



Edge Energy, LLC

Well Name:

GASPERICH 28-27-8H

Project Name:

Sec. 32-T8N-R65W Weld County CO

Pad Name:

Gasperich 32

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Vsect	Departure	Annotation
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	Start Build 2.00
1508.29	20.17	355.85	1487.60	175.16	-12.70	20.42	175.61	Hold 20.17 Inc, 355.85 Az
7004.61	20.17	355.85	6646.99	2064.99	-149.67	240.77	2070.41	KOP 8/100
8155.97	90.12	91.67	7343.00	2298.86	574.55	996.03	2882.16	EP 90.12 Inc, 91.67 Az
18097.06	90.12	91.67	7323.00	2009.64	10511.42	10701.80	12823.23	TD at 18097.06

Geodetic Datum:

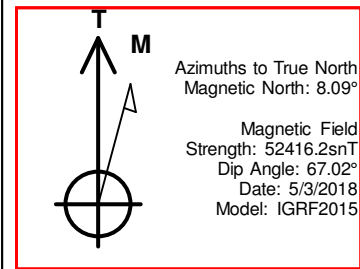
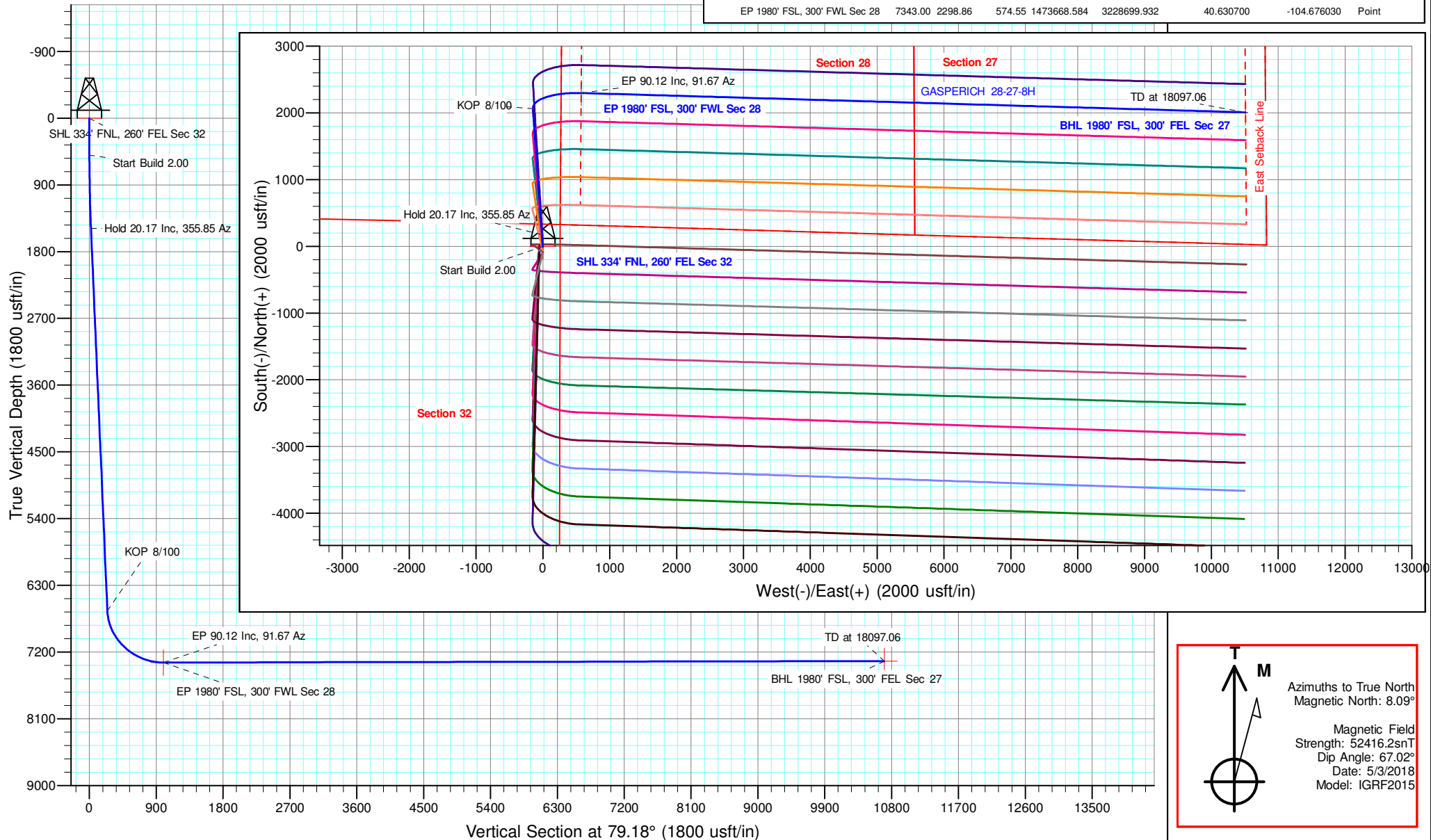
North American Datum 1983
US State Plane 1983 Colorado Northern Zone

