

HOBBS OGD

MAY 08 2019

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30-025-45448

Advance Energy Partners, LLC

Merchant State Unit 602H
Lea County, New Mexico
Job No. WT-19-001
H&P 620
Plan 1.0 Final PVA



SITE DETAILS: Merchant State Unit 602H

Site Centre Northing: 525420.30
Easting: 783435.70

Positional Uncertainty: 0.00
Convergence: 0.42
Local North: Grid



Azimuths to Grid North
True North: -0.42°
Magnetic North: 6.26°

Magnetic Field
Strength: 48132.9nT
Dip Angle: 60.24°
Date: 1/10/2019
Model: MVHD

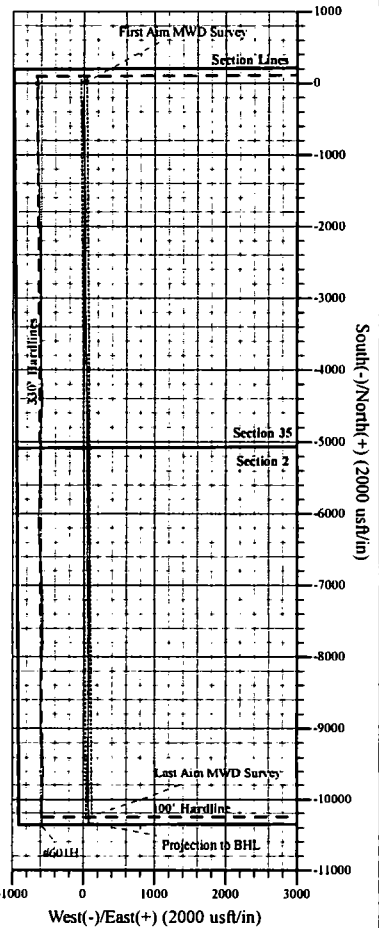
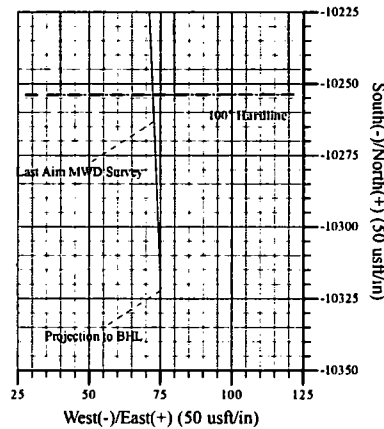
Magnetic North: 6.26° to Grid North

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:
3686'GL+26.5' @ 3712.50usf (H&P 620)

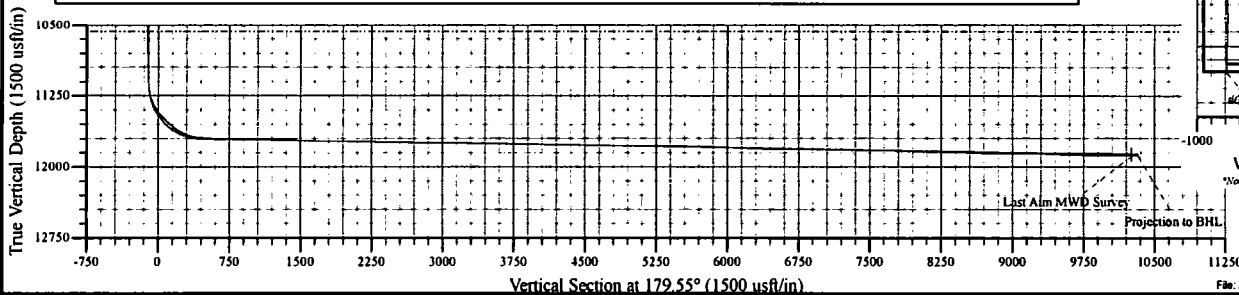


SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
1	21807.00	89.32	177.73	11879.71	-10263.13	72.85	0.00	0.00	10263.38	Last Aim MWD Survey
2	21866.00	89.32	177.73	11880.41	-10322.08	75.18	0.00	0.00	10322.35	Projection to BHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
PBHL r1 (Merchant602H)	11867.00	-10253.80	79.90	515166.50	783515.60	32° 24' 49.737 N	103° 32' 54.776 W



Note: Aim is not responsible for any collision issues against unknown offset well.

