



Directional Drilling

Horizontal Drilling

MWD/LWD

Mud Motors

November 29, 2022

Railroad Commission of Texas  
Oil and Gas Division  
P.O. Box 12967  
Capitol Station  
Austin, Texas 78711

Attention: Pamela Johns

Re: Forge Energy Operating, LLC  
UL Empire 18-15-16 WA1 #1H  
Ward County, Texas  
API No. 42-475-38410

Enclosed, please find the original and one copy of the survey performed on the referenced well by Aim Directional Services, LLC (P-5 No. 009134). Other information required by your office is as follows:

<u>Name &amp; Title of Surveyor</u>	<u>Drainhole Number</u>	<u>Surveyed Depths</u>	<u>Date Performed</u>	<u>Type of Survey</u>
Breana Wooley Performance and Regulatory Manager	Original hole	154' - 21821'	09/20/22 – 11/24/22	MWD

A certified plat on which the bottom hole location is oriented both to the surface location and the lease line (or unit lines in case of pooling) is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.

---

Breana Wooley  
Performance and Regulatory Manager

Enclosures  
cc:



Directional Drilling

Horizontal Drilling

MWD/LWD

Mud Motors

November 29, 2022

State of Texas  
County of Ward

I, Breana Wooley, certify that; I am employed by Aim Directional Services, LLC; that I did on the day(s) of September 20, 2022 through November 24, 2022 conduct or supervise the taking of a directional MWD survey from a depth of 154 feet to a depth of 21821 feet; that the data is true, correct, complete and within the limitations of the tool as set forth by Aim Directional Services, LLC; that I am authorized and qualified to make this report; that this survey was conducted at the request of Forge Energy Operating, LLC for UL Empire 18-15-16 WA1 #1H API No. 42-475-38410 in Ward County, Texas; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by Aim Directional Services, LLC.

---

Breana Wooley  
Performance and Regulatory Manager

# Aim Directional Services

## Survey Report

<b>Company:</b>	Forge Energy II	<b>Local Co-ordinate Reference:</b>	Well UL Empire 18-15-16 WA1 1H
<b>Project:</b>	Ward County, Texas (NAD27)	<b>TVD Reference:</b>	Well @ 2720.00usft
<b>Site:</b>	UL Empire 18-15-16 Pad	<b>MD Reference:</b>	Well @ 2720.00usft
<b>Well:</b>	UL Empire 18-15-16 WA1 1H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Surveys	<b>Database:</b>	EDM 5000.15 Single User Db

<b>Project</b>	Ward County, Texas (NAD27)		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Texas Central 4203		

<b>Site</b>	UL Empire 18-15-16 Pad		
<b>Site Position:</b>		<b>Northing:</b>	701,835.83 usft
<b>From:</b>	Map	<b>Easting:</b>	1,097,437.87 usft
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13-3/16 "
		<b>Latitude:</b>	31° 33' 50.731 N
		<b>Longitude:</b>	103° 13' 53.459 W
		<b>Grid Convergence:</b>	-1.49 °

<b>Well</b>	UL Empire 18-15-16 WA1 1H		
<b>Well Position</b>	<b>+N/-S</b>	0.00 usft	<b>Northing:</b>
	<b>+E/-W</b>	0.00 usft	<b>Easting:</b>
<b>Position Uncertainty</b>	0.00 usft		<b>Wellhead Elevation:</b>
			<b>Latitude:</b>
			<b>Longitude:</b>
			<b>Ground Level:</b>

<b>Wellbore</b>	OH		
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>
	MVHD	10/28/2022	6.75
			<b>Dip Angle (°)</b>
			59.34
			<b>Field Strength (nT)</b>
			47,072.255

<b>Design</b>	Surveys		
<b>Audit Notes:</b>			
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL
		<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>
	0.00	0.00	0.00
			<b>Direction (°)</b>
			163.72

<b>Survey Program</b>	<b>Date</b>	11/23/2022		
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
154.00	21,821.00	Aim MWD Surveys (OH)	MWD+HRGM+FDIR	OWSG MWD + HRGM + FDIR Correction

<b>Survey</b>									
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Vertical Section (usft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.000	0.000
154.00	0.51	344.59	154.00	0.66	-0.18	-0.69	0.331	0.331	0.000
<b>First Aim Svy</b>									
273.00	0.94	347.53	272.99	2.12	-0.53	-2.19	0.363	0.361	2.471
393.00	1.15	354.18	392.97	4.28	-0.87	-4.36	0.202	0.175	5.542
522.00	1.30	100.94	521.95	5.29	0.44	-4.96	1.526	0.116	82.760
617.00	0.71	86.40	616.94	5.13	2.08	-4.34	0.672	-0.621	-15.305
712.00	0.65	68.05	711.93	5.36	3.17	-4.26	0.237	-0.063	-19.316
808.00	0.75	66.32	807.92	5.82	4.25	-4.40	0.106	0.104	-1.802
903.00	1.12	67.17	902.91	6.43	5.68	-4.58	0.390	0.389	0.895
997.00	1.24	61.57	996.89	7.27	7.42	-4.90	0.177	0.128	-5.957