Elevation:

Ground Elevation: 4948.00
KB Elevation: WELL @ 4963.00usft (Original Well Elev)

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SHL 334' FNL, 260' FEL Sec 32	0.00	0.00	0.00	1471364.501	3228146.709	40.624390	-104.678100	Point
BHL 1980' FSL, 300' FEL Sec 27	7323.00	2009.64	10511.42	1473471.480	3238639.050	40.629900	-104.640230	Point
EP 1980' FSL, 300' FWL Sec 28	7343.00	2298.86	574.55	1473668.584	3228699.932	40.630700	-104.676030	Point





Edge Energy, LLC

Sec. 32-T8N-R65W Weld County CO

Gasperich 32

GASPERICH 28-27-8H

Wellbore #1

Plan: Design #1 3May18 mnH

Standard Planning Report - Geographic

30 June, 2018



Microsoft
Planning Report - Geographic

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well GASPERICH 28-27-8H
Company:	Edge Energy, LLC	TVD Reference:	WELL @ 4963.00usft (Original Well Elev)
Project:	Sec. 32-T8N-R65W Weld County CO	MD Reference:	WELL @ 4963.00usft (Original Well Elev)
Site:	Gasperich 32	North Reference:	True
Well:	GASPERICH 28-27-8H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 3May18 mnH		

Project	Sec. 32-T8N-R65W Weld County CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	Gasperich 32			
Site Position:		Northing:	1,471,378.614 usft	Latitude: 40.624430
From:	Lat/Long	Easting:	3,228,096.610 usft	Longitude: -104.678280
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence: 0.53 °

Well	GASPERICH 28-27-8H					
Well Position	+N/-S	0.00 usft	Northing:	1,471,364.497 usft	Latitude:	40.624390
	+E/-W	0.00 usft	Easting:	3,228,146.709 usft	Longitude:	-104.678100
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	4,948.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	5/3/2018	8.09	67.02	52,416.19331400

Design	Design #1 3May18 mnH			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	79.18

Plan Survey Tool Program	Date	6/30/2018		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	18,097.06 Design #1 3May18 mnH (Wellbor	MWD	
			OWSG MWD - Standard	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	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	
1,508.29	20.17	355.85	1,487.60	175.16	-12.70	2.00	2.00	0.00	355.85	
7,004.61	20.17	355.85	6,646.99	2,064.99	-149.67	0.00	0.00	0.00	0.00	
8,155.97	90.12	91.67	7,343.00	2,298.86	574.55	8.00	6.08	8.32	95.42	EP 1980' FSL, 300' F'
18,097.06	90.12	91.67	7,323.00	2,009.64	10,511.42	0.00	0.00	0.00	0.00	BHL 1980' FSL, 300'



