH, RANGE 33 EAST. N.M.P.M.,
LEA COUNTY, NEW MEXICO.**



100 0 100 200 FEET
SCALE: 1" = 100'

ADVANCE ENERGY PARTNERS HAT MESA

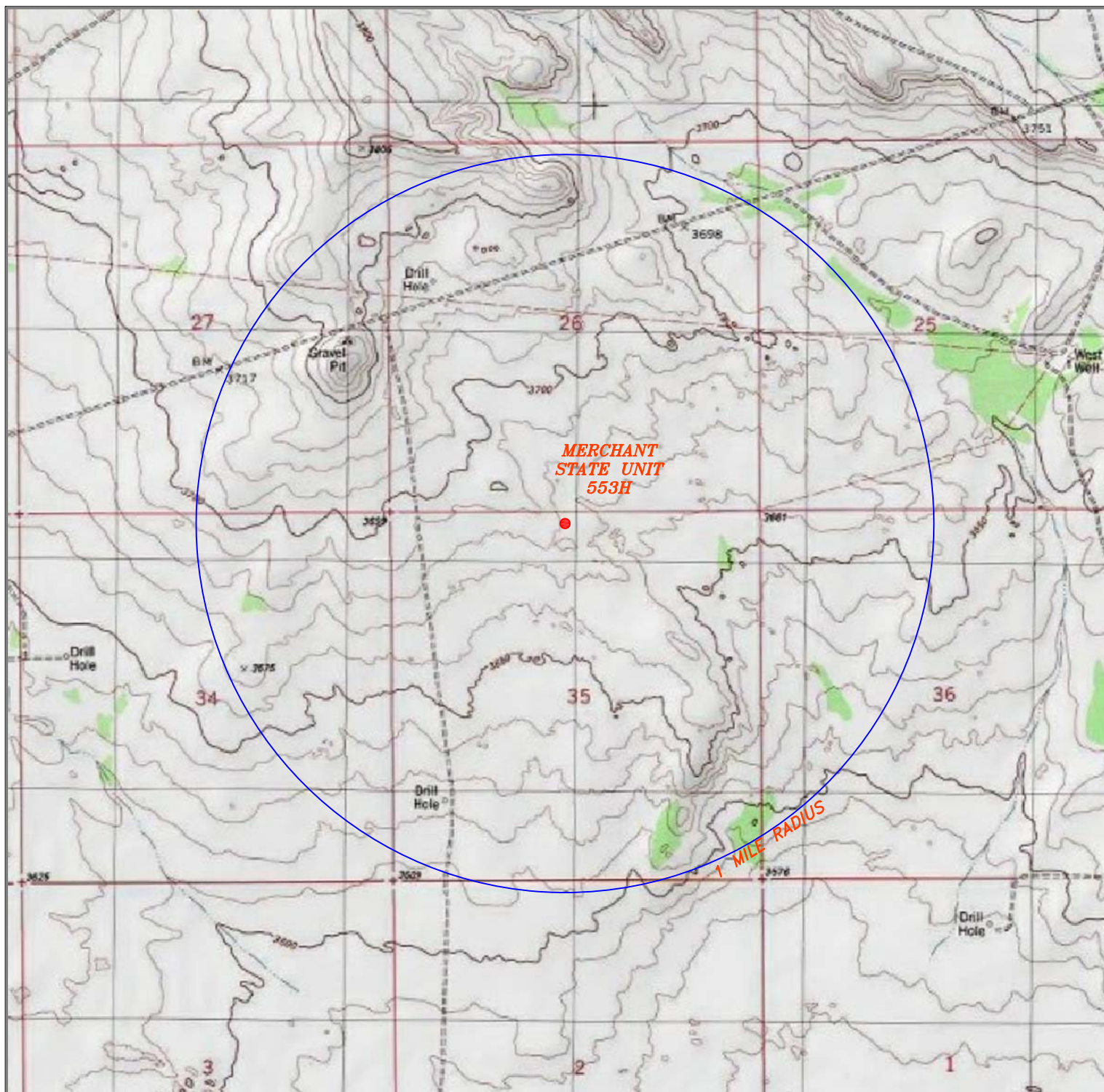
REF: MERCHANT STATE UNIT 511H, 553H & 604H / CUT & FILL

THE MERCHANT STATE UNIT 511H, 553H & 604H LOCATED IN
SECTION 35, TOWNSHIP 21 SOUTH, RANGE 33 EAST.
N.M.P.M., LEA COUNTY, NEW MEXICO.