# Aim Directional Services

## Survey Report

<b>Company:</b>	Forge Energy II	<b>Local Co-ordinate Reference:</b>	Well UL Empire 18-15-16 WA1 1H
<b>Project:</b>	Ward County, Texas (NAD27)	<b>TVD Reference:</b>	Well @ 2720.00usft
<b>Site:</b>	UL Empire 18-15-16 Pad	<b>MD Reference:</b>	Well @ 2720.00usft
<b>Well:</b>	UL Empire 18-15-16 WA1 1H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Surveys	<b>Database:</b>	EDM 5000.15 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,093.00	1.26	59.33	1,092.87	8.30	9.24	-5.38	0.055	0.021	-2.333
1,188.00	1.06	55.98	1,187.85	9.33	10.86	-5.91	0.222	-0.211	-3.526
1,283.00	1.15	62.59	1,282.83	10.26	12.44	-6.36	0.164	0.095	6.958
1,376.00	1.29	67.88	1,375.81	11.08	14.24	-6.65	0.193	0.151	5.688
1,471.00	1.31	65.47	1,470.78	11.94	16.22	-6.91	0.061	0.021	-2.537
1,565.00	2.53	68.53	1,564.73	13.14	19.12	-7.25	1.302	1.298	3.255
1,659.00	3.56	72.33	1,658.60	14.79	23.84	-7.51	1.116	1.096	4.043
1,753.00	3.91	70.38	1,752.40	16.75	29.64	-7.77	0.396	0.372	-2.074
1,847.00	4.44	70.59	1,846.15	19.03	36.09	-8.15	0.564	0.564	0.223
1,941.00	4.75	70.99	1,939.84	21.51	43.20	-8.54	0.332	0.330	0.426
2,035.00	5.28	70.86	2,033.48	24.20	50.96	-8.94	0.564	0.564	-0.138
2,129.00	5.60	71.25	2,127.06	27.09	59.39	-9.35	0.343	0.340	0.415
2,223.00	6.16	76.28	2,220.57	29.76	68.64	-9.33	0.809	0.596	5.351
2,318.00	5.78	77.89	2,315.05	31.97	78.26	-8.75	0.437	-0.400	1.695
2,413.00	5.07	72.48	2,409.63	34.24	86.94	-8.49	0.920	-0.747	-5.695
2,507.00	4.62	74.46	2,503.29	36.50	94.55	-8.53	0.511	-0.479	2.106
2,602.00	3.78	77.38	2,598.03	38.21	101.29	-8.29	0.912	-0.884	3.074
2,695.00	2.97	64.43	2,690.87	39.92	106.46	-8.48	1.191	-0.871	-13.925
2,790.00	3.04	56.63	2,785.74	42.37	110.78	-9.62	0.436	0.074	-8.211
2,885.00	3.01	49.46	2,880.61	45.38	114.78	-11.38	0.399	-0.032	-7.547
2,979.00	4.52	65.77	2,974.41	48.50	120.04	-12.91	1.954	1.606	17.351
3,073.00	5.16	79.20	3,068.07	50.81	127.57	-13.02	1.380	0.681	14.287
3,167.00	4.63	78.55	3,161.73	52.36	135.44	-12.29	0.567	-0.564	-0.691
3,262.00	4.26	80.94	3,256.45	53.68	142.68	-11.53	0.435	-0.389	2.516
3,356.00	4.12	81.74	3,350.19	54.71	149.47	-10.62	0.161	-0.149	0.851
3,450.00	2.77	82.31	3,444.02	55.50	155.06	-9.81	1.437	-1.436	0.606
3,544.00	0.48	96.08	3,537.98	55.76	157.70	-9.32	2.454	-2.436	14.649
3,638.00	0.37	236.55	3,631.98	55.55	157.84	-9.08	0.852	-0.117	149.436
3,733.00	0.61	233.23	3,726.97	55.08	157.18	-8.81	0.254	0.253	-3.495
3,828.00	0.49	162.40	3,821.97	54.39	156.90	-8.23	0.679	-0.126	-74.558
3,922.00	0.94	121.65	3,915.96	53.60	157.68	-7.25	0.694	0.479	-43.351
4,016.00	1.22	108.91	4,009.95	52.88	159.28	-6.10	0.391	0.298	-13.553
4,110.00	1.55	99.90	4,103.92	52.33	161.48	-4.97	0.420	0.351	-9.585
4,205.00	0.54	139.31	4,198.90	51.77	163.04	-3.99	1.246	-1.063	41.484
4,299.00	0.46	210.95	4,292.90	51.11	163.13	-3.33	0.626	-0.085	76.213
4,394.00	0.12	218.61	4,387.90	50.71	162.87	-3.02	0.359	-0.358	8.063
4,489.00	0.48	103.92	4,482.90	50.53	163.20	-2.76	0.570	0.379	-120.726
4,584.00	0.51	98.69	4,577.89	50.37	164.00	-2.38	0.057	0.032	-5.505
4,678.00	0.91	87.09	4,671.89	50.35	165.16	-2.03	0.450	0.426	-12.340
4,772.00	0.97	83.60	4,765.87	50.48	166.70	-1.72	0.088	0.064	-3.713
4,867.00	0.93	76.99	4,860.86	50.74	168.25	-1.54	0.123	-0.042	-6.958
4,911.00	0.98	71.47	4,904.86	50.94	168.95	-1.53	0.238	0.114	-12.545
5,041.00	1.01	68.80	5,034.84	51.71	171.07	-1.68	0.042	0.023	-2.054