Microsoft
Planning Report - Geographic

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well GASPERICH 28-27-8H
Company:	Edge Energy, LLC	TVD Reference:	WELL @ 4963.00usft (Original Well Elev)
Project:	Sec. 32-T8N-R65W Weld County CO	MD Reference:	WELL @ 4963.00usft (Original Well Elev)
Site:	Gasperich 32	North Reference:	True
Well:	GASPERICH 28-27-8H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 3May18 mnH		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	1,471,364.497	3,228,146.709	40.624390	-104.678100
200.00	0.00	0.00	200.00	0.00	0.00	1,471,364.497	3,228,146.709	40.624390	-104.678100
400.00	0.00	0.00	400.00	0.00	0.00	1,471,364.497	3,228,146.709	40.624390	-104.678100
500.00	0.00	0.00	500.00	0.00	0.00	1,471,364.497	3,228,146.709	40.624390	-104.678100
Start Build 2.00									
600.00	2.00	355.85	599.98	1.74	-0.13	1,471,366.236	3,228,146.567	40.624395	-104.678101
800.00	6.00	355.85	799.45	15.65	-1.13	1,471,380.139	3,228,145.430	40.624433	-104.678104
1,000.00	10.00	355.85	997.47	43.41	-3.15	1,471,407.875	3,228,143.161	40.624509	-104.678112
1,200.00	14.00	355.85	1,193.06	84.87	-6.15	1,471,449.310	3,228,139.771	40.624623	-104.678122
1,400.00	18.00	355.85	1,385.27	139.85	-10.14	1,471,504.243	3,228,135.277	40.624774	-104.678137
1,508.29	20.17	355.85	1,487.60	175.16	-12.70	1,471,539.527	3,228,132.391	40.624871	-104.678146
Hold 20.17 Inc, 355.85 Az									
1,600.00	20.17	355.85	1,573.69	206.69	-14.98	1,471,571.038	3,228,129.813	40.624957	-104.678154
1,800.00	20.17	355.85	1,761.43	275.46	-19.96	1,471,639.756	3,228,124.192	40.625146	-104.678172
2,000.00	20.17	355.85	1,949.17	344.22	-24.95	1,471,708.474	3,228,118.571	40.625335	-104.678190
2,200.00	20.17	355.85	2,136.91	412.99	-29.93	1,471,777.192	3,228,112.949	40.625524	-104.678208
2,400.00	20.17	355.85	2,324.65	481.76	-34.92	1,471,845.910	3,228,107.328	40.625712	-104.678226
2,600.00	20.17	355.85	2,512.39	550.52	-39.90	1,471,914.628	3,228,101.706	40.625901	-104.678244
2,800.00	20.17	355.85	2,700.13	619.29	-44.89	1,471,983.346	3,228,096.085	40.626090	-104.678262
3,000.00	20.17	355.85	2,887.87	688.06	-49.87	1,472,052.064	3,228,090.464	40.626279	-104.678280
3,200.00	20.17	355.85	3,075.61	756.83	-54.85	1,472,120.783	3,228,084.842	40.626467	-104.678298
3,400.00	20.17	355.85	3,263.35	825.59	-59.84	1,472,189.501	3,228,079.221	40.626656	-104.678316
3,600.00	20.17	355.85	3,451.09	894.36	-64.82	1,472,258.219	3,228,073.599	40.626845	-104.678334
3,800.00	20.17	355.85	3,638.83	963.13	-69.81	1,472,326.937	3,228,067.978	40.627034	-104.678352
4,000.00	20.17	355.85	3,826.57	1,031.90	-74.79	1,472,395.655	3,228,062.357	40.627222	-104.678370
