



Edge Energy, LLC

Well Name:

GASPERICH 33-34-12H

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
2338.11	36.76	181.44	2214.56	-569.55	-14.30	223.77	569.73	Hold 36.76 Inc, 181.44 Az
8126.94	36.76	181.44	6852.14	-4033.05	-101.29	1584.56	4034.32	KOP 8/100
9250.65	90.23	91.92	7422.00	-4484.73	602.48	2412.40	4948.53	EP 90.23 Inc, 91.92 Az
19193.20	90.23	91.92	7382.00	-4817.65	10539.37	11588.27	14890.99	TD at 19193.20

Geodetic Datum:

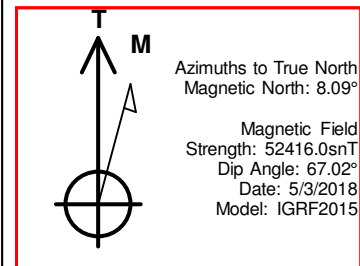
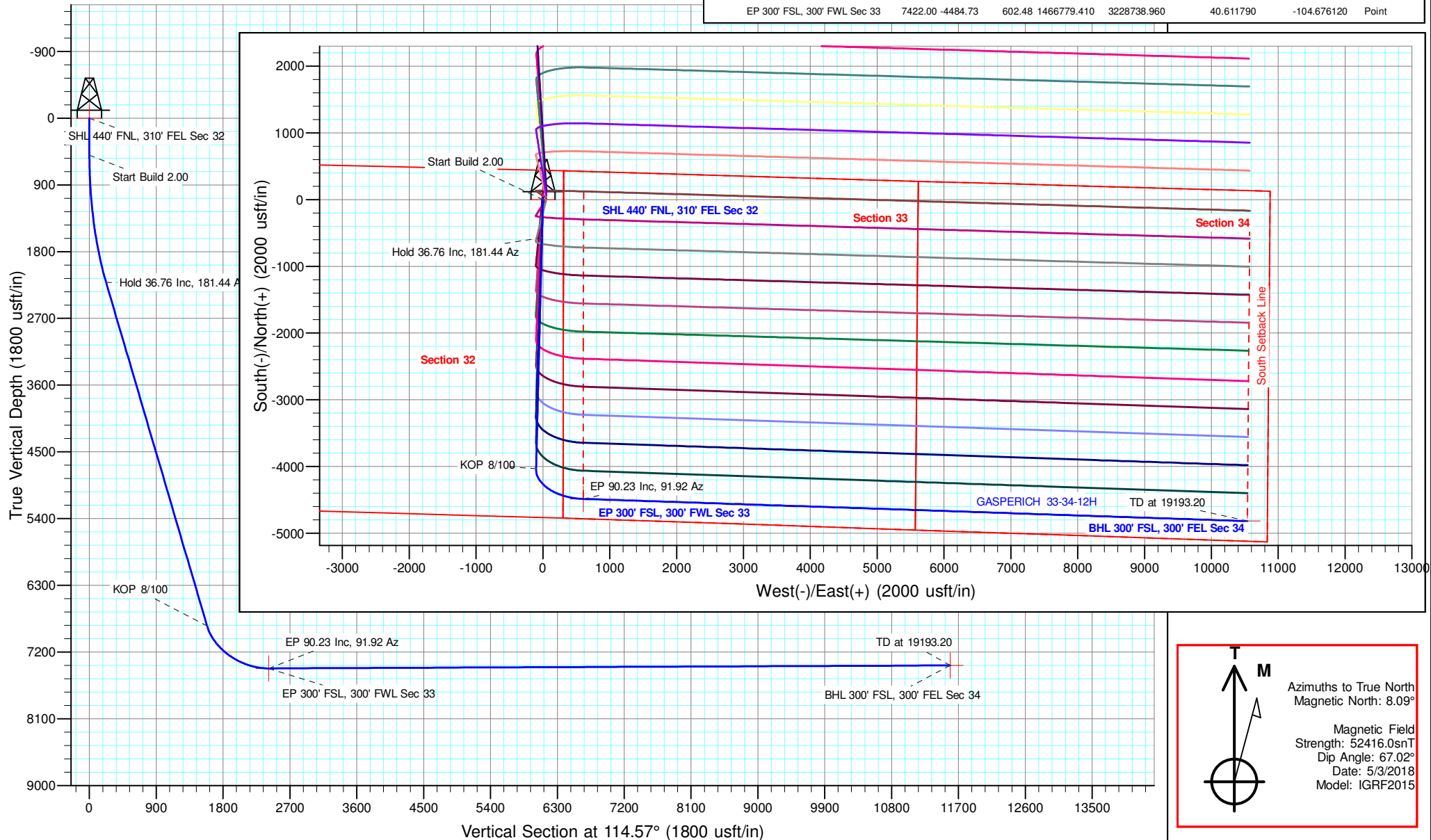
North American Datum 1983
US State Plane 1983 Colorado Northern Zone

