



Edge Energy, LLC

Well Name:

GASPERICH 33-34-11H

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
2210.45	34.21	181.60	2110.62	-495.44	-13.85	178.54	495.63	Hold 34.21 Inc, 181.60 Az
7823.51	34.21	181.60	6752.58	-3649.94	-102.07	1315.32	3651.37	KOP 8/100
8948.52	90.23	91.94	7342.00	-4076.68	602.47	2130.00	4549.14	EP 90.23 Inc, 91.94 Az
18893.80	90.23	91.94	7302.00	-4413.25	10541.96	11428.46	14494.33	TD at 18893.80

Geodetic Datum:

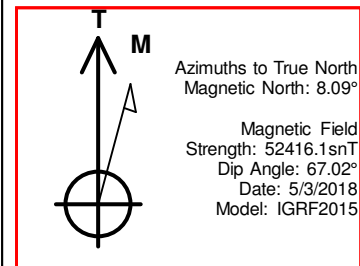
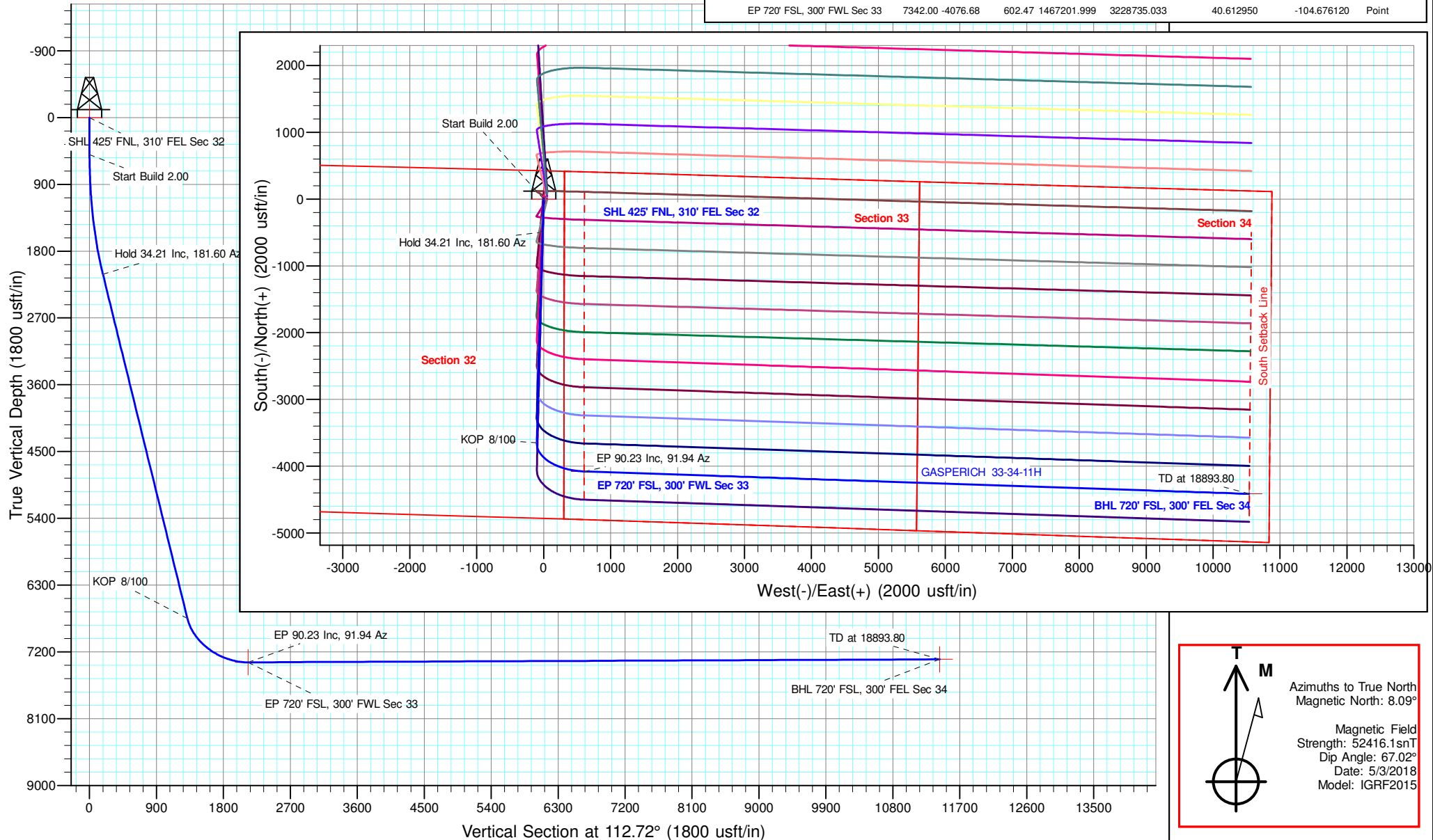
North American Datum 1983
US State Plane 1983 Colorado Northern Zone

