

Retained by Imaging: 7/25/2024 10:29:49 AM

District I
625 N. French Dr., Hobbs, NM 88240
District II
11 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
220 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 30-025-47423	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 604Y

II. ¹⁰ Surface Location

Ul or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South Line	Feet from the	East/West line	County
C	35	21S	33E		200	NORTH	2608	WEST	Lea

¹¹ Bottom Hole Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	2	22S	33E		34	SOUTH	2292	EAST	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

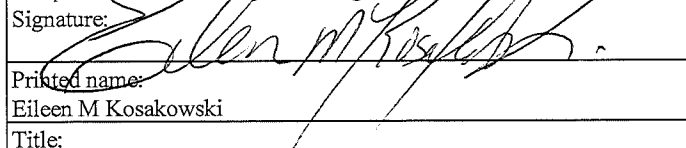
IV. Well Completion Data

²¹ Spud Date 07/10/20	²² Ready Date 01/02/21	²³ TD 22,134	²⁴ PBDT 22,045	²⁵ Perforations 12,184-22,016'	²⁶ DHC, MC
²⁷ Hole Size		²⁸ Casing & Tubing Size		²⁹ Depth Set	³⁰ Sacks Cement
17.5"		13.375"		1793	835
12.25"		9.625"		5275/3777	1940 790
8.5"		5.5"		22,116	3085

V. Well Test Data

³¹ Date New Oil 01/04/21	³² Gas Delivery Date 01/04/21	³³ Test Date 01/14/21	³⁴ Test Length 24 Hrs	³⁵ Tbg. Pressure 1000	³⁶ Csg. Pressure 800
³⁷ Choke Size 60	³⁸ Oil 1254	³⁹ Water 6145	⁴⁰ Gas 1594		⁴¹ Test Method Flowing

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: 2/17/22 Phone: 832-672-4604

OIL CONSERVATION DIVISION
Approved by: PATRICIA MARTINEZ
Title: PETROLEUM SPECIALIST
Approval Date: 7/25/2024

Received by OCD: 2/17/2022 12:54:42 PM

DISTRICT I

1625 N. French Dr., Hobbs, NM 88240
Phone (505) 393-6181 Fax: (505) 393-0720

DISTRICT II

811 S. First St., Artesia, NM 88210
Phone (505) 748-1283 Fax: (505) 748-0720

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) 478-3460 Fax: (505) 478-3462State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102

Revised August 4, 2011

Submit one copy to appropriate
District OfficeOIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT
As Drilled

API Number 30-025-47423	Pool Code 97929	Pool Name WC-025 G-06 S213326D;BONE SPRING
Property Code 319306	Property Name MERCHANT STATE UNIT	Well Number 604Y
OGRID No. 372417	Operator Name ADVANCE ENERGY PARTNERS HAT MESA	Elevation 3658' 3678'

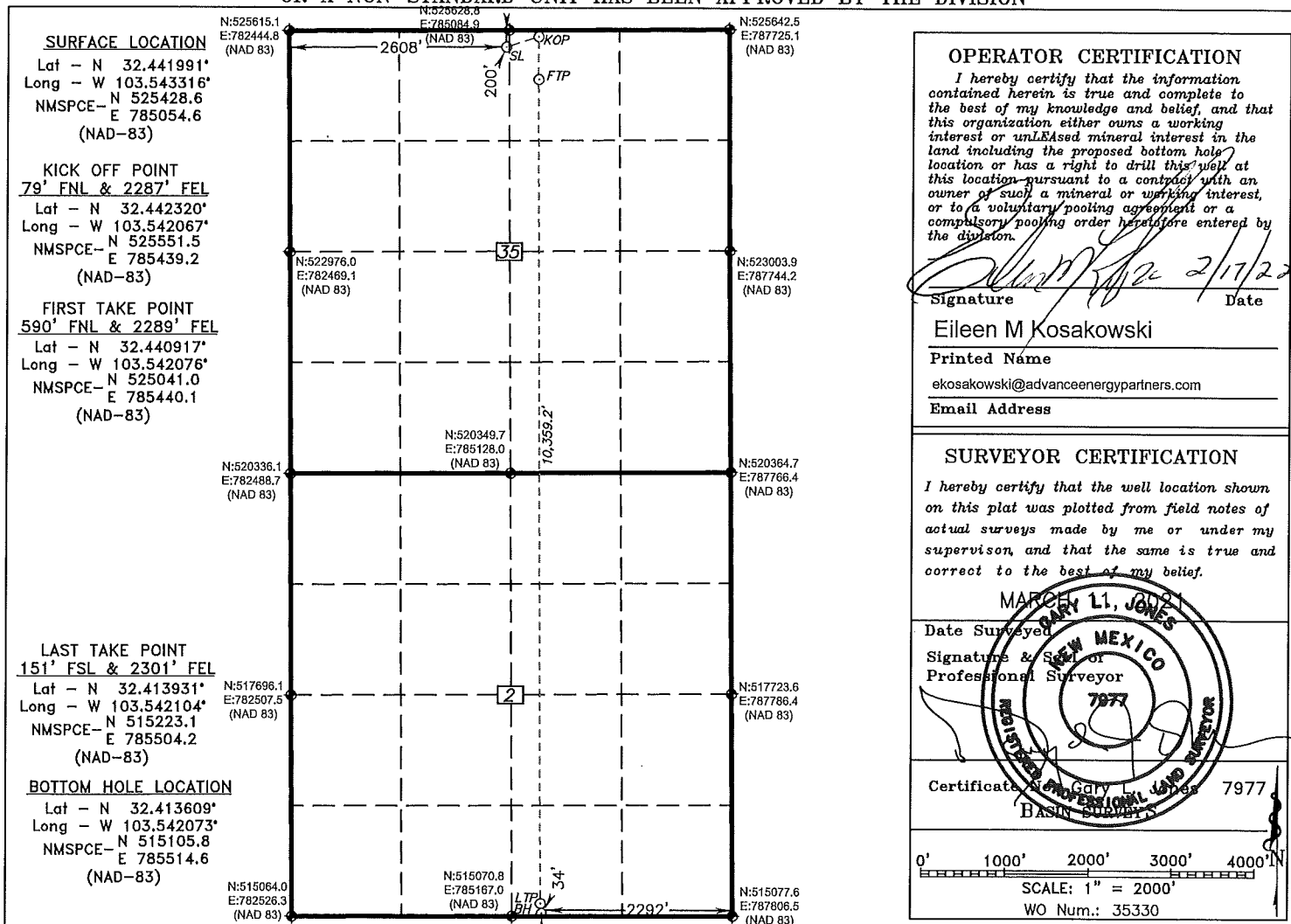
Surface Location

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	2608	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		34	SOUTH	2292	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. 604Y Lea County, New Mexico

Rig: H&P #389

Job No.: WT-20-058

Start Date: 07/09/2020

End Date: 07/30/2020

Directional Drillers:

Advance Directional

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 604Y (WT-20-057)

2020-07-10 to 2020-07-29

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

BHA Performance

BHA 1

17.50" SURFACE

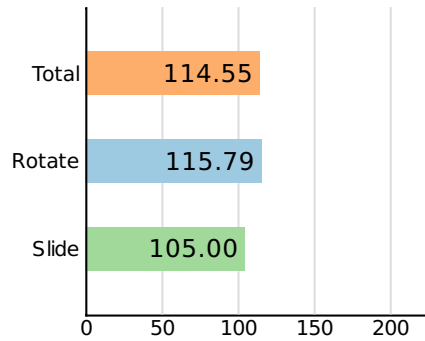
In: 07/10/2020

14:00

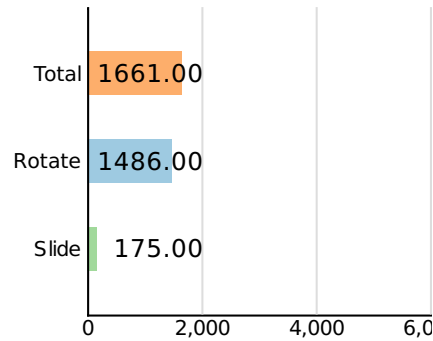
Out: 07/11/2020

12:15

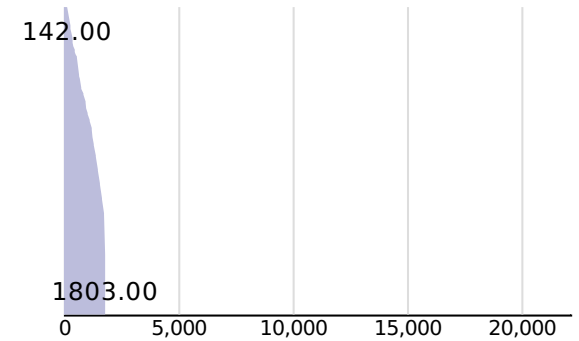
Rate of Penetration (ft/h)



Distance (ft)



Depth (ft)



BHA 2

Intermediate
12.25"

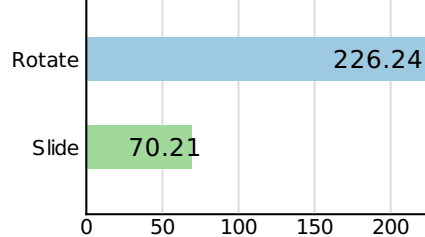
In: 07/12/2020

10:30

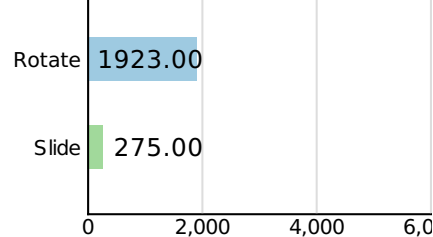
Out: 07/13/2020

11:45

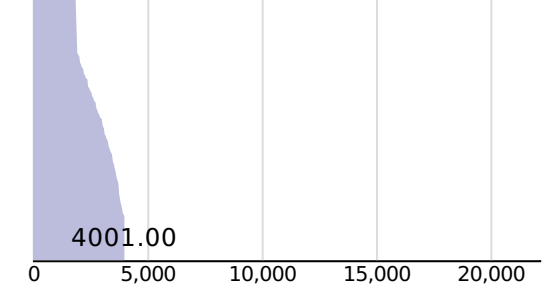
Rate of Penetration (ft/h)



Distance (ft)



1803.00



BHA 3

Intermediate
12.25"

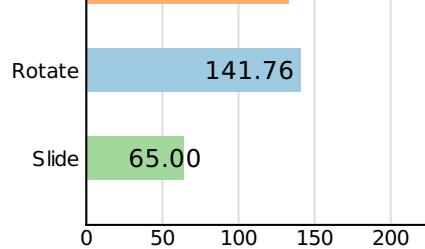
In: 07/13/2020

12:30

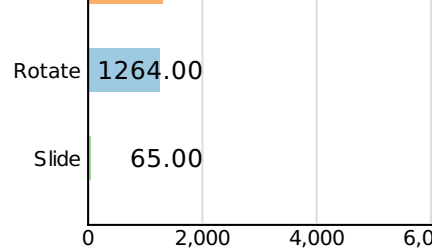
Out: 07/14/2020

11:30

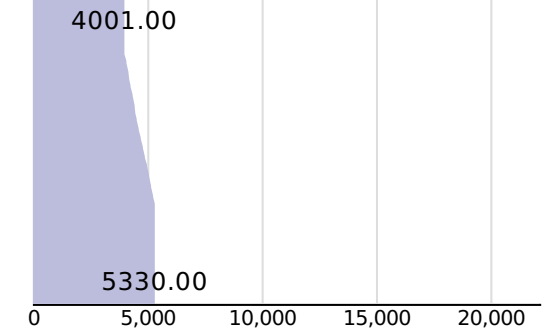
Rate of Penetration (ft/h)



Distance (ft)



4001.00



BHA 4

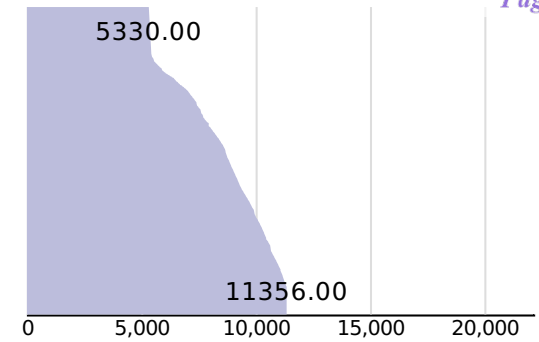
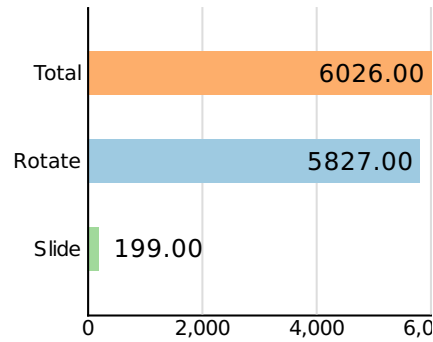
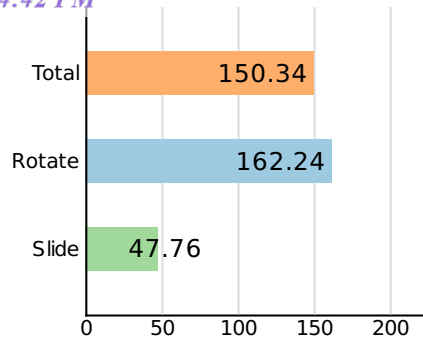
Intermediate 8.75"

In: 07/15/2020

16:45

Out: 07/18/2020

05:00



BHA 5

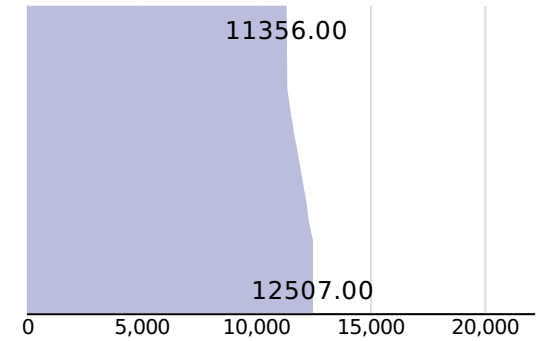
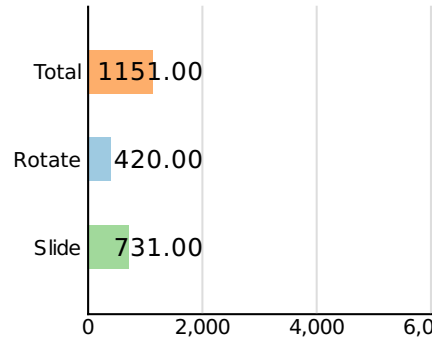
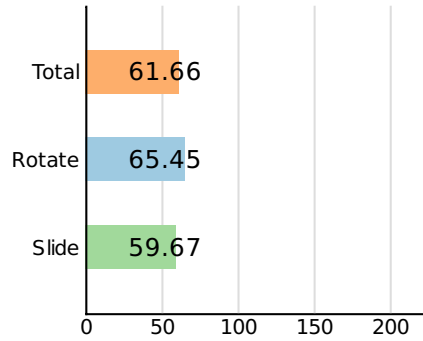
Curve 8.75"

In: 07/18/2020

05:00

Out: 07/19/2020

22:00



BHA 6

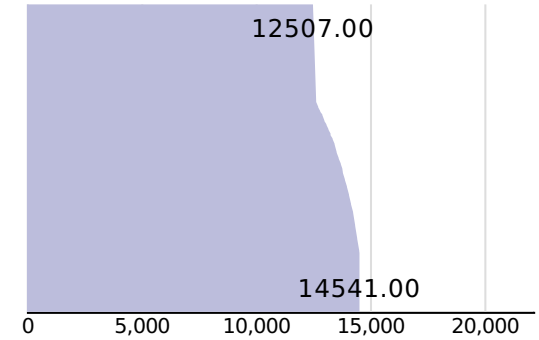
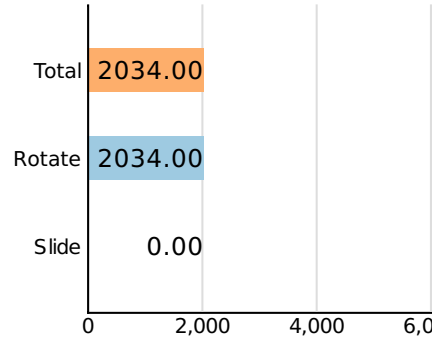
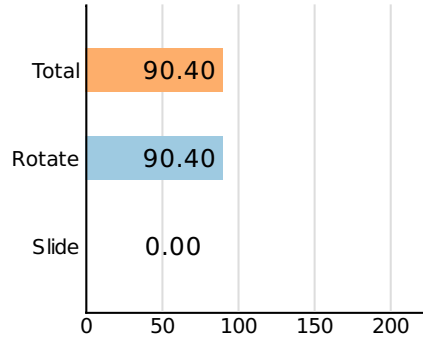
8.5" LATERAL w/
RSS

In: 07/19/2020

22:00

Out: 07/21/2020

21:00



BHA 7

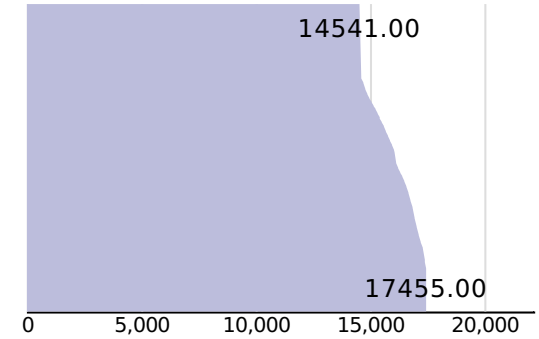
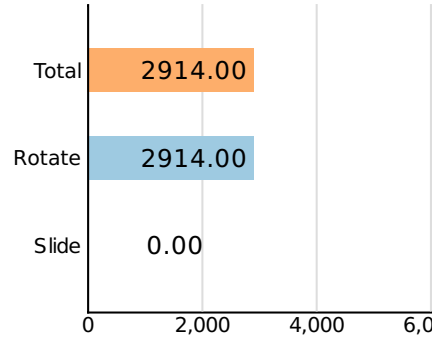
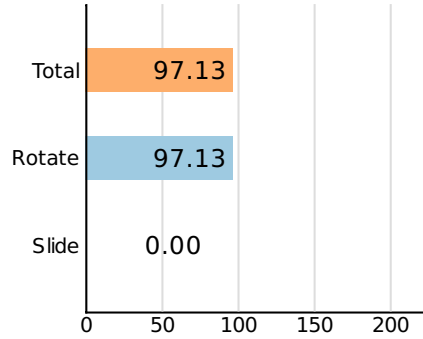
DRILL LATERAL (
8.5") w/ RSS

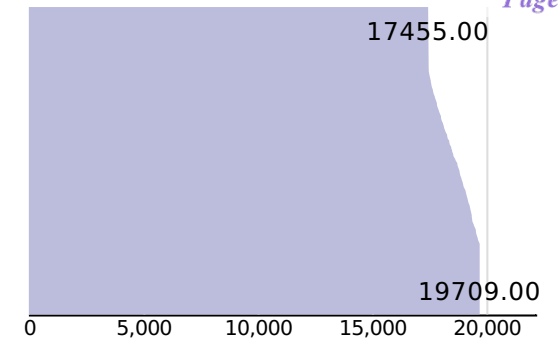
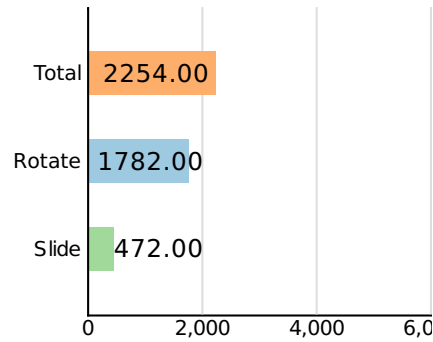
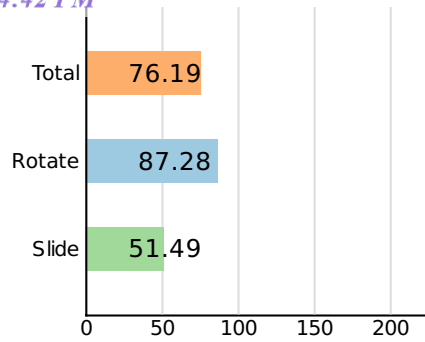
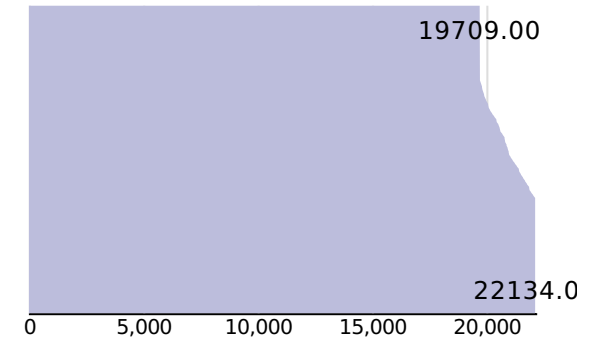
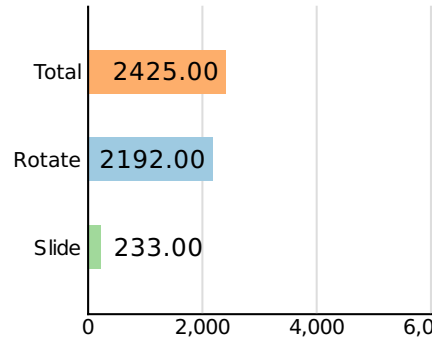
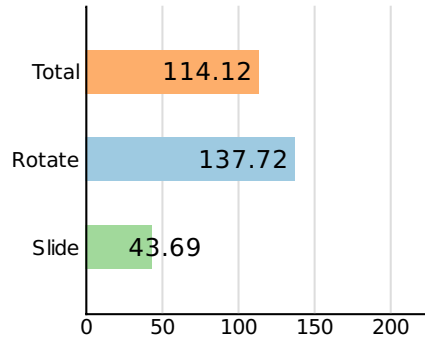
In: 07/21/2020

21:00

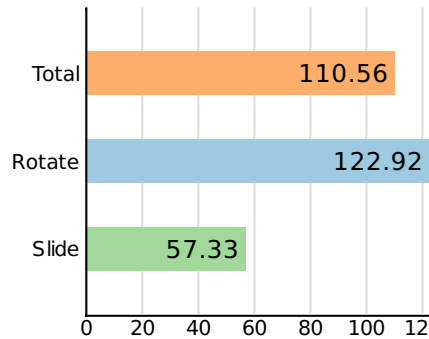
Out: 07/24/2020

02:00

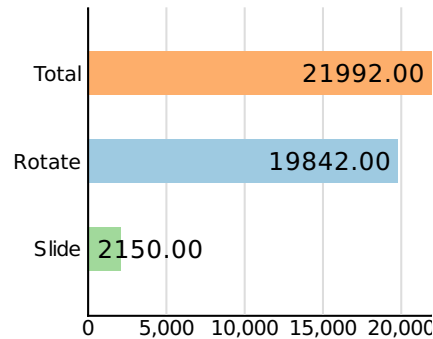
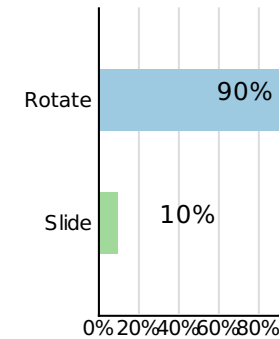


BHA 88.50" LATERAL w/
AgitatorIn: **07/24/2020****05:00**Out: **07/26/2020****13:30****BHA 9**8.50" LATERAL w/
AgitatorIn: **07/26/2020****13:30**Out: **07/29/2020****04:00****Total**

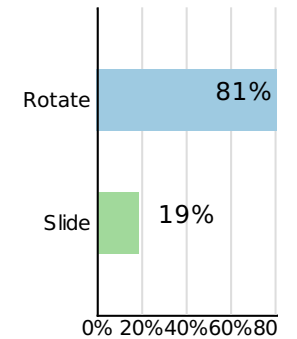
Rate of Penetration (ft/h)



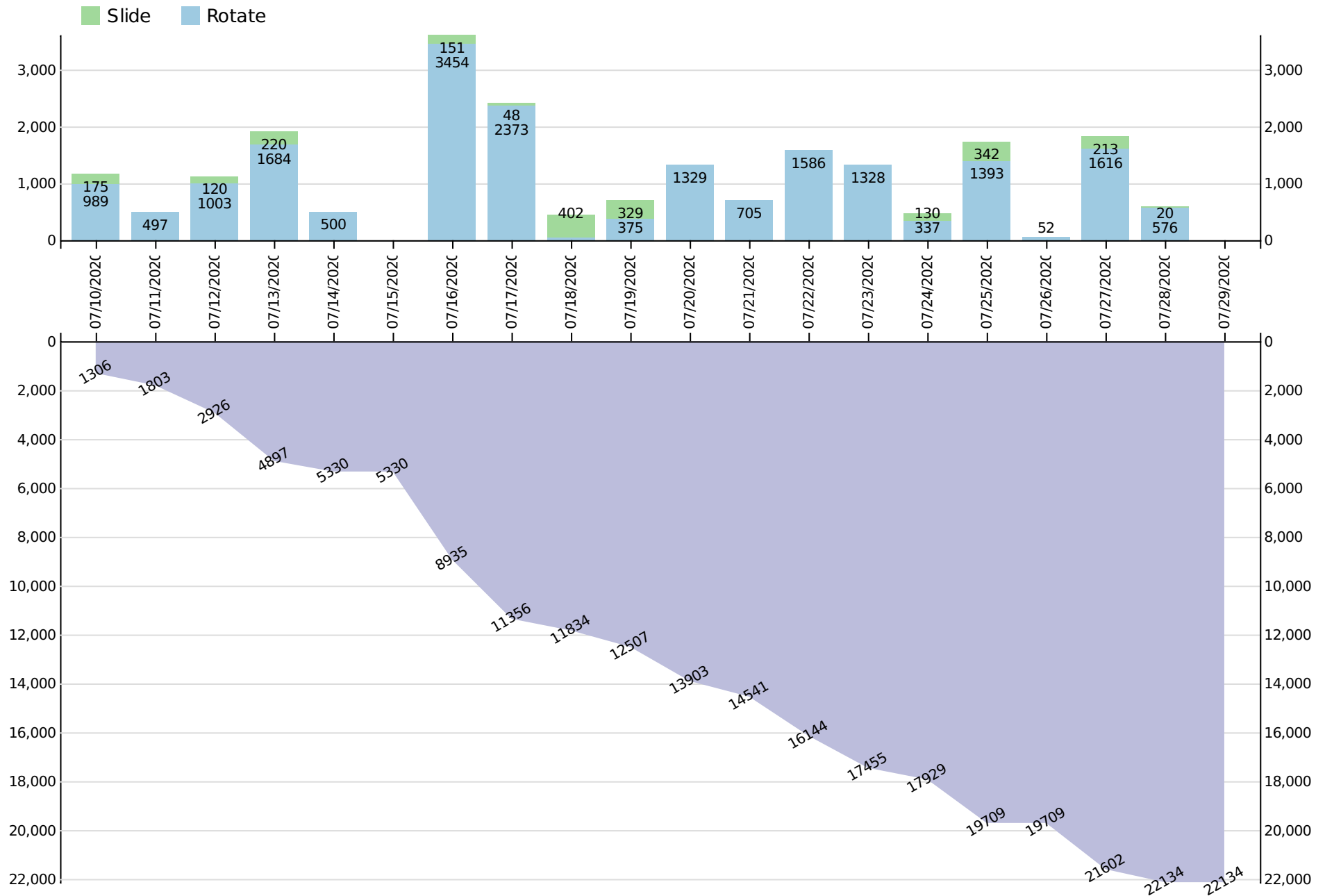
Distance (ft)

Distance
Percentage

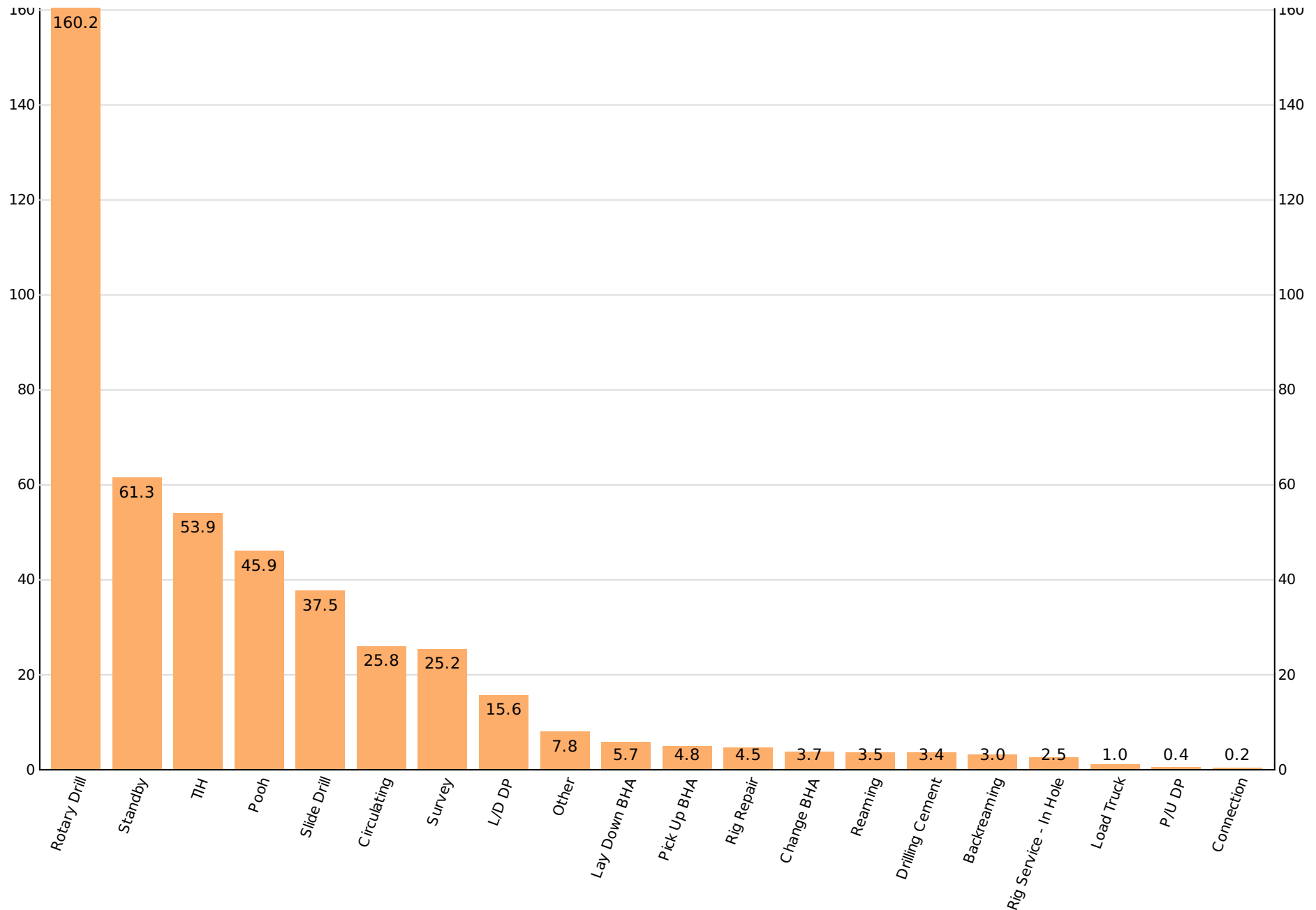
Time Percentage



Days vs. Depth



Directional Activity Hours





Proposed vs. As Drilled

Merchant State Unit 604Y (WT-20-057)

2020-07-10 to 2020-07-29

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

Advance Energy Partners, LLC

Merchant State Unit 604Y
Lea County, New Mexico
Job No. WT-20-058
H&P 389
Plan 1.0



Referred to Imaging: 7/25/2024 10:29:49 AM

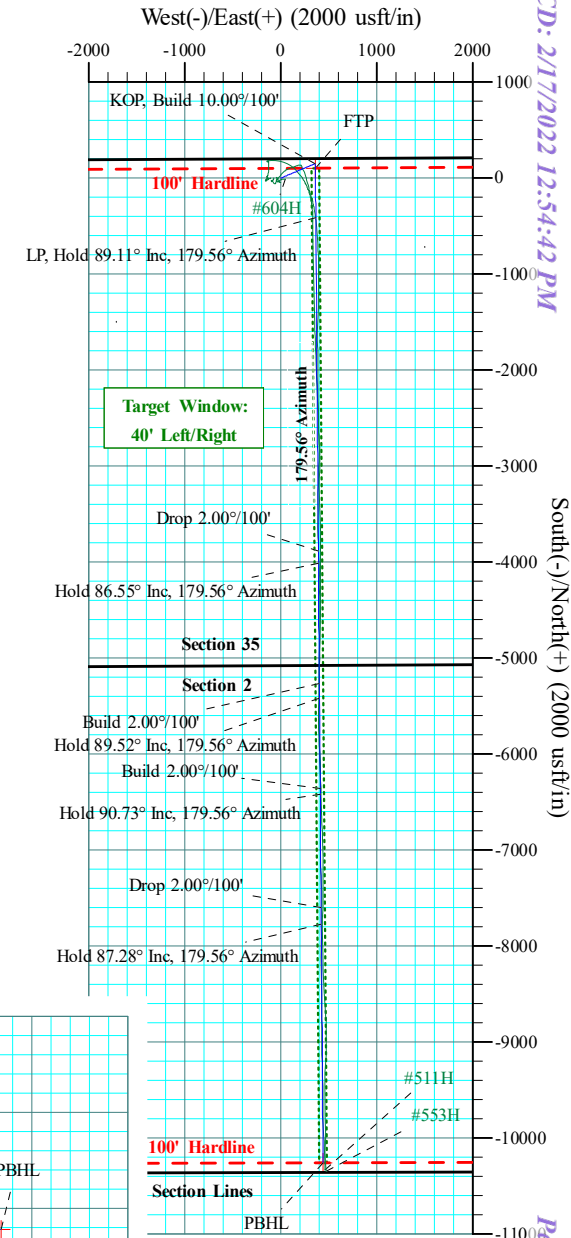
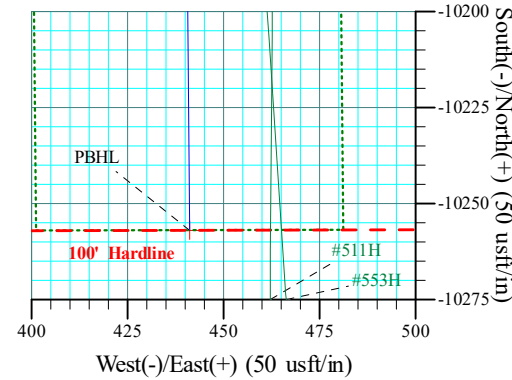


Azimuths to Grid North
True North: -0.42°
Magnetic North: 6.08°

Magnetic Field
Strength: 47978.6nT
Dip Angle: 60.19°
Date: 7/10/2020
Model: MVHD

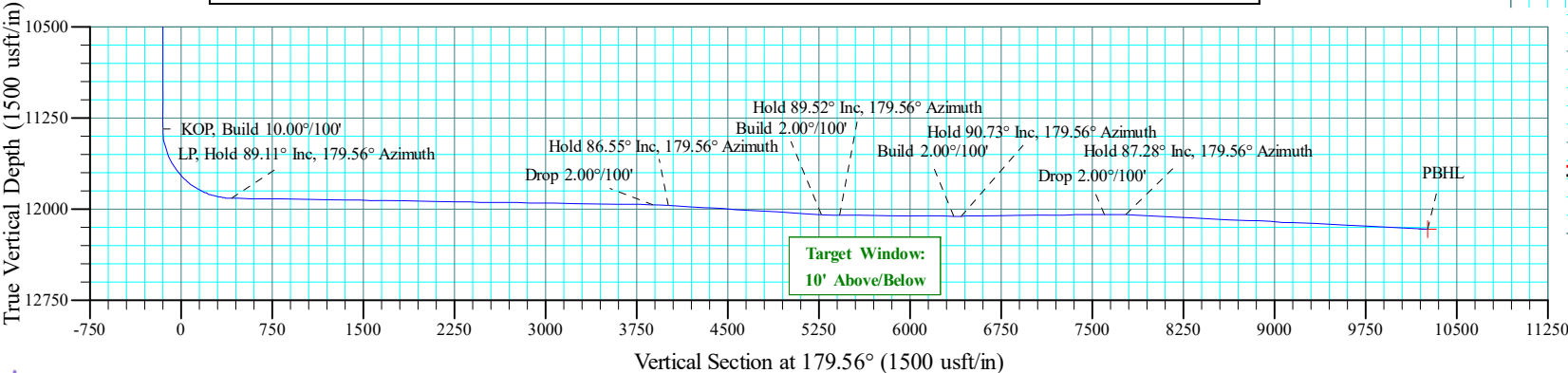
Magnetic North: 6.08° to Grid North

SITE DETAILS: Merchant State Unit 604Y	
Site Centre Northing:	525428.60
Easting:	785054.60
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:	3678'GL+25.5'KB @ 3703.50usft (H&P 389)



SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSeet	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	3100.00	0.00	0.00	3100.00	0.00	0.00	0.00	0.00	0.00	Build 1.00°/100'
3	3600.00	5.00	67.17	3599.37	8.46	20.09	1.00	67.17	-8.30	Hold 5.00° Inc, 67.17° Azimuth
4	7591.38	5.00	67.17	7575.56	143.43	340.72	0.00	0.00	-140.81	Drop 1.00°/100'
5	8091.38	0.00	0.00	8074.92	151.89	360.81	1.00	180.00	-149.11	Hold Vertical
6	11354.97	0.00	0.00	11338.51	151.89	360.81	0.00	0.00	-149.11	KOP, Build 10.00°/100'
7	12246.07	89.11	179.56	11911.40	-412.15	365.16	10.00	179.56	414.94	LP, Hold 89.11° Inc, 179.56° Azimuth
8	15716.54	89.11	179.56	11965.30	-3882.10	391.93	0.00	0.00	3885.00	Drop 2.00°/100'
9	15844.70	86.55	179.56	11970.16	-4010.16	392.91	2.00	180.00	4013.06	Hold 86.55° Inc, 179.56° Azimuth
10	17103.93	86.55	179.56	12046.01	-5267.06	402.61	0.00	0.00	5270.00	Build 2.00°/100'
11	17252.59	89.52	179.56	12051.11	-5415.61	403.76	2.00	0.00	5418.56	Hold 89.52° Inc, 179.56° Azimuth
12	18194.07	89.52	179.56	12059.00	-6357.03	411.02	0.00	0.00	6360.00	Build 2.00°/100'
13	18254.32	90.73	179.56	12058.87	-6417.28	411.48	2.00	0.00	6420.25	Hold 90.73° Inc, 179.56° Azimuth
14	19437.16	90.73	179.56	12043.90	-7599.99	420.61	0.00	0.00	7603.00	Drop 2.00°/100'
15	19609.63	87.28	179.56	12046.91	-7772.40	421.94	2.00	180.00	7775.41	Hold 87.28° Inc, 179.56° Azimuth
16	22097.11	87.28	179.56	12165.14	-10257.00	441.10	0.00	0.00	10260.08	PBHL

DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
FTP (Mechant604Y)	0.00	101.90	361.20	525530.50	785415.80	32° 26' 32.148 N	103° 32' 31.715 W
PBHL (Mechant604Y)	12165.14	-10257.00	441.10	515171.60	785495.70	32° 24' 49.643 N	103° 32' 31.678 W



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

File: Advance Energy - Merchant State Unit 604Y Plan 1.0.wpc

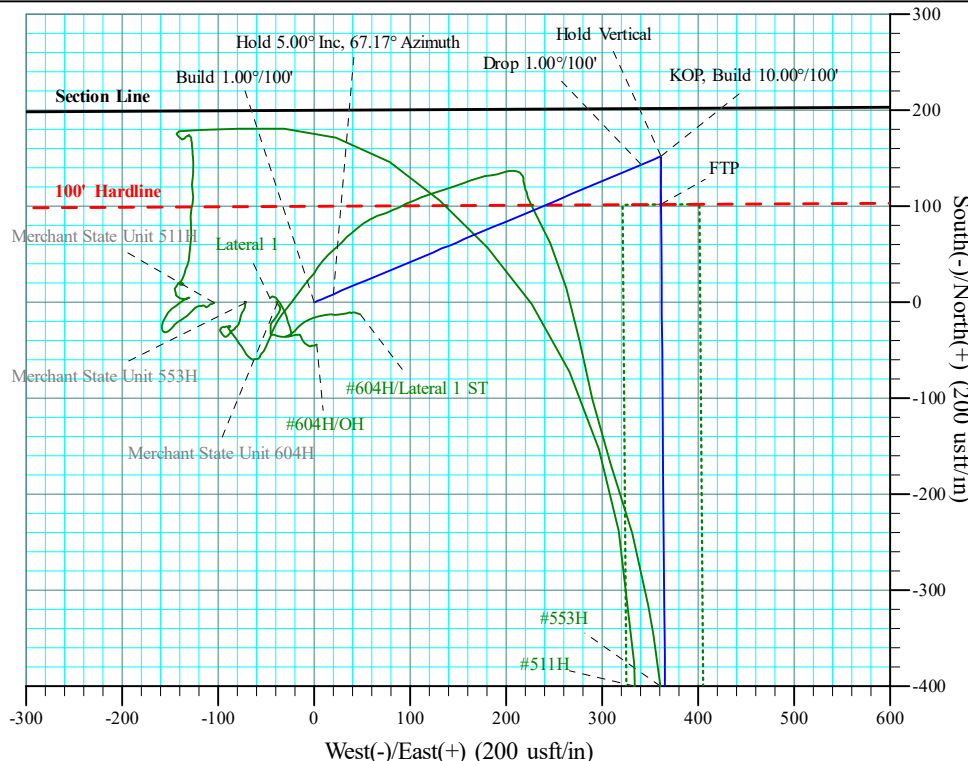
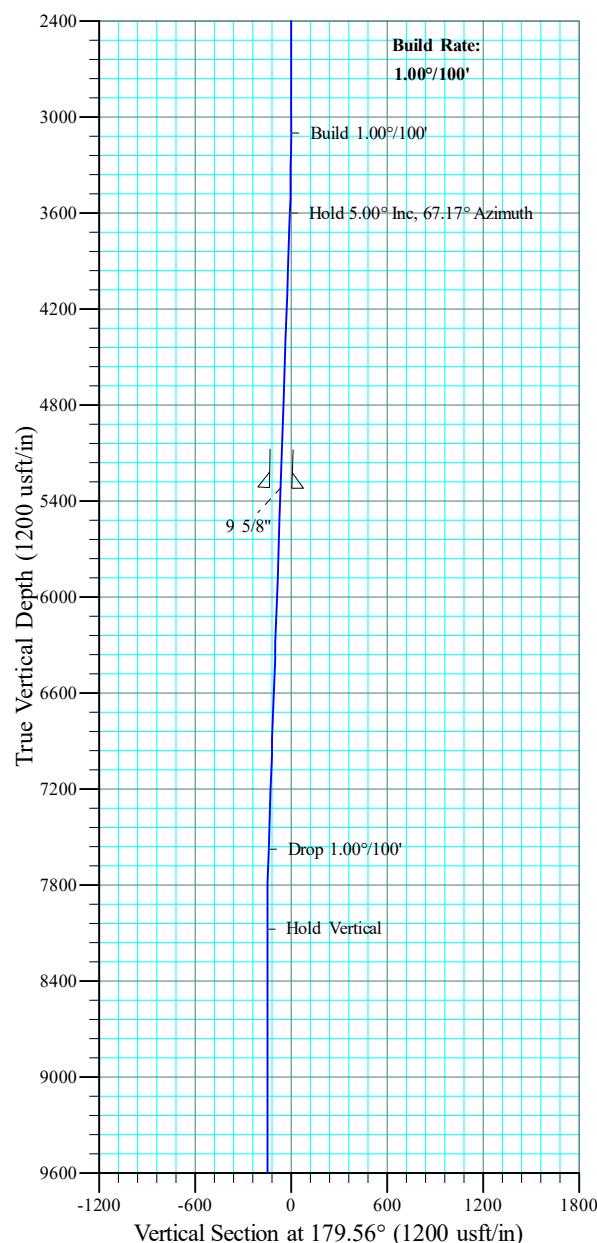
Received by OCD: 2/17/2022 12:54:42 PM

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

Page 11 of 11



Merchant State Unit 604Y
Lea County, New Mexico
Job No. WT-20-058
H&P 389
Plan 1.0



Azinuths to Grid North
True North: -0.42°
Magnetic North: 6.08°

Magnetic Field
Strength: 47978.6nT
Dip Angle: 60.19°
Date: 7/10/2020
Model: MVHD

Magnetic North: 6.08° to Grid North

SITE DETAILS: Merchant State Unit 604Y

Site Centre Northing: 525428.60
Easting: 785054.60

Positional Uncertainty: 0.00
Convergence: 0.42
Local North: Grid

Depth Reference:
3678'GL+25.5'KB @ 3703.50usft (H&P 389)

SLOTS

Slot Name	+N/-S	+E/-W
504H	56.60	1336.60
511H	-0.40	-104.50
553H	-0.40	-71.40
604H	-0.10	-38.40
604Y	0.00	0.00
605H	110.20	1961.40

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 (Merchant604Y)	0.00	101.90	361.20	525530.50	785415.80	32° 26' 32.148 N	103° 32' 31.715 W
PBHL (Merchant604Y)	12165.14	-10257.00	441.10	515171.60	785495.70	32° 24' 49.643 N	103° 32' 31.678 W

Drawn By: IG

Date Created: 7/9/2020

Date Revised: 7/9/2020

File: Advance Energy - Merchant State Unit 604Y Plan 1.0 Surface.wpc

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	3100.00	0.00	0.00	3100.00	0.00	0.00	0.00	0.00	0.00	Build 1.00°/100'
3	3600.00	5.00	67.17	3599.37	8.46	20.09	1.00	67.17	-8.30	Hold 5.00° Inc, 67.17° Azimuth
4	7591.38	5.00	67.17	7575.56	143.43	340.72	0.00	0.00	-140.81	Drop 1.00°/100'
5	8091.38	0.00	0.00	8074.92	151.89	360.81	1.00	180.00	-149.11	Hold Vertical
6	11354.97	0.00	0.00	11338.51	151.89	360.81	0.00	0.00	-149.11	KOP, Build 10.00°/100'
7	12246.07	89.11	179.56	11911.40	-412.15	365.16	10.00	179.56	414.94	LP, Hold 89.11° Inc, 179.56° Azimuth
8	15716.54	89.11	179.56	11965.30	-388.20	391.93	0.00	0.00	3885.00	Drop 2.00°/100'
9	15844.70	86.55	179.56	11970.16	-401.06	392.91	2.00	180.00	4013.06	Hold 86.55° Inc, 179.56° Azimuth
10	17103.93	86.55	179.56	12046.01	-5267.06	402.61	0.00	0.00	5270.00	Build 2.00°/100'
11	17252.59	89.52	179.56	12051.11	-5415.61	403.76	2.00	0.00	5418.56	Hold 89.52° Inc, 179.56° Azimuth
12	18194.07	89.52	179.56	12059.00	-6357.03	411.02	0.00	0.00	6360.00	Build 2.00°/100'
13	18254.32	90.73	179.56	12058.87	-6417.28	411.48	2.00	0.00	6420.25	Hold 90.73° Inc, 179.56° Azimuth
14	19437.16	90.73	179.56	12043.90	-7599.99	420.61	0.00	0.00	7603.00	Drop 2.00°/100'
15	19609.63	87.28	179.56	12046.91	-7772.40	421.94	2.00	180.00	7775.41	Hold 87.28° Inc, 179.56° Azimuth
16	22097.11	87.28	179.56	12165.14	-10257.00	441.10	0.00	0.00	10260.08	PBHL

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Merchant State Unit 604Y
Project:	Lea County, New Mexico	TVD Reference:	3678'GL+25.5'KB @ 3703.50usft (H&P 389)
Site:	Merchant State Unit 604Y	MD Reference:	3678'GL+25.5'KB @ 3703.50usft (H&P 389)
Well:	#604Y	North Reference:	Grid
Wellbore:	Lateral 1r1	Survey Calculation Method:	Minimum Curvature
Design:	Plan 1.0	Database:	EDM 5000.1 Aim Database

Project	Lea County, New Mexico		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site		Merchant State Unit 604Y			
Site Position:		Northing:	525,428.60 usft	Latitude:	32° 26' 31.166 N
From:	Map	Easting:	785,054.60 usft	Longitude:	103° 32' 35.938 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.42 °

Well	#604Y - Slot 604Y					
Well Position	+N/-S	0.00 usft	Northing:	525,428.60 usft	Latitude:	32° 26' 31.166 N
	+E/-W	0.00 usft	Easting:	785,054.60 usft	Longitude:	103° 32' 35.938 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,678.00 usft

Wellbore	Lateral 1r1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	MVHD	7/10/2020	6.51	60.19	47,978.60889537

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	7/9/2020			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	22,097.11	Plan 1.0 (Lateral 1r1)	B001Mb_MWD+HRGM	OWSG MWD + HRGM	

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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 604Y
Project:	Lea County, New Mexico	TVD Reference:	3678'GL+25.5'KB @ 3703.50usft (H&P 389)
Site:	Merchant State Unit 604Y	MD Reference:	3678'GL+25.5'KB @ 3703.50usft (H&P 389)
Well:	#604Y	North Reference:	Grid
Wellbore:	Lateral 1r1	Survey Calculation Method:	Minimum Curvature
Design:	Plan 1.0	Database:	EDM 5000.1 Aim Database

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,785.00	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
Build 1.00°/100'									
3,200.00	1.00	67.17	3,199.99	0.34	0.80	-0.33	1.00	1.00	0.00
3,300.00	2.00	67.17	3,299.96	1.35	3.22	-1.33	1.00	1.00	0.00
3,400.00	3.00	67.17	3,399.86	3.05	7.24	-2.99	1.00	1.00	0.00
3,500.00	4.00	67.17	3,499.68	5.42	12.86	-5.32	1.00	1.00	0.00
3,600.00	5.00	67.17	3,599.37	8.46	20.09	-8.30	1.00	1.00	0.00
Hold 5.00° Inc, 67.17° Azimuth									
3,700.00	5.00	67.17	3,698.99	11.84	28.13	-11.62	0.00	0.00	0.00
3,800.00	5.00	67.17	3,798.60	15.22	36.16	-14.94	0.00	0.00	0.00
3,900.00	5.00	67.17	3,898.22	18.60	44.19	-18.26	0.00	0.00	0.00
4,000.00	5.00	67.17	3,997.84	21.99	52.23	-21.58	0.00	0.00	0.00
4,100.00	5.00	67.17	4,097.46	25.37	60.26	-24.90	0.00	0.00	0.00
4,200.00	5.00	67.17	4,197.08	28.75	68.29	-28.22	0.00	0.00	0.00
4,300.00	5.00	67.17	4,296.70	32.13	76.32	-31.54	0.00	0.00	0.00
4,400.00	5.00	67.17	4,396.32	35.51	84.36	-34.86	0.00	0.00	0.00
4,500.00	5.00	67.17	4,495.94	38.89	92.39	-38.18	0.00	0.00	0.00
4,600.00	5.00	67.17	4,595.56	42.28	100.42	-41.50	0.00	0.00	0.00
4,700.00	5.00	67.17	4,695.18	45.66	108.46	-44.82	0.00	0.00	0.00
4,800.00	5.00	67.17	4,794.80	49.04	116.49	-48.14	0.00	0.00	0.00
4,900.00	5.00	67.17	4,894.42	52.42	124.52	-51.46	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 604Y
Project:	Lea County, New Mexico	TVD Reference:	3678'GL+25.5'KB @ 3703.50usft (H&P 389)
Site:	Merchant State Unit 604Y	MD Reference:	3678'GL+25.5'KB @ 3703.50usft (H&P 389)
Well:	#604Y	North Reference:	Grid
Wellbore:	Lateral 1r1	Survey Calculation Method:	Minimum Curvature
Design:	Plan 1.0	Database:	EDM 5000.1 Aim Database

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
5,000.00	5.00	67.17	4,994.04	55.80	132.55	-54.78	0.00	0.00	0.00	
5,100.00	5.00	67.17	5,093.66	59.18	140.59	-58.10	0.00	0.00	0.00	
5,200.00	5.00	67.17	5,193.28	62.56	148.62	-61.42	0.00	0.00	0.00	
5,300.00	5.00	67.17	5,292.90	65.95	156.65	-64.74	0.00	0.00	0.00	
5,323.19	5.00	67.17	5,316.00	66.73	158.52	-65.51	0.00	0.00	0.00	
9 5/8"										
5,400.00	5.00	67.17	5,392.52	69.33	164.69	-68.06	0.00	0.00	0.00	
5,500.00	5.00	67.17	5,492.14	72.71	172.72	-71.38	0.00	0.00	0.00	
5,600.00	5.00	67.17	5,591.76	76.09	180.75	-74.70	0.00	0.00	0.00	
5,700.00	5.00	67.17	5,691.37	79.47	188.78	-78.02	0.00	0.00	0.00	
5,800.00	5.00	67.17	5,790.99	82.85	196.82	-81.34	0.00	0.00	0.00	
5,900.00	5.00	67.17	5,890.61	86.24	204.85	-84.66	0.00	0.00	0.00	
6,000.00	5.00	67.17	5,990.23	89.62	212.88	-87.98	0.00	0.00	0.00	
6,100.00	5.00	67.17	6,089.85	93.00	220.92	-91.30	0.00	0.00	0.00	
6,200.00	5.00	67.17	6,189.47	96.38	228.95	-94.62	0.00	0.00	0.00	
6,300.00	5.00	67.17	6,289.09	99.76	236.98	-97.94	0.00	0.00	0.00	
6,400.00	5.00	67.17	6,388.71	103.14	245.01	-101.26	0.00	0.00	0.00	
6,500.00	5.00	67.17	6,488.33	106.52	253.05	-104.58	0.00	0.00	0.00	
6,600.00	5.00	67.17	6,587.95	109.91	261.08	-107.90	0.00	0.00	0.00	
6,700.00	5.00	67.17	6,687.57	113.29	269.11	-111.22	0.00	0.00	0.00	
6,800.00	5.00	67.17	6,787.19	116.67	277.15	-114.54	0.00	0.00	0.00	
6,900.00	5.00	67.17	6,886.81	120.05	285.18	-117.86	0.00	0.00	0.00	
7,000.00	5.00	67.17	6,986.43	123.43	293.21	-121.18	0.00	0.00	0.00	
7,100.00	5.00	67.17	7,086.05	126.81	301.24	-124.50	0.00	0.00	0.00	
7,200.00	5.00	67.17	7,185.67	130.20	309.28	-127.82	0.00	0.00	0.00	
7,300.00	5.00	67.17	7,285.29	133.58	317.31	-131.14	0.00	0.00	0.00	
7,400.00	5.00	67.17	7,384.91	136.96	325.34	-134.46	0.00	0.00	0.00	
7,500.00	5.00	67.17	7,484.53	140.34	333.37	-137.78	0.00	0.00	0.00	
7,591.38	5.00	67.17	7,575.56	143.43	340.72	-140.81	0.00	0.00	0.00	
Drop 1.00°/100'										
7,600.00	4.91	67.17	7,584.15	143.72	341.40	-141.09	1.00	-1.00	0.00	
7,700.00	3.91	67.17	7,683.85	146.71	348.49	-144.03	1.00	-1.00	0.00	
7,800.00	2.91	67.17	7,783.67	149.02	353.98	-146.29	1.00	-1.00	0.00	
7,900.00	1.91	67.17	7,883.58	150.65	357.86	-147.90	1.00	-1.00	0.00	
8,000.00	0.91	67.17	7,983.55	151.61	360.14	-148.84	1.00	-1.00	0.00	
8,091.38	0.00	0.00	8,074.92	151.89	360.81	-149.11	1.00	-1.00	0.00	
Hold Vertical										
8,100.00	0.00	0.00	8,083.54	151.89	360.81	-149.11	0.00	0.00	0.00	
8,200.00	0.00	0.00	8,183.54	151.89	360.81	-149.11	0.00	0.00	0.00	
8,300.00	0.00	0.00	8,283.54	151.89	360.81	-149.11	0.00	0.00	0.00	
8,400.00	0.00	0.00	8,383.54	151.89	360.81	-149.11	0.00	0.00	0.00	
8,500.00	0.00	0.00	8,483.54	151.89	360.81	-149.11	0.00	0.00	0.00	
8,600.00	0.00	0.00	8,583.54	151.89	360.81	-149.11	0.00	0.00	0.00	
8,700.00	0.00	0.00	8,683.54	151.89	360.81	-149.11	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 604Y
Project:	Lea County, New Mexico	TVD Reference:	3678'GL+25.5'KB @ 3703.50usft (H&P 389)
Site:	Merchant State Unit 604Y	MD Reference:	3678'GL+25.5'KB @ 3703.50usft (H&P 389)
Well:	#604Y	North Reference:	Grid
Wellbore:	Lateral 1r1	Survey Calculation Method:	Minimum Curvature
Design:	Plan 1.0	Database:	EDM 5000.1 Aim Database