Elevation:

Ground Elevation: 4947.00
KB Elevation: WELL @ 4962.00usft (Original Well Elev)

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SHL 440' FNL, 310' FEL Sec 32	0.00	0.00	0.00	1471258.365	3228094.949	40.624100	-104.678290	Point
BHL 300' FSL, 300' FEL Sec 34	7382.00	-4817.65	10539.37	1466538.582	3238678.506	40.610870	-104.640330	Point
EP 300' FSL, 300' FWL Sec 33	7422.00	-4484.73	602.48	1466779.410	3228738.960	40.611790	-104.676120	Point





Edge Energy, LLC

Sec. 32-T8N-R65W Weld County CO

Gasperich 32

GASPERICH 33-34-12H

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 33-34-12H
Company:	Edge Energy, LLC	TVD Reference:	WELL @ 4962.00usft (Original Well Elev)
Project:	Sec. 32-T8N-R65W Weld County CO	MD Reference:	WELL @ 4962.00usft (Original Well Elev)
Site:	Gasperich 32	North Reference:	True
Well:	GASPERICH 33-34-12H	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 33-34-12H					
Well Position	+N/-S	0.00 usft	Northing:	1,471,258.361 usft	Latitude:	40.624100
	+E/-W	0.00 usft	Easting:	3,228,094.949 usft	Longitude:	-104.678290
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	4,947.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	5/3/2018	8.09	67.02	52,416.03243241

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	114.57

Plan Survey Tool Program	Date	6/30/2018		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	19,193.20 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	
2,338.11	36.76	181.44	2,214.56	-569.55	-14.30	2.00	2.00	0.00	181.44	
8,126.94	36.76	181.44	6,852.14	-4,033.05	-101.29	0.00	0.00	0.00	0.00	
9,250.65	90.23	91.92	7,422.00	-4,484.73	602.48	8.00	4.76	-7.97	-89.48	EP 300' FSL, 300' FW
19,193.20	90.23	91.92	7,382.00	-4,817.65	10,539.37	0.00	0.00	0.00	0.00	BHL 300' FSL, 300' FI



