



Edge Energy, LLC

Well Name:

GASPERICH 33-34-4H

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
1034.69	10.69	185.53	1031.60	-49.52	-4.80	2.42	49.75	Hold 10.69 Inc, 185.53 Az
6732.42	10.69	185.53	6630.37	-1101.88	-106.77	53.94	1107.04	KOP 8/100
7866.40	90.00	91.66	7343.00	-1256.88	605.17	780.82	1857.06	EP 90 Inc, 91.66 Az
17828.32	90.00	91.66	7343.00	-1546.07	10562.90	10675.45	11818.98	TD at 17828.32

Geodetic Datum:

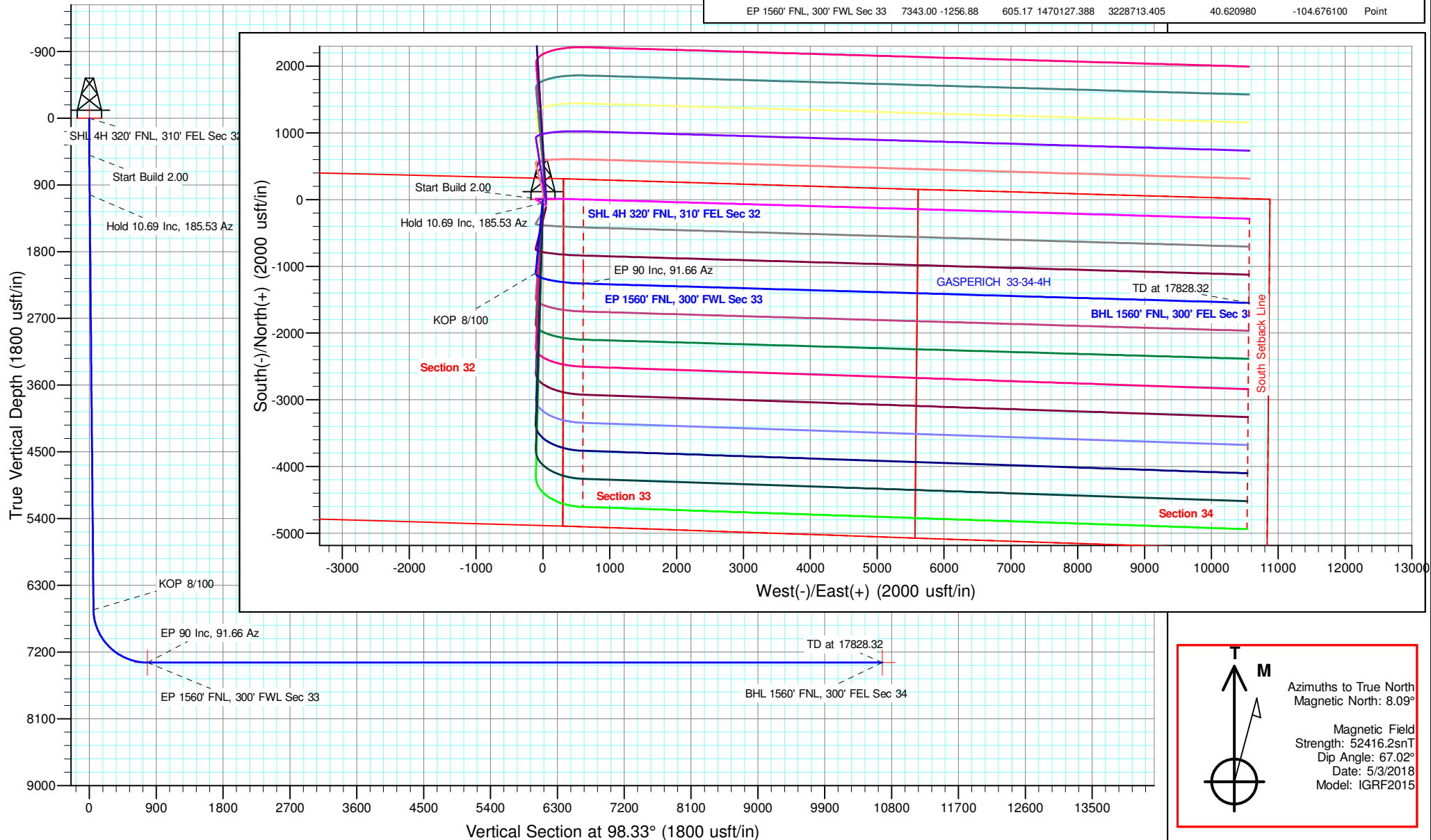
North American Datum 1983
US State Plane 1983 Colorado Northern Zone