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,800.00	0.00	0.00	8,783.54	151.89	360.81	-149.11	0.00	0.00	0.00
8,900.00	0.00	0.00	8,883.54	151.89	360.81	-149.11	0.00	0.00	0.00
9,000.00	0.00	0.00	8,983.54	151.89	360.81	-149.11	0.00	0.00	0.00
9,100.00	0.00	0.00	9,083.54	151.89	360.81	-149.11	0.00	0.00	0.00
9,200.00	0.00	0.00	9,183.54	151.89	360.81	-149.11	0.00	0.00	0.00
9,300.00	0.00	0.00	9,283.54	151.89	360.81	-149.11	0.00	0.00	0.00
9,400.00	0.00	0.00	9,383.54	151.89	360.81	-149.11	0.00	0.00	0.00
9,500.00	0.00	0.00	9,483.54	151.89	360.81	-149.11	0.00	0.00	0.00
9,600.00	0.00	0.00	9,583.54	151.89	360.81	-149.11	0.00	0.00	0.00
9,700.00	0.00	0.00	9,683.54	151.89	360.81	-149.11	0.00	0.00	0.00
9,800.00	0.00	0.00	9,783.54	151.89	360.81	-149.11	0.00	0.00	0.00
9,900.00	0.00	0.00	9,883.54	151.89	360.81	-149.11	0.00	0.00	0.00
10,000.00	0.00	0.00	9,983.54	151.89	360.81	-149.11	0.00	0.00	0.00
10,100.00	0.00	0.00	10,083.54	151.89	360.81	-149.11	0.00	0.00	0.00
10,200.00	0.00	0.00	10,183.54	151.89	360.81	-149.11	0.00	0.00	0.00
10,300.00	0.00	0.00	10,283.54	151.89	360.81	-149.11	0.00	0.00	0.00
10,400.00	0.00	0.00	10,383.54	151.89	360.81	-149.11	0.00	0.00	0.00
10,500.00	0.00	0.00	10,483.54	151.89	360.81	-149.11	0.00	0.00	0.00
10,600.00	0.00	0.00	10,583.54	151.89	360.81	-149.11	0.00	0.00	0.00
10,700.00	0.00	0.00	10,683.54	151.89	360.81	-149.11	0.00	0.00	0.00
10,800.00	0.00	0.00	10,783.54	151.89	360.81	-149.11	0.00	0.00	0.00
10,900.00	0.00	0.00	10,883.54	151.89	360.81	-149.11	0.00	0.00	0.00
11,000.00	0.00	0.00	10,983.54	151.89	360.81	-149.11	0.00	0.00	0.00
11,100.00	0.00	0.00	11,083.54	151.89	360.81	-149.11	0.00	0.00	0.00
11,200.00	0.00	0.00	11,183.54	151.89	360.81	-149.11	0.00	0.00	0.00
11,300.00	0.00	0.00	11,283.54	151.89	360.81	-149.11	0.00	0.00	0.00
11,354.97	0.00	0.00	11,338.51	151.89	360.81	-149.11	0.00	0.00	0.00
KOP, Build 10.00°/100'									
11,400.00	4.50	179.56	11,383.50	150.12	360.82	-147.35	10.00	10.00	0.00
11,450.00	9.50	179.56	11,433.11	144.03	360.87	-141.25	10.00	10.00	0.00
11,500.00	14.50	179.56	11,482.00	133.63	360.95	-130.86	10.00	10.00	0.00
11,550.00	19.50	179.56	11,529.80	119.02	361.06	-116.24	10.00	10.00	0.00
11,600.00	24.50	179.56	11,576.14	100.29	361.21	-97.51	10.00	10.00	0.00
11,650.00	29.50	179.56	11,620.68	77.60	361.38	-74.82	10.00	10.00	0.00
11,700.00	34.50	179.56	11,663.06	51.11	361.59	-48.33	10.00	10.00	0.00
11,750.00	39.50	179.56	11,702.98	21.02	361.82	-18.24	10.00	10.00	0.00
11,800.00	44.50	179.56	11,740.13	-12.42	362.08	15.20	10.00	10.00	0.00
11,850.00	49.50	179.56	11,774.21	-48.98	362.36	51.76	10.00	10.00	0.00
11,900.00	54.50	179.56	11,804.98	-88.37	362.66	91.15	10.00	10.00	0.00
11,950.00	59.50	179.56	11,832.20	-130.29	362.99	133.07	10.00	10.00	0.00
12,000.00	64.50	179.56	11,855.67	-174.42	363.33	177.21	10.00	10.00	0.00
12,050.00	69.50	179.56	11,875.20	-220.43	363.68	223.22	10.00	10.00	0.00
12,100.00	74.50	179.56	11,890.64	-267.97	364.05	270.76	10.00	10.00	0.00
12,150.00	79.50	179.56	11,901.88	-316.67	364.42	319.46	10.00	10.00	0.00

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Merchant State Unit 604Y
Project:	Lea County, New Mexico	TVD Reference:	3678'GL+25.5'KB @ 3703.50usft (H&P 389)
Site:	Merchant State Unit 604Y	MD Reference:	3678'GL+25.5'KB @ 3703.50usft (H&P 389)
Well:	#604Y	North Reference:	Grid
Wellbore:	Lateral 1r1	Survey Calculation Method:	Minimum Curvature
Design:	Plan 1.0	Database:	EDM 5000.1 Aim Database

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
12,200.00	84.50	179.56	11,908.83	-366.17	364.81	368.96	10.00	10.00	0.00
12,246.07	89.11	179.56	11,911.40	-412.15	365.16	414.94	10.00	10.00	0.00
LP, Hold 89.11° Inc, 179.56° Azimuth									
12,300.00	89.11	179.56	11,912.24	-466.08	365.58	468.87	0.00	0.00	0.00
12,400.00	89.11	179.56	11,913.79	-566.06	366.35	568.86	0.00	0.00	0.00
12,500.00	89.11	179.56	11,915.34	-666.05	367.12	668.85	0.00	0.00	0.00
12,600.00	89.11	179.56	11,916.90	-766.03	367.89	768.83	0.00	0.00	0.00
12,700.00	89.11	179.56	11,918.45	-866.02	368.66	868.82	0.00	0.00	0.00
12,800.00	89.11	179.56	11,920.00	-966.00	369.43	968.81	0.00	0.00	0.00
12,900.00	89.11	179.56	11,921.56	-1,065.99	370.20	1,068.80	0.00	0.00	0.00
13,000.00	89.11	179.56	11,923.11	-1,165.97	370.98	1,168.79	0.00	0.00	0.00
13,100.00	89.11	179.56	11,924.66	-1,265.96	371.75	1,268.77	0.00	0.00	0.00
13,200.00	89.11	179.56	11,926.22	-1,365.94	372.52	1,368.76	0.00	0.00	0.00
13,300.00	89.11	179.56	11,927.77	-1,465.93	373.29	1,468.75	0.00	0.00	0.00
13,400.00	89.11	179.56	11,929.32	-1,565.91	374.06	1,568.74	0.00	0.00	0.00
13,500.00	89.11	179.56	11,930.88	-1,665.90	374.83	1,668.73	0.00	0.00	0.00
13,600.00	89.11	179.56	11,932.43	-1,765.88	375.60	1,768.71	0.00	0.00	0.00
13,700.00	89.11	179.56	11,933.98	-1,865.87	376.37	1,868.70	0.00	0.00	0.00
13,800.00	89.11	179.56	11,935.54	-1,965.85	377.15	1,968.69	0.00	0.00	0.00
13,900.00	89.11	179.56	11,937.09	-2,065.84	377.92	2,068.68	0.00	0.00	0.00
14,000.00	89.11	179.56	11,938.64	-2,165.82	378.69	2,168.66	0.00	0.00	0.00
14,100.00	89.11	179.56	11,940.20	-2,265.81	379.46	2,268.65	0.00	0.00	0.00
14,200.00	89.11	179.56	11,941.75	-2,365.79	380.23	2,368.64	0.00	0.00	0.00
14,300.00	89.11	179.56	11,943.30	-2,465.78	381.00	2,468.63	0.00	0.00	0.00
14,400.00	89.11	179.56	11,944.86	-2,565.76	381.77	2,568.62	0.00	0.00	0.00
14,500.00	89.11	179.56	11,946.41	-2,665.75	382.54	2,668.60	0.00	0.00	0.00
14,600.00	89.11	179.56	11,947.96	-2,765.73	383.32	2,768.59	0.00	0.00	0.00
14,700.00	89.11	179.56	11,949.52	-2,865.72	384.09	2,868.58	0.00	0.00	0.00
14,800.00	89.11	179.56	11,951.07	-2,965.70	384.86	2,968.57	0.00	0.00	0.00
14,900.00	89.11	179.56	11,952.62	-3,065.69	385.63	3,068.56	0.00	0.00	0.00
15,000.00	89.11	179.56	11,954.18	-3,165.67	386.40	3,168.54	0.00	0.00	0.00
15,100.00	89.11	179.56	11,955.73	-3,265.66	387.17	3,268.53	0.00	0.00	0.00
15,200.00	89.11	179.56	11,957.28	-3,365.64	387.94	3,368.52	0.00	0.00	0.00
15,300.00	89.11	179.56	11,958.84	-3,465.63	388.71	3,468.51	0.00	0.00	0.00
15,400.00	89.11	179.56	11,960.39	-3,565.61	389.49	3,568.50	0.00	0.00	0.00
15,500.00	89.11	179.56	11,961.94	-3,665.59	390.26	3,668.48	0.00	0.00	0.00
15,600.00	89.11	179.56	11,963.49	-3,765.58	391.03	3,768.47	0.00	0.00	0.00
15,700.00	89.11	179.56	11,965.05	-3,865.56	391.80	3,868.46	0.00	0.00	0.00
15,716.54	89.11	179.56	11,965.31	-3,882.10	391.93	3,885.00	0.00	0.00	0.00
Drop 2.00°/100'									
15,800.00	87.44	179.56	11,967.82	-3,965.52	392.57	3,968.42	2.00	-2.00	0.00
15,844.70	86.55	179.56	11,970.16	-4,010.16	392.91	4,013.06	2.00	-2.00	0.00
Hold 86.55° Inc, 179.56° Azimuth									

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Merchant State Unit 604Y
Project:	Lea County, New Mexico	TVD Reference:	3678'GL+25.5'KB @ 3703.50usft (H&P 389)
Site:	Merchant State Unit 604Y	MD Reference:	3678'GL+25.5'KB @ 3703.50usft (H&P 389)
Well:	#604Y	North Reference:	Grid
Wellbore:	Lateral 1r1	Survey Calculation Method:	Minimum Curvature
Design:	Plan 1.0	Database:	EDM 5000.1 Aim Database

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
15,900.00	86.55	179.56	11,973.49	-4,065.35	393.34	4,068.25	0.00	0.00	0.00
16,000.00	86.55	179.56	11,979.52	-4,165.17	394.11	4,168.07	0.00	0.00	0.00
16,100.00	86.55	179.56	11,985.54	-4,264.98	394.88	4,267.89	0.00	0.00	0.00
16,200.00	86.55	179.56	11,991.56	-4,364.80	395.65	4,367.71	0.00	0.00	0.00
16,300.00	86.55	179.56	11,997.59	-4,464.62	396.42	4,467.53	0.00	0.00	0.00
16,400.00	86.55	179.56	12,003.61	-4,564.43	397.19	4,567.35	0.00	0.00	0.00
16,500.00	86.55	179.56	12,009.63	-4,664.25	397.96	4,667.17	0.00	0.00	0.00
16,600.00	86.55	179.56	12,015.66	-4,764.06	398.73	4,766.98	0.00	0.00	0.00
16,700.00	86.55	179.56	12,021.68	-4,863.88	399.50	4,866.80	0.00	0.00	0.00
16,800.00	86.55	179.56	12,027.70	-4,963.69	400.27	4,966.62	0.00	0.00	0.00
16,900.00	86.55	179.56	12,033.73	-5,063.51	401.04	5,066.44	0.00	0.00	0.00
17,000.00	86.55	179.56	12,039.75	-5,163.32	401.81	5,166.26	0.00	0.00	0.00
17,103.93	86.55	179.56	12,046.01	-5,267.06	402.61	5,270.00	0.00	0.00	0.00
Build 2.00°/100'									
17,200.00	88.47	179.56	12,050.19	-5,363.03	403.35	5,365.97	2.00	2.00	0.00
17,252.59	89.52	179.56	12,051.11	-5,415.61	403.76	5,418.56	2.00	2.00	0.00
Hold 89.52° Inc, 179.56° Azimuth									
17,300.00	89.52	179.56	12,051.51	-5,463.02	404.12	5,465.96	0.00	0.00	0.00
17,400.00	89.52	179.56	12,052.34	-5,563.01	404.89	5,565.96	0.00	0.00	0.00
17,500.00	89.52	179.56	12,053.18	-5,663.01	405.66	5,665.96	0.00	0.00	0.00
17,600.00	89.52	179.56	12,054.02	-5,763.00	406.44	5,765.95	0.00	0.00	0.00
17,700.00	89.52	179.56	12,054.86	-5,862.99	407.21	5,865.95	0.00	0.00	0.00
17,800.00	89.52	179.56	12,055.70	-5,962.99	407.98	5,965.95	0.00	0.00	0.00
17,900.00	89.52	179.56	12,056.53	-6,062.98	408.75	6,065.94	0.00	0.00	0.00
18,000.00	89.52	179.56	12,057.37	-6,162.98	409.52	6,165.94	0.00	0.00	0.00
18,100.00	89.52	179.56	12,058.21	-6,262.97	410.29	6,265.93	0.00	0.00	0.00
18,194.07	89.52	179.56	12,059.00	-6,357.03	411.02	6,360.00	0.00	0.00	0.00
Build 2.00°/100'									
18,200.00	89.64	179.56	12,059.04	-6,362.96	411.06	6,365.93	2.00	2.00	0.00
18,254.32	90.73	179.56	12,058.87	-6,417.28	411.48	6,420.25	2.00	2.00	0.00
Hold 90.73° Inc, 179.56° Azimuth									
18,300.00	90.73	179.56	12,058.29	-6,462.95	411.83	6,465.93	0.00	0.00	0.00
18,400.00	90.73	179.56	12,057.02	-6,562.94	412.61	6,565.92	0.00	0.00	0.00
18,500.00	90.73	179.56	12,055.76	-6,662.93	413.38	6,665.91	0.00	0.00	0.00
18,600.00	90.73	179.56	12,054.49	-6,762.92	414.15	6,765.90	0.00	0.00	0.00
18,700.00	90.73	179.56	12,053.23	-6,862.91	414.92	6,865.89	0.00	0.00	0.00
18,800.00	90.73	179.56	12,051.96	-6,962.90	415.69	6,965.89	0.00	0.00	0.00
18,900.00	90.73	179.56	12,050.70	-7,062.89	416.46	7,065.88	0.00	0.00	0.00
19,000.00	90.73	179.56	12,049.43	-7,162.88	417.23	7,165.87	0.00	0.00	0.00
19,100.00	90.73	179.56	12,048.17	-7,262.87	418.00	7,265.86	0.00	0.00	0.00
19,200.00	90.73	179.56	12,046.90	-7,362.86	418.78	7,365.85	0.00	0.00	0.00
19,300.00	90.73	179.56	12,045.64	-7,462.84	419.55	7,465.85	0.00	0.00	0.00
19,400.00	90.73	179.56	12,044.37	-7,562.83	420.32	7,565.84	0.00	0.00	0.00
19,437.17	90.73	179.56	12,043.90	-7,599.99	420.61	7,603.00	0.00	0.00	0.00
Drop 2.00°/100'									

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Merchant State Unit 604Y
Project:	Lea County, New Mexico	TVD Reference:	3678'GL+25.5'KB @ 3703.50usft (H&P 389)
Site:	Merchant State Unit 604Y	MD Reference:	3678'GL+25.5'KB @ 3703.50usft (H&P 389)
Well:	#604Y	North Reference:	Grid
Wellbore:	Lateral 1r1	Survey Calculation Method:	Minimum Curvature
Design:	Plan 1.0	Database:	EDM 5000.1 Aim Database

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
19,500.00	89.47	179.56	12,043.79	-7,662.83	421.09	7,665.83	2.00	-2.00	0.00
19,609.63	87.28	179.56	12,046.91	-7,772.40	421.94	7,775.41	2.00	-2.00	0.00
Hold 87.28° Inc, 179.56° Azimuth									
19,700.00	87.28	179.56	12,051.20	-7,862.67	422.63	7,865.68	0.00	0.00	0.00
19,800.00	87.28	179.56	12,055.96	-7,962.55	423.40	7,965.57	0.00	0.00	0.00
19,900.00	87.28	179.56	12,060.71	-8,062.44	424.17	8,065.46	0.00	0.00	0.00
20,000.00	87.28	179.56	12,065.46	-8,162.32	424.94	8,165.34	0.00	0.00	0.00
20,100.00	87.28	179.56	12,070.22	-8,262.20	425.71	8,265.23	0.00	0.00	0.00
20,200.00	87.28	179.56	12,074.97	-8,362.09	426.48	8,365.12	0.00	0.00	0.00
20,300.00	87.28	179.56	12,079.72	-8,461.97	427.25	8,465.00	0.00	0.00	0.00
20,400.00	87.28	179.56	12,084.48	-8,561.86	428.02	8,564.89	0.00	0.00	0.00
20,500.00	87.28	179.56	12,089.23	-8,661.74	428.79	8,664.78	0.00	0.00	0.00
20,600.00	87.28	179.56	12,093.98	-8,761.62	429.57	8,764.66	0.00	0.00	0.00
20,700.00	87.28	179.56	12,098.74	-8,861.51	430.34	8,864.55	0.00	0.00	0.00
20,800.00	87.28	179.56	12,103.49	-8,961.39	431.11	8,964.44	0.00	0.00	0.00
20,900.00	87.28	179.56	12,108.24	-9,061.28	431.88	9,064.32	0.00	0.00	0.00
21,000.00	87.28	179.56	12,112.99	-9,161.16	432.65	9,164.21	0.00	0.00	0.00
21,100.00	87.28	179.56	12,117.75	-9,261.04	433.42	9,264.10	0.00	0.00	0.00
21,200.00	87.28	179.56	12,122.50	-9,360.93	434.19	9,363.99	0.00	0.00	0.00
21,300.00	87.28	179.56	12,127.25	-9,460.81	434.96	9,463.87	0.00	0.00	0.00
21,400.00	87.28	179.56	12,132.01	-9,560.70	435.73	9,563.76	0.00	0.00	0.00
21,500.00	87.28	179.56	12,136.76	-9,660.58	436.50	9,663.65	0.00	0.00	0.00
21,600.00	87.28	179.56	12,141.51	-9,760.46	437.27	9,763.53	0.00	0.00	0.00
21,700.00	87.28	179.56	12,146.27	-9,860.35	438.04	9,863.42	0.00	0.00	0.00
21,800.00	87.28	179.56	12,151.02	-9,960.23	438.81	9,963.31	0.00	0.00	0.00
21,900.00	87.28	179.56	12,155.77	-10,060.12	439.58	10,063.19	0.00	0.00	0.00
22,000.00	87.28	179.56	12,160.52	-10,160.00	440.35	10,163.08	0.00	0.00	0.00
22,097.11	87.28	179.56	12,165.14	-10,257.00	441.10	10,260.09	0.00	0.00	0.00
PBHL									

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
FTP (Mechant604Y)	0.00	0.00	0.00	101.90	361.20	525,530.50	785,415.80	32° 26' 32.148 N	103° 32' 31.715 W
- hit/miss target									
- Shape									
- plan misses target center by 375.30usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									
PBHL (Mechant604Y)	0.00	0.00	12,165.14	-10,257.00	441.10	515,171.60	785,495.70	32° 24' 49.643 N	103° 32' 31.678 W
- plan hits target center									
- Point									

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Merchant State Unit 604Y
Project:	Lea County, New Mexico	TVD Reference:	3678'GL+25.5'KB @ 3703.50usft (H&P 389)
Site:	Merchant State Unit 604Y	MD Reference:	3678'GL+25.5'KB @ 3703.50usft (H&P 389)
Well:	#604Y	North Reference:	Grid
Wellbore:	Lateral 1r1	Survey Calculation Method:	Minimum Curvature
Design:	Plan 1.0	Database:	EDM 5000.1 Aim Database

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
5,323.19	5,316.00	9 5/8"		9-5/8	12-1/4

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
3100	3100	0	0	Build 1.00°/100'	
3600	3599	8	20	Hold 5.00° Inc, 67.17° Azimuth	
7591	7576	143	341	Drop 1.00°/100'	
8091	8075	152	361	Hold Vertical	
11,355	11,339	152	361	KOP, Build 10.00°/100'	
12,246	11,911	-412	365	LP, Hold 89.11° Inc, 179.56° Azimuth	
15,717	11,965	-3882	392	Drop 2.00°/100'	
15,845	11,970	-4010	393	Hold 86.55° Inc, 179.56° Azimuth	
17,104	12,046	-5267	403	Build 2.00°/100'	
17,253	12,051	-5416	404	Hold 89.52° Inc, 179.56° Azimuth	
18,194	12,059	-6357	411	Build 2.00°/100'	
18,254	12,059	-6417	411	Hold 90.73° Inc, 179.56° Azimuth	
19,437	12,044	-7600	421	Drop 2.00°/100'	
19,610	12,047	-7772	422	Hold 87.28° Inc, 179.56° Azimuth	
22,097	12,165	-10,257	441	PBHL	



Advance Energy Partners, LLC

Merchant State Unit 604Y
Lea County, New Mexico
Job No. WT-20-058
H&P 389
Plan 1.0 Final PVA



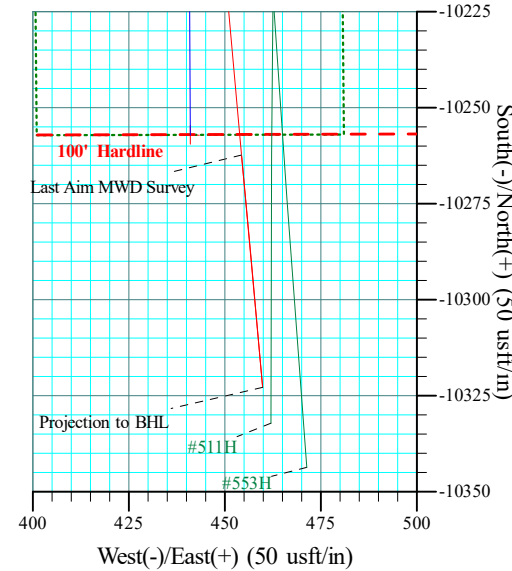
Azimuths to Grid North
True North: -0.42°
Magnetic North: 6.08°

Magnetic Field
Strength: 47978.6nT
Dip Angle: 60.19°
Date: 7/10/2020
Model: MVHD

Magnetic North: 6.08° to Grid North

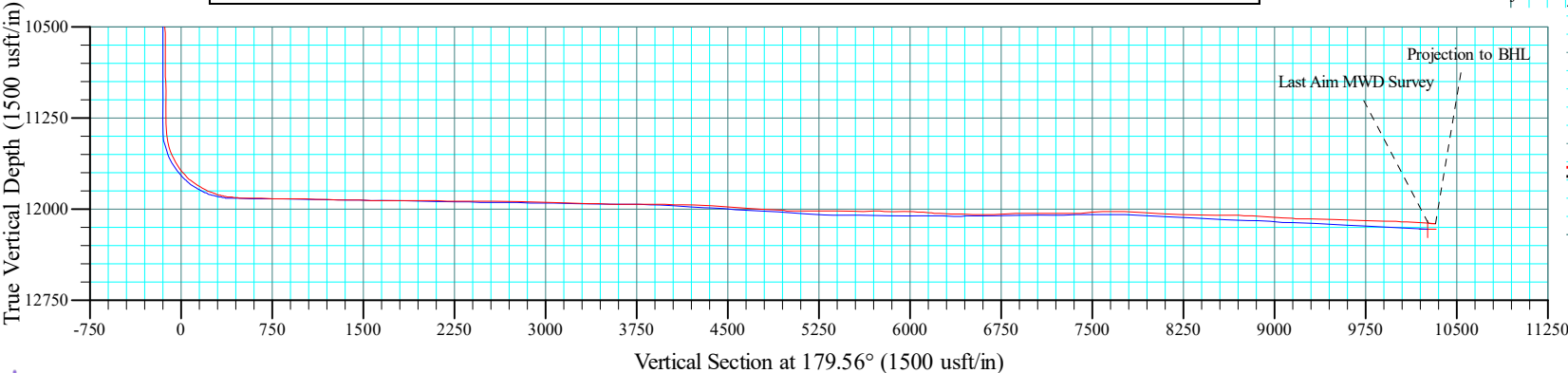
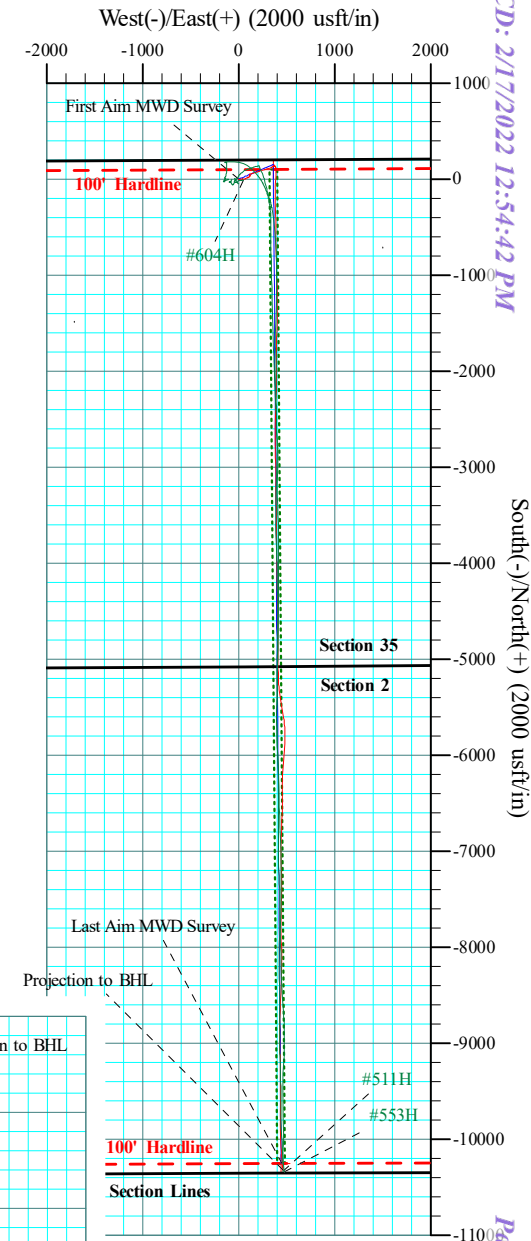
SITE DETAILS: Merchant State Unit 604Y	
Site Centre Northing:	525428.60
Easting:	785054.60
Positional Uncertainty:	0.00
Convergence:	0.42
Local North:	Grid

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:	3678'GL+25.5'KB @ 3703.50usft (H&P 389)



SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Annotation
1	22073.00	86.07	174.65	12117.55	-10262.19	454.33	0.00	0.00	10265.37	Last Aim MWD Survey
2	22134.00	86.07	174.65	12121.73	-10322.78	460.00	0.00	0.00	10326.01	Projection to BHL

DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
FTP (Mechant604Y)	0.00	101.90	361.20	525530.50	785415.80	32° 26' 32.148 N	103° 32' 31.715 W	
PBHL (Mechant604Y)	12165.14	-10257.00	441.10	515171.60	785495.70	32° 24' 49.643 N	103° 32' 31.678 W	





Survey Reports

Merchant State Unit 604Y (WT-20-057)

2020-07-10 to 2020-07-29

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 604Y
Project:	Lea County, New Mexico	TVD Reference:	3678'GL+25.5'KB @ 3703.50usft (H&P 389)
Site:	Merchant State Unit 604Y	MD Reference:	3678'GL+25.5'KB @ 3703.50usft (H&P 389)
Well:	#604Y	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 604Y			
Site Position:		Northing:	525,428.60 usft	Latitude:	32° 26' 31.166 N
From:	Map	Easting:	785,054.60 usft	Longitude:	103° 32' 35.938 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.42 °

Well	#604Y - Slot 604Y					
Well Position	+N/-S	0.00 usft	Northing:	525,428.60 usft	Latitude:	32° 26' 31.166 N
	+E/-W	0.00 usft	Easting:	785,054.60 usft	Longitude:	103° 32' 35.938 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,678.00 usft

Wellbore	Aim MWD Surveys				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	MVHD	7/10/2020	6.51	60.19	47,978.60889537

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	7/28/2020			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
231.00	22,134.00	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
231.00	0.92	192.14	230.99	-1.81	-0.39	1.81	0.40	0.40	0.00
First Aim MWD Survey									
325.00	1.05	147.85	324.98	-3.28	-0.09	3.28	0.80	0.14	-47.12
420.00	1.14	117.70	419.96	-4.46	1.21	4.47	0.61	0.09	-31.74
514.00	1.98	79.03	513.93	-4.58	3.63	4.61	1.39	0.89	-41.14
609.00	2.86	86.06	608.84	-4.11	7.61	4.17	0.98	0.93	7.40
704.00	2.11	66.37	703.75	-3.24	11.57	3.33	1.19	-0.79	-20.73
798.00	2.02	72.00	797.69	-2.04	14.74	2.15	0.24	-0.10	5.99
893.00	1.71	83.51	892.64	-1.36	17.74	1.50	0.51	-0.33	12.12
983.00	2.07	70.77	982.59	-0.67	20.60	0.83	0.61	0.40	-14.16

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Merchant State Unit 604Y
Project:	Lea County, New Mexico	TVD Reference:	3678'GL+25.5'KB @ 3703.50usft (H&P 389)
Site:	Merchant State Unit 604Y	MD Reference:	3678'GL+25.5'KB @ 3703.50usft (H&P 389)
Well:	#604Y	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)
1,072.00	2.02	74.55	1,071.54	0.27	23.63	-0.09	0.16	-0.06	4.25
1,162.00	2.02	88.61	1,161.48	0.74	26.75	-0.53	0.55	0.00	15.62
1,251.00	2.37	82.72	1,250.42	1.01	30.14	-0.78	0.47	0.39	-6.62
1,341.00	2.24	81.23	1,340.34	1.51	33.73	-1.25	0.16	-0.14	-1.66
1,430.00	1.80	82.37	1,429.29	1.96	36.83	-1.68	0.50	-0.49	1.28
1,520.00	1.49	86.24	1,519.25	2.23	39.40	-1.92	0.37	-0.34	4.30
1,610.00	1.10	109.18	1,609.23	2.02	41.38	-1.70	0.71	-0.43	25.49
1,699.00	1.27	110.93	1,698.21	1.39	43.11	-1.05	0.20	0.19	1.97
1,748.00	1.32	116.21	1,747.20	0.94	44.12	-0.60	0.26	0.10	10.78
1,879.00	1.85	104.87	1,878.15	-0.27	47.52	0.63	0.47	0.40	-8.66
1,969.00	2.51	112.60	1,968.08	-1.40	50.75	1.79	0.80	0.73	8.59
2,058.00	2.11	94.76	2,057.01	-2.28	54.18	2.70	0.92	-0.45	-20.04
2,148.00	2.02	90.98	2,146.95	-2.45	57.41	2.89	0.18	-0.10	-4.20
2,238.00	2.46	63.03	2,236.89	-1.60	60.72	2.06	1.29	0.49	-31.06
2,327.00	2.77	56.71	2,325.79	0.45	64.22	0.04	0.48	0.35	-7.10
2,417.00	2.07	57.32	2,415.71	2.52	67.41	-2.00	0.78	-0.78	0.68
2,506.00	2.11	65.41	2,504.65	4.07	70.25	-3.53	0.33	0.04	9.09
2,596.00	1.93	66.46	2,594.60	5.37	73.15	-4.80	0.20	-0.20	1.17
2,685.00	2.20	59.96	2,683.54	6.82	76.00	-6.24	0.40	0.30	-7.30
2,775.00	1.80	66.02	2,773.48	8.26	78.79	-7.65	0.50	-0.44	6.73
2,865.00	1.98	75.60	2,863.44	9.22	81.58	-8.59	0.40	0.20	10.64
2,954.00	2.77	74.37	2,952.36	10.18	85.14	-9.53	0.89	0.89	-1.38
3,044.00	2.33	68.13	3,042.27	11.45	88.94	-10.77	0.58	-0.49	-6.93
3,134.00	1.32	56.88	3,132.22	12.70	91.50	-11.99	1.19	-1.12	-12.50
3,223.00	1.58	57.50	3,221.19	13.92	93.40	-13.20	0.29	0.29	0.70
3,313.00	1.23	38.60	3,311.17	15.34	95.05	-14.61	0.64	-0.39	-21.00
3,403.00	1.71	27.00	3,401.14	17.29	96.26	-16.55	0.62	0.53	-12.89
3,492.00	1.14	53.54	3,490.11	19.00	97.57	-18.25	0.96	-0.64	29.82
3,582.00	1.14	82.28	3,580.09	19.65	99.18	-18.89	0.63	0.00	31.93
3,672.00	1.76	85.09	3,670.06	19.89	101.44	-19.11	0.69	0.69	3.12
3,761.00	1.67	71.82	3,759.02	20.41	104.04	-19.61	0.46	-0.10	-14.91
3,851.00	1.36	54.68	3,848.99	21.44	106.16	-20.62	0.61	-0.34	-19.04
3,940.00	1.71	59.08	3,937.96	22.73	108.16	-21.90	0.41	0.39	4.94
4,029.00	1.93	56.53	4,026.92	24.24	110.55	-23.39	0.26	0.25	-2.87
4,119.00	2.51	64.26	4,116.85	25.93	113.58	-25.06	0.72	0.64	8.59
4,208.00	1.63	52.22	4,205.79	27.55	116.34	-26.66	1.10	-0.99	-13.53
4,298.00	1.49	32.97	4,295.76	29.32	117.99	-28.41	0.60	-0.16	-21.39
4,388.00	2.02	27.44	4,385.72	31.71	119.36	-30.79	0.62	0.59	-6.14
4,477.00	0.97	18.47	4,474.68	33.81	120.32	-32.89	1.21	-1.18	-10.08
4,567.00	1.14	347.27	4,564.67	35.41	120.36	-34.49	0.66	0.19	-34.67
4,657.00	1.45	339.89	4,654.65	37.35	119.77	-36.43	0.39	0.34	-8.20
4,747.00	1.63	333.74	4,744.61	39.57	118.82	-38.66	0.27	0.20	-6.83
4,836.00	1.45	339.19	4,833.58	41.76	117.86	-40.85	0.26	-0.20	6.12

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Merchant State Unit 604Y
Project:	Lea County, New Mexico	TVD Reference:	3678'GL+25.5'KB @ 3703.50usft (H&P 389)
Site:	Merchant State Unit 604Y	MD Reference:	3678'GL+25.5'KB @ 3703.50usft (H&P 389)
Well:	#604Y	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)
4,926.00	1.36	337.95	4,923.55	43.81	117.05	-42.91	0.11	-0.10	-1.38
5,015.00	1.14	329.52	5,012.53	45.55	116.20	-44.66	0.32	-0.25	-9.47
5,105.00	1.19	333.03	5,102.51	47.16	115.33	-46.27	0.10	0.06	3.90
5,194.00	1.14	327.85	5,191.50	48.73	114.44	-47.85	0.13	-0.06	-5.82
5,269.00	0.92	335.14	5,266.48	49.91	113.79	-49.03	0.34	-0.29	9.72
5,370.00	0.57	318.18	5,367.48	51.02	113.11	-50.15	0.41	-0.35	-16.79
5,459.00	1.27	55.47	5,456.47	51.91	113.63	-51.04	1.64	0.79	109.31
5,549.00	3.74	72.35	5,546.38	53.36	117.25	-52.46	2.83	2.74	18.76
5,638.00	5.89	77.18	5,635.06	55.26	124.47	-54.30	2.46	2.42	5.43
5,728.00	5.45	74.63	5,724.62	57.42	133.09	-56.39	0.56	-0.49	-2.83
5,818.00	5.14	74.11	5,814.23	59.65	141.09	-58.57	0.35	-0.34	-0.58
5,907.00	5.89	74.63	5,902.82	61.95	149.33	-60.81	0.84	0.84	0.58
5,997.00	6.86	73.40	5,992.26	64.71	158.93	-63.49	1.09	1.08	-1.37
6,086.00	6.90	72.70	6,080.62	67.82	169.13	-66.52	0.10	0.04	-0.79
6,176.00	7.12	72.44	6,169.95	71.11	179.61	-69.73	0.25	0.24	-0.29
6,265.00	7.38	72.44	6,258.24	74.50	190.32	-73.04	0.29	0.29	0.00
6,355.00	7.38	71.21	6,347.49	78.11	201.30	-76.56	0.18	0.00	-1.37
6,445.00	7.16	70.77	6,436.77	81.82	212.07	-80.19	0.25	-0.24	-0.49
6,535.00	6.81	72.96	6,526.10	85.23	222.47	-83.52	0.49	-0.39	2.43
6,625.00	6.73	73.23	6,615.47	88.31	232.62	-86.52	0.10	-0.09	0.30
6,714.00	6.81	74.99	6,703.85	91.18	242.71	-89.32	0.25	0.09	1.98
6,804.00	7.16	75.07	6,793.18	94.01	253.28	-92.06	0.39	0.39	0.09
6,894.00	7.21	74.99	6,882.48	96.92	264.15	-94.89	0.06	0.06	-0.09
6,984.00	7.25	74.63	6,971.76	99.89	275.09	-97.77	0.07	0.04	-0.40
7,073.00	6.95	73.76	7,060.08	102.88	285.67	-100.68	0.36	-0.34	-0.98
7,163.00	6.64	75.43	7,149.45	105.71	295.93	-103.44	0.41	-0.34	1.86
7,252.00	6.20	74.99	7,237.89	108.25	305.56	-105.90	0.50	-0.49	-0.49
7,342.00	5.98	77.45	7,327.38	110.53	314.83	-108.11	0.38	-0.24	2.73
7,431.00	5.93	70.77	7,415.90	113.05	323.69	-110.56	0.78	-0.06	-7.51
7,521.00	5.80	57.85	7,505.43	117.00	331.93	-114.45	1.47	-0.14	-14.36
7,611.00	4.84	68.75	7,595.05	120.80	339.32	-118.19	1.54	-1.07	12.11
7,700.00	2.81	71.29	7,683.84	122.86	344.89	-120.21	2.29	-2.28	2.85
7,790.00	1.67	56.97	7,773.77	124.28	348.08	-121.60	1.40	-1.27	-15.91
7,880.00	1.98	53.37	7,863.73	125.92	350.42	-123.23	0.37	0.34	-4.00
7,969.00	1.76	53.89	7,952.68	127.65	352.76	-124.93	0.25	-0.25	0.58
8,059.00	1.80	53.54	8,042.64	129.30	355.02	-126.57	0.05	0.04	-0.39
8,149.00	1.41	56.27	8,132.60	130.76	357.07	-128.01	0.44	-0.43	3.03
8,239.00	1.45	64.88	8,222.57	131.85	359.03	-129.09	0.24	0.04	9.57
8,328.00	1.27	65.76	8,311.55	132.74	360.94	-129.96	0.20	-0.20	0.99
8,418.00	1.23	71.38	8,401.53	133.46	362.77	-130.67	0.14	-0.04	6.24
8,508.00	1.32	69.36	8,491.51	134.13	364.66	-131.32	0.11	0.10	-2.24
8,597.00	1.41	76.04	8,580.48	134.75	366.68	-131.93	0.21	0.10	7.51
8,687.00	0.92	32.80	8,670.46	135.63	368.14	-132.80	1.08	-0.54	-48.04

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Merchant State Unit 604Y
Project:	Lea County, New Mexico	TVD Reference:	3678'GL+25.5'KB @ 3703.50usft (H&P 389)
Site:	Merchant State Unit 604Y	MD Reference:	3678'GL+25.5'KB @ 3703.50usft (H&P 389)
Well:	#604Y	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)
8,777.00	1.23	357.64	8,760.45	137.20	368.49	-134.37	0.79	0.34	-39.07
8,866.00	0.92	6.26	8,849.43	138.87	368.53	-136.03	0.39	-0.35	9.69
8,956.00	0.97	18.21	8,939.42	140.31	368.85	-137.47	0.23	0.06	13.28
9,046.00	0.57	53.37	9,029.41	141.30	369.45	-138.46	0.67	-0.44	39.07
9,135.00	0.44	69.45	9,118.41	141.68	370.12	-138.84	0.21	-0.15	18.07
9,225.00	0.48	89.05	9,208.41	141.81	370.82	-138.96	0.18	0.04	21.78
9,315.00	0.66	63.91	9,298.40	142.04	371.67	-139.19	0.34	0.20	-27.93
9,404.00	0.40	126.49	9,387.40	142.09	372.38	-139.22	0.67	-0.29	70.31
9,494.00	0.62	170.17	9,477.40	141.42	372.71	-138.55	0.48	0.24	48.53
9,584.00	0.35	196.01	9,567.39	140.67	372.72	-137.81	0.38	-0.30	28.71
9,673.00	0.44	279.33	9,656.39	140.47	372.31	-137.61	0.59	0.10	93.62
9,763.00	0.62	253.05	9,746.39	140.38	371.50	-137.53	0.33	0.20	-29.20
9,853.00	1.01	228.53	9,836.38	139.72	370.44	-136.87	0.57	0.43	-27.24
9,942.00	0.22	192.41	9,925.37	139.03	369.82	-136.19	0.95	-0.89	-40.58
10,032.00	0.53	83.16	10,015.37	138.91	370.19	-136.06	0.71	0.34	-121.39
10,122.00	0.62	122.27	10,105.37	138.70	371.02	-135.85	0.44	0.10	43.46
10,212.00	0.35	129.21	10,195.36	138.27	371.64	-135.41	0.31	-0.30	7.71
10,301.00	0.48	155.14	10,284.36	137.76	372.01	-134.90	0.25	0.15	29.13
10,391.00	1.05	183.00	10,374.35	136.59	372.12	-133.73	0.74	0.63	30.96
10,481.00	1.14	147.58	10,464.34	135.01	372.56	-132.15	0.75	0.10	-39.36
10,570.00	1.49	158.39	10,553.31	133.19	373.46	-130.32	0.48	0.39	12.15
10,660.00	1.19	149.61	10,643.29	131.29	374.37	-128.42	0.40	-0.33	-9.76
10,749.00	0.53	141.34	10,732.28	130.18	375.09	-127.29	0.75	-0.74	-9.29
10,839.00	0.53	112.08	10,822.28	129.69	375.74	-126.80	0.30	0.00	-32.51
10,929.00	1.23	117.88	10,912.26	129.09	376.98	-126.19	0.78	0.78	6.44
11,018.00	1.45	97.75	11,001.24	128.49	378.94	-125.57	0.58	0.25	-22.62
11,108.00	1.41	101.79	11,091.21	128.11	381.15	-125.18	0.12	-0.04	4.49
11,197.00	1.23	111.11	11,180.19	127.54	383.11	-124.59	0.31	-0.20	10.47
11,287.00	0.92	143.98	11,270.17	126.61	384.44	-123.65	0.75	-0.34	36.52
11,377.00	4.09	185.82	11,360.08	122.83	384.54	-119.87	3.84	3.52	46.49
11,422.00	8.57	186.08	11,404.80	117.90	384.02	-114.94	9.96	9.96	0.58
11,467.00	12.13	180.63	11,449.06	109.83	383.61	-106.88	8.20	7.91	-12.11
11,511.00	15.65	177.38	11,491.76	99.28	383.83	-96.33	8.19	8.00	-7.39
11,556.00	19.78	175.71	11,534.62	85.61	384.68	-82.66	9.25	9.18	-3.71
11,601.00	25.45	177.12	11,576.14	68.35	385.73	-65.39	12.66	12.60	3.13
11,646.00	30.24	180.72	11,615.93	47.35	386.08	-44.38	11.28	10.64	8.00
11,691.00	34.02	181.86	11,654.03	23.43	385.53	-20.47	8.51	8.40	2.53
11,736.00	38.77	181.69	11,690.24	-3.25	384.70	6.21	10.56	10.56	-0.38
11,780.00	43.96	183.44	11,723.25	-32.29	383.38	35.23	12.08	11.80	3.98
11,825.00	49.76	183.00	11,754.01	-65.06	381.54	67.98	12.91	12.89	-0.98
11,870.00	54.02	181.51	11,781.78	-100.43	380.16	103.34	9.82	9.47	-3.31
11,915.00	57.67	179.93	11,807.04	-137.65	379.71	140.57	8.62	8.11	-3.51
11,960.00	61.89	179.58	11,829.68	-176.53	379.87	179.44	9.40	9.38	-0.78
12,004.00	65.41	179.22	11,849.21	-215.95	380.29	218.86	8.03	8.00	-0.82

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Merchant State Unit 604Y
Project:	Lea County, New Mexico	TVD Reference:	3678'GL+25.5'KB @ 3703.50usft (H&P 389)
Site:	Merchant State Unit 604Y	MD Reference:	3678'GL+25.5'KB @ 3703.50usft (H&P 389)
Well:	#604Y	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)
12,049.00	68.18	178.70	11,866.94	-257.30	381.04	260.22	6.25	6.16	-1.16
12,094.00	73.01	178.35	11,881.88	-299.72	382.14	302.64	10.76	10.73	-0.78
12,139.00	78.95	177.91	11,892.78	-343.33	383.56	346.27	13.23	13.20	-0.98
12,184.00	81.98	177.29	11,900.23	-387.67	385.42	390.61	6.87	6.73	-1.38
12,229.00	84.62	177.55	11,905.48	-432.31	387.43	435.27	5.89	5.87	0.58
12,274.00	86.77	179.40	11,908.86	-477.16	388.63	480.13	6.30	4.78	4.11
12,318.00	88.75	180.19	11,910.58	-521.13	388.78	524.10	4.84	4.50	1.80
12,363.00	89.54	180.54	11,911.25	-566.12	388.50	569.09	1.92	1.76	0.78
12,453.00	89.19	179.84	11,912.25	-656.11	388.20	659.07	0.87	-0.39	-0.78
12,548.00	89.41	178.87	11,913.41	-751.10	389.27	754.07	1.05	0.23	-1.02
12,638.00	89.49	178.61	11,914.28	-841.07	391.25	844.05	0.30	0.09	-0.29
12,727.00	88.75	178.35	11,915.64	-930.03	393.61	933.02	0.88	-0.83	-0.29
12,817.00	88.44	178.35	11,917.85	-1,019.96	396.20	1,022.98	0.34	-0.34	0.00
12,907.00	88.44	178.43	11,920.30	-1,109.90	398.72	1,112.93	0.09	0.00	0.09
12,996.00	88.57	179.66	11,922.62	-1,198.85	400.21	1,201.89	1.39	0.15	1.38
13,086.00	88.57	180.54	11,924.87	-1,288.82	400.05	1,291.86	0.98	0.00	0.98
13,176.00	89.36	180.28	11,926.49	-1,378.80	399.41	1,381.83	0.92	0.88	-0.29
13,265.00	89.41	180.28	11,927.45	-1,467.80	398.97	1,470.82	0.06	0.06	0.00
13,354.00	89.19	180.28	11,928.54	-1,556.79	398.54	1,559.81	0.25	-0.25	0.00
13,444.00	89.36	181.07	11,929.67	-1,646.78	397.48	1,649.78	0.90	0.19	0.88
13,534.00	89.45	180.54	11,930.61	-1,736.76	396.21	1,739.75	0.60	0.10	-0.59
13,624.00	89.49	179.93	11,931.44	-1,826.76	395.84	1,829.74	0.68	0.04	-0.68
13,714.00	89.41	179.66	11,932.31	-1,916.75	396.17	1,919.74	0.31	-0.09	-0.30
13,803.00	89.49	179.66	11,933.16	-2,005.75	396.69	2,008.73	0.09	0.09	0.00
13,893.00	89.45	181.60	11,933.99	-2,095.73	395.70	2,098.71	2.16	-0.04	2.16
13,983.00	89.41	181.95	11,934.89	-2,185.69	392.92	2,188.64	0.39	-0.04	0.39
14,072.00	89.36	182.12	11,935.84	-2,274.62	389.76	2,277.55	0.20	-0.06	0.19
14,162.00	89.49	182.04	11,936.75	-2,364.56	386.49	2,367.46	0.17	0.14	-0.09
14,251.00	89.58	181.95	11,937.47	-2,453.50	383.39	2,456.38	0.14	0.10	-0.10
14,341.00	89.80	180.72	11,937.96	-2,543.48	381.29	2,546.33	1.39	0.24	-1.37
14,431.00	90.02	179.93	11,938.10	-2,633.47	380.78	2,636.32	0.91	0.24	-0.88
14,520.00	89.67	179.66	11,938.34	-2,722.47	381.10	2,725.32	0.50	-0.39	-0.30
14,609.00	88.66	179.40	11,939.63	-2,811.46	381.83	2,814.31	1.17	-1.13	-0.29
14,699.00	88.00	179.05	11,942.26	-2,901.41	383.05	2,904.27	0.83	-0.73	-0.39
14,788.00	88.13	179.58	11,945.26	-2,990.35	384.11	2,993.22	0.61	0.15	0.60
14,878.00	88.31	179.49	11,948.06	-3,080.31	384.84	3,083.17	0.22	0.20	-0.10
14,968.00	88.22	179.22	11,950.78	-3,170.26	385.86	3,173.13	0.32	-0.10	-0.30
15,057.00	88.75	178.52	11,953.14	-3,259.21	387.61	3,262.09	0.99	0.60	-0.79
15,147.00	88.70	178.70	11,955.14	-3,349.16	389.79	3,352.06	0.21	-0.06	0.20
15,237.00	88.40	179.22	11,957.42	-3,439.12	391.43	3,442.02	0.67	-0.33	0.58
15,326.00	88.84	179.40	11,959.56	-3,528.09	392.50	3,531.00	0.53	0.49	0.20
15,416.00	89.10	179.22	11,961.18	-3,618.07	393.58	3,620.98	0.35	0.29	-0.20
15,506.00	89.76	179.58	11,962.07	-3,708.06	394.52	3,710.98	0.84	0.73	0.40

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Merchant State Unit 604Y
Project:	Lea County, New Mexico	TVD Reference:	3678'GL+25.5'KB @ 3703.50usft (H&P 389)
Site:	Merchant State Unit 604Y	MD Reference:	3678'GL+25.5'KB @ 3703.50usft (H&P 389)
Well:	#604Y	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)
15,595.00	89.45	179.14	11,962.69	-3,797.05	395.52	3,799.97	0.60	-0.35	-0.49
15,685.00	89.71	179.66	11,963.35	-3,887.04	396.46	3,889.97	0.65	0.29	0.58
15,774.00	89.71	179.31	11,963.80	-3,976.03	397.26	3,978.97	0.39	0.00	-0.39
15,864.00	89.19	179.31	11,964.66	-4,066.02	398.34	4,068.96	0.58	-0.58	0.00
15,954.00	89.10	178.87	11,966.00	-4,156.00	399.77	4,158.95	0.50	-0.10	-0.49
16,044.00	88.18	178.70	11,968.14	-4,245.96	401.68	4,248.91	1.04	-1.02	-0.19
16,133.00	86.68	178.61	11,972.13	-4,334.84	403.77	4,337.81	1.69	-1.69	-0.10
16,223.00	86.15	178.79	11,977.76	-4,424.64	405.81	4,427.63	0.62	-0.59	0.20
16,313.00	85.89	179.31	11,984.00	-4,514.41	407.29	4,517.40	0.64	-0.29	0.58
16,402.00	86.20	179.58	11,990.14	-4,603.19	408.15	4,606.19	0.46	0.35	0.30
16,492.00	86.11	179.66	11,996.18	-4,692.99	408.75	4,695.99	0.13	-0.10	0.09
16,582.00	86.59	179.93	12,001.91	-4,782.81	409.07	4,785.81	0.61	0.53	0.30
16,671.00	86.55	180.28	12,007.23	-4,871.65	408.91	4,874.64	0.40	-0.04	0.39
16,761.00	86.73	180.28	12,012.51	-4,961.49	408.47	4,964.48	0.20	0.20	0.00
16,850.00	90.02	179.66	12,015.03	-5,050.44	408.52	5,053.43	3.76	3.70	-0.70
16,940.00	90.02	178.43	12,015.00	-5,140.43	410.02	5,143.42	1.37	0.00	-1.37
17,030.00	90.11	175.45	12,014.90	-5,230.29	414.82	5,233.32	3.31	0.10	-3.31
17,119.00	89.14	172.90	12,015.48	-5,318.82	423.85	5,321.92	3.07	-1.09	-2.87
17,209.00	89.32	171.40	12,016.69	-5,407.96	436.14	5,411.15	1.68	0.20	-1.67
17,299.00	89.10	171.23	12,017.93	-5,496.92	449.73	5,500.22	0.31	-0.24	-0.19
17,419.00	90.20	170.96	12,018.66	-5,615.47	468.31	5,618.90	0.94	0.92	-0.23
17,509.00	90.77	174.83	12,017.90	-5,704.76	479.44	5,708.28	4.35	0.63	4.30
17,599.00	88.70	179.58	12,018.32	-5,794.62	483.82	5,798.17	5.76	-2.30	5.28
17,688.00	88.26	183.00	12,020.68	-5,883.56	481.82	5,887.08	3.87	-0.49	3.84
17,778.00	89.49	184.59	12,022.45	-5,973.34	475.86	5,976.81	2.23	1.37	1.77
17,868.00	86.95	184.94	12,025.24	-6,062.97	468.39	6,066.39	2.85	-2.82	0.39
17,957.00	85.89	184.67	12,030.80	-6,151.49	460.95	6,154.85	1.23	-1.19	-0.30
18,047.00	87.38	181.25	12,036.08	-6,241.20	456.32	6,244.52	4.14	1.66	-3.80
18,136.00	87.56	180.10	12,040.01	-6,330.10	455.27	6,333.41	1.31	0.20	-1.29
18,226.00	88.48	178.96	12,043.12	-6,420.04	456.01	6,423.36	1.63	1.02	-1.27
18,316.00	88.00	181.69	12,045.89	-6,509.99	455.50	6,513.30	3.08	-0.53	3.03
18,405.00	91.43	182.48	12,046.33	-6,598.92	452.26	6,602.19	3.95	3.85	0.89
18,495.00	91.52	181.86	12,044.01	-6,688.82	448.85	6,692.07	0.70	0.10	-0.69
18,585.00	92.40	181.77	12,040.93	-6,778.72	446.00	6,781.95	0.98	0.98	-0.10
18,674.00	91.43	180.98	12,037.96	-6,867.65	443.87	6,870.85	1.41	-1.09	-0.89
18,764.00	90.24	180.54	12,036.65	-6,957.63	442.68	6,960.82	1.41	-1.32	-0.49
18,853.00	89.41	179.75	12,036.92	-7,046.62	442.45	7,049.81	1.29	-0.93	-0.89
18,943.00	90.55	179.58	12,036.95	-7,136.62	442.98	7,139.81	1.28	1.27	-0.19
19,032.00	89.54	178.96	12,036.88	-7,225.61	444.11	7,228.81	1.33	-1.13	-0.70
19,121.00	89.45	177.73	12,037.67	-7,314.57	446.68	7,317.78	1.39	-0.10	-1.38
19,211.00	95.08	180.54	12,034.11	-7,404.44	448.04	7,407.67	6.99	6.26	3.12
19,301.00	96.00	181.86	12,025.42	-7,494.00	446.17	7,497.21	1.78	1.02	1.47
19,391.00	90.68	181.60	12,020.18	-7,583.78	443.46	7,586.96	5.92	-5.91	-0.29

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Merchant State Unit 604Y
Project:	Lea County, New Mexico	TVD Reference:	3678'GL+25.5'KB @ 3703.50usft (H&P 389)
Site:	Merchant State Unit 604Y	MD Reference:	3678'GL+25.5'KB @ 3703.50usft (H&P 389)
Well:	#604Y	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)
19,480.00	91.30	182.30	12,018.64	-7,672.71	440.43	7,675.87	1.05	0.70	0.79
19,570.00	86.77	179.05	12,020.16	-7,762.65	439.37	7,765.80	6.19	-5.03	-3.61
19,659.00	86.51	178.87	12,025.37	-7,851.49	440.98	7,854.64	0.36	-0.29	-0.20
19,749.00	85.93	177.82	12,031.31	-7,941.25	443.57	7,944.42	1.33	-0.64	-1.17
19,838.00	87.34	179.05	12,036.53	-8,030.06	446.00	8,033.25	2.10	1.58	1.38
19,928.00	87.96	180.02	12,040.22	-8,119.98	446.73	8,123.17	1.28	0.69	1.08
20,017.00	87.78	179.40	12,043.53	-8,208.92	447.18	8,212.11	0.72	-0.20	-0.70
20,106.00	88.48	181.77	12,046.43	-8,297.86	446.27	8,301.04	2.78	0.79	2.66
20,196.00	89.14	182.56	12,048.30	-8,387.77	442.87	8,390.93	1.14	0.73	0.88
20,286.00	88.92	182.74	12,049.83	-8,477.67	438.71	8,480.78	0.32	-0.24	0.20
20,375.00	89.36	183.36	12,051.16	-8,566.53	433.97	8,569.61	0.85	0.49	0.70
20,465.00	88.40	180.89	12,052.92	-8,656.44	430.64	8,659.49	2.94	-1.07	-2.74
20,555.00	89.45	180.81	12,054.61	-8,746.41	429.30	8,749.45	1.17	1.17	-0.09
20,644.00	86.29	180.02	12,057.92	-8,835.34	428.66	8,838.37	3.66	-3.55	-0.89
20,734.00	85.23	179.75	12,064.57	-8,925.09	428.84	8,928.12	1.22	-1.18	-0.30
20,824.00	87.43	179.84	12,070.33	-9,014.90	429.16	9,017.93	2.45	2.44	0.10
20,914.00	86.02	179.14	12,075.47	-9,104.75	429.96	9,107.78	1.75	-1.57	-0.78
21,003.00	89.27	180.46	12,079.13	-9,193.66	430.27	9,196.69	3.94	3.65	1.48
21,093.00	88.66	179.75	12,080.76	-9,283.64	430.10	9,286.67	1.04	-0.68	-0.79
21,183.00	88.31	179.93	12,083.14	-9,373.61	430.35	9,376.64	0.44	-0.39	0.20
21,272.00	87.91	179.66	12,086.07	-9,462.56	430.67	9,465.59	0.54	-0.45	-0.30
21,361.00	87.08	179.58	12,089.96	-9,551.47	431.26	9,554.50	0.94	-0.93	-0.09
21,451.00	89.14	180.10	12,092.93	-9,641.42	431.51	9,644.45	2.36	2.29	0.58
21,541.00	88.66	179.58	12,094.66	-9,731.40	431.76	9,734.43	0.79	-0.53	-0.58
21,631.00	88.53	179.31	12,096.86	-9,821.37	432.64	9,824.40	0.33	-0.14	-0.30
21,720.00	88.26	178.43	12,099.36	-9,910.32	434.39	9,913.36	1.03	-0.30	-0.99
21,810.00	88.04	177.73	12,102.26	-10,000.22	437.40	10,003.28	0.81	-0.24	-0.78
21,900.00	86.37	176.85	12,106.65	-10,090.01	441.65	10,093.10	2.10	-1.86	-0.98
21,989.00	86.55	175.80	12,112.15	-10,178.65	447.35	10,181.79	1.19	0.20	-1.18
22,073.00	86.07	174.65	12,117.55	-10,262.19	454.33	10,265.37	1.48	-0.57	-1.37
Last Aim MWD Survey									
22,134.00	86.07	174.65	12,121.73	-10,322.78	460.00	10,326.01	0.00	0.00	0.00
Projection to BHL									

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
231.00	230.99	-1.81	-0.39	First Aim MWD Survey
22,073.00	12,117.55	-10,262.19	454.33	Last Aim MWD Survey
22,134.00	12,121.73	-10,322.78	460.00	Projection to BHL

Aim Directional Services, LLC
Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Merchant State Unit 604Y
Project:	Lea County, New Mexico	TVD Reference:	3678'GL+25.5'KB @ 3703.50usft (H&P 389)
Site:	Merchant State Unit 604Y	MD Reference:	3678'GL+25.5'KB @ 3703.50usft (H&P 389)
Well:	#604Y	North Reference:	Grid
Wellbore:	Aim MWD Surveys	Survey Calculation Method:	Minimum Curvature
Design:	Aim MWD Surveys	Database:	EDM 5000.1 Aim Database



BHA Reports

Merchant State Unit 604Y (WT-20-057)

2020-07-10 to 2020-07-29

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



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

BHA #1 - 17.50" SURFACE (Directional)

Motor Details		Date/Depth/Distances		Hours	
Size (in)	8.00	Date In	2020-07-10 14:00	Downhole Hours	22.25
Lobe/Stage	7/8, 4.0	Depth In (ft)	142.00	Drilling/Circulating Hours	15.83
Bend Angle	1.50	Date Out	2020-07-11 12:15	Drilling Hours	14.50
Speed (rev/gal)	0.16	Depth Out (ft)	1803.00	Circulating Hours	1.33
Wear Pad OD (in)	8.410	Distance Slid (ft)	175.00	Sliding Hours	1.67
Incident	No	Distance Rotated (ft)	1486.00	Rotating Hours	12.83
Motor Results		% Distance Sliding	10.54%	% Hours Sliding	11.49%
Average Total ROP (ft/h)	114.55	% Distance Rotating	89.46%	% Hours Rotating	88.51%
Average Slide ROP (ft/h)	105.00	BHA Objective			
Average Rotating ROP (ft/h)	115.79	DRILL SURFACE TO CASING POINT			

Bit Details		POOH Reason/Notes	
OD (in)	17.500	Total Depth/Casing Point:	N/A
Vendor	Baker		
S/N	5308832		
Nozzles	9-12's		
Total Flow Area (in²)	0.994		