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

W.O. Number: 34970 Drawn By: K. GOAD Date: 12-30-2019 Survey Date: 12-11-2019 Sheet 1 of 1 Sheets



MERCHANT STATE UNIT 553H

Located 200' FNL and 2537' FWL
 Section 35, Township 21 South, Range 33 East,
 N.M.P.M., Lea County, New Mexico.



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

0' 1000' 2000' 3000' 1500'

SCALE: 1" = 2000'

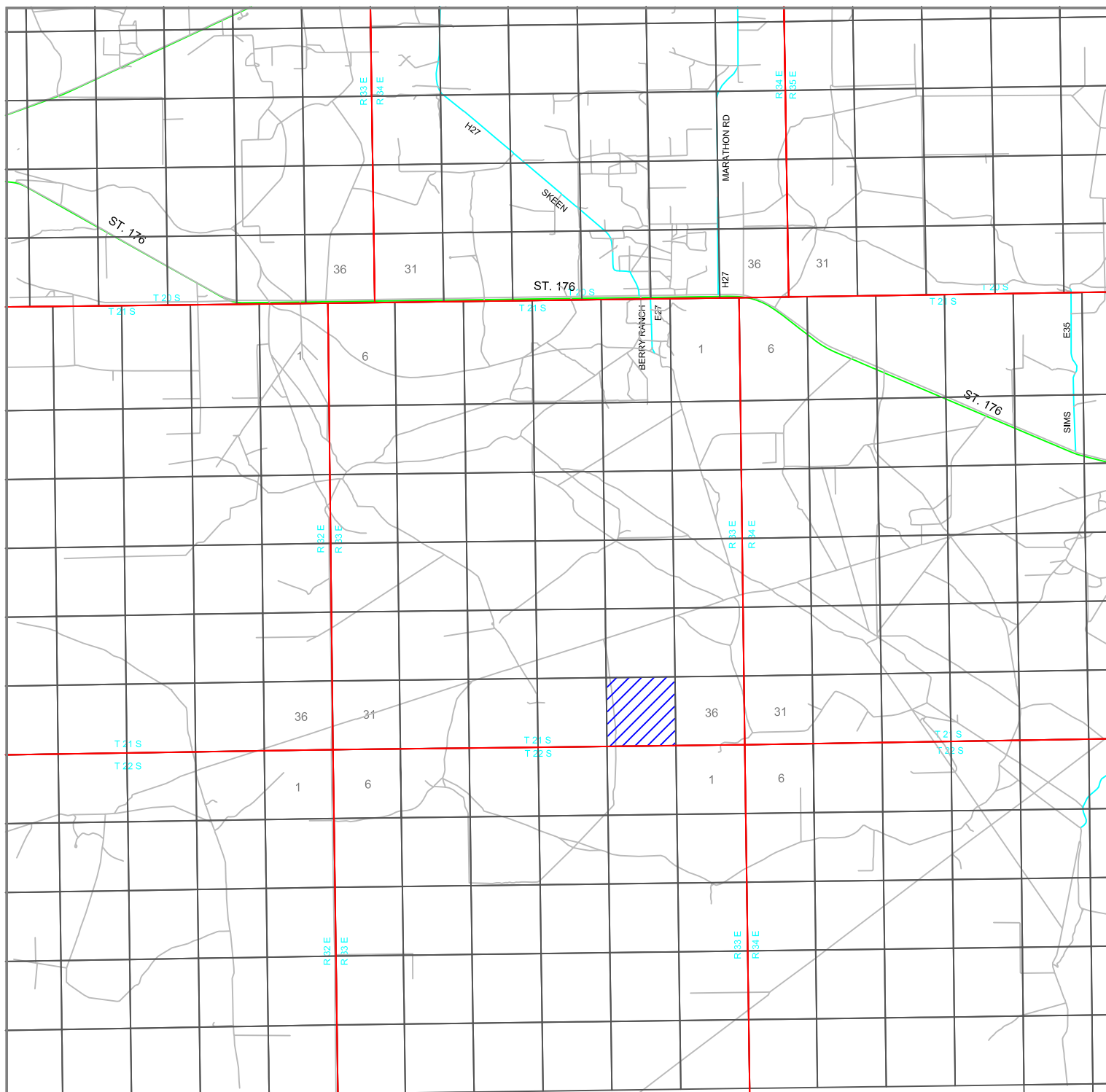
W.O. Number: KJG 34971

Survey Date: 12-11-2019

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



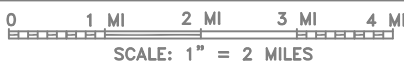
**ADVANCE
 ENERGY
 PARTNERS
 HAT MESA**



Located 200' FNL and 2537' FWL
Section 35, Township 21 South, Range 33 East,
N.M.P.M., Lea County, New Mexico.