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 4H 320' FNL, 310' FEL Sec 32	0.00	0.00	0.00	1471378.602	3228096.611	40.624430	-104.678280	Point
BHL 1560' FNL, 300' FEL Sec 34	7343.00	-1546.07	10562.90	1469930.479	3238673.384	40.620180	-104.640230	Point
EP 1560' FNL, 300' FWL Sec 33	7343.00	-1256.88	605.17	1470127.388	3228713.405	40.620980	-104.676100	Point





Edge Energy, LLC

Sec. 32-T8N-R65W Weld County CO

Gasperich 32

GASPERICH 33-34-4H

Wellbore #1

Plan: Design #1 2May18 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 33-34-4H
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 33-34-4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 2May18 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 33-34-4H					
Well Position	+N/-S	0.00 usft	Northing:	1,471,378.602 usft	Latitude:	40.624430
	+E/-W	0.00 usft	Easting:	3,228,096.610 usft	Longitude:	-104.678280
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	52,416.19526553

Design	Design #1 2May18 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	98.33

Plan Survey Tool Program	Date	6/30/2018		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	17,828.32 Design #1 2May18 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	
1,034.69	10.69	185.53	1,031.60	-49.52	-4.80	2.00	2.00	0.00	185.53	
6,732.42	10.69	185.53	6,630.37	-1,101.88	-106.77	0.00	0.00	0.00	0.00	
7,866.40	90.00	91.66	7,343.00	-1,256.88	605.17	8.00	6.99	-8.28	-93.80	EP 1560' FNL, 300' F'
17,828.32	90.00	91.66	7,343.00	-1,546.07	10,562.90	0.00	0.00	0.00	0.00	BHL 1560' FNL, 300' I