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 425' FNL, 310' FEL Sec 32	0.00	0.00	0.00	1471272.925	3228094.814	40.624140	-104.678290	Point
BHL 720' FSL, 300' FEL Sec 34	7302.00	-4413.25	10541.96	1466957.552	3238677.221	40.612020	-104.640320	Point
EP 720' FSL, 300' FWL Sec 33	7342.00	-4076.68	602.47	1467201.999	3228735.033	40.612950	-104.676120	Point





Edge Energy, LLC

Sec. 32-T8N-R65W Weld County CO

Gasperich 32

GASPERICH 33-34-11H

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 33-34-11H
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 33-34-11H	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 33-34-11H					
Well Position	+N/-S	0.00 usft	Northing:	1,471,272.925 usft	Latitude:	40.624140
	+E/-W	0.00 usft	Easting:	3,228,094.814 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	52,416.05301802

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	112.72

Plan Survey Tool Program	Date	6/30/2018		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	18,893.80 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	
2,210.45	34.21	181.60	2,110.62	-495.44	-13.85	2.00	2.00	0.00	181.60	
7,823.51	34.21	181.60	6,752.58	-3,649.94	-102.07	0.00	0.00	0.00	0.00	
8,948.52	90.23	91.94	7,342.00	-4,076.68	602.47	8.00	4.98	-7.97	-89.59	EP 720' FSL, 300' FV
18,893.80	90.23	91.94	7,302.00	-4,413.25	10,541.96	0.00	0.00	0.00	0.00	BHL 720' FSL, 300' FI