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



W.O. Number: KJG 34971

Survey Date: 12-11-2019

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



*ADVANCE
ENERGY
PARTNERS
HAT MESA*



MERCHANT STATE UNIT 553H

Located 200' FNL and 2537' FWL
 Section 35, Township 21 South, Range 33 East,
 N.M.P.M., Lea County, New Mexico.



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

0' 1000' 2000' 3000' 1500'
 SCALE: 1" = 2000'

W.O. Number: KJG 34971

Survey Date: 12-11-2019

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



**ADVANCE
 ENERGY
 PARTNERS
 HAT MESA**

Submit 1 Copy To Appropriate District
Office
District I – (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
District II – (575) 748-1283
811 S. First St., Artesia, NM 88210
District III – (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV – (505) 476-3460
1220 S. St. Francis Dr., Santa Fe, NM
87505

State of New Mexico
Energy, Minerals and Natural Resources

Form C-103
Revised July 18, 2013

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

WELL API NO. 30-025-46698
5. Indicate Type of Lease STATE ☒ FEE ☐
6. State Oil & Gas Lease No.
7. Lease Name or Unit Agreement Name MERCHANT STATE UNIT
8. Well Number 553H
9. OGRID Number 372417
10. Pool name or Wildcat WC-025 G-06 S213326D;BONE SPRING

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

1. Type of Well: Oil Well ☒ Gas Well ☐ Other ☐	11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3681'
2. Name of Operator Advance Energy Partners Hat Mesa	
3. Address of Operator 11490 Westheimer Rd, Houston, TX 77077	
4. Well Location Unit Letter <u>C</u> : <u>200</u> feet from the <u>N</u> line and <u>2537</u> feet from the <u>W</u> line Section <u>35</u> Township <u>21S</u> Range <u>33E</u> NMPM County LEA	

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK ☐	PLUG AND ABANDON ☐	REMEDIAL WORK ☐	ALTERING CASING ☐
TEMPORARILY ABANDON ☐	CHANGE PLANS ☐	COMMENCE DRILLING OPNS. ☐	P AND A ☐
PULL OR ALTER CASING ☐	MULTIPLE COMPL ☐	CASING/CEMENT JOB ☐	
DOWNHOLE COMMINGLE ☐			
CLOSED-LOOP SYSTEM ☐			
OTHER: ☐		OTHER: ☒	

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

- 10/6/20: Pressure test casing to 9,800 psi for 30 minutes.
- 11/16/20 – 12/7/20: Perforate from 11,499' – 21,390' (3024). Frac with 24,037,200 lbs sand and 24,699,738 gal fluid.
- 12/13/20 – 12/14/20: Drill all plugs out and clean out to a PBTD of 21,435'.
- 12/23/20 – Ready to produce.

Spud Date:

03/09/20

Rig Release Date:

06/05/2020

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE:

TITLE: Sr. Eng. Tech

DATE: 2/16/22

PRINT NAME: Eileen M Kosakowski

E-mail address: ekosakowski@advanceenergypartners.com

PHONE: (832) 672-4604

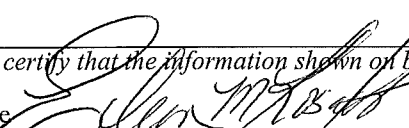
For State Use Only

APPROVED BY:

TITLE

DATE

Conditions of Approval (if any):