# Aim Directional Services

## Survey Report

<b>Company:</b>	Forge Energy II	<b>Local Co-ordinate Reference:</b>	Well UL Empire 18-15-16 WA1 1H
<b>Project:</b>	Ward County, Texas (NAD27)	<b>TVD Reference:</b>	Well @ 2720.00usft
<b>Site:</b>	UL Empire 18-15-16 Pad	<b>MD Reference:</b>	Well @ 2720.00usft
<b>Well:</b>	UL Empire 18-15-16 WA1 1H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Surveys	<b>Database:</b>	EDM 5000.15 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,135.00	1.05	69.45	5,128.82	52.31	172.65	-1.81	0.044	0.043	0.691
5,229.00	1.11	51.94	5,222.80	53.17	174.18	-2.21	0.355	0.064	-18.628
5,324.00	0.54	108.91	5,317.80	53.59	175.33	-2.30	0.982	-0.600	59.968
5,419.00	1.00	220.40	5,412.79	52.82	175.21	-1.58	1.367	0.484	117.358
5,514.00	1.67	222.82	5,507.76	51.17	173.73	-0.42	0.708	0.705	2.547
5,609.00	1.66	232.57	5,602.72	49.32	171.70	0.79	0.298	-0.011	10.263
5,704.00	1.63	221.85	5,697.68	47.48	169.71	2.00	0.325	-0.032	-11.284
5,798.00	1.92	224.62	5,791.64	45.36	167.71	3.47	0.322	0.309	2.947
5,892.00	1.75	226.56	5,885.59	43.25	165.56	4.89	0.193	-0.181	2.064
5,986.00	1.92	214.87	5,979.54	40.97	163.62	6.54	0.436	0.181	-12.436
6,080.00	1.27	237.12	6,073.51	39.12	161.84	7.82	0.943	-0.691	23.670
6,175.00	0.14	259.32	6,168.50	38.52	160.84	8.11	1.202	-1.189	23.368
6,269.00	0.23	164.93	6,262.50	38.32	160.78	8.29	0.296	0.096	-100.415
6,363.00	0.24	199.43	6,356.50	37.95	160.76	8.64	0.149	0.011	36.702
6,457.00	0.25	154.56	6,450.50	37.58	160.79	9.00	0.199	0.011	-47.734
6,645.00	0.27	177.49	6,638.50	36.77	160.98	9.83	0.056	0.011	12.197
6,739.00	0.27	180.03	6,732.49	36.33	160.99	10.26	0.013	0.000	2.702
6,834.00	0.57	223.37	6,827.49	35.76	160.67	10.72	0.439	0.316	45.621
6,928.00	0.51	198.25	6,921.49	35.02	160.21	11.30	0.257	-0.064	-26.723
7,023.00	0.76	206.86	7,016.48	34.06	159.80	12.10	0.281	0.263	9.063
7,117.00	0.66	195.37	7,110.47	32.98	159.37	13.02	0.185	-0.106	-12.223
7,212.00	1.38	186.54	7,205.46	31.32	159.10	14.54	0.774	0.758	-9.295
7,307.00	1.60	183.38	7,300.43	28.85	158.89	16.84	0.247	0.232	-3.326
7,401.00	1.52	188.51	7,394.39	26.31	158.63	19.21	0.171	-0.085	5.457
7,496.00	0.87	223.97	7,489.37	24.55	157.94	20.71	1.006	-0.684	37.326
7,591.00	1.24	208.80	7,584.36	23.13	156.94	21.80	0.485	0.389	-15.968
7,685.00	0.44	181.24	7,678.35	21.87	156.45	22.86	0.930	-0.851	-29.319
7,779.00	0.63	13.07	7,772.34	22.02	156.55	22.75	1.132	0.202	-178.904
7,874.00	0.82	12.68	7,867.34	23.19	156.82	21.70	0.200	0.200	-0.411
7,968.00	0.60	8.40	7,961.33	24.33	157.04	20.67	0.241	-0.234	-4.553
8,063.00	0.71	7.04	8,056.32	25.41	157.19	19.67	0.117	0.116	-1.432
8,156.00	0.48	347.28	8,149.32	26.36	157.17	18.76	0.328	-0.247	-21.247
8,250.00	0.09	343.53	8,243.32	26.81	157.06	18.29	0.415	-0.415	-3.989
8,345.00	0.35	207.08	8,338.32	26.63	156.91	18.43	0.442	0.274	-143.631
8,439.00	0.69	339.41	8,432.31	26.90	156.58	18.07	1.023	0.362	140.776
8,532.00	1.24	345.20	8,525.30	28.40	156.13	16.51	0.600	0.591	6.226
8,626.00	1.14	341.88	8,619.28	30.27	155.58	14.56	0.129	-0.106	-3.532
8,720.00	1.01	334.71	8,713.26	31.91	154.93	12.80	0.199	-0.138	-7.628
8,816.00	1.01	320.40	8,809.25	33.33	154.03	11.19	0.262	0.000	-14.906
8,911.00	0.94	310.99	8,904.24	34.48	152.91	9.77	0.184	-0.074	-9.905
9,005.00	0.79	276.73	8,998.22	35.06	151.68	8.86	0.563	-0.160	-36.447
9,099.00	0.62	204.82	9,092.22	34.68	150.83	8.99	0.893	-0.181	-76.500
9,193.00	0.98	200.23	9,186.21	33.46	150.33	10.02	0.389	0.383	-4.883