Drawn By: IG
Date Created: 12/28/2018
Date Revised: 2/4/2019
File: Advance Energy - Merchant State Unit 602H Plan 1.0 Final PVA.wpc

Aim Directional Services, LLC

Survey Report

Company: Advance Energy Partners, LLC
Project: Lea County, New Mexico
Site: Merchant State Unit 602H
Well: #602H
Wellbore: Aim MWD Surveys
Design: Aim MWD Surveys

Local Co-ordinate Reference: Site Merchant State Unit 602H
TVD Reference: 3686'GL+26.5 @ 3712.50usft (H&P 620)
MD Reference: 3686'GL+26.5 @ 3712.50usft (H&P 620)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.14 Single User Db

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

Site	Merchant State Unit 602H		
Site Position:		Northing:	525,420.30 usft
From:	Map	Easting:	783,435.70 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 26' 31.202 N
		Longitude:	103° 32' 54.829 W
		Grid Convergence:	0.42 °

Well	#602H		
Well Position	+N/-S	0.00 usft	Northing: 525,420.30 usft
	+E/-W	0.00 usft	Easting: 783,435.70 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
		Latitude:	32° 26' 31.202 N
		Longitude:	103° 32' 54.829 W
		Ground Level:	3,686.00 usft

Wellbore	Aim MWD Surveys		
Magnetics	Model Name	Sample Date	Declination (°)
	MVHD	1/17/2019	6.68
			Dip Angle (°)
			60.24
			Field Strength (nT)
			48,130.67803910

Design	Aim MWD Surveys		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	Tie On Depth: 0.00
	0.00	0.00	0.00
			Direction (°)
			179.55

Survey Program	Date 2/4/2019		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
197.00	21,866.00	Aim MWD Surveys (Aim MWD Surveys)	B001Mb_MWD+HRGM
			Description
			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
197.00	0.53	54.25	197.00	0.53	0.74	-0.53	0.27	0.27	0.00
First Aim MWD Survey									
320.00	0.75	56.97	319.99	1.30	1.88	-1.29	0.18	0.18	2.21
381.00	0.75	60.84	380.98	1.72	2.56	-1.70	0.08	0.00	6.34
442.00	1.01	65.32	441.98	2.13	3.40	-2.11	0.44	0.43	7.34
504.00	1.32	66.38	503.96	2.65	4.55	-2.61	0.50	0.50	1.71
566.00	1.23	68.49	565.95	3.18	5.82	-3.13	0.16	-0.15	3.40
627.00	1.58	52.40	626.93	3.93	7.10	-3.88	0.86	0.57	-26.38
689.00	2.11	60.58	688.90	5.01	8.77	-4.95	0.95	0.85	13.19
780.00	2.42	52.05	779.83	7.02	11.74	-6.93	0.50	0.34	-9.37