Microsoft
Planning Report - Geographic

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well GASPERICH 33-34-12H
Company:	Edge Energy, LLC	TVD Reference:	WELL @ 4962.00usft (Original Well Elev)
Project:	Sec. 32-T8N-R65W Weld County CO	MD Reference:	WELL @ 4962.00usft (Original Well Elev)
Site:	Gasperich 32	North Reference:	True
Well:	GASPERICH 33-34-12H	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	1,471,258.361	3,228,094.949	40.624100	-104.678290
200.00	0.00	0.00	200.00	0.00	0.00	1,471,258.361	3,228,094.949	40.624100	-104.678290
400.00	0.00	0.00	400.00	0.00	0.00	1,471,258.361	3,228,094.949	40.624100	-104.678290
500.00	0.00	0.00	500.00	0.00	0.00	1,471,258.361	3,228,094.949	40.624100	-104.678290
Start Build 2.00									
600.00	2.00	181.44	599.98	-1.74	-0.04	1,471,256.616	3,228,094.921	40.624095	-104.678290
800.00	6.00	181.44	799.45	-15.69	-0.39	1,471,242.669	3,228,094.700	40.624057	-104.678292
1,000.00	10.00	181.44	997.47	-43.51	-1.09	1,471,214.844	3,228,094.259	40.623981	-104.678294
1,200.00	14.00	181.44	1,193.06	-85.07	-2.14	1,471,173.275	3,228,093.601	40.623867	-104.678298
1,400.00	18.00	181.44	1,385.27	-140.17	-3.52	1,471,118.166	3,228,092.727	40.623715	-104.678303
1,600.00	22.00	181.44	1,573.17	-208.54	-5.24	1,471,049.784	3,228,091.644	40.623528	-104.678309
1,800.00	26.00	181.44	1,755.84	-289.84	-7.28	1,470,968.464	3,228,090.356	40.623304	-104.678316
2,000.00	30.00	181.44	1,932.39	-383.69	-9.64	1,470,874.600	3,228,088.869	40.623047	-104.678325
2,200.00	34.00	181.44	2,101.97	-489.62	-12.30	1,470,768.651	3,228,087.190	40.622756	-104.678335
2,338.11	36.76	181.44	2,214.56	-569.55	-14.30	1,470,688.700	3,228,085.923	40.622537	-104.678342
Hold 36.76 Inc, 181.44 Az									
2,400.00	36.76	181.44	2,264.14	-606.58	-15.23	1,470,651.665	3,228,085.337	40.622435	-104.678345
2,600.00	36.76	181.44	2,424.37	-726.24	-18.24	1,470,531.981	3,228,083.440	40.622107	-104.678356
2,800.00	36.76	181.44	2,584.59	-845.90	-21.24	1,470,412.297	3,228,081.544	40.621778	-104.678367
3,000.00	36.76	181.44	2,744.82	-965.57	-24.25	1,470,292.613	3,228,079.648	40.621450	-104.678378
3,200.00	36.76	181.44	2,905.04	-1,085.23	-27.25	1,470,172.928	3,228,077.752	40.621121	-104.678388
3,400.00	36.76	181.44	3,065.27	-1,204.89	-30.26	1,470,053.244	3,228,075.856	40.620793	-104.678399
3,600.00	36.76	181.44	3,225.50	-1,324.55	-33.26	1,469,933.560	3,228,073.959	40.620464	-104.678410
3,800.00	36.76	181.44	3,385.72	-1,444.21	-36.27	1,469,813.876	3,228,072.063	40.620136	-104.678421
4,000.00	36.76	181.44	3,545.95	-1,563.87	-39.27	1,469,694.192	3,228,070.167	40.619807	-104.678432