Microsoft
Planning Report - Geographic

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well GASPERICH 33-34-11H
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 33-34-11H	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	1,471,272.925	3,228,094.814	40.624140	-104.678290
200.00	0.00	0.00	200.00	0.00	0.00	1,471,272.925	3,228,094.814	40.624140	-104.678290
400.00	0.00	0.00	400.00	0.00	0.00	1,471,272.925	3,228,094.814	40.624140	-104.678290
500.00	0.00	0.00	500.00	0.00	0.00	1,471,272.925	3,228,094.814	40.624140	-104.678290
Start Build 2.00									
600.00	2.00	181.60	599.98	-1.74	-0.05	1,471,271.180	3,228,094.781	40.624135	-104.678290
800.00	6.00	181.60	799.45	-15.69	-0.44	1,471,257.234	3,228,094.520	40.624097	-104.678292
1,000.00	10.00	181.60	997.47	-43.51	-1.22	1,471,229.410	3,228,094.000	40.624021	-104.678295
1,200.00	14.00	181.60	1,193.06	-85.06	-2.38	1,471,187.843	3,228,093.223	40.623907	-104.678299
1,400.00	18.00	181.60	1,385.27	-140.16	-3.92	1,471,132.737	3,228,092.193	40.623755	-104.678304
1,600.00	22.00	181.60	1,573.17	-208.52	-5.83	1,471,064.358	3,228,090.915	40.623568	-104.678311
1,800.00	26.00	181.60	1,755.84	-289.82	-8.10	1,470,983.042	3,228,089.395	40.623345	-104.678319
2,000.00	30.00	181.60	1,932.39	-383.66	-10.73	1,470,889.183	3,228,087.641	40.623087	-104.678329
2,200.00	34.00	181.60	2,101.97	-489.58	-13.69	1,470,783.239	3,228,085.660	40.622796	-104.678340
2,210.45	34.21	181.60	2,110.62	-495.44	-13.85	1,470,777.381	3,228,085.551	40.622780	-104.678340
Hold 34.21 Inc, 181.60 Az									
2,400.00	34.21	181.60	2,267.38	-601.96	-16.83	1,470,670.832	3,228,083.559	40.622488	-104.678351
2,600.00	34.21	181.60	2,432.78	-714.36	-19.98	1,470,558.409	3,228,081.458	40.622179	-104.678362
2,800.00	34.21	181.60	2,598.18	-826.76	-23.12	1,470,445.986	3,228,079.356	40.621871	-104.678374
3,000.00	34.21	181.60	2,763.57	-939.16	-26.26	1,470,333.563	3,228,077.255	40.621562	-104.678385
3,200.00	34.21	181.60	2,928.97	-1,051.56	-29.41	1,470,221.140	3,228,075.154	40.621254	-104.678396
3,400.00	34.21	181.60	3,094.37	-1,163.96	-32.55	1,470,108.717	3,228,073.052	40.620945	-104.678408
3,600.00	34.21	181.60	3,259.77	-1,276.36	-35.69	1,469,996.294	3,228,070.951	40.620637	-104.678419
3,800.00	34.21	181.60	3,425.17	-1,388.75	-38.83	1,469,883.871	3,228,068.849	40.620328	-104.678430
4,000.00	34.21	181.60	3,590.57	-1,501.15	-41.98	1,469,771.448	3,228,066.748	40.620020	-104.678441
4,200.00	34.21	181.60	3,755.97	-1,613.55	-45.12	1,469,659.025	3,228,064.646	40.619711	-104.678453
4,400.00	34.21	181.60	3,921.36	-1,725.95	-48.26	1,469,546.602	3,228,062.545	40.619403	-104.678464
4,600.00	34.21	181.60	4,086.76	-1,838.35	-51.41	1,469,434.179	3,228,060.444	40.619094	-104.678475
4,800.00	34.21	181.60	4,252.16	-1,950.75	-54.55	1,469,321.756	3,228,058.342	40.618786	-104.678487
5,000.00	34.21	181.60	4,417.56	-2,063.15	-57.69	1,469,209.333	3,228,056.241	40.618477	-104.678498
5,200.00	34.21	181.60	4,582.96	-2,175.54	-60.84	1,469,096.910	3,228,054.139	40.618168	-104.678509
5,400.00	34.21	181.60	4,748.36	-2,287.94	-63.98	1,468,984.487	3,228,052.038	40.617860	-104.678521
5,600.00	34.21	181.60	4,913.75	-2,400.34	-67.12	1,468,872.064	3,228,049.936	40.617551	-104.678532
5,800.00	34.21	181.60	5,079.15	-2,512.74	-70.27	1,468,759.641	3,228,047.835	40.617243	-104.678543
6,000.00	34.21	181.60	5,244.55	-2,625.14	-73.41	1,468,647.218	3,228,045.734	40.616934	-104.678555
6,200.00	34.21	181.60	5,409.95	-2,737.54	-76.55	1,468,534.795	3,228,043.632	40.616626	-104.678566
6,400.00	34.21	181.60	5,575.35	-2,849.94	-79.70	1,468,422.372	3,228,041.531	40.616317	-104.678577
6,600.00	34.21	181.60	5,740.75	-2,962.34	-82.84	1,468,309.949	3,228,039.429	40.616009	-104.678589
6,800.00	34.21	181.60	5,906.15	-3,074.73	-85.98	1,468,197.526	3,228,037.328	40.615700	-104.678600
7,000.00	34.21	181.60	6,071.54	-3,187.13	-89.12	1,468,085.103	3,228,035.226	40.615392	-104.678611
7,200.00	34.21	181.60	6,236.94	-3,299.53	-92.27	1,467,972.680	3,228,033.125	40.615083	-104.678623
7,400.00	34.21	181.60	6,402.34	-3,411.93	-95.41	1,467,860.257	3,228,031.024	40.614775	-104.678634
7,600.00	34.21	181.60	6,567.74	-3,524.33	-98.55	1,467,747.834	3,228,028.922	40.614466	-104.678645
7,800.00	34.21	181.60	6,733.14	-3,636.73	-101.70	1,467,635.411	3,228,026.821	40.614158	-104.678657
7,823.51	34.21	181.60	6,752.58	-3,649.94	-102.07	1,467,622.194	3,228,026.574	40.614121	-104.678658
KOP 8/100									
8,000.00	36.77	157.55	6,896.98	-3,748.86	-83.19	1,467,523.457	3,228,046.366	40.613850	-104.678590
8,200.00	44.49	135.88	7,049.40	-3,855.19	-11.07	1,467,417.801	3,228,119.464	40.613558	-104.678330
8,400.00	55.23	120.26	7,178.61	-3,947.49	109.45	1,467,326.615	3,228,240.837	40.613305	-104.677896
8,600.00	67.47	108.48	7,274.59	-4,018.62	269.04	1,467,256.966	3,228,401.080	40.613109	-104.677321
8,800.00	80.43	98.68	7,329.90	-4,063.07	455.33	1,467,214.250	3,228,587.779	40.612987	-104.676650
8,948.52	90.23	91.94	7,342.00	-4,076.68	602.47	1,467,201.999	3,228,735.033	40.612950	-104.676120
EP 90.23 Inc, 91.94 Az									
9,000.00	90.23	91.94	7,341.79	-4,078.43	653.92	1,467,200.734	3,228,786.494	40.612945	-104.675935