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North Reference: Grid
Survey Calculation Method: Minimum Curvature
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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)
964.00	2.90	212.45	963.76	5.48	12.31	-5.38	2.85	0.26	87.17
1,056.00	2.73	20.23	1,055.72	5.57	11.82	-5.48	6.08	-0.18	182.37
1,147.00	2.77	19.36	1,146.61	9.68	13.29	-9.57	0.06	0.04	-0.96
1,239.00	2.07	351.58	1,238.53	13.42	13.79	-13.31	1.46	-0.76	-30.20
1,330.00	2.15	317.83	1,329.48	16.31	12.40	-16.21	1.35	0.09	-37.09
1,420.00	2.15	295.95	1,419.41	18.30	9.75	-18.22	0.91	0.00	-24.31
1,511.00	2.37	286.63	1,510.34	19.59	6.41	-19.54	0.47	0.24	-10.24
1,601.00	2.64	287.25	1,600.26	20.73	2.65	-20.71	0.30	0.30	0.69
1,687.00	3.30	280.48	1,686.14	21.77	-1.68	-21.78	0.87	0.77	-7.87
1,758.00	3.16	284.26	1,757.03	22.62	-5.58	-22.67	0.36	-0.20	5.32
1,852.00	2.73	286.28	1,850.90	23.89	-10.24	-23.97	0.47	-0.46	2.15
1,947.00	1.10	267.03	1,945.85	24.48	-13.32	-24.58	1.82	-1.72	-20.26
2,041.00	0.66	233.28	2,039.84	24.11	-14.66	-24.22	0.70	-0.47	-35.90
2,135.00	0.75	241.81	2,133.83	23.49	-15.64	-23.62	0.15	0.10	9.07
2,229.00	0.70	232.75	2,227.82	22.85	-16.63	-22.98	0.13	-0.05	-9.64
2,324.00	0.57	246.73	2,322.82	22.32	-17.53	-22.45	0.21	-0.14	14.72
2,418.00	0.66	220.80	2,416.81	21.72	-18.31	-21.87	0.31	0.10	-27.59
2,513.00	0.57	204.98	2,511.81	20.88	-18.87	-21.03	0.20	-0.09	-16.65
2,607.00	0.44	162.62	2,605.80	20.11	-18.96	-20.26	0.41	-0.14	-45.06
2,701.00	0.26	123.77	2,699.80	19.65	-18.68	-19.79	0.31	-0.19	-41.33
2,890.00	0.53	93.62	2,888.80	19.35	-17.45	-19.49	0.18	0.14	-15.95
2,984.00	0.79	79.82	2,982.79	19.44	-16.37	-19.57	0.32	0.28	-14.68
3,078.00	0.97	72.27	3,076.78	19.80	-14.98	-19.92	0.23	0.19	-8.03
3,267.00	1.45	68.22	3,265.74	21.17	-11.23	-21.26	0.26	0.25	-2.14
3,361.00	1.58	65.67	3,359.70	22.15	-8.95	-22.22	0.16	0.14	-2.71
3,455.00	1.45	73.58	3,453.67	23.02	-6.63	-23.07	0.26	-0.14	8.41
3,643.00	1.14	64.62	3,641.62	24.49	-2.66	-24.51	0.20	-0.16	-4.77
3,738.00	1.19	63.21	3,736.60	25.34	-0.92	-25.35	0.06	0.05	-1.48
3,927.00	1.10	66.64	3,925.57	26.95	2.50	-26.93	0.06	-0.05	1.81
4,021.00	1.10	87.03	4,019.55	27.35	4.22	-27.32	0.41	0.00	21.69
4,115.00	1.05	85.71	4,113.53	27.46	5.98	-27.41	0.06	-0.05	-1.40
4,681.00	1.10	75.17	4,679.43	29.24	16.41	-29.11	0.04	0.01	-1.86
4,775.00	1.36	69.37	4,773.41	29.86	18.32	-29.72	0.31	0.28	-6.17
4,870.00	1.54	69.19	4,868.38	30.72	20.57	-30.55	0.19	0.19	-0.19
4,964.00	0.35	89.32	4,962.37	31.17	22.04	-30.99	1.30	-1.27	21.41
5,058.00	0.18	174.75	5,056.37	31.02	22.34	-30.85	0.40	-0.18	90.88
5,153.00	0.40	128.69	5,151.37	30.67	22.61	-30.49	0.32	0.23	-48.48
5,202.00	0.57	133.70	5,200.36	30.39	22.92	-30.21	0.36	0.35	10.22
5,339.00	0.66	168.07	5,337.36	29.15	23.58	-28.96	0.27	0.07	25.09
5,433.00	0.57	169.12	5,431.35	28.16	23.78	-27.97	0.10	-0.10	1.12
5,527.00	1.32	301.40	5,525.34	28.27	22.94	-28.08	1.87	0.80	140.72
5,622.00	1.93	315.02	5,620.30	29.97	20.88	-29.80	0.76	0.64	14.34
5,716.00	1.98	306.49	5,714.25	32.05	18.45	-31.91	0.31	0.05	-9.07