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

Bit Distances		Comments	
Bit To Bend (Bit to Bend):	6.16 ft, Survey	Directional: Flow Rate: 400-900, Max Diff: 900 psi, Max Torque: 14,930 ft-lbs, BIT Runs: 4	
(Bit to Survey):	55.00 ft		

Mud Properties		Parameters	
Type	Water Based	Flow Rate (gpm)	450.00 - 850.00
WT	9.40	On Bottom Pressure (psi)	950.00 - 2650.00
VIS	40.00	Off Bottom Pressure (psi)	600.00 - 1750.00
PV	0.00	Stall Pressure (psi)	0.00
YP	0.00	Stalls	0
		NPT	0.0

Items (Directional)									
Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: T606KS, Style: PDC, Gauge Length (in): 5.00, Size (in): 17.50	Baker	5308832	6 5/8" Reg Pin			17.500		1.50	1.50
Mud Motor Description: 8" 7/8 4.0 FXD 1.5° w/SS, Size (in): 8.00, Bend Angle (°): 1.5, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 4	AIM	800-40-007	6 5/8" Reg Box	6 5/8" Reg Pin		8.000		30.51	32.01
UBHO Sub Description: 8" UBHO, Type: Steel	AIM	800-606	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.000		2.59	34.60
Drill Collar Description: 8" NMDC, Style: Slick Drill, Type: NM	AIM	800011	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.080		30.05	64.65
Drill Collar Description: 8" NMDC, Style: Slick Drill, Type: NM	AIM	80001017	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.080		29.94	94.59
Crossover Sub Description: X/O 6 5/8 REG - PIN -- ED54 - BOX, Type: Steel	BLACK DIAMOND	BD15380	EverDrlg54 Box	6 5/8" Reg Pin	2.750	8.000		3.28	97.87
HWDP Description: 9 STANDS of HWDP, Style: Slick	RIG		EverDrlg54 Box	EverDrlg54 Pin	3.000	5.500		850.67	948.54



	Job Number	Operator		Rig Name
	WT-20-057	Advance Energy Partners		H&P #389
	Start Date	Well Name		Legal Well Name AFE
	2020-07-10	Merchant State Unit 604Y		Merchant State Unit 604Y
	Play	State/Province and Country	County	Company Man
	Delaware Basin	New Mexico, US	Lea	
BHA #1 - 17.50" SURFACE (MWD)				
Motor Details		Bit Details		Bit Distances
Size (in)	8.00	OD (in)	17.500	Bend (Bit to Bend): 6.16 ft, Survey (Bit to Survey): 55.00 ft
Lobe/Stage	7/8, 4.0	Vendor	Baker	
Bend Angle	1.50	S/N	5308832	
Speed (rev/gal)	0.16	Nozzles	9-12's	
Wear Pad OD (in)	8.410	Total Flow Area (in²)	0.994	
BHA Objective				
DRILL SURFACE TO CASING POINT				
Comments				
MWD: N/A				
Items				
No Items				



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
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	2020-07-12 10:30
Lobe/Stage	7/8, 5.9	Depth In (ft)	1803.00
Bend Angle	1.50	Date Out	2020-07-13 11:45
Speed (rev/gal)	0.16	Depth Out (ft)	4001.00
Wear Pad OD (in)	8.410	Distance Slid (ft)	275.00
Incident	Yes	Distance Rotated (ft)	1923.00
Motor Results		% Distance Sliding	12.51%
Average Total ROP (ft/h)	177.02	% Distance Rotating	87.49%
Average Slide ROP (ft/h)	70.21	% Hours Sliding	31.54%
Average Rotating ROP (ft/h)	226.24	% Hours Rotating	68.46%

Bit Details		BHA Objective	
OD (in)	12.250	DRILL 12.25" INTERMEDIATE	

Vendor	Ultrerra	POOH Reason/Notes	
S/N	52606	Pressure Spike:	GAINED 800-1000 psi OFF BOTTOM.
Nozzles	9-12's		
Total Flow Area (in²)	0.994		

MWD		Incident Notes	
Max Downhole Temp (°F)	N/A	Directional:	7 OF 9 JETS WERE PLUGGED WITH RUBBER. BIT GRADE: 1-1
		MWD:	

Bit Distances		Comments	
Bit To Bend (Bit to Bend):	6.00 ft, Survey	Directional:	Flow Rate: 400-900, Max Diff: 1390 psi, Max Torque: 21,870 ft-lbs, BIT Runs:1
(Bit to Survey):	61.00 ft		

Mud Properties		Parameters	
Type	Brine	Flow Rate (gpm)	800.00 - 800.00
WT	9.60	On Bottom Pressure (psi)	2350.00 - 3450.00
VIS	42.00	Off Bottom Pressure (psi)	2000.00 - 2650.00
PV	0.00	Stall Pressure (psi)	0.00
YP	0.00	Stalls	0
		Temp (°F)	110.00 - 115.00
		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: SPL616, Style: PDC, Gauge Length (in): 4.00, Size (in): 12.25	Ultrerra	52606	6 5/8" Reg Pin			12.250		1.00	1.00
Mud Motor Description: 8" 7/8 5.9 FXD 1.5° w/SS, Size (in): 8.00, Bend Angle (°): 1.5, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 5.9	BUTCH'S	BDT 800-010	6 5/8" Reg Box	6 5/8" Reg Box		8.000		37.57	38.57
UBHO Sub Description: 8" UBHO, Type: Steel	AIM	800-606	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.000		2.59	41.16
Drill Collar Description: 8" NMDC, Style: Slick Drill, Type: NM	AIM	800011	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.080		30.05	71.21
Drill Collar Description: 8" NMDC, Style: Slick Drill, Type: NM	AIM	80001017	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.080		29.94	101.15
Crossover Sub Description: X/O 6 5/8 REG - PIN -- ED54 - BOX, Type: Steel	BLACK DIAMOND	BD15380	EverDrlg54 Box	6 5/8" Reg Pin	2.750	8.000		3.28	104.43
HWDP Description: 9 STANDS of HWDP, Style: Slick	RIG		EverDrlg54 Box	EverDrlg54 Pin	3.000	5.500		850.67	955.10



	Job Number WT-20-057	Operator Advance Energy Partners		Rig Name H&P #389
	Start Date 2020-07-10	Well Name Merchant State Unit 604Y		Legal Well Name AFE Merchant State Unit 604Y
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man
BHA #2 - Intermediate 12.25" (MWD)				
Motor Details		Bit Details		Bit Distances
Size (in)	8.00	OD (in)	12.250	Bend (Bit to Bend): 6.00 ft, Survey (Bit to Survey): 61.00 ft
Lobe/Stage	7/8, 5.9	Vendor	Ultrerra	
Bend Angle	1.50	S/N	52606	
Speed (rev/gal)	0.16	Nozzles	9-12's	
Wear Pad OD (in)	8.410	Total Flow Area (in²)	0.994	
BHA Objective				
DRILL 12.25" INTERMEDIATE				
Comments				
MWD: N/A				
Items				
No Items				



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
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	2020-07-13 12:30
Lobe/Stage	7/8, 5.9	Depth In (ft)	4001.00
Bend Angle	1.50	Date Out	2020-07-14 11:30
Speed (rev/gal)	0.16	Depth Out (ft)	5330.00
Wear Pad OD (in)	8.330	Distance Slid (ft)	65.00
Incident	No	Distance Rotated (ft)	1264.00
Motor Results		% Distance Sliding	4.89%
Average Total ROP (ft/h)	134.02	% Distance Rotating	95.11%
Average Slide ROP (ft/h)	65.00	% Hours Sliding	10.08%
Average Rotating ROP (ft/h)	141.76	% Hours Rotating	89.92%

Bit Details		BHA Objective	
OD (in)	12.250	DRILL 12.25" INTERMEDIATE	

Vendor	Ulterra	POOH Reason/Notes	
S/N	52607	Total Depth/Casing Point:	N/A
Nozzles	9-12's		
Total Flow Area (in²)	0.994		

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

Bit Distances		Comments	
Bit To Bend (Bit to Bend):	5.98 ft, Survey	Directional: Flow Rate: 400-900, Max Diff: 1390 psi, Max Torque: 21,870 ft-lbs, BIT Runs:2	
(Bit to Survey):	61.00 ft		

Mud Properties		Parameters	
Type	Brine	Flow Rate (gpm)	750.00 - 800.00
WT	9.80	Motor RPM	188.00 - 188.00
VIS	40.00	On Bottom Pressure (psi)	2250.00 - 2600.00
PV	0.00	Off Bottom Pressure (psi)	1900.00 - 2100.00
YP	0.00	Rotating WOB (klbs)	38.00 - 38.00
		Sliding WOB (klbs)	10.00 - 10.00
		Temp (°F)	105.00 - 111.00
		Stalls	0
		NPT	0.0

Items (Directional)									
Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: <i>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" 7/8 5.9 FXD 1.5° 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>5.9</i>	BUTCH'S	BDT 800-013	6 5/8" Reg Box	6 5/8" Reg Box		8.000		37.52	38.52
UBHO Sub Description: <i>8" UBHO</i> , Type: <i>Steel</i>	AIM	800-606	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.000		2.59	41.11
Drill Collar Description: <i>8" NMDC</i> , Style: <i>Slick Drill</i> , Type: <i>NM</i>	AIM	800011	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.080		30.05	71.16
Drill Collar Description: <i>8" NMDC</i> , Style: <i>Slick Drill</i> , Type: <i>NM</i>	AIM	80001017	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.080		29.94	101.10
Crossover Sub Description: <i>X/O 6 5/8 REG - PIN -- ED54 - BOX</i> , Type: <i>Steel</i>	BLACK DIAMOND	BD15380	EverDrlg54 Box	6 5/8" Reg Pin	2.750	8.000		3.28	104.38
HWDP Description: <i>9 STANDS of HWDP</i> , Style: <i>Slick</i>	RIG		EverDrlg54 Box	EverDrlg54 Pin	3.000	5.500		850.91	955.29



	Job Number WT-20-057	Operator Advance Energy Partners		Rig Name H&P #389
	Start Date 2020-07-10	Well Name Merchant State Unit 604Y		Legal Well Name AFE Merchant State Unit 604Y
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man
BHA #3 - Intermediate 12.25" (MWD)				
Motor Details		Bit Details		Bit Distances
Size (in)	8.00	OD (in)	12.250	Bend (Bit to Bend): 5.98 ft, Survey (Bit to Survey): 61.00 ft
Lobe/Stage	7/8, 5.9	Vendor	Ultrerra	
Bend Angle	1.50	S/N	52607	
Speed (rev/gal)	0.16	Nozzles	9-12's	
Wear Pad OD (in)	8.330	Total Flow Area (in²)	0.994	
BHA Objective				
DRILL 12.25" INTERMEDIATE				
Comments				
MWD: N/A				
Items				
No Items				



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
		Company Man

BHA #4 - Intermediate 8.75" (Directional)

Motor Details		Date/Depth/Distances	Hours
Size (in)	7.00	Date In	2020-07-15 16:45
Lobe/Stage	7/8, 8.5	Depth In (ft)	5330.00
Bend Angle	1.50	Date Out	2020-07-18 05:00
Speed (rev/gal)	0.26	Depth Out (ft)	11356.00
Wear Pad OD (in)	7.250	Distance Slid (ft)	199.00
Incident	No	Distance Rotated (ft)	5827.00
Motor Results		% Distance Sliding	3.30%
Average Total ROP (ft/h)	150.34	% Distance Rotating	96.70%
Average Slide ROP (ft/h)	47.76		
Average Rotating ROP (ft/h)	162.24		

Bit Details		BHA Objective	
OD (in)	8.750		
Vendor	REED		
S/N	A266988		
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 (Bit to Bend): 5.32 ft, Gamma (Bit to Gamma): 54.00 ft, Survey (Bit to Survey): 69.00 ft		Directional: Directional: Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, BIT Runs: 2	
Mud Properties		Parameters	

Type	Brine	Flow Rate (gpm)	650.00 - 650.00	Motor RPM	115.00 - 145.00
WT	9.50	On Bottom Pressure (psi)	2100.00 - 2500.00	Surface RPM	30.00 - 30.00
VIS	35.00	Off Bottom Pressure (psi)	1800.00 - 1900.00	Rotating WOB (klbs)	32.00 - 40.00
PV	2.00	Stall Pressure (psi)	0.00	Sliding WOB (klbs)	20.00 - 20.00
YP	3.00	Stalls	0	Temp (°F)	-0.00 - 145.00
		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 3/4 (DSC616M-X24), Style: PDC, Gauge Length (in): 3.50, Size (in): 8.75	REED	A266988	4 1/2" Reg Pin			8.750		1.00	1.00
Mud Motor Description: 7" 7/8 8.5 FXD 1.5° w/ 8.5" NBS, Size (in): 7.00, Bend Angle (°): 1.5, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5	AIM	700-40-035	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.23	37.23
Stabilizer Description: 8.5" NORTRACK STAB	JA	NT85377	4 1/2" IF Box	4 1/2" IF Pin	2.250	6.500		4.69	41.92
UBHO Sub Description: SOFTSHOE DAO UBHO, Type: NM	AIM	67501NM	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.750		4.83	46.75
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR27669	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.562		29.42	76.17
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR26490	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		29.19	105.36
Crossover Sub Description: X/O ED54-Box - 4 1/2 IF-Pin, Type: Steel	BLACK DIAMOND	BD8076	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.625		3.94	109.30
HWDP Description: 9 STANDS of HWDP, Style: Slick	RIG		EverDrlg54 Box	EverDrlg54 Pin	3.000	5.500		850.41	959.71



	Job Number WT-20-057	Operator Advance Energy Partners		Rig Name H&P #389
	Start Date 2020-07-10	Well Name Merchant State Unit 604Y		Legal Well Name AFE Merchant State Unit 604Y
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man
BHA #4 - Intermediate 8.75" (MWD)				
Motor Details		Bit Details		Bit Distances
Size (in)	7.00	OD (in)	8.750	Bend (Bit to Bend): 5.32 ft, Gamma (Bit to Gamma): 54.00 ft, Survey (Bit to Survey): 69.00 ft
Lobe/Stage	7/8, 8.5	Vendor	REED	
Bend Angle	1.50	S/N	A266988	
Speed (rev/gal)	0.26	Nozzles	6X16's	
Wear Pad OD (in)	7.250	Total Flow Area (in²)	1.178	
BHA Objective				
Drill 8.75" Intermediate w/ 5° Nudge				
Comments				
MWD: N/A				
Items				
No Items				



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

BHA #5 - Curve 8.75" (Directional)

Motor Details		Date/Depth/Distances		Hours	
Size (in)	6.75	Date In	2020-07-18 05:00	Downhole Hours	41.00
Lobe/Stage	7/8, 5.0	Depth In (ft)	11356.00	Drilling/Circulating Hours	22.08
Bend Angle	2.12	Date Out	2020-07-19 22:00	Drilling Hours	18.67
Speed (rev/gal)	0.26	Depth Out (ft)	12507.00	Circulating Hours	3.42
Wear Pad OD (in)	7.000	Distance Slid (ft)	731.00	Sliding Hours	12.25
Incident	No	Distance Rotated (ft)	420.00	Rotating Hours	6.42
Motor Results		% Distance Sliding	63.51%	% Hours Sliding	65.63%
Average Total ROP (ft/h)	61.66	% Distance Rotating	36.49%	% Hours Rotating	34.37%
Average Slide ROP (ft/h)	59.67	BHA Objective			
Average Rotating ROP (ft/h)	65.45	Build and Land Curve on 10's			

Bit Details		POOH Reason/Notes	
OD (in)	8.750	Change Bottom Hole Assembly: LANDED CURVE	
Vendor	Ultrerra		
S/N	51050		
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 (Bit to Bend): 4.04 ft, Gamma (Bit to Gamma): 39.00 ft, Survey (Bit to Survey): 54.00 ft		Directional: Directional: Flow Rate: 300-600, Max Diff: 1130 psi, Max Torque: 10,460 ft-lbs, BIT Runs: 3	

Mud Properties		Parameters	
Type	Brine	Flow Rate (gpm)	525.00 - 650.00
WT	9.50	On Bottom Pressure (psi)	1900.00 - 2500.00
VIS	35.00	Off Bottom Pressure (psi)	1500.00 - 1900.00
PV	2.00	Stall Pressure (psi)	0.00
YP	3.00	Stalls	0
		NPT	0.0

Items (Directional)									
Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: 8 3/4 CF611, Style: PDC, Gauge Length (in): 3.00, Size (in): 8.75	Ultrerra	51050	4 1/2" Reg Pin			8.750		1.00	1.00
Mud Motor Description: 6 3/4" 7/8 5.0 FXD 2.12° w/ SS, Size (in): 6.75, Bend Angle (°): 2.12, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 5.0	AIM	650-022	4 1/2" IF Box	4 1/2" Reg Box		6.750		25.87	26.87
UBHO Sub Description: SOFTSHOE DAO UBHO, Type: NM	AIM	67501NM	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.750		4.83	31.70
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR27669	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.562		29.42	61.12
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR26490	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		29.19	90.31
Crossover Sub Description: X/O ED54-Box - 4 1/2 IF-Pin, Type: Steel	BLACK DIAMOND	BD8076	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.625		3.94	94.25
Drill Pipe Description: 15 STANDS of DP, Style: Slick	RIG		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		1343.99	1438.24
HWDP Description: 9 STANDS of HWDP, Style: Slick	RIG		EverDrlg54 Box	EverDrlg54 Pin	3.000	5.500		850.41	2288.65



	Job Number WT-20-057	Operator Advance Energy Partners		Rig Name H&P #389
	Start Date 2020-07-10	Well Name Merchant State Unit 604Y		Legal Well Name AFE Merchant State Unit 604Y
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man
BHA #5 - Curve 8.75" (MWD)				
Motor Details		Bit Details		Bit Distances
Size (in)	6.75	OD (in)	8.750	Bend (Bit to Bend): 4.04 ft, Gamma (Bit to Gamma): 39.00 ft, Survey (Bit to Survey): 54.00 ft
Lobe/Stage	7/8, 5.0	Vendor	Ultrerra	
Bend Angle	2.12	S/N	51050	
Speed (rev/gal)	0.26	Nozzles	6X16's	
Wear Pad OD (in)	7.000	Total Flow Area (in²)	1.178	
BHA Objective				
Build and Land Curve on 10's				
Comments				
MWD: N/A				
Items				
No Items				



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
		Company Man

BHA #6 - 8.5" LATERAL w/ RSS (Directional)

Motor Details		Date/Depth/Distances	Hours
Size (in)	7.00	Date In 2020-07-19 22:00	Downhole Hours 47.00
Lobe/Stage	7/8, 5.0	Depth In (ft) 12507.00	Drilling/Circulating Hours 26.67
Bend Angle	0.00	Date Out 2020-07-21 21:00	Drilling Hours 22.50
Speed (rev/gal)	0.26	Depth Out (ft) 14541.00	Circulating Hours 4.17
Wear Pad OD (in)	7.000	Distance Slid (ft) 0.00	Sliding Hours 0.00
Incident	No	Distance Rotated (ft) 2034.00	Rotating Hours 22.50
Motor Results		% Distance Sliding 0.00%	% Hours Sliding 0.00%
Average Total ROP (ft/h)	90.40	% Distance Rotating 100.00%	% Hours Rotating 100.00%
Average Slide ROP (ft/h)	0.00	BHA Objective	
Average Rotating ROP (ft/h)	90.40	DRILL LATERAL (8.5") w/ RSS	

Bit Details		POOH Reason/Notes	
OD (in)	8.500	Penetration Rate: NO VISIBLE DAMAGE TO BHA	
Vendor	REED		
S/N	A270527		
Nozzles	6X14's	Incident Notes	
Total Flow Area (in²)	0.901		
MWD		Comments	
Max Downhole Temp (°F)	N/A		

Mud Properties		Parameters	
Type	Oil Based	Flow Rate (gpm) 650.00 - 670.00	Motor RPM 130.00 - 175.00
WT	9.50	On Bottom Pressure (psi) 4800.00 - 4950.00	Surface RPM 100.00 - 100.00
VIS	61.00	Off Bottom Pressure (psi) 4100.00 - 4100.00	Rotating WOB (klbs) 37.00 - 46.00
PV	17.00	Stall Pressure (psi) 0.00	Sliding WOB (klbs) 0.00 - 0.00
YP	9.00	Stalls 0	Temp (°F) 180.00 - 180.00
		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 1/2 TKC66, Style: PDC, Gauge Length (in): 4.00, Size (in): 8.50	REED	A270527	4 1/2" Reg Pin			8.500		1.00	1.00
Other Description: ORBITRSS	EXTREME	94689	4 1/2" IF Box	4 1/2" Reg Box	2.750	6.750		13.40	14.40
Drill Collar Description: 15 FT. NM PONY, Style: Pony, Type: NM	DR	DR44452	4 1/2" IF Box	4 1/2" IF Pin	2.875	6.875		15.35	29.75
Float Sub Description: NM FILTER SUB, Type: NM	DR	DR46002	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		4.10	33.85
Mud Motor Description: 7" 7/8 8.5 FXD 0° w/ 8.25" STAB, Size (in): 7.00, Bend Angle (°): 0, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 5	AIM	700-40-038	4 1/2" IF Box	4 1/2" IF Pin		7.000		39.76	73.61
Stabilizer Description: 8.25 NM STAB.	DR	DR45238	4 1/2" IF Box	4 1/2" IF Pin	2.875	6.750		5.29	78.90
UBHO Sub Description: SOFTSHOE DAO UBHO, Type: NM	AIM	67501NM	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.750		4.83	83.73
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR27669	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.562		29.42	113.15
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR26490	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		29.19	142.34
Crossover Sub Description: X/O ED54-Box - 4 1/2 IF-Pin, Type: Steel	BLACK DIAMOND	BD8076	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.625		3.94	146.28
Drill Pipe Description: 118 STANDS OF DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		10576.13	10722.41
HWDP Description: 9 STANDS of HWDP, Style: Slick	RIG		EverDrlg54 Box	EverDrlg54 Pin	3.000	5.500		850.41	11572.82



	Job Number WT-20-057	Operator Advance Energy Partners		Rig Name H&P #389
	Start Date 2020-07-10	Well Name Merchant State Unit 604Y		Legal Well Name AFE Merchant State Unit 604Y
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man
BHA #6 - 8.5" LATERAL w/ RSS (MWD)				
Motor Details		Bit Details		Bit Distances
Size (in)	7.00	OD (in)	8.500	Gamma (Bit to Gamma): 91.00 ft, Survey (Bit to Survey): 100.00 ft
Lobe/Stage	7/8, 5.0	Vendor	REED	
Bend Angle	0.00	S/N	A270527	
Speed (rev/gal)	0.26	Nozzles	6X14's	
Wear Pad OD (in)	7.000	Total Flow Area (in²)	0.901	
BHA Objective				
DRILL LATERAL (8.5") w/ RSS				
Comments				
MWD: N/A				
Items				
No Items				



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
		Company Man

BHA #7 - DRILL LATERAL (8.5") w/ RSS (Directional)

Motor Details		Date/Depth/Distances	Hours
Size(in)	7.00	Date In	2020-07-21 21:00
Lobe/Stage	7/8, 5.0	Depth In (ft)	14541.00
Bend Angle	0.00	Date Out	2020-07-24 02:00
Speed (rev/gal)	0.26	Depth Out (ft)	17455.00
Wear Pad OD (in)	7.000	Distance Slid (ft)	0.00
Incident	No	Distance Rotated (ft)	2914.00
Motor Results		% Distance Sliding	0.00%
Average Total ROP (ft/h)	97.13	% Distance Rotating	100.00%
Average Slide ROP (ft/h)	0.00	BHA Objective	
Average Rotating ROP (ft/h)	97.13	DRILL LATERAL (8.5") w/ RSS	

Bit Details	
OD (in)	8.500
Vendor	Ultrerra
S/N	39837
Nozzles	7X13's
Total Flow Area (in²)	0.907

MWD	
Max Downhole Temp (°F)	N/A

Incident Notes	
Directional: RSS NOT CORRECTING INC OR AZ w/ 100% FORCE, ON SURFACE PUSH PAD DAMAGED AND STRESS CRACK NEAR MISSING PORT CAPS.	
MWD:	

Bit Distances	
Bit To Gamma (Bit to Gamma):	91.00 ft,
Survey (Bit to Survey):	100.00 ft

Mud Properties	
Type	Oil Based
WT	9.50
VIS	42.00
PV	0.00
YP	0.00

Parameters	
Flow Rate (gpm)	670.00 - 670.00
On Bottom Pressure (psi)	4550.00 - 4800.00
Off Bottom Pressure (psi)	3600.00 - 4100.00
Stall Pressure (psi)	0.00
Stalls	0
NPT	0.0

Comments	
Directional: Directional: Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, BIT Runs: 3	

Motor RPM	160.00 - 170.00
Surface RPM	40.00 - 100.00
Rotating WOB (klbs)	44.00 - 52.00
Sliding WOB (klbs)	0.00 - 0.00
Temp (°F)	175.00 - 175.00

Type	Oil Based	Flow Rate (gpm)	670.00 - 670.00	Motor RPM	160.00 - 170.00
WT	9.50	On Bottom Pressure (psi)	4550.00 - 4800.00	Surface RPM	40.00 - 100.00

Bit Description: 8 1/2 CF716, Style: PDC, Gauge Length (in): 6.00, Size (in): 8.50	Ultrerra	39837	4 1/2" Reg Pin			8.500		1.00	1.00
--	----------	-------	----------------	--	--	-------	--	------	------

Other Description: ORBITRSS	EXTREME	94689	4 1/2" IF Box	4 1/2" Reg Box	2.750	6.750		13.40	14.40
---------------------------------------	---------	-------	---------------	----------------	-------	-------	--	-------	-------

Drill Collar Description: 15 FT. NM PONY, Style: Pony, Type: NM	DR	DR44452	4 1/2" IF Box	4 1/2" IF Pin	2.875	6.875		15.35	29.75
---	----	---------	---------------	---------------	-------	-------	--	-------	-------

Float Sub Description: NM FILTER SUB, Type: NM	DR	DR46002	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		4.10	33.85
--	----	---------	---------------	---------------	-------	-------	--	------	-------

Mud Motor Description: 7" 7/8 8.5 FXD 0° w/ 8.25" STAB, Size (in): 7.00, Bend Angle (°): 0, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 5	AIM	700-40-038	4 1/2" IF Box	4 1/2" IF Pin		7.000		39.76	73.61
--	-----	------------	---------------	---------------	--	-------	--	-------	-------

Stabilizer Description: 8.25 NM STAB.	DR	DR45238	4 1/2" IF Box	4 1/2" IF Pin	2.875	6.750		5.29	78.90
---	----	---------	---------------	---------------	-------	-------	--	------	-------

UBHO Sub Description: SOFT SHOE DAO UBHO, Type: NM	AIM	67501NM	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.750		4.83	83.73
--	-----	---------	---------------	---------------	-------	-------	--	------	-------

Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR27669	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.562		29.42	113.15
--	-----	---------	---------------	---------------	-------	-------	--	-------	--------

Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR26490	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		29.19	142.34
--	-----	---------	---------------	---------------	-------	-------	--	-------	--------

Crossover Sub Description: X/O ED54-Box - 4 1/2 IF-Pin, Type: Steel	BLACK DIAMOND	BD8076	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.625		3.94	146.28
---	---------------	--------	----------------	---------------	-------	-------	--	------	--------

Drill Pipe Description: 118 STANDS OF DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		10576.13	10722.41
--	---------------	--	----------------	----------------	-------	-------	--	----------	----------

HWDP Description: 9 STANDS of HWDP, Style: Slick	RIG		EverDrlg54 Box	EverDrlg54 Pin	3.000	5.500		850.41	11572.82
--	-----	--	----------------	----------------	-------	-------	--	--------	----------



	Job Number WT-20-057	Operator Advance Energy Partners		Rig Name H&P #389
	Start Date 2020-07-10	Well Name Merchant State Unit 604Y		Legal Well Name AFE Merchant State Unit 604Y
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man
BHA #7 - DRILL LATERAL (8.5") w/ RSS (MWD)				
Motor Details		Bit Details		Bit Distances
Size (in)	7.00	OD (in)	8.500	Gamma (Bit to Gamma): 91.00 ft, Survey (Bit to Survey): 100.00 ft
Lobe/Stage	7/8, 5.0	Vendor	Ultrerra	
Bend Angle	0.00	S/N	39837	
Speed (rev/gal)	0.26	Nozzles	7X13's	
Wear Pad OD (in)	7.000	Total Flow Area (in²)	0.907	
BHA Objective				
DRILL LATERAL (8.5") w/ RSS				
Comments				
MWD: N/A				
Items				
No Items				



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
		Company Man

BHA #8 - 8.50" LATERAL w/ Agitator (Directional)

Motor Details		Date/Depth/Distances	Hours
Size (in)	7.00	Date In	2020-07-24 05:00
Lobe/Stage	7/8, 8.5	Depth In (ft)	17455.00
Bend Angle	2.00	Date Out	2020-07-26 13:30
Speed (rev/gal)	0.26	Depth Out (ft)	19709.00
Wear Pad OD (in)	7.270	Distance Slid (ft)	472.00
Incident	Yes	Distance Rotated (ft)	1782.00
Motor Results		% Distance Sliding	20.94%
Average Total ROP (ft/h)	76.19	% Distance Rotating	79.06%
Average Slide ROP (ft/h)	51.49		
Average Rotating ROP (ft/h)	87.28		

Bit Details		BHA Objective	
OD (in)	8.500		
Vendor	Ultrerra		
S/N	36349		
Nozzles	7-13's		
Total Flow Area (in²)	0.907		

MWD		Incident Notes	
Max Downhole Temp (°F)	N/A	Directional: MTR. would not drain	
		MWD:	
Bit Distances		Comments	
Bit To Bend: 5.26 ft, Survey: 61.00 ft, Gamma: 47.00 ft		Directional: Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, BIT Runs: 3	
Mud Properties		Parameters	

Type	Brine	Flow Rate (gpm)	650.00 - 670.00	Motor RPM	163.00 - 175.00
WT	9.50	On Bottom Pressure (psi)	4550.00 - 5700.00	Surface RPM	45.00 - 50.00
VIS	71.00	Off Bottom Pressure (psi)	3600.00 - 5000.00	Rotating WOB (klbs)	32.00 - 52.00
PV	18.00	Stall Pressure (psi)	0.00	Sliding WOB (klbs)	40.00 - 40.00
YP	8.00	Stalls	0	Temp (°F)	109.00 - 165.00
		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: CF716, Style: PDC, Gauge Length (in): 6.00, Size (in): 8.50	Ultrerra	36349	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 7/8 8.5 FXD 2.0° SLICK, Size (in): 7.00, Bend Angle (°): 2, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5	AIM	700-40-005	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.19	37.19
UBHO Sub Description: SOFTSHOE DAO UBHO, Type: NM	AIM	67501NM	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.750		4.83	42.02
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR27669	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.562		29.42	71.44
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR26490	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		29.19	100.63
Crossover Sub Description: X/O ED54-Box - 4 1/2 IF-Pin, Type: Steel	BLACK DIAMOND	BD8076	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.625		3.94	104.57
Drill Pipe Description: 28 STANDS DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		2509.09	2613.66
Crossover Sub Description: X-O SUB, Type: Steel	BLACK DIAMOND	BD8069	4 1/2" IF Box	EverDrlg54 Pin	3.000	6.750		4.01	2617.67
Agitator Description: AGITATOR, Size (in): 7.00	NOV	AGHF0675 0181	4 1/2" IF Box	4 1/2" IF Pin		7.000		25.03	2642.70
Crossover Sub Description: X-O SUB, Type: Steel	BLACK DIAMOND	BD15113	EverDrlg54 Box	4 1/2" IF Pin	2.938	6.770		4.47	2647.17
Drill Pipe Description: 90 STANDS DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		8067.04	10714.21
HWDP Description: 9 STANDS of HWDP, Style: Slick	RIG		EverDrlg54 Box	EverDrlg54 Pin	3.000	5.500		850.41	11564.62



	Job Number WT-20-057	Operator Advance Energy Partners		Rig Name H&P #389
	Start Date 2020-07-10	Well Name Merchant State Unit 604Y		Legal Well Name AFE Merchant State Unit 604Y
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man
BHA #8 - 8.50" LATERAL w/ Agitator (MWD)				
Motor Details		Bit Details		Bit Distances
Size (in)	7.00	OD (in)	8.500	Bend: 5.26 ft, Survey: 61.00 ft, Gamma: 47.00 ft
Lobe/Stage	7/8, 8.5	Vendor	Ultrerra	
Bend Angle	2.00	S/N	36349	
Speed (rev/gal)	0.26	Nozzles	7-13's	
Wear Pad OD (in)	7.270	Total Flow Area (in²)	0.907	
BHA Objective				
DRILL 8.5" LATERAL TO TD				
Comments				
MWD: N/A				
Items				
No Items				



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
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	2020-07-26 13:30
Lobe/Stage	7/8, 8.5	Depth In (ft)	19709.00
Bend Angle	1.75	Date Out	2020-07-29 04:00
Speed (rev/gal)	0.26	Depth Out (ft)	22134.00
Wear Pad OD (in)	7.270	Distance Slid (ft)	233.00
Incident	No	Distance Rotated (ft)	2192.00
Motor Results		% Distance Sliding	9.61%
Average Total ROP (ft/h)	114.12	% Distance Rotating	90.39%
Average Slide ROP (ft/h)	43.69		
Average Rotating ROP (ft/h)	137.72		

Bit Details		BHA Objective	
OD (in)	8.500		
Vendor	BAKER		
S/N	5305827		
Nozzles	6-22's		
Total Flow Area (in²)	2.227		

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

Bit Distances		Comments	
Bit To Bend: 5.26 ft, Survey: 61.00 ft, Gamma: 47.00 ft			

Mud Properties		Parameters	
Type	Oil Based	Flow Rate (gpm)	650.00 - 650.00
WT	10.00	On Bottom Pressure (psi)	4600.00 - 5700.00
VIS	45.00	Off Bottom Pressure (psi)	4200.00 - 5000.00
PV	0.00	Stall Pressure (psi)	0.00
YP	0.00	Stalls	0
		NPT	0.0

Motor RPM	239.00 - 245.00
Surface RPM	50.00 - 50.00
Rotating WOB (klbs)	32.00 - 32.00
Sliding WOB (klbs)	40.00 - 40.00
Temp (°F)	91.00 - 94.00

Directional: N/A	
MWD:	

Directional: Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, BIT Runs: 1	
--	--

Parameters	
Flow Rate (gpm)	650.00 - 650.00
On Bottom Pressure (psi)	4600.00 - 5700.00
Off Bottom Pressure (psi)	4200.00 - 5000.00
Stall Pressure (psi)	0.00
Stalls	0
NPT	0.0

Motor RPM	239.00 - 245.00
Surface RPM	50.00 - 50.00
Rotating WOB (klbs)	32.00 - 32.00
Sliding WOB (klbs)	40.00 - 40.00
Temp (°F)	91.00 - 94.00

Directional: N/A	
MWD:	

Directional: Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, BIT Runs: 1	
--	--

Parameters	
Flow Rate (gpm)	650.00 - 650.00
On Bottom Pressure (psi)	4600.00 - 5700.00
Off Bottom Pressure (psi)	4200.00 - 5000.00
Stall Pressure (psi)	0.00
Stalls	0
NPT	0.0

Motor RPM	239.00 - 245.00
Surface RPM	50.00 - 50.00
Rotating WOB (klbs)	32.00 - 32.00
Sliding WOB (klbs)	40.00 - 40.00
Temp (°F)	91.00 - 94.00

Directional: N/A	
MWD:	

Directional: Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, BIT Runs: 1	
--	--

Parameters	
Flow Rate (gpm)	650.00 - 650.00
On Bottom Pressure (psi)	4600.00 - 5700.00
Off Bottom Pressure (psi)	4200.00 - 5000.00
Stall Pressure (psi)	0.00
Stalls	0
NPT	0.0

Motor RPM	239.00 - 245.00
Surface RPM	50.00 - 50.00
Rotating WOB (klbs)	32.00 - 32.00
Sliding WOB (klbs)	40.00 - 40.00
Temp (°F)	91.00 - 94.00

Directional: N/A	
MWD:	

Directional: Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, BIT Runs: 1	
--	--

Parameters	
Flow Rate (gpm)	650.00 - 650.00
On Bottom Pressure (psi)	4600.00 - 5700.00
Off Bottom Pressure (psi)	4200.00 - 5000.00
Stall Pressure (psi)	0.00
Stalls	0
NPT	0.0

Motor RPM	239.00 - 245.00
Surface RPM	50.00 - 50.00
Rotating WOB (klbs)	32.00 - 32.00
Sliding WOB (klbs)	40.00 - 40.00
Temp (°F)	91.00 - 94.00

Directional: N/A	
MWD:	

Directional: Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, BIT Runs: 1	
--	--

Parameters	
Flow Rate (gpm)	650.00 - 650.00
On Bottom Pressure (psi)	4600.00 - 5700.00
Off Bottom Pressure (psi)	4200.00 - 5000.00
Stall Pressure (psi)	0.00
Stalls	0
NPT	0.0

Motor RPM	239.00 - 245.00
Surface RPM	50.00 - 50.00
Rotating WOB (klbs)	32.00 - 32.00
Sliding WOB (klbs)	40.00 - 40.00
Temp (°F)	91.00 - 94.00

Directional: N/A	
MWD:	

Directional: Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, BIT Runs: 1	
--	--

Parameters	
Flow Rate (gpm)	650.00 - 650.00
On Bottom Pressure (psi)	4600.00 - 5700.00
Off Bottom Pressure (psi)	4200.00 - 5000.00
Stall Pressure (psi)	0.00
Stalls	0
NPT	0.0

Motor RPM	239.00 - 245.00
Surface RPM	50.00 - 50.00
Rotating WOB (klbs)	32.00 - 32.00
Sliding WOB (klbs)	40.00 - 40.00
Temp (°F)	91.00 - 94.00

Directional: N/A	
MWD:	

Directional: Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, BIT Runs: 1	
--	--





Mud Motor Reports

Merchant State Unit 604Y (WT-20-057)

2020-07-10 to 2020-07-29

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



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Mud Motor Report - BHA 1 (17.50" SURFACE)

Motor Details		Date/Depth/Distances		Hours	
S/N	800-40-007	Date In	2020-07-10 14:00	Downhole Hours	22.25
Size (in)	8.0	Depth In (ft)	142.00	Drilling/Circulating Hours	15.83
Lobe/Stage	7/8, 4.00	Date Out	2020-07-11 12:15		
Bend Angle	1.5	Depth Out (ft)	1803.00	Circulating Hours	1.33
Speed (rev/gal)	0.16	Total Drilled (ft)	1661.00	Drilling Hours	14.50
Wear Pad OD (in)	8.410	Distance Slid (ft)	175.00	Sliding Hours	1.67
Manufacturer	AIM	Distance Rotated (ft)	1486.00	Rotating Hours	12.83
Motor Results		% Distance Sliding	10.54%	% Hours Rotating	88.51%
Motor Incident	No	% Distance Rotating	89.46%	% Hours Sliding	11.49%
Average Total ROP (ft/h)	114.55	BHA Parameters			
Average Slide ROP (ft/h)	105.00	Flow Rate (gpm)	450.00 - 850.00	Motor RPM	137.00 - 225.00
Average Rotating ROP (ft/h)	115.79	Stalls	0	Surface RPM	60.00 - 80.00
Bit Details		Stall Pressure (psi)	0.00	Rotating WOB (klbs)	15.00 - 40.00
OD (in)	17.500	On Bottom Pressure (psi)	950.00 - 2650.00	Sliding WOB (klbs)	12.00 - 15.00
Vendor	Baker	Off Bottom Pressure (psi)	600.00 - 1750.00	Temp (°F)	90.00 - 95.00
S/N	5308832	NPT	0.0		
Nozzles	9-12's	BHA Objective			
Total Flow Area (in²)	0.994	DRILL SURFACE TO CASING POINT			
Bit Type	PDC				
Bit Distances					
Bend (Bit to Bend): 6.16 ft, Survey (Bit to Survey): 55.00 ft					
Mud Properties					
Type	Water Based				
WT	9.40				
VIS	40.00				
PV	0.00				
YP	0.00				
POOH Reason/Notes					
Total Depth/Casing Point: N/A					
Incident Notes					
Directional: N/A					
MWD:					
Comments					
Directional: Flow Rate: 400-900, Max Diff: 900 psi, Max Torque: 14,930 ft-lbs, BIT Runs: 4					
MWD:					



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
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	BDT 800-010	Date In	2020-07-12 10:30	Downhole Hours	25.25
Size (in)	8.0	Depth In (ft)	1803.00	Drilling/Circulating Hours	14.58
Lobe/Stage	7/8, 5.90	Date Out	2020-07-13 11:45		
Bend Angle	1.5	Depth Out (ft)	4001.00	Circulating Hours	2.17
Speed (rev/gal)	0.16	Total Drilled (ft)	2198.00	Drilling Hours	12.42
Wear Pad OD (in)	8.410	Distance Slid (ft)	275.00	Sliding Hours	3.92
Manufacturer	BUTCH'S	Distance Rotated (ft)	1923.00	Rotating Hours	8.50
Motor Results		% Distance Sliding	12.51%	% Hours Rotating	68.46%
Motor Incident	Yes	% Distance Rotating	87.49%	% Hours Sliding	31.54%
Average Total ROP (ft/h)	177.02	BHA Parameters			
Average Slide ROP (ft/h)	70.21	Flow Rate (gpm)	800.00 - 800.00	Motor RPM	154.00 - 188.00
Average Rotating ROP (ft/h)	226.24	Stalls	0	Surface RPM	50.00 - 60.00
Bit Details		Stall Pressure (psi)	0.00	Rotating WOB (klbs)	35.00 - 38.00
OD (in)	12.250	On Bottom Pressure (psi)	2350.00 - 3450.00	Sliding WOB (klbs)	20.00 - 25.00
Vendor	Ultrerra	Off Bottom Pressure (psi)	2000.00 - 2650.00	Temp (°F)	110.00 - 115.00
S/N	52606	NPT	0.0		
Nozzles	9-12's	BHA Objective			
Total Flow Area (in²)	0.994	DRILL 12.25" INTERMEDIATE			
Bit Type	PDC				
Bit Distances					
Bend (Bit to Bend): 6.00 ft, Survey (Bit to Survey): 61.00 ft					
Mud Properties					
Type	Brine				
WT	9.60				
VIS	42.00				
PV	0.00				
YP	0.00				
POOH Reason/Notes					
Pressure Spike: GAINED 800-1000 psi OFF BOTTOM.					
Incident Notes					
Directional: 7 OF 9 JETS WERE PLUGGED WITH RUBBER. BIT GRADE: 1-1					
MWD:					
Comments					
Directional: Flow Rate: 400-900, Max Diff: 1390 psi, Max Torque: 21,870 ft-lbs, BIT Runs:1					
MWD:					



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
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	BDT 800-013	Date In	2020-07-13 12:30	Downhole Hours	23.00
Size (in)	8.0	Depth In (ft)	4001.00	Drilling/Circulating Hours	15.08
Lobe/Stage	7/8, 5.90	Date Out	2020-07-14 11:30		
Bend Angle	1.5	Depth Out (ft)	5330.00	Circulating Hours	5.17
Speed (rev/gal)	0.16	Total Drilled (ft)	1329.00	Drilling Hours	9.92
Wear Pad OD (in)	8.330	Distance Slid (ft)	65.00	Sliding Hours	1.00
Manufacturer	BUTCH'S	Distance Rotated (ft)	1264.00	Rotating Hours	8.92
Motor Results		% Distance Sliding	4.89%	% Hours Rotating	89.92%
Motor Incident	No	% Distance Rotating	95.11%	% Hours Sliding	10.08%
Average Total ROP (ft/h)	134.02	BHA Parameters			
Average Slide ROP (ft/h)	65.00	Flow Rate (gpm)	750.00 - 800.00	Motor RPM	188.00 - 188.00
Average Rotating ROP (ft/h)	141.76	Stalls	0	Surface RPM	60.00 - 60.00
Bit Details		Stall Pressure (psi)	0.00	Rotating WOB (klbs)	38.00 - 38.00
OD (in)	12.250	On Bottom Pressure (psi)	2250.00 - 2600.00	Sliding WOB (klbs)	10.00 - 10.00
Vendor	Ultrerra	Off Bottom Pressure (psi)	1900.00 - 2100.00	Temp (°F)	105.00 - 111.00
S/N	52607	NPT	0.0		
Nozzles	9-12's	BHA Objective			
Total Flow Area (in²)	0.994	DRILL 12.25" INTERMEDIATE			
Bit Type	PDC				
Bit Distances					
Bend (Bit to Bend): 5.98 ft, Survey (Bit to Survey): 61.00 ft					
Mud Properties					
Type	Brine				
WT	9.80				
VIS	40.00				
PV	0.00				
YP	0.00				
POOH Reason/Notes					
Total Depth/Casing Point: N/A					
Incident Notes					
Directional: N/A					
MWD:					
Comments					
Directional: Flow Rate: 400-900, Max Diff: 1390 psi, Max Torque: 21,870 ft-lbs, BIT Runs:2					
MWD:					



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
		Company Man

Mud Motor Report - BHA 4 (Intermediate 8.75")

Motor Details		Date/Depth/Distances		Hours	
S/N	700-40-035	Date In	2020-07-15 16:45	Downhole Hours	60.25
Size (in)	7.0	Depth In (ft)	5330.00	Drilling/Circulating Hours	46.08
Lobe/Stage	7/8, 8.50	Date Out	2020-07-18 05:00		
Bend Angle	1.5	Depth Out (ft)	11356.00	Circulating Hours	6.00
Speed (rev/gal)	0.26	Total Drilled (ft)	6026.00	Drilling Hours	40.08
Wear Pad OD (in)	7.250	Distance Slid (ft)	199.00	Sliding Hours	4.17
Manufacturer	AIM	Distance Rotated (ft)	5827.00	Rotating Hours	35.92
Motor Results		% Distance Sliding	3.30%	% Hours Rotating	89.60%
Motor Incident	No	% Distance Rotating	96.70%	% Hours Sliding	10.40%
Average Total ROP (ft/h)	150.34	BHA Parameters			
Average Slide ROP (ft/h)	47.76	Flow Rate (gpm)	650.00 - 650.00	Motor RPM	115.00 - 145.00
Average Rotating ROP (ft/h)	162.24	Stalls	0	Surface RPM	30.00 - 30.00
Bit Details		Stall Pressure (psi)	0.00	Rotating WOB (klbs)	32.00 - 40.00
OD (in)	8.750	On Bottom Pressure (psi)	2100.00 - 2500.00	Sliding WOB (klbs)	20.00 - 20.00
Vendor	REED	Off Bottom Pressure (psi)	1800.00 - 1900.00	Temp (°F)	-0.00 - 145.00
S/N	A266988	NPT	0.0		
Nozzles	6X16's	BHA Objective			
Total Flow Area (in²)	1.178	Drill 8.75" Intermediate w/ 5° Nudge			
Bit Type	PDC				
Bit Distances					
Bend (Bit to Bend): 5.32 ft, Gamma (Bit to Gamma): 54.00 ft, Survey (Bit to Survey): 69.00 ft					
Mud Properties					
Type	Brine				
WT	9.50				
VIS	35.00				
PV	2.00				
YP	3.00				
POOH Reason/Notes					
Change Bottom Hole Assembly: KOP					
Incident Notes					
Directional: N/A					
MWD:					
Comments					
Directional: Directional: Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, BIT Runs: 2					
MWD:					



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Mud Motor Report - BHA 5 (Curve 8.75")

Motor Details		Date/Depth/Distances		Hours	
S/N	650-022	Date In	2020-07-18 05:00	Downhole Hours	41.00
Size (in)	6.75	Depth In (ft)	11356.00	Drilling/Circulating Hours	22.08
Lobe/Stage	7/8, 5.00	Date Out	2020-07-19 22:00		
Bend Angle	2.12	Depth Out (ft)	12507.00	Circulating Hours	3.42
Speed (rev/gal)	0.26	Total Drilled (ft)	1151.00	Drilling Hours	18.67
Wear Pad OD (in)	7.000	Distance Slid (ft)	731.00	Sliding Hours	12.25
Manufacturer	AIM	Distance Rotated (ft)	420.00	Rotating Hours	6.42
Motor Results		% Distance Sliding	63.51%	% Hours Rotating	34.37%
Motor Incident	No	% Distance Rotating	36.49%	% Hours Sliding	65.62%
Average Total ROP (ft/h)	61.66	BHA Parameters			
Average Slide ROP (ft/h)	59.67	Flow Rate (gpm)	525.00 - 650.00	Motor RPM	119.00 - 138.00
Average Rotating ROP (ft/h)	65.45	Stalls	0	Surface RPM	30.00 - 30.00
Bit Details		Stall Pressure (psi)	0.00	Rotating WOB (klbs)	40.00 - 40.00
OD (in)	8.750	On Bottom Pressure (psi)	1900.00 - 2500.00	Sliding WOB (klbs)	25.00 - 45.00
Vendor	Ultrerra	Off Bottom Pressure (psi)	1500.00 - 1900.00	Temp (°F)	125.00 - 175.00
S/N	51050	NPT	0.0		
Nozzles	6X16's	BHA Objective			
Total Flow Area (in²)	1.178	Build and Land Curve on 10's			
Bit Type	PDC				
Bit Distances					
Bend (Bit to Bend): 4.04 ft, Gamma (Bit to Gamma): 39.00 ft, Survey (Bit to Survey): 54.00 ft					
Mud Properties					
Type	Brine				
WT	9.50				
VIS	35.00				
PV	2.00				
YP	3.00				
POOH Reason/Notes					
Change Bottom Hole Assembly: LANDED CURVE					
Incident Notes					
Directional: N/A					
MWD:					
Comments					
Directional: Directional: Flow Rate: 300-600, Max Diff: 1130 psi, Max Torque: 10,460 ft-lbs, BIT Runs: 3					
MWD:					



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Mud Motor Report - BHA 6 (8.5" LATERAL w/ RSS)

Motor Details		Date/Depth/Distances		Hours	
S/N	700-40-038	Date In	2020-07-19 22:00	Downhole Hours	47.00
Size (in)	7.0	Depth In (ft)	12507.00	Drilling/Circulating Hours	26.67
Lobe/Stage	7/8, 5.00	Date Out	2020-07-21 21:00		
Bend Angle	0.0	Depth Out (ft)	14541.00	Circulating Hours	4.17
Speed (rev/gal)	0.26	Total Drilled (ft)	2034.00	Drilling Hours	22.50
Wear Pad OD (in)	7.000	Distance Slid (ft)	0.00	Sliding Hours	0.00
Manufacturer	AIM	Distance Rotated (ft)	2034.00	Rotating Hours	22.50
Motor Results		% Distance Sliding	0.00%	% Hours Rotating	100.00%
Motor Incident	No	% Distance Rotating	100.00%	% Hours Sliding	0.00%
Average Total ROP (ft/h)	90.40	BHA Parameters			
Average Slide ROP (ft/h)	0.00	Flow Rate (gpm)	650.00 - 670.00	Motor RPM	130.00 - 175.00
Average Rotating ROP (ft/h)	90.40	Stalls	0	Surface RPM	100.00 - 100.00
Bit Details		Stall Pressure (psi)	0.00	Rotating WOB (klbs)	37.00 - 46.00
OD (in)	8.500	On Bottom Pressure (psi)	4800.00 - 4950.00	Sliding WOB (klbs)	0.00 - 0.00
Vendor	REED	Off Bottom Pressure (psi)	4100.00 - 4100.00	Temp (°F)	180.00 - 180.00
S/N	A270527	NPT	0.0		
Nozzles	6X14's	BHA Objective			
Total Flow Area (in²)	0.901	DRILL LATERAL (8.5") w/ RSS			
Bit Type	PDC				
Bit Distances					
Gamma (Bit to Gamma): 91.00 ft, Survey					
(Bit to Survey): 100.00 ft					
Mud Properties					
Type	Oil Based				
WT	9.50				
VIS	61.00				
PV	17.00				
YP	9.00				
POOH Reason/Notes					
Penetration Rate: NO VISIBLE DAMAGE TO BHA					
Incident Notes					
Directional:					
MWD:					
Comments					
Directional: Directional: Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, BIT Runs: 2					
MWD:					

	Job Number WT-20-057	Operator Advance Energy Partners		Rig Name H&P #389
	Start Date 2020-07-10	Well Name Merchant State Unit 604Y		Legal Well Name AFE Merchant State Unit 604Y
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Mud Motor Report - BHA 7 (DRILL LATERAL (8.5") w/ RSS)

Motor Details		Date/Depth/Distances		Hours	
S/N	700-40-038	Date In	2020-07-21 21:00	Downhole Hours	53.00
Size (in)	7.0	Depth In (ft)	14541.00	Drilling/Circulating Hours	32.25
Lobe/Stage	7/8, 5.00	Date Out	2020-07-24 02:00		
Bend Angle	0.0	Depth Out (ft)	17455.00	Circulating Hours	2.25
Speed (rev/gal)	0.26	Total Drilled (ft)	2914.00	Drilling Hours	30.00
Wear Pad OD (in)	7.000	Distance Slid (ft)	0.00	Sliding Hours	0.00
Manufacturer	AIM	Distance Rotated (ft)	2914.00	Rotating Hours	30.00
Motor Results		% Distance Sliding	0.00%	% Hours Rotating	100.00%
Motor Incident	No	% Distance Rotating	100.00%	% Hours Sliding	0.00%
Average Total ROP (ft/h)	97.13	BHA Parameters			
Average Slide ROP (ft/h)	0.00	Flow Rate (gpm)	670.00 - 670.00	Motor RPM	160.00 - 170.00
Average Rotating ROP (ft/h)	97.13	Stalls	0	Surface RPM	40.00 - 100.00
Bit Details		Stall Pressure (psi)	0.00	Rotating WOB (klbs)	44.00 - 52.00
OD (in)	8.500	On Bottom Pressure (psi)	4550.00 - 4800.00	Sliding WOB (klbs)	0.00 - 0.00
Vendor	Ultrerra	Off Bottom Pressure (psi)	3600.00 - 4100.00	Temp (°F)	175.00 - 175.00
S/N	39837	NPT	0.0		
Nozzles	7X13's	BHA Objective			
Total Flow Area (in²)	0.907	DRILL LATERAL (8.5") w/ RSS			
Bit Type	PDC				
Bit Distances					
Gamma (Bit to Gamma): 91.00 ft, Survey (Bit to Survey): 100.00 ft					
Mud Properties					
Type	Oil Based				
WT	9.50				
VIS	42.00				
PV	0.00				
YP	0.00				
POOH Reason/Notes					
Downhole Tool Incident: N/A					
Incident Notes					
Directional: RSS NOT CORRECTING INC OR AZ w/ 100% FORCE, ON SURFACE PUSH PAD DAMAGED AND STRESS CRACK NEAR MISSING PORT CAPS.					
MWD:					
Comments					
Directional: Directional: Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, BIT Runs: 3					
MWD:					

	Job Number WT-20-057	Operator Advance Energy Partners		Rig Name H&P #389
	Start Date 2020-07-10	Well Name Merchant State Unit 604Y		Legal Well Name AFE Merchant State Unit 604Y
	Play Delaware Basin	State/Province and Country New Mexico, US	County Lea	Company Man

Mud Motor Report - BHA 8 (8.50" LATERAL w/ Agitator)

Motor Details		Date/Depth/Distances		Hours	
S/N	700-40-005	Date In	2020-07-24 05:00	Downhole Hours	56.50
Size (in)	7.0	Depth In (ft)	17455.00	Drilling/Circulating Hours	31.75
Lobe/Stage	7/8, 8.50	Date Out	2020-07-26 13:30		
Bend Angle	2.0	Depth Out (ft)	19709.00	Circulating Hours	2.17
Speed (rev/gal)	0.26	Total Drilled (ft)	2254.00	Drilling Hours	29.58
Wear Pad OD (in)	7.270	Distance Slid (ft)	472.00	Sliding Hours	9.17
Manufacturer	AIM	Distance Rotated (ft)	1782.00	Rotating Hours	20.42
Motor Results		% Distance Sliding	20.94%	% Hours Rotating	69.01%
Motor Incident	Yes	% Distance Rotating	79.06%	% Hours Sliding	30.99%
Average Total ROP (ft/h)	76.19	BHA Parameters			
Average Slide ROP (ft/h)	51.49	Flow Rate (gpm)	650.00 - 670.00	Motor RPM	163.00 - 175.00
Average Rotating ROP (ft/h)	87.28	Stalls	0	Surface RPM	45.00 - 50.00
Bit Details		Stall Pressure (psi)	0.00	Rotating WOB (klbs)	32.00 - 52.00
OD (in)	8.500	On Bottom Pressure (psi)	4550.00 - 5700.00	Sliding WOB (klbs)	40.00 - 40.00
Vendor	Ultrerra	Off Bottom Pressure (psi)	3600.00 - 5000.00	Temp (°F)	109.00 - 165.00
S/N	36349	NPT	0.0		
Nozzles	7-13's	BHA Objective			
Total Flow Area (in²)	0.907	DRILL 8.5" LATERAL TO TD			
Bit Type	PDC				
Bit Distances					
Bend: 5.26 ft, Survey: 61.00 ft, Gamma: 47.00 ft					
Mud Properties					
Type	Brine				
WT	9.50				
VIS	71.00				
PV	18.00				
YP	8.00				
POOH Reason/Notes					
Penetration Rate: While ROT. ROP dropped to 0					
Incident Notes					
Directional: MTR. would not drain					
MWD:					
Comments					
Directional: Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, BIT Runs: 3					
MWD:					



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
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	700-40-031	Date In	2020-07-26 13:30	Downhole Hours	62.50
Size (in)	7.0	Depth In (ft)	19709.00	Drilling/Circulating Hours	31.50
Lobe/Stage	7/8, 8.50	Date Out	2020-07-29 04:00		
Bend Angle	1.75	Depth Out (ft)	22134.00	Circulating Hours	10.25
Speed (rev/gal)	0.26	Total Drilled (ft)	2425.00	Drilling Hours	21.25
Wear Pad OD (in)	7.270	Distance Slid (ft)	233.00	Sliding Hours	5.33
Manufacturer	AIM	Distance Rotated (ft)	2192.00	Rotating Hours	15.92
Motor Results		% Distance Sliding	9.61%	% Hours Rotating	74.90%
Motor Incident	No	% Distance Rotating	90.39%	% Hours Sliding	25.10%
Average Total ROP (ft/h)	114.12	BHA Parameters			
Average Slide ROP (ft/h)	43.69	Flow Rate (gpm)	650.00 - 650.00	Motor RPM	239.00 - 245.00
Average Rotating ROP (ft/h)	137.72	Stalls	0	Surface RPM	50.00 - 50.00
Bit Details		Stall Pressure (psi)	0.00	Rotating WOB (klbs)	32.00 - 32.00
OD (in)	8.500	On Bottom Pressure (psi)	4600.00 - 5700.00	Sliding WOB (klbs)	40.00 - 40.00
Vendor	BAKER	Off Bottom Pressure (psi)	4200.00 - 5000.00	Temp (°F)	91.00 - 94.00
S/N	5305827	NPT	0.0		
Nozzles	6-22's	BHA Objective			
Total Flow Area (in²)	2.227	DRILL LATERAL			
Bit Type	PDC				
Bit Distances					
Bend: 5.26 ft, Survey: 61.00 ft, Gamma: 47.00 ft					
Mud Properties					
Type	Oil Based				
WT	10.00				
VIS	45.00				
PV	0.00				
YP	0.00				
POOH Reason/Notes					
Total Depth/Casing Point: N/A					
Incident Notes					
Directional: N/A					
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 604Y (WT-20-057)