Microsoft
Planning Report - Geographic

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well GASPERICH 33-34-11H
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 33-34-11H	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	90.23	91.94	7,340.99	-4,085.19	853.80	1,467,195.818	3,228,986.432	40.612927	-104.675215
9,400.00	90.23	91.94	7,340.18	-4,091.96	1,053.68	1,467,190.902	3,229,186.370	40.612908	-104.674495
9,600.00	90.23	91.94	7,339.38	-4,098.73	1,253.57	1,467,185.987	3,229,386.308	40.612890	-104.673775
9,800.00	90.23	91.94	7,338.58	-4,105.50	1,453.45	1,467,181.071	3,229,586.246	40.612871	-104.673055
10,000.00	90.23	91.94	7,337.77	-4,112.27	1,653.34	1,467,176.155	3,229,786.184	40.612852	-104.672335
10,200.00	90.23	91.94	7,336.97	-4,119.04	1,853.22	1,467,171.239	3,229,986.122	40.612834	-104.671615
10,400.00	90.23	91.94	7,336.16	-4,125.80	2,053.10	1,467,166.323	3,230,186.060	40.612815	-104.670895
10,600.00	90.23	91.94	7,335.36	-4,132.57	2,252.99	1,467,161.407	3,230,385.998	40.612796	-104.670175
10,800.00	90.23	91.94	7,334.55	-4,139.34	2,452.87	1,467,156.492	3,230,585.935	40.612778	-104.669455
11,000.00	90.23	91.94	7,333.75	-4,146.11	2,652.75	1,467,151.576	3,230,785.873	40.612759	-104.668735
11,200.00	90.23	91.94	7,332.94	-4,152.88	2,852.64	1,467,146.660	3,230,985.811	40.612741	-104.668016
11,400.00	90.23	91.94	7,332.14	-4,159.65	3,052.52	1,467,141.744	3,231,185.749	40.612722	-104.667296
11,600.00	90.23	91.94	7,331.34	-4,166.41	3,252.41	1,467,136.828	3,231,385.687	40.612703	-104.666576
11,800.00	90.23	91.94	7,330.53	-4,173.18	3,452.29	1,467,131.912	3,231,585.625	40.612685	-104.665856
12,000.00	90.23	91.94	7,329.73	-4,179.95	3,652.17	1,467,126.997	3,231,785.564	40.612666	-104.665136
12,200.00	90.23	91.94	7,328.92	-4,186.72	3,852.06	1,467,122.081	3,231,985.502	40.612647	-104.664416
12,400.00	90.23	91.94	7,328.12	-4,193.49	4,051.94	1,467,117.165	3,232,185.440	40.612629	-104.663696
12,600.00	90.23	91.94	7,327.31	-4,200.26	4,251.82	1,467,112.249	3,232,385.378	40.612610	-104.662976
12,800.00	90.23	91.94	7,326.51	-4,207.02	4,451.71	1,467,107.333	3,232,585.316	40.612591	-104.662256
13,000.00	90.23	91.94	7,325.71	-4,213.79	4,651.59	1,467,102.417	3,232,785.254	40.612573	-104.661536
13,200.00	90.23	91.94	7,324.90	-4,220.56	4,851.48	1,467,097.502	3,232,985.192	40.612554	-104.660816
13,400.00	90.23	91.94	7,324.10	-4,227.33	5,051.36	1,467,092.586	3,233,185.130	40.612535	-104.660096
13,600.00	90.23	91.94	7,323.29	-4,234.10	5,251.24	1,467,087.670	3,233,385.068	40.612516	-104.659376
13,800.00	90.23	91.94	7,322.49	-4,240.87	5,451.13	1,467,082.754	3,233,585.006	40.612498	-104.658656
14,000.00	90.23	91.94	7,321.68	-4,247.63	5,651.01	1,467,077.838	3,233,784.944	40.612479	-104.657936
14,200.00	90.23	91.94	7,320.88	-4,254.40	5,850.90	1,467,072.922	3,233,984.882	40.612460	-104.657216
14,400.00	90.23	91.94	7,320.07	-4,261.17	6,050.78	1,467,068.007	3,234,184.820	40.612442	-104.656496
14,600.00	90.23	91.94	7,319.27	-4,267.94	6,250.66	1,467,063.091	3,234,384.758	40.612423	-104.655777
14,800.00	90.23	91.94	7,318.47	-4,274.71	6,450.55	1,467,058.175	3,234,584.695	40.612404	-104.655057