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5,811.00	2.07	331.28	5,809.19	34.53	16.31	-34.40	0.92	0.09	26.09
5,905.00	2.02	339.45	5,903.13	37.57	14.91	-37.46	0.31	-0.05	8.69
5,999.00	1.93	339.80	5,997.08	40.61	13.78	-40.50	0.10	-0.10	0.37
6,093.00	2.02	337.17	6,091.02	43.62	12.60	-43.52	0.14	0.10	-2.80
6,188.00	2.29	337.87	6,185.95	46.92	11.23	-46.83	0.29	0.28	0.74
6,282.00	2.29	334.44	6,279.88	50.36	9.71	-50.28	0.15	0.00	-3.65
6,376.00	2.24	336.55	6,373.81	53.74	8.17	-53.67	0.10	-0.05	2.24
6,470.00	2.11	346.22	6,467.74	57.10	7.03	-57.05	0.41	-0.14	10.29
6,565.00	2.33	342.62	6,562.67	60.64	6.03	-60.60	0.27	0.23	-3.79
6,659.00	2.29	343.23	6,656.59	64.27	4.92	-64.23	0.05	-0.04	0.65
6,753.00	2.11	338.22	6,750.52	67.67	3.74	-67.64	0.28	-0.19	-5.33
6,847.00	2.11	343.50	6,844.46	70.94	2.60	-70.91	0.21	0.00	5.62
6,942.00	2.33	339.63	6,939.39	74.42	1.44	-74.41	0.28	0.23	-4.07
7,036.00	2.33	343.06	7,033.31	78.04	0.21	-78.04	0.15	0.00	3.65
7,131.00	2.07	344.20	7,128.24	81.54	-0.82	-81.55	0.28	-0.27	1.20
7,319.00	1.80	342.62	7,316.13	87.63	-2.62	-87.64	0.15	-0.14	-0.84
7,413.00	1.36	330.40	7,410.10	90.01	-3.61	-90.03	0.59	-0.47	-13.00
7,508.00	1.41	317.04	7,505.07	91.84	-4.97	-91.88	0.34	0.05	-14.06
7,602.00	1.19	318.45	7,599.04	93.42	-6.40	-93.47	0.24	-0.23	1.50
7,697.00	1.10	317.04	7,694.03	94.82	-7.68	-94.88	0.10	-0.09	-1.48
7,791.00	1.01	299.90	7,788.01	95.90	-9.01	-95.97	0.35	-0.10	-18.23
7,885.00	1.01	321.26	7,882.00	96.96	-10.25	-97.03	0.40	0.00	22.72
8,073.00	1.23	293.22	8,069.96	99.04	-13.14	-99.14	0.31	0.12	-14.91
8,167.00	1.19	297.44	8,163.94	99.89	-14.93	-100.01	0.10	-0.04	4.49
8,262.00	0.09	197.60	8,258.93	100.28	-15.83	-100.40	1.27	-1.16	-105.09
8,356.00	0.84	124.74	8,352.93	99.81	-15.29	-99.93	0.87	0.80	-77.51
8,450.00	0.84	139.33	8,446.92	98.90	-14.27	-99.01	0.23	0.00	15.52
8,545.00	0.84	156.90	8,541.91	97.73	-13.55	-97.83	0.27	0.00	18.49
8,639.00	0.66	156.20	8,635.90	96.60	-13.06	-96.70	0.19	-0.19	-0.74
8,733.00	0.79	185.56	8,729.89	95.46	-12.90	-95.56	0.41	0.14	31.23
8,828.00	1.01	192.15	8,824.88	93.99	-13.14	-94.09	0.26	0.23	6.94
8,922.00	0.88	52.40	8,918.88	93.62	-12.74	-93.72	1.89	-0.14	-148.67
9,016.00	1.71	40.71	9,012.85	95.12	-11.26	-95.21	0.92	0.88	-12.44
9,110.00	1.67	17.16	9,106.81	97.49	-9.94	-97.57	0.73	-0.04	-25.05
9,205.00	1.45	357.56	9,201.78	100.02	-9.58	-100.09	0.60	-0.23	-20.63
9,299.00	1.19	348.51	9,295.75	102.16	-9.83	-102.24	0.35	-0.28	-9.63
9,393.00	1.27	352.64	9,389.73	104.15	-10.15	-104.23	0.13	0.09	4.39
9,488.00	0.97	41.68	9,484.71	105.80	-9.75	-105.87	1.02	-0.32	51.62
9,582.00	1.01	54.78	9,578.70	106.87	-8.55	-106.93	0.24	0.04	13.94
9,676.00	0.62	74.02	9,672.69	107.49	-7.38	-107.54	0.50	-0.41	20.47
9,771.00	1.05	77.10	9,767.68	107.82	-6.04	-107.87	0.45	0.45	3.24
9,865.00	1.63	65.67	9,861.66	108.57	-3.98	-108.59	0.68	0.62	-12.16
9,959.00	1.19	46.16	9,955.63	109.79	-2.06	-109.81	0.69	-0.47	-20.76