Microsoft
Planning Report - Geographic

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well GASPERICH 33-34-4H
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 33-34-4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 2May18 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	1,471,378.602	3,228,096.610	40.624430	-104.678280
200.00	0.00	0.00	200.00	0.00	0.00	1,471,378.602	3,228,096.610	40.624430	-104.678280
400.00	0.00	0.00	400.00	0.00	0.00	1,471,378.602	3,228,096.610	40.624430	-104.678280
500.00	0.00	0.00	500.00	0.00	0.00	1,471,378.602	3,228,096.610	40.624430	-104.678280
Start Build 2.00									
600.00	2.00	185.53	599.98	-1.74	-0.17	1,471,376.864	3,228,096.458	40.624425	-104.678281
800.00	6.00	185.53	799.45	-15.62	-1.51	1,471,362.968	3,228,095.242	40.624387	-104.678286
1,000.00	10.00	185.53	997.47	-43.32	-4.20	1,471,335.245	3,228,092.814	40.624311	-104.678295
1,034.69	10.69	185.53	1,031.60	-49.52	-4.80	1,471,329.038	3,228,092.271	40.624294	-104.678298
Hold 10.69 Inc, 185.53 Az									
1,200.00	10.69	185.53	1,194.03	-80.05	-7.76	1,471,298.480	3,228,089.596	40.624210	-104.678308
1,400.00	10.69	185.53	1,390.56	-116.99	-11.34	1,471,261.509	3,228,086.359	40.624109	-104.678321
1,600.00	10.69	185.53	1,587.08	-153.93	-14.92	1,471,224.538	3,228,083.122	40.624008	-104.678334
1,800.00	10.69	185.53	1,783.61	-190.87	-18.49	1,471,187.567	3,228,079.885	40.623906	-104.678347
2,000.00	10.69	185.53	1,980.14	-227.81	-22.07	1,471,150.596	3,228,076.648	40.623805	-104.678360
2,200.00	10.69	185.53	2,176.66	-264.75	-25.65	1,471,113.625	3,228,073.411	40.623703	-104.678373
2,400.00	10.69	185.53	2,373.19	-301.69	-29.23	1,471,076.654	3,228,070.175	40.623602	-104.678386
2,600.00	10.69	185.53	2,569.72	-338.63	-32.81	1,471,039.683	3,228,066.938	40.623501	-104.678398
2,800.00	10.69	185.53	2,766.24	-375.57	-36.39	1,471,002.712	3,228,063.701	40.623399	-104.678411
3,000.00	10.69	185.53	2,962.77	-412.51	-39.97	1,470,965.742	3,228,060.464	40.623298	-104.678424
3,200.00	10.69	185.53	3,159.30	-449.45	-43.55	1,470,928.771	3,228,057.227	40.623196	-104.678437
3,400.00	10.69	185.53	3,355.82	-486.39	-47.13	1,470,891.800	3,228,053.990	40.623095	-104.678450
3,600.00	10.69	185.53	3,552.35	-523.33	-50.71	1,470,854.829	3,228,050.754	40.622994	-104.678463
3,800.00	10.69	185.53	3,748.87	-560.27	-54.29	1,470,817.858	3,228,047.517	40.622892	-104.678476
4,000.00	10.69	185.53	3,945.40	-597.20	-57.87	1,470,780.887	3,228,044.280	40.622791	-104.678489
4,200.00	10.69	185.53	4,141.93	-634.14	-61.45	1,470,743.916	3,228,041.043	40.622689	-104.678502
4,400.00	10.69	185.53	4,338.45	-671.08	-65.03	1,470,706.945	3,228,037.806	40.622588	-104.678515
4,600.00	10.69	185.53	4,534.98	-708.02	-68.60	1,470,669.974	3,228,034.569	40.622487	-104.678527
4,800.00	10.69	185.53	4,731.51	-744.96	-72.18	1,470,633.003	3,228,031.332	40.622385	-104.678540
5,000.00	10.69	185.53	4,928.03	-781.90	-75.76	1,470,596.032	3,228,028.096	40.622284	-104.678553
5,200.00	10.69	185.53	5,124.56	-818.84	-79.34	1,470,559.061	3,228,024.859	40.622182	-104.678566
5,400.00	10.69	185.53	5,321.09	-855.78	-82.92	1,470,522.090	3,228,021.622	40.622081	-104.678579
5,600.00	10.69	185.53	5,517.61	-892.72	-86.50	1,470,485.119	3,228,018.385	40.621980	-104.678592
5,800.00	10.69	185.53	5,714.14	-929.66	-90.08	1,470,448.148	3,228,015.148	40.621878	-104.678605
6,000.00	10.69	185.53	5,910.67	-966.60	-93.66	1,470,411.177	3,228,011.911	40.621777	-104.678618
6,200.00	10.69	185.53	6,107.19	-1,003.54	-97.24	1,470,374.206	3,228,008.675	40.621675	-104.678631
6,400.00	10.69	185.53	6,303.72	-1,040.48	-100.82	1,470,337.235	3,228,005.438	40.621574	-104.678643
6,600.00	10.69	185.53	6,500.25	-1,077.42	-104.40	1,470,300.264	3,228,002.201	40.621473	-104.678656
6,732.42	10.69	185.53	6,630.37	-1,101.88	-106.77	1,470,275.785	3,228,000.058	40.621406	-104.678665
KOP 8/100									
6,800.00	11.64	157.77	6,696.71	-1,114.44	-104.79	1,470,263.241	3,228,002.150	40.621371	-104.678658
7,000.00	23.17	117.78	6,887.83	-1,151.70	-62.07	1,470,226.374	3,228,045.217	40.621269	-104.678504
7,200.00	38.00	105.62	7,059.69	-1,186.85	32.65	1,470,192.109	3,228,140.256	40.621172	-104.678163
7,400.00	53.44	99.70	7,198.96	-1,217.15	172.02	1,470,163.102	3,228,279.903	40.621089	-104.677661
7,600.00	69.07	95.79	7,294.87	-1,240.26	345.25	1,470,141.600	3,228,453.340	40.621026	-104.677037
7,800.00	84.78	92.65	7,339.98	-1,254.38	538.92	1,470,129.268	3,228,647.129	40.620987	-104.676339
7,866.40	90.00	91.66	7,343.00	-1,256.88	605.17	1,470,127.388	3,228,713.405	40.620980	-104.676100
EP 90 Inc, 91.66 Az									
8,000.00	90.00	91.66	7,343.00	-1,260.75	738.72	1,470,124.748	3,228,846.983	40.620969	-104.675619
8,200.00	90.00	91.66	7,343.00	-1,266.56	938.64	1,470,120.794	3,229,046.944	40.620953	-104.674899
8,400.00	90.00	91.66	7,343.00	-1,272.37	1,138.55	1,470,116.841	3,229,246.905	40.620938	-104.674179
8,600.00	90.00	91.66	7,343.00	-1,278.17	1,338.47	1,470,112.888	3,229,446.866	40.620922	-104.673459
8,800.00	90.00	91.66	7,343.00	-1,283.98	1,538.38	1,470,108.935	3,229,646.827	40.620906	-104.672739
9,000.00	90.00	91.66	7,343.00	-1,289.78	1,738.30	1,470,104.981	3,229,846.788	40.620890	-104.672018