4,200.00	20.17	355.85	4,014.31	1,100.66	-79.78	1,472,464.373	3,228,056.735	40.627411	-104.678388
4,400.00	20.17	355.85	4,202.05	1,169.43	-84.76	1,472,533.091	3,228,051.114	40.627600	-104.678406
4,600.00	20.17	355.85	4,389.79	1,238.20	-89.74	1,472,601.809	3,228,045.493	40.627789	-104.678424
4,800.00	20.17	355.85	4,577.53	1,306.96	-94.73	1,472,670.527	3,228,039.871	40.627977	-104.678442
5,000.00	20.17	355.85	4,765.27	1,375.73	-99.71	1,472,739.246	3,228,034.250	40.628166	-104.678459
5,200.00	20.17	355.85	4,953.01	1,444.50	-104.70	1,472,807.964	3,228,028.628	40.628355	-104.678477
5,400.00	20.17	355.85	5,140.75	1,513.27	-109.68	1,472,876.682	3,228,023.007	40.628544	-104.678495
5,600.00	20.17	355.85	5,328.49	1,582.03	-114.67	1,472,945.400	3,228,017.386	40.628733	-104.678513
5,800.00	20.17	355.85	5,516.22	1,650.80	-119.65	1,473,014.118	3,228,011.764	40.628921	-104.678531
6,000.00	20.17	355.85	5,703.96	1,719.57	-124.63	1,473,082.836	3,228,006.143	40.629110	-104.678549
6,200.00	20.17	355.85	5,891.70	1,788.34	-129.62	1,473,151.554	3,228,000.521	40.629299	-104.678567
6,400.00	20.17	355.85	6,079.44	1,857.10	-134.60	1,473,220.272	3,227,994.900	40.629488	-104.678585
6,600.00	20.17	355.85	6,267.18	1,925.87	-139.59	1,473,288.990	3,227,989.279	40.629676	-104.678603
6,800.00	20.17	355.85	6,454.92	1,994.64	-144.57	1,473,357.709	3,227,983.657	40.629865	-104.678621
7,000.00	20.17	355.85	6,642.66	2,063.40	-149.55	1,473,426.427	3,227,978.036	40.630054	-104.678639
7,004.61	20.17	355.85	6,646.99	2,064.99	-149.67	1,473,428.009	3,227,977.906	40.630058	-104.678639
KOP 8/100									
7,200.00	24.11	36.90	6,829.00	2,130.91	-128.01	1,473,494.125	3,227,998.956	40.630239	-104.678561
7,400.00	35.28	60.53	7,003.04	2,192.39	-52.70	1,473,556.302	3,228,073.689	40.630408	-104.678290
7,600.00	48.96	73.08	7,151.30	2,243.09	70.54	1,473,608.140	3,228,196.459	40.630547	-104.677846
7,800.00	63.51	81.13	7,262.29	2,279.07	232.18	1,473,645.624	3,228,357.753	40.630646	-104.677264
8,000.00	78.41	87.33	7,327.42	2,297.56	419.68	1,473,665.849	3,228,545.076	40.630697	-104.676588
8,155.97	90.12	91.67	7,343.00	2,298.86	574.55	1,473,668.584	3,228,699.932	40.630700	-104.676030
EP 90.12 Inc, 91.67 Az									
8,200.00	90.12	91.67	7,342.91	2,297.58	618.57	1,473,667.711	3,228,743.953	40.630697	-104.675872
8,400.00	90.12	91.67	7,342.51	2,291.76	818.48	1,473,663.746	3,228,943.914	40.630681	-104.675151
8,600.00	90.12	91.67	7,342.11	2,285.94	1,018.40	1,473,659.780	3,229,143.874	40.630665	-104.674431
8,800.00	90.12	91.67	7,341.70	2,280.12	1,218.31	1,473,655.815	3,229,343.834	40.630649	-104.673711
9,000.00	90.12	91.67	7,341.30	2,274.31	1,418.23	1,473,651.850	3,229,543.795	40.630633	-104.672991