4,200.00	36.76	181.44	3,706.17	-1,683.53	-42.28	1,469,574.508	3,228,068.271	40.619479	-104.678443
4,400.00	36.76	181.44	3,866.40	-1,803.20	-45.29	1,469,454.823	3,228,066.375	40.619151	-104.678453
4,600.00	36.76	181.44	4,026.62	-1,922.86	-48.29	1,469,335.139	3,228,064.478	40.618822	-104.678464
4,800.00	36.76	181.44	4,186.85	-2,042.52	-51.30	1,469,215.455	3,228,062.582	40.618494	-104.678475
5,000.00	36.76	181.44	4,347.07	-2,162.18	-54.30	1,469,095.771	3,228,060.686	40.618165	-104.678486
5,200.00	36.76	181.44	4,507.30	-2,281.84	-57.31	1,468,976.087	3,228,058.790	40.617837	-104.678497
5,400.00	36.76	181.44	4,667.52	-2,401.50	-60.31	1,468,856.402	3,228,056.894	40.617508	-104.678508
5,600.00	36.76	181.44	4,827.75	-2,521.16	-63.32	1,468,736.718	3,228,054.997	40.617180	-104.678518
5,800.00	36.76	181.44	4,987.97	-2,640.83	-66.32	1,468,617.034	3,228,053.101	40.616851	-104.678529
6,000.00	36.76	181.44	5,148.20	-2,760.49	-69.33	1,468,497.350	3,228,051.205	40.616523	-104.678540
6,200.00	36.76	181.44	5,308.42	-2,880.15	-72.33	1,468,377.666	3,228,049.309	40.616194	-104.678551
6,400.00	36.76	181.44	5,468.65	-2,999.81	-75.34	1,468,257.982	3,228,047.413	40.615866	-104.678562
6,600.00	36.76	181.44	5,628.87	-3,119.47	-78.34	1,468,138.297	3,228,045.516	40.615538	-104.678572
6,800.00	36.76	181.44	5,789.10	-3,239.13	-81.35	1,468,018.613	3,228,043.620	40.615209	-104.678583
7,000.00	36.76	181.44	5,949.32	-3,358.79	-84.35	1,467,898.929	3,228,041.724	40.614881	-104.678594
7,200.00	36.76	181.44	6,109.55	-3,478.46	-87.36	1,467,779.245	3,228,039.828	40.614552	-104.678605
7,400.00	36.76	181.44	6,269.77	-3,598.12	-90.36	1,467,659.561	3,228,037.932	40.614224	-104.678616
7,600.00	36.76	181.44	6,430.00	-3,717.78	-93.37	1,467,539.876	3,228,036.035	40.613895	-104.678627
7,800.00	36.76	181.44	6,590.22	-3,837.44	-96.37	1,467,420.192	3,228,034.139	40.613567	-104.678637
8,000.00	36.76	181.44	6,750.45	-3,957.10	-99.38	1,467,300.508	3,228,032.243	40.613238	-104.678648
8,126.94	36.76	181.44	6,852.14	-4,033.05	-101.29	1,467,224.547	3,228,031.040	40.613030	-104.678655
KOP 8/100									
8,200.00	37.21	171.74	6,910.55	-4,076.81	-98.66	1,467,180.813	3,228,034.071	40.612910	-104.678646
8,400.00	42.13	147.75	7,065.36	-4,194.16	-53.89	1,467,063.880	3,228,079.926	40.612588	-104.678484
8,600.00	51.00	129.31	7,203.34	-4,300.83	42.67	1,466,958.109	3,228,177.467	40.612295	-104.678137
8,800.00	62.08	115.41	7,313.81	-4,388.55	183.53	1,466,871.697	3,228,319.136	40.612054	-104.677629
9,000.00	74.28	104.23	7,388.21	-4,450.53	357.78	1,466,811.337	3,228,493.957	40.611884	-104.677002
9,200.00	86.98	94.35	7,420.77	-4,481.96	551.93	1,466,781.708	3,228,688.385	40.611798	-104.676302