Submit To Appropriate District Office Two Copies District I 1625 N. French Dr., Hobbs, NM 88240 District II 811 S. First St., Artesia, NM 88210 District III 1000 Rio Brazos Rd., Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505		State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505			Form C-105 Revised April 3, 2017		
		1. WELL API NO. 30-025-46698					
		2. Type of Lease ☒ STATE ☐ FEE ☐ FED/INDIAN					
		3. State Oil & Gas Lease No.					
WELL COMPLETION OR RECOMPLETION REPORT AND LOG							
4. Reason for filing: ☒ COMPLETION REPORT (Fill in boxes #1 through #31 for State and Fee wells only) ☐ C-144 CLOSURE ATTACHMENT (Fill in boxes #1 through #9, #15 Date Rig Released and #32 and/or #33; attach this and the plat to the C-144 closure report in accordance with 19.15.17.13.K NMAC)				5. Lease Name or Unit Agreement Name Merchant State Unit			
				6. Well Number: 553H			
7. Type of Completion: ☒ NEW WELL ☐ WORKOVER ☐ DEEPENING ☐ PLUGBACK ☐ DIFFERENT RESERVOIR ☐ OTHER							
8. Name of Operator Advance Energy Partners Hat Mesa, LLC				9. OGRID 372417			
10. Address of Operator 11490 Westheimer RD, Suite 950 Houston, TX 77077				11. Pool name or Wildcat WC-025 G-06 S213326D; BONE SPRING			
12. Location	Unit Ltr	Section	Township	Range	Lot	Feet from the	
Surface:	C	35	21S	33E		200	
BH:	O	2	22S	33E		37	
13. Date Spudded 03/09/2020	14. Date T.D. Reached 06/03/2020	15. Date Rig Released 06/05/2020		16. Date Completed (Ready to Produce) 12/23/2020		17. Elevations (DF and RKB, RT, GR, etc.) 3681'	
18. Total Measured Depth of Well 21,504'		19. Plug Back Measured Depth 21,435'		20. Was Directional Survey Made? YES		21. Type Electric and Other Logs Run Gamma Ray	
22. Producing Interval(s), of this completion - Top, Bottom, Name 11,499-21,390 Bone Springs							
23. CASING RECORD (Report all strings set in well)							
CASING SIZE	WEIGHT LB./FT.	DEPTH SET		HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED	
13.375"	54.4#	1803		17.5"	835		
9.625"	40#	5301/3842		12.25"	1395		
5.5"	20#	21482		7.875"	2955		
24. LINER RECORD							
SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN			
				25. TUBING RECORD			
SIZE		DEPTH SET		PACKER SET			
2 7/8		10,493		N/A			
26. Perforation record (interval, size, and number) 11,499-21,390' -3024 holes				27. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC. DEPTH INTERVAL AMOUNT AND KIND MATERIAL USED 11,499-21,390 24,037,200 lbs sand, 24,699,738 bbls water			
28. PRODUCTION							
Date of First Production 12/23/2020		Production Method (<i>Flowing, gas lift, pumping - Size and type pump</i>) Flowing			Well Status (<i>Prod. or Shut-in</i>) Prod		
Date of Test 01/06/2021	Hours Tested 24 Hrs	Choke Size 64	Prod'n For Test Period	Oil - Bbl 1874	Gas - MCF 1833	Water - Bbl. 4180	
						Gas - Oil Ratio 3429	
Flow Tubing Press. 1000	Casing Pressure 831	Calculated 24-Hour Rate	Oil - Bbl. 1874	Gas - MCF 1833	Water - Bbl. 4180	Oil Gravity - API - (<i>Corr.</i>) 41.7	
29. Disposition of Gas (<i>Sold, used for fuel, vented, etc.</i>) Sold					30. Test Witnessed By Baron Chandler		
31. List Attachments							
32. If a temporary pit was used at the well, attach a plat with the location of the temporary pit.				33. Rig Release Date: 06/05/2020			
34. If an on-site burial was used at the well, report the exact location of the on-site burial:							
				Latitude _____ Longitude _____ NAD83			
I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief							
Signature 		Printed Name: Eileen M Kosakowski		Title: Sr. Eng Tech.	Date: 2/16/22		
				E-mail Address: ekosakowski@advanceenergypartners.com			

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

ACKNOWLEDGMENTS

Action 82107

ACKNOWLEDGMENTS

Operator: ADVANCE ENERGY PARTNERS HAT MESA, LLC 5400 LBJ Freeway, Suite 1500 Dallas, TX 75240	OGRID: 372417
	Action Number: 82107
	Action Type: [C-104] Completion Packet (C-104C)

ACKNOWLEDGMENTS

☒	I hereby certify that the required Water Use Report has been, or will be, submitted for this wells completion.
☒	I hereby certify that the required FracFocus disclosure has been, or will be, submitted for this wells completion.

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CONDITIONS

Action 82107

CONDITIONS

Operator: ADVANCE ENERGY PARTNERS HAT MESA, LLC 5400 LBJ Freeway, Suite 1500 Dallas, TX 75240	OGRID: 372417
	Action Number: 82107
	Action Type: [C-104] Completion Packet (C-104C)

CONDITIONS

Created By	Condition	Condition Date
plmartinez	None	7/25/2024