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10,054.00	1.41	65.85	10,050.60	110.95	-0.28	-110.95	0.52	0.23	20.73
10,148.00	1.23	82.11	10,144.58	111.57	1.77	-111.55	0.44	-0.19	17.30
10,243.00	1.36	92.66	10,239.55	111.65	3.91	-111.62	0.29	0.14	11.11
10,337.00	0.79	77.36	10,333.54	111.74	5.66	-111.70	0.67	-0.61	-16.28
10,431.00	0.13	109.36	10,427.53	111.85	6.39	-111.80	0.73	-0.70	34.04
10,525.00	0.44	204.37	10,521.53	111.49	6.34	-111.43	0.50	0.33	101.07
10,620.00	0.57	160.07	10,616.53	110.71	6.35	-110.66	0.42	0.14	-46.63
10,714.00	1.01	156.99	10,710.52	109.51	6.83	-109.45	0.47	0.47	-3.28
10,809.00	1.23	148.64	10,805.50	107.87	7.69	-107.80	0.29	0.23	-8.79
10,903.00	1.36	140.91	10,899.48	106.14	8.92	-106.07	0.23	0.14	-8.22
10,997.00	2.42	142.67	10,993.43	103.69	10.83	-103.61	1.13	1.13	1.87
11,092.00	1.76	134.14	11,088.36	101.08	13.09	-100.98	0.77	-0.69	-8.98
11,174.00	2.99	185.64	11,170.30	98.08	13.79	-97.97	2.86	1.50	62.80
11,268.00	18.81	193.20	11,262.31	80.77	10.06	-80.69	16.86	16.83	8.04
11,363.00	29.54	182.22	11,348.90	42.33	5.64	-42.29	12.20	11.29	-11.56
11,457.00	36.09	178.17	11,427.86	-8.56	5.63	8.60	7.35	6.97	-4.31
11,552.00	44.53	181.16	11,500.25	-69.94	5.85	69.99	9.11	8.88	3.15
11,646.00	50.73	185.64	11,563.58	-139.19	1.60	139.20	7.47	6.60	4.77
11,740.00	59.03	182.48	11,617.62	-215.81	-3.73	215.78	9.25	8.83	-3.36
11,835.00	68.48	183.54	11,659.58	-300.80	-8.23	300.73	10.00	9.95	1.12
11,929.00	80.22	182.57	11,684.90	-391.03	-13.03	390.92	12.53	12.49	-1.03
12,023.00	85.45	180.28	11,696.62	-484.23	-15.33	484.09	6.07	5.56	-2.44
12,118.00	87.30	179.05	11,702.83	-579.03	-14.78	578.90	2.34	1.95	-1.29
12,212.00	89.10	178.53	11,705.58	-672.96	-12.79	672.84	1.99	1.91	-0.55
12,307.00	89.32	178.17	11,706.89	-767.91	-10.06	767.81	0.44	0.23	-0.38
12,401.00	88.31	177.30	11,708.83	-861.82	-6.35	861.74	1.42	-1.07	-0.93
12,496.00	88.57	177.21	11,711.42	-956.67	-1.80	956.63	0.29	0.27	-0.09
12,590.00	89.45	177.03	11,713.04	-1,050.54	2.92	1,050.53	0.96	0.94	-0.19
12,684.00	88.62	178.35	11,714.63	-1,144.45	6.71	1,144.46	1.66	-0.88	1.40
12,779.00	88.79	178.00	11,716.77	-1,239.37	9.74	1,239.41	0.41	0.18	-0.37
12,873.00	89.32	177.65	11,718.32	-1,333.29	13.30	1,333.36	0.68	0.56	-0.37
12,968.00	87.74	179.32	11,720.76	-1,428.22	15.82	1,428.30	2.42	-1.66	1.76
13,062.00	88.00	179.64	11,724.25	-1,522.15	16.50	1,522.24	0.62	0.28	0.55
13,157.00	88.18	179.32	11,727.42	-1,617.10	17.20	1,617.18	0.58	0.19	-0.55
13,252.00	89.01	179.23	11,729.75	-1,712.06	18.40	1,712.15	0.88	0.87	-0.09
13,346.00	89.49	178.61	11,730.98	-1,806.03	20.17	1,806.14	0.83	0.51	-0.66
13,441.00	90.11	178.17	11,731.31	-1,901.00	22.84	1,901.12	0.80	0.65	-0.46
13,535.00	88.09	180.20	11,732.79	-1,994.97	24.18	1,995.09	3.05	-2.15	2.16
13,630.00	88.09	180.37	11,735.95	-2,089.91	23.71	2,090.03	0.18	0.00	0.18
13,724.00	88.79	180.90	11,738.51	-2,183.87	22.67	2,183.98	0.93	0.74	0.56
13,818.00	89.23	180.72	11,740.14	-2,277.85	21.34	2,277.94	0.51	0.47	-0.19
13,913.00	89.71	180.72	11,741.02	-2,372.83	20.14	2,372.92	0.51	0.51	0.00
14,007.00	90.64	181.16	11,740.73	-2,466.82	18.60	2,466.89	1.09	0.99	0.47
14,102.00	87.56	181.07	11,742.22	-2,561.78	16.75	2,561.83	3.24	-3.24	-0.09