Microsoft
Planning Report - Geographic

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well GASPERICH 33-34-12H
Company:	Edge Energy, LLC	TVD Reference:	WELL @ 4962.00usft (Original Well Elev)
Project:	Sec. 32-T8N-R65W Weld County CO	MD Reference:	WELL @ 4962.00usft (Original Well Elev)
Site:	Gasperich 32	North Reference:	True
Well:	GASPERICH 33-34-12H	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
9,250.65	90.23	91.92	7,422.00	-4,484.73	602.48	1,466,779.411	3,228,738.959	40.611790	-104.676120
EP 90.23 Inc, 91.92 Az									
9,400.00	90.23	91.92	7,421.40	-4,489.73	751.74	1,466,775.793	3,228,888.263	40.611776	-104.675583
9,600.00	90.23	91.92	7,420.59	-4,496.42	951.63	1,466,770.949	3,229,088.202	40.611758	-104.674863
9,800.00	90.23	91.92	7,419.79	-4,503.12	1,151.52	1,466,766.104	3,229,288.142	40.611740	-104.674143
10,000.00	90.23	91.92	7,418.99	-4,509.82	1,351.40	1,466,761.260	3,229,488.082	40.611721	-104.673423
10,200.00	90.23	91.92	7,418.18	-4,516.51	1,551.29	1,466,756.416	3,229,688.022	40.611703	-104.672703
10,400.00	90.23	91.92	7,417.38	-4,523.21	1,751.17	1,466,751.571	3,229,887.961	40.611684	-104.671983
10,600.00	90.23	91.92	7,416.57	-4,529.91	1,951.06	1,466,746.727	3,230,087.901	40.611666	-104.671263
10,800.00	90.23	91.92	7,415.77	-4,536.61	2,150.95	1,466,741.882	3,230,287.841	40.611647	-104.670543
11,000.00	90.23	91.92	7,414.96	-4,543.30	2,350.83	1,466,737.038	3,230,487.780	40.611629	-104.669823
11,200.00	90.23	91.92	7,414.16	-4,550.00	2,550.72	1,466,732.193	3,230,687.720	40.611611	-104.669103
11,400.00	90.23	91.92	7,413.35	-4,556.70	2,750.61	1,466,727.349	3,230,887.660	40.611592	-104.668383
11,600.00	90.23	91.92	7,412.55	-4,563.39	2,950.49	1,466,722.505	3,231,087.599	40.611574	-104.667663
11,800.00	90.23	91.92	7,411.74	-4,570.09	3,150.38	1,466,717.660	3,231,287.539	40.611555	-104.666943
12,000.00	90.23	91.92	7,410.94	-4,576.79	3,350.26	1,466,712.816	3,231,487.479	40.611537	-104.666223
12,200.00	90.23	91.92	7,410.13	-4,583.48	3,550.15	1,466,707.971	3,231,687.418	40.611518	-104.665503
12,400.00	90.23	91.92	7,409.33	-4,590.18	3,750.04	1,466,703.127	3,231,887.359	40.611500	-104.664784
12,600.00	90.23	91.92	7,408.53	-4,596.88	3,949.92	1,466,698.283	3,232,087.299	40.611481	-104.664064
12,800.00	90.23	91.92	7,407.72	-4,603.57	4,149.81	1,466,693.438	3,232,287.239	40.611463	-104.663344
13,000.00	90.23	91.92	7,406.92	-4,610.27	4,349.69	1,466,688.594	3,232,487.178	40.611444	-104.662624
13,200.00	90.23	91.92	7,406.11	-4,616.97	4,549.58	1,466,683.749	3,232,687.118	40.611426	-104.661904
13,400.00	90.23	91.92	7,405.31	-4,623.67	4,749.47	1,466,678.905	3,232,887.058	40.611407	-104.661184
13,600.00	90.23	91.92	7,404.50	-4,630.36	4,949.35	1,466,674.061	3,233,086.997	40.611389	-104.660464
13,800.00	90.23	91.92	7,403.70	-4,637.06	5,149.24	1,466,669.216	3,233,286.937	40.611370	-104.659744
14,000.00	90.23	91.92	7,402.89	-4,643.76	5,349.13	1,466,664.372	3,233,486.877	40.611352	-104.659024
14,200.00	90.23	91.92	7,402.09	-4,650.45	5,549.01	1,466,659.527	3,233,686.816	40.611333	-104.658304
14,400.00	90.23	91.92	7,401.28	-4,657.15	5,748.90	1,466,654.683	3,233,886.756	40.611315	-104.657584
14,600.00	90.23	91.92	7,400.48	-4,663.85	5,948.78	1,466,649.839	3,234,086.696	40.611296	-104.656864
14,800.00	90.23	91.92	7,399.67	-4,670.54	6,148.67	1,466,644.994	3,234,286.635	40.611278	-104.656144