Microsoft
Planning Report - Geographic

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well GASPERICH 33-34-4H
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 33-34-4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 2May18 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	90.00	91.66	7,343.00	-1,295.59	1,938.22	1,470,101.028	3,230,046.749	40.620874	-104.671298
9,400.00	90.00	91.66	7,343.00	-1,301.40	2,138.13	1,470,097.075	3,230,246.710	40.620858	-104.670578
9,600.00	90.00	91.66	7,343.00	-1,307.20	2,338.05	1,470,093.122	3,230,446.671	40.620842	-104.669858
9,800.00	90.00	91.66	7,343.00	-1,313.01	2,537.96	1,470,089.169	3,230,646.632	40.620826	-104.669138
10,000.00	90.00	91.66	7,343.00	-1,318.81	2,737.88	1,470,085.215	3,230,846.592	40.620810	-104.668418
10,200.00	90.00	91.66	7,343.00	-1,324.62	2,937.79	1,470,081.262	3,231,046.553	40.620794	-104.667698
10,400.00	90.00	91.66	7,343.00	-1,330.43	3,137.71	1,470,077.309	3,231,246.514	40.620778	-104.666977
10,600.00	90.00	91.66	7,343.00	-1,336.23	3,337.63	1,470,073.356	3,231,446.475	40.620762	-104.666257
10,800.00	90.00	91.66	7,343.00	-1,342.04	3,537.54	1,470,069.402	3,231,646.436	40.620746	-104.665537
11,000.00	90.00	91.66	7,343.00	-1,347.84	3,737.46	1,470,065.449	3,231,846.398	40.620730	-104.664817
11,200.00	90.00	91.66	7,343.00	-1,353.65	3,937.37	1,470,061.496	3,232,046.359	40.620714	-104.664097
11,400.00	90.00	91.66	7,343.00	-1,359.46	4,137.29	1,470,057.543	3,232,246.320	40.620698	-104.663377
11,600.00	90.00	91.66	7,343.00	-1,365.26	4,337.20	1,470,053.589	3,232,446.281	40.620682	-104.662657
11,800.00	90.00	91.66	7,343.00	-1,371.07	4,537.12	1,470,049.636	3,232,646.242	40.620666	-104.661936
12,000.00	90.00	91.66	7,343.00	-1,376.87	4,737.04	1,470,045.683	3,232,846.203	40.620649	-104.661216
12,200.00	90.00	91.66	7,343.00	-1,382.68	4,936.95	1,470,041.730	3,233,046.164	40.620633	-104.660496
12,400.00	90.00	91.66	7,343.00	-1,388.49	5,136.87	1,470,037.777	3,233,246.124	40.620617	-104.659776
12,600.00	90.00	91.66	7,343.00	-1,394.29	5,336.78	1,470,033.823	3,233,446.085	40.620601	-104.659056
12,800.00	90.00	91.66	7,343.00	-1,400.10	5,536.70	1,470,029.870	3,233,646.046	40.620585	-104.658336
13,000.00	90.00	91.66	7,343.00	-1,405.90	5,736.61	1,470,025.917	3,233,846.007	40.620569	-104.657616
13,200.00	90.00	91.66	7,343.00	-1,411.71	5,936.53	1,470,021.964	3,234,045.968	40.620553	-104.656895
13,400.00	90.00	91.66	7,343.00	-1,417.52	6,136.45	1,470,018.010	3,234,245.929	40.620537	-104.656175
13,600.00	90.00	91.66	7,343.00	-1,423.32	6,336.36	1,470,014.057	3,234,445.890	40.620521	-104.655455
13,800.00	90.00	91.66	7,343.00	-1,429.13	6,536.28	1,470,010.104	3,234,645.851	40.620505	-104.654735
14,000.00	90.00	91.66	7,343.00	-1,434.93	6,736.19	1,470,006.151	3,234,845.812	40.620489	-104.654015
14,200.00	90.00	91.66	7,343.00	-1,440.74	6,936.11	1,470,002.197	3,235,045.773	40.620473	-104.653295