Aim Directional Services, LLC

Survey Report

Company: Advance Energy Partners, LLC
Project: Lea County, New Mexico
Site: Merchant State Unit 602H
Well: #602H
Wellbore: Aim MWD Surveys
Design: Aim MWD Surveys

Local Co-ordinate Reference: Site Merchant State Unit 602H
TVD Reference: 3686'GL+26.5 @ 3712.50usft (H&P 620)
MD Reference: 3686'GL+26.5 @ 3712.50usft (H&P 620)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.14 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
14,235.00	86.95	180.81	11,748.59	-2,694.61	14.57	2,694.64	0.50	-0.46	-0.20
14,330.00	89.58	180.28	11,751.47	-2,789.55	13.67	2,789.57	2.82	2.77	-0.56
14,424.00	90.51	180.55	11,751.39	-2,883.55	12.99	2,883.56	1.03	0.99	0.29
14,519.00	91.16	179.93	11,750.01	-2,978.54	12.59	2,978.54	0.95	0.68	-0.65
14,613.00	89.76	179.05	11,749.25	-3,072.53	13.43	3,072.54	1.76	-1.49	-0.94
14,708.00	90.64	178.79	11,748.92	-3,167.51	15.22	3,167.53	0.97	0.93	-0.27
14,802.00	89.01	178.88	11,749.21	-3,261.48	17.13	3,261.52	1.74	-1.73	0.10
14,896.00	88.84	178.26	11,750.97	-3,355.44	19.48	3,355.49	0.68	-0.18	-0.66
14,991.00	88.97	177.38	11,752.79	-3,450.35	23.09	3,450.43	0.94	0.14	-0.93
15,085.00	88.75	178.88	11,754.66	-3,544.28	26.16	3,544.38	1.61	-0.23	1.60
15,179.00	89.14	178.61	11,756.39	-3,638.24	28.21	3,638.35	0.50	0.41	-0.29
15,274.00	89.19	177.82	11,757.77	-3,733.18	31.17	3,733.31	0.83	0.05	-0.83
15,368.00	89.23	178.44	11,759.07	-3,827.12	34.24	3,827.27	0.66	0.04	0.66
15,462.00	89.10	178.97	11,760.44	-3,921.09	36.36	3,921.25	0.58	-0.14	0.56
15,557.00	88.26	179.14	11,762.63	-4,016.05	37.93	4,016.22	0.90	-0.88	0.18
15,651.00	87.78	179.32	11,765.88	-4,109.99	39.19	4,110.17	0.55	-0.51	0.19
15,745.00	89.14	178.70	11,768.40	-4,203.93	40.82	4,204.13	1.59	1.45	-0.66
15,839.00	89.32	178.70	11,769.67	-4,297.90	42.95	4,298.11	0.19	0.19	0.00
15,934.00	89.36	178.70	11,770.76	-4,392.87	45.10	4,393.09	0.04	0.04	0.00
16,028.00	89.10	178.35	11,772.02	-4,486.83	47.52	4,487.07	0.46	-0.28	-0.37
16,122.00	88.70	178.53	11,773.83	-4,580.78	50.08	4,581.03	0.47	-0.43	0.19
16,216.00	88.70	178.00	11,775.96	-4,674.71	52.93	4,674.98	0.56	0.00	-0.56
16,310.00	89.19	176.94	11,777.69	-4,768.60	57.08	4,768.90	1.24	0.52	-1.13
16,405.00	89.71	179.14	11,778.60	-4,863.54	60.33	4,863.86	2.38	0.55	2.32
16,499.00	90.68	178.70	11,778.28	-4,957.52	62.10	4,957.85	1.13	1.03	-0.47
16,593.00	89.80	180.02	11,777.89	-5,051.51	63.15	5,051.85	1.69	-0.94	1.40
16,687.00	89.80	180.37	11,778.22	-5,145.51	62.83	5,145.84	0.37	0.00	0.37
16,781.00	89.49	179.84	11,778.80	-5,239.50	62.65	5,239.83	0.65	-0.33	-0.56
16,875.00	89.27	179.84	11,779.82	-5,333.50	62.92	5,333.83	0.23	-0.23	0.00
16,970.00	89.93	179.58	11,780.48	-5,428.49	63.40	5,428.82	0.75	0.69	-0.27
17,064.00	88.92	180.20	11,781.42	-5,522.49	63.58	5,522.82	1.26	-1.07	0.66
17,158.00	88.35	179.76	11,783.66	-5,616.46	63.61	5,616.79	0.77	-0.61	-0.47
17,253.00	88.26	180.20	11,786.47	-5,711.42	63.64	5,711.74	0.47	-0.09	0.46
17,347.00	88.40	180.11	11,789.21	-5,805.38	63.39	5,805.70	0.18	0.15	-0.10
17,441.00	87.65	179.67	11,792.45	-5,899.32	63.57	5,899.64	0.92	-0.80	-0.47
17,535.00	87.65	179.32	11,796.31	-5,993.24	64.40	5,993.56	0.37	0.00	-0.37
17,630.00	87.38	178.88	11,800.43	-6,088.14	65.89	6,088.47	0.54	-0.28	-0.46
17,724.00	87.38	178.26	11,804.72	-6,182.01	68.23	6,182.35	0.66	0.00	-0.66
17,818.00	86.51	177.82	11,809.73	-6,275.82	71.44	6,276.19	1.04	-0.93	-0.47
17,913.00	88.40	178.79	11,813.95	-6,370.68	74.25	6,371.07	2.24	1.99	1.02
18,007.00	90.20	178.44	11,815.10	-6,464.64	76.52	6,465.04	1.95	1.91	-0.37
18,101.00	89.93	180.46	11,814.99	-6,558.63	77.42	6,559.04	2.17	-0.29	2.15
18,195.00	89.93	180.28	11,815.11	-6,652.63	76.82	6,653.03	0.19	0.00	-0.19