2020-07-10 to 2020-07-29

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



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Slide/Rotate Report - BHA #1 (17.50" 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	07-10	14:15	15:20	07-10	1.08	142.00	286.00	144.00	132.92	N/A	450.00	60.0	15.00	950.00	600.00	
Slide	07-10	15:35	15:45	07-10	0.17	286.00	311.00	25.00	150.00	50.0	550.00	N/A	12.00	1250.00	800.00	
Rotate	07-10	15:45	16:15	07-10	0.5	311.00	380.00	69.00	138.00	N/A	550.00	70.0	15.00	1250.00	800.00	
Slide	07-10	16:35	16:50	07-10	0.25	380.00	410.00	30.00	120.00	35.0	650.00	N/A	12.00	1700.00	1150.00	
Rotate	07-10	16:50	17:05	07-10	0.25	410.00	475.00	65.00	260.00	N/A	650.00	70.0	25.00	1600.00	1150.00	
Slide	07-10	17:15	17:25	07-10	0.17	475.00	510.00	35.00	210.00	20.0	750.00	N/A	15.00	2050.00	1400.00	
Rotate	07-10	17:25	17:35	07-10	0.17	510.00	569.00	59.00	354.00	N/A	750.00	70.0	25.00	2100.00	1500.00	
Rotate	07-10	18:30	18:55	07-10	0.42	569.00	664.00	95.00	228.00	N/A	850.00	70.0	25.00	2500.00	1750.00	
Slide	07-10	19:00	19:10	07-10	0.17	664.00	694.00	30.00	180.00	325.0	850.00	N/A	15.00	2150.00	1750.00	
Rotate	07-10	19:35	19:50	07-10	0.25	694.00	759.00	65.00	260.00	N/A	850.00	70.0	25.00	2500.00	1750.00	
Rotate	07-10	19:55	20:15	07-10	0.33	759.00	853.00	94.00	282.00	N/A	850.00	70.0	25.00	2500.00	1750.00	
Rotate	07-10	20:20	20:50	07-10	0.5	853.00	948.00	95.00	190.00	N/A	850.00	70.0	25.00	2500.00	1750.00	
Slide	07-10	20:55	21:20	07-10	0.42	948.00	973.00	25.00	60.00	0.0	850.00	N/A	15.00	2150.00	1750.00	
Rotate	07-10	21:20	21:40	07-10	0.33	973.00	1038.00	65.00	195.00	N/A	850.00	70.0	25.00	2500.00	1750.00	
Rotate	07-10	21:45	22:10	07-10	0.42	1038.00	1127.00	89.00	213.60	N/A	850.00	70.0	25.00	2500.00	1750.00	
Rotate	07-10	22:15	22:45	07-10	0.5	1127.00	1217.00	90.00	180.00	N/A	850.00	70.0	25.00	2500.00	1750.00	
Rotate	07-10	22:50	22:55	07-10	0.08	1217.00	1220.00	3.00	36.00	N/A	850.00	70.0	25.00	2500.00	1750.00	
Slide	07-10	22:55	23:25	07-10	0.5	1220.00	1250.00	30.00	60.00	0.0	850.00	N/A	15.00	2150.00	1750.00	
Rotate	07-10	23:25	23:55	07-10	0.5	1250.00	1306.00	56.00	112.00	N/A	850.00	70.0	25.00	2500.00	1750.00	
Rotate	07-11	00:00	00:45	07-11	0.75	1306.00	1396.00	90.00	120.00	N/A	850.00	80.0	30.00	2650.00	1750.00	
Rotate	07-11	00:50	01:45	07-11	0.92	1396.00	1485.00	89.00	97.09	N/A	850.00	80.0	30.00	2650.00	1750.00	
Rotate	07-11	01:50	02:45	07-11	0.92	1485.00	1575.00	90.00	98.18	N/A	850.00	80.0	40.00	2650.00	1750.00	
Rotate	07-11	02:50	03:50	07-11	1.0	1575.00	1665.00	90.00	90.00	N/A	850.00	80.0	40.00	2650.00	1750.00	
Rotate	07-11	03:55	04:55	07-11	1.0	1665.00	1754.00	89.00	89.00	N/A	850.00	80.0	40.00	2650.00	1750.00	
Rotate	07-11	05:00	07:55	07-11	2.92	1754.00	1803.00	49.00	16.80	N/A	850.00	80.0	40.00	2650.00	1750.00	



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
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	07-12	17:45	18:40	07-12	0.92	1803.00	1940.00	137.00	149.45	N/A	800.00	50.0	35.00	2650.00	2000.00	
Rotate	07-12	18:45	19:00	07-12	0.25	1940.00	2030.00	90.00	360.00	N/A	800.00	50.0	35.00	2650.00	2000.00	
Rotate	07-12	19:05	19:10	07-12	0.08	2030.00	2040.00	10.00	120.00	N/A	800.00	50.0	35.00	2650.00	2000.00	
Slide	07-12	19:10	19:30	07-12	0.33	2040.00	2060.00	20.00	60.00	320.0	800.00	N/A	20.00	2350.00	2050.00	
Rotate	07-12	19:30	19:45	07-12	0.25	2060.00	2119.00	59.00	236.00	N/A	800.00	50.0	35.00	2650.00	2000.00	
Rotate	07-12	19:50	20:05	07-12	0.25	2119.00	2209.00	90.00	360.00	N/A	800.00	50.0	35.00	2650.00	2050.00	
Slide	07-12	20:10	20:25	07-12	0.25	2209.00	2229.00	20.00	80.00	330.0	800.00	N/A	20.00	2350.00	2050.00	
Rotate	07-12	20:25	20:40	07-12	0.25	2229.00	2299.00	70.00	280.00	N/A	800.00	50.0	35.00	2650.00	2050.00	
Rotate	07-12	20:45	20:55	07-12	0.17	2299.00	2388.00	89.00	534.00	N/A	800.00	50.0	35.00	2650.00	2050.00	
Slide	07-12	21:00	21:30	07-12	0.5	2388.00	2413.00	25.00	50.00	235.0	800.00	N/A	20.00	2350.00	2050.00	
Rotate	07-12	21:30	21:40	07-12	0.17	2413.00	2478.00	65.00	390.00	N/A	800.00	50.0	35.00	2650.00	2050.00	
Rotate	07-12	21:45	22:00	07-12	0.25	2478.00	2567.00	89.00	356.00	N/A	800.00	50.0	35.00	2650.00	2050.00	
Slide	07-12	22:05	22:15	07-12	0.17	2567.00	2587.00	20.00	120.00	260.0	800.00	N/A	20.00	2350.00	2050.00	
Rotate	07-12	22:15	22:30	07-12	0.25	2587.00	2657.00	70.00	280.00	N/A	800.00	60.0	35.00	2650.00	2050.00	
Rotate	07-12	22:35	22:50	07-12	0.25	2657.00	2746.00	89.00	356.00	N/A	800.00	60.0	35.00	2650.00	2050.00	
Rotate	07-12	22:55	23:00	07-12	0.08	2746.00	2752.00	6.00	72.00	N/A	800.00	60.0	35.00	2650.00	2050.00	
Slide	07-12	23:00	23:20	07-12	0.33	2752.00	2787.00	35.00	105.00	240.0	800.00	N/A	20.00	2350.00	2050.00	
Rotate	07-12	23:20	23:30	07-12	0.17	2787.00	2836.00	49.00	294.00	N/A	800.00	60.0	35.00	2650.00	2050.00	
Rotate	07-12	23:35	23:55	07-12	0.33	2836.00	2926.00	90.00	270.00	N/A	800.00	60.0	35.00	2650.00	2050.00	
Rotate	07-13	00:00	00:10	07-13	0.17	2926.00	3015.00	89.00	534.00	N/A	800.00	60.0	35.00	2650.00	2050.00	
Slide	07-13	00:15	00:45	07-13	0.5	3015.00	3060.00	45.00	90.00	270.0	800.00	N/A	20.00	2350.00	2050.00	
Rotate	07-13	00:45	00:55	07-13	0.17	3060.00	3105.00	45.00	270.00	N/A	800.00	60.0	35.00	2650.00	2050.00	
Slide	07-13	01:00	01:25	07-13	0.42	3105.00	3140.00	35.00	84.00	270.0	800.00	N/A	20.00	2350.00	2050.00	
Rotate	07-13	01:25	01:35	07-13	0.17	3140.00	3195.00	55.00	330.00	N/A	800.00	60.0	35.00	2650.00	2050.00	
Rotate	07-13	01:40	02:00	07-13	0.33	3195.00	3284.00	89.00	267.00	N/A	800.00	60.0	35.00	2650.00	2050.00	
Rotate	07-13	02:05	02:10	07-13	0.08	3284.00	3294.00	10.00	120.00	N/A	800.00	60.0	35.00	2650.00	2050.00	
Slide	07-13	02:10	02:25	07-13	0.25	3294.00	3314.00	20.00	80.00	250.0	800.00	N/A	20.00	2350.00	2050.00	
Rotate	07-13	02:25	02:40	07-13	0.25	3314.00	3374.00	60.00	240.00	N/A	800.00	60.0	35.00	2650.00	2050.00	
Rotate	07-13	02:45	03:05	07-13	0.33	3374.00	3464.00	90.00	270.00	N/A	800.00	60.0	35.00	2650.00	2050.00	
Rotate	07-13	03:10	03:15	07-13	0.08	3464.00	3470.00	6.00	72.00	N/A	800.00	60.0	35.00	2650.00	2050.00	
Slide	07-13	03:15	03:40	07-13	0.42	3470.00	3500.00	30.00	72.00	200.0	800.00	N/A	20.00	2350.00	2050.00	
Rotate	07-13	03:40	03:55	07-13	0.25	3500.00	3553.00	53.00	212.00	N/A	800.00	60.0	35.00	2650.00	2050.00	
Rotate	07-13	04:00	04:45	07-13	0.75	3553.00	3643.00	90.00	120.00	N/A	800.00	60.0	38.00	3450.00	2650.00	
Rotate	07-13	04:50	05:25	07-13	0.58	3643.00	3733.00	90.00	154.29	N/A	800.00	60.0	38.00	3450.00	2650.00	
Rotate	07-13	05:30	05:35	07-13	0.08	3733.00	3746.00	13.00	156.00	N/A	800.00	60.0	38.00	3450.00	2650.00	
Slide	07-13	05:35	06:20	07-13	0.75	3746.00	3771.00	25.00	33.33	290.0	800.00	N/A	25.00	3000.00	2650.00	
Rotate	07-13	06:20	06:50	07-13	0.5	3771.00	3822.00	51.00	102.00	N/A	800.00	60.0	38.00	3450.00	2650.00	
Rotate	07-13	06:55	07:35	07-13	0.67	3822.00	3912.00	90.00	135.00	N/A	800.00	60.0	38.00	3450.00	2650.00	
Rotate	07-13	07:45	08:10	07-13	0.42	3912.00	4001.00	89.00	213.60	N/A	800.00	60.0	38.00	3450.00	2650.00	



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
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	07-13	16:50	17:20	07-13	0.5	4001.00	4090.00	89.00	178.00	N/A	800.00	60.0	38.00	2600.00	2100.00	
Rotate	07-13	17:30	18:10	07-13	0.67	4090.00	4180.00	90.00	135.00	N/A	800.00	60.0	38.00	2600.00	2100.00	
Slide	07-13	18:15	18:45	07-13	0.5	4180.00	4215.00	35.00	70.00	250.0	800.00	N/A	10.00	2250.00	2100.00	
Rotate	07-13	18:45	19:10	07-13	0.42	4215.00	4269.00	54.00	129.60	N/A	800.00	60.0	38.00	2600.00	2100.00	
Rotate	07-13	19:15	19:50	07-13	0.58	4269.00	4359.00	90.00	154.29	N/A	800.00	60.0	38.00	2600.00	2100.00	
Rotate	07-13	19:55	20:40	07-13	0.75	4359.00	4449.00	90.00	120.00	N/A	800.00	60.0	38.00	2600.00	2100.00	
Slide	07-13	20:45	21:15	07-13	0.5	4449.00	4479.00	30.00	60.00	210.0	800.00	N/A	10.00	2250.00	2100.00	
Rotate	07-13	21:15	21:40	07-13	0.42	4479.00	4538.00	59.00	141.60	N/A	800.00	60.0	38.00	2600.00	2100.00	
Rotate	07-13	21:45	22:25	07-13	0.67	4538.00	4628.00	90.00	135.00	N/A	800.00	60.0	38.00	2600.00	2100.00	
Rotate	07-13	22:30	23:05	07-13	0.58	4628.00	4718.00	90.00	154.29	N/A	800.00	60.0	38.00	2600.00	2100.00	
Rotate	07-13	23:10	23:45	07-13	0.58	4718.00	4808.00	90.00	154.29	N/A	800.00	60.0	38.00	2600.00	2100.00	
Rotate	07-13	23:50	00:30	07-14	0.67	4808.00	4897.00	89.00	133.50	N/A	800.00	60.0	38.00	2600.00	2100.00	
Rotate	07-14	00:35	01:05	07-14	0.5	4897.00	4987.00	90.00	180.00	N/A	800.00	60.0	38.00	2600.00	2100.00	
Rotate	07-14	01:10	01:50	07-14	0.67	4987.00	5076.00	89.00	133.50	N/A	750.00	60.0	38.00	2550.00	1900.00	
Rotate	07-14	01:55	02:40	07-14	0.75	5076.00	5166.00	90.00	120.00	N/A	750.00	60.0	38.00	2550.00	1900.00	
Rotate	07-14	02:45	03:25	07-14	0.67	5166.00	5255.00	89.00	133.50	N/A	750.00	60.0	38.00	2550.00	1900.00	
Rotate	07-14	03:30	04:00	07-14	0.5	5255.00	5330.00	75.00	150.00	N/A	750.00	60.0	38.00	2550.00	1900.00	



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Slide/Rotate Report - BHA #4 (Intermediate 8.75")

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	07-16	01:10	01:50	07-16	0.67	5330.00	5439.00	109.00	163.50	N/A	650.00	30.0	32.00	2400.00	1800.00	
Rotate	07-16	01:55	02:00	07-16	0.08	5439.00	5445.00	6.00	72.00	N/A	650.00	30.0	32.00	2400.00	1800.00	
Slide	07-16	02:00	02:30	07-16	0.5	5445.00	5470.00	25.00	50.00	70.0	650.00	N/A	20.00	2150.00	1900.00	
Rotate	07-16	02:30	02:50	07-16	0.33	5470.00	5528.00	58.00	174.00	N/A	650.00	30.0	35.00	2500.00	1900.00	
Rotate	07-16	02:55	03:00	07-16	0.08	5528.00	5540.00	12.00	144.00	N/A	650.00	30.0	35.00	2500.00	1900.00	
Slide	07-16	03:00	03:25	07-16	0.42	5540.00	5565.00	25.00	60.00	70.0	650.00	N/A	20.00	2150.00	1900.00	
Rotate	07-16	03:25	03:35	07-16	0.17	5565.00	5618.00	53.00	318.00	N/A	650.00	30.0	35.00	2500.00	1900.00	
Rotate	07-16	03:40	04:00	07-16	0.33	5618.00	5707.00	89.00	267.00	N/A	650.00	30.0	35.00	2500.00	1900.00	
Rotate	07-16	04:05	04:25	07-16	0.33	5707.00	5797.00	90.00	270.00	N/A	650.00	30.0	35.00	2500.00	1900.00	
Rotate	07-16	04:30	04:45	07-16	0.25	5797.00	5887.00	90.00	360.00	N/A	650.00	30.0	35.00	2500.00	1900.00	
Rotate	07-16	04:50	04:55	07-16	0.08	5887.00	5897.00	10.00	120.00	N/A	650.00	30.0	35.00	2500.00	1900.00	
Slide	07-16	04:55	05:10	07-16	0.25	5897.00	5915.00	18.00	72.00	70.0	650.00	N/A	20.00	2150.00	1900.00	
Rotate	07-16	05:10	05:20	07-16	0.17	5915.00	5976.00	61.00	366.00	N/A	650.00	30.0	35.00	2500.00	1900.00	
Rotate	07-16	05:25	05:40	07-16	0.25	5976.00	6066.00	90.00	360.00	N/A	650.00	30.0	35.00	2500.00	1900.00	
Rotate	07-16	05:45	05:55	07-16	0.17	6066.00	6155.00	89.00	534.00	N/A	650.00	30.0	35.00	2500.00	1900.00	
Rotate	07-16	06:00	06:10	07-16	0.17	6155.00	6245.00	90.00	540.00	N/A	650.00	30.0	35.00	2500.00	1900.00	
Rotate	07-16	06:15	06:25	07-16	0.17	6245.00	6334.00	89.00	534.00	N/A	650.00	30.0	35.00	2500.00	1900.00	
Rotate	07-16	06:30	06:40	07-16	0.17	6334.00	6424.00	90.00	540.00	N/A	650.00	30.0	35.00	2500.00	1900.00	
Rotate	07-16	06:45	07:10	07-16	0.42	6424.00	6514.00	90.00	216.00	N/A	650.00	30.0	35.00	2500.00	1900.00	
Rotate	07-16	07:15	07:30	07-16	0.25	6514.00	6604.00	90.00	360.00	N/A	650.00	30.0	35.00	2500.00	1900.00	
Rotate	07-16	07:35	07:55	07-16	0.33	6604.00	6694.00	90.00	270.00	N/A	650.00	30.0	35.00	2500.00	1900.00	
Rotate	07-16	08:00	08:10	07-16	0.17	6694.00	6783.00	89.00	534.00	N/A	650.00	30.0	35.00	2500.00	1900.00	
Rotate	07-16	08:15	08:30	07-16	0.25	6783.00	6873.00	90.00	360.00	N/A	650.00	30.0	35.00	2500.00	1900.00	
Rotate	07-16	08:35	08:50	07-16	0.25	6873.00	6963.00	90.00	360.00	N/A	650.00	30.0	35.00	2500.00	1900.00	
Rotate	07-16	08:55	09:15	07-16	0.33	6963.00	7053.00	90.00	270.00	N/A	650.00	30.0	35.00	2500.00	1900.00	
Rotate	07-16	09:20	09:50	07-16	0.5	7053.00	7142.00	89.00	178.00	N/A	650.00	30.0	35.00	2500.00	1900.00	
Rotate	07-16	09:55	10:20	07-16	0.42	7142.00	7232.00	90.00	216.00	N/A	650.00	30.0	35.00	2500.00	1900.00	
Rotate	07-16	10:25	10:50	07-16	0.42	7232.00	7321.00	89.00	213.60	N/A	650.00	30.0	35.00	2500.00	1900.00	
Rotate	07-16	10:55	11:25	07-16	0.5	7321.00	7411.00	90.00	180.00	N/A	650.00	30.0	35.00	2500.00	1900.00	
Rotate	07-16	11:30	11:45	07-16	0.25	7411.00	7421.00	10.00	40.00	N/A	650.00	30.0	35.00	2500.00	1900.00	
Slide	07-16	11:45	12:05	07-16	0.33	7421.00	7443.00	22.00	66.00	330.0	650.00	N/A	20.00	2100.00	1800.00	
Rotate	07-16	12:05	12:20	07-16	0.25	7443.00	7500.00	57.00	228.00	N/A	650.00	30.0	35.00	2500.00	1900.00	
Rotate	07-16	12:25	12:50	07-16	0.42	7500.00	7590.00	90.00	216.00	N/A	650.00	30.0	35.00	2500.00	1900.00	
Rotate	07-16	12:55	13:05	07-16	0.17	7590.00	7600.00	10.00	60.00	N/A	650.00	30.0	35.00	2500.00	1900.00	
Slide	07-16	13:05	13:35	07-16	0.5	7600.00	7626.00	26.00	52.00	200.0	650.00	N/A	20.00	2100.00	1800.00	
Rotate	07-16	13:35	13:50	07-16	0.25	7626.00	7680.00	54.00	216.00	N/A	650.00	30.0	35.00	2500.00	1900.00	
Rotate	07-16	13:55	14:00	07-16	0.08	7680.00	7695.00	15.00	180.00	N/A	650.00	30.0	35.00	2500.00	1900.00	
Slide	07-16	14:00	14:25	07-16	0.42	7695.00	7715.00	20.00	48.00	270.0	650.00	N/A	20.00	2100.00	1800.00	
Rotate	07-16	14:25	14:40	07-16	0.25	7715.00	7769.00	54.00	216.00	N/A	650.00	30.0	35.00	2500.00	1900.00	
Rotate	07-16	14:45	15:10	07-16	0.42	7769.00	7859.00	90.00	216.00	N/A	650.00	30.0	35.00	2500.00	1900.00	
Rotate	07-16	15:15	15:30	07-16	0.25	7859.00	7949.00	90.00	360.00	N/A	650.00	30.0	35.00	2500.00	1900.00	
Rotate	07-16	16:05	16:25	07-16	0.33	7949.00	8038.00	89.00	267.00	N/A	650.00	30.0	35.00	2500.00	1900.00	
Rotate	07-16	16:30	17:00	07-16	0.5	8038.00	8128.00	90.00	180.00	N/A	650.00	30.0	35.00	2500.00	1900.00	
Rotate	07-16	17:05	17:30	07-16	0.42	8128.00	8218.00	90.00	216.00	N/A	650.00	30.0	35.00	2500.00	1900.00	
Rotate	07-16	17:35	18:05	07-16	0.5	8218.00	8308.00	90.00	180.00	N/A	650.00	30.0	35.00	2500.00	1900.00	
Rotate	07-16	18:10	18:35	07-16	0.42	8308.00	8397.00	89.00	213.60	N/A	650.00	30.0	40.00	2500.00	1900.00	
Rotate	07-16	18:40	19:15	07-16	0.58	8397.00	8487.00	90.00	154.29	N/A	650.00	30.0	40.00	2500.00	1900.00	
Rotate	07-16	19:20	19:50	07-16	0.5	8487.00	8577.00	90.00	180.00	N/A	650.00	30.0	40.00	2500.00	1900.00	
Rotate	07-16	19:55	20:40	07-16	0.75	8577.00	8666.00	89.00	118.67	N/A	650.00	30.0	40.00	2500.00	1900.00	
Rotate	07-16	20:45	20:50	07-16	0.08	8666.00	8676.00	10.00	120.00	N/A	650.00	30.0	40.00	2500.00	1900.00	
Slide	07-16	20:50	21:15	07-16	0.42	8676.00	8691.00	15.00	36.00	300.0	650.00	N/A	20.00	2150.00	1900.00	
Rotate	07-16	21:15	22:05	07-16	0.83	8691.00	8756.00	65.00	78.00	N/A	650.00	30.0	40.00	2500.00	1900.00	
Rotate	07-16	22:10	22:55	07-16	0.75	8756.00	8846.00	90.00	120.00	N/A	650.00	30.0	40.00	2500.00	1900.00	
Rotate	07-16	23:00	23:55	07-16	0.92	8846.00	8935.00	89.00	97.09	N/A	650.00	30.0	40.00	2500.00	1900.00	
Rotate	07-17	00:00	00:45	07-17	0.75	8935.00	9025.00	90.00	120.00	N/A	650.00	30.0	40.00	2500.00	1900.00	
Rotate	07-17	00:50	01:40	07-17	0.83	9025.00	9115.00	90.00	108.00	N/A	650.00	30.0	40.00	2500.00	1900.00	
Rotate	07-17	01:45	02:30	07-17	0.75	9115.00	9204.00	89.00	118.67	N/A	650.00	30.0	40.00	2500.00	1900.00	
Rotate	07-17	02:35	03:30	07-17	0.92	9204.00	9294.00	90.00	98.18	N/A	650.00	30.0	40.00	2500.00	1900.00	
Rotate	07-17	03:35	04:20	07-17	0.75	9294.00	9384.00	90.00	120.00	N/A	650.00	30.0	40.00	2500.00	1900.00	
Rotate	07-17	04:25	05:00	07-17	0.58	9384.00	9473.00	89.00	152.57	N/A	650.00	30.0	40.00	2500.00	1900.00	
Rotate	07-17	05:05	05:40	07-17	0.58	9473.00	9563.00	90.00	154.29	N/A	650.00	30.0	40.00	2500.00	1900.00	
Rotate	07-17	05:45	06:20	07-17	0.58	9563.00	9653.00	90.00	154.29	N/A	650.00	30.0	40.00	2500.00	1900.00	
Rotate	07-17	06:25	07:00	07-17	0.58	9653.00	9742.00	89.00	152.57	N/A	650.00	30.0	40.00	2500.00	1900.00	
Rotate	07-17	07:05	07:50	07-17	0.75	9742.00	9832.00	90.00	120.00	N/A	650.00	30.0	40.00	2500.00	1900.00	

Rotate	07-17	07:55	08:30	07-17	0.58	9832.00	9922.00	90.00	154.29	N/A	650.00	30.0	40.00	2500.00	1900.00
Rotate	07-17	08:35	08:45	07-17	0.17	9922.00	9932.00	10.00	60.00	N/A	650.00	30.0	40.00	2500.00	1900.00
Slide	07-17	08:45	09:20	07-17	0.58	9932.00	9956.00	24.00	41.14	45.0		N/A			
Rotate	07-17	09:20	09:50	07-17	0.5	9956.00	10011.00	55.00	110.00	N/A	650.00	30.0	40.00	2500.00	1900.00
Rotate	07-17	09:55	10:30	07-17	0.58	10011.00	10101.00	90.00	154.29	N/A	650.00	30.0	40.00	2500.00	1900.00
Rotate	07-17	10:35	11:15	07-17	0.67	10101.00	10191.00	90.00	135.00	N/A	650.00	30.0	40.00	2500.00	1900.00
Rotate	07-17	11:20	12:05	07-17	0.75	10191.00	10281.00	90.00	120.00	N/A	650.00	30.0	40.00	2500.00	1900.00
Rotate	07-17	12:10	13:00	07-17	0.83	10281.00	10370.00	89.00	106.80	N/A	650.00	30.0	40.00	2500.00	1900.00
Rotate	07-17	13:05	14:00	07-17	0.92	10370.00	10460.00	90.00	98.18	N/A	650.00	30.0	40.00	2500.00	1900.00
Rotate	07-17	14:15	14:45	07-17	0.5	10460.00	10550.00	90.00	180.00	N/A	650.00	30.0	40.00	2500.00	1900.00
Rotate	07-17	14:50	15:30	07-17	0.67	10550.00	10639.00	89.00	133.50	N/A	650.00	30.0	40.00	2500.00	1900.00
Rotate	07-17	15:35	15:50	07-17	0.25	10639.00	10649.00	10.00	40.00	N/A	650.00	30.0	40.00	2500.00	1900.00
Slide	07-17	15:50	16:35	07-17	0.75	10649.00	10673.00	24.00	32.00	0.0		N/A			
Rotate	07-17	16:35	17:00	07-17	0.42	10673.00	10729.00	56.00	134.40	N/A	650.00	30.0	40.00	2500.00	1900.00
Rotate	07-17	17:05	17:45	07-17	0.67	10729.00	10818.00	89.00	133.50	N/A	650.00	30.0	40.00	2500.00	1900.00
Rotate	07-17	17:50	18:30	07-17	0.67	10818.00	10908.00	90.00	135.00	N/A	650.00	30.0	40.00	2500.00	1900.00
Rotate	07-17	18:35	19:20	07-17	0.75	10908.00	10998.00	90.00	120.00	N/A	650.00	30.0	40.00	2500.00	1900.00
Rotate	07-17	19:25	20:10	07-17	0.75	10998.00	11087.00	89.00	118.67	N/A	650.00	30.0	40.00	2500.00	1900.00
Rotate	07-17	20:25	21:20	07-17	0.92	11087.00	11177.00	90.00	98.18	N/A	650.00	30.0	40.00	2500.00	1900.00
Rotate	07-17	21:25	22:35	07-17	1.17	11177.00	11266.00	89.00	76.29	N/A	650.00	30.0	40.00	2500.00	1900.00
Rotate	07-17	22:40	23:35	07-17	0.92	11266.00	11356.00	90.00	98.18	N/A	650.00	30.0	40.00	2500.00	1900.00



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Slide/Rotate Report - BHA #5 (Curve 8.75")

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	07-18	15:00	16:00	07-18	1.0	11356.00	11386.00	30.00	30.00	0.0		N/A				
Rotate	07-18	16:00	16:20	07-18	0.33	11386.00	11398.00	12.00	36.00	N/A	650.00	30.0	40.00	2500.00	1900.00	
Slide	07-18	16:20	17:00	07-18	0.67	11398.00	11431.00	33.00	49.50	0.0	525.00	N/A	25.00	1900.00	1500.00	
Slide	07-18	17:05	18:00	07-18	0.92	11431.00	11476.00	45.00	49.09	0.0	525.00	N/A	25.00	1900.00	1500.00	
Rotate	07-18	18:05	18:10	07-18	0.08	11476.00	11488.00	12.00	144.00	N/A	550.00	30.0	40.00	2300.00	1700.00	
Slide	07-18	18:10	18:50	07-18	0.67	11488.00	11521.00	33.00	49.50	0.0	525.00	N/A	25.00	1900.00	1500.00	
Rotate	07-18	18:55	19:05	07-18	0.17	11521.00	11527.00	6.00	36.00	N/A	550.00	30.0	40.00	2300.00	1700.00	
Slide	07-18	19:05	19:50	07-18	0.75	11527.00	11565.00	38.00	50.67	0.0	525.00	N/A	25.00	1900.00	1500.00	
Slide	07-18	19:55	20:30	07-18	0.58	11565.00	11610.00	45.00	77.14	15.0	550.00	N/A	45.00	2300.00	1700.00	
Slide	07-18	20:40	21:20	07-18	0.67	11610.00	11655.00	45.00	67.50	20.0	550.00	N/A	45.00	2300.00	1700.00	
Rotate	07-18	21:35	21:50	07-18	0.25	11655.00	11665.00	10.00	40.00	N/A	550.00	30.0	40.00	2300.00	1700.00	
Slide	07-18	21:50	22:15	07-18	0.42	11665.00	11700.00	35.00	84.00	15.0	550.00	N/A	45.00	2300.00	1700.00	
Slide	07-18	22:25	23:00	07-18	0.58	11700.00	11745.00	45.00	77.14	0.0	550.00	N/A	45.00	2300.00	1700.00	
Rotate	07-18	23:05	23:10	07-18	0.08	11745.00	11750.00	5.00	60.00	N/A	550.00	30.0	40.00	2300.00	1700.00	
Slide	07-18	23:10	23:40	07-18	0.5	11750.00	11790.00	40.00	80.00	350.0	550.00	N/A	45.00	2300.00	1700.00	
Slide	07-18	23:50	00:25	07-19	0.58	11790.00	11834.00	44.00	75.43	0.0	550.00	N/A	45.00	2300.00	1700.00	
Rotate	07-19	00:30	00:40	07-19	0.17	11834.00	11846.00	12.00	72.00	N/A	550.00	30.0	40.00	2300.00	1700.00	
Slide	07-19	00:40	01:10	07-19	0.5	11846.00	11879.00	33.00	66.00	340.0	550.00	N/A	45.00	2300.00	1700.00	
Rotate	07-19	01:20	01:35	07-19	0.25	11879.00	11893.00	14.00	56.00	N/A	550.00	30.0	40.00	2300.00	1700.00	
Slide	07-19	01:35	02:00	07-19	0.42	11893.00	11924.00	31.00	74.40	345.0	550.00	N/A	45.00	2300.00	1700.00	
Rotate	07-19	02:05	02:15	07-19	0.17	11924.00	11940.00	16.00	96.00	N/A	550.00	30.0	40.00	2300.00	1700.00	
Slide	07-19	02:15	02:40	07-19	0.42	11940.00	11969.00	29.00	69.60	0.0	550.00	N/A	45.00	2300.00	1700.00	
Rotate	07-19	02:50	03:05	07-19	0.25	11969.00	11981.00	12.00	48.00	N/A	550.00	30.0	40.00	2300.00	1700.00	
Slide	07-19	03:05	03:35	07-19	0.5	11981.00	12014.00	33.00	66.00	0.0	550.00	N/A	45.00	2300.00	1700.00	
Rotate	07-19	03:40	03:55	07-19	0.25	12014.00	12032.00	18.00	72.00	N/A	550.00	30.0	40.00	2300.00	1700.00	
Slide	07-19	03:55	04:20	07-19	0.42	12032.00	12058.00	26.00	62.40	0.0	550.00	N/A	45.00	2300.00	1700.00	
Rotate	07-19	04:30	04:40	07-19	0.17	12058.00	12068.00	10.00	60.00	N/A	550.00	30.0	40.00	2300.00	1700.00	
Slide	07-19	04:40	05:05	07-19	0.42	12068.00	12103.00	35.00	84.00	0.0	550.00	N/A	45.00	2300.00	1700.00	
Rotate	07-19	05:10	05:20	07-19	0.17	12103.00	12108.00	5.00	30.00	N/A	550.00	30.0	40.00	2300.00	1700.00	
Slide	07-19	05:20	05:55	07-19	0.58	12108.00	12148.00	40.00	68.57	40.0	550.00	N/A	45.00	2300.00	1700.00	
Rotate	07-19	06:00	06:10	07-19	0.17	12148.00	12165.00	17.00	102.00	N/A	550.00	30.0	40.00	2300.00	1700.00	
Slide	07-19	06:10	06:30	07-19	0.33	12165.00	12183.00	18.00	54.00	20.0	550.00	N/A	45.00	2300.00	1700.00	
Rotate	07-19	06:30	06:45	07-19	0.25	12183.00	12193.00	10.00	40.00	N/A	550.00	30.0	40.00	2300.00	1700.00	
Rotate	07-19	06:50	07:00	07-19	0.17	12193.00	12208.00	15.00	90.00	N/A	550.00	30.0	40.00	2300.00	1700.00	
Slide	07-19	07:00	07:15	07-19	0.25	12208.00	12223.00	15.00	60.00	0.0	550.00	N/A	45.00	2300.00	1700.00	
Rotate	07-19	07:15	07:30	07-19	0.25	12223.00	12238.00	15.00	60.00	N/A	550.00	30.0	40.00	2300.00	1700.00	
Rotate	07-19	07:35	07:50	07-19	0.25	12238.00	12253.00	15.00	60.00	N/A	550.00	30.0	40.00	2300.00	1700.00	
Slide	07-19	07:50	08:35	07-19	0.75	12253.00	12275.00	22.00	29.33	50.0	550.00	N/A	45.00	2300.00	1700.00	
Rotate	07-19	08:35	08:45	07-19	0.17	12275.00	12283.00	8.00	48.00	N/A	550.00	30.0	40.00	2300.00	1700.00	
Rotate	07-19	08:50	09:20	07-19	0.5	12283.00	12313.00	30.00	60.00	N/A	550.00	30.0	40.00	2300.00	1700.00	
Slide	07-19	09:20	09:35	07-19	0.25	12313.00	12323.00	10.00	40.00	37.0	550.00	N/A	45.00	2300.00	1700.00	
Rotate	07-19	09:35	09:45	07-19	0.17	12323.00	12328.00	5.00	30.00	N/A	550.00	30.0	40.00	2300.00	1700.00	
Rotate	07-19	09:50	10:20	07-19	0.5	12328.00	12372.00	44.00	88.00	N/A	550.00	30.0	40.00	2300.00	1700.00	
Rotate	07-19	10:25	10:55	07-19	0.5	12372.00	12417.00	45.00	90.00	N/A	550.00	30.0	40.00	2300.00	1700.00	
Rotate	07-19	11:00	11:15	07-19	0.25	12417.00	12427.00	10.00	40.00	N/A	550.00	30.0	40.00	2300.00	1700.00	
Slide	07-19	11:15	11:20	07-19	0.08	12427.00	12433.00	6.00	72.00	220.0	550.00	N/A	45.00	2300.00	1700.00	
Rotate	07-19	11:20	12:15	07-19	0.92	12433.00	12507.00	74.00	80.73	N/A	550.00	30.0	40.00	2300.00	1700.00	



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Slide/Rotate Report - BHA #6 (8.5" LATERAL w/ RSS)

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	07-20	11:15	12:50	07-20	1.58	12507.00	12648.00	141.00	89.05	N/A	650.00	100.0	37.00	4950.00	4100.00	
Rotate	07-20	12:55	13:40	07-20	0.75	12648.00	12738.00	90.00	120.00	N/A	650.00	100.0	37.00	4950.00	4100.00	
Rotate	07-20	13:45	14:20	07-20	0.58	12738.00	12827.00	89.00	152.57	N/A	650.00	100.0	37.00	4950.00	4100.00	
Rotate	07-20	14:25	14:50	07-20	0.42	12827.00	12917.00	90.00	216.00	N/A	650.00	100.0	37.00	4950.00	4100.00	
Rotate	07-20	14:55	15:45	07-20	0.83	12917.00	13007.00	90.00	108.00	N/A	650.00	100.0	37.00	4950.00	4100.00	
Rotate	07-20	15:50	16:20	07-20	0.5	13007.00	13096.00	89.00	178.00	N/A	650.00	100.0	37.00	4950.00	4100.00	
Rotate	07-20	16:25	17:05	07-20	0.67	13096.00	13186.00	90.00	135.00	N/A	650.00	100.0	37.00	4950.00	4100.00	
Rotate	07-20	17:10	17:45	07-20	0.58	13186.00	13276.00	90.00	154.29	N/A	650.00	100.0	37.00	4950.00	4100.00	
Rotate	07-20	18:00	18:30	07-20	0.5	13276.00	13365.00	89.00	178.00	N/A	670.00	100.0	46.00	4950.00	4100.00	
Rotate	07-20	18:35	19:20	07-20	0.75	13365.00	13454.00	89.00	118.67	N/A	670.00	100.0	46.00	4950.00	4100.00	
Rotate	07-20	19:25	20:35	07-20	1.17	13454.00	13544.00	90.00	77.14	N/A	670.00	100.0	46.00	4950.00	4100.00	
Rotate	07-20	20:40	21:30	07-20	0.83	13544.00	13634.00	90.00	108.00	N/A	670.00	100.0	44.00	4800.00	4100.00	
Rotate	07-20	21:35	22:20	07-20	0.75	13634.00	13724.00	90.00	120.00	N/A	670.00	100.0	44.00	4800.00	4100.00	
Rotate	07-20	22:25	23:05	07-20	0.67	13724.00	13789.00	65.00	97.50	N/A	670.00	100.0	44.00	4800.00	4100.00	
Rotate	07-20	23:20	23:40	07-20	0.33	13789.00	13814.00	25.00	75.00	N/A	670.00	100.0	44.00	4800.00	4100.00	
Rotate	07-20	23:45	00:45	07-21	1.0	13814.00	13903.00	89.00	89.00	N/A	670.00	100.0	44.00	4800.00	4100.00	
Rotate	07-21	00:50	01:50	07-21	1.0	13903.00	13993.00	90.00	90.00	N/A	670.00	100.0	44.00	4800.00	4100.00	
Rotate	07-21	01:55	03:05	07-21	1.17	13993.00	14083.00	90.00	77.14	N/A	670.00	100.0	44.00	4800.00	4100.00	
Rotate	07-21	03:10	04:30	07-21	1.33	14083.00	14172.00	89.00	66.75	N/A	670.00	100.0	44.00	4800.00	4100.00	
Rotate	07-21	04:35	05:45	07-21	1.17	14172.00	14262.00	90.00	77.14	N/A	670.00	100.0	44.00	4800.00	4100.00	
Rotate	07-21	05:50	07:45	07-21	1.92	14262.00	14351.00	89.00	46.43	N/A	670.00	100.0	44.00	4800.00	4100.00	
Rotate	07-21	07:50	09:45	07-21	1.92	14351.00	14441.00	90.00	46.96	N/A	670.00	100.0	44.00	4800.00	4100.00	
Rotate	07-21	09:50	11:40	07-21	1.83	14441.00	14531.00	90.00	49.09	N/A	670.00	100.0	44.00	4800.00	4100.00	
Rotate	07-21	11:45	12:00	07-21	0.25	14531.00	14541.00	10.00	40.00	N/A	670.00	100.0	44.00	4800.00	4100.00	



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Slide/Rotate Report - BHA #7 (DRILL LATERAL (8.5") w/ RSS)

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	07-22	09:00	09:45	07-22	0.75	14541.00	14620.00	79.00	105.33	N/A	670.00	100.0	44.00	4800.00	4100.00	
Rotate	07-22	09:50	10:30	07-22	0.67	14620.00	14709.00	89.00	133.50	N/A	670.00	100.0	44.00	4800.00	4100.00	
Rotate	07-22	10:35	11:40	07-22	1.08	14709.00	14799.00	90.00	83.08	N/A	670.00	100.0	44.00	4800.00	4100.00	
Rotate	07-22	11:45	12:30	07-22	0.75	14799.00	14888.00	89.00	118.67	N/A	670.00	100.0	44.00	4800.00	4100.00	
Rotate	07-22	12:35	13:15	07-22	0.67	14888.00	14978.00	90.00	135.00	N/A	670.00	40.0	44.00	4800.00	4100.00	
Rotate	07-22	13:20	13:50	07-22	0.5	14978.00	15068.00	90.00	180.00	N/A	670.00	40.0	44.00	4800.00	4100.00	
Rotate	07-22	13:55	14:30	07-22	0.58	15068.00	15157.00	89.00	152.57	N/A	670.00	40.0	44.00	4800.00	4100.00	
Rotate	07-22	14:35	15:05	07-22	0.5	15157.00	15247.00	90.00	180.00	N/A	670.00	40.0	44.00	4800.00	4100.00	
Rotate	07-22	15:10	15:50	07-22	0.67	15247.00	15337.00	90.00	135.00	N/A	670.00	40.0	44.00	4800.00	4100.00	
Rotate	07-22	15:55	16:30	07-22	0.58	15337.00	15426.00	89.00	152.57	N/A	670.00	40.0	44.00	4800.00	4100.00	
Rotate	07-22	16:45	17:20	07-22	0.58	15426.00	15516.00	90.00	154.29	N/A	670.00	40.0	44.00	4800.00	4100.00	
Rotate	07-22	17:25	18:00	07-22	0.58	15516.00	15606.00	90.00	154.29	N/A	670.00	40.0	44.00	4800.00	4100.00	
Rotate	07-22	18:05	18:55	07-22	0.83	15606.00	15695.00	89.00	106.80	N/A	670.00	40.0	44.00	4800.00	4100.00	
Rotate	07-22	19:00	19:40	07-22	0.67	15695.00	15785.00	90.00	135.00	N/A	670.00	40.0	44.00	4800.00	4100.00	
Rotate	07-22	19:45	20:30	07-22	0.75	15785.00	15874.00	89.00	118.67	N/A	670.00	45.0	44.00	4800.00	4100.00	
Rotate	07-22	20:35	21:15	07-22	0.67	15874.00	15964.00	90.00	135.00	N/A	670.00	45.0	44.00	4800.00	4100.00	
Rotate	07-22	21:20	22:10	07-22	0.83	15964.00	16054.00	90.00	108.00	N/A	670.00	45.0	44.00	4800.00	4100.00	
Rotate	07-22	22:15	22:30	07-22	0.25	16054.00	16072.00	18.00	72.00	N/A	670.00	45.0	44.00	4800.00	4100.00	
Rotate	07-22	22:55	00:20	07-23	1.42	16072.00	16144.00	72.00	50.82	N/A	670.00	45.0	52.00	4550.00	3600.00	
Rotate	07-23	00:25	01:15	07-23	0.83	16144.00	16233.00	89.00	106.80	N/A	670.00	45.0	52.00	4550.00	3600.00	
Rotate	07-23	01:20	02:00	07-23	0.67	16233.00	16323.00	90.00	135.00	N/A	670.00	45.0	52.00	4550.00	3600.00	
Rotate	07-23	02:05	02:40	07-23	0.58	16323.00	16413.00	90.00	154.29	N/A	670.00	45.0	52.00	4550.00	3600.00	
Rotate	07-23	02:45	03:30	07-23	0.75	16413.00	16502.00	89.00	118.67	N/A	670.00	45.0	52.00	4550.00	3600.00	
Rotate	07-23	03:35	04:25	07-23	0.83	16502.00	16592.00	90.00	108.00	N/A	670.00	45.0	52.00	4550.00	3600.00	
Rotate	07-23	04:30	05:30	07-23	1.0	16592.00	16682.00	90.00	90.00	N/A	670.00	45.0	52.00	4550.00	3600.00	
Rotate	07-23	05:35	06:50	07-23	1.25	16682.00	16771.00	89.00	71.20	N/A	670.00	45.0	52.00	4550.00	3600.00	
Rotate	07-23	06:55	08:00	07-23	1.08	16771.00	16861.00	90.00	83.08	N/A	670.00	45.0	52.00	4550.00	3600.00	
Rotate	07-23	08:05	09:50	07-23	1.75	16861.00	16950.00	89.00	50.86	N/A	670.00	45.0	52.00	4550.00	3600.00	
Rotate	07-23	09:55	11:20	07-23	1.42	16950.00	17040.00	90.00	63.53	N/A	670.00	45.0	52.00	4550.00	3600.00	
Rotate	07-23	11:25	12:45	07-23	1.33	17040.00	17130.00	90.00	67.50	N/A	670.00	45.0	52.00	4550.00	3600.00	
Rotate	07-23	12:50	14:00	07-23	1.17	17130.00	17219.00	89.00	76.29	N/A	670.00	45.0	52.00	4550.00	3600.00	
Rotate	07-23	14:05	15:00	07-23	0.92	17219.00	17309.00	90.00	98.18	N/A	670.00	45.0	52.00	4550.00	3600.00	
Rotate	07-23	15:05	17:05	07-23	2.0	17309.00	17399.00	90.00	45.00	N/A	670.00	45.0	52.00	4550.00	3600.00	
Rotate	07-23	17:30	18:35	07-23	1.08	17399.00	17455.00	56.00	51.69	N/A	670.00	45.0	52.00	4550.00	3600.00	



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Slide/Rotate Report - BHA #8 (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	07-24	16:00	16:30	07-24	0.5	17455.00	17480.00	25.00	50.00	90.0		N/A				
Rotate	07-24	16:30	16:35	07-24	0.08	17480.00	17490.00	10.00	120.00	N/A	670.00	45.0	52.00	4550.00	3600.00	
Slide	07-24	16:45	17:45	07-24	1.0	17490.00	17525.00	35.00	35.00	100.0		N/A				
Rotate	07-24	17:45	18:30	07-24	0.75	17525.00	17570.00	45.00	60.00	N/A	670.00	45.0	52.00	4550.00	3600.00	
Slide	07-24	19:00	19:45	07-24	0.75	17570.00	17620.00	50.00	66.67	115.0	650.00	N/A	40.00	4600.00	4200.00	
Rotate	07-24	19:45	20:10	07-24	0.42	17620.00	17660.00	40.00	96.00	N/A	670.00	45.0	52.00	4550.00	3600.00	
Rotate	07-24	20:15	20:35	07-24	0.33	17660.00	17677.00	17.00	51.00	N/A	670.00	45.0	52.00	4550.00	3600.00	
Slide	07-24	20:35	20:50	07-24	0.25	17677.00	17687.00	10.00	40.00	90.0	650.00	N/A	40.00	4600.00	4200.00	
Rotate	07-24	20:50	21:30	07-24	0.67	17687.00	17749.00	62.00	93.00	N/A	670.00	45.0	52.00	4550.00	3600.00	
Rotate	07-24	21:35	22:40	07-24	1.08	17749.00	17839.00	90.00	83.08	N/A	670.00	45.0	52.00	4550.00	3600.00	
Slide	07-24	22:50	23:10	07-24	0.33	17839.00	17849.00	10.00	30.00	180.0	650.00	N/A	40.00	4600.00	4200.00	
Rotate	07-24	23:10	00:05	07-25	0.92	17849.00	17929.00	80.00	87.27	N/A	670.00	45.0	52.00	4550.00	3600.00	
Rotate	07-25	00:10	01:05	07-25	0.92	17929.00	18018.00	89.00	97.09	N/A	670.00	45.0	52.00	4550.00	3600.00	
Slide	07-25	01:20	01:45	07-25	0.42	18018.00	18038.00	20.00	48.00	330.0	650.00	N/A	40.00	4600.00	4200.00	
Rotate	07-25	01:45	02:25	07-25	0.67	18038.00	18108.00	70.00	105.00	N/A	670.00	45.0	52.00	4550.00	3600.00	
Rotate	07-25	02:30	02:45	07-25	0.25	18108.00	18131.00	23.00	92.00	N/A	670.00	45.0	52.00	4550.00	3600.00	
Slide	07-25	02:55	03:15	07-25	0.33	18131.00	18156.00	25.00	75.00	20.0	650.00	N/A	40.00	4600.00	4200.00	
Rotate	07-25	03:15	03:40	07-25	0.42	18156.00	18197.00	41.00	98.40	N/A	670.00	45.0	52.00	4550.00	3600.00	
Rotate	07-25	03:45	04:30	07-25	0.75	18197.00	18287.00	90.00	120.00	N/A	670.00	45.0	52.00	4550.00	3600.00	
Slide	07-25	04:40	05:10	07-25	0.5	18287.00	18312.00	25.00	50.00	60.0	650.00	N/A	40.00	4600.00	4200.00	
Rotate	07-25	05:10	05:35	07-25	0.42	18312.00	18377.00	65.00	156.00	N/A	670.00	45.0	52.00	4550.00	3600.00	
Slide	07-25	05:45	06:15	07-25	0.5	18377.00	18402.00	25.00	50.00	40.0	650.00	N/A	40.00	4600.00	4200.00	
Rotate	07-25	06:15	06:45	07-25	0.5	18402.00	18466.00	64.00	128.00	N/A	670.00	45.0	52.00	4550.00	3600.00	
Rotate	07-25	07:00	07:10	07-25	0.17	18466.00	18490.00	24.00	144.00	N/A	670.00	45.0	52.00	4550.00	3600.00	
Slide	07-25	07:10	07:35	07-25	0.42	18490.00	18510.00	20.00	48.00	35.0	650.00	N/A	40.00	4600.00	4200.00	
Rotate	07-25	07:35	08:05	07-25	0.5	18510.00	18556.00	46.00	92.00	N/A	670.00	45.0	52.00	4550.00	3600.00	
Rotate	07-25	08:20	09:00	07-25	0.67	18556.00	18646.00	90.00	135.00	N/A	670.00	45.0	52.00	4550.00	3600.00	
Rotate	07-25	09:05	09:45	07-25	0.67	18646.00	18735.00	89.00	133.50	N/A	670.00	45.0	52.00	4550.00	3600.00	
Rotate	07-25	10:00	10:15	07-25	0.25	18735.00	18750.00	15.00	60.00	N/A						
Slide	07-25	10:15	10:30	07-25	0.25	18750.00	18775.00	25.00	100.00	40.0	650.00	N/A	40.00	4600.00	4200.00	
Rotate	07-25	10:30	11:05	07-25	0.58	18775.00	18825.00	50.00	85.71	N/A						
Rotate	07-25	11:10	11:25	07-25	0.25	18825.00	18835.00	10.00	40.00	N/A						
Slide	07-25	11:25	12:00	07-25	0.58	18835.00	18865.00	30.00	51.43	35.0	650.00	N/A	40.00	4600.00	4200.00	
Rotate	07-25	12:00	12:30	07-25	0.5	18865.00	18914.00	49.00	98.00	N/A						
Rotate	07-25	12:35	12:50	07-25	0.25	18914.00	18931.00	17.00	68.00	N/A						
Slide	07-25	12:50	13:05	07-25	0.25	18931.00	18956.00	25.00	100.00	35.0	650.00	N/A	40.00	4600.00	4200.00	
Rotate	07-25	13:05	13:55	07-25	0.83	18956.00	19004.00	48.00	57.60	N/A						
Rotate	07-25	14:00	14:45	07-25	0.75	19004.00	19093.00	89.00	118.67	N/A	650.00	50.0	32.00	5700.00	5000.00	
Slide	07-25	14:50	15:50	07-25	1.0	19093.00	19150.00	57.00	57.00	50.0	650.00	N/A	40.00	4600.00	4200.00	
Rotate	07-25	15:50	16:15	07-25	0.42	19150.00	19182.00	32.00	76.80	N/A	650.00	50.0	32.00	5700.00	5000.00	
Slide	07-25	16:20	17:00	07-25	0.67	19182.00	19222.00	40.00	60.00	50.0	650.00	N/A	40.00	4600.00	4200.00	
Rotate	07-25	17:00	17:30	07-25	0.5	19222.00	19272.00	50.00	100.00	N/A	650.00	50.0	32.00	5700.00	5000.00	
Rotate	07-25	17:35	19:15	07-25	1.67	19272.00	19362.00	90.00	54.00	N/A	650.00	50.0	32.00	5700.00	5000.00	
Slide	07-25	19:30	20:25	07-25	0.92	19362.00	19392.00	30.00	32.73	180.0	650.00	N/A	40.00	4600.00	4200.00	
Rotate	07-25	20:25	21:00	07-25	0.58	19392.00	19452.00	60.00	102.86	N/A	650.00	50.0	32.00	5700.00	5000.00	
Rotate	07-25	21:05	21:55	07-25	0.83	19452.00	19541.00	89.00	106.80	N/A	650.00	50.0	32.00	5700.00	5000.00	
Slide	07-25	22:10	22:40	07-25	0.5	19541.00	19561.00	20.00	40.00	210.0	650.00	N/A	40.00	4600.00	4200.00	
Rotate	07-25	22:40	23:35	07-25	0.92	19561.00	19631.00	70.00	76.36	N/A	650.00	50.0	32.00	5700.00	5000.00	
Rotate	07-25	23:45	00:30	07-26	0.75	19631.00	19709.00	78.00	104.00	N/A	650.00	50.0	32.00	5700.00	5000.00	



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
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
Rotate	07-27	04:25	04:35	07-27	0.17	19709.00	19720.00	11.00	66.00	N/A	650.00	50.0	32.00	5700.00	5000.00	
Rotate	07-27	04:40	05:55	07-27	1.25	19720.00	19810.00	90.00	72.00	N/A	650.00	50.0	32.00	5700.00	5000.00	
Slide	07-27	06:05	06:35	07-27	0.5	19810.00	19831.00	21.00	42.00	141.0	650.00	N/A	40.00	4600.00	4200.00	
Rotate	07-27	06:35	07:30	07-27	0.92	19831.00	19899.00	68.00	74.18	N/A	650.00	50.0	32.00	5700.00	5000.00	
Slide	07-27	07:35	07:55	07-27	0.33	19899.00	19914.00	15.00	45.00	65.0	650.00	N/A	40.00	4600.00	4200.00	
Rotate	07-27	07:55	08:40	07-27	0.75	19914.00	19989.00	75.00	100.00	N/A	650.00	50.0	32.00	5700.00	5000.00	
Rotate	07-27	08:45	09:30	07-27	0.75	19989.00	20078.00	89.00	118.67	N/A	650.00	50.0	32.00	5700.00	5000.00	
Slide	07-27	09:40	10:15	07-27	0.58	20078.00	20105.00	27.00	46.29	70.0	650.00	N/A	40.00	4600.00	4200.00	
Rotate	07-27	10:15	10:45	07-27	0.5	20105.00	20167.00	62.00	124.00	N/A	650.00	50.0	32.00	5700.00	5000.00	
Rotate	07-27	10:50	11:25	07-27	0.58	20167.00	20257.00	90.00	154.29	N/A	650.00	50.0	32.00	5700.00	5000.00	
Rotate	07-27	11:30	12:00	07-27	0.5	20257.00	20347.00	90.00	180.00	N/A	650.00	50.0	32.00	5700.00	5000.00	
Rotate	07-27	12:05	12:35	07-27	0.5	20347.00	20436.00	89.00	178.00	N/A	650.00	50.0	32.00	5700.00	5000.00	
Slide	07-27	12:40	13:10	07-27	0.5	20436.00	20456.00	20.00	40.00	260.0	650.00	N/A	40.00	4600.00	4200.00	
Rotate	07-27	13:10	13:35	07-27	0.42	20456.00	20526.00	70.00	168.00	N/A	650.00	50.0	32.00	5700.00	5000.00	
Rotate	07-27	13:40	14:15	07-27	0.58	20526.00	20577.00	51.00	87.43	N/A	650.00	50.0	32.00	5700.00	5000.00	
Slide	07-27	14:15	14:45	07-27	0.5	20577.00	20600.00	23.00	46.00	180.0	650.00	N/A	40.00	4600.00	4200.00	
Rotate	07-27	14:45	15:00	07-27	0.25	20600.00	20616.00	16.00	64.00	N/A	650.00	50.0	32.00	5700.00	5000.00	
Rotate	07-27	15:05	15:35	07-27	0.5	20616.00	20705.00	89.00	178.00	N/A	650.00	50.0	32.00	5700.00	5000.00	
Rotate	07-27	15:40	16:15	07-27	0.58	20705.00	20795.00	90.00	154.29	N/A	650.00	50.0	32.00	5700.00	5000.00	
Slide	07-27	16:25	17:15	07-27	0.83	20795.00	20827.00	32.00	38.40	0.0	650.00	N/A	40.00	4600.00	4200.00	
Rotate	07-27	17:15	17:45	07-27	0.5	20827.00	20885.00	58.00	116.00	N/A	650.00	50.0	32.00	5700.00	5000.00	
Rotate	07-27	18:00	18:15	07-27	0.25	20885.00	20919.00	34.00	136.00	N/A	650.00	50.0	32.00	5700.00	5000.00	
Slide	07-27	18:15	18:50	07-27	0.58	20919.00	20949.00	30.00	51.43	0.0	650.00	N/A	40.00	4600.00	4200.00	
Rotate	07-27	18:50	19:05	07-27	0.25	20949.00	20975.00	26.00	104.00	N/A	650.00	50.0	32.00	5700.00	5000.00	
Slide	07-27	19:15	19:50	07-27	0.58	20975.00	21000.00	25.00	42.86	40.0	650.00	N/A	40.00	4600.00	4200.00	
Rotate	07-27	19:50	20:15	07-27	0.42	21000.00	21064.00	64.00	153.60	N/A	650.00	50.0	32.00	5700.00	5000.00	
Rotate	07-27	20:20	20:55	07-27	0.58	21064.00	21154.00	90.00	154.29	N/A	650.00	50.0	32.00	5700.00	5000.00	
Rotate	07-27	21:00	21:30	07-27	0.5	21154.00	21244.00	90.00	180.00	N/A	650.00	50.0	32.00	5700.00	5000.00	
Rotate	07-27	21:35	22:05	07-27	0.5	21244.00	21333.00	89.00	178.00	N/A	650.00	50.0	32.00	5700.00	5000.00	
Rotate	07-27	22:10	22:40	07-27	0.5	21333.00	21423.00	90.00	180.00	N/A	650.00	50.0	32.00	5700.00	5000.00	
Slide	07-27	22:50	23:15	07-27	0.42	21423.00	21443.00	20.00	48.00	0.0	650.00	N/A	40.00	4600.00	4200.00	
Rotate	07-27	23:15	23:45	07-27	0.5	21443.00	21512.00	69.00	138.00	N/A	650.00	50.0	32.00	5700.00	5000.00	
Rotate	07-27	23:50	00:25	07-28	0.58	21512.00	21602.00	90.00	154.29	N/A	650.00	50.0	32.00	5700.00	5000.00	
Rotate	07-28	00:30	01:05	07-28	0.58	21602.00	21692.00	90.00	154.29	N/A	650.00	50.0	32.00	5700.00	5000.00	
Rotate	07-28	01:10	01:45	07-28	0.58	21692.00	21781.00	89.00	152.57	N/A	650.00	50.0	32.00	5700.00	5000.00	
Rotate	07-28	01:50	02:20	07-28	0.5	21781.00	21871.00	90.00	180.00	N/A	650.00	50.0	32.00	5700.00	5000.00	
Slide	07-28	02:30	03:00	07-28	0.5	21871.00	21891.00	20.00	40.00	150.0	650.00	N/A	40.00	4600.00	4200.00	
Rotate	07-28	03:00	03:25	07-28	0.42	21891.00	21961.00	70.00	168.00	N/A	650.00	50.0	32.00	5700.00	5000.00	
Rotate	07-28	03:30	04:00	07-28	0.5	21961.00	22050.00	89.00	178.00	N/A	650.00	50.0	32.00	5700.00	5000.00	
Rotate	07-28	04:05	04:35	07-28	0.5	22050.00	22134.00	84.00	168.00	N/A	650.00	50.0	32.00	5700.00	5000.00	