15,000.00	90.23	91.92	7,398.87	-4,677.24	6,348.56	1,466,640.150	3,234,486.575	40.611259	-104.655424
15,200.00	90.23	91.92	7,398.07	-4,683.94	6,548.44	1,466,635.305	3,234,686.515	40.611241	-104.654704
15,400.00	90.23	91.92	7,397.26	-4,690.63	6,748.33	1,466,630.461	3,234,886.455	40.611222	-104.653984
15,600.00	90.23	91.92	7,396.46	-4,697.33	6,948.22	1,466,625.616	3,235,086.394	40.611204	-104.653265
15,800.00	90.23	91.92	7,395.65	-4,704.03	7,148.10	1,466,620.772	3,235,286.334	40.611185	-104.652545
16,000.00	90.23	91.92	7,394.85	-4,710.73	7,347.99	1,466,615.928	3,235,486.274	40.611167	-104.651825
16,200.00	90.23	91.92	7,394.04	-4,717.42	7,547.87	1,466,611.083	3,235,686.213	40.611148	-104.651105
16,400.00	90.23	91.92	7,393.24	-4,724.12	7,747.76	1,466,606.239	3,235,886.153	40.611130	-104.650385
16,600.00	90.23	91.92	7,392.43	-4,730.82	7,947.65	1,466,601.394	3,236,086.093	40.611111	-104.649665
16,800.00	90.23	91.92	7,391.63	-4,737.51	8,147.53	1,466,596.550	3,236,286.032	40.611093	-104.648945
17,000.00	90.23	91.92	7,390.82	-4,744.21	8,347.42	1,466,591.706	3,236,485.972	40.611074	-104.648225
17,200.00	90.23	91.92	7,390.02	-4,750.91	8,547.31	1,466,586.861	3,236,685.912	40.611055	-104.647505
17,400.00	90.23	91.92	7,389.21	-4,757.60	8,747.19	1,466,582.017	3,236,885.851	40.611037	-104.646785
17,600.00	90.23	91.92	7,388.41	-4,764.30	8,947.08	1,466,577.172	3,237,085.791	40.611018	-104.646065
17,800.00	90.23	91.92	7,387.61	-4,771.00	9,146.96	1,466,572.328	3,237,285.731	40.611000	-104.645345
18,000.00	90.23	91.92	7,386.80	-4,777.69	9,346.85	1,466,567.484	3,237,485.671	40.610981	-104.644625
18,200.00	90.23	91.92	7,386.00	-4,784.39	9,546.74	1,466,562.639	3,237,685.610	40.610962	-104.643905
18,400.00	90.23	91.92	7,385.19	-4,791.09	9,746.62	1,466,557.795	3,237,885.550	40.610944	-104.643185
18,600.00	90.23	91.92	7,384.39	-4,797.79	9,946.51	1,466,552.950	3,238,085.490	40.610925	-104.642466
18,800.00	90.23	91.92	7,383.58	-4,804.48	10,146.40	1,466,548.106	3,238,285.429	40.610907	-104.641746
19,000.00	90.23	91.92	7,382.78	-4,811.18	10,346.28	1,466,543.262	3,238,485.369	40.610888	-104.641026
19,193.20	90.23	91.92	7,382.00	-4,817.65	10,539.37	1,466,538.582	3,238,678.506	40.610870	-104.640330
TD at 19193.20									



Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well GASPERICH 33-34-12H
Company:	Edge Energy, LLC	TVD Reference:	WELL @ 4962.00usft (Original Well Elev)
Project:	Sec. 32-T8N-R65W Weld County CO	MD Reference:	WELL @ 4962.00usft (Original Well Elev)
Site:	Gasperich 32	North Reference:	True
Well:	GASPERICH 33-34-12H	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 440' FNL, 310' FEL - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	1,471,258.365	3,228,094.949	40.624100	-104.678290
BHL 300' FSL, 300' FEL - plan hits target center - Point	0.00	0.00	7,382.00	-4,817.65	10,539.37	1,466,538.582	3,238,678.506	40.610870	-104.640330
EP 300' FSL, 300' FWL : - plan hits target center - Point	0.00	0.00	7,422.00	-4,484.73	602.48	1,466,779.411	3,228,738.959	40.611790	-104.676120

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
2,338.11	2,214.56	-569.55	-14.30	Hold 36.76 Inc, 181.44 Az
8,126.94	6,852.14	-4,033.05	-101.29	KOP 8/100
9,250.65	7,422.00	-4,484.73	602.48	EP 90.23 Inc, 91.92 Az
19,193.20	7,382.00	-4,817.65	10,539.37	TD at 19193.20