Aim Directional Services, LLC

Survey Report

Company: Advance Energy Partners, LLC
 Project: Lea County, New Mexico
 Site: Merchant State Unit 602H
 Well: #602H
 Wellbore: Aim MWD Surveys
 Design: Aim MWD Surveys

Local Co-ordinate Reference: Site Merchant State Unit 602H
 TVD Reference: 3686'GL+26.5 @ 3712.50usft (H&P 620)
 MD Reference: 3686'GL+26.5 @ 3712.50usft (H&P 620)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.14 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
18,290.00	89.93	178.35	11,815.22	-6,747.62	77.95	6,748.02	2.03	0.00	-2.03
18,384.00	88.79	180.63	11,816.27	-6,841.60	78.79	6,842.01	2.71	-1.21	2.43
18,479.00	88.62	180.11	11,818.42	-6,936.57	78.18	6,936.97	0.58	-0.18	-0.55
18,573.00	88.57	179.49	11,820.73	-7,030.54	78.50	7,030.94	0.66	-0.05	-0.66
18,667.00	89.05	180.28	11,822.68	-7,124.52	78.69	7,124.92	0.98	0.51	0.84
18,762.00	89.63	180.72	11,823.77	-7,219.51	77.86	7,219.90	0.77	0.61	0.46
18,856.00	89.49	180.46	11,824.49	-7,313.50	76.89	7,313.88	0.31	-0.15	-0.28
18,950.00	89.85	179.93	11,825.03	-7,407.50	76.57	7,407.87	0.68	0.38	-0.56
19,044.00	89.63	179.40	11,825.46	-7,501.50	77.12	7,501.87	0.61	-0.23	-0.56
19,139.00	89.45	181.43	11,826.22	-7,596.49	76.44	7,596.85	2.15	-0.19	2.14
19,233.00	89.80	180.46	11,826.84	-7,690.47	74.89	7,690.82	1.10	0.37	-1.03
19,327.00	88.00	180.64	11,828.64	-7,784.45	73.98	7,784.79	1.92	-1.91	0.19
19,421.00	88.35	180.46	11,831.64	-7,878.39	73.08	7,878.73	0.42	0.37	-0.19
19,515.00	88.48	179.76	11,834.24	-7,972.36	72.90	7,972.68	0.76	0.14	-0.74
19,610.00	88.75	179.58	11,836.53	-8,067.33	73.45	8,067.66	0.34	0.28	-0.19
19,704.00	88.84	178.79	11,838.51	-8,161.30	74.79	8,161.63	0.85	0.10	-0.84
19,799.00	88.35	179.58	11,840.84	-8,256.26	76.14	8,256.60	0.98	-0.52	0.83
19,893.00	88.35	178.79	11,843.55	-8,350.21	77.47	8,350.56	0.84	0.00	-0.84
19,987.00	88.31	180.99	11,846.29	-8,444.16	77.65	8,444.51	2.34	-0.04	2.34
20,082.00	87.43	179.84	11,849.82	-8,539.09	76.97	8,539.43	1.52	-0.93	-1.21
20,176.00	88.26	181.34	11,853.35	-8,633.02	76.00	8,633.35	1.82	0.88	1.60