Daily Reports

Merchant State Unit 604Y (WT-20-057)

2020-07-10 to 2020-07-29

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



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
		Company Man

Friday, Jul 10 00:00 - 23:59 (Day 1 of 20)

Billing: \$15,000.00 (\$261,300.55 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	142.00	Downhole Hours	10.00	Rotating WOB (klbs)	15.00 - 25.00
Bit Depth (ft)	1306.00	Drilling Hours	7.00	Sliding WOB (klbs)	12.00 - 15.00
Bottom Hole Depth (ft)	1306.00	Hours Circulating	0.00	Rotating SPM	140.00 - 264.00
Total Distance (ft)	1164.00	Hours Sliding	1.67	Sliding SPM	170.00 - 264.00
Distance Rotated (ft)	989.00	Hours Rotating	5.33	Motor RPM	137.00 - 225.00
Distance Slid (ft)	175.00			Surface RPM	60.00 - 70.00
Inclination In	0.92			Flow Rate (gpm)	450.00 - 850.00
Inclination Out	2.37			On Bottom Pressure (psi)	950.00 - 2500.00
Azimuth In	192.14	% Hours Rotating	76%	Off Bottom Pressure (psi)	600.00 - 1750.00
Azimuth Out	82.72	% Hours Sliding	24%		
AVG Total ROP (ft/h)	166.29	% Distance Sliding	15%		
AVG Rotating ROP (ft/h)	185.44	% Distance Rotating	85%		
AVG Sliding ROP (ft/h)	105.00				

Personnel

Name	Position
Robert Olivarez	MWD Engineer
Advance Directional	Directional Driller

BHA #1 - 17.50" SURFACE

Date In: Jul 10, 2020, 14:00 Date Out: Jul 11, 2020, 12:15

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: 4
Vendor	Baker	Lobe/Stage	7/8, 4.0	
S/N	5308832	Bend Angle	1.5	MWD Comments
Nozzles	9-12's	Speed (rev/gal)	0.16	
Total Flow Area (in²)	0.994	Wear Pad OD (in)	8.410	POOH Reason
Drilling Hours for Day	7.00	Bit Distances		
Total Drilled for Day (ft)	1164.00	Bend (Bit to Bend): 6.16 ft, Survey (Bit to Survey): 55.00 ft		Total Depth/Casing Point: N/A
Drilling Hours for BHA	14.50			
Total Drilled for BHA (ft)	1661.00			

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: T606KS, Style: PDC, Gauge Length (in): 5.00, Size (in): 17.50	Baker	5308832	6 5/8" Reg Pin			17.500		1.50	1.50
Mud Motor Description: 8" 7/8 4.0 FXD 1.5° w/SS, Size (in): 8.00, Bend Angle (°): 1.5, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 4	AIM	800-40-007	6 5/8" Reg Box	6 5/8" Reg Pin		8.000		30.51	32.01
UBHO Sub Description: 8" UBHO, Type: Steel	AIM	800-606	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.000		2.59	34.60
Drill Collar Description: 8" NMDC, Style: Slick Drill, Type: NM	AIM	800011	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.080		30.05	64.65
Drill Collar Description: 8" NMDC, Style: Slick Drill, Type: NM	AIM	80001017	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.080		29.94	94.59
Crossover Sub Description: X/O 6 5/8 REG - PIN -- ED54 - BOX, Type: Steel	BLACK DIAMOND	BD15380	EverDrlg54 Box	6 5/8" Reg Pin	2.750	8.000		3.28	97.87
HWDP Description: 9 STANDS of HWDP, Style: Slick	RIG		EverDrlg54 Box	EverDrlg54 Pin	3.000	5.500		850.67	948.54

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	07-10	00:00	04:00	07-10			Standby while Skid from 604H and Rig Up
Rig Repair	14	07-10	04:00	08:00	07-10			WOR
Pick Up BHA	64	07-10	08:00	09:00	07-10			P/U BHA #1
Standby	15	07-10	09:00	14:00	07-10			Wait on Drilling Permit
Other	16	07-10	14:00	14:15	07-10			Spud in (Tag @ 142')
Rotary Drill	1	07-10	14:15	15:20	07-10	142.00	286.00	Pressure On (psi): 950.00, Pressure Off (psi): 600.00, Weight On Bit (klbs): 15.00, Surface RPM: 60, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 450.00, Strokes Per Minute: 140.00

Survey	46	07-10	15:20	15:35	07-10	286.00	286.00	Inclination (°): 0.920, Azimuth (°): 192.140, TVD (ft): 230.99, Dogleg (°/100 ft): 0.40, Sensor Depth (ft): 231.00, Bit To Sensor (ft): 55.00
Slide Drill	2	07-10	15:35	15:45	07-10	286.00	311.00	Pressure On (psi): 1250.00, Pressure Off (psi): 800.00, Weight On Bit (klbs): 12.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170, Toolface: 50, Toolface Type: magnetic
Rotary Drill	1	07-10	15:45	16:15	07-10	311.00	380.00	Pressure On (psi): 1250.00, Pressure Off (psi): 800.00, Weight On Bit (klbs): 15.00, Surface RPM: 70, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170.00
Survey	46	07-10	16:15	16:35	07-10	380.00	380.00	Inclination (°): 1.050, Azimuth (°): 147.850, TVD (ft): 324.98, Dogleg (°/100 ft): 0.80, Sensor Depth (ft): 325.00, Bit To Sensor (ft): 55.00
Slide Drill	2	07-10	16:35	16:50	07-10	380.00	410.00	Pressure On (psi): 1700.00, Pressure Off (psi): 1150.00, Weight On Bit (klbs): 12.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 201, Toolface: 35, Toolface Type: magnetic
Rotary Drill	1	07-10	16:50	17:05	07-10	410.00	475.00	Pressure On (psi): 1600.00, Pressure Off (psi): 1150.00, Weight On Bit (klbs): 25.00, Surface RPM: 70, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 201.00
Survey	46	07-10	17:05	17:15	07-10	475.00	475.00	Inclination (°): 1.140, Azimuth (°): 117.700, TVD (ft): 419.96, Dogleg (°/100 ft): 0.61, Sensor Depth (ft): 420.00, Bit To Sensor (ft): 55.00
Slide Drill	2	07-10	17:15	17:25	07-10	475.00	510.00	Pressure On (psi): 2050.00, Pressure Off (psi): 1400.00, Weight On Bit (klbs): 15.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 234, Toolface: 20, Toolface Type: magnetic
Rotary Drill	1	07-10	17:25	17:35	07-10	510.00	569.00	Pressure On (psi): 2100.00, Pressure Off (psi): 1500.00, Weight On Bit (klbs): 25.00, Surface RPM: 70, Surface Torque (ft lbf): 15000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 233.00
Survey	46	07-10	17:35	17:40	07-10	569.00	569.00	Inclination (°): 1.980, Azimuth (°): 79.030, TVD (ft): 513.93, Dogleg (°/100 ft): 1.39, Sensor Depth (ft): 514.00, Bit To Sensor (ft): 55.00
L/D DP	28	07-10	17:40	18:30	07-10			L/D 2 Joints of HWDP
Rotary Drill	1	07-10	18:30	18:55	07-10	569.00	664.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1750.00, Weight On Bit (klbs): 25.00, Surface RPM: 70, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264.00
Survey	46	07-10	18:55	19:00	07-10	664.00	664.00	Inclination (°): 2.860, Azimuth (°): 86.060, TVD (ft): 608.84, Dogleg (°/100 ft): 0.98, Sensor Depth (ft): 609.00, Bit To Sensor (ft): 55.00
Slide Drill	2	07-10	19:00	19:10	07-10	664.00	694.00	Pressure On (psi): 2150.00, Pressure Off (psi): 1750.00, Weight On Bit (klbs): 15.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264, Toolface: 325, Toolface Type: magnetic
P/U DP	29	07-10	19:10	19:35	07-10			P/U 2 Joints of HWDP
Rotary Drill	1	07-10	19:35	19:50	07-10	694.00	759.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1750.00, Weight On Bit (klbs): 25.00, Surface RPM: 70, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264.00
Survey	46	07-10	19:50	19:55	07-10	759.00	759.00	Inclination (°): 2.110, Azimuth (°): 66.370, TVD (ft): 703.75, Dogleg (°/100 ft): 1.19, Sensor Depth (ft): 704.00, Bit To Sensor (ft): 55.00
Rotary Drill	1	07-10	19:55	20:15	07-10	759.00	853.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1750.00, Weight On Bit (klbs): 25.00, Surface RPM: 70, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264.00
Survey	46	07-10	20:15	20:20	07-10	853.00	853.00	Inclination (°): 2.020, Azimuth (°): 72.000, TVD (ft): 797.69, Dogleg (°/100 ft): 0.24, Sensor Depth (ft): 798.00, Bit To Sensor (ft): 55.00
Rotary Drill	1	07-10	20:20	20:50	07-10	853.00	948.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1750.00, Weight On Bit (klbs): 25.00, Surface RPM: 70, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264.00
Survey	46	07-10	20:50	20:55	07-10	948.00	948.00	Inclination (°): 1.710, Azimuth (°): 83.510, TVD (ft): 892.64, Dogleg (°/100 ft): 0.51, Sensor Depth (ft): 893.00, Bit To Sensor (ft): 55.00
Slide Drill	2	07-10	20:55	21:20	07-10	948.00	973.00	Pressure On (psi): 2150.00, Pressure Off (psi): 1750.00, Weight On Bit (klbs): 15.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264, Toolface: 0, Toolface Type: magnetic
Rotary Drill	1	07-10	21:20	21:40	07-10	973.00	1038.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1750.00, Weight On Bit (klbs): 25.00, Surface RPM: 70, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264.00
Survey	46	07-10	21:40	21:45	07-10	1038.00	1038.00	Inclination (°): 2.070, Azimuth (°): 70.770, TVD (ft): 982.59, Dogleg (°/100 ft): 0.61, Sensor Depth (ft): 983.00, Bit To Sensor (ft): 55.00
Rotary Drill	1	07-10	21:45	22:10	07-10	1038.00	1127.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1750.00, Weight On Bit (klbs): 25.00, Surface RPM: 70, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264.00
Survey	46	07-10	22:10	22:15	07-10	1127.00	1127.00	Inclination (°): 2.020, Azimuth (°): 74.550, TVD (ft): 1071.54, Dogleg (°/100 ft): 0.16, Sensor Depth (ft): 1072.00, Bit To Sensor (ft): 55.00
Rotary Drill	1	07-10	22:15	22:45	07-10	1127.00	1217.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1750.00, Weight On Bit (klbs): 25.00, Surface RPM: 70, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264.00
Survey	46	07-10	22:45	22:50	07-10	1217.00	1217.00	Inclination (°): 2.020, Azimuth (°): 88.610, TVD (ft): 1161.48, Dogleg (°/100 ft): 0.55, Sensor Depth (ft): 1162.00, Bit To Sensor (ft): 55.00
Rotary Drill	1	07-10	22:50	22:55	07-10	1217.00	1220.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1750.00, Weight On Bit (klbs): 25.00, Surface RPM: 70, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264.00
Slide Drill	2	07-10	22:55	23:25	07-10	1220.00	1250.00	Pressure On (psi): 2150.00, Pressure Off (psi): 1750.00, Weight On Bit (klbs): 15.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264, Toolface: 0, Toolface Type: magnetic

Rotary Drill	1	07-10	23:25	23:55	07-10	1250.00	1306.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1750.00, Weight On Bit (klbs): 25.00, Surface RPM: 70, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264.00
Survey	46	07-10	23:55	00:00	07-11	1306.00	1306.00	Inclination (°): 2.370, Azimuth (°): 82.720, TVD (ft): 1250.42, Dogleg (°/100 ft): 0.47, Sensor Depth (ft): 1251.00, Bit To Sensor (ft): 55.00

MWD Activities

No Activities



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
		Company Man

Saturday, Jul 11 00:00 - 23:59 (Day 2 of 20)

Billing: \$4,100.00 (\$261,300.55 total)

Drilling Summary

Start Depth (ft)	1306.00	Downhole Hours	12.25	Rotating WOB (klbs)	30.00 - 40.00
Bit Depth (ft)	1803.00	Drilling Hours	7.50	Sliding WOB (klbs)	
Bottom Hole Depth (ft)	1803.00	Hours Circulating	1.33	Rotating SPM	264.00 - 264.00
Total Distance (ft)	497.00	Hours Sliding	0.00	Sliding SPM	
Distance Rotated (ft)	497.00	Hours Rotating	7.50	Motor RPM	137.00 - 225.00
Distance Slid (ft)	0.00			Surface RPM	80.00 - 80.00
Inclination In	2.24			Flow Rate (gpm)	850.00 - 850.00
Inclination Out	1.32			On Bottom Pressure (psi)	2650.00 - 2650.00
Azimuth In	81.23	% Hours Rotating	100%	Off Bottom Pressure (psi)	1750.00 - 1750.00
Azimuth Out	116.21	% Hours Sliding	0%		
AVG Total ROP (ft/h)	66.27	% Distance Sliding	0%		
AVG Rotating ROP (ft/h)	66.27	% Distance Rotating	100%		
AVG Sliding ROP (ft/h)	0.00				

Personnel

Name	Position
Robert Olivarez	MWD Engineer
Advance Directional	Directional Driller

BHA #1 - 17.50" SURFACE

Date In: Jul 10, 2020, 14:00 Date Out: Jul 11, 2020, 12:15

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: 4			
Vendor	Baker	Lobe/Stage	7/8, 4.0				
S/N	5308832	Bend Angle	1.5				
Nozzles	9-12's	Speed (rev/gal)	0.16	MWD Comments			
Total Flow Area (in²)	0.994	Wear Pad OD (in)	8.410	<th>POOH Reason</th> <td>Total Depth/Casing Point: N/A</td>		POOH Reason	Total Depth/Casing Point: N/A
Drilling Hours for Day	7.50	Bit Distances					
Total Drilled for Day (ft)	497.00	Bend (Bit to Bend): 6.16 ft, Survey (Bit to Survey): 55.00 ft					
Drilling Hours for BHA	14.50						
Total Drilled for BHA (ft)	1661.00						

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: T606KS, Style: PDC, Gauge Length (in): 5.00, Size (in): 17.50	Baker	5308832	6 5/8" Reg Pin			17.500		1.50	1.50
Mud Motor Description: 8" 7/8 4.0 FXD 1.5° w/SS, Size (in): 8.00, Bend Angle (°): 1.5, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 4	AIM	800-40-007	6 5/8" Reg Box	6 5/8" Reg Pin		8.000		30.51	32.01
UBHO Sub Description: 8" UBHO, Type: Steel	AIM	800-606	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.000		2.59	34.60
Drill Collar Description: 8" NMDC, Style: Slick Drill, Type: NM	AIM	800011	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.080		30.05	64.65
Drill Collar Description: 8" NMDC, Style: Slick Drill, Type: NM	AIM	80001017	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.080		29.94	94.59
Crossover Sub Description: X/O 6 5/8 REG - PIN -- ED54 - BOX, Type: Steel	BLACK DIAMOND	BD15380	EverDrlg54 Box	6 5/8" Reg Pin	2.750	8.000		3.28	97.87
HWDP Description: 9 STANDS of HWDP, Style: Slick	RIG		EverDrlg54 Box	EverDrlg54 Pin	3.000	5.500		850.67	948.54

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	07-10	23:55	00:00	07-11	1306.00	1306.00	Inclination (°): 2.370, Azimuth (°): 82.720, TVD (ft): 1250.42, Dogleg (°/100 ft): 0.47, Sensor Depth (ft): 1251.00, Bit To Sensor (ft): 55.00
Rotary Drill	1	07-11	00:00	00:45	07-11	1306.00	1396.00	Pressure On (psi): 2650.00, Pressure Off (psi): 1750.00, Weight On Bit (klbs): 30.00, Surface RPM: 80, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264.00

Survey	46	07-11	00:45	00:50	07-11	1396.00	1396.00	Inclination (°): 2.240, Azimuth (°): 81.230, TVD (ft): 1340.34, Dogleg (%/100 ft): 0.16, Sensor Depth (ft): 1341.00, Bit To Sensor (ft): 55.00
Rotary Drill	1	07-11	00:50	01:45	07-11	1396.00	1485.00	Pressure On (psi): 2650.00, Pressure Off (psi): 1750.00, Weight On Bit (klbs): 30.00, Surface RPM: 80, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264.00
Survey	46	07-11	01:45	01:50	07-11	1485.00	1485.00	Inclination (°): 1.800, Azimuth (°): 82.370, TVD (ft): 1429.29, Dogleg (%/100 ft): 0.50, Sensor Depth (ft): 1430.00, Bit To Sensor (ft): 55.00
Rotary Drill	1	07-11	01:50	02:45	07-11	1485.00	1575.00	Pressure On (psi): 2650.00, Pressure Off (psi): 1750.00, Weight On Bit (klbs): 40.00, Surface RPM: 80, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264.00
Survey	46	07-11	02:45	02:50	07-11	1575.00	1575.00	Inclination (°): 1.490, Azimuth (°): 86.240, TVD (ft): 1519.25, Dogleg (%/100 ft): 0.37, Sensor Depth (ft): 1520.00, Bit To Sensor (ft): 55.00
Rotary Drill	1	07-11	02:50	03:50	07-11	1575.00	1665.00	Pressure On (psi): 2650.00, Pressure Off (psi): 1750.00, Weight On Bit (klbs): 40.00, Surface RPM: 80, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264.00
Survey	46	07-11	03:50	03:55	07-11	1665.00	1665.00	Inclination (°): 1.100, Azimuth (°): 109.180, TVD (ft): 1609.23, Dogleg (%/100 ft): 0.71, Sensor Depth (ft): 1610.00, Bit To Sensor (ft): 55.00
Rotary Drill	1	07-11	03:55	04:55	07-11	1665.00	1754.00	Pressure On (psi): 2650.00, Pressure Off (psi): 1750.00, Weight On Bit (klbs): 40.00, Surface RPM: 80, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264.00
Survey	46	07-11	04:55	05:00	07-11	1754.00	1754.00	Inclination (°): 1.270, Azimuth (°): 110.930, TVD (ft): 1698.21, Dogleg (%/100 ft): 0.20, Sensor Depth (ft): 1699.00, Bit To Sensor (ft): 55.00
Rotary Drill	1	07-11	05:00	07:55	07-11	1754.00	1803.00	Pressure On (psi): 2650.00, Pressure Off (psi): 1750.00, Weight On Bit (klbs): 40.00, Surface RPM: 80, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264.00
Circulating	3	07-11	07:55	09:15	07-11			CIRC
Survey	46	07-11	09:15	09:20	07-11	1803.00	1803.00	Inclination (°): 1.320, Azimuth (°): 116.210, TVD (ft): 1747.20, Dogleg (%/100 ft): 0.26, Sensor Depth (ft): 1748.00, Bit To Sensor (ft): 55.00
Pooh	7	07-11	09:20	12:15	07-11			POOH for CASING OPS
Lay Down BHA	65	07-11	12:15	12:40	07-11			L/D MWD TOOL, DRAIN MOTOR, BREAK BIT & RACK BACK BHA
Standby	15	07-11	12:40	04:00	07-12			Standby while SURFACE CASING / CEMENT OPS

MWD Activities

No Activities



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
		Company Man

Sunday, Jul 12 00:00 - 23:59 (Day 3 of 20)

Billing: \$6,500.00 (\$261,300.55 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	1803.00	Downhole Hours	13.50	Rotating WOB (klbs)	35.00 - 35.00
Bit Depth (ft)	2926.00	Drilling Hours	5.25	Sliding WOB (klbs)	20.00 - 20.00
Bottom Hole Depth (ft)	2926.00	Hours Circulating	1.75	Rotating SPM	249.00 - 249.00
Total Distance (ft)	1123.00	Hours Sliding	1.58	Sliding SPM	249.00 - 249.00
Distance Rotated (ft)	1003.00	Hours Rotating	3.67	Motor RPM	154.00 - 188.00
Distance Slid (ft)	120.00			Surface RPM	50.00 - 60.00
Inclination In	1.85			Flow Rate (gpm)	800.00 - 800.00
Inclination Out	1.98			On Bottom Pressure (psi)	2350.00 - 2650.00
Azimuth In	104.87	% Hours Rotating	70%	Off Bottom Pressure (psi)	2000.00 - 2050.00
Azimuth Out	75.60	% Hours Sliding	30%		
AVG Total ROP (ft/h)	213.90	% Distance Sliding	11%		
AVG Rotating ROP (ft/h)	273.55	% Distance Rotating	89%		
AVG Sliding ROP (ft/h)	75.79				

Personnel

Name	Position
Robert Olivarez	MWD Engineer
Advance Directional	Directional Driller

BHA #2 - Intermediate 12.25"

Date In: Jul 12, 2020, 10:30 Date Out: Jul 13, 2020, 11:45

Bit Details		Motor Details		Directional Comments
OD (in)	12.250	Size (in)	8.0	Flow Rate: 400-900, Max Diff: 1390 psi, Max Torque: 21,870 ft-lbs, BIT Runs:1
Vendor	Ultrerra	Lobe/Stage	7/8, 5.9	
S/N	52606	Bend Angle	1.5	
Nozzles	9-12's	Speed (rev/gal)	0.16	MWD Comments
Total Flow Area (in²)	0.994	Wear Pad OD (in)	8.410	
Drilling Hours for Day	5.25	Bit Distances		
Total Drilled for Day (ft)	1123.00	Bend (Bit to Bend): 6.00 ft, Survey (Bit to Survey): 61.00 ft		POOH Reason
Drilling Hours for BHA	12.42			
Total Drilled for BHA (ft)	2198.00			

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	Ultrerra	52606	6 5/8" Reg Pin			12.250		1.00	1.00
Mud Motor Description: 8" 7/8 5.9 FXD 1.5° w/SS, Size (in): 8.00, Bend Angle (°): 1.5, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 5.9	BUTCH'S	BDT800-010	6 5/8" Reg Box	6 5/8" Reg Box		8.000		37.57	38.57
UBHO Sub Description: 8" UBHO, Type: Steel	AIM	800-606	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.000		2.59	41.16
Drill Collar Description: 8" NMDC, Style: Slick Drill, Type: NM	AIM	800011	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.080		30.05	71.21
Drill Collar Description: 8" NMDC, Style: Slick Drill, Type: NM	AIM	80001017	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.080		29.94	101.15
Crossover Sub Description: X/O 6 5/8 REG - PIN -- ED54 - BOX, Type: Steel	BLACK DIAMOND	BD15380	EverDrlg54 Box	6 5/8" Reg Pin	2.750	8.000		3.28	104.43
HWDP Description: 9 STANDS of HWDP, Style: Slick	RIG		EverDrlg54 Box	EverDrlg54 Pin	3.000	5.500		850.67	955.10

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	07-11	12:40	04:00	07-12			Standby while SURFACE CASING / CEMENT OPS
Standby	15	07-12	04:00	09:30	07-12			Standby while N/U & TEST MWD
Pick Up BHA	64	07-12	09:30	10:30	07-12			P/U BHA #2
Other	16	07-12	10:30	10:45	07-12			TEST MWD TOOL
TIH	8	07-12	10:45	13:00	07-12			TIH W/ BHA #2
Other	16	07-12	13:00	16:00	07-12			TEST CASING & LEVEL DERRICK
Drilling Cement	17	07-12	16:00	17:45	07-12	1803.00	1803.00	Drilling Cement and Float Equipment

Rotary Drill	1	07-12	17:45	18:40	07-12	1803.00	1940.00	Pressure On (psi): 2650.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 35.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249.00
Survey	46	07-12	18:40	18:45	07-12	1940.00	1940.00	Inclination (°): 1.850, Azimuth (°): 104.870, TVD (ft): 1878.15, Dogleg (%/100 ft): 0.47, Sensor Depth (ft): 1879.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-12	18:45	19:00	07-12	1940.00	2030.00	Pressure On (psi): 2650.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 35.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249.00
Survey	46	07-12	19:00	19:05	07-12	2030.00	2030.00	Inclination (°): 2.510, Azimuth (°): 112.600, TVD (ft): 1968.08, Dogleg (%/100 ft): 0.80, Sensor Depth (ft): 1969.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-12	19:05	19:10	07-12	2030.00	2040.00	Pressure On (psi): 2650.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 35.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249.00
Slide Drill	2	07-12	19:10	19:30	07-12	2040.00	2060.00	Pressure On (psi): 2350.00, Pressure Off (psi): 2050.00, Weight On Bit (klbs): 20.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249, Toolface: 320, Toolface Type: magnetic
Rotary Drill	1	07-12	19:30	19:45	07-12	2060.00	2119.00	Pressure On (psi): 2650.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 35.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249.00
Survey	46	07-12	19:45	19:50	07-12	2119.00	2119.00	Inclination (°): 2.110, Azimuth (°): 94.760, TVD (ft): 2057.01, Dogleg (%/100 ft): 0.92, Sensor Depth (ft): 2058.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-12	19:50	20:05	07-12	2119.00	2209.00	Pressure On (psi): 2650.00, Pressure Off (psi): 2050.00, Weight On Bit (klbs): 35.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249.00
Survey	46	07-12	20:05	20:10	07-12	2209.00	2209.00	Inclination (°): 2.020, Azimuth (°): 90.980, TVD (ft): 2146.95, Dogleg (%/100 ft): 0.18, Sensor Depth (ft): 2148.00, Bit To Sensor (ft): 61.00
Slide Drill	2	07-12	20:10	20:25	07-12	2209.00	2229.00	Pressure On (psi): 2350.00, Pressure Off (psi): 2050.00, Weight On Bit (klbs): 20.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249, Toolface: 330, Toolface Type: magnetic
Rotary Drill	1	07-12	20:25	20:40	07-12	2229.00	2299.00	Pressure On (psi): 2650.00, Pressure Off (psi): 2050.00, Weight On Bit (klbs): 35.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249.00
Survey	46	07-12	20:40	20:45	07-12	2299.00	2299.00	Inclination (°): 2.460, Azimuth (°): 63.030, TVD (ft): 2236.89, Dogleg (%/100 ft): 1.29, Sensor Depth (ft): 2238.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-12	20:45	20:55	07-12	2299.00	2388.00	Pressure On (psi): 2650.00, Pressure Off (psi): 2050.00, Weight On Bit (klbs): 35.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249.00
Survey	46	07-12	20:55	21:00	07-12	2388.00	2388.00	Inclination (°): 2.770, Azimuth (°): 56.710, TVD (ft): 2325.79, Dogleg (%/100 ft): 0.48, Sensor Depth (ft): 2327.00, Bit To Sensor (ft): 61.00
Slide Drill	2	07-12	21:00	21:30	07-12	2388.00	2413.00	Pressure On (psi): 2350.00, Pressure Off (psi): 2050.00, Weight On Bit (klbs): 20.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249, Toolface: 235, Toolface Type: magnetic
Rotary Drill	1	07-12	21:30	21:40	07-12	2413.00	2478.00	Pressure On (psi): 2650.00, Pressure Off (psi): 2050.00, Weight On Bit (klbs): 35.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249.00
Survey	46	07-12	21:40	21:45	07-12	2478.00	2478.00	Inclination (°): 2.070, Azimuth (°): 57.320, TVD (ft): 2415.71, Dogleg (%/100 ft): 0.78, Sensor Depth (ft): 2417.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-12	21:45	22:00	07-12	2478.00	2567.00	Pressure On (psi): 2650.00, Pressure Off (psi): 2050.00, Weight On Bit (klbs): 35.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249.00
Survey	46	07-12	22:00	22:05	07-12	2567.00	2567.00	Inclination (°): 2.110, Azimuth (°): 65.410, TVD (ft): 2504.65, Dogleg (%/100 ft): 0.33, Sensor Depth (ft): 2506.00, Bit To Sensor (ft): 61.00
Slide Drill	2	07-12	22:05	22:15	07-12	2567.00	2587.00	Pressure On (psi): 2350.00, Pressure Off (psi): 2050.00, Weight On Bit (klbs): 20.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249, Toolface: 260, Toolface Type: magnetic
Rotary Drill	1	07-12	22:15	22:30	07-12	2587.00	2657.00	Pressure On (psi): 2650.00, Pressure Off (psi): 2050.00, Weight On Bit (klbs): 35.00, Surface RPM: 60, Surface Torque (ft lbf): 22000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249.00
Survey	46	07-12	22:30	22:35	07-12	2657.00	2657.00	Inclination (°): 1.930, Azimuth (°): 66.460, TVD (ft): 2594.60, Dogleg (%/100 ft): 0.20, Sensor Depth (ft): 2596.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-12	22:35	22:50	07-12	2657.00	2746.00	Pressure On (psi): 2650.00, Pressure Off (psi): 2050.00, Weight On Bit (klbs): 35.00, Surface RPM: 60, Surface Torque (ft lbf): 22000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249.00
Survey	46	07-12	22:50	22:55	07-12	2746.00	2746.00	Inclination (°): 2.200, Azimuth (°): 59.960, TVD (ft): 2683.54, Dogleg (%/100 ft): 0.40, Sensor Depth (ft): 2685.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-12	22:55	23:00	07-12	2746.00	2752.00	Pressure On (psi): 2650.00, Pressure Off (psi): 2050.00, Weight On Bit (klbs): 35.00, Surface RPM: 60, Surface Torque (ft lbf): 22000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249.00
Slide Drill	2	07-12	23:00	23:20	07-12	2752.00	2787.00	Pressure On (psi): 2350.00, Pressure Off (psi): 2050.00, Weight On Bit (klbs): 20.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249, Toolface: 240, Toolface Type: gravity
Rotary Drill	1	07-12	23:20	23:30	07-12	2787.00	2836.00	Pressure On (psi): 2650.00, Pressure Off (psi): 2050.00, Weight On Bit (klbs): 35.00, Surface RPM: 60, Surface Torque (ft lbf): 22000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249.00
Survey	46	07-12	23:30	23:35	07-12	2836.00	2836.00	Inclination (°): 1.800, Azimuth (°): 66.020, TVD (ft): 2773.48, Dogleg (%/100 ft): 0.50, Sensor Depth (ft): 2775.00, Bit To Sensor (ft): 61.00

Rotary Drill	1	07-12	23:35	23:55	07-12	2836.00	2926.00	Pressure On (psi): 2650.00, Pressure Off (psi): 2050.00, Weight On Bit (klbs): 35.00, Surface RPM: 60, Surface Torque (ft lbf): 22000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249.00
Survey	46	07-12	23:55	00:00	07-13	2926.00	2926.00	Inclination (°): 1.980, Azimuth (°): 75.600, TVD (ft): 2863.44, Dogleg (°/100 ft): 0.40, Sensor Depth (ft): 2865.00, Bit To Sensor (ft): 61.00
MWD Activities								
No Activities								



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
		Company Man

Monday, Jul 13 00:00 - 23:59 (Day 4 of 20)

Billing: \$6,500.00 (\$261,300.55 total)

Drilling Summary

Start Depth (ft)	2926.00	Downhole Hours	23.25	Rotating WOB (klbs)	35.00 - 38.00
Bit Depth (ft)	4808.00	Drilling Hours	13.33	Sliding WOB (klbs)	10.00 - 25.00
Bottom Hole Depth (ft)	4808.00	Hours Circulating	0.42	Rotating SPM	249.00 - 249.00
Total Distance (ft)	1882.00	Hours Sliding	3.33	Sliding SPM	249.00 - 249.00
Distance Rotated (ft)	1662.00	Hours Rotating	10.00	Motor RPM	154.00 - 188.00
Distance Slid (ft)	220.00			Surface RPM	60.00 - 60.00
Inclination In	2.77			Flow Rate (gpm)	800.00 - 800.00
Inclination Out	1.63			On Bottom Pressure (psi)	2250.00 - 3450.00
Azimuth In	74.37	% Hours Rotating	75%	Off Bottom Pressure (psi)	2050.00 - 2650.00
Azimuth Out	333.74	% Hours Sliding	25%		
AVG Total ROP (ft/h)	140.79	% Distance Sliding	12%		
AVG Rotating ROP (ft/h)	164.16	% Distance Rotating	88%		
AVG Sliding ROP (ft/h)	66.00				

Personnel

Name	Position
Robert Olivarez	MWD Engineer
Advance Directional	Directional Driller

BHA #2 - Intermediate 12.25"

Date In: Jul 12, 2020, 10:30 Date Out: Jul 13, 2020, 11:45

Bit Details		Motor Details		Directional Comments	
OD (in)	12.250	Size (in)	8.0	Flow Rate: 400-900, Max Diff: 1390 psi, Max Torque: 21,870 ft-lbs, BIT Runs:1	
Vendor	Ultrerra	Lobe/Stage	7/8, 5.9		
S/N	52606	Bend Angle	1.5	MWD Comments	
Nozzles	9-12's	Speed (rev/gal)	0.16		
Total Flow Area (in²)	0.994	Wear Pad OD (in)	8.410		
Drilling Hours for Day	7.17	Bit Distances		POOH Reason Pressure Spike: GAINED 800-1000 psi OFF BOTTOM.	
Total Drilled for Day (ft)	1075.00	Bend (Bit to Bend): 6.00 ft, Survey (Bit to Survey): 61.00 ft			
Drilling Hours for BHA	12.42				
Total Drilled for BHA (ft)	2198.00				

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>	Ultrerra	52606	6 5/8" Reg Pin			12.250		1.00	1.00
Mud Motor Description: <i>8" 7/8 5.9 FXD 1.5° 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>5.9</i>	BUTCH'S	BDT800-010	6 5/8" Reg Box	6 5/8" Reg Box		8.000		37.57	38.57
UBHO Sub Description: <i>8" UBHO</i> , Type: <i>Steel</i>	AIM	800-606	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.000		2.59	41.16
Drill Collar Description: <i>8" NMDC</i> , Style: <i>Slick Drill</i> , Type: <i>NM</i>	AIM	800011	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.080		30.05	71.21
Drill Collar Description: <i>8" NMDC</i> , Style: <i>Slick Drill</i> , Type: <i>NM</i>	AIM	80001017	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.080		29.94	101.15
Crossover Sub Description: <i>X/O 6 5/8 REG - PIN -- ED54 - BOX</i> , Type: <i>Steel</i>	BLACK DIAMOND	BD15380	EverDrlg54 Box	6 5/8" Reg Pin	2.750	8.000		3.28	104.43
HWDP Description: <i>9 STANDS of HWDP</i> , Style: <i>Slick</i>	RIG		EverDrlg54 Box	EverDrlg54 Pin	3.000	5.500		850.67	955.10

MWD Items

No Items

BHA #3 - Intermediate 12.25"

Date In: Jul 13, 2020, 12:30 Date Out: Jul 14, 2020, 11:30

Bit Details		Motor Details		Directional Comments
OD (in)	12.250	Size (in)	8.0	Flow Rate: 400-900, Max Diff: 1390 psi, Max Torque: 21,870 ft-lbs, BIT Runs:2
Vendor	Ulterra	Lobe/Stage	7/8, 5.9	
S/N	52607	Bend Angle	1.5	
Nozzles	9-12's	Speed (rev/gal)	0.16	MWD Comments
Total Flow Area (in²)	0.994	Wear Pad OD (in)	8.330	POOH Reason Total Depth/Casing Point: N/A
Drilling Hours for Day	6.17	Bit Distances		
Total Drilled for Day (ft)	807.00	Bend (Bit to Bend): 5.98 ft, Survey (Bit to Survey): 61.00 ft		
Drilling Hours for BHA	9.92			
Total Drilled for BHA (ft)	1329.00			

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	52607	6 5/8" Reg Pin			12.250		1.00	1.00
Mud Motor Description: <i>8" 7/8 5.9 FXD 1.5° 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>5.9</i>	BUTCH'S	BDT 800-013	6 5/8" Reg Box	6 5/8" Reg Box		8.000		37.52	38.52
UBHO Sub Description: <i>8" UBHO</i> , Type: <i>Steel</i>	AIM	800-606	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.000		2.59	41.11
Drill Collar Description: <i>8" NMDC</i> , Style: <i>Slick Drill</i> , Type: <i>NM</i>	AIM	800011	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.080		30.05	71.16
Drill Collar Description: <i>8" NMDC</i> , Style: <i>Slick Drill</i> , Type: <i>NM</i>	AIM	80001017	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.080		29.94	101.10
Crossover Sub Description: <i>X/O 6 5/8 REG - PIN -- ED54 - BOX</i> , Type: <i>Steel</i>	BLACK DIAMOND	BD15380	EverDrlg54 Box	6 5/8" Reg Pin	2.750	8.000		3.28	104.38
HWDP Description: <i>9 STANDS of HWDP</i> , Style: <i>Slick</i>	RIG		EverDrlg54 Box	EverDrlg54 Pin	3.000	5.500		850.91	955.29

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	07-12	23:55	00:00	07-13	2926.00	2926.00	Inclination (°): <i>1.980</i> , Azimuth (°): <i>75.600</i> , TVD (ft): <i>2863.44</i> , Dogleg (%/100 ft): <i>0.40</i> , Sensor Depth (ft): <i>2865.00</i> , Bit To Sensor (ft): <i>61.00</i>
Rotary Drill	1	07-13	00:00	00:10	07-13	2926.00	3015.00	Pressure On (psi): <i>2650.00</i> , Pressure Off (psi): <i>2050.00</i> , Weight On Bit (klbs): <i>35.00</i> , Surface RPM: <i>60</i> , Surface Torque (ft lbf): <i>22000.00</i> , Flow Rate (gpm): <i>800.00</i> , Strokes Per Minute: <i>249.00</i>
Survey	46	07-13	00:10	00:15	07-13	3015.00	3015.00	Inclination (°): <i>2.770</i> , Azimuth (°): <i>74.370</i> , TVD (ft): <i>2952.36</i> , Dogleg (%/100 ft): <i>0.89</i> , Sensor Depth (ft): <i>2954.00</i> , Bit To Sensor (ft): <i>61.00</i>
Slide Drill	2	07-13	00:15	00:45	07-13	3015.00	3060.00	Pressure On (psi): <i>2350.00</i> , Pressure Off (psi): <i>2050.00</i> , Weight On Bit (klbs): <i>20.00</i> , Flow Rate (gpm): <i>800.00</i> , Strokes Per Minute: <i>249</i> , Toolface: <i>270</i> , Toolface Type: <i>magnetic</i>
Rotary Drill	1	07-13	00:45	00:55	07-13	3060.00	3105.00	Pressure On (psi): <i>2650.00</i> , Pressure Off (psi): <i>2050.00</i> , Weight On Bit (klbs): <i>35.00</i> , Surface RPM: <i>60</i> , Surface Torque (ft lbf): <i>22000.00</i> , Flow Rate (gpm): <i>800.00</i> , Strokes Per Minute: <i>249.00</i>
Survey	46	07-13	00:55	01:00	07-13	3105.00	3105.00	Inclination (°): <i>2.330</i> , Azimuth (°): <i>68.130</i> , TVD (ft): <i>3042.27</i> , Dogleg (%/100 ft): <i>0.58</i> , Sensor Depth (ft): <i>3044.00</i> , Bit To Sensor (ft): <i>61.00</i>
Slide Drill	2	07-13	01:00	01:25	07-13	3105.00	3140.00	Pressure On (psi): <i>2350.00</i> , Pressure Off (psi): <i>2050.00</i> , Weight On Bit (klbs): <i>20.00</i> , Flow Rate (gpm): <i>800.00</i> , Strokes Per Minute: <i>249</i> , Toolface: <i>270</i> , Toolface Type: <i>magnetic</i>
Rotary Drill	1	07-13	01:25	01:35	07-13	3140.00	3195.00	Pressure On (psi): <i>2650.00</i> , Pressure Off (psi): <i>2050.00</i> , Weight On Bit (klbs): <i>35.00</i> , Surface RPM: <i>60</i> , Surface Torque (ft lbf): <i>22000.00</i> , Flow Rate (gpm): <i>800.00</i> , Strokes Per Minute: <i>249.00</i>
Survey	46	07-13	01:35	01:40	07-13	3195.00	3195.00	Inclination (°): <i>1.320</i> , Azimuth (°): <i>56.880</i> , TVD (ft): <i>3132.22</i> , Dogleg (%/100 ft): <i>1.19</i> , Sensor Depth (ft): <i>3134.00</i> , Bit To Sensor (ft): <i>61.00</i>
Rotary Drill	1	07-13	01:40	02:00	07-13	3195.00	3284.00	Pressure On (psi): <i>2650.00</i> , Pressure Off (psi): <i>2050.00</i> , Weight On Bit (klbs): <i>35.00</i> , Surface RPM: <i>60</i> , Surface Torque (ft lbf): <i>22000.00</i> , Flow Rate (gpm): <i>800.00</i> , Strokes Per Minute: <i>249.00</i>
Survey	46	07-13	02:00	02:05	07-13	3284.00	3284.00	Inclination (°): <i>1.580</i> , Azimuth (°): <i>57.500</i> , TVD (ft): <i>3221.19</i> , Dogleg (%/100 ft): <i>0.29</i> , Sensor Depth (ft): <i>3223.00</i> , Bit To Sensor (ft): <i>61.00</i>
Rotary Drill	1	07-13	02:05	02:10	07-13	3284.00	3294.00	Pressure On (psi): <i>2650.00</i> , Pressure Off (psi): <i>2050.00</i> , Weight On Bit (klbs): <i>35.00</i> , Surface RPM: <i>60</i> , Surface Torque (ft lbf): <i>22000.00</i> , Flow Rate (gpm): <i>800.00</i> , Strokes Per Minute: <i>249.00</i>

Slide Drill	2	07-13	02:10	02:25	07-13	3294.00	3314.00	Pressure On (psi): 2350.00, Pressure Off (psi): 2050.00, Weight On Bit (klbs): 20.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249, Toolface: 250, Toolface Type: magnetic
Rotary Drill	1	07-13	02:25	02:40	07-13	3314.00	3374.00	Pressure On (psi): 2650.00, Pressure Off (psi): 2050.00, Weight On Bit (klbs): 35.00, Surface RPM: 60, Surface Torque (ft lbf): 22000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249.00
Survey	46	07-13	02:40	02:45	07-13	3374.00	3374.00	Inclination (°): 1.230, Azimuth (°): 38.600, TVD (ft): 3311.17, Dogleg (%/100 ft): 0.64, Sensor Depth (ft): 3313.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-13	02:45	03:05	07-13	3374.00	3464.00	Pressure On (psi): 2650.00, Pressure Off (psi): 2050.00, Weight On Bit (klbs): 35.00, Surface RPM: 60, Surface Torque (ft lbf): 22000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249.00
Survey	46	07-13	03:05	03:10	07-13	3464.00	3464.00	Inclination (°): 1.710, Azimuth (°): 27.000, TVD (ft): 3401.14, Dogleg (%/100 ft): 0.62, Sensor Depth (ft): 3403.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-13	03:10	03:15	07-13	3464.00	3470.00	Pressure On (psi): 2650.00, Pressure Off (psi): 2050.00, Weight On Bit (klbs): 35.00, Surface RPM: 60, Surface Torque (ft lbf): 22000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249.00
Slide Drill	2	07-13	03:15	03:40	07-13	3470.00	3500.00	Pressure On (psi): 2350.00, Pressure Off (psi): 2050.00, Weight On Bit (klbs): 20.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249, Toolface: 200, Toolface Type: magnetic
Rotary Drill	1	07-13	03:40	03:55	07-13	3500.00	3553.00	Pressure On (psi): 2650.00, Pressure Off (psi): 2050.00, Weight On Bit (klbs): 35.00, Surface RPM: 60, Surface Torque (ft lbf): 22000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249.00
Survey	46	07-13	03:55	04:00	07-13	3553.00	3553.00	Inclination (°): 1.140, Azimuth (°): 53.540, TVD (ft): 3490.11, Dogleg (%/100 ft): 0.96, Sensor Depth (ft): 3492.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-13	04:00	04:45	07-13	3553.00	3643.00	Pressure On (psi): 3450.00, Pressure Off (psi): 2650.00, Weight On Bit (klbs): 38.00, Surface RPM: 60, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249.00
Survey	46	07-13	04:45	04:50	07-13	3643.00	3643.00	Inclination (°): 1.140, Azimuth (°): 82.280, TVD (ft): 3580.09, Dogleg (%/100 ft): 0.63, Sensor Depth (ft): 3582.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-13	04:50	05:25	07-13	3643.00	3733.00	Pressure On (psi): 3450.00, Pressure Off (psi): 2650.00, Weight On Bit (klbs): 38.00, Surface RPM: 60, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249.00
Survey	46	07-13	05:25	05:30	07-13	3733.00	3733.00	Inclination (°): 1.760, Azimuth (°): 85.090, TVD (ft): 3670.06, Dogleg (%/100 ft): 0.69, Sensor Depth (ft): 3672.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-13	05:30	05:35	07-13	3733.00	3746.00	Pressure On (psi): 3450.00, Pressure Off (psi): 2650.00, Weight On Bit (klbs): 38.00, Surface RPM: 60, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249.00
Slide Drill	2	07-13	05:35	06:20	07-13	3746.00	3771.00	Pressure On (psi): 3000.00, Pressure Off (psi): 2650.00, Weight On Bit (klbs): 25.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249, Toolface: 290, Toolface Type: magnetic
Rotary Drill	1	07-13	06:20	06:50	07-13	3771.00	3822.00	Pressure On (psi): 3450.00, Pressure Off (psi): 2650.00, Weight On Bit (klbs): 38.00, Surface RPM: 60, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249.00
Survey	46	07-13	06:50	06:55	07-13	3822.00	3822.00	Inclination (°): 1.670, Azimuth (°): 71.820, TVD (ft): 3759.02, Dogleg (%/100 ft): 0.46, Sensor Depth (ft): 3761.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-13	06:55	07:35	07-13	3822.00	3912.00	Pressure On (psi): 3450.00, Pressure Off (psi): 2650.00, Weight On Bit (klbs): 38.00, Surface RPM: 60, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249.00
Survey	46	07-13	07:35	07:45	07-13	3912.00	3912.00	Inclination (°): 1.360, Azimuth (°): 54.680, TVD (ft): 3848.99, Dogleg (%/100 ft): 0.61, Sensor Depth (ft): 3851.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-13	07:45	08:10	07-13	3912.00	4001.00	Pressure On (psi): 3450.00, Pressure Off (psi): 2650.00, Weight On Bit (klbs): 38.00, Surface RPM: 60, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249.00
Connection	33	07-13	08:10	08:20	07-13			CONN
Circulating	3	07-13	08:20	08:45	07-13			CIRCULATING TO POOH, POSSIBLE MOTOR FAILURE / PRESSURING UP, GAINED 1000 psi OFF BOTTOM.
Pooh	7	07-13	08:45	11:45	07-13			POOH FOR PRESSURE INCREASE / POSSIBLE MOTOR FAILURE
Change BHA	6	07-13	11:45	12:30	07-13			P/U BHA #3
TIH	8	07-13	12:30	12:55	07-13			TIH W/ BHA #3
Other	16	07-13	12:55	13:00	07-13			TEST MWD TOOL
TIH	8	07-13	13:00	16:00	07-13			TIH W/ BHA #??
Other	16	07-13	16:00	16:45	07-13			Fill pipe and ream to bottom.
Survey	46	07-13	16:45	16:50	07-13	4001.00	4001.00	Inclination (°): 1.710, Azimuth (°): 59.080, TVD (ft): 3937.96, Dogleg (%/100 ft): 0.41, Sensor Depth (ft): 3940.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-13	16:50	17:20	07-13	4001.00	4090.00	Pressure On (psi): 2600.00, Pressure Off (psi): 2100.00, Weight On Bit (klbs): 38.00, Surface RPM: 60, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249.00

Survey	46	07-13	17:20	17:30	07-13	4090.00	4090.00	Inclination (°): 1.930, Azimuth (°): 56.530, TVD (ft): 4026.92, Dogleg (%/100 ft): 0.26, Sensor Depth (ft): 4029.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-13	17:30	18:10	07-13	4090.00	4180.00	Pressure On (psi): 2600.00, Pressure Off (psi): 2100.00, Weight On Bit (klbs): 38.00, Surface RPM: 60, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249.00
Survey	46	07-13	18:10	18:15	07-13	4180.00	4180.00	Inclination (°): 2.510, Azimuth (°): 64.260, TVD (ft): 4116.85, Dogleg (%/100 ft): 0.72, Sensor Depth (ft): 4119.00, Bit To Sensor (ft): 61.00
Slide Drill	2	07-13	18:15	18:45	07-13	4180.00	4215.00	Pressure On (psi): 2250.00, Pressure Off (psi): 2100.00, Weight On Bit (klbs): 10.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249, Toolface: 250, Toolface Type: magnetic
Rotary Drill	1	07-13	18:45	19:10	07-13	4215.00	4269.00	Pressure On (psi): 2600.00, Pressure Off (psi): 2100.00, Weight On Bit (klbs): 38.00, Surface RPM: 60, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249.00
Survey	46	07-13	19:10	19:15	07-13	4269.00	4269.00	Inclination (°): 1.630, Azimuth (°): 52.220, TVD (ft): 4205.79, Dogleg (%/100 ft): 1.10, Sensor Depth (ft): 4208.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-13	19:15	19:50	07-13	4269.00	4359.00	Pressure On (psi): 2600.00, Pressure Off (psi): 2100.00, Weight On Bit (klbs): 38.00, Surface RPM: 60, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249.00
Survey	46	07-13	19:50	19:55	07-13	4359.00	4359.00	Inclination (°): 1.490, Azimuth (°): 32.970, TVD (ft): 4295.76, Dogleg (%/100 ft): 0.60, Sensor Depth (ft): 4298.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-13	19:55	20:40	07-13	4359.00	4449.00	Pressure On (psi): 2600.00, Pressure Off (psi): 2100.00, Weight On Bit (klbs): 38.00, Surface RPM: 60, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249.00
Survey	46	07-13	20:40	20:45	07-13	4449.00	4449.00	Inclination (°): 2.020, Azimuth (°): 27.440, TVD (ft): 4385.71, Dogleg (%/100 ft): 0.62, Sensor Depth (ft): 4388.00, Bit To Sensor (ft): 61.00
Slide Drill	2	07-13	20:45	21:15	07-13	4449.00	4479.00	Pressure On (psi): 2250.00, Pressure Off (psi): 2100.00, Weight On Bit (klbs): 10.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249, Toolface: 210, Toolface Type: magnetic
Rotary Drill	1	07-13	21:15	21:40	07-13	4479.00	4538.00	Pressure On (psi): 2600.00, Pressure Off (psi): 2100.00, Weight On Bit (klbs): 38.00, Surface RPM: 60, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249.00
Survey	46	07-13	21:40	21:45	07-13	4538.00	4538.00	Inclination (°): 0.970, Azimuth (°): 18.470, TVD (ft): 4474.68, Dogleg (%/100 ft): 1.21, Sensor Depth (ft): 4477.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-13	21:45	22:25	07-13	4538.00	4628.00	Pressure On (psi): 2600.00, Pressure Off (psi): 2100.00, Weight On Bit (klbs): 38.00, Surface RPM: 60, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249.00
Survey	46	07-13	22:25	22:30	07-13	4628.00	4628.00	Inclination (°): 1.140, Azimuth (°): 347.270, TVD (ft): 4564.67, Dogleg (%/100 ft): 0.66, Sensor Depth (ft): 4567.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-13	22:30	23:05	07-13	4628.00	4718.00	Pressure On (psi): 2600.00, Pressure Off (psi): 2100.00, Weight On Bit (klbs): 38.00, Surface RPM: 60, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249.00
Survey	46	07-13	23:05	23:10	07-13	4718.00	4718.00	Inclination (°): 1.450, Azimuth (°): 339.890, TVD (ft): 4654.65, Dogleg (%/100 ft): 0.39, Sensor Depth (ft): 4657.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-13	23:10	23:45	07-13	4718.00	4808.00	Pressure On (psi): 2600.00, Pressure Off (psi): 2100.00, Weight On Bit (klbs): 38.00, Surface RPM: 60, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249.00
Survey	46	07-13	23:45	23:50	07-13	4808.00	4808.00	Inclination (°): 1.630, Azimuth (°): 333.740, TVD (ft): 4744.61, Dogleg (%/100 ft): 0.27, Sensor Depth (ft): 4747.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-13	23:50	00:30	07-14	4808.00	4897.00	Pressure On (psi): 2600.00, Pressure Off (psi): 2100.00, Weight On Bit (klbs): 38.00, Surface RPM: 60, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249.00
MWD Activities								
No Activities								



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Tuesday, Jul 14 00:00 - 23:59 (Day 5 of 20)

Billing: \$4,100.00 (\$261,300.55 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	4808.00	Downhole Hours	11.50	Rotating WOB (klbs)	38.00 - 38.00
Bit Depth (ft)	5330.00	Drilling Hours	3.75	Sliding WOB (klbs)	
Bottom Hole Depth (ft)	5330.00	Hours Circulating	5.17	Rotating SPM	231.00 - 249.00
Total Distance (ft)	522.00	Hours Sliding	0.00	Sliding SPM	
Distance Rotated (ft)	522.00	Hours Rotating	3.75	Motor RPM	188.00 - 188.00
Distance Slid (ft)	0.00			Surface RPM	60.00 - 60.00
Inclination In	1.45			Flow Rate (gpm)	750.00 - 800.00
Inclination Out	0.92			On Bottom Pressure (psi)	2550.00 - 2600.00
Azimuth In	339.19	% Hours Rotating	100%	Off Bottom Pressure (psi)	1900.00 - 2100.00
Azimuth Out	335.14	% Hours Sliding	0%		
AVG Total ROP (ft/h)	139.20	% Distance Sliding	0%		
AVG Rotating ROP (ft/h)	139.20	% Distance Rotating	100%		
AVG Sliding ROP (ft/h)	0.00				

Personnel

Name	Position
Robert Olivarez	MWD Engineer
Advance Directional	Directional Driller

BHA #3 - Intermediate 12.25"

Date In: Jul 13, 2020, 12:30 Date Out: Jul 14, 2020, 11:30

Bit Details		Motor Details		Directional Comments
OD (in)	12.250	Size (in)	8.0	Flow Rate: 400-900, Max Diff: 1390 psi, Max Torque: 21,870 ft-lbs, BIT Runs:2
Vendor	Ulterra	Lobe/Stage	7/8, 5.9	
S/N	52607	Bend Angle	1.5	
Nozzles	9-12's	Speed (rev/gal)	0.16	MWD Comments
Total Flow Area (in²)	0.994	Wear Pad OD (in)	8.330	
Drilling Hours for Day	3.75	Bit Distances		
Total Drilled for Day (ft)	522.00	Bend (Bit to Bend): 5.98 ft, Survey (Bit to Survey): 61.00 ft		POOH Reason Total Depth/Casing Point: N/A
Drilling Hours for BHA	9.92			
Total Drilled for BHA (ft)	1329.00			

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" 7/8 5.9 FXD 1.5° w/SS, Size (in): 8.00, Bend Angle (°): 1.5, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 5.9	BUTCH'S	BDT800-013	6 5/8" Reg Box	6 5/8" Reg Box		8.000		37.52	38.52
UBHO Sub Description: 8" UBHO, Type: Steel	AIM	800-606	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.000		2.59	41.11
Drill Collar Description: 8" NMDC, Style: Slick Drill, Type: NM	AIM	800011	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.080		30.05	71.16
Drill Collar Description: 8" NMDC, Style: Slick Drill, Type: NM	AIM	80001017	6 5/8" Reg Box	6 5/8" Reg Pin	3.250	8.080		29.94	101.10
Crossover Sub Description: X/O 6 5/8 REG - PIN -- ED54 - BOX, Type: Steel	BLACK DIAMOND	BD15380	EverDrlg54 Box	6 5/8" Reg Pin	2.750	8.000		3.28	104.38
HWDP Description: 9 STANDS of HWDP, Style: Slick	RIG		EverDrlg54 Box	EverDrlg54 Pin	3.000	5.500		850.91	955.29

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	07-13	23:50	00:30	07-14	4808.00	4897.00	Pressure On (psi): 2600.00, Pressure Off (psi): 2100.00, Weight On Bit (klbs): 38.00, Surface RPM: 60, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249.00
Survey	46	07-14	00:30	00:35	07-14	4897.00	4897.00	Inclination (°): 1.450, Azimuth (°): 339.190, TVD (ft): 4833.58, Dogleg (°/100 ft): 0.26, Sensor Depth (ft): 4836.00, Bit To Sensor (ft): 61.00

Rotary Drill	1	07-14	00:35	01:05	07-14	4897.00	4987.00	Pressure On (psi): 2600.00, Pressure Off (psi): 2100.00, Weight On Bit (klbs): 38.00, Surface RPM: 60, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 249.00
Survey	46	07-14	01:05	01:10	07-14	4987.00	4987.00	Inclination (°): 1.360, Azimuth (°): 337.960, TVD (ft): 4923.55, Dogleg (°/100 ft): 0.11, Sensor Depth (ft): 4926.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-14	01:10	01:50	07-14	4987.00	5076.00	Pressure On (psi): 2550.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 38.00, Surface RPM: 60, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 231.00
Survey	46	07-14	01:50	01:55	07-14	5076.00	5076.00	Inclination (°): 1.140, Azimuth (°): 329.520, TVD (ft): 5012.53, Dogleg (°/100 ft): 0.32, Sensor Depth (ft): 5015.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-14	01:55	02:40	07-14	5076.00	5166.00	Pressure On (psi): 2550.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 38.00, Surface RPM: 60, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 231.00
Survey	46	07-14	02:40	02:45	07-14	5166.00	5166.00	Inclination (°): 1.190, Azimuth (°): 333.030, TVD (ft): 5102.51, Dogleg (°/100 ft): 0.10, Sensor Depth (ft): 5105.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-14	02:45	03:25	07-14	5166.00	5255.00	Pressure On (psi): 2550.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 38.00, Surface RPM: 60, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 231.00
Survey	46	07-14	03:25	03:30	07-14	5255.00	5255.00	Inclination (°): 1.140, Azimuth (°): 327.850, TVD (ft): 5191.50, Dogleg (°/100 ft): 0.13, Sensor Depth (ft): 5194.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-14	03:30	04:00	07-14	5255.00	5330.00	Pressure On (psi): 2550.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 38.00, Surface RPM: 60, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 750.00, Strokes Per Minute: 231.00
Survey	46	07-14	04:00	04:05	07-14	5330.00	5330.00	Inclination (°): 0.920, Azimuth (°): 335.140, TVD (ft): 5266.48, Dogleg (°/100 ft): 0.34, Sensor Depth (ft): 5269.00, Bit To Sensor (ft): 61.00
Circulating	3	07-14	04:05	06:15	07-14			Circulate
Backreaming	24	07-14	06:15	09:15	07-14			Backreaming F/ 5330 - T/ 3942
Pooh	7	07-14	09:15	11:30	07-14			POOH for Casing Ops
Lay Down BHA	65	07-14	11:30	12:30	07-14			L/D BHA #3
Standby	15	07-14	12:30	09:00	07-15			Standby while CASING/CEMENT OPS