Microsoft
Planning Report - Geographic

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well GASPERICH 28-27-8H
Company:	Edge Energy, LLC	TVD Reference:	WELL @ 4963.00usft (Original Well Elev)
Project:	Sec. 32-T8N-R65W Weld County CO	MD Reference:	WELL @ 4963.00usft (Original Well Elev)
Site:	Gasperich 32	North Reference:	True
Well:	GASPERICH 28-27-8H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 3May18 mnH		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
9,200.00	90.12	91.67	7,340.90	2,268.49	1,618.14	1,473,647.884	3,229,743.755	40.630617	-104.672270	
9,400.00	90.12	91.67	7,340.50	2,262.67	1,818.06	1,473,643.919	3,229,943.715	40.630601	-104.671550	
9,600.00	90.12	91.67	7,340.09	2,256.85	2,017.97	1,473,639.953	3,230,143.675	40.630585	-104.670830	
9,800.00	90.12	91.67	7,339.69	2,251.03	2,217.89	1,473,635.988	3,230,343.636	40.630569	-104.670110	
10,000.00	90.12	91.67	7,339.29	2,245.21	2,417.80	1,473,632.022	3,230,543.596	40.630553	-104.669389	
10,200.00	90.12	91.67	7,338.89	2,239.39	2,617.72	1,473,628.057	3,230,743.556	40.630536	-104.668669	
10,400.00	90.12	91.67	7,338.49	2,233.58	2,817.63	1,473,624.092	3,230,943.516	40.630520	-104.667949	
10,600.00	90.12	91.67	7,338.08	2,227.76	3,017.55	1,473,620.126	3,231,143.477	40.630504	-104.667229	
10,800.00	90.12	91.67	7,337.68	2,221.94	3,217.46	1,473,616.161	3,231,343.437	40.630488	-104.666508	
11,000.00	90.12	91.67	7,337.28	2,216.12	3,417.38	1,473,612.195	3,231,543.397	40.630472	-104.665788	
11,200.00	90.12	91.67	7,336.88	2,210.30	3,617.29	1,473,608.230	3,231,743.358	40.630456	-104.665068	
11,400.00	90.12	91.67	7,336.47	2,204.48	3,817.21	1,473,604.264	3,231,943.319	40.630440	-104.664348	
11,600.00	90.12	91.67	7,336.07	2,198.66	4,017.12	1,473,600.299	3,232,143.279	40.630424	-104.663627	
11,800.00	90.12	91.67	7,335.67	2,192.84	4,217.04	1,473,596.333	3,232,343.239	40.630408	-104.662907	
12,000.00	90.12	91.67	7,335.27	2,187.03	4,416.95	1,473,592.368	3,232,543.200	40.630392	-104.662187	
12,200.00	90.12	91.67	7,334.86	2,181.21	4,616.87	1,473,588.403	3,232,743.160	40.630376	-104.661467	
12,400.00	90.12	91.67	7,334.46	2,175.39	4,816.78	1,473,584.437	3,232,943.120	40.630360	-104.660746	
12,600.00	90.12	91.67	7,334.06	2,169.57	5,016.69	1,473,580.472	3,233,143.080	40.630344	-104.660026	
12,800.00	90.12	91.67	7,333.66	2,163.75	5,216.61	1,473,576.506	3,233,343.041	40.630328	-104.659306	
13,000.00	90.12	91.67	7,333.25	2,157.93	5,416.52	1,473,572.541	3,233,543.001	40.630312	-104.658586	
13,200.00	90.12	91.67	7,332.85	2,152.11	5,616.44	1,473,568.575	3,233,742.961	40.630296	-104.657866	
13,400.00	90.12	91.67	7,332.45	2,146.30	5,816.35	1,473,564.610	3,233,942.921	40.630279	-104.657145	
13,600.00	90.12	91.67	7,332.05	2,140.48	6,016.27	1,473,560.645	3,234,142.882	40.630263	-104.656425	
13,800.00	90.12	91.67	7,331.65	2,134.66	6,216.18	1,473,556.679	3,234,342.842	40.630247	-104.655705	
14,000.00	90.12	91.67	7,331.24	2,128.84	6,416.10	1,473,552.714	3,234,542.802	40.630231	-104.654985	
14,200.00	90.12	91.67	7,330.84	2,123.02	6,616.01	1,473,548.748	3,234,742.763	40.630215	-104.654264	
14,400.00	90.12	91.67	7,330.44	2,117.20	6,815.93	1,473,544.783	3,234,942.723	40.630199	-104.653544	
14,600.00	90.12	91.67	7,330.04	2,111.38	7,015.84	1,473,540.817	3,235,142.683	40.630183	-104.652824	
14,800.00	90.12	91.67	7,329.63	2,105.57	7,215.76	1,473,536.852	3,235,342.643	40.630167	-104.652104	
15,000.00	90.12	91.67	7,329.23	2,099.75	7,415.67	1,473,532.886	3,235,542.604	40.630151	-104.651383	
15,200.00	90.12	91.67	7,328.83	2,093.93	7,615.59	1,473,528.921	3,235,742.564	40.630134	-104.650663	
15,400.00	90.12	91.67	7,328.43	2,088.11	7,815.50	1,473,524.956	3,235,942.524	40.630118	-104.649943	
15,600.00	90.12	91.67	7,328.02	2,082.29	8,015.42	1,473,520.990	3,236,142.484	40.630102	-104.649223	
15,800.00	90.12	91.67	7,327.62	2,076.47	8,215.33	1,473,517.025	3,236,342.445	40.630086	-104.648502	
16,000.00	90.12	91.67	7,327.22	2,070.65	8,415.25	1,473,513.059	3,236,542.405	40.630070	-104.647782	
16,200.00	90.12	91.67	7,326.82	2,064.84	8,615.16	1,473,509.094	3,236,742.365	40.630054	-104.647062	
16,400.00	90.12	91.67	7,326.41	2,059.02	8,815.08	1,473,505.128	3,236,942.326	40.630037	-104.646342	
16,600.00	90.12	91.67	7,326.01	2,053.20	9,014.99	1,473,501.163	3,237,142.286	40.630021	-104.645621	
16,800.00	90.12	91.67	7,325.61	2,047.38	9,214.91	1,473,497.198	3,237,342.246	40.630005	-104.644901	
17,000.00	90.12	91.67	7,325.21	2,041.56	9,414.82	1,473,493.232	3,237,542.206	40.629989	-104.644181	
17,200.00	90.12	91.67	7,324.80	2,035.74	9,614.74	1,473,489.267	3,237,742.167	40.629973	-104.643461	
17,400.00	90.12	91.67	7,324.40	2,029.92	9,814.65	1,473,485.301	3,237,942.127	40.629957	-104.642741	
17,600.00	90.12	91.67	7,324.00	2,024.11	10,014.57	1,473,481.336	3,238,142.087	40.629940	-104.642020	
17,800.00	90.12	91.67	7,323.60	2,018.29	10,214.48	1,473,477.370	3,238,342.047	40.629924	-104.641300	
18,000.00	90.12	91.67	7,323.20	2,012.47	10,414.40	1,473,473.405	3,238,542.008	40.629908	-104.640580	
18,097.06	90.12	91.67	7,323.00	2,009.64	10,511.42	1,473,471.480	3,238,639.050	40.629900	-104.640230	
TD at 18097.06										



Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well GASPERICH 28-27-8H
Company:	Edge Energy, LLC	TVD Reference:	WELL @ 4963.00usft (Original Well Elev)
Project:	Sec. 32-T8N-R65W Weld County CO	MD Reference:	WELL @ 4963.00usft (Original Well Elev)
Site:	Gasperich 32	North Reference:	True
Well:	GASPERICH 28-27-8H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 3May18 mnH		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
SHL 334' FNL, 260' FEL - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	1,471,364.501	3,228,146.709	40.624390	-104.678100
BHL 1980' FSL, 300' FE - plan hits target center - Point	0.00	0.00	7,323.00	2,009.64	10,511.42	1,473,471.480	3,238,639.050	40.629900	-104.640230
EP 1980' FSL, 300' FWL - plan hits target center - Point	0.00	0.00	7,343.00	2,298.86	574.55	1,473,668.584	3,228,699.932	40.630700	-104.676030

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
500.00	500.00	0.00	0.00	Start Build 2.00
1,508.29	1,487.60	175.16	-12.70	Hold 20.17 Inc, 355.85 Az
7,004.61	6,646.99	2,064.99	-149.67	KOP 8/100
8,155.97	7,343.00	2,298.86	574.55	EP 90.12 Inc, 91.67 Az
18,097.06	7,323.00	2,009.64	10,511.42	TD at 18097.06