20,271.00	87.82	180.64	11,856.60	-8,727.95	74.36	8,728.26	0.87	-0.46	-0.74
20,365.00	88.84	180.90	11,859.34	-8,821.90	73.09	8,822.20	1.12	1.09	0.28
20,460.00	90.46	181.78	11,859.92	-8,916.87	70.87	8,917.15	1.94	1.71	0.93
20,554.00	89.98	181.07	11,859.56	-9,010.83	68.54	9,011.10	0.91	-0.51	-0.76
20,649.00	89.23	181.69	11,860.22	-9,105.80	66.25	9,106.04	1.02	-0.79	0.65
20,743.00	90.42	181.95	11,860.50	-9,199.75	63.26	9,199.97	1.30	1.27	0.28
20,837.00	90.02	180.46	11,860.14	-9,293.73	61.29	9,293.92	1.64	-0.43	-1.59
20,931.00	87.56	179.84	11,862.13	-9,387.70	61.04	9,387.89	2.70	-2.62	-0.66
21,026.00	88.18	180.46	11,865.66	-9,482.63	60.79	9,482.82	0.92	0.65	0.65
21,120.00	88.26	180.90	11,868.58	-9,576.58	59.68	9,576.76	0.48	0.09	0.47
21,214.00	87.74	180.46	11,871.86	-9,670.52	58.56	9,670.68	0.72	-0.55	-0.47
21,309.00	87.43	179.93	11,875.86	-9,765.43	58.24	9,765.59	0.65	-0.33	-0.56
21,403.00	89.41	179.14	11,878.45	-9,859.39	59.00	9,859.55	2.27	2.11	-0.84
21,498.00	89.89	178.44	11,879.03	-9,954.36	61.01	9,954.54	0.89	0.51	-0.74
21,592.00	90.11	178.09	11,879.03	-10,048.32	63.85	10,048.51	0.44	0.23	-0.37
21,686.00	89.85	177.65	11,879.07	-10,142.26	67.35	10,142.47	0.54	-0.28	-0.47
21,777.00	89.67	177.12	11,879.45	-10,233.16	71.50	10,233.41	0.62	-0.20	-0.58
21,807.00	89.32	177.73	11,879.71	-10,263.13	72.85	10,263.38	2.34	-1.17	2.03
Last Aim MWD Survey									
21,866.00	89.32	177.73	11,880.41	-10,322.08	75.18	10,322.35	0.00	0.00	0.00
Projection to BHL									

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Merchant State Unit 602H
Project:	Lea County, New Mexico	TVD Reference:	3686'GL+26.5 @ 3712.50usft (H&P 620)
Site:	Merchant State Unit 602H	MD Reference:	3686'GL+26.5 @ 3712.50usft (H&P 620)
Well:	#602H	North Reference:	Grid
Wellbore:	Aim MWD Surveys	Survey Calculation Method:	Minimum Curvature
Design:	Aim MWD Surveys	Database:	EDM 5000.14 Single User Db

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/S (usft)	+E/W (usft)	
197.00	197.00	0.53	0.74	First Aim MWD Survey
21,807.00	11,879.71	-10,263.13	72.85	Last Aim MWD Survey
21,866.00	11,880.41	-10,322.08	75.18	Projection to BHL