MWD Activities

No Activities



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
		Company Man

Wednesday, Jul 15 00:00 - 23:59 (Day 6 of 20)

Billing: \$7,400.00 (\$261,300.55 total)

Drilling Summary

Start Depth (ft)	Downhole Hours	7.25	Rotating WOB (klbs)
Bit Depth (ft)	Drilling Hours	0.00	Sliding WOB (klbs)
Bottom Hole Depth (ft)	Hours Circulating	3.50	Rotating SPM
Total Distance (ft)	0.00	Hours Sliding	0.00
Distance Rotated (ft)	0.00	Hours Rotating	0.00
Distance Slid (ft)	0.00		Motor RPM
Inclination In			115.00 - 145.00
Inclination Out			Surface RPM
Azimuth In	% Hours Rotating		Flow Rate (gpm)
Azimuth Out	% Hours Sliding		On Bottom Pressure (psi)
AVG Total ROP (ft/h)	0.00	% Distance Sliding	Off Bottom Pressure (psi)
AVG Rotating ROP (ft/h)	0.00	% Distance Rotating	
AVG Sliding ROP (ft/h)	0.00		

Personnel

Name	Position
Robert Olivarez	MWD Engineer
Advance Directional	Directional Driller

BHA #4 - Intermediate 8.75"

Date In: Jul 15, 2020, 16:45 Date Out: Jul 18, 2020, 5:00

Bit Details		Motor Details		Directional Comments	
OD (in)	8.750	Size (in)	7.0	Directional: Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, BIT Runs: 2	
Vendor	REED	Lobe/Stage	7/8, 8.5		
S/N	A266988	Bend Angle	1.5		
Nozzles	6X16's	Speed (rev/gal)	0.26	MWD Comments	
Total Flow Area (in²)	1.178	Wear Pad OD (in)	7.250	POOH Reason Change Bottom Hole Assembly: KOP	
Drilling Hours for Day	0.00	Bit Distances			
Total Drilled for Day (ft)		Bend (Bit to Bend): 5.32 ft, Gamma (Bit to Gamma): 54.00 ft, Survey (Bit to Survey): 69.00 ft			
Drilling Hours for BHA	40.08				
Total Drilled for BHA (ft)	6026.00				

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: 8 3/4 (DSC616M-X24), Style: PDC, Gauge Length (in): 3.50, Size (in): 8.75	REED	A266988	4 1/2" Reg Pin			8.750		1.00	1.00
Mud Motor Description: 7" 7/8 8.5 FXD 1.5° w/ 8.5" NBS, Size (in): 7.00, Bend Angle (°): 1.5, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5	AIM	700-40-035	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.23	37.23
Stabilizer Description: 8.5" NORTRACK STAB	JA	NT85377	4 1/2" IF Box	4 1/2" IF Pin	2.250	6.500		4.69	41.92
UBHO Sub Description: SOFTSHOE DAO UBHO, Type: NM	AIM	67501NM	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.750		4.83	46.75
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR27669	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.562		29.42	76.17
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR26490	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		29.19	105.36
Crossover Sub Description: X/O ED54-Box - 4 1/2 IF-Pin, Type: Steel	BLACK DIAMOND	BD8076	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.625		3.94	109.30
HWDP Description: 9 STANDS of HWDP, Style: Slick	RIG		EverDrlg54 Box	EverDrlg54 Pin	3.000	5.500		850.41	959.71

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	07-14	12:30	09:00	07-15			Standby while CASING/CEMENT OPS
Standby	15	07-15	09:00	15:30	07-15			Standby while N/D & N/U BOPs and Test
Pick Up BHA	64	07-15	15:30	16:45	07-15			P/U BHA #4
TIH	8	07-15	16:45	18:45	07-15			TIH W/ BHA #4
Circulating	3	07-15	18:45	21:45	07-15			Circulate B/U, Drill DV Tool & Upper Casing Test

TIH	8	07-15	21:45	22:30	07-15			TIH W/ BHA #4
Circulating	3	07-15	22:30	23:00	07-15			CIRCULATE B/U
Other	16	07-15	23:00	23:30	07-15			TEST CASING
Drilling Cement	17	07-15	23:30	01:10	07-16	5330.00	5330.00	Drilling Cement and Float Equipment

MWD Activities

No Activities



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
		Company Man

Thursday, Jul 16 00:00 - 23:59 (Day 7 of 20)

Billing: \$5,200.00 (\$261,300.55 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	5330.00	Downhole Hours	24.00	Rotating WOB (klbs)	32.00 - 40.00
Bit Depth (ft)	8935.00	Drilling Hours	19.00	Sliding WOB (klbs)	20.00 - 20.00
Bottom Hole Depth (ft)	8935.00	Hours Circulating	1.67	Rotating SPM	202.00 - 202.00
Total Distance (ft)	3605.00	Hours Sliding	2.83	Sliding SPM	202.00 - 202.00
Distance Rotated (ft)	3454.00	Hours Rotating	16.17	Motor RPM	115.00 - 145.00
Distance Slid (ft)	151.00			Surface RPM	30.00 - 30.00
Inclination In	0.57			Flow Rate (gpm)	650.00 - 650.00
Inclination Out	0.92			On Bottom Pressure (psi)	2100.00 - 2500.00
Azimuth In	318.18	% Hours Rotating	85%	Off Bottom Pressure (psi)	1800.00 - 1900.00
Azimuth Out	6.26	% Hours Sliding	15%		
AVG Total ROP (ft/h)	189.74	% Distance Sliding	4%		
AVG Rotating ROP (ft/h)	213.65	% Distance Rotating	96%		
AVG Sliding ROP (ft/h)	53.29				

Personnel

Name	Position
Robert Olivarez	MWD Engineer
Advance Directional	Directional Driller

BHA #4 - Intermediate 8.75"

Date In: Jul 15, 2020, 16:45 Date Out: Jul 18, 2020, 5:00

Bit Details		Motor Details		Directional Comments
OD (in)	8.750	Size (in)	7.0	Directional: Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, BIT Runs: 2
Vendor	REED	Lobe/Stage	7/8, 8.5	
S/N	A266988	Bend Angle	1.5	
Nozzles	6X16's	Speed (rev/gal)	0.26	MWD Comments
Total Flow Area (in²)	1.178	Wear Pad OD (in)	7.250	POOH Reason Change Bottom Hole Assembly: KOP
Drilling Hours for Day	19.00	Bit Distances		
Total Drilled for Day (ft)	3605.00	Bend (Bit to Bend): 5.32 ft, Gamma (Bit to Gamma): 54.00 ft, Survey (Bit to Survey): 69.00 ft		
Drilling Hours for BHA	40.08			
Total Drilled for BHA (ft)	6026.00			

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: 8 3/4 (DSC616M-X24), Style: PDC, Gauge Length (in): 3.50, Size (in): 8.75	REED	A266988	4 1/2" Reg Pin			8.750		1.00	1.00
Mud Motor Description: 7" 7/8 8.5 FXD 1.5° w/ 8.5" NBS, Size (in): 7.00, Bend Angle (°): 1.5, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5	AIM	700-40-035	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.23	37.23
Stabilizer Description: 8.5" NORTRACK STAB	JA	NT85377	4 1/2" IF Box	4 1/2" IF Pin	2.250	6.500		4.69	41.92
UBHO Sub Description: SOFTSHOE DAO UBHO, Type: NM	AIM	67501NM	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.750		4.83	46.75
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR27669	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.562		29.42	76.17
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR26490	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		29.19	105.36
Crossover Sub Description: X/O ED54-Box - 4 1/2 IF-Pin, Type: Steel	BLACK DIAMOND	BD8076	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.625		3.94	109.30
HWDP Description: 9 STANDS of HWDP, Style: Slick	RIG		EverDrlg54 Box	EverDrlg54 Pin	3.000	5.500		850.41	959.71

MWD Items

No Items

Directional Activities

Activity Type	Code	Start Date	Start Time	End Time	End Date	Start (ft)	End (ft)	Comments/Details
Drilling Cement	17	07-15	23:30	01:10	07-16	5330.00	5330.00	Drilling Cement and Float Equipment
Rotary Drill	1	07-16	01:10	01:50	07-16	5330.00	5439.00	Pressure On (psi): 2400.00, Pressure Off (psi): 1800.00, Weight On Bit (klbs): 32.00, Surface RPM: 30, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00

Survey	46	07-16	01:50	01:55	07-16	5439.00	5439.00	Inclination (°): 0.570, Azimuth (°): 318.180, TVD (ft): 5367.48, Dogleg (°/100 ft): 0.41, Sensor Depth (ft): 5370.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-16	01:55	02:00	07-16	5439.00	5445.00	Pressure On (psi): 2400.00, Pressure Off (psi): 1800.00, Weight On Bit (klbs): 32.00, Surface RPM: 30, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Slide Drill	2	07-16	02:00	02:30	07-16	5445.00	5470.00	Pressure On (psi): 2150.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 20.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202, Toolface: 70, Toolface Type: magnetic
Rotary Drill	1	07-16	02:30	02:50	07-16	5470.00	5528.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-16	02:50	02:55	07-16	5528.00	5528.00	Inclination (°): 1.270, Azimuth (°): 55.470, TVD (ft): 5456.47, Dogleg (°/100 ft): 1.64, Sensor Depth (ft): 5459.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-16	02:55	03:00	07-16	5528.00	5540.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Slide Drill	2	07-16	03:00	03:25	07-16	5540.00	5565.00	Pressure On (psi): 2150.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 20.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202, Toolface: 70, Toolface Type: magnetic
Rotary Drill	1	07-16	03:25	03:35	07-16	5565.00	5618.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-16	03:35	03:40	07-16	5618.00	5618.00	Inclination (°): 3.740, Azimuth (°): 72.350, TVD (ft): 5546.38, Dogleg (°/100 ft): 2.83, Sensor Depth (ft): 5549.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-16	03:40	04:00	07-16	5618.00	5707.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 10000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-16	04:00	04:05	07-16	5707.00	5707.00	Inclination (°): 5.890, Azimuth (°): 77.180, TVD (ft): 5635.06, Dogleg (°/100 ft): 2.46, Sensor Depth (ft): 5638.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-16	04:05	04:25	07-16	5707.00	5797.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-16	04:25	04:30	07-16	5797.00	5797.00	Inclination (°): 5.450, Azimuth (°): 74.630, TVD (ft): 5724.62, Dogleg (°/100 ft): 0.56, Sensor Depth (ft): 5728.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-16	04:30	04:45	07-16	5797.00	5887.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-16	04:45	04:50	07-16	5887.00	5887.00	Inclination (°): 5.140, Azimuth (°): 74.110, TVD (ft): 5814.23, Dogleg (°/100 ft): 0.35, Sensor Depth (ft): 5818.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-16	04:50	04:55	07-16	5887.00	5897.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Slide Drill	2	07-16	04:55	05:10	07-16	5897.00	5915.00	Pressure On (psi): 2150.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 20.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202, Toolface: 70, Toolface Type: magnetic
Rotary Drill	1	07-16	05:10	05:20	07-16	5915.00	5976.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-16	05:20	05:25	07-16	5976.00	5976.00	Inclination (°): 5.890, Azimuth (°): 74.630, TVD (ft): 5902.82, Dogleg (°/100 ft): 0.84, Sensor Depth (ft): 5907.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-16	05:25	05:40	07-16	5976.00	6066.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-16	05:40	05:45	07-16	6066.00	6066.00	Inclination (°): 6.860, Azimuth (°): 73.400, TVD (ft): 5992.26, Dogleg (°/100 ft): 1.09, Sensor Depth (ft): 5997.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-16	05:45	05:55	07-16	6066.00	6155.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-16	05:55	06:00	07-16	6155.00	6155.00	Inclination (°): 6.900, Azimuth (°): 72.700, TVD (ft): 6080.62, Dogleg (°/100 ft): 0.10, Sensor Depth (ft): 6086.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-16	06:00	06:10	07-16	6155.00	6245.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-16	06:10	06:15	07-16	6245.00	6245.00	Inclination (°): 7.120, Azimuth (°): 72.440, TVD (ft): 6169.95, Dogleg (°/100 ft): 0.25, Sensor Depth (ft): 6176.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-16	06:15	06:25	07-16	6245.00	6334.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-16	06:25	06:30	07-16	6334.00	6334.00	Inclination (°): 7.380, Azimuth (°): 72.440, TVD (ft): 6258.24, Dogleg (°/100 ft): 0.29, Sensor Depth (ft): 6265.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-16	06:30	06:40	07-16	6334.00	6424.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-16	06:40	06:45	07-16	6424.00	6424.00	Inclination (°): 7.380, Azimuth (°): 71.210, TVD (ft): 6347.49, Dogleg (°/100 ft): 0.18, Sensor Depth (ft): 6355.00, Bit To Sensor (ft): 69.00

Rotary Drill	1	07-16	06:45	07:10	07-16	6424.00	6514.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-16	07:10	07:15	07-16	6514.00	6514.00	Inclination (°): 7.160, Azimuth (°): 70.770, TVD (ft): 6436.77, Dogleg (°/100 ft): 0.25, Sensor Depth (ft): 6445.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-16	07:15	07:30	07-16	6514.00	6604.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-16	07:30	07:35	07-16	6604.00	6604.00	Inclination (°): 6.810, Azimuth (°): 72.960, TVD (ft): 6526.10, Dogleg (°/100 ft): 0.49, Sensor Depth (ft): 6535.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-16	07:35	07:55	07-16	6604.00	6694.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-16	07:55	08:00	07-16	6694.00	6694.00	Inclination (°): 6.730, Azimuth (°): 73.230, TVD (ft): 6615.47, Dogleg (°/100 ft): 0.10, Sensor Depth (ft): 6625.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-16	08:00	08:10	07-16	6694.00	6783.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-16	08:10	08:15	07-16	6783.00	6783.00	Inclination (°): 6.810, Azimuth (°): 74.990, TVD (ft): 6703.85, Dogleg (°/100 ft): 0.25, Sensor Depth (ft): 6714.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-16	08:15	08:30	07-16	6783.00	6873.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-16	08:30	08:35	07-16	6873.00	6873.00	Inclination (°): 7.160, Azimuth (°): 75.070, TVD (ft): 6793.18, Dogleg (°/100 ft): 0.39, Sensor Depth (ft): 6804.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-16	08:35	08:50	07-16	6873.00	6963.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-16	08:50	08:55	07-16	6963.00	6963.00	Inclination (°): 7.210, Azimuth (°): 74.990, TVD (ft): 6882.48, Dogleg (°/100 ft): 0.06, Sensor Depth (ft): 6894.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-16	08:55	09:15	07-16	6963.00	7053.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-16	09:15	09:20	07-16	7053.00	7053.00	Inclination (°): 7.250, Azimuth (°): 74.630, TVD (ft): 6971.76, Dogleg (°/100 ft): 0.07, Sensor Depth (ft): 6984.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-16	09:20	09:50	07-16	7053.00	7142.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-16	09:50	09:55	07-16	7142.00	7142.00	Inclination (°): 6.950, Azimuth (°): 73.760, TVD (ft): 7060.08, Dogleg (°/100 ft): 0.36, Sensor Depth (ft): 7073.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-16	09:55	10:20	07-16	7142.00	7232.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-16	10:20	10:25	07-16	7232.00	7232.00	Inclination (°): 6.640, Azimuth (°): 75.430, TVD (ft): 7149.45, Dogleg (°/100 ft): 0.41, Sensor Depth (ft): 7163.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-16	10:25	10:50	07-16	7232.00	7321.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-16	10:50	10:55	07-16	7321.00	7321.00	Inclination (°): 6.200, Azimuth (°): 74.990, TVD (ft): 7237.89, Dogleg (°/100 ft): 0.50, Sensor Depth (ft): 7252.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-16	10:55	11:25	07-16	7321.00	7411.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-16	11:25	11:30	07-16	7411.00	7411.00	Inclination (°): 5.980, Azimuth (°): 77.450, TVD (ft): 7327.38, Dogleg (°/100 ft): 0.38, Sensor Depth (ft): 7342.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-16	11:30	11:45	07-16	7411.00	7421.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Slide Drill	2	07-16	11:45	12:05	07-16	7421.00	7443.00	Pressure On (psi): 2100.00, Pressure Off (psi): 1800.00, Weight On Bit (klbs): 20.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202, Toolface: 330, Toolface Type: magnetic
Rotary Drill	1	07-16	12:05	12:20	07-16	7443.00	7500.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-16	12:20	12:25	07-16	7500.00	7500.00	Inclination (°): 5.930, Azimuth (°): 70.770, TVD (ft): 7415.90, Dogleg (°/100 ft): 0.78, Sensor Depth (ft): 7431.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-16	12:25	12:50	07-16	7500.00	7590.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-16	12:50	12:55	07-16	7590.00	7590.00	Inclination (°): 5.800, Azimuth (°): 57.850, TVD (ft): 7505.43, Dogleg (°/100 ft): 1.47, Sensor Depth (ft): 7521.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-16	12:55	13:05	07-16	7590.00	7600.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00

Slide Drill	2	07-16	13:05	13:35	07-16	7600.00	7626.00	Pressure On (psi): 2100.00, Pressure Off (psi): 1800.00, Weight On Bit (klbs): 20.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202, Toolface: 200, Toolface Type: magnetic
Rotary Drill	1	07-16	13:35	13:50	07-16	7626.00	7680.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-16	13:50	13:55	07-16	7680.00	7680.00	Inclination (°): 4.840, Azimuth (°): 68.750, TVD (ft): 7595.05, Dogleg (°/100 ft): 1.54, Sensor Depth (ft): 7611.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-16	13:55	14:00	07-16	7680.00	7695.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Slide Drill	2	07-16	14:00	14:25	07-16	7695.00	7715.00	Pressure On (psi): 2100.00, Pressure Off (psi): 1800.00, Weight On Bit (klbs): 20.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202, Toolface: 270, Toolface Type: magnetic
Rotary Drill	1	07-16	14:25	14:40	07-16	7715.00	7769.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-16	14:40	14:45	07-16	7769.00	7769.00	Inclination (°): 2.810, Azimuth (°): 71.290, TVD (ft): 7683.84, Dogleg (°/100 ft): 2.29, Sensor Depth (ft): 7700.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-16	14:45	15:10	07-16	7769.00	7859.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-16	15:10	15:15	07-16	7859.00	7859.00	Inclination (°): 1.670, Azimuth (°): 56.970, TVD (ft): 7773.77, Dogleg (°/100 ft): 1.40, Sensor Depth (ft): 7790.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-16	15:15	15:30	07-16	7859.00	7949.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Rig Service - In Hole	19	07-16	15:30	16:00	07-16			
Survey	46	07-16	16:00	16:05	07-16	7949.00	7949.00	Inclination (°): 1.980, Azimuth (°): 53.370, TVD (ft): 7863.73, Dogleg (°/100 ft): 0.37, Sensor Depth (ft): 7880.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-16	16:05	16:25	07-16	7949.00	8038.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-16	16:25	16:30	07-16	8038.00	8038.00	Inclination (°): 1.760, Azimuth (°): 53.890, TVD (ft): 7952.68, Dogleg (°/100 ft): 0.25, Sensor Depth (ft): 7969.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-16	16:30	17:00	07-16	8038.00	8128.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-16	17:00	17:05	07-16	8128.00	8128.00	Inclination (°): 1.800, Azimuth (°): 53.540, TVD (ft): 8042.64, Dogleg (°/100 ft): 0.05, Sensor Depth (ft): 8059.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-16	17:05	17:30	07-16	8128.00	8218.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-16	17:30	17:35	07-16	8218.00	8218.00	Inclination (°): 1.410, Azimuth (°): 56.270, TVD (ft): 8132.60, Dogleg (°/100 ft): 0.44, Sensor Depth (ft): 8149.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-16	17:35	18:05	07-16	8218.00	8308.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 11000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-16	18:05	18:10	07-16	8308.00	8308.00	Inclination (°): 1.450, Azimuth (°): 64.880, TVD (ft): 8222.57, Dogleg (°/100 ft): 0.24, Sensor Depth (ft): 8239.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-16	18:10	18:35	07-16	8308.00	8397.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-16	18:35	18:40	07-16	8397.00	8397.00	Inclination (°): 1.270, Azimuth (°): 65.760, TVD (ft): 8311.55, Dogleg (°/100 ft): 0.20, Sensor Depth (ft): 8328.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-16	18:40	19:15	07-16	8397.00	8487.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-16	19:15	19:20	07-16	8487.00	8487.00	Inclination (°): 1.230, Azimuth (°): 71.380, TVD (ft): 8401.53, Dogleg (°/100 ft): 0.14, Sensor Depth (ft): 8418.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-16	19:20	19:50	07-16	8487.00	8577.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-16	19:50	19:55	07-16	8577.00	8577.00	Inclination (°): 1.320, Azimuth (°): 69.360, TVD (ft): 8491.51, Dogleg (°/100 ft): 0.11, Sensor Depth (ft): 8508.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-16	19:55	20:40	07-16	8577.00	8666.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-16	20:40	20:45	07-16	8666.00	8666.00	Inclination (°): 1.410, Azimuth (°): 76.040, TVD (ft): 8580.48, Dogleg (°/100 ft): 0.21, Sensor Depth (ft): 8597.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-16	20:45	20:50	07-16	8666.00	8676.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Slide Drill	2	07-16	20:50	21:15	07-16	8676.00	8691.00	Pressure On (psi): 2150.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 20.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202, Toolface: 300, Toolface Type: magnetic

Rotary Drill	1	07-16	21:15	22:05	07-16	8691.00	8756.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-16	22:05	22:10	07-16	8756.00	8756.00	Inclination (°): 0.920, Azimuth (°): 32.800, TVD (ft): 8670.46, Dogleg (°/100 ft): 1.08, Sensor Depth (ft): 8687.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-16	22:10	22:55	07-16	8756.00	8846.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-16	22:55	23:00	07-16	8846.00	8846.00	Inclination (°): 1.230, Azimuth (°): 357.640, TVD (ft): 8760.45, Dogleg (°/100 ft): 0.79, Sensor Depth (ft): 8777.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-16	23:00	23:55	07-16	8846.00	8935.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-16	23:55	00:00	07-17	8935.00	8935.00	Inclination (°): 0.920, Azimuth (°): 6.260, TVD (ft): 8849.43, Dogleg (°/100 ft): 0.39, Sensor Depth (ft): 8866.00, Bit To Sensor (ft): 69.00

MWD Activities

No Activities



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
		Company Man

Friday, Jul 17 00:00 - 23:59 (Day 8 of 20)

Billing: \$5,200.00 (\$261,300.55 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	8935.00	Downhole Hours	24.00	Rotating WOB (klbs)	40.00 - 40.00
Bit Depth (ft)	11356.00	Drilling Hours	21.08	Sliding WOB (klbs)	
Bottom Hole Depth (ft)	11356.00	Hours Circulating	0.00	Rotating SPM	202.00 - 202.00
Total Distance (ft)	2421.00	Hours Sliding	1.33	Sliding SPM	
Distance Rotated (ft)	2373.00	Hours Rotating	19.75	Motor RPM	115.00 - 145.00
Distance Slid (ft)	48.00			Surface RPM	30.00 - 30.00
Inclination In	0.97			Flow Rate (gpm)	650.00 - 650.00
Inclination Out	0.92			On Bottom Pressure (psi)	2500.00 - 2500.00
Azimuth In	18.21	% Hours Rotating	94%	Off Bottom Pressure (psi)	1900.00 - 1900.00
Azimuth Out	143.96	% Hours Sliding	6%		
AVG Total ROP (ft/h)	114.83	% Distance Sliding	2%		
AVG Rotating ROP (ft/h)	120.15	% Distance Rotating	98%		
AVG Sliding ROP (ft/h)	36.00				

Personnel

Name	Position
Robert Olivarez	MWD Engineer
Advance Directional	Directional Driller

BHA #4 - Intermediate 8.75"

Date In: Jul 15, 2020, 16:45 Date Out: Jul 18, 2020, 5:00

Bit Details		Motor Details		Directional Comments
OD (in)	8.750	Size (in)	7.0	Directional: Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, BIT Runs: 2
Vendor	REED	Lobe/Stage	7/8, 8.5	
S/N	A266988	Bend Angle	1.5	
Nozzles	6X16's	Speed (rev/gal)	0.26	MWD Comments
Total Flow Area (in²)	1.178	Wear Pad OD (in)	7.250	
Drilling Hours for Day	21.08	Bit Distances		
Total Drilled for Day (ft)	2421.00	Bend (Bit to Bend): 5.32 ft, Gamma (Bit to Gamma): 54.00 ft, Survey (Bit to Survey): 69.00 ft		
Drilling Hours for BHA	40.08			
Total Drilled for BHA (ft)	6026.00			POOH Reason
				Change Bottom Hole Assembly: KOP

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: 8 3/4 (DSC616M-X24), Style: PDC, Gauge Length (in): 3.50, Size (in): 8.75	REED	A266988	4 1/2" Reg Pin			8.750		1.00	1.00
Mud Motor Description: 7" 7/8 8.5 FXD 1.5° w/ 8.5" NBS, Size (in): 7.00, Bend Angle (°): 1.5, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5	AIM	700-40-035	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.23	37.23
Stabilizer Description: 8.5" NORTRACK STAB	JA	NT85377	4 1/2" IF Box	4 1/2" IF Pin	2.250	6.500		4.69	41.92
UBHO Sub Description: SOFTSHOE DAO UBHO, Type: NM	AIM	67501NM	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.750		4.83	46.75
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR27669	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.562		29.42	76.17
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR26490	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		29.19	105.36
Crossover Sub Description: X/O ED54-Box - 4 1/2 IF-Pin, Type: Steel	BLACK DIAMOND	BD8076	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.625		3.94	109.30
HWDP Description: 9 STANDS of HWDP, Style: Slick	RIG		EverDrlg54 Box	EverDrlg54 Pin	3.000	5.500		850.41	959.71

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	07-16	23:55	00:00	07-17	8935.00	8935.00	Inclination (°): 0.920, Azimuth (°): 6.260, TVD (ft): 8849.43, Dogleg (°/100 ft): 0.39, Sensor Depth (ft): 8866.00, Bit To Sensor (ft): 69.00

Rotary Drill	1	07-17	00:00	00:45	07-17	8935.00	9025.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-17	00:45	00:50	07-17	9025.00	9025.00	Inclination (°): 0.970, Azimuth (°): 18.210, TVD (ft): 8939.42, Dogleg (°/100 ft): 0.23, Sensor Depth (ft): 8956.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-17	00:50	01:40	07-17	9025.00	9115.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-17	01:40	01:45	07-17	9115.00	9115.00	Inclination (°): 0.570, Azimuth (°): 53.370, TVD (ft): 9029.41, Dogleg (°/100 ft): 0.67, Sensor Depth (ft): 9046.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-17	01:45	02:30	07-17	9115.00	9204.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-17	02:30	02:35	07-17	9204.00	9204.00	Inclination (°): 0.440, Azimuth (°): 69.450, TVD (ft): 9118.41, Dogleg (°/100 ft): 0.21, Sensor Depth (ft): 9135.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-17	02:35	03:30	07-17	9204.00	9294.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-17	03:30	03:35	07-17	9294.00	9294.00	Inclination (°): 0.480, Azimuth (°): 89.050, TVD (ft): 9208.41, Dogleg (°/100 ft): 0.18, Sensor Depth (ft): 9225.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-17	03:35	04:20	07-17	9294.00	9384.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-17	04:20	04:25	07-17	9384.00	9384.00	Inclination (°): 0.660, Azimuth (°): 63.910, TVD (ft): 9298.40, Dogleg (°/100 ft): 0.34, Sensor Depth (ft): 9315.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-17	04:25	05:00	07-17	9384.00	9473.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-17	05:00	05:05	07-17	9473.00	9473.00	Inclination (°): 0.400, Azimuth (°): 126.490, TVD (ft): 9387.40, Dogleg (°/100 ft): 0.67, Sensor Depth (ft): 9404.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-17	05:05	05:40	07-17	9473.00	9563.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-17	05:40	05:45	07-17	9563.00	9563.00	Inclination (°): 0.620, Azimuth (°): 170.170, TVD (ft): 9477.40, Dogleg (°/100 ft): 0.48, Sensor Depth (ft): 9494.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-17	05:45	06:20	07-17	9563.00	9653.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-17	06:20	06:25	07-17	9653.00	9653.00	Inclination (°): 0.350, Azimuth (°): 196.010, TVD (ft): 9567.39, Dogleg (°/100 ft): 0.38, Sensor Depth (ft): 9584.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-17	06:25	07:00	07-17	9653.00	9742.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-17	07:00	07:05	07-17	9742.00	9742.00	Inclination (°): 0.440, Azimuth (°): 279.330, TVD (ft): 9656.39, Dogleg (°/100 ft): 0.59, Sensor Depth (ft): 9673.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-17	07:05	07:50	07-17	9742.00	9832.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-17	07:50	07:55	07-17	9832.00	9832.00	Inclination (°): 0.620, Azimuth (°): 253.050, TVD (ft): 9746.39, Dogleg (°/100 ft): 0.33, Sensor Depth (ft): 9763.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-17	07:55	08:30	07-17	9832.00	9922.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-17	08:30	08:35	07-17	9922.00	9922.00	Inclination (°): 1.010, Azimuth (°): 228.530, TVD (ft): 9836.38, Dogleg (°/100 ft): 0.57, Sensor Depth (ft): 9853.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-17	08:35	08:45	07-17	9922.00	9932.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Slide Drill	2	07-17	08:45	09:20	07-17	9932.00	9956.00	Toolface: 45, Toolface Type: magnetic
Rotary Drill	1	07-17	09:20	09:50	07-17	9956.00	10011.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-17	09:50	09:55	07-17	10011.00	10011.00	Inclination (°): 0.220, Azimuth (°): 192.410, TVD (ft): 9925.37, Dogleg (°/100 ft): 0.95, Sensor Depth (ft): 9942.00, Bit To Sensor (ft): 69.00

Rotary Drill	1	07-17	09:55	10:30	07-17	10011.00	10101.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-17	10:30	10:35	07-17	10101.00	10101.00	Inclination (°): 0.530, Azimuth (°): 83.160, TVD (ft): 10015.37, Dogleg (°/100 ft): 0.71, Sensor Depth (ft): 10032.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-17	10:35	11:15	07-17	10101.00	10191.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-17	11:15	11:20	07-17	10191.00	10191.00	Inclination (°): 0.620, Azimuth (°): 122.270, TVD (ft): 10105.37, Dogleg (°/100 ft): 0.44, Sensor Depth (ft): 10122.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-17	11:20	12:05	07-17	10191.00	10281.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-17	12:05	12:10	07-17	10281.00	10281.00	Inclination (°): 0.350, Azimuth (°): 129.210, TVD (ft): 10195.36, Dogleg (°/100 ft): 0.31, Sensor Depth (ft): 10212.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-17	12:10	13:00	07-17	10281.00	10370.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-17	13:00	13:05	07-17	10370.00	10370.00	Inclination (°): 0.480, Azimuth (°): 155.140, TVD (ft): 10284.36, Dogleg (°/100 ft): 0.25, Sensor Depth (ft): 10301.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-17	13:05	14:00	07-17	10370.00	10460.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-17	14:00	14:15	07-17	10460.00	10460.00	Inclination (°): 1.050, Azimuth (°): 183.000, TVD (ft): 10374.35, Dogleg (°/100 ft): 0.74, Sensor Depth (ft): 10391.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-17	14:15	14:45	07-17	10460.00	10550.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-17	14:45	14:50	07-17	10550.00	10550.00	Inclination (°): 1.140, Azimuth (°): 147.580, TVD (ft): 10464.34, Dogleg (°/100 ft): 0.75, Sensor Depth (ft): 10481.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-17	14:50	15:30	07-17	10550.00	10639.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-17	15:30	15:35	07-17	10639.00	10639.00	Inclination (°): 1.490, Azimuth (°): 158.390, TVD (ft): 10553.31, Dogleg (°/100 ft): 0.48, Sensor Depth (ft): 10570.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-17	15:35	15:50	07-17	10639.00	10649.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Slide Drill	2	07-17	15:50	16:35	07-17	10649.00	10673.00	Toolface: 0, Toolface Type: magnetic
Rotary Drill	1	07-17	16:35	17:00	07-17	10673.00	10729.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-17	17:00	17:05	07-17	10729.00	10729.00	Inclination (°): 1.190, Azimuth (°): 149.610, TVD (ft): 10643.29, Dogleg (°/100 ft): 0.40, Sensor Depth (ft): 10660.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-17	17:05	17:45	07-17	10729.00	10818.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-17	17:45	17:50	07-17	10818.00	10818.00	Inclination (°): 0.530, Azimuth (°): 141.340, TVD (ft): 10732.28, Dogleg (°/100 ft): 0.75, Sensor Depth (ft): 10749.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-17	17:50	18:30	07-17	10818.00	10908.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-17	18:30	18:35	07-17	10908.00	10908.00	Inclination (°): 0.530, Azimuth (°): 112.080, TVD (ft): 10822.28, Dogleg (°/100 ft): 0.30, Sensor Depth (ft): 10839.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-17	18:35	19:20	07-17	10908.00	10998.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-17	19:20	19:25	07-17	10998.00	10998.00	Inclination (°): 1.230, Azimuth (°): 117.880, TVD (ft): 10912.26, Dogleg (°/100 ft): 0.78, Sensor Depth (ft): 10929.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-17	19:25	20:10	07-17	10998.00	11087.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Rig Service - In Hole	19	07-17	20:10	20:20	07-17			Rig Service

Survey	46	07-17	20:20	20:25	07-17	11087.00	11087.00	Inclination (°): 1.450, Azimuth (°): 97.750, TVD (ft): 11001.24, Dogleg (°/100 ft): 0.58, Sensor Depth (ft): 11018.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-17	20:25	21:20	07-17	11087.00	11177.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-17	21:20	21:25	07-17	11177.00	11177.00	Inclination (°): 1.410, Azimuth (°): 101.790, TVD (ft): 11091.21, Dogleg (°/100 ft): 0.12, Sensor Depth (ft): 11108.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-17	21:25	22:35	07-17	11177.00	11266.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-17	22:35	22:40	07-17	11266.00	11266.00	Inclination (°): 1.230, Azimuth (°): 111.110, TVD (ft): 11180.19, Dogleg (°/100 ft): 0.31, Sensor Depth (ft): 11197.00, Bit To Sensor (ft): 69.00
Rotary Drill	1	07-17	22:40	23:35	07-17	11266.00	11356.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Survey	46	07-17	23:35	23:40	07-17	11356.00	11356.00	Inclination (°): 0.920, Azimuth (°): 143.960, TVD (ft): 11270.17, Dogleg (°/100 ft): 0.75, Sensor Depth (ft): 11287.00, Bit To Sensor (ft): 69.00
Circulating	3	07-17	23:40	00:30	07-18			CIRCULATE

MWD Activities

No Activities



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Saturday, Jul 18 00:00 - 23:59 (Day 9 of 20)

Billing: \$6,900.00 (\$261,300.55 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	11356.00	Downhole Hours	24.00	Rotating WOB (klbs)	40.00 - 40.00
Bit Depth (ft)	11790.00	Drilling Hours	7.67	Sliding WOB (klbs)	25.00 - 45.00
Bottom Hole Depth (ft)	11790.00	Hours Circulating	1.83	Rotating SPM	170.00 - 202.00
Total Distance (ft)	434.00	Hours Sliding	6.75	Sliding SPM	170.00 - 185.00
Distance Rotated (ft)	45.00	Hours Rotating	0.92	Motor RPM	115.00 - 145.00
Distance Slid (ft)	389.00			Surface RPM	30.00 - 30.00
Inclination In	4.09			Flow Rate (gpm)	525.00 - 650.00
Inclination Out	38.77			On Bottom Pressure (psi)	1900.00 - 2500.00
Azimuth In	185.82	% Hours Rotating	12%	Off Bottom Pressure (psi)	1500.00 - 1900.00
Azimuth Out	181.69	% Hours Sliding	88%		
AVG Total ROP (ft/h)	57.94	% Distance Sliding	90%		
AVG Rotating ROP (ft/h)	49.09	% Distance Rotating	10%		
AVG Sliding ROP (ft/h)	59.05				

Personnel

Name	Position
Robert Olivarez	MWD Engineer
Advance Directional	Directional Driller

BHA #4 - Intermediate 8.75"

Date In: Jul 15, 2020, 16:45 Date Out: Jul 18, 2020, 5:00

Bit Details		Motor Details		Directional Comments
OD (in)	8.750	Size (in)	7.0	Directional: Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, BIT Runs: 2
Vendor	REED	Lobe/Stage	7/8, 8.5	
S/N	A266988	Bend Angle	1.5	
Nozzles	6X16's	Speed (rev/gal)	0.26	MWD Comments
Total Flow Area (in²)	1.178	Wear Pad OD (in)	7.250	
Drilling Hours for Day	0.00	Bit Distances		
Total Drilled for Day (ft)		Bend (Bit to Bend): 5.32 ft, Gamma (Bit to Gamma): 54.00 ft, Survey (Bit to Survey): 69.00 ft		POOH Reason Change Bottom Hole Assembly: KOP
Drilling Hours for BHA	40.08			
Total Drilled for BHA (ft)	6026.00			

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: 8 3/4 (DSC616M-X24), Style: PDC, Gauge Length (in): 3.50, Size (in): 8.75	REED	A266988	4 1/2" Reg Pin			8.750		1.00	1.00
Mud Motor Description: 7" 7/8 8.5 FXD 1.5° w/ 8.5" NBS, Size (in): 7.00, Bend Angle (°): 1.5, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5	AIM	700-40-035	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.23	37.23
Stabilizer Description: 8.5" NORTRACK STAB	JA	NT85377	4 1/2" IF Box	4 1/2" IF Pin	2.250	6.500		4.69	41.92
UBHO Sub Description: SOFTSHOE DAO UBHO, Type: NM	AIM	67501NM	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.750		4.83	46.75
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR27669	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.562		29.42	76.17
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR26490	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		29.19	105.36
Crossover Sub Description: X/O ED54-Box - 4 1/2 IF-Pin, Type: Steel	BLACK DIAMOND	BD8076	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.625		3.94	109.30
HWDP Description: 9 STANDS of HWDP, Style: Slick	RIG		EverDrlg54 Box	EverDrlg54 Pin	3.000	5.500		850.41	959.71

MWD Items

No Items

BHA #5 - Curve 8.75"

Date In: Jul 18, 2020, 5:00 Date Out: Jul 19, 2020, 22:00

Bit Details		Motor Details		Directional Comments
OD (in)	8.750	Size (in)	6.75	Directional: Flow Rate: 300-600, Max Diff: 1130 psi, Max Torque: 10,460 ft-lbs, BIT Runs: 3
Vendor	Ulterra	Lobe/Stage	7/8, 5.0	
S/N	51050	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	POOH Reason Change Bottom Hole Assembly: LANDED CURVE
Drilling Hours for Day	7.67	Bit Distances		
Total Drilled for Day (ft)	434.00	Bend (Bit to Bend): 4.04 ft, Gamma (Bit to Gamma): 39.00 ft, Survey (Bit to Survey): 54.00 ft		
Drilling Hours for BHA	18.67			
Total Drilled for BHA (ft)	1151.00			

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: 8 3/4 CF611, Style: PDC, Gauge Length (in): 3.00, Size (in): 8.75	Ulterra	51050	4 1/2" Reg Pin			8.750		1.00	1.00
Mud Motor Description: 6 3/4" 7/8 5.0 FXD 2.12° w/ SS, Size (in): 6.75, Bend Angle (°): 2.12, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 5.0	AIM	650-022	4 1/2" IF Box	4 1/2" Reg Box		6.750		25.87	26.87
UBHO Sub Description: SOFTSHOE DAO UBHO, Type: NM	AIM	67501NM	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.750		4.83	31.70
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR27669	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.562		29.42	61.12
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR26490	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		29.19	90.31
Crossover Sub Description: X/O ED54-Box - 4 1/2 IF-Pin, Type: Steel	BLACK DIAMOND	BD8076	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.625		3.94	94.25
Drill Pipe Description: 15 STANDS of DP, Style: Slick	RIG		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		1343.99	1438.24
HWDP Description: 9 STANDS of HWDP, Style: Slick	RIG		EverDrlg54 Box	EverDrlg54 Pin	3.000	5.500		850.41	2288.65

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	07-17	23:40	00:30	07-18			CIRCULATE
Pooh	7	07-18	00:30	05:00	07-18			POOH
Change BHA	6	07-18	05:00	06:15	07-18			P/U BHA # 5
Circulating	3	07-18	06:15	06:30	07-18			TEST MWD / M/U BIT
TIH	8	07-18	06:30	09:00	07-18			TIH W/ BHA #5
Other	16	07-18	09:00	09:05	07-18			Slip & Cut
TIH	8	07-18	09:05	12:00	07-18			TIH W/ BHA #5
Rig Service - In Hole	19	07-18	12:00	12:30	07-18			
TIH	8	07-18	12:30	14:15	07-18			TIH W/ BHA #5
Circulating	3	07-18	14:15	15:00	07-18			RELOG 11289-11356
Slide Drill	2	07-18	15:00	16:00	07-18	11356.00	11386.00	Toolface: 0, Toolface Type: gravity
Rotary Drill	1	07-18	16:00	16:20	07-18	11386.00	11398.00	Pressure On (psi): 2500.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00
Slide Drill	2	07-18	16:20	17:00	07-18	11398.00	11431.00	Pressure On (psi): 1900.00, Pressure Off (psi): 1500.00, Weight On Bit (klbs): 25.00, Flow Rate (gpm): 525.00, Strokes Per Minute: 185, Toolface: 0, Toolface Type: gravity
Survey	46	07-18	17:00	17:05	07-18	11431.00	11431.00	Inclination (°): 4.090, Azimuth (°): 185.820, TVD (ft): 11360.08, Dogleg (°/100 ft): 3.84, Sensor Depth (ft): 11377.00, Bit To Sensor (ft): 54.00
Slide Drill	2	07-18	17:05	18:00	07-18	11431.00	11476.00	Pressure On (psi): 1900.00, Pressure Off (psi): 1500.00, Weight On Bit (klbs): 25.00, Flow Rate (gpm): 525.00, Strokes Per Minute: 185, Toolface: 0, Toolface Type: gravity
Survey	46	07-18	18:00	18:05	07-18	11476.00	11476.00	Inclination (°): 8.570, Azimuth (°): 186.080, TVD (ft): 11404.79, Dogleg (°/100 ft): 9.96, Sensor Depth (ft): 11422.00, Bit To Sensor (ft): 54.00
Rotary Drill	1	07-18	18:05	18:10	07-18	11476.00	11488.00	Pressure On (psi): 2300.00, Pressure Off (psi): 1700.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 14000.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170.00
Slide Drill	2	07-18	18:10	18:50	07-18	11488.00	11521.00	Pressure On (psi): 1900.00, Pressure Off (psi): 1500.00, Weight On Bit (klbs): 25.00, Flow Rate (gpm): 525.00, Strokes Per Minute: 185, Toolface: 0, Toolface Type: gravity

Survey	46	07-18	18:50	18:55	07-18	11521.00	11521.00	Inclination (°): 12.130, Azimuth (°): 180.630, TVD (ft): 11449.06, Dogleg (°/100 ft): 8.20, Sensor Depth (ft): 11467.00, Bit To Sensor (ft): 54.00
Rotary Drill	1	07-18	18:55	19:05	07-18	11521.00	11527.00	Pressure On (psi): 2300.00, Pressure Off (psi): 1700.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 16000.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170.00
Slide Drill	2	07-18	19:05	19:50	07-18	11527.00	11565.00	Pressure On (psi): 1900.00, Pressure Off (psi): 1500.00, Weight On Bit (klbs): 25.00, Flow Rate (gpm): 525.00, Strokes Per Minute: 185, Toolface: 0, Toolface Type: gravity
Survey	46	07-18	19:50	19:55	07-18	11565.00	11565.00	Inclination (°): 15.650, Azimuth (°): 177.380, TVD (ft): 11491.76, Dogleg (°/100 ft): 8.19, Sensor Depth (ft): 11511.00, Bit To Sensor (ft): 54.00
Slide Drill	2	07-18	19:55	20:30	07-18	11565.00	11610.00	Pressure On (psi): 2300.00, Pressure Off (psi): 1700.00, Weight On Bit (klbs): 45.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170, Toolface: 15, Toolface Type: gravity
Survey	46	07-18	20:30	20:40	07-18	11610.00	11610.00	Inclination (°): 19.780, Azimuth (°): 175.710, TVD (ft): 11534.62, Dogleg (°/100 ft): 9.25, Sensor Depth (ft): 11556.00, Bit To Sensor (ft): 54.00
Slide Drill	2	07-18	20:40	21:20	07-18	11610.00	11655.00	Pressure On (psi): 2300.00, Pressure Off (psi): 1700.00, Weight On Bit (klbs): 45.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170, Toolface: 20, Toolface Type: gravity
Other	16	07-18	21:20	21:30	07-18			DOWNLINK MWD
Survey	46	07-18	21:30	21:35	07-18	11655.00	11655.00	Inclination (°): 25.450, Azimuth (°): 177.120, TVD (ft): 11576.14, Dogleg (°/100 ft): 12.66, Sensor Depth (ft): 11601.00, Bit To Sensor (ft): 54.00
Rotary Drill	1	07-18	21:35	21:50	07-18	11655.00	11665.00	Pressure On (psi): 2300.00, Pressure Off (psi): 1700.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 16000.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170.00
Slide Drill	2	07-18	21:50	22:15	07-18	11665.00	11700.00	Pressure On (psi): 2300.00, Pressure Off (psi): 1700.00, Weight On Bit (klbs): 45.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170, Toolface: 15, Toolface Type: gravity
Survey	46	07-18	22:15	22:25	07-18	11700.00	11700.00	Inclination (°): 30.240, Azimuth (°): 180.720, TVD (ft): 11615.93, Dogleg (°/100 ft): 11.28, Sensor Depth (ft): 11646.00, Bit To Sensor (ft): 54.00
Slide Drill	2	07-18	22:25	23:00	07-18	11700.00	11745.00	Pressure On (psi): 2300.00, Pressure Off (psi): 1700.00, Weight On Bit (klbs): 45.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170, Toolface: 0, Toolface Type: gravity
Survey	46	07-18	23:00	23:05	07-18	11745.00	11745.00	Inclination (°): 34.020, Azimuth (°): 181.860, TVD (ft): 11654.03, Dogleg (°/100 ft): 8.51, Sensor Depth (ft): 11691.00, Bit To Sensor (ft): 54.00
Rotary Drill	1	07-18	23:05	23:10	07-18	11745.00	11750.00	Pressure On (psi): 2300.00, Pressure Off (psi): 1700.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 16000.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170.00
Slide Drill	2	07-18	23:10	23:40	07-18	11750.00	11790.00	Pressure On (psi): 2300.00, Pressure Off (psi): 1700.00, Weight On Bit (klbs): 45.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170, Toolface: 350, Toolface Type: gravity
Survey	46	07-18	23:40	23:50	07-18	11790.00	11790.00	Inclination (°): 38.770, Azimuth (°): 181.690, TVD (ft): 11690.24, Dogleg (°/100 ft): 10.56, Sensor Depth (ft): 11736.00, Bit To Sensor (ft): 54.00
Slide Drill	2	07-18	23:50	00:25	07-19	11790.00	11834.00	Pressure On (psi): 2300.00, Pressure Off (psi): 1700.00, Weight On Bit (klbs): 45.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170, Toolface: 0, Toolface Type: gravity

MWD Activities

No Activities



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
Company Man		

Sunday, Jul 19 00:00 - 23:59 (Day 10 of 20)

Billing: \$54,721.75 (\$261,300.55 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	11790.00	Downhole Hours	24.00	Rotating WOB (klbs)	40.00 - 40.00
Bit Depth (ft)	12507.00	Drilling Hours	11.00	Sliding WOB (klbs)	45.00 - 45.00
Bottom Hole Depth (ft)	12507.00	Hours Circulating	2.58	Rotating SPM	170.00 - 170.00
Total Distance (ft)	717.00	Hours Sliding	5.50	Sliding SPM	170.00 - 170.00
Distance Rotated (ft)	375.00	Hours Rotating	5.50	Motor RPM	119.00 - 175.00
Distance Slid (ft)	342.00			Surface RPM	30.00 - 30.00
Inclination In	43.96			Flow Rate (gpm)	550.00 - 550.00
Inclination Out	89.19			On Bottom Pressure (psi)	2300.00 - 2300.00
Azimuth In	183.44	% Hours Rotating	50%	Off Bottom Pressure (psi)	1700.00 - 1700.00
Azimuth Out	179.84	% Hours Sliding	50%		
AVG Total ROP (ft/h)	65.18	% Distance Sliding	48%		
AVG Rotating ROP (ft/h)	68.18	% Distance Rotating	52%		
AVG Sliding ROP (ft/h)	62.18				

Personnel

Name	Position
Robert Olivarez	MWD Engineer
Advance Directional	Directional Driller

BHA #5 - Curve 8.75"

Date In: Jul 18, 2020, 5:00 Date Out: Jul 19, 2020, 22:00

Bit Details		Motor Details		Directional Comments
OD (in)	8.750	Size (in)	6.75	Directional: Flow Rate: 300-600, Max Diff: 1130 psi, Max Torque: 10,460 ft-lbs, BIT Runs: 3
Vendor	Ultrerra	Lobe/Stage	7/8, 5.0	
S/N	51050	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	POOH Reason Change Bottom Hole Assembly: LANDED CURVE
Drilling Hours for Day	11.00	Bit Distances		
Total Drilled for Day (ft)	717.00	Bend (Bit to Bend): 4.04 ft, Gamma (Bit to Gamma): 39.00 ft, Survey (Bit to Survey): 54.00 ft		
Drilling Hours for BHA	18.67			
Total Drilled for BHA (ft)	1151.00			

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: 8 3/4 CF611, Style: PDC, Gauge Length (in): 3.00, Size (in): 8.75	Ultrerra	51050	4 1/2" Reg Pin			8.750		1.00	1.00
Mud Motor Description: 6 3/4" 7/8 5.0 FXD 2.12° w/ SS, Size (in): 6.75, Bend Angle (°): 2.12, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 5.0	AIM	650-022	4 1/2" IF Box	4 1/2" Reg Box		6.750		25.87	26.87
UBHO Sub Description: SOFTSHOE DAO UBHO, Type: NM	AIM	67501NM	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.750		4.83	31.70
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR27669	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.562		29.42	61.12
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR26490	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		29.19	90.31
Crossover Sub Description: X/O ED54-Box - 4 1/2 IF-Pin, Type: Steel	BLACK DIAMOND	BD8076	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.625		3.94	94.25
Drill Pipe Description: 15 STANDS of DP, Style: Slick	RIG		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		1343.99	1438.24
HWDP Description: 9 STANDS of HWDP, Style: Slick	RIG		EverDrlg54 Box	EverDrlg54 Pin	3.000	5.500		850.41	2288.65

MWD Items

No Items

BHA #6 - 8.5" LATERAL w/ RSS

Date In: Jul 19, 2020, 22:00 Date Out: Jul 21, 2020, 21:00

Bit Details		Motor Details		Directional Comments	
OD (in)	8.500	Size (in)	7.0	Directional: Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, BIT Runs: 2	
Vendor	REED	Lobe/Stage	7/8, 5.0		
S/N	A270527	Bend Angle	0.0		
Nozzles	6X14's	Speed (rev/gal)	0.26	MWD Comments	
Total Flow Area (in²)	0.901	Wear Pad OD (in)	7.000	POOH Reason Penetration Rate: NO VISIBLE DAMAGE TO BHA	
Drilling Hours for Day	0.00	Bit Distances			
Total Drilled for Day (ft)		Gamma (Bit to Gamma): 91.00 ft, Survey (Bit to Survey): 100.00 ft			
Drilling Hours for BHA	22.50				
Total Drilled for BHA (ft)	2034.00				

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: 8 1/2 TKC66, Style: PDC, Gauge Length (in): 4.00, Size (in): 8.50	REED	A270527	4 1/2" Reg Pin			8.500		1.00	1.00
Other Description: ORBITRSS	EXTREME	94689	4 1/2" IF Box	4 1/2" Reg Box	2.750	6.750		13.40	14.40
Drill Collar Description: 15 FT. NM PONY, Style: Pony, Type: NM	DR	DR44452	4 1/2" IF Box	4 1/2" IF Pin	2.875	6.875		15.35	29.75
Float Sub Description: NM FILTER SUB, Type: NM	DR	DR46002	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		4.10	33.85
Mud Motor Description: 7" 7/8 8.5 FXD 0° w/ 8.25" STAB, Size (in): 7.00, Bend Angle (°): 0, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 5	AIM	700-40-038	4 1/2" IF Box	4 1/2" IF Pin		7.000		39.76	73.61
Stabilizer Description: 8.25 NM STAB.	DR	DR45238	4 1/2" IF Box	4 1/2" IF Pin	2.875	6.750		5.29	78.90
UBHO Sub Description: SOFT SHOE DAO UBHO, Type: NM	AIM	67501NM	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.750		4.83	83.73
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR27669	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.562		29.42	113.15
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR26490	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		29.19	142.34
Crossover Sub Description: X/O ED54-Box - 4 1/2 IF-Pin, Type: Steel	BLACK DIAMOND	BD8076	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.625		3.94	146.28
Drill Pipe Description: 118 STANDS OF DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		10576.13	10722.41
HWDP Description: 9 STANDS of HWDP, Style: Slick	RIG		EverDrlg54 Box	EverDrlg54 Pin	3.000	5.500		850.41	11572.82

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	07-18	23:50	00:25	07-19	11790.00	11834.00	Pressure On (psi): 2300.00, Pressure Off (psi): 1700.00, Weight On Bit (klbs): 45.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170, Toolface: 0, Toolface Type: gravity
Survey	46	07-19	00:25	00:30	07-19	11834.00	11834.00	Inclination (°): 43.960, Azimuth (°): 183.440, TVD (ft): 11723.25, Dogleg (°/100 ft): 12.08, Sensor Depth (ft): 11780.00, Bit To Sensor (ft): 54.00
Rotary Drill	1	07-19	00:30	00:40	07-19	11834.00	11846.00	Pressure On (psi): 2300.00, Pressure Off (psi): 1700.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 16000.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170.00
Slide Drill	2	07-19	00:40	01:10	07-19	11846.00	11879.00	Pressure On (psi): 2300.00, Pressure Off (psi): 1700.00, Weight On Bit (klbs): 45.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170, Toolface: 340, Toolface Type: gravity
Survey	46	07-19	01:10	01:20	07-19	11879.00	11879.00	Inclination (°): 49.760, Azimuth (°): 183.000, TVD (ft): 11754.01, Dogleg (°/100 ft): 12.91, Sensor Depth (ft): 11825.00, Bit To Sensor (ft): 54.00
Rotary Drill	1	07-19	01:20	01:35	07-19	11879.00	11893.00	Pressure On (psi): 2300.00, Pressure Off (psi): 1700.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 16000.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170.00
Slide Drill	2	07-19	01:35	02:00	07-19	11893.00	11924.00	Pressure On (psi): 2300.00, Pressure Off (psi): 1700.00, Weight On Bit (klbs): 45.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170, Toolface: 345, Toolface Type: gravity
Survey	46	07-19	02:00	02:05	07-19	11924.00	11924.00	Inclination (°): 54.020, Azimuth (°): 181.510, TVD (ft): 11781.78, Dogleg (°/100 ft): 9.82, Sensor Depth (ft): 11870.00, Bit To Sensor (ft): 54.00

Rotary Drill	1	07-19	02:05	02:15	07-19	11924.00	11940.00	Pressure On (psi): 2300.00, Pressure Off (psi): 1700.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 16000.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170.00
Slide Drill	2	07-19	02:15	02:40	07-19	11940.00	11969.00	Pressure On (psi): 2300.00, Pressure Off (psi): 1700.00, Weight On Bit (klbs): 45.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170, Toolface: 0, Toolface Type: gravity
Survey	46	07-19	02:40	02:50	07-19	11969.00	11969.00	Inclination (°): 57.670, Azimuth (°): 179.930, TVD (ft): 11807.04, Dogleg (°/100 ft): 8.62, Sensor Depth (ft): 11915.00, Bit To Sensor (ft): 54.00
Rotary Drill	1	07-19	02:50	03:05	07-19	11969.00	11981.00	Pressure On (psi): 2300.00, Pressure Off (psi): 1700.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 16000.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170.00
Slide Drill	2	07-19	03:05	03:35	07-19	11981.00	12014.00	Pressure On (psi): 2300.00, Pressure Off (psi): 1700.00, Weight On Bit (klbs): 45.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170, Toolface: 0, Toolface Type: gravity
Survey	46	07-19	03:35	03:40	07-19	12014.00	12014.00	Inclination (°): 61.890, Azimuth (°): 179.580, TVD (ft): 11829.68, Dogleg (°/100 ft): 9.40, Sensor Depth (ft): 11960.00, Bit To Sensor (ft): 54.00
Rotary Drill	1	07-19	03:40	03:55	07-19	12014.00	12032.00	Pressure On (psi): 2300.00, Pressure Off (psi): 1700.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 16000.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170.00
Slide Drill	2	07-19	03:55	04:20	07-19	12032.00	12058.00	Pressure On (psi): 2300.00, Pressure Off (psi): 1700.00, Weight On Bit (klbs): 45.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170, Toolface: 0, Toolface Type: gravity
Survey	46	07-19	04:20	04:30	07-19	12058.00	12058.00	Inclination (°): 65.410, Azimuth (°): 179.220, TVD (ft): 11849.21, Dogleg (°/100 ft): 8.03, Sensor Depth (ft): 12004.00, Bit To Sensor (ft): 54.00
Rotary Drill	1	07-19	04:30	04:40	07-19	12058.00	12068.00	Pressure On (psi): 2300.00, Pressure Off (psi): 1700.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 16000.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170.00
Slide Drill	2	07-19	04:40	05:05	07-19	12068.00	12103.00	Pressure On (psi): 2300.00, Pressure Off (psi): 1700.00, Weight On Bit (klbs): 45.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170, Toolface: 0, Toolface Type: gravity
Survey	46	07-19	05:05	05:10	07-19	12103.00	12103.00	Inclination (°): 68.180, Azimuth (°): 178.700, TVD (ft): 11866.94, Dogleg (°/100 ft): 6.25, Sensor Depth (ft): 12049.00, Bit To Sensor (ft): 54.00
Rotary Drill	1	07-19	05:10	05:20	07-19	12103.00	12108.00	Pressure On (psi): 2300.00, Pressure Off (psi): 1700.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 16000.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170.00
Slide Drill	2	07-19	05:20	05:55	07-19	12108.00	12148.00	Pressure On (psi): 2300.00, Pressure Off (psi): 1700.00, Weight On Bit (klbs): 45.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170, Toolface: 40, Toolface Type: gravity
Survey	46	07-19	05:55	06:00	07-19	12148.00	12148.00	Inclination (°): 73.010, Azimuth (°): 178.350, TVD (ft): 11881.88, Dogleg (°/100 ft): 10.76, Sensor Depth (ft): 12094.00, Bit To Sensor (ft): 54.00
Rotary Drill	1	07-19	06:00	06:10	07-19	12148.00	12165.00	Pressure On (psi): 2300.00, Pressure Off (psi): 1700.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 16000.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170.00
Slide Drill	2	07-19	06:10	06:30	07-19	12165.00	12183.00	Pressure On (psi): 2300.00, Pressure Off (psi): 1700.00, Weight On Bit (klbs): 45.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170, Toolface: 20, Toolface Type: gravity
Rotary Drill	1	07-19	06:30	06:45	07-19	12183.00	12193.00	Pressure On (psi): 2300.00, Pressure Off (psi): 1700.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 16000.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170.00
Survey	46	07-19	06:45	06:50	07-19	12193.00	12193.00	Inclination (°): 78.950, Azimuth (°): 177.910, TVD (ft): 11892.78, Dogleg (°/100 ft): 13.23, Sensor Depth (ft): 12139.00, Bit To Sensor (ft): 54.00
Rotary Drill	1	07-19	06:50	07:00	07-19	12193.00	12208.00	Pressure On (psi): 2300.00, Pressure Off (psi): 1700.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 16000.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170.00
Slide Drill	2	07-19	07:00	07:15	07-19	12208.00	12223.00	Pressure On (psi): 2300.00, Pressure Off (psi): 1700.00, Weight On Bit (klbs): 45.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170, Toolface: 0, Toolface Type: gravity
Rotary Drill	1	07-19	07:15	07:30	07-19	12223.00	12238.00	Pressure On (psi): 2300.00, Pressure Off (psi): 1700.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 16000.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170.00
Survey	46	07-19	07:30	07:35	07-19	12238.00	12238.00	Inclination (°): 81.980, Azimuth (°): 177.290, TVD (ft): 11900.23, Dogleg (°/100 ft): 6.87, Sensor Depth (ft): 12184.00, Bit To Sensor (ft): 54.00
Rotary Drill	1	07-19	07:35	07:50	07-19	12238.00	12253.00	Pressure On (psi): 2300.00, Pressure Off (psi): 1700.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 16000.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170.00
Slide Drill	2	07-19	07:50	08:35	07-19	12253.00	12275.00	Pressure On (psi): 2300.00, Pressure Off (psi): 1700.00, Weight On Bit (klbs): 45.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170, Toolface: 50, Toolface Type: gravity