# Aim Directional Services

## Survey Report

<b>Company:</b>	Forge Energy II	<b>Local Co-ordinate Reference:</b>	Well UL Empire 18-15-16 WA1 1H
<b>Project:</b>	Ward County, Texas (NAD27)	<b>TVD Reference:</b>	Well @ 2720.00usft
<b>Site:</b>	UL Empire 18-15-16 Pad	<b>MD Reference:</b>	Well @ 2720.00usft
<b>Well:</b>	UL Empire 18-15-16 WA1 1H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Surveys	<b>Database:</b>	EDM 5000.15 Single User Db

### Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,287.00	1.43	196.15	9,280.19	31.58	149.73	11.66	0.487	0.479	-4.340
9,382.00	1.23	179.99	9,375.16	29.42	149.40	13.64	0.445	-0.211	-17.010
9,476.00	0.30	125.43	9,469.16	28.27	149.60	14.80	1.153	-0.989	-58.042
9,570.00	0.35	132.12	9,563.15	27.94	150.01	15.24	0.067	0.053	7.117
9,665.00	2.36	163.12	9,658.12	25.87	150.80	17.44	2.177	2.116	32.632
9,759.00	2.41	159.70	9,752.04	22.16	152.05	21.35	0.160	0.053	-3.638
9,853.00	1.46	155.26	9,845.99	19.22	153.23	24.50	1.022	-1.011	-4.723
9,947.00	1.10	196.65	9,939.97	17.27	153.47	26.45	1.027	-0.383	44.032
10,041.00	1.99	209.90	10,033.93	14.99	152.40	28.33	1.014	0.947	14.096
10,135.00	1.42	235.60	10,127.89	12.92	150.63	29.82	1.000	-0.606	27.340
10,229.00	0.60	177.08	10,221.88	11.77	149.69	30.67	1.297	-0.872	-62.255
10,325.00	0.65	182.96	10,317.87	10.72	149.69	31.67	0.085	0.052	6.125
10,419.00	1.07	216.12	10,411.86	9.48	149.14	32.71	0.675	0.447	35.277
10,514.00	1.46	231.15	10,506.84	8.01	147.68	33.71	0.536	0.411	15.821
10,573.00	1.58	238.48	10,565.82	7.11	146.40	34.22	0.387	0.203	12.424
10,642.00	1.93	237.12	10,634.78	5.98	144.61	34.80	0.511	0.507	-1.971
10,711.00	2.35	228.23	10,703.74	4.41	142.58	35.74	0.774	0.609	-12.884
10,758.00	7.20	171.43	10,750.58	0.85	142.30	39.08	13.255	10.319	-120.851
10,804.00	14.25	165.41	10,795.75	-7.49	144.16	47.60	15.498	15.326	-13.087
10,851.00	21.24	162.32	10,840.48	-21.22	148.21	61.91	15.002	14.872	-6.574
10,900.00	27.65	163.44	10,885.07	-40.59	154.15	82.18	13.115	13.082	2.286
10,946.00	30.99	163.96	10,925.17	-62.21	160.47	104.70	7.282	7.261	1.130
10,993.00	34.95	164.42	10,964.59	-86.82	167.43	130.27	8.442	8.426	0.979
11,040.00	35.73	163.37	11,002.93	-112.93	174.97	157.46	2.103	1.660	-2.234
11,088.00	41.04	161.49	11,040.55	-141.33	183.99	187.24	11.326	11.062	-3.917
11,135.00	43.82	160.94	11,075.23	-171.34	194.21	218.92	5.967	5.915	-1.170
11,182.00	47.27	160.47	11,108.14	-203.00	205.29	252.41	7.375	7.340	-1.000
11,229.00	49.47	160.96	11,139.37	-236.16	216.89	287.49	4.745	4.681	1.043
11,276.00	51.81	160.93	11,169.17	-270.50	228.76	323.79	4.979	4.979	-0.064
11,323.00	54.80	159.59	11,197.25	-305.97	241.49	361.40	6.760	6.362	-2.851
11,371.00	59.02	159.63	11,223.45	-343.65	255.50	401.50	8.792	8.792	0.083
11,418.00	63.49	160.91	11,246.05	-382.44	269.40	442.62	9.806	9.511	2.723
11,465.00	69.14	160.46	11,264.92	-423.04	283.63	485.58	12.053	12.021	-0.957
11,512.00	74.54	160.20	11,279.57	-465.07	298.66	530.15	11.501	11.489	-0.553
11,560.00	79.29	161.16	11,290.43	-509.18	314.12	576.82	10.086	9.896	2.000
11,598.00	82.62	160.90	11,296.40	-544.67	326.32	614.30	8.789	8.763	-0.684
11,693.00	86.31	161.10	11,305.57	-634.06	357.10	708.74	3.890	3.884	0.211
11,788.00	89.87	163.06	11,308.73	-724.38	386.30	803.63	4.277	3.747	2.063
11,884.00	90.51	164.27	11,308.41	-816.50	413.30	899.62	1.426	0.667	1.260
11,979.00	91.27	165.02	11,306.94	-908.10	438.46	994.60	1.124	0.800	0.789
12,074.00	92.47	167.31	11,303.84	-1,000.28	461.16	1,089.45	2.720	1.263	2.411
12,169.00	88.41	164.50	11,303.11	-1,092.39	484.29	1,184.35	5.197	-4.274	-2.958
12,264.00	87.99	164.16	11,306.09	-1,183.82	509.93	1,279.30	0.569	-0.442	-0.358
12,359.00	89.03	163.54	11,308.56	-1,275.03	536.35	1,374.27	1.274	1.095	-0.653