14,400.00	90.00	91.66	7,343.00	-1,446.55	7,136.02	1,469,998.244	3,235,245.734	40.620457	-104.652575
14,600.00	90.00	91.66	7,343.00	-1,452.35	7,335.94	1,469,994.291	3,235,445.695	40.620441	-104.651854
14,800.00	90.00	91.66	7,343.00	-1,458.16	7,535.86	1,469,990.338	3,235,645.655	40.620424	-104.651134
15,000.00	90.00	91.66	7,343.00	-1,463.96	7,735.77	1,469,986.385	3,235,845.616	40.620408	-104.650414
15,200.00	90.00	91.66	7,343.00	-1,469.77	7,935.69	1,469,982.431	3,236,045.577	40.620392	-104.649694
15,400.00	90.00	91.66	7,343.00	-1,475.58	8,135.60	1,469,978.478	3,236,245.538	40.620376	-104.648974
15,600.00	90.00	91.66	7,343.00	-1,481.38	8,335.52	1,469,974.525	3,236,445.499	40.620360	-104.648254
15,800.00	90.00	91.66	7,343.00	-1,487.19	8,535.43	1,469,970.572	3,236,645.460	40.620344	-104.647534
16,000.00	90.00	91.66	7,343.00	-1,492.99	8,735.35	1,469,966.618	3,236,845.421	40.620328	-104.646813
16,200.00	90.00	91.66	7,343.00	-1,498.80	8,935.27	1,469,962.665	3,237,045.382	40.620312	-104.646093
16,400.00	90.00	91.66	7,343.00	-1,504.61	9,135.18	1,469,958.712	3,237,245.343	40.620295	-104.645373
16,600.00	90.00	91.66	7,343.00	-1,510.41	9,335.10	1,469,954.759	3,237,445.304	40.620279	-104.644653
16,800.00	90.00	91.66	7,343.00	-1,516.22	9,535.01	1,469,950.805	3,237,645.265	40.620263	-104.643933
17,000.00	90.00	91.66	7,343.00	-1,522.02	9,734.93	1,469,946.852	3,237,845.226	40.620247	-104.643213
17,200.00	90.00	91.66	7,343.00	-1,527.83	9,934.84	1,469,942.899	3,238,045.186	40.620231	-104.642493
17,400.00	90.00	91.66	7,343.00	-1,533.64	10,134.76	1,469,938.946	3,238,245.147	40.620215	-104.641773
17,600.00	90.00	91.66	7,343.00	-1,539.44	10,334.68	1,469,934.993	3,238,445.108	40.620199	-104.641052
17,800.00	90.00	91.66	7,343.00	-1,545.25	10,534.59	1,469,931.039	3,238,645.069	40.620182	-104.640332
17,828.32	90.00	91.66	7,343.00	-1,546.07	10,562.90	1,469,930.480	3,238,673.384	40.620180	-104.640230
TD at 17828.32									



Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well GASPERICH 33-34-4H
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 33-34-4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 2May18 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 4H 320' FNL, 310' F	0.00	0.00	0.00	0.00	0.00	1,471,378.602	3,228,096.610	40.624430	-104.678280
- plan hits target center									
- Point									
EP 1560' FNL, 300' FWL	0.00	0.00	7,343.00	-1,256.88	605.17	1,470,127.388	3,228,713.405	40.620980	-104.676100
- plan hits target center									
- Point									
BHL 1560' FNL, 300' FE	0.00	0.00	7,343.00	-1,546.07	10,562.90	1,469,930.480	3,238,673.384	40.620180	-104.640230
- plan hits target center									
- Point									

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
1,034.69	1,031.60	-49.52	-4.80	Hold 10.69 Inc, 185.53 Az
6,732.42	6,630.37	-1,101.88	-106.77	KOP 8/100
7,866.40	7,343.00	-1,256.88	605.17	EP 90 Inc, 91.66 Az
17,828.32	7,343.00	-1,546.07	10,562.90	TD at 17828.32