Rotary Drill	1	07-19	08:35	08:45	07-19	12275.00	12283.00	Pressure On (psi): 2300.00, Pressure Off (psi): 1700.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 16000.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170.00
Survey	46	07-19	08:45	08:50	07-19	12283.00	12283.00	Inclination (°): 84.620, Azimuth (°): 177.550, TVD (ft): 11905.48, Dogleg (°/100 ft): 5.89, Sensor Depth (ft): 12229.00, Bit To Sensor (ft): 54.00
Rotary Drill	1	07-19	08:50	09:20	07-19	12283.00	12313.00	Pressure On (psi): 2300.00, Pressure Off (psi): 1700.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 16000.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170.00
Slide Drill	2	07-19	09:20	09:35	07-19	12313.00	12323.00	Pressure On (psi): 2300.00, Pressure Off (psi): 1700.00, Weight On Bit (klbs): 45.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170, Toolface: 37, Toolface Type: gravity
Rotary Drill	1	07-19	09:35	09:45	07-19	12323.00	12328.00	Pressure On (psi): 2300.00, Pressure Off (psi): 1700.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 16000.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170.00
Survey	46	07-19	09:45	09:50	07-19	12328.00	12328.00	Inclination (°): 86.770, Azimuth (°): 179.400, TVD (ft): 11908.86, Dogleg (°/100 ft): 6.30, Sensor Depth (ft): 12274.00, Bit To Sensor (ft): 54.00
Rotary Drill	1	07-19	09:50	10:20	07-19	12328.00	12372.00	Pressure On (psi): 2300.00, Pressure Off (psi): 1700.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 16000.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170.00
Survey	46	07-19	10:20	10:25	07-19	12372.00	12372.00	Inclination (°): 88.750, Azimuth (°): 180.190, TVD (ft): 11910.58, Dogleg (°/100 ft): 4.84, Sensor Depth (ft): 12318.00, Bit To Sensor (ft): 54.00
Rotary Drill	1	07-19	10:25	10:55	07-19	12372.00	12417.00	Pressure On (psi): 2300.00, Pressure Off (psi): 1700.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 16000.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170.00
Survey	46	07-19	10:55	11:00	07-19	12417.00	12417.00	Inclination (°): 89.540, Azimuth (°): 180.540, TVD (ft): 11911.25, Dogleg (°/100 ft): 1.92, Sensor Depth (ft): 12363.00, Bit To Sensor (ft): 54.00
Rotary Drill	1	07-19	11:00	11:15	07-19	12417.00	12427.00	Pressure On (psi): 2300.00, Pressure Off (psi): 1700.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 16000.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170.00
Slide Drill	2	07-19	11:15	11:20	07-19	12427.00	12433.00	Pressure On (psi): 2300.00, Pressure Off (psi): 1700.00, Weight On Bit (klbs): 45.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170, Toolface: 220, Toolface Type: gravity
Rotary Drill	1	07-19	11:20	12:15	07-19	12433.00	12507.00	Pressure On (psi): 2300.00, Pressure Off (psi): 1700.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 16000.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170.00
Survey	46	07-19	12:15	12:20	07-19	12507.00	12507.00	Inclination (°): 89.190, Azimuth (°): 179.840, TVD (ft): 11912.25, Dogleg (°/100 ft): 0.87, Sensor Depth (ft): 12453.00, Bit To Sensor (ft): 54.00
Circulating	3	07-19	12:20	14:45	07-19			Circulate
Pooh	7	07-19	14:45	21:00	07-19			POOH
Lay Down BHA	65	07-19	21:00	22:00	07-19			L/D BHA #5
Pick Up BHA	64	07-19	22:00	22:30	07-19			P/U BHA #6
Circulating	3	07-19	22:30	22:40	07-19			Test MWD(Good)
TIH	8	07-19	22:40	09:00	07-20			TIH W/ BHA #6

MWD Activities

No Activities



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
		Company Man

Monday, Jul 20 00:00 - 23:59 (Day 11 of 20)

Billing: \$15,050.00 (\$261,300.55 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	12507.00	Downhole Hours	24.00	Rotating WOB (klbs)	37.00 - 46.00
Bit Depth (ft)	13814.00	Drilling Hours	10.92	Sliding WOB (klbs)	
Bottom Hole Depth (ft)	13814.00	Hours Circulating	2.50	Rotating SPM	204.00 - 208.00
Total Distance (ft)	1307.00	Hours Sliding	0.00	Sliding SPM	
Distance Rotated (ft)	1307.00	Hours Rotating	10.92	Motor RPM	130.00 - 175.00
Distance Slid (ft)	0.00			Surface RPM	100.00 - 100.00
Inclination In	89.41			Flow Rate (gpm)	650.00 - 670.00
Inclination Out	89.41			On Bottom Pressure (psi)	4800.00 - 4950.00
Azimuth In	178.87	% Hours Rotating	100%	Off Bottom Pressure (psi)	4100.00 - 4100.00
Azimuth Out	179.66	% Hours Sliding	0%		
AVG Total ROP (ft/h)	117.15	% Distance Sliding	0%		
AVG Rotating ROP (ft/h)	117.15	% Distance Rotating	100%		
AVG Sliding ROP (ft/h)	0.00				

Personnel

Name	Position
Robert Olivarez	MWD Engineer
Advance Directional	Directional Driller

BHA #6 - 8.5" LATERAL w/ RSS

Date In: Jul 19, 2020, 22:00 Date Out: Jul 21, 2020, 21:00

Bit Details		Motor Details		Directional Comments
OD (in)	8.500	Size (in)	7.0	Directional: Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, BIT Runs: 2
Vendor	REED	Lobe/Stage	7/8, 5.0	
S/N	A270527	Bend Angle	0.0	
Nozzles	6X14's	Speed (rev/gal)	0.26	MWD Comments
Total Flow Area (in²)	0.901	Wear Pad OD (in)	7.000	POOH Reason Penetration Rate: NO VISIBLE DAMAGE TO BHA
Drilling Hours for Day	10.92	Bit Distances		
Total Drilled for Day (ft)	1307.00	Gamma (Bit to Gamma): 91.00 ft, Survey (Bit to Survey): 100.00 ft		
Drilling Hours for BHA	22.50			
Total Drilled for BHA (ft)	2034.00			

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: 8 1/2 TKC66, Style: PDC, Gauge Length (in): 4.00, Size (in): 8.50	REED	A270527	4 1/2" Reg Pin			8.500		1.00	1.00
Other Description: ORBITRSS	EXTREME	94689	4 1/2" IF Box	4 1/2" Reg Box	2.750	6.750		13.40	14.40
Drill Collar Description: 15 FT. NM PONY, Style: Pony, Type: NM	DR	DR44452	4 1/2" IF Box	4 1/2" IF Pin	2.875	6.875		15.35	29.75
Float Sub Description: NM FILTER SUB, Type: NM	DR	DR46002	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		4.10	33.85
Mud Motor Description: 7" 7/8 8.5 FXD 0° w/ 8.25" STAB, Size (in): 7.00, Bend Angle (°): 0, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 5	AIM	700-40-038	4 1/2" IF Box	4 1/2" IF Pin		7.000		39.76	73.61
Stabilizer Description: 8.25 NM STAB.	DR	DR45238	4 1/2" IF Box	4 1/2" IF Pin	2.875	6.750		5.29	78.90
UBHO Sub Description: SOFTSHOE DAO UBHO, Type: NM	AIM	67501NM	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.750		4.83	83.73
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR27669	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.562		29.42	113.15
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR26490	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		29.19	142.34
Crossover Sub Description: X/O ED54-Box - 4 1/2 IF-Pin, Type: Steel	BLACK DIAMOND	BD8076	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.625		3.94	146.28
Drill Pipe Description: 118 STANDS OF DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		10576.13	10722.41
HWDP Description: 9 STANDS of HWDP, Style: Slick	RIG		EverDrlg54 Box	EverDrlg54 Pin	3.000	5.500		850.41	11572.82

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	07-19	22:40	09:00	07-20			TIH W/ BHA #6
Circulating	3	07-20	09:00	11:15	07-20			
Rotary Drill	1	07-20	11:15	12:50	07-20	12507.00	12648.00	Pressure On (psi): 4950.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 37.00, Surface RPM: 100, Surface Torque (ft lbf): 16000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00
Survey	46	07-20	12:50	12:55	07-20	12648.00	12648.00	Inclination (°): 89.410, Azimuth (°): 178.870, TVD (ft): 11913.41, Dogleg (°/100 ft): 1.05, Sensor Depth (ft): 12548.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-20	12:55	13:40	07-20	12648.00	12738.00	Pressure On (psi): 4950.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 37.00, Surface RPM: 100, Surface Torque (ft lbf): 16000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00
Survey	46	07-20	13:40	13:45	07-20	12738.00	12738.00	Inclination (°): 89.490, Azimuth (°): 178.610, TVD (ft): 11914.28, Dogleg (°/100 ft): 0.30, Sensor Depth (ft): 12638.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-20	13:45	14:20	07-20	12738.00	12827.00	Pressure On (psi): 4950.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 37.00, Surface RPM: 100, Surface Torque (ft lbf): 16000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00
Survey	46	07-20	14:20	14:25	07-20	12827.00	12827.00	Inclination (°): 88.750, Azimuth (°): 178.350, TVD (ft): 11915.64, Dogleg (°/100 ft): 0.88, Sensor Depth (ft): 12727.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-20	14:25	14:50	07-20	12827.00	12917.00	Pressure On (psi): 4950.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 37.00, Surface RPM: 100, Surface Torque (ft lbf): 16000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00
Survey	46	07-20	14:50	14:55	07-20	12917.00	12917.00	Inclination (°): 88.440, Azimuth (°): 178.350, TVD (ft): 11917.85, Dogleg (°/100 ft): 0.34, Sensor Depth (ft): 12817.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-20	14:55	15:45	07-20	12917.00	13007.00	Pressure On (psi): 4950.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 37.00, Surface RPM: 100, Surface Torque (ft lbf): 16000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00
Survey	46	07-20	15:45	15:50	07-20	13007.00	13007.00	Inclination (°): 88.440, Azimuth (°): 178.430, TVD (ft): 11920.30, Dogleg (°/100 ft): 0.09, Sensor Depth (ft): 12907.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-20	15:50	16:20	07-20	13007.00	13096.00	Pressure On (psi): 4950.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 37.00, Surface RPM: 100, Surface Torque (ft lbf): 16000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00
Survey	46	07-20	16:20	16:25	07-20	13096.00	13096.00	Inclination (°): 88.570, Azimuth (°): 179.660, TVD (ft): 11922.62, Dogleg (°/100 ft): 1.39, Sensor Depth (ft): 12996.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-20	16:25	17:05	07-20	13096.00	13186.00	Pressure On (psi): 4950.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 37.00, Surface RPM: 100, Surface Torque (ft lbf): 16000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00
Survey	46	07-20	17:05	17:10	07-20	13186.00	13186.00	Inclination (°): 88.570, Azimuth (°): 180.540, TVD (ft): 11924.87, Dogleg (°/100 ft): 0.98, Sensor Depth (ft): 13086.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-20	17:10	17:45	07-20	13186.00	13276.00	Pressure On (psi): 4950.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 37.00, Surface RPM: 100, Surface Torque (ft lbf): 16000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00
Survey	46	07-20	17:45	18:00	07-20	13276.00	13276.00	Inclination (°): 89.360, Azimuth (°): 180.280, TVD (ft): 11926.49, Dogleg (°/100 ft): 0.92, Sensor Depth (ft): 13176.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-20	18:00	18:30	07-20	13276.00	13365.00	Pressure On (psi): 4950.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 46.00, Surface RPM: 100, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-20	18:30	18:35	07-20	13365.00	13365.00	Inclination (°): 89.410, Azimuth (°): 180.280, TVD (ft): 11927.45, Dogleg (°/100 ft): 0.06, Sensor Depth (ft): 13265.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-20	18:35	19:20	07-20	13365.00	13454.00	Pressure On (psi): 4950.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 46.00, Surface RPM: 100, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-20	19:20	19:25	07-20	13454.00	13454.00	Inclination (°): 89.190, Azimuth (°): 180.280, TVD (ft): 11928.54, Dogleg (°/100 ft): 0.25, Sensor Depth (ft): 13354.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-20	19:25	20:35	07-20	13454.00	13544.00	Pressure On (psi): 4950.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 46.00, Surface RPM: 100, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-20	20:35	20:40	07-20	13544.00	13544.00	Inclination (°): 89.360, Azimuth (°): 181.070, TVD (ft): 11929.67, Dogleg (°/100 ft): 0.90, Sensor Depth (ft): 13444.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-20	20:40	21:30	07-20	13544.00	13634.00	Pressure On (psi): 4800.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 44.00, Surface RPM: 100, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00

Survey	46	07-20	21:30	21:35	07-20	13634.00	13634.00	Inclination (°): 89.450, Azimuth (°): 180.540, TVD (ft): 11930.61, Dogleg (°/100 ft): 0.60, Sensor Depth (ft): 13534.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-20	21:35	22:20	07-20	13634.00	13724.00	Pressure On (psi): 4800.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 44.00, Surface RPM: 100, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-20	22:20	22:25	07-20	13724.00	13724.00	Inclination (°): 89.490, Azimuth (°): 179.930, TVD (ft): 11931.44, Dogleg (°/100 ft): 0.68, Sensor Depth (ft): 13624.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-20	22:25	23:05	07-20	13724.00	13789.00	Pressure On (psi): 4800.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 44.00, Surface RPM: 100, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Circulating	3	07-20	23:05	23:20	07-20			Circulate while Work on Mud Pumps
Rotary Drill	1	07-20	23:20	23:40	07-20	13789.00	13814.00	Pressure On (psi): 4800.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 44.00, Surface RPM: 100, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-20	23:40	23:45	07-20	13814.00	13814.00	Inclination (°): 89.410, Azimuth (°): 179.660, TVD (ft): 11932.31, Dogleg (°/100 ft): 0.31, Sensor Depth (ft): 13714.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-20	23:45	00:45	07-21	13814.00	13903.00	Pressure On (psi): 4800.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 44.00, Surface RPM: 100, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00

MWD Activities

No Activities



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
		Company Man

Tuesday, Jul 21 00:00 - 23:59 (Day 12 of 20)

Billing: \$15,050.00 (\$261,300.55 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	13814.00	Downhole Hours	24.00	Rotating WOB (klbs)	44.00 - 44.00
Bit Depth (ft)	14541.00	Drilling Hours	11.58	Sliding WOB (klbs)	
Bottom Hole Depth (ft)	14541.00	Hours Circulating	1.67	Rotating SPM	208.00 - 208.00
Total Distance (ft)	727.00	Hours Sliding	0.00	Sliding SPM	
Distance Rotated (ft)	727.00	Hours Rotating	11.58	Motor RPM	130.00 - 175.00
Distance Slid (ft)	0.00			Surface RPM	100.00 - 100.00
Inclination In	89.49			Flow Rate (gpm)	670.00 - 670.00
Inclination Out	90.02			On Bottom Pressure (psi)	4800.00 - 4800.00
Azimuth In	179.66	% Hours Rotating	100%	Off Bottom Pressure (psi)	4100.00 - 4100.00
Azimuth Out	179.93	% Hours Sliding	0%		
AVG Total ROP (ft/h)	62.76	% Distance Sliding	0%		
AVG Rotating ROP (ft/h)	62.76	% Distance Rotating	100%		
AVG Sliding ROP (ft/h)	0.00				

Personnel

Name	Position
Robert Olivarez	MWD Engineer
Advance Directional	Directional Driller

BHA #6 - 8.5" LATERAL w/ RSS

Date In: Jul 19, 2020, 22:00 Date Out: Jul 21, 2020, 21:00

Bit Details		Motor Details		Directional Comments
OD (in)	8.500	Size (in)	7.0	Directional: Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, BIT Runs: 2
Vendor	REED	Lobe/Stage	7/8, 5.0	
S/N	A270527	Bend Angle	0.0	
Nozzles	6X14's	Speed (rev/gal)	0.26	MWD Comments
Total Flow Area (in²)	0.901	Wear Pad OD (in)	7.000	
Drilling Hours for Day	11.58	Bit Distances		POOH Reason Penetration Rate: NO VISIBLE DAMAGE TO BHA
Total Drilled for Day (ft)	727.00	Gamma (Bit to Gamma): 91.00 ft, Survey		
Drilling Hours for BHA	22.50	(Bit to Survey): 100.00 ft		
Total Drilled for BHA (ft)	2034.00			

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: 8 1/2 TKC66, Style: PDC, Gauge Length (in): 4.00, Size (in): 8.50	REED	A270527	4 1/2" Reg Pin			8.500		1.00	1.00
Other Description: ORBITRSS	EXTREME	94689	4 1/2" IF Box	4 1/2" Reg Box	2.750	6.750		13.40	14.40
Drill Collar Description: 15 FT. NM PONY, Style: Pony, Type: NM	DR	DR44452	4 1/2" IF Box	4 1/2" IF Pin	2.875	6.875		15.35	29.75
Float Sub Description: NM FILTER SUB, Type: NM	DR	DR46002	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		4.10	33.85
Mud Motor Description: 7" 7/8 8.5 FXD 0° w/ 8.25" STAB, Size (in): 7.00, Bend Angle (°): 0, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 5	AIM	700-40-038	4 1/2" IF Box	4 1/2" IF Pin		7.000		39.76	73.61
Stabilizer Description: 8.25 NM STAB.	DR	DR45238	4 1/2" IF Box	4 1/2" IF Pin	2.875	6.750		5.29	78.90
UBHO Sub Description: SOFTSHOE DAO UBHO, Type: NM	AIM	67501NM	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.750		4.83	83.73
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR27669	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.562		29.42	113.15
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR26490	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		29.19	142.34
Crossover Sub Description: X/O ED54-Box - 4 1/2 IF-Pin, Type: Steel	BLACK DIAMOND	BD8076	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.625		3.94	146.28
Drill Pipe Description: 118 STANDS OF DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		10576.13	10722.41
HWDP Description: 9 STANDS of HWDP, Style: Slick	RIG		EverDrlg54 Box	EverDrlg54 Pin	3.000	5.500		850.41	11572.82

MWD Items

No items

BHA #7 - DRILL LATERAL (8.5") w/ RSS**Date In: Jul 21, 2020, 21:00 Date Out: Jul 24, 2020, 2:00**

Bit Details		Motor Details		Directional Comments	
OD (in)	8.500	Size (in)	7.0	Directional: Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, BIT Runs: 3	
Vendor	Ultrerra	Lobe/Stage	7/8, 5.0		
S/N	39837	Bend Angle	0.0		
Nozzles	7X13's	Speed (rev/gal)	0.26	MWD Comments	
Total Flow Area (in²)	0.907	Wear Pad OD (in)	7.000	POOH Reason Downhole Tool Incident: N/A	
Drilling Hours for Day	0.00	Bit Distances			
Total Drilled for Day (ft)		Gamma (Bit to Gamma): 91.00 ft, Survey (Bit to Survey): 100.00 ft			
Drilling Hours for BHA	30.00				
Total Drilled for BHA (ft)	2914.00				

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: 8 1/2 CF716, Style: PDC, Gauge Length (in): 6.00, Size (in): 8.50	Ultrerra	39837	4 1/2" Reg Pin			8.500		1.00	1.00
Other Description: ORBITRSS	EXTREME	94689	4 1/2" IF Box	4 1/2" Reg Box	2.750	6.750		13.40	14.40
Drill Collar Description: 15 FT. NM PONY, Style: Pony, Type: NM	DR	DR44452	4 1/2" IF Box	4 1/2" IF Pin	2.875	6.875		15.35	29.75
Float Sub Description: NM FILTER SUB, Type: NM	DR	DR46002	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		4.10	33.85
Mud Motor Description: 7" 7/8 8.5 FXD 0° w/ 8.25" STAB, Size (in): 7.00, Bend Angle (°): 0, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 5	AIM	700-40-038	4 1/2" IF Box	4 1/2" IF Pin		7.000		39.76	73.61
Stabilizer Description: 8.25 NM STAB.	DR	DR45238	4 1/2" IF Box	4 1/2" IF Pin	2.875	6.750		5.29	78.90
UBHO Sub Description: SOFTSHOE DAO UBHO, Type: NM	AIM	67501NM	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.750		4.83	83.73
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR27669	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.562		29.42	113.15
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR26490	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		29.19	142.34
Crossover Sub Description: X/O ED54-Box - 4 1/2 IF-Pin, Type: Steel	BLACK DIAMOND	BD8076	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.625		3.94	146.28
Drill Pipe Description: 118 STANDS OF DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		10576.13	10722.41
HWDP Description: 9 STANDS of HWDP, Style: Slick	RIG		EverDrlg54 Box	EverDrlg54 Pin	3.000	5.500		850.41	11572.82

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	07-20	23:45	00:45	07-21	13814.00	13903.00	Pressure On (psi): 4800.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 44.00, Surface RPM: 100, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-21	00:45	00:50	07-21	13903.00	13903.00	Inclination (°): 89.490, Azimuth (°): 179.660, TVD (ft): 11933.16, Dogleg (°/100 ft): 0.09, Sensor Depth (ft): 13803.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-21	00:50	01:50	07-21	13903.00	13993.00	Pressure On (psi): 4800.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 44.00, Surface RPM: 100, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-21	01:50	01:55	07-21	13993.00	13993.00	Inclination (°): 89.450, Azimuth (°): 181.600, TVD (ft): 11933.99, Dogleg (°/100 ft): 2.16, Sensor Depth (ft): 13893.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-21	01:55	03:05	07-21	13993.00	14083.00	Pressure On (psi): 4800.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 44.00, Surface RPM: 100, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-21	03:05	03:10	07-21	14083.00	14083.00	Inclination (°): 89.410, Azimuth (°): 181.950, TVD (ft): 11934.89, Dogleg (°/100 ft): 0.39, Sensor Depth (ft): 13983.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-21	03:10	04:30	07-21	14083.00	14172.00	Pressure On (psi): 4800.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 44.00, Surface RPM: 100, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00

Survey	46	07-21	04:30	04:35	07-21	14172.00	14172.00	Inclination (°): 89.360, Azimuth (°): 182.120, TVD (ft): 11935.84, Dogleg (°/100 ft): 0.20, Sensor Depth (ft): 14072.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-21	04:35	05:45	07-21	14172.00	14262.00	Pressure On (psi): 4800.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 44.00, Surface RPM: 100, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-21	05:45	05:50	07-21	14262.00	14262.00	Inclination (°): 89.490, Azimuth (°): 182.040, TVD (ft): 11936.75, Dogleg (°/100 ft): 0.17, Sensor Depth (ft): 14162.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-21	05:50	07:45	07-21	14262.00	14351.00	Pressure On (psi): 4800.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 44.00, Surface RPM: 100, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-21	07:45	07:50	07-21	14351.00	14351.00	Inclination (°): 89.580, Azimuth (°): 181.950, TVD (ft): 11937.47, Dogleg (°/100 ft): 0.14, Sensor Depth (ft): 14251.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-21	07:50	09:45	07-21	14351.00	14441.00	Pressure On (psi): 4800.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 44.00, Surface RPM: 100, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-21	09:45	09:50	07-21	14441.00	14441.00	Inclination (°): 89.800, Azimuth (°): 180.720, TVD (ft): 11937.96, Dogleg (°/100 ft): 1.39, Sensor Depth (ft): 14341.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-21	09:50	11:40	07-21	14441.00	14531.00	Pressure On (psi): 4800.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 44.00, Surface RPM: 100, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-21	11:40	11:45	07-21	14531.00	14531.00	Inclination (°): 90.020, Azimuth (°): 179.930, TVD (ft): 11938.10, Dogleg (°/100 ft): 0.91, Sensor Depth (ft): 14431.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-21	11:45	12:00	07-21	14531.00	14541.00	Pressure On (psi): 4800.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 44.00, Surface RPM: 100, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Circulating	3	07-21	12:00	13:30	07-21			
Pooh	7	07-21	13:30	21:00	07-21			POOH for ROP
Change BHA	6	07-21	21:00	22:40	07-21			P/U BHA # 7
Circulating	3	07-21	22:40	22:50	07-21			TEST MWD(GOOD)
TIH	8	07-21	22:50	01:15	07-22			TIH W/ BHA #7

MWD Activities

No Activities



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
		Company Man

Wednesday, Jul 22 00:00 - 23:59 (Day 13 of 20)

Billing: \$15,050.00 (\$261,300.55 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	14541.00	Downhole Hours	24.00	Rotating WOB (klbs)	44.00 - 44.00
Bit Depth (ft)	16072.00	Drilling Hours	11.92	Sliding WOB (klbs)	
Bottom Hole Depth (ft)	16072.00	Hours Circulating	0.67	Rotating SPM	208.00 - 208.00
Total Distance (ft)	1531.00	Hours Sliding	0.00	Sliding SPM	
Distance Rotated (ft)	1531.00	Hours Rotating	11.92	Motor RPM	160.00 - 170.00
Distance Slid (ft)	0.00			Surface RPM	40.00 - 100.00
Inclination In	89.67			Flow Rate (gpm)	670.00 - 670.00
Inclination Out	89.10			On Bottom Pressure (psi)	4800.00 - 4800.00
Azimuth In	179.66	% Hours Rotating	100%	Off Bottom Pressure (psi)	4100.00 - 4100.00
Azimuth Out	178.87	% Hours Sliding	0%		
AVG Total ROP (ft/h)	120.23	% Distance Sliding	0%		
AVG Rotating ROP (ft/h)	120.23	% Distance Rotating	100%		
AVG Sliding ROP (ft/h)	0.00				

Personnel

Name	Position
Robert Olivarez	MWD Engineer
Advance Directional	Directional Driller

BHA #7 - DRILL LATERAL (8.5") w/ RSS

Date In: Jul 21, 2020, 21:00 Date Out: Jul 24, 2020, 2:00

Bit Details		Motor Details		Directional Comments
OD (in)	8.500	Size (in)	7.0	Directional: Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, BIT Runs: 3
Vendor	Ultrerra	Lobe/Stage	7/8, 5.0	
S/N	39837	Bend Angle	0.0	
Nozzles	7X13's	Speed (rev/gal)	0.26	MWD Comments
Total Flow Area (in²)	0.907	Wear Pad OD (in)	7.000	
Drilling Hours for Day	11.92	Bit Distances		
Total Drilled for Day (ft)	1531.00	Gamma (Bit to Gamma): 91.00 ft, Survey (Bit to Survey): 100.00 ft		POOH Reason
Drilling Hours for BHA	30.00			
Total Drilled for BHA (ft)	2914.00			
				Downhole Tool Incident: N/A

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: 8 1/2 CF716, Style: PDC, Gauge Length (in): 6.00, Size (in): 8.50	Ultrerra	39837	4 1/2" Reg Pin			8.500		1.00	1.00
Other Description: ORBITRSS	EXTREME	94689	4 1/2" IF Box	4 1/2" Reg Box	2.750	6.750		13.40	14.40
Drill Collar Description: 15 FT. NM PONY, Style: Pony, Type: NM	DR	DR44452	4 1/2" IF Box	4 1/2" IF Pin	2.875	6.875		15.35	29.75
Float Sub Description: NM FILTER SUB, Type: NM	DR	DR46002	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		4.10	33.85
Mud Motor Description: 7" 7/8 8.5 FXD 0° w/ 8.25" STAB, Size (in): 7.00, Bend Angle (°): 0, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 5	AIM	700-40-038	4 1/2" IF Box	4 1/2" IF Pin		7.000		39.76	73.61
Stabilizer Description: 8.25 NM STAB.	DR	DR45238	4 1/2" IF Box	4 1/2" IF Pin	2.875	6.750		5.29	78.90
UBHO Sub Description: SOFTSHOE DAO UBHO, Type: NM	AIM	67501NM	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.750		4.83	83.73
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR27669	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.562		29.42	113.15
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR26490	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		29.19	142.34
Crossover Sub Description: X/O ED54-Box - 4 1/2 IF-Pin, Type: Steel	BLACK DIAMOND	BD8076	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.625		3.94	146.28
Drill Pipe Description: 118 STANDS OF DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		10576.13	10722.41
HWDP Description: 9 STANDS of HWDP, Style: Slick	RIG		EverDrlg54 Box	EverDrlg54 Pin	3.000	5.500		850.41	11572.82

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	07-21	22:50	01:15	07-22			TIH W/ BHA #7
Rig Service - In Hole	19	07-22	01:15	02:15	07-22			Slip & Cut Drill Line/Rig Service
TIH	8	07-22	02:15	04:00	07-22			TIH W/ BHA #7
TIH	8	07-22	04:00	08:45	07-22			TIH W/ BHA #7
Circulating	3	07-22	08:45	09:00	07-22			
Rotary Drill	1	07-22	09:00	09:45	07-22	14541.00	14620.00	Pressure On (psi): 4800.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 44.00, Surface RPM: 100, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-22	09:45	09:50	07-22	14620.00	14620.00	Inclination (°): 89.670, Azimuth (°): 179.660, TVD (ft): 11938.34, Dogleg (°/100 ft): 0.50, Sensor Depth (ft): 14520.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-22	09:50	10:30	07-22	14620.00	14709.00	Pressure On (psi): 4800.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 44.00, Surface RPM: 100, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-22	10:30	10:35	07-22	14709.00	14709.00	Inclination (°): 88.660, Azimuth (°): 179.400, TVD (ft): 11939.63, Dogleg (°/100 ft): 1.17, Sensor Depth (ft): 14609.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-22	10:35	11:40	07-22	14709.00	14799.00	Pressure On (psi): 4800.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 44.00, Surface RPM: 100, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-22	11:40	11:45	07-22	14799.00	14799.00	Inclination (°): 88.000, Azimuth (°): 179.050, TVD (ft): 11942.26, Dogleg (°/100 ft): 0.83, Sensor Depth (ft): 14699.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-22	11:45	12:30	07-22	14799.00	14888.00	Pressure On (psi): 4800.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 44.00, Surface RPM: 100, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-22	12:30	12:35	07-22	14888.00	14888.00	Inclination (°): 88.130, Azimuth (°): 179.580, TVD (ft): 11945.26, Dogleg (°/100 ft): 0.61, Sensor Depth (ft): 14788.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-22	12:35	13:15	07-22	14888.00	14978.00	Pressure On (psi): 4800.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 44.00, Surface RPM: 100, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-22	13:15	13:20	07-22	14978.00	14978.00	Inclination (°): 88.310, Azimuth (°): 179.490, TVD (ft): 11948.06, Dogleg (°/100 ft): 0.22, Sensor Depth (ft): 14878.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-22	13:20	13:50	07-22	14978.00	15068.00	Pressure On (psi): 4800.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 44.00, Surface RPM: 40, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-22	13:50	13:55	07-22	15068.00	15068.00	Inclination (°): 88.220, Azimuth (°): 179.220, TVD (ft): 11950.78, Dogleg (°/100 ft): 0.32, Sensor Depth (ft): 14968.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-22	13:55	14:30	07-22	15068.00	15157.00	Pressure On (psi): 4800.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 44.00, Surface RPM: 40, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-22	14:30	14:35	07-22	15157.00	15157.00	Inclination (°): 88.750, Azimuth (°): 178.520, TVD (ft): 11953.14, Dogleg (°/100 ft): 0.99, Sensor Depth (ft): 15057.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-22	14:35	15:05	07-22	15157.00	15247.00	Pressure On (psi): 4800.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 44.00, Surface RPM: 40, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-22	15:05	15:10	07-22	15247.00	15247.00	Inclination (°): 88.700, Azimuth (°): 178.700, TVD (ft): 11955.14, Dogleg (°/100 ft): 0.21, Sensor Depth (ft): 15147.00, Bit To Sensor (ft): 100.00, Temperature (°F): 175.00
Rotary Drill	1	07-22	15:10	15:50	07-22	15247.00	15337.00	Pressure On (psi): 4800.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 44.00, Surface RPM: 40, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-22	15:50	15:55	07-22	15337.00	15337.00	Inclination (°): 88.400, Azimuth (°): 179.220, TVD (ft): 11957.42, Dogleg (°/100 ft): 0.67, Sensor Depth (ft): 15237.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-22	15:55	16:30	07-22	15337.00	15426.00	Pressure On (psi): 4800.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 44.00, Surface RPM: 40, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-22	16:30	16:45	07-22	15426.00	15426.00	Inclination (°): 88.840, Azimuth (°): 179.400, TVD (ft): 11959.56, Dogleg (°/100 ft): 0.53, Sensor Depth (ft): 15326.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-22	16:45	17:20	07-22	15426.00	15516.00	Pressure On (psi): 4800.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 44.00, Surface RPM: 40, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-22	17:20	17:25	07-22	15516.00	15516.00	Inclination (°): 89.100, Azimuth (°): 179.220, TVD (ft): 11961.18, Dogleg (°/100 ft): 0.35, Sensor Depth (ft): 15416.00, Bit To Sensor (ft): 100.00

Rotary Drill	1	07-22	17:25	18:00	07-22	15516.00	15606.00	Pressure On (psi): 4800.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 44.00, Surface RPM: 40, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-22	18:00	18:05	07-22	15606.00	15606.00	Inclination (°): 89.760, Azimuth (°): 179.580, TVD (ft): 11962.07, Dogleg (°/100 ft): 0.84, Sensor Depth (ft): 15506.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-22	18:05	18:55	07-22	15606.00	15695.00	Pressure On (psi): 4800.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 44.00, Surface RPM: 40, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-22	18:55	19:00	07-22	15695.00	15695.00	Inclination (°): 89.450, Azimuth (°): 179.140, TVD (ft): 11962.69, Dogleg (°/100 ft): 0.60, Sensor Depth (ft): 15595.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-22	19:00	19:40	07-22	15695.00	15785.00	Pressure On (psi): 4800.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 44.00, Surface RPM: 40, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-22	19:40	19:45	07-22	15785.00	15785.00	Inclination (°): 89.710, Azimuth (°): 179.660, TVD (ft): 11963.35, Dogleg (°/100 ft): 0.65, Sensor Depth (ft): 15685.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-22	19:45	20:30	07-22	15785.00	15874.00	Pressure On (psi): 4800.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 44.00, Surface RPM: 45, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-22	20:30	20:35	07-22	15874.00	15874.00	Inclination (°): 89.710, Azimuth (°): 179.310, TVD (ft): 11963.80, Dogleg (°/100 ft): 0.39, Sensor Depth (ft): 15774.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-22	20:35	21:15	07-22	15874.00	15964.00	Pressure On (psi): 4800.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 44.00, Surface RPM: 45, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-22	21:15	21:20	07-22	15964.00	15964.00	Inclination (°): 89.190, Azimuth (°): 179.310, TVD (ft): 11964.66, Dogleg (°/100 ft): 0.58, Sensor Depth (ft): 15864.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-22	21:20	22:10	07-22	15964.00	16054.00	Pressure On (psi): 4800.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 44.00, Surface RPM: 45, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-22	22:10	22:15	07-22	16054.00	16054.00	Inclination (°): 89.100, Azimuth (°): 178.870, TVD (ft): 11966.00, Dogleg (°/100 ft): 0.50, Sensor Depth (ft): 15954.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-22	22:15	22:30	07-22	16054.00	16072.00	Pressure On (psi): 4800.00, Pressure Off (psi): 4100.00, Weight On Bit (klbs): 44.00, Surface RPM: 45, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Circulating	3	07-22	22:30	22:55	07-22			Recycle Twice, Downlink HIA
Rotary Drill	1	07-22	22:55	00:20	07-23	16072.00	16144.00	Pressure On (psi): 4550.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 52.00, Surface RPM: 45, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00

MWD Activities

No Activities



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
		Company Man

Thursday, Jul 23 00:00 - 23:59 (Day 14 of 20)

Billing: \$15,050.00 (\$261,300.55 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	16072.00	Downhole Hours	24.00	Rotating WOB (klbs)	52.00 - 52.00
Bit Depth (ft)	17455.00	Drilling Hours	18.08	Sliding WOB (klbs)	
Bottom Hole Depth (ft)	17455.00	Hours Circulating	1.42	Rotating SPM	208.00 - 208.00
Total Distance (ft)	1383.00	Hours Sliding	0.00	Sliding SPM	
Distance Rotated (ft)	1383.00	Hours Rotating	18.08	Motor RPM	160.00 - 170.00
Distance Slid (ft)	0.00			Surface RPM	45.00 - 45.00
Inclination In	88.18			Flow Rate (gpm)	670.00 - 670.00
Inclination Out	89.10			On Bottom Pressure (psi)	4550.00 - 4550.00
Azimuth In	178.70	% Hours Rotating	100%	Off Bottom Pressure (psi)	3600.00 - 3600.00
Azimuth Out	171.23	% Hours Sliding	0%		
AVG Total ROP (ft/h)	76.48	% Distance Sliding	0%		
AVG Rotating ROP (ft/h)	76.48	% Distance Rotating	100%		
AVG Sliding ROP (ft/h)	0.00				

Personnel

Name	Position
Robert Olivarez	MWD Engineer
Advance Directional	Directional Driller

BHA #7 - DRILL LATERAL (8.5") w/ RSS

Date In: Jul 21, 2020, 21:00 Date Out: Jul 24, 2020, 2:00

Bit Details		Motor Details		Directional Comments	
OD (in)	8.500	Size (in)	7.0	Directional: Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, BIT Runs: 3	
Vendor	Ultrerra	Lobe/Stage	7/8, 5.0		
S/N	39837	Bend Angle	0.0		
Nozzles	7X13's	Speed (rev/gal)	0.26	MWD Comments	
Total Flow Area (in²)	0.907	Wear Pad OD (in)	7.000	POOH Reason Downhole Tool Incident: N/A	
Drilling Hours for Day	18.08	Bit Distances			
Total Drilled for Day (ft)	1383.00	Gamma (Bit to Gamma): 91.00 ft, Survey (Bit to Survey): 100.00 ft			
Drilling Hours for BHA	30.00				
Total Drilled for BHA (ft)	2914.00				

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: 8 1/2 CF716, Style: PDC, Gauge Length (in): 6.00, Size (in): 8.50	Ultrerra	39837	4 1/2" Reg Pin			8.500		1.00	1.00
Other Description: ORBITRSS	EXTREME	94689	4 1/2" IF Box	4 1/2" Reg Box	2.750	6.750		13.40	14.40
Drill Collar Description: 15 FT. NM PONY, Style: Pony, Type: NM	DR	DR44452	4 1/2" IF Box	4 1/2" IF Pin	2.875	6.875		15.35	29.75
Float Sub Description: NM FILTER SUB, Type: NM	DR	DR46002	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		4.10	33.85
Mud Motor Description: 7" 7/8 8.5 FXD 0° w/ 8.25" STAB, Size (in): 7.00, Bend Angle (°): 0, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 5	AIM	700-40-038	4 1/2" IF Box	4 1/2" IF Pin		7.000		39.76	73.61
Stabilizer Description: 8.25 NM STAB.	DR	DR45238	4 1/2" IF Box	4 1/2" IF Pin	2.875	6.750		5.29	78.90
UBHO Sub Description: SOFTSHOE DAO UBHO, Type: NM	AIM	67501NM	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.750		4.83	83.73
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR27669	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.562		29.42	113.15
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR26490	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		29.19	142.34
Crossover Sub Description: X/O ED54-Box - 4 1/2 IF-Pin, Type: Steel	BLACK DIAMOND	BD8076	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.625		3.94	146.28
Drill Pipe Description: 118 STANDS OF DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		10576.13	10722.41
HWDP Description: 9 STANDS of HWDP, Style: Slick	RIG		EverDrlg54 Box	EverDrlg54 Pin	3.000	5.500		850.41	11572.82

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	07-22	22:55	00:20	07-23	16072.00	16144.00	Pressure On (psi): 4550.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 52.00, Surface RPM: 45, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-23	00:20	00:25	07-23	16144.00	16144.00	Inclination (°): 88.180, Azimuth (°): 178.700, TVD (ft): 11968.14, Dogleg (°/100 ft): 1.04, Sensor Depth (ft): 16044.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-23	00:25	01:15	07-23	16144.00	16233.00	Pressure On (psi): 4550.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 52.00, Surface RPM: 45, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-23	01:15	01:20	07-23	16233.00	16233.00	Inclination (°): 86.680, Azimuth (°): 178.610, TVD (ft): 11972.13, Dogleg (°/100 ft): 1.69, Sensor Depth (ft): 16133.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-23	01:20	02:00	07-23	16233.00	16323.00	Pressure On (psi): 4550.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 52.00, Surface RPM: 45, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-23	02:00	02:05	07-23	16323.00	16323.00	Inclination (°): 86.150, Azimuth (°): 178.790, TVD (ft): 11977.76, Dogleg (°/100 ft): 0.62, Sensor Depth (ft): 16223.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-23	02:05	02:40	07-23	16323.00	16413.00	Pressure On (psi): 4550.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 52.00, Surface RPM: 45, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-23	02:40	02:45	07-23	16413.00	16413.00	Inclination (°): 85.890, Azimuth (°): 179.310, TVD (ft): 11984.00, Dogleg (°/100 ft): 0.64, Sensor Depth (ft): 16313.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-23	02:45	03:30	07-23	16413.00	16502.00	Pressure On (psi): 4550.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 52.00, Surface RPM: 45, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-23	03:30	03:35	07-23	16502.00	16502.00	Inclination (°): 86.200, Azimuth (°): 179.580, TVD (ft): 11990.14, Dogleg (°/100 ft): 0.46, Sensor Depth (ft): 16402.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-23	03:35	04:25	07-23	16502.00	16592.00	Pressure On (psi): 4550.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 52.00, Surface RPM: 45, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-23	04:25	04:30	07-23	16592.00	16592.00	Inclination (°): 86.110, Azimuth (°): 179.660, TVD (ft): 11996.18, Dogleg (°/100 ft): 0.13, Sensor Depth (ft): 16492.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-23	04:30	05:30	07-23	16592.00	16682.00	Pressure On (psi): 4550.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 52.00, Surface RPM: 45, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-23	05:30	05:35	07-23	16682.00	16682.00	Inclination (°): 86.590, Azimuth (°): 179.930, TVD (ft): 12001.91, Dogleg (°/100 ft): 0.61, Sensor Depth (ft): 16582.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-23	05:35	06:50	07-23	16682.00	16771.00	Pressure On (psi): 4550.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 52.00, Surface RPM: 45, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-23	06:50	06:55	07-23	16771.00	16771.00	Inclination (°): 86.550, Azimuth (°): 180.280, TVD (ft): 12007.23, Dogleg (°/100 ft): 0.40, Sensor Depth (ft): 16671.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-23	06:55	08:00	07-23	16771.00	16861.00	Pressure On (psi): 4550.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 52.00, Surface RPM: 45, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-23	08:00	08:05	07-23	16861.00	16861.00	Inclination (°): 86.730, Azimuth (°): 180.280, TVD (ft): 12012.51, Dogleg (°/100 ft): 0.20, Sensor Depth (ft): 16761.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-23	08:05	09:50	07-23	16861.00	16950.00	Pressure On (psi): 4550.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 52.00, Surface RPM: 45, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-23	09:50	09:55	07-23	16950.00	16950.00	Inclination (°): 90.020, Azimuth (°): 179.660, TVD (ft): 12015.03, Dogleg (°/100 ft): 3.76, Sensor Depth (ft): 16850.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-23	09:55	11:20	07-23	16950.00	17040.00	Pressure On (psi): 4550.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 52.00, Surface RPM: 45, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-23	11:20	11:25	07-23	17040.00	17040.00	Inclination (°): 90.020, Azimuth (°): 178.430, TVD (ft): 12015.00, Dogleg (°/100 ft): 1.37, Sensor Depth (ft): 16940.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-23	11:25	12:45	07-23	17040.00	17130.00	Pressure On (psi): 4550.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 52.00, Surface RPM: 45, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-23	12:45	12:50	07-23	17130.00	17130.00	Inclination (°): 90.110, Azimuth (°): 175.450, TVD (ft): 12014.90, Dogleg (°/100 ft): 3.31, Sensor Depth (ft): 17030.00, Bit To Sensor (ft): 100.00

Rotary Drill	1	07-23	12:50	14:00	07-23	17130.00	17219.00	Pressure On (psi): 4550.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 52.00, Surface RPM: 45, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-23	14:00	14:05	07-23	17219.00	17219.00	Inclination (°): 89.140, Azimuth (°): 172.900, TVD (ft): 12015.48, Dogleg (°/100 ft): 3.07, Sensor Depth (ft): 17119.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-23	14:05	15:00	07-23	17219.00	17309.00	Pressure On (psi): 4550.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 52.00, Surface RPM: 45, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-23	15:00	15:05	07-23	17309.00	17309.00	Inclination (°): 89.320, Azimuth (°): 171.400, TVD (ft): 12016.69, Dogleg (°/100 ft): 1.68, Sensor Depth (ft): 17209.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-23	15:05	17:05	07-23	17309.00	17399.00	Pressure On (psi): 4550.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 52.00, Surface RPM: 45, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Rig Service - In Hole	19	07-23	17:05	17:25	07-23			
Survey	46	07-23	17:25	17:30	07-23	17399.00	17399.00	Inclination (°): 89.100, Azimuth (°): 171.230, TVD (ft): 12017.93, Dogleg (°/100 ft): 0.31, Sensor Depth (ft): 17299.00, Bit To Sensor (ft): 100.00
Rotary Drill	1	07-23	17:30	18:35	07-23	17399.00	17455.00	Pressure On (psi): 4550.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 52.00, Surface RPM: 45, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Circulating	3	07-23	18:35	20:00	07-23			CIRC
Pooh	7	07-23	20:00	02:00	07-24			POOH TO L/D RSS & P/U MOTOR

MWD Activities

No Activities



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
		Company Man

Friday, Jul 24 00:00 - 23:59 (Day 15 of 20)

Billing: \$30,195.00 (\$261,300.55 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	17455.00	Downhole Hours	21.00	Rotating WOB (klbs)	52.00 - 52.00
Bit Depth (ft)	17849.00	Drilling Hours	7.33	Sliding WOB (klbs)	40.00 - 40.00
Bottom Hole Depth (ft)	17849.00	Hours Circulating	1.17	Rotating SPM	208.00 - 208.00
Total Distance (ft)	394.00	Hours Sliding	2.83	Sliding SPM	202.00 - 202.00
Distance Rotated (ft)	264.00	Hours Rotating	4.50	Motor RPM	160.00 - 175.00
Distance Slid (ft)	130.00			Surface RPM	45.00 - 45.00
Inclination In	90.20			Flow Rate (gpm)	650.00 - 670.00
Inclination Out	89.49			On Bottom Pressure (psi)	4550.00 - 4600.00
Azimuth In	170.96	% Hours Rotating	61%	Off Bottom Pressure (psi)	3600.00 - 4200.00
Azimuth Out	184.59	% Hours Sliding	39%		
AVG Total ROP (ft/h)	66.92	% Distance Sliding	33%		
AVG Rotating ROP (ft/h)	80.94	% Distance Rotating	67%		
AVG Sliding ROP (ft/h)	45.88				

Personnel

Name	Position
Robert Olivarez	MWD Engineer
Advance Directional	Directional Driller

BHA #7 - DRILL LATERAL (8.5") w/ RSS

Date In: Jul 21, 2020, 21:00 Date Out: Jul 24, 2020, 2:00

Bit Details		Motor Details		Directional Comments
OD (in)	8.500	Size (in)	7.0	Directional: Flow Rate: 500-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs, BIT Runs: 3
Vendor	Ultrerra	Lobe/Stage	7/8, 5.0	
S/N	39837	Bend Angle	0.0	
Nozzles	7X13's	Speed (rev/gal)	0.26	MWD Comments
Total Flow Area (in²)	0.907	Wear Pad OD (in)	7.000	
Drilling Hours for Day	0.00	Bit Distances		
Total Drilled for Day (ft)		Gamma (Bit to Gamma): 91.00 ft, Survey (Bit to Survey): 100.00 ft		POOH Reason Downhole Tool Incident: N/A
Drilling Hours for BHA	30.00			
Total Drilled for BHA (ft)	2914.00			

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: 8 1/2 CF716, Style: PDC, Gauge Length (in): 6.00, Size (in): 8.50	Ultrerra	39837	4 1/2" Reg Pin			8.500		1.00	1.00
Other Description: ORBITRSS	EXTREME	94689	4 1/2" IF Box	4 1/2" Reg Box	2.750	6.750		13.40	14.40
Drill Collar Description: 15 FT. NM PONY, Style: Pony, Type: NM	DR	DR44452	4 1/2" IF Box	4 1/2" IF Pin	2.875	6.875		15.35	29.75
Float Sub Description: NM FILTER SUB, Type: NM	DR	DR46002	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.750		4.10	33.85
Mud Motor Description: 7" 7/8 8.5 FXD 0° w/ 8.25" STAB, Size (in): 7.00, Bend Angle (°): 0, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 5	AIM	700-40-038	4 1/2" IF Box	4 1/2" IF Pin		7.000		39.76	73.61
Stabilizer Description: 8.25 NM STAB.	DR	DR45238	4 1/2" IF Box	4 1/2" IF Pin	2.875	6.750		5.29	78.90
UBHO Sub Description: SOFTSHOE DAO UBHO, Type: NM	AIM	67501NM	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.750		4.83	83.73
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR27669	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.562		29.42	113.15
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR26490	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		29.19	142.34
Crossover Sub Description: X/O ED54-Box - 4 1/2 IF-Pin, Type: Steel	BLACK DIAMOND	BD8076	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.625		3.94	146.28
Drill Pipe Description: 118 STANDS OF DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		10576.13	10722.41
HWDP Description: 9 STANDS of HWDP, Style: Slick	RIG		EverDrlg54 Box	EverDrlg54 Pin	3.000	5.500		850.41	11572.82

MWD Items

No items

BHA #8 - 8.50" LATERAL w/ Agitator

Date In: Jul 24, 2020, 5:00 Date Out: Jul 26, 2020, 13:30

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: 3
Vendor	Ulterra	Lobe/Stage	7/8, 8.5	
S/N	36349	Bend Angle	2.0	MWD Comments
Nozzles	7-13's	Speed (rev/gal)	0.26	
Total Flow Area (in ²)	0.907	Wear Pad OD (in)	7.270	POOH Reason
Drilling Hours for Day	7.33	Bit Distances		
Total Drilled for Day (ft)	394.00	Bend: 5.26 ft, Survey: 61.00 ft,		Penetration Rate: While ROT. ROP dropped to 0
Drilling Hours for BHA	29.58	Gamma: 47.00 ft		
Total Drilled for BHA (ft)	2254.00			

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: CF716, Style: PDC, Gauge Length (in): 6.00, Size (in): 8.50	Ulterra	36349	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 7/8 8.5 FXD 2.0° SLICK, Size (in): 7.00, Bend Angle (°): 2, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5	AIM	700-40-005	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.19	37.19
UBHO Sub Description: SOFTSHOE DAO UBHO, Type: NM	AIM	67501NM	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.750		4.83	42.02
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR27669	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.562		29.42	71.44
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR26490	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		29.19	100.63
Crossover Sub Description: X/O ED54-Box - 4 1/2 IF-Pin, Type: Steel	BLACK DIAMOND	BD8076	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.625		3.94	104.57
Drill Pipe Description: 28 STANDS DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		2509.09	2613.66
Crossover Sub Description: X-O SUB, Type: Steel	BLACK DIAMOND	BD8069	4 1/2" IF Box	EverDrlg54 Pin	3.000	6.750		4.01	2617.67
Agitator Description: AGITATOR, Size (in): 7.00	NOV	AGHF0675 0181	4 1/2" IF Box	4 1/2" IF Pin		7.000		25.03	2642.70
Crossover Sub Description: X-O SUB, Type: Steel	BLACK DIAMOND	BD15113	EverDrlg54 Box	4 1/2" IF Pin	2.938	6.770		4.47	2647.17
Drill Pipe Description: 90 STANDS DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		8067.04	10714.21
HWDP Description: 9 STANDS of HWDP, Style: Slick	RIG		EverDrlg54 Box	EverDrlg54 Pin	3.000	5.500		850.41	11564.62

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	07-23	20:00	02:00	07-24			POOH TO L/D RSS & P/U MOTOR
Lay Down BHA	65	07-24	02:00	04:00	07-24			L/D RSS
Rig Repair	14	07-24	04:00	04:30	07-24			RIG REPAIR
Pick Up BHA	64	07-24	04:30	05:00	07-24			P/U BHA #8
TIH	8	07-24	05:00	14:50	07-24			TIH W/ BHA #8
Other	16	07-24	14:50	16:00	07-24			Relog Gamma
Slide Drill	2	07-24	16:00	16:30	07-24	17455.00	17480.00	Toolface: 90, Toolface Type: gravity
Rotary Drill	1	07-24	16:30	16:35	07-24	17480.00	17490.00	Pressure On (psi): 4550.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 52.00, Surface RPM: 45, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-24	16:35	16:45	07-24	17480.00	17480.00	Inclination (°): 90.200, Azimuth (°): 170.960, TVD (ft): 12018.66, Dogleg (°/100 ft): 0.94, Sensor Depth (ft): 17419.00, Bit To Sensor (ft): 61.00
Slide Drill	2	07-24	16:45	17:45	07-24	17490.00	17525.00	Toolface: 100, Toolface Type: gravity
Rotary Drill	1	07-24	17:45	18:30	07-24	17525.00	17570.00	Pressure On (psi): 4550.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 52.00, Surface RPM: 45, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-24	18:30	18:40	07-24	17570.00	17570.00	Inclination (°): 90.770, Azimuth (°): 174.830, TVD (ft): 12017.90, Dogleg (°/100 ft): 4.35, Sensor Depth (ft): 17509.00, Bit To Sensor (ft): 61.00

Other	16	07-24	18:40	19:00	07-24			Downlink MWD
Slide Drill	2	07-24	19:00	19:45	07-24	17570.00	17620.00	Pressure On (psi): 4600.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 40.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202, Toolface: 115, Toolface Type: gravity
Rotary Drill	1	07-24	19:45	20:10	07-24	17620.00	17660.00	Pressure On (psi): 4550.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 52.00, Surface RPM: 45, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-24	20:10	20:15	07-24	17660.00	17660.00	Inclination (°): 88.700, Azimuth (°): 179.580, TVD (ft): 12018.32, Dogleg (°/100 ft): 5.76, Sensor Depth (ft): 17599.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-24	20:15	20:35	07-24	17660.00	17677.00	Pressure On (psi): 4550.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 52.00, Surface RPM: 45, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Slide Drill	2	07-24	20:35	20:50	07-24	17677.00	17687.00	Pressure On (psi): 4600.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 40.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202, Toolface: 90, Toolface Type: gravity
Rotary Drill	1	07-24	20:50	21:30	07-24	17687.00	17749.00	Pressure On (psi): 4550.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 52.00, Surface RPM: 45, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-24	21:30	21:35	07-24	17749.00	17749.00	Inclination (°): 88.260, Azimuth (°): 183.000, TVD (ft): 12020.68, Dogleg (°/100 ft): 3.87, Sensor Depth (ft): 17688.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-24	21:35	22:40	07-24	17749.00	17839.00	Pressure On (psi): 4550.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 52.00, Surface RPM: 45, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-24	22:40	22:50	07-24	17839.00	17839.00	Inclination (°): 89.490, Azimuth (°): 184.590, TVD (ft): 12022.45, Dogleg (°/100 ft): 2.23, Sensor Depth (ft): 17778.00, Bit To Sensor (ft): 61.00
Slide Drill	2	07-24	22:50	23:10	07-24	17839.00	17849.00	Pressure On (psi): 4600.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 40.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202, Toolface: 180, Toolface Type: gravity
Rotary Drill	1	07-24	23:10	00:05	07-25	17849.00	17929.00	Pressure On (psi): 4550.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 52.00, Surface RPM: 45, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00

MWD Activities

No Activities



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
		Company Man

Saturday, Jul 25 00:00 - 23:59 (Day 16 of 20)

Billing: \$5,700.00 (\$261,300.55 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	17849.00	Downhole Hours	24.00	Rotating WOB (klbs)	32.00 - 52.00
Bit Depth (ft)	19631.00	Drilling Hours	21.50	Sliding WOB (klbs)	40.00 - 40.00
Bottom Hole Depth (ft)	19631.00	Hours Circulating	0.00	Rotating SPM	200.00 - 208.00
Total Distance (ft)	1782.00	Hours Sliding	6.33	Sliding SPM	202.00 - 202.00
Distance Rotated (ft)	1440.00	Hours Rotating	15.17	Motor RPM	163.00 - 175.00
Distance Slid (ft)	342.00			Surface RPM	45.00 - 50.00
Inclination In	86.95			Flow Rate (gpm)	650.00 - 670.00
Inclination Out	86.77			On Bottom Pressure (psi)	4550.00 - 5700.00
Azimuth In	184.94	% Hours Rotating	71%	Off Bottom Pressure (psi)	3600.00 - 5000.00
Azimuth Out	179.05	% Hours Sliding	29%		
AVG Total ROP (ft/h)	83.60	% Distance Sliding	19%		
AVG Rotating ROP (ft/h)	95.37	% Distance Rotating	81%		
AVG Sliding ROP (ft/h)	54.00				

Personnel

Name	Position
Robert Olivarez	MWD Engineer
Advance Directional	Directional Driller

BHA #8 - 8.50" LATERAL w/ Agitator

Date In: Jul 24, 2020, 5:00 Date Out: Jul 26, 2020, 13:30

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: 3
Vendor	Ultrerra	Lobe/Stage	7/8, 8.5	
S/N	36349	Bend Angle	2.0	
Nozzles	7-13's	Speed (rev/gal)	0.26	MWD Comments
Total Flow Area (in²)	0.907	Wear Pad OD (in)	7.270	
Drilling Hours for Day	21.50	Bit Distances		
Total Drilled for Day (ft)	1782.00	Bend: 5.26 ft, Survey: 61.00 ft, Gamma: 47.00 ft		POOH Reason Penetration Rate: While ROT. ROP dropped to 0
Drilling Hours for BHA	29.58			
Total Drilled for BHA (ft)	2254.00			