# Aim Directional Services

## Survey Report

<b>Company:</b>	Forge Energy II	<b>Local Co-ordinate Reference:</b>	Well UL Empire 18-15-16 WA1 1H
<b>Project:</b>	Ward County, Texas (NAD27)	<b>TVD Reference:</b>	Well @ 2720.00usft
<b>Site:</b>	UL Empire 18-15-16 Pad	<b>MD Reference:</b>	Well @ 2720.00usft
<b>Well:</b>	UL Empire 18-15-16 WA1 1H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Surveys	<b>Database:</b>	EDM 5000.15 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
12,454.00	91.58	164.00	11,308.06	-1,366.24	562.90	1,469.26	2.728	2.684	0.484
12,549.00	92.20	163.58	11,304.92	-1,457.41	589.40	1,564.20	0.788	0.653	-0.442
12,643.00	92.14	163.22	11,301.36	-1,547.43	616.24	1,658.13	0.388	-0.064	-0.383
12,737.00	93.37	163.23	11,296.85	-1,637.32	643.34	1,752.02	1.309	1.309	0.011
12,831.00	92.98	163.68	11,291.64	-1,727.29	670.06	1,845.87	0.633	-0.415	0.479
12,926.00	91.05	161.11	11,288.30	-1,817.78	698.78	1,940.78	3.382	-2.032	-2.705
13,020.00	92.17	162.29	11,285.66	-1,906.98	728.28	2,034.68	1.730	1.191	1.255
13,114.00	91.47	158.77	11,282.67	-1,995.55	759.59	2,128.47	3.816	-0.745	-3.745
13,208.00	93.09	162.99	11,278.93	-2,084.27	790.35	2,222.26	4.805	1.723	4.489
13,302.00	92.65	161.54	11,274.22	-2,173.69	818.95	2,316.11	1.610	-0.468	-1.543
13,396.00	92.21	158.15	11,270.24	-2,261.84	851.30	2,409.79	3.633	-0.468	-3.606
13,490.00	90.16	157.09	11,268.29	-2,348.73	887.08	2,503.23	2.455	-2.181	-1.128
13,585.00	92.46	157.56	11,266.12	-2,436.36	923.69	2,597.61	2.471	2.421	0.495
13,678.00	91.70	160.14	11,262.74	-2,523.03	957.22	2,690.21	2.890	-0.817	2.774
13,772.00	93.46	166.40	11,258.51	-2,612.91	984.24	2,784.06	6.911	1.872	6.660
13,867.00	92.71	168.73	11,253.40	-2,705.54	1,004.67	2,878.70	2.573	-0.789	2.453
13,961.00	88.76	166.65	11,252.19	-2,797.35	1,024.70	2,972.44	4.749	-4.202	-2.213
14,056.00	92.88	168.88	11,250.83	-2,890.16	1,044.83	3,067.17	4.931	4.337	2.347
14,150.00	92.12	167.94	11,246.73	-2,982.15	1,063.70	3,160.76	1.285	-0.809	-1.000
14,243.00	88.28	166.37	11,246.41	-3,072.80	1,084.37	3,253.58	4.461	-4.129	-1.688
14,337.00	89.94	163.85	11,247.87	-3,163.63	1,108.52	3,347.53	3.210	1.766	-2.681
14,432.00	90.41	164.30	11,247.58	-3,254.98	1,134.58	3,442.52	0.685	0.495	0.474
14,526.00	88.20	163.59	11,248.72	-3,345.30	1,160.57	3,536.51	2.469	-2.351	-0.755
14,620.00	91.11	166.37	11,249.28	-3,436.07	1,184.93	3,630.47	4.281	3.096	2.957
14,715.00	93.49	167.40	11,245.47	-3,528.51	1,206.47	3,725.24	2.729	2.505	1.084
14,809.00	92.57	166.69	11,240.50	-3,619.99	1,227.51	3,818.95	1.236	-0.979	-0.755
14,903.00	91.73	165.62	11,236.97	-3,711.19	1,249.99	3,912.79	1.447	-0.894	-1.138
14,997.00	91.50	165.27	11,234.33	-3,802.13	1,273.60	4,006.71	0.445	-0.245	-0.372
15,092.00	91.81	165.13	11,231.58	-3,893.94	1,297.86	4,101.64	0.358	0.326	-0.147
15,186.00	92.03	165.39	11,228.43	-3,984.80	1,321.76	4,195.55	0.362	0.234	0.277
15,281.00	91.33	165.82	11,225.65	-4,076.78	1,345.37	4,290.46	0.865	-0.737	0.453
15,375.00	90.66	166.70	11,224.02	-4,168.07	1,367.69	4,384.35	1.177	-0.713	0.936
15,469.00	87.61	164.30	11,225.43	-4,259.05	1,391.22	4,478.28	4.128	-3.245	-2.553
15,563.00	90.24	169.52	11,227.20	-4,350.55	1,412.49	4,572.08	6.217	2.798	5.553
15,658.00	89.12	163.22	11,227.73	-4,442.83	1,434.87	4,666.92	6.735	-1.179	-6.632
15,752.00	88.79	156.07	11,229.45	-4,530.89	1,467.54	4,760.61	7.613	-0.351	-7.606
15,846.00	86.97	152.11	11,232.93	-4,615.36	1,508.57	4,853.20	4.634	-1.936	-4.213
15,940.00	85.73	154.24	11,238.91	-4,699.07	1,550.90	4,945.42	2.618	-1.319	2.266
16,035.00	86.30	159.82	11,245.52	-4,786.29	1,587.87	5,039.50	5.890	0.600	5.874
16,129.00	90.19	165.62	11,248.40	-4,875.95	1,615.76	5,133.39	7.426	4.138	6.170
16,223.00	88.59	164.64	11,249.40	-4,966.79	1,639.88	5,227.35	1.996	-1.702	-1.043
16,318.00	88.09	163.43	11,252.15	-5,058.09	1,666.00	5,322.31	1.378	-0.526	-1.274
16,412.00	89.04	166.03	11,254.50	-5,148.73	1,690.74	5,416.25	2.944	1.011	2.766