15,000.00	90.23	91.94	7,317.66	-4,281.48	6,650.43	1,467,053.259	3,234,784.633	40.612386	-104.654337
15,200.00	90.23	91.94	7,316.86	-4,288.24	6,850.31	1,467,048.343	3,234,984.571	40.612367	-104.653617
15,400.00	90.23	91.94	7,316.05	-4,295.01	7,050.20	1,467,043.427	3,235,184.509	40.612348	-104.652897
15,600.00	90.23	91.94	7,315.25	-4,301.78	7,250.08	1,467,038.512	3,235,384.447	40.612329	-104.652177
15,800.00	90.23	91.94	7,314.44	-4,308.55	7,449.97	1,467,033.596	3,235,584.385	40.612311	-104.651457
16,000.00	90.23	91.94	7,313.64	-4,315.32	7,649.85	1,467,028.680	3,235,784.323	40.612292	-104.650737
16,200.00	90.23	91.94	7,312.83	-4,322.09	7,849.73	1,467,023.764	3,235,984.261	40.612273	-104.650017
16,400.00	90.23	91.94	7,312.03	-4,328.85	8,049.62	1,467,018.848	3,236,184.199	40.612254	-104.649297
16,600.00	90.23	91.94	7,311.23	-4,335.62	8,249.50	1,467,013.932	3,236,384.137	40.612236	-104.648577
16,800.00	90.23	91.94	7,310.42	-4,342.39	8,449.39	1,467,009.017	3,236,584.075	40.612217	-104.647857
17,000.00	90.23	91.94	7,309.62	-4,349.16	8,649.27	1,467,004.101	3,236,784.013	40.612198	-104.647137
17,200.00	90.23	91.94	7,308.81	-4,355.93	8,849.15	1,466,999.185	3,236,983.951	40.612179	-104.646417
17,400.00	90.23	91.94	7,308.01	-4,362.70	9,049.04	1,466,994.269	3,237,183.889	40.612160	-104.645697
17,600.00	90.23	91.94	7,307.20	-4,369.46	9,248.92	1,466,989.353	3,237,383.827	40.612142	-104.644977
17,800.00	90.23	91.94	7,306.40	-4,376.23	9,448.80	1,466,984.437	3,237,583.765	40.612123	-104.644258
18,000.00	90.23	91.94	7,305.60	-4,383.00	9,648.69	1,466,979.522	3,237,783.703	40.612104	-104.643538
18,200.00	90.23	91.94	7,304.79	-4,389.77	9,848.57	1,466,974.606	3,237,983.641	40.612085	-104.642818
18,400.00	90.23	91.94	7,303.99	-4,396.54	10,048.46	1,466,969.690	3,238,183.579	40.612067	-104.642098
18,600.00	90.23	91.94	7,303.18	-4,403.31	10,248.34	1,466,964.774	3,238,383.517	40.612048	-104.641378
18,800.00	90.23	91.94	7,302.38	-4,410.07	10,448.22	1,466,959.858	3,238,583.454	40.612029	-104.640658
18,993.80	90.23	91.94	7,302.00	-4,413.25	10,541.96	1,466,957.553	3,238,677.221	40.612020	-104.640320
TD at 18993.80									



Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well GASPERICH 33-34-11H
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 33-34-11H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 3May18 mnH		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
SHL 425' FNL, 310' FEL - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	1,471,272.925	3,228,094.814	40.624140	-104.678290
BHL 720' FSL, 300' FEL - plan hits target center - Point	0.00	0.00	7,302.00	-4,413.25	10,541.96	1,466,957.553	3,238,677.221	40.612020	-104.640320
EP 720' FSL, 300' FWL : - plan hits target center - Point	0.00	0.00	7,342.00	-4,076.68	602.47	1,467,201.999	3,228,735.033	40.612950	-104.676120

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)	
500.00	500.00	0.00	0.00	Start Build 2.00
2,210.45	2,110.62	-495.44	-13.85	Hold 34.21 Inc, 181.60 Az
7,823.51	6,752.58	-3,649.94	-102.07	KOP 8/100
8,948.52	7,342.00	-4,076.68	602.47	EP 90.23 Inc, 91.94 Az
18,893.80	7,302.00	-4,413.25	10,541.96	TD at 18893.80