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: CF716, Style: PDC, Gauge Length (in): 6.00, Size (in): 8.50	Ultrerra	36349	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 7/8 8.5 FXD 2.0° SLICK, Size (in): 7.00, Bend Angle (°): 2, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5	AIM	700-40-005	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.19	37.19
UBHO Sub Description: SOFTSHOE DAO UBHO, Type: NM	AIM	67501NM	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.750		4.83	42.02
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR27669	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.562		29.42	71.44
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR26490	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		29.19	100.63
Crossover Sub Description: X/O ED54-Box - 4 1/2 IF-Pin, Type: Steel	BLACK DIAMOND	BD8076	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.625		3.94	104.57
Drill Pipe Description: 28 STANDS DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		2509.09	2613.66
Crossover Sub Description: X-O SUB, Type: Steel	BLACK DIAMOND	BD8069	4 1/2" IF Box	EverDrlg54 Pin	3.000	6.750		4.01	2617.67
Agitator Description: AGITATOR, Size (in): 7.00	NOV	AGHF0675 0181	4 1/2" IF Box	4 1/2" IF Pin		7.000		25.03	2642.70
Crossover Sub Description: X-O SUB, Type: Steel	BLACK DIAMOND	BD15113	EverDrlg54 Box	4 1/2" IF Pin	2.938	6.770		4.47	2647.17
Drill Pipe Description: 90 STANDS DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		8067.04	10714.21
HWDP Description: 9 STANDS of HWDP, Style: Slick	RIG		EverDrlg54 Box	EverDrlg54 Pin	3.000	5.500		850.41	11564.62

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	07-24	23:10	00:05	07-25	17849.00	17929.00	Pressure On (psi): 4550.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 52.00, Surface RPM: 45, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-25	00:05	00:10	07-25	17929.00	17929.00	Inclination (°): 86.950, Azimuth (°): 184.940, TVD (ft): 12025.24, Dogleg (°/100 ft): 2.85, Sensor Depth (ft): 17868.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-25	00:10	01:05	07-25	17929.00	18018.00	Pressure On (psi): 4550.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 52.00, Surface RPM: 45, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-25	01:05	01:20	07-25	18018.00	18018.00	Inclination (°): 85.890, Azimuth (°): 184.670, TVD (ft): 12030.80, Dogleg (°/100 ft): 1.23, Sensor Depth (ft): 17957.00, Bit To Sensor (ft): 61.00
Slide Drill	2	07-25	01:20	01:45	07-25	18018.00	18038.00	Pressure On (psi): 4600.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 40.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202, Toolface: 330, Toolface Type: gravity
Rotary Drill	1	07-25	01:45	02:25	07-25	18038.00	18108.00	Pressure On (psi): 4550.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 52.00, Surface RPM: 45, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-25	02:25	02:30	07-25	18108.00	18108.00	Inclination (°): 87.380, Azimuth (°): 181.250, TVD (ft): 12036.08, Dogleg (°/100 ft): 4.14, Sensor Depth (ft): 18047.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-25	02:30	02:45	07-25	18108.00	18131.00	Pressure On (psi): 4550.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 52.00, Surface RPM: 45, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Other	16	07-25	02:45	02:55	07-25			RECYCLE FOR TF
Slide Drill	2	07-25	02:55	03:15	07-25	18131.00	18156.00	Pressure On (psi): 4600.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 40.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202, Toolface: 20, Toolface Type: gravity
Rotary Drill	1	07-25	03:15	03:40	07-25	18156.00	18197.00	Pressure On (psi): 4550.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 52.00, Surface RPM: 45, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-25	03:40	03:45	07-25	18197.00	18197.00	Inclination (°): 87.560, Azimuth (°): 180.100, TVD (ft): 12040.01, Dogleg (°/100 ft): 1.31, Sensor Depth (ft): 18136.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-25	03:45	04:30	07-25	18197.00	18287.00	Pressure On (psi): 4550.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 52.00, Surface RPM: 45, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-25	04:30	04:40	07-25	18287.00	18287.00	Inclination (°): 88.480, Azimuth (°): 178.960, TVD (ft): 12043.12, Dogleg (°/100 ft): 1.63, Sensor Depth (ft): 18226.00, Bit To Sensor (ft): 61.00
Slide Drill	2	07-25	04:40	05:10	07-25	18287.00	18312.00	Pressure On (psi): 4600.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 40.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202, Toolface: 60, Toolface Type: gravity
Rotary Drill	1	07-25	05:10	05:35	07-25	18312.00	18377.00	Pressure On (psi): 4550.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 52.00, Surface RPM: 45, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-25	05:35	05:45	07-25	18377.00	18377.00	Inclination (°): 88.000, Azimuth (°): 181.690, TVD (ft): 12045.89, Dogleg (°/100 ft): 3.08, Sensor Depth (ft): 18316.00, Bit To Sensor (ft): 61.00
Slide Drill	2	07-25	05:45	06:15	07-25	18377.00	18402.00	Pressure On (psi): 4600.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 40.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202, Toolface: 40, Toolface Type: gravity
Rotary Drill	1	07-25	06:15	06:45	07-25	18402.00	18466.00	Pressure On (psi): 4550.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 52.00, Surface RPM: 45, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-25	06:45	07:00	07-25	18466.00	18466.00	Inclination (°): 91.430, Azimuth (°): 182.480, TVD (ft): 12046.33, Dogleg (°/100 ft): 3.95, Sensor Depth (ft): 18405.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-25	07:00	07:10	07-25	18466.00	18490.00	Pressure On (psi): 4550.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 52.00, Surface RPM: 45, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Slide Drill	2	07-25	07:10	07:35	07-25	18490.00	18510.00	Pressure On (psi): 4600.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 40.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202, Toolface: 35, Toolface Type: gravity
Rotary Drill	1	07-25	07:35	08:05	07-25	18510.00	18556.00	Pressure On (psi): 4550.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 52.00, Surface RPM: 45, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-25	08:05	08:20	07-25	18556.00	18556.00	Inclination (°): 91.520, Azimuth (°): 181.860, TVD (ft): 12044.01, Dogleg (°/100 ft): 0.70, Sensor Depth (ft): 18495.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-25	08:20	09:00	07-25	18556.00	18646.00	Pressure On (psi): 4550.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 52.00, Surface RPM: 45, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00

Survey	46	07-25	09:00	09:05	07-25	18646.00	18646.00	Inclination (°): 92.400, Azimuth (°): 181.770, TVD (ft): 12040.93, Dogleg (°/100 ft): 0.98, Sensor Depth (ft): 18585.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-25	09:05	09:45	07-25	18646.00	18735.00	Pressure On (psi): 4550.00, Pressure Off (psi): 3600.00, Weight On Bit (klbs): 52.00, Surface RPM: 45, Surface Torque (ft lbf): 25000.00, Flow Rate (gpm): 670.00, Strokes Per Minute: 208.00
Survey	46	07-25	09:45	10:00	07-25	18735.00	18735.00	Inclination (°): 91.430, Azimuth (°): 180.980, TVD (ft): 12037.96, Dogleg (°/100 ft): 1.41, Sensor Depth (ft): 18674.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-25	10:00	10:15	07-25	18735.00	18750.00	
Slide Drill	2	07-25	10:15	10:30	07-25	18750.00	18775.00	Pressure On (psi): 4600.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 40.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202, Toolface: 40, Toolface Type: gravity
Rotary Drill	1	07-25	10:30	11:05	07-25	18775.00	18825.00	
Survey	46	07-25	11:05	11:10	07-25	18825.00	18825.00	Inclination (°): 90.240, Azimuth (°): 180.540, TVD (ft): 12036.65, Dogleg (°/100 ft): 1.41, Sensor Depth (ft): 18764.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-25	11:10	11:25	07-25	18825.00	18835.00	
Slide Drill	2	07-25	11:25	12:00	07-25	18835.00	18865.00	Pressure On (psi): 4600.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 40.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202, Toolface: 35, Toolface Type: gravity
Rotary Drill	1	07-25	12:00	12:30	07-25	18865.00	18914.00	
Survey	46	07-25	12:30	12:35	07-25	18914.00	18914.00	Inclination (°): 89.410, Azimuth (°): 179.750, TVD (ft): 12036.92, Dogleg (°/100 ft): 1.29, Sensor Depth (ft): 18853.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-25	12:35	12:50	07-25	18914.00	18931.00	
Slide Drill	2	07-25	12:50	13:05	07-25	18931.00	18956.00	Pressure On (psi): 4600.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 40.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202, Toolface: 35, Toolface Type: gravity
Rotary Drill	1	07-25	13:05	13:55	07-25	18956.00	19004.00	
Survey	46	07-25	13:55	14:00	07-25	19004.00	19004.00	Inclination (°): 90.550, Azimuth (°): 179.580, TVD (ft): 12036.95, Dogleg (°/100 ft): 1.28, Sensor Depth (ft): 18943.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-25	14:00	14:45	07-25	19004.00	19093.00	Pressure On (psi): 5700.00, Pressure Off (psi): 5000.00, Weight On Bit (klbs): 32.00, Surface RPM: 50, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	07-25	14:45	14:50	07-25	19093.00	19093.00	Inclination (°): 89.540, Azimuth (°): 178.960, TVD (ft): 12036.88, Dogleg (°/100 ft): 1.33, Sensor Depth (ft): 19032.00, Bit To Sensor (ft): 61.00
Slide Drill	2	07-25	14:50	15:50	07-25	19093.00	19150.00	Pressure On (psi): 4600.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 40.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202, Toolface: 50, Toolface Type: gravity
Rotary Drill	1	07-25	15:50	16:15	07-25	19150.00	19182.00	Pressure On (psi): 5700.00, Pressure Off (psi): 5000.00, Weight On Bit (klbs): 32.00, Surface RPM: 50, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	07-25	16:15	16:20	07-25	19182.00	19182.00	Inclination (°): 89.450, Azimuth (°): 177.730, TVD (ft): 12037.67, Dogleg (°/100 ft): 1.39, Sensor Depth (ft): 19121.00, Bit To Sensor (ft): 61.00
Slide Drill	2	07-25	16:20	17:00	07-25	19182.00	19222.00	Pressure On (psi): 4600.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 40.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202, Toolface: 50, Toolface Type: gravity
Rotary Drill	1	07-25	17:00	17:30	07-25	19222.00	19272.00	Pressure On (psi): 5700.00, Pressure Off (psi): 5000.00, Weight On Bit (klbs): 32.00, Surface RPM: 50, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	07-25	17:30	17:35	07-25	19272.00	19272.00	Inclination (°): 95.080, Azimuth (°): 180.540, TVD (ft): 12034.11, Dogleg (°/100 ft): 6.99, Sensor Depth (ft): 19211.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-25	17:35	19:15	07-25	19272.00	19362.00	Pressure On (psi): 5700.00, Pressure Off (psi): 5000.00, Weight On Bit (klbs): 32.00, Surface RPM: 50, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	07-25	19:15	19:30	07-25	19362.00	19362.00	Inclination (°): 96.000, Azimuth (°): 181.860, TVD (ft): 12025.42, Dogleg (°/100 ft): 1.78, Sensor Depth (ft): 19301.00, Bit To Sensor (ft): 61.00
Slide Drill	2	07-25	19:30	20:25	07-25	19362.00	19392.00	Pressure On (psi): 4600.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 40.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202, Toolface: 180, Toolface Type: gravity
Rotary Drill	1	07-25	20:25	21:00	07-25	19392.00	19452.00	Pressure On (psi): 5700.00, Pressure Off (psi): 5000.00, Weight On Bit (klbs): 32.00, Surface RPM: 50, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	07-25	21:00	21:05	07-25	19452.00	19452.00	Inclination (°): 90.680, Azimuth (°): 181.600, TVD (ft): 12020.18, Dogleg (°/100 ft): 5.92, Sensor Depth (ft): 19391.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-25	21:05	21:55	07-25	19452.00	19541.00	Pressure On (psi): 5700.00, Pressure Off (psi): 5000.00, Weight On Bit (klbs): 32.00, Surface RPM: 50, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	07-25	21:55	22:10	07-25	19541.00	19541.00	Inclination (°): 91.300, Azimuth (°): 182.300, TVD (ft): 12018.64, Dogleg (°/100 ft): 1.05, Sensor Depth (ft): 19480.00, Bit To Sensor (ft): 61.00
Slide Drill	2	07-25	22:10	22:40	07-25	19541.00	19561.00	Pressure On (psi): 4600.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 40.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202, Toolface: 210, Toolface Type: gravity

Rotary Drill	1	07-25	22:40	23:35	07-25	19561.00	19631.00	Pressure On (psi): 5700.00, Pressure Off (psi): 5000.00, Weight On Bit (klbs): 32.00, Surface RPM: 50, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	07-25	23:35	23:45	07-25	19631.00	19631.00	Inclination (°): 86.770, Azimuth (°): 179.050, TVD (ft): 12020.16, Dogleg (°/100 ft): 6.19, Sensor Depth (ft): 19570.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-25	23:45	00:30	07-26	19631.00	19709.00	Pressure On (psi): 5700.00, Pressure Off (psi): 5000.00, Weight On Bit (klbs): 32.00, Surface RPM: 50, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00

MWD Activities

No Activities



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
		Company Man

Sunday, Jul 26 00:00 - 23:59 (Day 17 of 20)

Billing: \$19,745.00 (\$261,300.55 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	19631.00	Downhole Hours	24.00	Rotating WOB (klbs)	32.00 - 32.00
Bit Depth (ft)	19709.00	Drilling Hours	0.75	Sliding WOB (klbs)	
Bottom Hole Depth (ft)	19709.00	Hours Circulating	1.25	Rotating SPM	200.00 - 200.00
Total Distance (ft)	78.00	Hours Sliding	0.00	Sliding SPM	
Distance Rotated (ft)	78.00	Hours Rotating	0.75	Motor RPM	163.00 - 245.00
Distance Slid (ft)	0.00			Surface RPM	50.00 - 50.00
Inclination In				Flow Rate (gpm)	650.00 - 650.00
Inclination Out				On Bottom Pressure (psi)	5700.00 - 5700.00
Azimuth In		% Hours Rotating	100%	Off Bottom Pressure (psi)	5000.00 - 5000.00
Azimuth Out		% Hours Sliding	0%		
AVG Total ROP (ft/h)	104.00	% Distance Sliding	0%		
AVG Rotating ROP (ft/h)	104.00	% Distance Rotating	100%		
AVG Sliding ROP (ft/h)	0.00				

Personnel

Name	Position
Robert Olivarez	MWD Engineer
Advance Directional	Directional Driller

BHA #8 - 8.50" LATERAL w/ Agitator

Date In: Jul 24, 2020, 5:00 Date Out: Jul 26, 2020, 13:30

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: 3
Vendor	Ultrerra	Lobe/Stage	7/8, 8.5	
S/N	36349	Bend Angle	2.0	
Nozzles	7-13's	Speed (rev/gal)	0.26	MWD Comments
Total Flow Area (in²)	0.907	Wear Pad OD (in)	7.270	
Drilling Hours for Day	0.75	Bit Distances		
Total Drilled for Day (ft)	78.00	Bend: 5.26 ft, Survey: 61.00 ft, Gamma: 47.00 ft		POOH Reason Penetration Rate: While ROT. ROP dropped to 0
Drilling Hours for BHA	29.58			
Total Drilled for BHA (ft)	2254.00			

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: CF716, Style: PDC, Gauge Length (in): 6.00, Size (in): 8.50	Ultrerra	36349	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 7/8 8.5 FXD 2.0° SLICK, Size (in): 7.00, Bend Angle (°): 2, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5	AIM	700-40-005	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.19	37.19
UBHO Sub Description: SOFTSHOE DAO UBHO, Type: NM	AIM	67501NM	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.750		4.83	42.02
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR27669	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.562		29.42	71.44
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR26490	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		29.19	100.63
Crossover Sub Description: X/O ED54-Box - 4 1/2 IF-Pin, Type: Steel	BLACK DIAMOND	BD8076	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.625		3.94	104.57
Drill Pipe Description: 28 STANDS DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		2509.09	2613.66
Crossover Sub Description: X-O SUB, Type: Steel	BLACK DIAMOND	BD8069	4 1/2" IF Box	EverDrlg54 Pin	3.000	6.750		4.01	2617.67
Agitator Description: AGITATOR, Size (in): 7.00	NOV	AGHF0675 0181	4 1/2" IF Box	4 1/2" IF Pin		7.000		25.03	2642.70
Crossover Sub Description: X-O SUB, Type: Steel	BLACK DIAMOND	BD15113	EverDrlg54 Box	4 1/2" IF Pin	2.938	6.770		4.47	2647.17
Drill Pipe Description: 90 STANDS DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		8067.04	10714.21
HWDP Description: 9 STANDS of HWDP, Style: Slick	RIG		EverDrlg54 Box	EverDrlg54 Pin	3.000	5.500		850.41	11564.62

MWD Items

No items

BHA #9 - 8.50" LATERAL w/ Agitator

Date In: Jul 26, 2020, 13:30 Date Out: Jul 29, 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	5305827	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)	7.270		
Drilling Hours for Day	0.00	Bit Distances			
Total Drilled for Day (ft)		Bend: 5.26 ft, Survey: 61.00 ft, Gamma: 47.00 ft			
Drilling Hours for BHA	21.25				
Total Drilled for BHA (ft)	2425.00				
				POOH Reason	
				Total Depth/Casing Point: N/A	

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: <i>DD506TWX</i> , Style: <i>PDC</i> , Gauge Length (in): <i>4.00</i> , Size (in): <i>8.50</i>	BAKER	5305827	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: <i>7/8 8.5 FXD 1.75° SLICK</i> , Size (in): <i>7.00</i> , Bend Angle (°): <i>1.75</i> , Rotor Lobe: <i>7</i> , Stator Lobe: <i>8</i> , Stator Stage: <i>8.5</i>	AIM	700-40-031	4 1/2" IF Box	4 1/2" Reg Box		7.000		36.30	37.30
UBHO Sub Description: <i>SOFTSHOE DAO UBHO</i> , Type: <i>NM</i>	AIM	67501NM	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.750		4.83	42.13
Drill Collar Description: <i>NMDC</i> , Style: <i>Slick Drill</i> , Type: <i>NM</i>	DTI	DR27669	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.562		29.42	71.55
Drill Collar Description: <i>NMDC</i> , Style: <i>Slick Drill</i> , Type: <i>NM</i>	DTI	DR26490	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		29.19	100.74
Crossover Sub Description: <i>X/O ED54-Box - 4 1/2 IF-Pin</i> , Type: <i>Steel</i>	BLACK DIAMOND	BD8076	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.625		3.94	104.68
Drill Pipe Description: <i>28 STANDS DP</i> , Style: <i>Slick</i>	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		2509.09	2613.77
Crossover Sub Description: <i>X-O SUB</i> , Type: <i>Steel</i>	BLACK DIAMOND	BD8069	4 1/2" IF Box	EverDrlg54 Pin	3.000	6.750		4.01	2617.78
Agitator Description: <i>AGITATOR</i> , Size (in): <i>7.00</i>	NOV	AGHF0675 0181	4 1/2" IF Box	4 1/2" IF Pin		7.000		25.03	2642.81
Crossover Sub Description: <i>X-O SUB</i> , Type: <i>Steel</i>	BLACK DIAMOND	BD15113	EverDrlg54 Box	4 1/2" IF Pin	2.938	6.770		4.47	2647.28
Drill Pipe Description: <i>90 STANDS DP</i> , Style: <i>Slick</i>	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		8067.04	10714.32
HWDP Description: <i>9 STANDS of HWDP</i> , Style: <i>Slick</i>	RIG		EverDrlg54 Box	EverDrlg54 Pin	3.000	5.500		850.41	11564.73

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	07-25	23:45	00:30	07-26	19631.00	19709.00	Pressure On (psi): <i>5700.00</i> , Pressure Off (psi): <i>5000.00</i> , Weight On Bit (klbs): <i>32.00</i> , Surface RPM: <i>50</i> , Surface Torque (ft lbf): <i>21000.00</i> , Flow Rate (gpm): <i>650.00</i> , Strokes Per Minute: <i>200.00</i>
Circulating	3	07-26	00:30	01:30	07-26			CIRCULATING TO POOH
Pooh	7	07-26	01:30	05:00	07-26			POOH for POSSIBLE MOTOR FAILURE
Pooh	7	07-26	05:00	12:45	07-26			POOH for [MTR Failure]
Lay Down BHA	65	07-26	12:45	13:30	07-26			MTR would not drain @ surface
Pick Up BHA	64	07-26	13:30	14:00	07-26			BHA #9
Circulating	3	07-26	14:00	14:15	07-26			Test MWD
TIH	8	07-26	14:15	16:45	07-26			TIH W/ BHA #9
Other	16	07-26	16:45	17:30	07-26			SLIP & CUT DRILL LINE
TIH	8	07-26	17:30	23:30	07-26			TIH W/ BHA #9
Reaming	4	07-26	23:30	03:00	07-27			Reaming F/ 18342' - T/ 18547'

MWD Activities

No Activities



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
		Company Man

Monday, Jul 27 00:00 - 23:59 (Day 18 of 20)

Billing: \$5,700.00 (\$261,300.55 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	19709.00	Downhole Hours	24.00	Rotating WOB (klbs)	32.00 - 32.00
Bit Depth (ft)	21512.00	Drilling Hours	17.08	Sliding WOB (klbs)	40.00 - 40.00
Bottom Hole Depth (ft)	21512.00	Hours Circulating	3.83	Rotating SPM	200.00 - 200.00
Total Distance (ft)	1803.00	Hours Sliding	4.83	Sliding SPM	202.00 - 202.00
Distance Rotated (ft)	1590.00	Hours Rotating	12.25	Motor RPM	239.00 - 245.00
Distance Slid (ft)	213.00			Surface RPM	50.00 - 50.00
Inclination In	86.51			Flow Rate (gpm)	650.00 - 650.00
Inclination Out	89.14			On Bottom Pressure (psi)	4600.00 - 5700.00
Azimuth In	178.87	% Hours Rotating	72%	Off Bottom Pressure (psi)	4200.00 - 5000.00
Azimuth Out	180.10	% Hours Sliding	28%		
AVG Total ROP (ft/h)	107.15	% Distance Sliding	12%		
AVG Rotating ROP (ft/h)	130.91	% Distance Rotating	88%		
AVG Sliding ROP (ft/h)	44.07				

Personnel

Name	Position
Robert Olivarez	MWD Engineer
Advance Directional	Directional Driller

BHA #9 - 8.50" LATERAL w/ Agitator

Date In: Jul 26, 2020, 13:30 Date Out: Jul 29, 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	5305827	Bend Angle	1.75	MWD Comments
Nozzles	6-22's	Speed (rev/gal)	0.26	
Total Flow Area (in²)	2.227	Wear Pad OD (in)	7.270	POOH Reason
Drilling Hours for Day	17.08	Bit Distances		
Total Drilled for Day (ft)	1803.00	Bend: 5.26 ft, Survey: 61.00 ft, Gamma: 47.00 ft		Total Depth/Casing Point: N/A
Drilling Hours for BHA	21.25			
Total Drilled for BHA (ft)	2425.00			

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: DD506TWX, Style: PDC, Gauge Length (in): 4.00, Size (in): 8.50	BAKER	5305827	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 7/8 8.5 FXD 1.75° SLICK, 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		36.30	37.30
UBHO Sub Description: SOFTSHOE DAO UBHO, Type: NM	AIM	67501NM	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.750		4.83	42.13
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR27669	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.562		29.42	71.55
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR26490	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		29.19	100.74
Crossover Sub Description: X/O ED54-Box - 4 1/2 IF-Pin, Type: Steel	BLACK DIAMOND	BD8076	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.625		3.94	104.68
Drill Pipe Description: 28 STANDS DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		2509.09	2613.77
Crossover Sub Description: X-O SUB, Type: Steel	BLACK DIAMOND	BD8069	4 1/2" IF Box	EverDrlg54 Pin	3.000	6.750		4.01	2617.78
Agitator Description: AGITATOR, Size (in): 7.00	NOV	AGHF0675 0181	4 1/2" IF Box	4 1/2" IF Pin		7.000		25.03	2642.81
Crossover Sub Description: X-O SUB, Type: Steel	BLACK DIAMOND	BD15113	EverDrlg54 Box	4 1/2" IF Pin	2.938	6.770		4.47	2647.28
Drill Pipe Description: 90 STANDS DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		8067.04	10714.32
HWDP Description: 9 STANDS of HWDP, Style: Slick	RIG		EverDrlg54 Box	EverDrlg54 Pin	3.000	5.500		850.41	11564.73

MWD Items

No items

Directional Activities

Activity Type	Code	Start Date	Start Time	End Time	End Date	Start (ft)	End (ft)	Comments/Details
Reaming	4	07-26	23:30	03:00	07-27			Reaming F/ 18342' - T/ 18547'
TIH	8	07-27	03:00	03:45	07-27			TIH W/ BHA #9
Other	16	07-27	03:45	04:05	07-27			DOWNLINK MWD TOOL
Circulating	3	07-27	04:05	04:25	07-27			RE-LOG 50' OF GAMMA
Rotary Drill	1	07-27	04:25	04:35	07-27	19709.00	19720.00	Pressure On (psi): 5700.00, Pressure Off (psi): 5000.00, Weight On Bit (klbs): 32.00, Surface RPM: 50, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	07-27	04:35	04:40	07-27	19720.00	19720.00	Inclination (°): 86.510, Azimuth (°): 178.870, TVD (ft): 12025.37, Dogleg (°/100 ft): 0.36, Sensor Depth (ft): 19659.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-27	04:40	05:55	07-27	19720.00	19810.00	Pressure On (psi): 5700.00, Pressure Off (psi): 5000.00, Weight On Bit (klbs): 32.00, Surface RPM: 50, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	07-27	05:55	06:05	07-27	19810.00	19810.00	Inclination (°): 85.930, Azimuth (°): 177.820, TVD (ft): 12031.31, Dogleg (°/100 ft): 1.33, Sensor Depth (ft): 19749.00, Bit To Sensor (ft): 61.00
Slide Drill	2	07-27	06:05	06:35	07-27	19810.00	19831.00	Pressure On (psi): 4600.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 40.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202, Toolface: 141, Toolface Type: gravity
Rotary Drill	1	07-27	06:35	07:30	07-27	19831.00	19899.00	Pressure On (psi): 5700.00, Pressure Off (psi): 5000.00, Weight On Bit (klbs): 32.00, Surface RPM: 50, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	07-27	07:30	07:35	07-27	19899.00	19899.00	Inclination (°): 87.340, Azimuth (°): 179.050, TVD (ft): 12036.53, Dogleg (°/100 ft): 2.10, Sensor Depth (ft): 19838.00, Bit To Sensor (ft): 61.00
Slide Drill	2	07-27	07:35	07:55	07-27	19899.00	19914.00	Pressure On (psi): 4600.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 40.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202, Toolface: 65, Toolface Type: gravity
Rotary Drill	1	07-27	07:55	08:40	07-27	19914.00	19989.00	Pressure On (psi): 5700.00, Pressure Off (psi): 5000.00, Weight On Bit (klbs): 32.00, Surface RPM: 50, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	07-27	08:40	08:45	07-27	19989.00	19989.00	Inclination (°): 87.960, Azimuth (°): 180.020, TVD (ft): 12040.22, Dogleg (°/100 ft): 1.28, Sensor Depth (ft): 19928.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-27	08:45	09:30	07-27	19989.00	20078.00	Pressure On (psi): 5700.00, Pressure Off (psi): 5000.00, Weight On Bit (klbs): 32.00, Surface RPM: 50, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	07-27	09:30	09:40	07-27	20078.00	20078.00	Inclination (°): 87.780, Azimuth (°): 179.400, TVD (ft): 12043.53, Dogleg (°/100 ft): 0.72, Sensor Depth (ft): 20017.00, Bit To Sensor (ft): 61.00
Slide Drill	2	07-27	09:40	10:15	07-27	20078.00	20105.00	Pressure On (psi): 4600.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 40.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202, Toolface: 70, Toolface Type: gravity
Rotary Drill	1	07-27	10:15	10:45	07-27	20105.00	20167.00	Pressure On (psi): 5700.00, Pressure Off (psi): 5000.00, Weight On Bit (klbs): 32.00, Surface RPM: 50, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	07-27	10:45	10:50	07-27	20167.00	20167.00	Inclination (°): 88.480, Azimuth (°): 181.770, TVD (ft): 12046.43, Dogleg (°/100 ft): 2.78, Sensor Depth (ft): 20106.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-27	10:50	11:25	07-27	20167.00	20257.00	Pressure On (psi): 5700.00, Pressure Off (psi): 5000.00, Weight On Bit (klbs): 32.00, Surface RPM: 50, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	07-27	11:25	11:30	07-27	20257.00	20257.00	Inclination (°): 89.140, Azimuth (°): 182.560, TVD (ft): 12048.30, Dogleg (°/100 ft): 1.14, Sensor Depth (ft): 20196.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-27	11:30	12:00	07-27	20257.00	20347.00	Pressure On (psi): 5700.00, Pressure Off (psi): 5000.00, Weight On Bit (klbs): 32.00, Surface RPM: 50, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	07-27	12:00	12:05	07-27	20347.00	20347.00	Inclination (°): 88.920, Azimuth (°): 182.740, TVD (ft): 12049.83, Dogleg (°/100 ft): 0.32, Sensor Depth (ft): 20286.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-27	12:05	12:35	07-27	20347.00	20436.00	Pressure On (psi): 5700.00, Pressure Off (psi): 5000.00, Weight On Bit (klbs): 32.00, Surface RPM: 50, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	07-27	12:35	12:40	07-27	20436.00	20436.00	Inclination (°): 89.360, Azimuth (°): 183.360, TVD (ft): 12051.16, Dogleg (°/100 ft): 0.85, Sensor Depth (ft): 20375.00, Bit To Sensor (ft): 61.00
Slide Drill	2	07-27	12:40	13:10	07-27	20436.00	20456.00	Pressure On (psi): 4600.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 40.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202, Toolface: 260, Toolface Type: gravity
Rotary Drill	1	07-27	13:10	13:35	07-27	20456.00	20526.00	Pressure On (psi): 5700.00, Pressure Off (psi): 5000.00, Weight On Bit (klbs): 32.00, Surface RPM: 50, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00

Survey	46	07-27	13:35	13:40	07-27	20526.00	20526.00	Inclination (°): 88.400, Azimuth (°): 180.890, TVD (ft): 12052.92, Dogleg (°/100 ft): 2.94, Sensor Depth (ft): 20465.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-27	13:40	14:15	07-27	20526.00	20577.00	Pressure On (psi): 5700.00, Pressure Off (psi): 5000.00, Weight On Bit (klbs): 32.00, Surface RPM: 50, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Slide Drill	2	07-27	14:15	14:45	07-27	20577.00	20600.00	Pressure On (psi): 4600.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 40.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202, Toolface: 180, Toolface Type: gravity
Rotary Drill	1	07-27	14:45	15:00	07-27	20600.00	20616.00	Pressure On (psi): 5700.00, Pressure Off (psi): 5000.00, Weight On Bit (klbs): 32.00, Surface RPM: 50, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	07-27	15:00	15:05	07-27	20616.00	20616.00	Inclination (°): 89.450, Azimuth (°): 180.810, TVD (ft): 12054.61, Dogleg (°/100 ft): 1.17, Sensor Depth (ft): 20555.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-27	15:05	15:35	07-27	20616.00	20705.00	Pressure On (psi): 5700.00, Pressure Off (psi): 5000.00, Weight On Bit (klbs): 32.00, Surface RPM: 50, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	07-27	15:35	15:40	07-27	20705.00	20705.00	Inclination (°): 86.290, Azimuth (°): 180.020, TVD (ft): 12057.92, Dogleg (°/100 ft): 3.66, Sensor Depth (ft): 20644.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-27	15:40	16:15	07-27	20705.00	20795.00	Pressure On (psi): 5700.00, Pressure Off (psi): 5000.00, Weight On Bit (klbs): 32.00, Surface RPM: 50, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	07-27	16:15	16:25	07-27	20795.00	20795.00	Inclination (°): 85.230, Azimuth (°): 179.750, TVD (ft): 12064.57, Dogleg (°/100 ft): 1.22, Sensor Depth (ft): 20734.00, Bit To Sensor (ft): 61.00
Slide Drill	2	07-27	16:25	17:15	07-27	20795.00	20827.00	Pressure On (psi): 4600.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 40.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202, Toolface: 0, Toolface Type: gravity
Rotary Drill	1	07-27	17:15	17:45	07-27	20827.00	20885.00	Pressure On (psi): 5700.00, Pressure Off (psi): 5000.00, Weight On Bit (klbs): 32.00, Surface RPM: 50, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	07-27	17:45	18:00	07-27	20885.00	20885.00	Inclination (°): 87.430, Azimuth (°): 179.840, TVD (ft): 12070.33, Dogleg (°/100 ft): 2.45, Sensor Depth (ft): 20824.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-27	18:00	18:15	07-27	20885.00	20919.00	Pressure On (psi): 5700.00, Pressure Off (psi): 5000.00, Weight On Bit (klbs): 32.00, Surface RPM: 50, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Slide Drill	2	07-27	18:15	18:50	07-27	20919.00	20949.00	Pressure On (psi): 4600.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 40.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202, Toolface: 0, Toolface Type: gravity
Rotary Drill	1	07-27	18:50	19:05	07-27	20949.00	20975.00	Pressure On (psi): 5700.00, Pressure Off (psi): 5000.00, Weight On Bit (klbs): 32.00, Surface RPM: 50, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	07-27	19:05	19:15	07-27	20975.00	20975.00	Inclination (°): 86.020, Azimuth (°): 179.140, TVD (ft): 12075.47, Dogleg (°/100 ft): 1.75, Sensor Depth (ft): 20914.00, Bit To Sensor (ft): 61.00
Slide Drill	2	07-27	19:15	19:50	07-27	20975.00	21000.00	Pressure On (psi): 4600.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 40.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202, Toolface: 40, Toolface Type: gravity
Rotary Drill	1	07-27	19:50	20:15	07-27	21000.00	21064.00	Pressure On (psi): 5700.00, Pressure Off (psi): 5000.00, Weight On Bit (klbs): 32.00, Surface RPM: 50, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	07-27	20:15	20:20	07-27	21064.00	21064.00	Inclination (°): 89.270, Azimuth (°): 180.460, TVD (ft): 12079.13, Dogleg (°/100 ft): 3.94, Sensor Depth (ft): 21003.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-27	20:20	20:55	07-27	21064.00	21154.00	Pressure On (psi): 5700.00, Pressure Off (psi): 5000.00, Weight On Bit (klbs): 32.00, Surface RPM: 50, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	07-27	20:55	21:00	07-27	21154.00	21154.00	Inclination (°): 88.660, Azimuth (°): 179.750, TVD (ft): 12080.76, Dogleg (°/100 ft): 1.04, Sensor Depth (ft): 21093.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-27	21:00	21:30	07-27	21154.00	21244.00	Pressure On (psi): 5700.00, Pressure Off (psi): 5000.00, Weight On Bit (klbs): 32.00, Surface RPM: 50, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	07-27	21:30	21:35	07-27	21244.00	21244.00	Inclination (°): 88.310, Azimuth (°): 179.930, TVD (ft): 12083.14, Dogleg (°/100 ft): 0.44, Sensor Depth (ft): 21183.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-27	21:35	22:05	07-27	21244.00	21333.00	Pressure On (psi): 5700.00, Pressure Off (psi): 5000.00, Weight On Bit (klbs): 32.00, Surface RPM: 50, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	07-27	22:05	22:10	07-27	21333.00	21333.00	Inclination (°): 87.910, Azimuth (°): 179.660, TVD (ft): 12086.07, Dogleg (°/100 ft): 0.54, Sensor Depth (ft): 21272.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-27	22:10	22:40	07-27	21333.00	21423.00	Pressure On (psi): 5700.00, Pressure Off (psi): 5000.00, Weight On Bit (klbs): 32.00, Surface RPM: 50, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00

Survey	46	07-27	22:40	22:50	07-27	21422.00	21422.00	Inclination (°): 87.080, Azimuth (°): 179.580, TVD (ft): 12089.96, Dogleg (°/100 ft): 0.94, Sensor Depth (ft): 21361.00, Bit To Sensor (ft): 61.00
Slide Drill	2	07-27	22:50	23:15	07-27	21423.00	21443.00	Pressure On (psi): 4600.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 40.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202, Toolface: 0, Toolface Type: gravity
Rotary Drill	1	07-27	23:15	23:45	07-27	21443.00	21512.00	Pressure On (psi): 5700.00, Pressure Off (psi): 5000.00, Weight On Bit (klbs): 32.00, Surface RPM: 50, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	07-27	23:45	23:50	07-27	21512.00	21512.00	Inclination (°): 89.140, Azimuth (°): 180.100, TVD (ft): 12092.93, Dogleg (°/100 ft): 2.36, Sensor Depth (ft): 21451.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-27	23:50	00:25	07-28	21512.00	21602.00	Pressure On (psi): 5700.00, Pressure Off (psi): 5000.00, Weight On Bit (klbs): 32.00, Surface RPM: 50, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00

MWD Activities

No Activities



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
		Company Man

Tuesday, Jul 28 00:00 - 23:59 (Day 19 of 20)

Billing: \$5,700.00 (\$261,300.55 total)

Drilling Summary				Drilling Parameters	
Start Depth (ft)	21512.00	Downhole Hours	24.00	Rotating WOB (klbs)	32.00 - 32.00
Bit Depth (ft)	22134.00	Drilling Hours	4.17	Sliding WOB (klbs)	40.00 - 40.00
Bottom Hole Depth (ft)	22134.00	Hours Circulating	6.17	Rotating SPM	200.00 - 200.00
Total Distance (ft)	622.00	Hours Sliding	0.50	Sliding SPM	202.00 - 202.00
Distance Rotated (ft)	602.00	Hours Rotating	3.67	Motor RPM	239.00 - 245.00
Distance Slid (ft)	20.00			Surface RPM	50.00 - 50.00
Inclination In	88.66			Flow Rate (gpm)	650.00 - 650.00
Inclination Out	86.07			On Bottom Pressure (psi)	4600.00 - 5700.00
Azimuth In	179.58	% Hours Rotating	88%	Off Bottom Pressure (psi)	4200.00 - 5000.00
Azimuth Out	174.65	% Hours Sliding	12%		
AVG Total ROP (ft/h)	149.28	% Distance Sliding	3%		
AVG Rotating ROP (ft/h)	164.18	% Distance Rotating	97%		
AVG Sliding ROP (ft/h)	40.00				

Personnel

Name	Position
Robert Olivarez	MWD Engineer
Advance Directional	Directional Driller

BHA #9 - 8.50" LATERAL w/ Agitator

Date In: Jul 26, 2020, 13:30 Date Out: Jul 29, 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	5305827	Bend Angle	1.75	MWD Comments
Nozzles	6-22's	Speed (rev/gal)	0.26	
Total Flow Area (in²)	2.227	Wear Pad OD (in)	7.270	POOH Reason Total Depth/Casing Point: N/A
Drilling Hours for Day	4.17	Bit Distances		
Total Drilled for Day (ft)	622.00	Bend: 5.26 ft, Survey: 61.00 ft, Gamma: 47.00 ft		
Drilling Hours for BHA	21.25			
Total Drilled for BHA (ft)	2425.00			

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: DD506TWX, Style: PDC, Gauge Length (in): 4.00, Size (in): 8.50	BAKER	5305827	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 7/8 8.5 FXD 1.75° SLICK, 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		36.30	37.30
UBHO Sub Description: SOFTSHOE DAO UBHO, Type: NM	AIM	67501NM	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.750		4.83	42.13
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR27669	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.562		29.42	71.55
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR26490	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		29.19	100.74
Crossover Sub Description: X/O ED54-Box - 4 1/2 IF-Pin, Type: Steel	BLACK DIAMOND	BD8076	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.625		3.94	104.68
Drill Pipe Description: 28 STANDS DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		2509.09	2613.77
Crossover Sub Description: X-O SUB, Type: Steel	BLACK DIAMOND	BD8069	4 1/2" IF Box	EverDrlg54 Pin	3.000	6.750		4.01	2617.78
Agitator Description: AGITATOR, Size (in): 7.00	NOV	AGHF0675 0181	4 1/2" IF Box	4 1/2" IF Pin		7.000		25.03	2642.81
Crossover Sub Description: X-O SUB, Type: Steel	BLACK DIAMOND	BD15113	EverDrlg54 Box	4 1/2" IF Pin	2.938	6.770		4.47	2647.28
Drill Pipe Description: 90 STANDS DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		8067.04	10714.32
HWDP Description: 9 STANDS of HWDP, Style: Slick	RIG		EverDrlg54 Box	EverDrlg54 Pin	3.000	5.500		850.41	11564.73

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	07-27	23:50	00:25	07-28	21512.00	21602.00	Pressure On (psi): 5700.00, Pressure Off (psi): 5000.00, Weight On Bit (klbs): 32.00, Surface RPM: 50, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	07-28	00:25	00:30	07-28	21602.00	21602.00	Inclination (°): 88.660, Azimuth (°): 179.580, TVD (ft): 12094.66, Dogleg (%/100 ft): 0.79, Sensor Depth (ft): 21541.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-28	00:30	01:05	07-28	21602.00	21692.00	Pressure On (psi): 5700.00, Pressure Off (psi): 5000.00, Weight On Bit (klbs): 32.00, Surface RPM: 50, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	07-28	01:05	01:10	07-28	21692.00	21692.00	Inclination (°): 88.530, Azimuth (°): 179.310, TVD (ft): 12096.86, Dogleg (%/100 ft): 0.33, Sensor Depth (ft): 21631.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-28	01:10	01:45	07-28	21692.00	21781.00	Pressure On (psi): 5700.00, Pressure Off (psi): 5000.00, Weight On Bit (klbs): 32.00, Surface RPM: 50, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	07-28	01:45	01:50	07-28	21781.00	21781.00	Inclination (°): 88.260, Azimuth (°): 178.430, TVD (ft): 12099.36, Dogleg (%/100 ft): 1.03, Sensor Depth (ft): 21720.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-28	01:50	02:20	07-28	21781.00	21871.00	Pressure On (psi): 5700.00, Pressure Off (psi): 5000.00, Weight On Bit (klbs): 32.00, Surface RPM: 50, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	07-28	02:20	02:30	07-28	21871.00	21871.00	Inclination (°): 88.040, Azimuth (°): 177.730, TVD (ft): 12102.26, Dogleg (%/100 ft): 0.81, Sensor Depth (ft): 21810.00, Bit To Sensor (ft): 61.00
Slide Drill	2	07-28	02:30	03:00	07-28	21871.00	21891.00	Pressure On (psi): 4600.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 40.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202, Toolface: 150, Toolface Type: gravity
Rotary Drill	1	07-28	03:00	03:25	07-28	21891.00	21961.00	Pressure On (psi): 5700.00, Pressure Off (psi): 5000.00, Weight On Bit (klbs): 32.00, Surface RPM: 50, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	07-28	03:25	03:30	07-28	21961.00	21961.00	Inclination (°): 86.370, Azimuth (°): 176.850, TVD (ft): 12106.65, Dogleg (%/100 ft): 2.10, Sensor Depth (ft): 21900.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-28	03:30	04:00	07-28	21961.00	22050.00	Pressure On (psi): 5700.00, Pressure Off (psi): 5000.00, Weight On Bit (klbs): 32.00, Surface RPM: 50, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	07-28	04:00	04:05	07-28	22050.00	22050.00	Inclination (°): 86.550, Azimuth (°): 175.800, TVD (ft): 12112.15, Dogleg (%/100 ft): 1.19, Sensor Depth (ft): 21989.00, Bit To Sensor (ft): 61.00
Rotary Drill	1	07-28	04:05	04:35	07-28	22050.00	22134.00	Pressure On (psi): 5700.00, Pressure Off (psi): 5000.00, Weight On Bit (klbs): 32.00, Surface RPM: 50, Surface Torque (ft lbf): 21000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 200.00
Survey	46	07-28	04:35	04:50	07-28	22134.00	22134.00	Inclination (°): 86.070, Azimuth (°): 174.650, TVD (ft): 12117.55, Dogleg (%/100 ft): 1.48, Sensor Depth (ft): 22073.00, Bit To Sensor (ft): 61.00
Circulating	3	07-28	04:50	11:00	07-28			48' ABOVE & 13' LEFT
Pooh	7	07-28	11:00	13:15	07-28			CIRCULATING @ TD
L/D DP	28	07-28	13:15	04:00	07-29			POOH for TD
								L/D DP

MWD Activities

No Activities



Job Number WT-20-057	Operator Advance Energy Partners	Rig Name H&P #389
Start Date 2020-07-10	Well Name Merchant State Unit 604Y	Legal Well Name AFE Merchant State Unit 604Y
Play Delaware Basin	State/Province and Country New Mexico, US	County Lea
		Company Man

Wednesday, Jul 29 00:00 - 23:59 (Day 20 of 20)

Billing: \$18,438.80 (\$261,300.55 total)

Drilling Summary

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
Distance Rotated (ft)	0.00	Hours Rotating	0.00
Distance Slid (ft)	0.00		Motor RPM
Inclination In			239.00 - 245.00
Inclination Out			Surface RPM
Azimuth In	% Hours Rotating		Flow Rate (gpm)
Azimuth Out	% Hours Sliding		On Bottom Pressure (psi)
AVG Total ROP (ft/h)	0.00	% Distance Sliding	Off Bottom Pressure (psi)
AVG Rotating ROP (ft/h)	0.00	% Distance Rotating	
AVG Sliding ROP (ft/h)	0.00		

Personnel

Name	Position
Robert Olivarez	MWD Engineer
Advance Directional	Directional Driller

BHA #9 - 8.50" LATERAL w/ Agitator

Date In: Jul 26, 2020, 13:30 Date Out: Jul 29, 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	5305827	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)	7.270	POOH Reason Total Depth/Casing Point: N/A	
Drilling Hours for Day	0.00	Bit Distances			
Total Drilled for Day (ft)		Bend: 5.26 ft, Survey: 61.00 ft, Gamma: 47.00 ft			
Drilling Hours for BHA	21.25				
Total Drilled for BHA (ft)	2425.00				

Directional Items

Description	Vendor	SN#	Top Conn	Btm Conn	ID (in)	OD (in)	Fn Len. (ft)	Len (ft)	Aggr. Len (ft)
Bit Description: DD506TWX, Style: PDC, Gauge Length (in): 4.00, Size (in): 8.50	BAKER	5305827	4 1/2" Reg Pin			8.500		1.00	1.00
Mud Motor Description: 7/8 8.5 FXD 1.75° SLICK, 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		36.30	37.30
UBHO Sub Description: SOFTSHOE DAO UBHO, Type: NM	AIM	67501NM	4 1/2" IF Box	4 1/2" IF Pin	3.000	6.750		4.83	42.13
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR27669	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.562		29.42	71.55
Drill Collar Description: NMDC, Style: Slick Drill, Type: NM	DTI	DR26490	4 1/2" IF Box	4 1/2" IF Pin	3.250	6.500		29.19	100.74
Crossover Sub Description: X/O ED54-Box - 4 1/2 IF-Pin, Type: Steel	BLACK DIAMOND	BD8076	EverDrlg54 Box	4 1/2" IF Pin	3.000	6.625		3.94	104.68
Drill Pipe Description: 28 STANDS DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		2509.09	2613.77
Crossover Sub Description: X-O SUB, Type: Steel	BLACK DIAMOND	BD8069	4 1/2" IF Box	EverDrlg54 Pin	3.000	6.750		4.01	2617.78
Agitator Description: AGITATOR, Size (in): 7.00	NOV	AGHF0675 0181	4 1/2" IF Box	4 1/2" IF Pin		7.000		25.03	2642.81
Crossover Sub Description: X-O SUB, Type: Steel	BLACK DIAMOND	BD15113	EverDrlg54 Box	4 1/2" IF Pin	2.938	6.770		4.47	2647.28
Drill Pipe Description: 90 STANDS DP, Style: Slick	BLACK DIAMOND		EverDrlg54 Box	EverDrlg54 Pin	4.000	5.500		8067.04	10714.32
HWDP Description: 9 STANDS of HWDP, Style: Slick	RIG		EverDrlg54 Box	EverDrlg54 Pin	3.000	5.500		850.41	11564.73

MWD Items

No items

Directional Activities

Activity Type	Code	Start Date	Start Time	End Time	End Date	Start (ft)	End (ft)	Comments/Details
L/D DP	28	07-28	13:15	04:00	07-29			L/D DP
Lay Down BHA	65	07-29	04:00	04:30	07-29			L/D BHA #9
Standby	15	07-29	04:30	09:00	07-29			CASING OPS
Load Truck	73	07-29	09:00	10:00	07-29			Load Truck & Leave Location

MWD Activities

No Activities



Surface Plat

Merchant State Unit 604Y (WT-20-057)

2020-07-10 to 2020-07-29

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

Form C-102
Revised August 4, 2011

Submit one copy to appropriate
District Office

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
Property Code	Property Name MERCHANT STATE UNIT	Well Number 604Y
OGRID No.	Operator Name ADVANCE ENERGY PARTNERS HAT MESA	Elevation 3678'

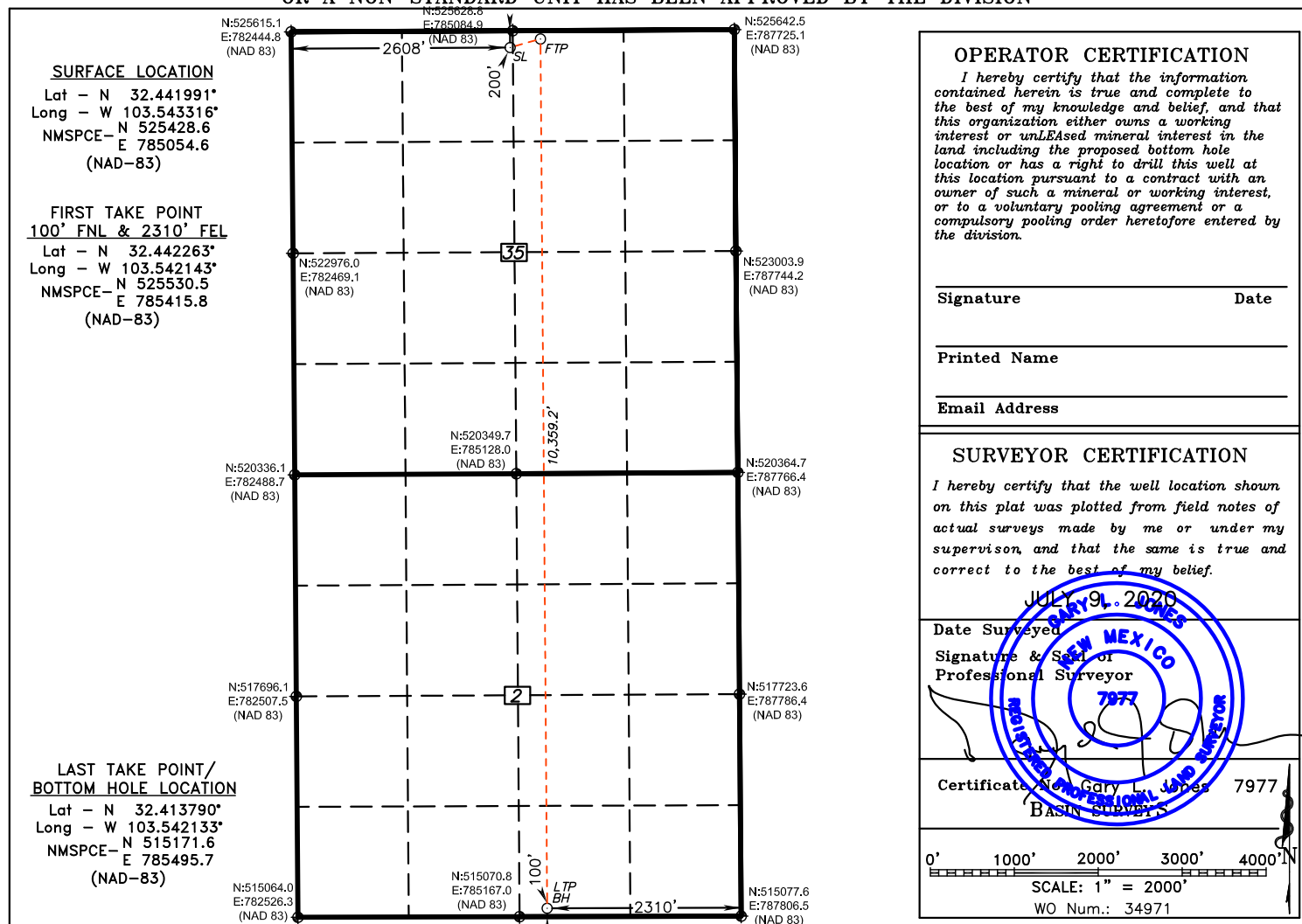
Surface Location

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	2608	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**



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.
 30-025-47423

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 604Y

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

2. Name of Operator

Advance Energy Partners Hat Mesa

3. Address of Operator

11490 Westheimer Rd, Houston, TX 77077

4. Well Location

Unit Letter C : 200 feet from the N line and 2608 feet from the W line
 Section 35 Township 21S Range 33E NMPM County LEA

11. Elevation (Show whether DR, RKB, RT, GR, etc.)
 3658'

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

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐
 TEMPORARILY ABANDON ☐ CHANGE PLANS ☐
 PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐
 DOWNHOLE COMMINGLE ☐
 CLOSED-LOOP SYSTEM ☐
 OTHER: ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
 COMMENCE DRILLING OPNS. ☐ P AND A ☐
 CASING/CEMENT JOB ☐
 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.

- 9/12/20: Pressure test casing to 9,800 psi for 30 minutes.
- 11/16/20 – 12/7/20: Perforate from 12,184' – 22,016' (2976). Frac with 24,036,230 lbs sand and 24,846,696 gal fluid.
- 12/16/20 – 12/17/20: Drill all plugs out and clean out to a PBTD of 22,045'.
- 01/02/21- Ready to produce
- 03/05/21 – Ran 2-7/8' tubing and ESP. EOT @ 10,845'

Spud Date:

07/10/20

Rig Release Date:

07/31/20

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:

PRINT NAME: Eileen M Kosakowski

E-mail address: ekosakowski@advanceenergypartners.com

PHONE: (832) 672-4604

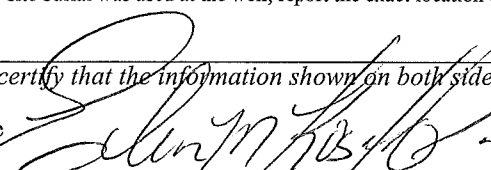
For State Use Only

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. 30-025-47423										
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						
7. Type of Completion: ☒ NEW WELL ☐ WORKOVER ☐ DEEPENING ☐ PLUGBACK ☐ DIFFERENT RESERVOIR ☐ OTHER				6. Well Number: 604Y						
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	N/S Line	Feet from the	E/W Line	County
Surface:	C	35	21S	33E		200	N	2608	W	Lea
BH:	O	2	22S	33E		34	S	2292	E	Lea
13. Date Spudded 07/10/20	14. Date T.D. Reached 07/28/20	15. Date Rig Released 07/31/20		16. Date Completed (Ready to Produce) 01/02/21		17. Elevations (DF and RKB, RT, GR, etc.) 3658'				
18. Total Measured Depth of Well 22,134		19. Plug Back Measured Depth 22,045		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 12,184-22,016' 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#		1793		17.5"		835		
9.625"		40#		5275/3777		12.25"		1940 790		
5.5"		20#		22,116		8.5"		3085		
24. LINER RECORD										
SIZE	TOP	BOTTOM	SACKS CEMENT		SCREEN		25. TUBING RECORD			
							SIZE	DEPTH SET	PACKER SET	
							2 7/8	10,845	N/A	
26. Perforation record (interval, size, and number) 12,184-22,016' -2976 holes										
27. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC. DEPTH INTERVAL AMOUNT AND KIND MATERIAL USED 12,184-22,016' 24,036,230 lbs sand, 24,846,696 bbls water										
28. PRODUCTION										
Date First Production 01/04/21		Production Method (Flowing, gas lift, pumping - Size and type pump) Flowing				Well Status (Prod. or Shut-in) Prod				
Date of Test 01/14/21	Hours Tested 24 Hrs	Choke Size 60	Prod'n For Test Period	Oil - Bbl 1254	Gas - MCF 1594	Water - Bbl. 6145	Gas - Oil Ratio 1275			
Flow Tubing Press. 1000	Casing Pressure 800	Calculated 24-Hour Rate	Oil - Bbl. 1254	Gas - MCF 1594	Water - Bbl. 6145	Oil Gravity - API - (Corr.) 41.7				
29. Disposition of Gas (Sold, used for fuel, vented, etc.) 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. 34. If an on-site burial was used at the well, report the exact location of the on-site burial:						33. Rig Release Date: 07/31/20				
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 						Date: 2/17/22				
Printed Name Eileen M Kosakowski			Title: Sr. Eng Tech.		E-mail Address: ekosakowski@advanceenergypartners.com					

This form is to be filed with the appropriate District Office of the Division not later than 20 days after the completion of any newly-drilled or deepened well and not later than 60 days after completion of closure. When submitted as a completion report, this shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, items 11, 12 and 26-31 shall be reported for each zone.

Southeastern New Mexico		Northwestern New Mexico	
T. Anhy	T. Canyon	T. Ojo Alamo	T. Penn A"
T. Salt	T. Strawn	T. Kirtland	T. Penn. "B"
B. Salt	T. Atoka	T. Fruitland	T. Penn. "C"
T. Yates	T. Miss	T. Pictured Cliffs	T. Penn. "D"
T. 7 Rivers	T. Devonian	T. Cliff House	T. Leadville
T. Queen	T. Silurian	T. Menefee	T. Madison
T. Grayburg	T. Montoya	T. Point Lookout	T. Elbert
T. San Andres	T. Simpson	T. Mancos	T. McCracken
T. Glorieta	T. McKee	T. Gallup	T. Ignacio Otzte
T. Paddock	T. Ellenburger	Base Greenhorn	T. Granite
T. Blinebry	T. Gr. Wash	T. Dakota	
T. Tubb	T. Delaware Sand	T. Morrison	
T. Drinkard	T. Bone Springs	T. Todilto	
T. Abo	T.	T. Entrada	
T. Wolfcamp	T.	T. Wingate	
T. Penn	T.	T. Chinle	
T. Cisco (Bough C)	T.	T. Permian	

OIL OR GAS SANDS OR ZONES

No. 1, from.....to.....
No. 2, from.....to.....
No. 3, from.....to.....
No. 4, from.....to.....

Include data on rate of water inflow and elevation to which water rose in hole.

No. 1, from.....to.....feet.....
 No. 2, from.....to.....feet.....
 No. 3, from.....to.....feet.....

LITHOLOGY RECORD (Attach additional sheet if necessary)

From	To	Thickness In Feet	Lithology

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 82380

ACKNOWLEDGMENTS

Operator: ADVANCE ENERGY PARTNERS HAT MESA, LLC 5400 LBJ Freeway, Suite 1500 Dallas, TX 75240	OGRID: 372417
	Action Number: 82380
	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.

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

CONDITIONS

Action 82380

CONDITIONS

Operator: ADVANCE ENERGY PARTNERS HAT MESA, LLC 5400 LBJ Freeway, Suite 1500 Dallas, TX 75240	OGRID: 372417
	Action Number: 82380
	Action Type: [C-104] Completion Packet (C-104C)

CONDITIONS

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