# Aim Directional Services

## Survey Report

<b>Company:</b>	Forge Energy II	<b>Local Co-ordinate Reference:</b>	Well UL Empire 18-15-16 WA1 1H
<b>Project:</b>	Ward County, Texas (NAD27)	<b>TVD Reference:</b>	Well @ 2720.00usft
<b>Site:</b>	UL Empire 18-15-16 Pad	<b>MD Reference:</b>	Well @ 2720.00usft
<b>Well:</b>	UL Empire 18-15-16 WA1 1H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Surveys	<b>Database:</b>	EDM 5000.15 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
16,506.00	86.35	164.09	11,258.29	-5,239.47	1,714.95	5,510.14	3.527	-2.862	-2.064
16,600.00	87.19	164.54	11,263.58	-5,329.82	1,740.32	5,603.98	1.013	0.894	0.479
16,695.00	88.64	164.94	11,267.04	-5,421.41	1,765.31	5,698.90	1.583	1.526	0.421
16,788.00	90.35	165.91	11,267.86	-5,511.41	1,788.71	5,791.85	2.114	1.839	1.043
16,883.00	88.20	164.60	11,269.06	-5,603.27	1,812.89	5,886.80	2.650	-2.263	-1.379
16,977.00	87.89	165.74	11,272.27	-5,694.08	1,836.93	5,980.72	1.256	-0.330	1.213
17,071.00	90.27	167.92	11,273.78	-5,785.58	1,858.34	6,074.55	3.433	2.532	2.319
17,161.00	88.95	165.97	11,274.39	-5,873.25	1,878.67	6,164.40	2.616	-1.467	-2.167
17,255.00	85.96	164.52	11,278.56	-5,964.05	1,902.58	6,258.26	3.534	-3.181	-1.543
17,350.00	84.92	163.18	11,286.12	-6,055.01	1,928.92	6,352.96	1.782	-1.095	-1.411
17,444.00	84.13	162.93	11,295.08	-6,144.52	1,956.19	6,446.52	0.881	-0.840	-0.266
17,539.00	85.51	161.90	11,303.66	-6,234.70	1,984.78	6,541.11	1.810	1.453	-1.084
17,633.00	87.22	161.06	11,309.62	-6,323.65	2,014.57	6,634.84	2.026	1.819	-0.894
17,727.00	88.09	162.71	11,313.47	-6,412.91	2,043.77	6,728.71	1.983	0.926	1.755
17,821.00	89.26	163.30	11,315.64	-6,502.78	2,071.24	6,822.68	1.394	1.245	0.628
17,915.00	88.40	161.61	11,317.56	-6,592.39	2,099.57	6,916.63	2.017	-0.915	-1.798
18,010.00	87.89	162.29	11,320.64	-6,682.66	2,128.99	7,011.53	0.894	-0.537	0.716
18,103.00	90.13	165.71	11,322.24	-6,772.03	2,154.62	7,104.50	4.395	2.409	3.677
18,198.00	90.35	165.11	11,321.84	-6,863.96	2,178.55	7,199.46	0.673	0.232	-0.632
18,292.00	90.72	166.40	11,320.97	-6,955.07	2,201.67	7,293.39	1.428	0.394	1.372
18,386.00	90.58	166.77	11,319.90	-7,046.50	2,223.48	7,387.27	0.421	-0.149	0.394
18,481.00	88.45	165.01	11,320.70	-7,138.62	2,246.64	7,482.19	2.908	-2.242	-1.853
18,575.00	88.00	163.42	11,323.62	-7,229.03	2,272.19	7,576.13	1.757	-0.479	-1.691
18,670.00	88.48	164.42	11,326.53	-7,320.27	2,298.49	7,671.09	1.167	0.505	1.053
18,764.00	88.11	163.39	11,329.33	-7,410.54	2,324.54	7,765.04	1.164	-0.394	-1.096
18,858.00	87.81	163.36	11,332.68	-7,500.55	2,351.42	7,858.98	0.321	-0.319	-0.032
18,952.00	88.37	163.08	11,335.81	-7,590.50	2,378.54	7,952.93	0.666	0.596	-0.298
19,047.00	88.79	164.56	11,338.16	-7,681.71	2,405.01	8,047.89	1.619	0.442	1.558
19,141.00	89.43	166.17	11,339.62	-7,772.64	2,428.75	8,141.84	1.843	0.681	1.713
19,236.00	88.64	163.41	11,341.23	-7,864.29	2,453.67	8,236.80	3.022	-0.832	-2.905
19,330.00	87.44	159.89	11,344.44	-7,953.45	2,483.24	8,330.67	3.954	-1.277	-3.745
19,424.00	88.76	160.80	11,347.56	-8,041.92	2,514.84	8,424.45	1.705	1.404	0.968
19,518.00	87.64	161.52	11,350.51	-8,130.83	2,545.18	8,518.31	1.416	-1.191	0.766
19,613.00	90.91	160.44	11,351.71	-8,220.63	2,576.13	8,613.18	3.625	3.442	-1.137
19,707.00	91.39	161.99	11,349.83	-8,309.60	2,606.39	8,707.07	1.726	0.511	1.649
19,802.00	90.13	161.38	11,348.57	-8,399.78	2,636.24	8,801.99	1.474	-1.326	-0.642
19,895.00	90.80	162.82	11,347.81	-8,488.27	2,664.83	8,894.95	1.708	0.720	1.548
19,989.00	92.00	164.41	11,345.51	-8,578.42	2,691.33	8,988.92	2.119	1.277	1.691
20,083.00	90.15	163.77	11,343.75	-8,668.80	2,717.10	9,082.90	2.082	-1.968	-0.681
20,177.00	91.19	166.22	11,342.65	-8,759.58	2,741.43	9,176.86	2.831	1.106	2.606
20,271.00	91.53	165.81	11,340.42	-8,850.77	2,764.14	9,270.76	0.567	0.362	-0.436
20,366.00	91.08	164.92	11,338.26	-8,942.66	2,788.13	9,365.69	1.050	-0.474	-0.937
20,460.00	90.74	164.80	11,336.76	-9,033.39	2,812.68	9,459.66	0.384	-0.362	-0.128



# Aim Directional Services

## Survey Report

<b>Company:</b>	Forge Energy II	<b>Local Co-ordinate Reference:</b>	Well UL Empire 18-15-16 WA1 1H
<b>Project:</b>	Ward County, Texas (NAD27)	<b>TVD Reference:</b>	Well @ 2720.00usft
<b>Site:</b>	UL Empire 18-15-16 Pad	<b>MD Reference:</b>	Well @ 2720.00usft
<b>Well:</b>	UL Empire 18-15-16 WA1 1H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Surveys	<b>Database:</b>	EDM 5000.15 Single User Db

### Survey

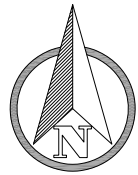
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
20,554.00	90.88	163.24	11,335.43	-9,123.74	2,838.56	9,553.65	1.666	0.149	-1.660
20,648.00	90.12	162.50	11,334.61	-9,213.57	2,866.24	9,647.63	1.128	-0.809	-0.787
20,743.00	90.15	163.71	11,334.39	-9,304.46	2,893.85	9,742.62	1.274	0.032	1.274
20,837.00	89.00	162.24	11,335.09	-9,394.34	2,921.37	9,836.61	1.985	-1.223	-1.564
20,932.00	93.57	165.43	11,332.96	-9,485.52	2,947.80	9,931.55	5.866	4.811	3.358
21,026.00	95.56	165.90	11,325.48	-9,576.30	2,971.00	10,025.19	2.175	2.117	0.500
21,120.00	92.67	165.52	11,318.73	-9,667.15	2,994.14	10,118.88	3.101	-3.074	-0.404
21,214.00	92.50	164.72	11,314.49	-9,757.90	3,018.26	10,212.76	0.869	-0.181	-0.851
21,309.00	90.26	164.36	11,312.20	-9,849.43	3,043.57	10,307.71	2.388	-2.358	-0.379
21,402.00	88.95	163.32	11,312.85	-9,938.75	3,069.46	10,400.71	1.798	-1.409	-1.118
21,496.00	89.84	163.41	11,313.84	-10,028.81	3,096.36	10,494.70	0.952	0.947	0.096
21,590.00	89.95	162.73	11,314.01	-10,118.74	3,123.74	10,588.69	0.733	0.117	-0.723
21,684.00	89.62	161.60	11,314.36	-10,208.22	3,152.53	10,682.66	1.252	-0.351	-1.202
21,754.00	86.82	159.87	11,316.54	-10,274.26	3,175.61	10,752.52	4.701	-4.000	-2.471
Last Aim Svy									
21,821.00	86.82	159.87	11,320.25	-10,337.07	3,198.63	10,819.26	0.000	0.000	0.000
Proj to BHL									

### Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
154.00	154.00	0.66	-0.18	First Aim Svy
21,754.00	11,316.54	-10,274.26	3,175.61	Last Aim Svy
21,821.00	11,320.25	-10,337.07	3,198.63	Proj to BHL

A-U93  
SECTION 14, BLOCK 18

OFFSET OPERATOR:  
FORGE ENERGY  
OPERATING, LLC



0 1000' 2000'

1" = 2000 FEET

LEASE  
#42932 & 82682  
FORGE ENERGY II,  
DELAWARE, LLC

SURFACE HOLE LOCATION  
UL 18 EMPIRE WA1H  
ELEV. = 2,694'

SEE DETAIL 492 POP

2682  
CY II,  
LLC

SURVEY/SECTION/TRACT  
LINE

UNIVERSITY LANDS  
A-U94  
15, BLOCK 18

LEASE #42933  
FORGE ENERGY II,  
DELAWARE, LLC ET AL.  
320.49 ACRES

UNIVERSITY LANDS  
A-U81  
BLOCK 18

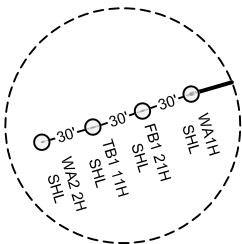
UNIVERSITY LANDS  
A - U80  
SECTION 1, BLOCK 18

UNIVERSITY LANDS  
A-U95  
SECTION 16, BLOCK 18

LEASE #66408  
CONTINENTAL  
RESOURCES INC. (3)  
320.25 ACRES

**A.J. WILSON**  
A-805 SECTION 37

DETAIL  
NOT TO SCALE



LINE	BEARING	DISTANCE
L1	N 73°43'38" E	162.08'
L2	S 16°16'26" E	400.04'
L3	S 16°16'37" E	10371.92'
L4	S 16°16'37" E	50.00'

UL Empire 18-15-16 WA1 #1H  
MD = 21821.00' TVD = 11320.25'  
INC = 86.82° AZM = 159.87°  
N/-S = -10337.07' E/-W = 3198.63'  
Closure = 10820.64' @ 162.81° Azm

UNIVERSITY LANDS  
A-U96  
SECTION 17, BLOCK 18

TRACT #	LEASE	ACRES	LATERAL LENGTH
1	#42933	320.49	5187.20'
2	#61470	320.26	2642.36'
3	#66406	320.25	2542.36'
<b>TOTALS</b>		<b>640.51</b>	<b>10,371.92'</b>

1. COORDINATES SHOWN ARE BASED ON TEXAS PLANE COORDINATE SYSTEM OF NAD 27, TEXAS CENTRAL ZONE 4203
2. VERTICAL DATUM IS NAVD 88
3. LATITUDE AND LONGITUDE ARE NAD 27 AS SHOWN
4. AREA, DISTANCES, AND COORDINATES ARE "GRID".
5. UNITS ARE UNITED STATES SURVEY FOOT.
6. ALL LEASE AND TRACT INFORMATION SHOWN HERE ON IS DONE SO BY LIMITED DEED RECORD INFORMATION ONLY.
7. ALL ACREAGES SHOWN ARE BY DEED AND LEASE CALL, EXCEPT WHERE NOTED.
8. THIS IS NOT IN ANY WAY A "BOUNDARY SURVEY".

## SURVEY LINE



I HEREBY STATE THAT THIS PLAT  
SHOWS THE SUBJECT SURFACE  
LOCATION AS STAKED ON THE GROUND.

JOHN E. KOWALIK  
REGISTERED PROFESSIONAL LAND SURVEYOR  
STATE OF TEXAS NO. 6408

A PROPOSED WELL LOCATION FOR:  
***FORGE ENERGY OPERATING, LLC***  
UL 18 EMPIRE 18-15-16 WA1H

SITUATED IN THE UNIVERSITY LAND SURVEY, A-U93, SECTION 14, BLOCK 18, THE UNIVERSITY LAND SURVEY, A-U94, SECTION 15, BLOCK 18, AND THE UNIVERSITY LAND SURVEY, A-U95, SECTION 16, BLOCK 18, AND BEING APPROXIMATELY 6.6 MILES NORTHEAST OF PYOTE IN WARD COUNTY, TEXAS.

SHL	LTP
300' FSL & 492' FEL	100' FSL & 330' FEL
OUT OF LEASE	<u>NAD 27 TXC</u>
<u>NAD 27 TXC</u>	Y = 691,651.24
Y = 701,946.03	X = 1,100,600.23
X = 1,097,425.52	LAT. = 31.536328 "N
LAT. = 31.564394 "N	LONG. = 103.220518 "W
LONG. = 103.231565 "W	<u>NAD 83 TXC</u>
<u>NAD 83 TXC</u>	Y = 10,534,226.57
Y = 10,544,521.51	X = 1,397,065.45
X = 1,393,890.65	LAT. = 31.536460 "N
LAT. = 31.564526 "N	LONG. = 103.220962 "W
LONG. = 103.232010 "W	
	BHL
POP	50' FSL & 330' FEL
OUT OF LEASE	50' FSL & 330' FEL
<u>NAD 27 TXC</u>	<u>NAD 27 TXC</u>
Y = 701,991.45	Y = 691,603.24
X = 1,097,581.10	X = 1,100,614.24
LAT. = 31.564530 "N	LAT. = 31.536197 "N
LONG. = 103.231070 "W	LONG. = 103.220469 "W
<u>NAD 83 TXC</u>	<u>NAD 83 TXC</u>
Y = 10,544,566.92	Y = 10,534,178.57
X = 1,394,046.23	X = 1,397,079.46
LAT. = 31.564662 "N	LAT. = 31.536329 "N
LONG. = 103.231514 "W	LONG. = 103.220913 "W
FTP	
100' FNLL & 330' FEL	
<u>NAD 27 TXC</u>	
Y = 701,607.44	
X = 1,097,693.21	
LAT. = 31.563483 "N	
LONG. = 103.230678 "W	
<u>NAD 83 TXC</u>	
Y = 10,544,182.91	
X = 1,394,158.34	
LAT. = 31.563614 "N	
LONG. = 103.231122 "W	

DATE: 07-28-2022  
DRAWN BY: RS  
CHECKED BY: CH  
FIELD CREW: MC  
PROJECT NO: 2021121654  
SCALE: 1" = 2000'  
SHEET: 1  
REVISION: 2



550 Bailey Ave., 205 – Fort Worth, TX 76107  
Ph: 817.349.9800 – Fax: 979.732.5271  
TBPE Firm 17957 | TBPLS Firm 10193887  
[www.fscinc.net](http://www.fscinc.net)